MEETING OF THE BERKSHIRE LOCAL TRANSPORT BODY (BLTB) – THURSDAY 15 JULY 2020

CONTACT OFFICER: TIM WHEADON, CHIEF EXECUTIVE, BRACKNELL FOREST COUNCIL

ITEM 7: FINANCIAL APPROVAL 2.46 SLOUGH: LANGLEY HIGH STREET WIDENING PHASE 2

Purpose of Report

1. To consider giving financial approval to scheme 2.46 Slough Langley High Widening – Phase 2.

2. Phase 1 of the scheme 2.45 Langley High Street Improvements was given financial approval at the June 2020 BLTB meeting to enhance the High Street/Meadfield Junction. This new business case submission sets out the case for investment in the widening of Langley High Street to both the south and north of the junction with Meadfield Road. This scheme will provide a comprehensive solution to managing all traffic flows through the junction. It also complements a previous scheme enhancement at the adjacent junction to the north with Langley Road. A third phase is also proposed for future funding.

3. As a combined package of measures, the three schemes will deliver a step-change in provision along the Langley High Street corridor, supporting the planned closure of the parallel Hollow Hill Lane as part of the Western Rail Link to Heathrow (WRLtH), as well as enabling development growth across the corridor.

Recommendation

4. You are recommended to give scheme 2.46 Slough Langley High Widening Phase 2 conditional financial approval in the sum of £1,033,000 in 2020/21 on the terms of the funding agreement set out at paragraph 14 step 5 below, subject to meeting the following conditions:

    4.1 Slough Borough Council (SBC) to demonstrate positive discussions with the Langley Memorial Ground Trustees that result in an outline agreement for the acquisition of the land required to develop the scheme;

    4.2 Production of a revised, and more robust, assessment of scheme costs, post-preliminary scheme design; and,

    4.3 Formal confirmation (e.g. S151 Officer letter) to cover SBC funding allocation, along with confirmation that SBC will cover any potential cost overruns.

    These conditions should be met at the earliest feasible date, but no later than 31st August 2020.

Other Implications

Financial

5. A call for bids process was undertaken in January 2020 and a list of prioritised projects were agreed at the BLTB meeting March 2020. Scheme 2.46 Slough Langley High Street Widening phase 2 is funded from this reallocation. See Appendix 1.

6. This report recommends that Slough Borough Council be authorised to draw down the capital sum £1,033,000 from the Local Transport Body funding for this scheme.
7. The funding agreement set out at paragraph 14 step 5 sets out the roles and responsibilities, reporting and auditing arrangements, timing and triggers for payments, contributions from other funders, consequences of delay, consequences of failure, claw back, and evaluation requirements at one and five years on.

Risk Management

8. The risk management arrangements already put in place by the Local Transport Body are as follows:
   - The Assurance Framework[i] has been drafted following DfT guidance and has been approved by the DfT for use in allocating capital funds for transport schemes
   - Hatch Regeneris have been appointed as Independent Assessors and have provided a full written report (see Appendix 2) on the full business case for the scheme
   - The funding agreement set out at paragraph 14, step 5 makes clear that the financial risk associated with implementation of the scheme rests with the scheme promoter.

Human Rights Act and Other Legal Implications

9. The scheme promoter is a local authority and they have to act within the law. Slough Borough Council will provide legal support for the BLTB, should any questions arise.

Supporting Information

10. The scheme will be carried out by Slough Borough Council.

11. In June 2020 Hatch Regeneris completed their assessment with a recommendation for conditional approval, which is attached at Appendix 2.

12. The full details of the scheme are available from the Slough Borough Council website[ii]. A summary of the key points is given below:

Task	Timescale
Feasibility, outline design and initial cost estimates	January 2020
Public engagement	July 2020
Construction	December 2020
Completion	Early 2021

Activity	Funder	Cost (approx)
Major scheme funding	Berkshire Local Transport Body	£1.033m
Council contribution	Slough Borough Council capital programme	£0.207m

Total		**£1.240m**

13. The table below sets out the details of this scheme's compliance with steps1-5 of paragraph 14 of the full Assurance Framework[iii].

<table>
<tr><td>Assurance Framework Check list</td><td>2.45 Slough Langley High Street Widening - Phase 2</td></tr>
<tr><td></td><td>This business case submission sets out the case for investment in the widening of Langley High Street to both the south and north of the junction with Meadfield Road and will provide a comprehensive solution to managing all traffic flows through the junction. As a combined package of measures, the three schemes will deliver a step-change in provision along the Langley High Street corridor, supporting the planned closure of the parallel Hollow Hill Lane as part of the Western Rail Link to Heathrow (WRLtH), as well as enabling development growth across the corridor.

The scheme was submitted as part of a wider scheme for Langley High Street, for inclusion in January 2020 LEP Call for Bids. The updated prioritisation methodology assessment process was used and the overall scheme was given 18 points and ranked 6th of 6 schemes submitted. The scheme has since been split into three elements, with this being phase 2 (note: it was originally referred to as phase 1).
<table>
<tr><th>Factor</th><th>Raw score</th><th>Weighting</th><th>Weighted score</th></tr>
<tr><td>Strategy</td><td>3</td><td>1.5</td><td>4.5</td></tr>
<tr><td>Deliverability</td><td>1</td><td>2</td><td>2</td></tr>
<tr><td>Economic Impact</td><td>2</td><td>4</td><td>8</td></tr>
<tr><td>TVB area coverage</td><td>2</td><td>1</td><td>2</td></tr>
<tr><td>Environment</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Social</td><td>1</td><td>0.5</td><td>0.5</td></tr>
<tr><td>Total</td><td></td><td></td><td>18</td></tr>
</table>
</td></tr>
<tr><td>Step 2: Programme Entry: evolution of the scheme from outline proposal to full business case, external view on the business case, and independent assessment (See paragraphs 15 and 16)</td><td>The scheme became part of the approved forward pipeline by the BLTB on 12 March 2020[iv] (minute 33 refers).

The Slough Borough Council website[v] holds the latest details of the full business case, including the VfM statement certified by the senior responsible officer.

Any comments or observations on the scheme received by either TVB LEP or Slough Borough Council have been fully considered during the development of the scheme.

The report of the Independent Assessor is attached at Appendix 2. The Independent Assessor was asked to report as follows:</td></tr>
</table>

Assurance Framework Check list	**2.45 Slough Langley High Street Widening - Phase 2**
	• Completeness – has the promoter prepared a complete Full Business Case submission, when judged against the prevailing advice from the DfT • Accuracy – has the promoter performed the relevant calculations and assessments accurately and without error • Relevance – has the Full Business Case considered all relevant matters, including use of appropriate forecasting models and planning assumptions, and has it included any irrelevant considerations such unduly-optimistic assumptions or out of date modelling data • Value for Money – does the scheme promoter's Value for Money assessment comply with the prevailing DfT guidance • Evaluation arrangements – has the scheme promoter made provision for appropriate post-implementation evaluation of the scheme. • Remedies – where the independent assessment reveals a gap between the FBC supplied and the standard anticipated by the DfT guidance, then the advice for the LTB should include recommendations for remedial actions required – e.g., collection of further data, sensitivity tests on particular assumptions etc.
Step 3: Conditional Approval	The Independent Assessor has recommended that in this case a Conditional approval is appropriate. The three conditions are: 1) SBC to demonstration positive discussions with the Langley Memorial Ground Trustees that result in an outline agreement for the acquisition of the land required to develop the scheme; 2) Production of a revised, and more robust, assessment of scheme costs, post-preliminary scheme design; and 3) Formal confirmation (e.g. S151 Officer letter) to cover SBC funding allocation, along with confirmation that SBC will cover any potential cost overruns. These conditions should be met at the earliest feasible date, but no later than 31st August 2020.
Step 4: Recommendation of Financial Approval - High Value for Money - Support of the Independent assessor	The analysis contained within the Full Business Case suggests that the scheme will generate "Very High" Value for Money. Benefit to Cost Ratio (BCR) of *10.8 to 1,* indicating the scheme should deliver 'Very High' value for money from investments. The recommendation is that you give the scheme Conditional Approval.
Step 5: Formal Agreement - roles - responsibilities	1. <u>Roles:</u> Thames Valley Berkshire LEP is a part funder of the scheme. Slough Borough Council is the scheme promoter, and is the relevant highway and planning authority.

Assurance Framework Check list	2.45 Slough Langley High Street Widening - Phase 2
- reporting - auditing - timing and triggers for payments, - contributions from other funders, - consequences of delay, - consequences of failure, - claw back, - evaluation one and five years on	2. Responsibilities: Thames Valley Berkshire LEP is responsible for allocating the capital finance in accordance with its Assurance Framework. Slough Borough Council is responsible for all aspects of the design, risk management, insurance, procurement, construction and implementation of the scheme, including its responsibilities as highway and planning authority, any other statutory duties, and any financial or other liabilities arising from the scheme. 3. Implementation: In addition to any reporting requirements within Slough Borough Council, the scheme promoter will use the proforma supplied by Thames Valley Berkshire LEP to make reports on progress of the implementation of the capital scheme to each meeting of the BLTB until the build is complete. In particular, Slough Borough Council will report on any change in the size, scope or specification of the scheme; and on any substantial savings against the scheme budget whether achieved by such changes to the size, scope or specification of the scheme, or through procurement, or through the efficient implementation of the scheme. 4. Reporting: The scheme promoter must provide accurate, timely, verified and quality assured quarterly monitoring and forecast data, which relate to defined output and outcome indicators agreed between Thames Valley Berkshire LEP and government as a condition of the Growth Deal. This scheme will not be required to participate in an evaluation as set out in the Growth Deal Monitoring and Evaluation Plan. 5. Auditing: Slough Borough Council will keep financial records such that the expenditure on the scheme is readily identifiable, and if and when BEIS, DfT or other government department or the Accountable Body for Thames Valley Berkshire LEP requests access to financial or other records for the purposes of an audit of the accounts, Slough Borough Council will co-operate fully. 6. Timing and Triggers for payments: See the Claim Proforma (available on request). 7. Contributions from Other Funders: Slough Borough Council capital programme will contribute £207,000 in 2020/21. In the event that the scheme experiences or it is anticipated that the scheme will experience a shortfall in these contributions, Slough Borough Council will be required to notify Thames Valley Berkshire LEP of these developments. The provisions of clauses 8, Consequences of Delay; 9, Consequences of Change to the Design or Specification of the Scheme; or 10, Consequences of Failure will then be

Assurance Framework Check list	2.45 Slough Langley High Street Widening - Phase 2
	applied. 8. Consequences of Delay: In the event that the scheme experiences minor delays to its overall Business Case programme (no more than 10 weeks), Slough Borough Council will report these delays and the reasons for them, and the proposed remedial action to the next available meeting of the BLTB. In the event that the scheme experiences major delays to its overall Business Case programme (11 weeks or longer) Slough Borough Council will be required to seek permission from Thames Valley Berkshire LEP to reschedule any payments that are due, or may be delayed in falling due because of the delay to the overall Business Case programme. 9. Consequences of Change to the Design or Specification of the Scheme: In the event that Slough Borough Council wishes to change the design or specification of the scheme such the scheme delivered will vary in any material aspect from the description given in the overall business case, Slough Borough Council will be required to seek prior written consent from Thames Valley Berkshire LEP. Failing this permission, no further monies will be paid to Slough Borough Council after the change becomes apparent to Thames Valley Berkshire LEP. In addition, consideration will be given to recovering any monies paid to Slough Borough Council in respect of this scheme. 10. Consequences of Failure: As soon as it becomes apparent to Slough Borough Council that it will not be possible to deliver the scheme within the current LGF programme, i.e. by the end of March 2021, written notice shall be given to the Accountable Body for Thames Valley Berkshire LEP. No further monies will be paid to Slough Borough Council after this point. In addition, consideration will be given to recovering any monies paid to Slough Borough Council in respect of this scheme. 11. Claw back: If the overall scheme achieves savings against budget, these savings will be shared by Thames Valley Berkshire LEP and the other funders noted above in proportion to the amounts set out in the Financial Profile. The Accountable Body for Thames Valley Berkshire LEP reserves the right to claw back any amounts of grant that have been spent on purposes other than the scheme as approved and any repayments due as a consequence of changes to the design or specification of the scheme or scheme failure. 12. Evaluation One and Five Years On: Slough Borough Council will produce scheme evaluations One and Five years after practical completion

Assurance Framework Check list	2.45 Slough Langley High Street Widening - Phase 2
	that comply with DfT guidance. 13. Other Conditions of Local Growth Funds: Slough Borough Council will acknowledge the financial contribution made to this scheme through Local Growth Funds and follow the 'Growth Deal Identity Guidelines' at Appendix 2). It will also give due regard to the Equality Act 2010 - Public Sector and with the Public Services (Social Value Act) 2012, particularly through the employment of apprentices across the scheme supply chain.

Conclusion

14. It is the conclusion of the Independent Assessor that on the basis of the strength of the strategic and economic cases, the scheme can be recommended for conditional approval as outlined.

Background Papers

15. The LTB and SEP scoring exercise papers are available on request

Appendix 1 - Local Growth Deal list of prioritised schemes agreed March 2020

Weighting	1.5	2	4	1	1	0.5				
Factor	**SEP**	**Deliverable**	**Economic Impact**	**TVB area**	**Natural Capital**	**Social Value**	**Total Weighted score**	**Rank**	**Contribution Sought**	**Cumulative spend**
LGF Eligible Projects										
Reading Buses: Completing the Connection	4.5	6	8	2	3	1.0	24.5	1	1,541,243	1,541,243
Superfast Broadband – Extension	4.5	6	8	2	1	0.5	22	2	46,920	1,588,163
2.29 Wokingham: Winnersh Triangle Park and Ride - Extension	4.5	4	8	1	2	0.5	20.0	3	1,411,142	2,999,305
2.24 Newbury: Railway Station improvements - Extension	4.5	4	8	1	1	1.0	19.5	4	640,000	3,639,305
2.30 TVB Smart City Cluster Extension	4.5	6	4	2	2	0.5	19	5	283,620	3,922,925
Slough Langley High Street (phases 1, 2 & 3)	4.5	2	8	2	1	0.5	18.0	6	4,000,000	7,922,925

Appendix 2

Thames Valley Berkshire Local Enterprise Partnership

Independent Assessment Summary Report: Langley High Street Widening

(Langley High Street Section 1)

June 2020

www.hatchregeneris.co.uk

Contents Page

Executive Summary

i. This technical note provides an independent assessment of the Langley High Street Widening (Section 1) Business Case submission to the Thames Valley Berkshire Local Enterprise Partnership (TVB LEP). The scheme is promoted by Slough Borough Council (SBC).

Scheme Summary

ii. The business case submission sets out the case for investment in the widening of the High Street to both the south and north of the junction with Meadfield Road.

iii. This scheme is directly linked to the recently approved proposal to enhance the High Street/Meadfield Junction itself and will provide a comprehensive solution to managing all traffic flows through the junction. It also complements a previous scheme enhancement at the adjacent junction to the north with Langley Road.

iv. As a combined package of measures, the three schemes will deliver a step-change in provision along the Langley High Street corridor, supporting the planned closure of the parallel Hollow Hill Lane as part of the Western Rail Link to Heathrow (WRLtH), as well as enabling development growth across the corridor.

v. The total scheme cost for the High Street Widening (Section 1) scheme is estimated to be £1.240 million, with £1.033 million sought from the Local Growth Fund (LGF).

Review Findings

Conclusions

vi. The overall scheme is considered to align well with strategic priorities and there is an established need for the intervention, particularly in the future context of the predicted Hollow Hill Lane closure. The Strategic Case shows how the scheme will help substantially off-set the impact of traffic diverting along the Langley High Street corridor. In the absence of the Hollow Hill Lane closure, the strategic benefits of the scheme would be significantly reduced, albeit some local benefits will remain in terms of supporting local development.

vii. Whilst the preferred scheme option is clearly demonstrated to meet two of the scheme objectives (to relieve congestion and enhance the operation of the adjacent junctions), the evidence is less definitive on whether it will meet the other objective to reduce noise and emissions along the corridor.

viii. The overall Economic Case, whilst subject to some forecasting challenges and limitations within the traffic modelling, indicates there is a reasonable degree of likelihood that it will deliver high value for money. This will mainly be through highway decongestion benefits. Most of the wider economic, social, and environmental impacts are relatively neutral, with

some slight positives. As with the Strategic Case, the economic benefits from the scheme will be substantially reduced without the closure of Hollow Hill Lane.

ix. There are a number of concerns over the robustness of the Financial Case presented. The original scheme costs were developed on the basis of a smaller scale scheme that only incorporated widening the section of road to the south of Meadfield Road and not to the north. As such, the scheme costs are not considered sufficiently well developed at this stage and a significant proportion of the scheme costs relate to contingency and risk.

x. The Commercial and Management Cases are considered to be relatively succinct, but broadly compliant with requirements. They provide sufficient evidence to demonstrate that the procurement approach offers value for money within the context in which the scheme must be delivered and that there are, generally, robust measures in place to manage the delivery of the project. Since there is significant development work still to completed, the programme will need to be closely monitored and there remain a number of critical milestones, including land agreements, detailed scheme costings and consultations over removal/relocation of on-street car parking.

xi. It is our conclusion that there is sufficient evidence presented to support the overall strategic and economic case for investment in the scheme, but only in the event that Hollow Hill Lane being closed. It has good strategic alignment and there is an established need for intervention. The overall economic case demonstrates a reasonable probability that the scheme should deliver high value for money.

xii. There are, however, clear limitations in the detail of the scheme costs, as currently presented, and more information is required to verify that a sound financial case exists. In addition, more certainty is required around the necessary acquisition of land to accommodate the proposed scheme design.

Recommendations

xiii. On the basis of the strength of the strategic and economic cases we recommend the scheme for approval but with the following conditions:

- SBC to demonstration positive discussions with the Langley Memorial Ground Trustees that result in an outline agreement for the acquisition of the land required to develop the scheme;
- Production of a revised, and more robust, assessment of scheme costs, post-preliminary scheme design; and
- Formal confirmation (e.g. S151 Officer letter) to cover SBC funding allocation, along with confirmation that SBC will cover any potential cost overruns.

xiv. These conditions should be met at the earliest feasible date, but no later than 31st August 2020

1. Introduction

1.1 This report provides an independent assessment of the Full Business Case (FBC) submitted by Slough Borough Council (SBC) for the widening of Langley High Street to the south and to the north of the junction with the Meadfield Road junction.

1.2 This scheme links directly to the recently approved proposal to enhance the High Street/Meadfield Junction itself and will ensure a comprehensive solution to managing all traffic flows through the junction. It also complements a previous scheme enhancement at the adjacent junction to the north with Langley Road.

1.3 The report considers the evidence presented and whether it represents a robust case for the investment of Thames Valley Berkshire Local Enterprise Partnership (TVB LEP) growth deal funds.

1.4 The independent assessment has applied criteria from TVB LEP assurance framework and the requirements for transport scheme business cases set out within the Department for Transports (DfT) Transport Appraisal Guidance (TAG).

Submitted Information

1.5 The independent assessment process for the High Street Widening submission has been conducted on the following set of documentation submitted by SBC and their consultant team (Atkins):

- Full Business Case Submission (1st July 2020)

1.6 In addition to these formal documents, Hatch Regeneris have engaged with SBC and their consultants in June 2020 to discuss the requirements of the business case submission and comment upon the acceptability of the proposed appraisal approach and input assumptions and parameters.

1.7 Whilst no formal Appraisal Specification Report or Option Appraisal Report was submitted for this project, the specification was been discussed and agreed between SBC and TVB LEP and reference to scheme optioneering is incorporated within the main pro-forma submission.

Report Structure

1.8 This Independent Assessors Report responds to the formal submission of documentation, as well as the informal engagement process with SBC and their consultants, to provide a review of information provided, assess it suitability and robustness against TVB LEPs assurance requirements, and provide recommendations in relation to the approval of LEP funding for the proposed scheme.

1.9 The report is structure as follows:

- Business Case Submission – presents a summary of the scheme elements included within the pro-forma submission, alongside the:
  - Rationale for the Scheme and Strategic Fit (Strategic Case),
  - Value for Money (Economic and Financial Cases); and

- Deliver and Risk (Commercial and Management Cases).

1.10 It also sets out the recommendations to the LEP Local Transport Body relating to the suitability of the scheme for funding.

2. Business Case Submission

Overview

2.1 The full business case submission sets out the case for investment in widening Langley High Street to the south and north of the junction with Meadfield Road. The core scheme deliverables are:

- Widening Langley High Street to four lanes for approximately 150m between Meadfield Road and Elmhurst Road; and
- Widening Langley High Street to four lanes between Meadfield Road and Langley Road

2.2 It should be noted that the latter element of the scheme was not incorporated within the original scheme submission but has emerged as part of the preferred scheme option within the development of the final business case. SBC are confident they have the funds available to cover the full scheme design.

2.3 To achieve these revisions will require land-take to the immediate west of the scheme, currently owned by Langley Memorial Ground, as well as the loss of one parking bay (enough for two cars) immediately south of Willoughby Road on the eastern side of High Street.

2.4 The scheme will help reduce north-south delays to traffic moving along the High Street and enhance the operation of both the Meadfield Road and Langley Road junctions. Both of these junctions are the subject of separate scheme enhancements, the latter recently completed.

2.5 The Meadfield Road junction improvement has recently been improved, primarily in anticipation of significant volumes of traffic being re-routed through Langley as a result of the closure of Hollow Hill Lane. This closure is proposed to support the construction of the Western Rail Link to Heathrow (WRLtH) currently being promoted by Network Rail.

2.6 Widening the section of Langley High Street to the south and north of Meadfield Road will both further support the delivery of WRLtH, but also provide additional transport capacity along the Langley High Street Corridor to assist in the delivery of future growth aspirations.

2.7 It should also be noted that SBC have aspirations to deliver further enhancements to the High Street corridor to the north of the Langley Road junction. This will further complement the on-going package of measures across the whole of the corridor, subject to funding becoming available.

Key Input Assumptions and Parameters

2.8 The overarching business case is considered particularly reliant upon the following key assumptions:

- Outputs from LINSIG local junction models of a 'Reference Case' scenario and 'With Scheme' scenario, as follows:
  - 'Reference Case' scenario includes the approved Langley High Street (Section 2) Scheme to signalise the junction between High Street and Meadfield Road
  - 'With Scheme' scenario includes the additional Langley High Street (Section 1) Scheme with widening of the High Street approaches to the junction
  - 2028 forecast traffic flows (with background growth) and with Hollow Hill Lane closed taken from strategic traffic model
- Annualisation factors:
  - 253 days per year
- Scheme opening year = 2021
- 60-year benefits appraisal period
- Costs and benefits discounted to 2010 prices
- Values of time:
  - Business trips = £17.689
  - Commuting trips = £9.953
  - Leisure trips = £4.543
- 15% Optimism Bias

Independent Assessor Comment

2.9 The use of the LINSIG models is considered appropriate for assessing the highway user impact on the surrounding highway network; however, the details of the model are not provided and so we are not able to verify how these models have been constructed. It is recognised that there are some limitations to the modelling tools, and that these will have some impacts upon the overall robustness of the outcomes of the assessment, that will need to be taken into account.

2.10 The use of outputs from the strategic model to inform the 2028 future year scenario within the local junction modelling is considered an acceptable approach. It is, however, recognised that it does not permit a dynamic assessment of traffic re-routing on the basis of delays experienced at the junctions on the High Street. As is described below (in the Value for Money section) this will have implications upon the ability for the local junction models to accurately assess the extent of future year delays at the model.

2.11 It is understood that the baseline 2018 junction model has been utilised to profile the impact of the scheme. Whilst it would be standard practice to have a model that represents the opening scheme year (in this case 2021), the use of the 2018 model is considered acceptable.

2.12 The annualisation factors, the appraisal period and the discount period are all acceptable.

2.13 The level of optimism bias, at 15%, is considered appropriate given the level of detailed understanding of scheme costs at this stage.

2.14 The submission does not make it explicitly clear on when it has been assumed that Hollow Hill Lane will close. Whilst we acknowledge that a formal date remains unknown, any assumption on the date will affect the Economic Case, as the profile of benefits will be significantly greater after it is closed, in comparison to before. This is considered further within the section on the Economic Case.

Rationale for the Scheme and Strategic Fit (Strategic Case)

2.15 The Pro-forma document sets out the background to the scheme and an overview of the wider issues of the area. This includes the strategic importance of the WRLtH project, that this scheme will support, as well the current COVID-19 context and how the scheme can contribute to short and longer-term objectives, including passive provision for future cycle lanes and public transport provision along the corridor.

2.16 The key policy context is highlighted in relation to TVB Strategic Economic Plan (SEP), the Berkshire Local Industrial Strategy (BLIS), as well as local Slough Borough Council strategies and policies. The alignment of the core scheme objectives against these strategic policy documents is also set out.

2.17 The rationale for the scheme is established, based upon the context of Langley Village and surrounding areas. It is set out how the scheme represents an extension of both the previous works to improve junctions at Station Road / Waterside Drive and High Street / Station Road / Langley Road, as well as the recently approved High Street / Meadfield Road junction improvements.

2.18 It is set out that the scheme will provide short-term improvements to traffic conditions but also support the longer-term impact of the closure of Hollow Hill Lane. The impact of the proposed closures of Hollow Hill Lane (to enable the strategically important WRLtH) is set out, with traffic forecast to re-distribution to the High Street, creating additional congestion and delay through Langley. As well as addressing congestion, the scheme is also needed to alleviate safety concerns.

2.19 Evidence to support the need is presented from an experimental closure of Hollow Hill Lane in 2016. Strategic transport model outputs also demonstrate the impact of diverted traffic from the closure upon potential traffic volumes along Langley High Street.

2.20 Specific network performance issues along the High Street are considered utilising a local junction model. Reference is made to the analysis work using LINSIG software for the High Street / Meadfield Road junction scheme. This demonstrated the worsening of the underlying performance of the junction with the closure of Hollow Hill Land and the extent to which the junction improvements reduced delays. Even with the junction improvements, some delays were forecast to remain on the High Street. The impact of the Section 1 Widening is then presented demonstrating significant reductions in these delays on the High Street.

2.21 The scheme details are set out describing how it complements the on-going programme of work along the corridor. The widening between Langley Road and Meadfield Road will incorporate two southbound lanes, alongside the existing two northbound lanes. The widening between Elmhurst Road and Meadfield Road will provide two-lanes in each direct with a central median. This requires land-take from the Memorial Gardens, as well as the removal of one parking bay (enough for two cars) immediately south of Willoughby Road on the eastern side of High Street. The scheme will also create passive provision to turn one lane in each direction into a cycleway in the future. A draft feasibility design drawing is provided.

2.22 The extent to which the scheme will overcome barriers to growth is set out. This highlights the strategic importance of the Langley High Street corridor and how congestion will inhibit growth. It outlines a range of development opportunities along the corridor, as well as considering the Covid-19 recovery.

2.23 The alternative scheme options are described in terms of alternative routings to address the closure of Hollow Hill Lane, shifting demand to public transport, as well as other capacity enhancements for the High Street. The preferred scheme options is concluded to be the most feasible option to accommodate the additional traffic anticipated as a result of the Hollow Hill Lane closure.

2.24 The consequences of a 'do-nothing' option are presented highlighting the increased levels of congestion and the negative impact this will have upon economic and environmental outcomes.

2.25 Slough Borough Council is identified as the sole partner for the scheme, but a range of other organisation are identified as key stakeholders. The Memorial Park Trust are a key stakeholder as they have responsibility for the Langley Park Memorial Recreation Ground from which the scheme requires land-take. Only preliminary discussions have taken place to-date.

Independent Assessor Comment

2.26 The Strategic Case is considered to presents a reasonably robust overview of the issues and preferred solution for enhancing highway provision to alleviate current issues of congestion, as well as the negative impacts associated with the future closure of Hollow Hill Lane, even with the committed improvements to the High Street / Meadfield road Junction.

2.27 The policy context is well-established, with reference to key local policy documents (SEP and BLIS) and how the scheme outcomes will align. It is shown how the scheme supports policies to enhance access to education and improve local air quality around educational facilities, as well as help enhance strategic transport provision and unlock housing development and encourage vibrant town centres.

2.28 The section on rational for the scheme does not specifically present evidence to document the current issues of congestion but does go on to demonstrate that, even with the High Street / Meadfield Road Junction Improvements tthe closure of Hollow Hill Lane by 2028 will cause significant traffic queues, particularly on the southbound approach to the Meadfield

Road Junction. This is sufficiently evidenced through the discussion of the impact of a trial closure, plots of traffic delays, and the outputs of the local junction modelling. There is limited evidence presented around how the scheme will improve safety.

2.29 The strategic importance of the Langley High Street corridor is sufficiently evidenced within the barriers for growth section, including the development opportunities within the local surrounds.

2.30 The options assessment process demonstrates that alternative mitigation solutions to the closure of Hollow Hill Lane have been considered at both a strategic and local level and there is sufficient rationale for the identification of the preferred scheme option.

2.31 The impact of not changing reiterates the congestion and delays that will occur and the type of impact upon local social and economic activity.

2.32 A set of three scheme objectives are presented, albeit there is no specific section explaining how these objectives have been developed. They are focused on relieving congestion; mitigating future impacts of noise, air quality, and emissions; and enhancing the operation of the adjacent junctions. Each aspect is referenced throughout the rationale for the scheme and are considered an appropriate set of objectives for the scheme.

2.33 Whilst there is sufficient evidence presented that the preferred scheme option will relieve congestion and enhance the operation of the two adjacent junctions, it is less certain that the scheme will have a positive impact upon noise, air quality and emissions. Whilst reducing levels of standing traffic and improving the flow of vehicles could reduce noise and emissions, there is also the potential for the increased capacity to encourage more private vehicle trips along the corridor. The level of detailed modelling presented is insufficient to draw any firm conclusions on whether the 2nd objective is likely to be met.

2.34 Whilst there are no specific measures of success presented within this section there is sufficient evidence to demonstrate that reducing delays and improving journey times along the High Street will be key outcomes. This is confirmed in Table 3 where the expected benefits are stated as: journey time savings; journey quality; physical activity; accidents; and air quality and noise impacts. Given that the closure of Hollow Hill Lane has yet to occur, it will be challenging to establish a clear reference case baseline against which to assess success.

2.35 Whilst no specific constraints or inter-dependencies have been identified it is clear that the overall need for the scheme is highly dependent upon the closure of Hollow Hill Lane as part of the WRLtH project. If the WRLtH were not to progress, the strategic case for this scheme will be significantly reduced. Significant land acquisition is also required for the scheme and it is understood that discussion are only at a preliminary stage with the trustees for the land. There is also a need to move one existing on-street parking bay. These could both create some constraints on the project.

2.36 The list of key stakeholders appears comprehensive, although no detail is presented around the level of engagement undertaken to date. It is suggested that the scheme is well

supported amongst these stakeholders, but it is unclear what level of wider support amongst local businesses and residents there is for the scheme.

Value for Money (Economic and Financial Case)

2.37 The Value for Money section describes the direct and wide outputs the scheme will deliver and presents the funding requirements.

2.38 The economic case is set out into terms of the anticipated direct outputs of the scheme in relation to journey time savings; journey quality; physical activity; accidents; and air quality and noise impacts.

2.39 The scheme is also anticipated to facilitate wider impacts by unlocking future housing development, enhancing urban connectivity and supporting the creation of jobs and businesses. Specific potential outcomes are detailed in Table 4 in terms of new housing dwellings, employment space, and jobs the scheme could facilitate.

2.40 The approach to assessing the potential journey time savings is set out. This describes the use of outputs from local junction traffic models and a bespoke Spreadsheet Model Tool to calculate the economic benefits generated. This includes the parameters applied.

2.41 Outputs from the local junction modelling are presented within an appendix showing flows and delays at the junction in 2028, AM and PM Peaks.

2.42 The approach to identifying the housing and employment indirectly attributable to the scheme is discussed, including the inter-dependencies with the need for further capacity enhancements along the Langley High Street corridor.

2.43 Further wider outcomes are set out in terms of journey quality (slight positive impact), accidents (neutral impact), air quality and noise (neutral impact), and network capacity (moderate positive).

2.44 The financial case is set out, with the overall capital cost requirements (£1.240m) presented and the level of LGF sought (£1.033m). The remaining £207,000 will be contributed by SBC.

2.45 The scheme costs currently include no specific allowance for the widening between Langley Road and Meadfield Road. This element of the scheme was not part of the original Section 1 design and has only been added once the outcomes of the local junction modelling were known. It is stated that this element of the costs can be covered through the contingency provision within this business case submission, as well as the High Street / Meadfield Road (Section 2) scheme contingency.

2.46 The scheme costs for the original design (Elmhurst Road to Meadfield Road widening) have been developed based upon Slough's schedule of rates and based upon the judgement of technical experts. The requirement for a high number of utilities diversions is recognised and an allowance (35% of base construction costs) is included accordingly.

2.47 Cost estimates are stated to include a risk allowance of 20%. A detailed schedule of costs that this contingency will cover is presented, which includes:

- Additional design costs associated with the widening between Langley Road and Meadfield Road;
- Potential increase in scheme cost due to the design changes;
- Additional base construction costs;
- Third Party Land cost;
- Additional time required for stakeholder engagement;
- Additional utility costs; and
- Provision for more general, unknown and unquantifiable cost uplifts (including COVID-19 impacts).

2.48 A breakdown of the scheme costs is provided in tabular format. This indicates a risk / contingency allowance of £570,000.

2.49 SBC has provided commitment to funding cost overruns.

2.50 The profile of funding package is presented, with all expenditure in 2020/21.

2.51 The overall present value of benefits, in terms of direct transport user benefits, are presented. These have been calculated using the direct outputs from the junction models and a bespoke spreadsheet tool. Overall these benefits are estimated as just over £10.9 million, in 2010 prices.

2.52 The overall present value of costs are estimated at around £1.011 million, in 2010 prices and with 15% optimism bias, giving an overall core scenario Net Present Value (NPV) for the scheme of just under £9.9 million. The accompanying Benefit to Cost Ratio (BCR) of 10.8 to 1, indicates that the scheme should deliver 'Very High' value for money from investments.

2.53 Due to some of the limitation with the static nature of the local junction modelling, a series of sensitivity tests are presented that demonstrate the outcomes if the journey time benefits are reduced by 25% and 50%. These indicate that the BCR would fall to 8.1 and 5.4 to 1, respectively.

2.54 It is stated that a detailed appraisal of environmental impacts has not been undertaken at this stage but qualitative assessments of the impact on air quality and noise (neutral), townscape (neutral), biodiversity and water environment (neutral) are considered.

2.55 In addition to the main assessment of journey quality and accidents, additional assessment of the social impacts of the scheme are considered, in terms of security (neutral), access to services (moderate positive), affordability (slight positive), severance (neutral), option/non-use values (neutral), and apprenticeships (neutral).

Independent Assessor Comment

2.56 The Economic Case for the scheme is presented in terms of the direct transport users benefits that will be delivered, the wider development growth it will support, as well as the potential magnitude of environmental and social impact.

2.57 Some high-level information is presented in relation to the traffic modelling. The principle of using of the strategic highway model to determine the diversionary impact of the closure of Hollow Hill Lane is considered appropriate, albeit we are not able to verify the precise process that has been undertaken.

2.58 The principle of utilising the outputs from the strategic model to inform change of flows within local junction modelling is also considered an acceptable approach to assessing both the baseline need for the scheme, as well as the potential impacts upon congestion and delay.

2.59 The local junction modelling data presented in Appendix A indicates that in 2028, with Hollow Hill Lane closed, and both the High Street Langley Road and High Street / Meadfield Road Improvements, but without the High Street Widening, a significant amount of delay is forecast to occur across both junctions in the PM Peak (209 hours). Whilst less in the AM Peak, there is still forecast to be 67 hours of delay through the junctions.

2.60 A more detailed presentation of this delay in Table 3 indicates that it is the southbound approach to the Meadfield Road junction where the majority of delay is caused. The extent of the delay may, in reality, cause some traffic to re-route rather than sit in traffic queues; however, this impact cannot be captured within the local junction modelling work and so there may be some subsequent over-prediction of the benefits of the scheme. The sensitivity tests presented by SBC provide a useful understanding of how lower levels of delay would affect the value for money of the scheme. We consider the outcomes of the sensitivity test are likely to present a more accurate assessment of the overall value for money of the scheme.

2.61 The introduction of the widening scheme reduces delay in the PM Peak to just 42 hours across the two junctions, whilst delay in the AM Peak falls to 50 hours. This demonstrates that the majority of benefits for the scheme will be derived within the PM Peak. Furthermore, the majority of benefits specifically relate to relieving congestion on the southbound approach to the Meadfield Road junction.

2.62 It is understood that two model years (2018 and 2028) have been utilised for the economic analysis with the two scenarios:

- Reference Case: includes the approved Langley High Street (Section 2) Scheme to signalise the junction between High Street and Meadfield Road
- 'With Scheme' scenario includes the additional Langley High Street (Section 1) Scheme with widening of the High Street approaches to the junction

2.63 The 2018 model utilises base model demand passing through the junction, whereas the 2028 model incorporates forecast underlying traffic growth and the impact of the closure of Hollow Hill Lane.

2.64 A linear profile has been assumed in terms of traffic growth between the two years (see orange line in diagram). In reality the increase in traffic flow will more closely corelate with the closure of Hollow Hill Lane (see dotted line).

2.65 Given an actual date when Hollow Hill Lane will close is currently unknown, the linear profile applied is considered acceptable and should not unduly impact the analysis.

2.66 The assessment of wider impacts provides a useful overview of the aspirational development growth that is planned within the Langley High Street corridor and the need for transport capacity to support this development. Whilst the forecast housing, jobs, employment floorspace presented within Table 4 appear to relate to the Langley Business Park development, the specific link to the scheme is not explained; however, since this is not claimed as a direct outcome of the scheme it does not affect the overall assessment of value for money.

2.67 The stated slight positive impact of the scheme upon journey quality appears logical in the context of the delays forecast in the reference case scenario. However, as discussed above, the full extent of these delays may not occur in reality and so the journey quality impacts, whilst still positive, could be of a lower magnitude.

2.68 The levels of accidents between Elmhurst Road and Meadfield Road are reported as relatively low (two over the last five years) and so the potential for accident benefits is relatively low. The increase in lane capacity may be a disadvantage to non-motorised users (cyclists and pedestrians) unless specific provision is made for these users. The conclusion that the scheme will have a neutral impact could be considered a little optimistic; however, it will depend upon the final detailed design of the scheme.

2.69 As SBC acknowledge, a full environmental assessment has not been undertaken and so no definite conclusions can be drawn about the impact of the scheme upon air quality and noise. The current conclusion that impacts will be neutral appears reasonable, albeit actual impacts may be either slightly negative if the scheme encourages additional traffic to use the route.

2.70 The evidence is clear that the scheme will deliver significant additional network capacity along the corridor, with the potential to benefits all road users, depending upon how this capacity is utilised over time.

2.71 It is understood that the scheme costs have been developed on the basis of an original proposals to widen the section of the High Street from Elmhurst Road to Meadfield Road. As such, a detailed assessment of the potential costs for the widening of the section from Meadfield Road to Langley Road has not been undertaken to-date.

2.72 Even with the original scheme costs, a detailed breakdown of the base construction costs is not presented, albeit it is acknowledged that these have been developed through standard industry practices and with SBC's schedule of rates. The inclusion of preliminaries, overheads and profit, and professional fees demonstrates that the development requirements for the scheme have been taken into account. Further detailed development of base construction costs still needs to occur.

2.73 It is recognised that there is a known, and substantial, risk of utilities works being required. It is unclear precisely what basis has been used to estimate the allowance of 35% of base construction cost for utilities works and so there may remain some risk that this value could be higher. C3 utilities enquiries have yet to be undertaken and will provide additional insight into the scale of any potential costs.

2.74 The £540,000 contingency budget is considered to represent a substantial proportion of the budget. Whilst this would typically provide confidence that the budget is unlikely to be exceeded, it is also recognised that some of this contingency is required to cover the base construction costs for the Meadfield Road to Langley Road section of widening that has yet to be costed. There are also a number of other substantial risk elements identified that are likely to require significant proportions of the contingency.

2.75 It is not considered standard practice for a scheme at Full Business Case stage of development to have scheme costs with such a significant proportion allocated to contingency (around 45% of the total budget is unallocated to any specific costs). This indicates there is relatively poor understanding of scheme costs at this stage. The scale of design change indicated should not, typically, take place post submission of the full business case.

2.76 It will be important for TVB LEP to have a full understanding of how the scheme is developed going forward.

2.77 It should be recognised that there is no reference to additional maintenance costs associated with the delivery of the widening scheme, but it is assumed that these would be absorbed within the SBC's annual maintenance budget.

2.78 The profile of the funding package is straightforward and commits SBC to deliver the scheme within 2020/2021. A specific commitment is given from SBC to cover any cost overruns in the event that they occur, albeit this is not officially evidenced through a S151 Officer statement.

2.79 The business case submission does not include standard Transport Economic Efficiency, Public Accounts, or Analysis of Monetised Costs and Benefits tables and so it is not feasible to comment upon the details of the monetised value for money assessment. The core scenario assessment, which include a 15% optimism bias on capital costs, appear to demonstrate that the scheme will deliver very high value for money. Due to the limitations of the modelling tools applied in the analysis (as discussed in Section 2.10) it may be unlikely that this level of benefit to cost ratio (BCR) will be achieved.

2.80 The results presented within the sensitivity tests are considered to offer a more likely insight into the actual outturn BCR that will be achieved by the investment. Whilst there is insufficient information to judge accurately what BCR will be achieved, we can have a high degree of confidence that it will be in excess of 2 to 1 and so the scheme can be considered to deliver 'high' value for money.

2.81 It should be reiterated that the high value for money from investment is only likely to occur in circumstances where Hollow Hill Lane is closed. If, for any reason, this closure were not to

occur, then we could have no certainty what outturn BCR for the scheme would be generated.

2.82 It is recognised that the scale of the scheme does not, in general terms, warrant a full environmental assessment and so the approach adopted by SBC is considered acceptable. In addition to air quality and noise (discussed above in Section 2.68), the stated neutral impact on the scheme upon townscape is considered to be dependent upon the final scheme design. There is a risk that the proposed central median, even if planted with trees, may not replicate the same visual standards and amenity as the grounds lost within the Memorial Garden. The evidence to support the position that there is no requirement to assess the impact upon historic environment is limited but there is no specific understanding of any heritage assets that will be affected by the scheme.

2.83 For a scheme of this type, that will reconfigure the highway and require some land take, we would anticipate the need to consider potential impacts upon biodiversity and water environment. Whilst no detail is presented within the business case submission, SBC's reference to an initial assessment provides some justification to their conclusion that the impact will be neutral; however, we would expect this to be assessed further as part of the detail design process.

2.84 The qualitative approach to assessing social impacts is considered acceptable. It is agreed that the scheme is unlikely to have any notable impact upon security. On the basis of the core scenario traffic modelling, the scheme could have a moderately positive impact upon access to services, but in reality, as discussed in Sections 2.10, the impacts are likely to be lower and so a slight positive rating may be more appropriate. It is accepted that the scheme could have a slight positive impact upon affordability. It is agreed that there will be neutral impact upon community severance, option / non-use values and apprenticeships.

Deliverability and Risk (Commercial and Management Cases)

2.85 The section on deliverability and risk provides an overview of the project programme, project management arrangements, and risk.

2.86 The business case document reiterates that 20% local contribution will comprise of Slough Borough Council Capital Funds and states that these are considered a reliable source of funding.

2.87 A high-level overview of the proposed programme is presented highlighting phases of preliminary design, public information / engagement, detailed design, refinement of scheme costs, mobilisation and statutory consents, commencement of site works (December 2020), and completion of site works (early 2021).

2.88 Reference is made to the SBC's wealth of experience in managing capital infrastructure improvements, including High Street/ Langley Road junction adjacent to this proposed scheme.

2.89 Reference is made to the potential impacts of COVID-19 upon delivery and how this will be managed throughout the process, including ensuring safe on-site working.

2.90 There is also a specific acknowledgement that more detailed scheme cost information will need to be provided to the TVB LEP by September 2020.

2.91 It is indicated that the construction works will be directly assigned to SBC's Direct Service Organisation (DSO) (Contractors), as an extension to both the High Street / Langley Road junction scheme and the original Langley Station and Access Improvements scheme. Contracts are also likely to mirror the structure previously used. This procurement process is stated to have provided a high quality and efficient service, with resources readily available to be mobilised at short notice. SBC deems it appropriate not to engage in any new, competitive procurement process.

2.92 The project management arrangements are described, including reporting protocols, and are stated to reflect the previous governance for the Langley High Street schemes that have worked effectively.

2.93 A summary of the key strategic risks identified for the scheme are presented, with mitigating actions set out. As well as issues relating to COVID-19, key scheme risks relate to: utilities costs, land acquisition, any environmental issues within the Memorial Ground, scheme design changes, impact on parking, planning/consultation objections, cost increases, and delays/cancellation to WRLtH.

Independent Assessor Comment

2.94 The section on deliverability and risk, whilst relatively succinct, provides some useful confirmation of the measures in place to successfully deliver the project by March 2021.

2.95 Whilst it is generally accepted that SBC will be a reliable source of match-funding, no commitment from the S151 Officer is formally made with the submission.

2.96 The programme provided is very high-level in nature but appears reasonable, in terms of general time periods permitted. There are clearly some potential external project risks, in terms of engagement with the Memorial Ground Trustees to reach a land agreement and utilities works, that could significantly affect the programme and which the project team will have limited ability to control.

2.97 The recent works along Langley High Street provide strong examples of SBC's experience in successfully delivering highway infrastructure schemes.

2.98 It is recognised that the direct award of the contract through the SBC's DCO is the most efficient way of taking the project forward quickly and has enabled previous projects to be successfully delivered. Based upon the information presented it is challenging to conclude whether it represents the best value for money procurement approach but, given the timescales for deliver, it would appear to represent a prudent solution.

2.99 The project management arrangements, whilst not presented in any detail, appear sensible and have successfully delivered previous projects within the same corridor.

2.100 The risk register is considered to provide a sufficient amount of detail around both specific risks, as well as mitigating measures. It is recognised that this is a relatively standard highway engineering project, albeit it requires a significant element of land acquisition for which negotiations are not far developed. There is also the need to remove a limited number of parking bays, and the potential for substantial utilities works. Internal project risks include the detailed design process and development of final scheme costs. All of these elements have the potential to significantly affect the programme for delivery, as well as the cost, but these risks appear to be well understood by SBC and will be managed accordingly.

2.101 There is limited discussion of programme and project dependencies.

2.102 The details of the communication and/or stakeholder management processes are not described in any detail.

2.103 There is no discussion of benefits realisation planning or monitoring and evaluation.

Conclusions and Recommendations

Conclusions

2.104 The overall scheme is considered to align well with strategic priorities and there is an established need for the intervention, particularly in the future context of the predicted Hollow Hill Lane closure. The Strategic Case shows how the scheme will help substantially off-set the impact of traffic diverting along the Langley High Street corridor. In the absence of the Hollow Hill Lane closure, the strategic benefits of the scheme would be significantly reduced, albeit some local benefits will remain in terms of supporting local development.

2.105 Whilst the preferred scheme option is clearly demonstrated to meet two of the scheme objectives (to relieve congestion and enhance the operation of the adjacent junctions), the evidence is less definitive on whether it will meet the other objective to reduce noise and emissions along the corridor.

2.106 The overall Economic Case, whilst subject to some forecasting challenges and limitations within the traffic modelling, indicates there is a reasonable degree of likelihood that it will deliver high value for money. This will mainly be through highway decongestion benefits. Most of the wider economic, social, and environmental impacts are relatively neutral, with some slight positives. As with the Strategic Case, the economic benefits from the scheme will be substantially reduced without the closure of Hollow Hill Lane.

2.107 There are a number of concerns over the robustness of the Financial Case presented. The original scheme costs were developed on the basis of a smaller scale scheme that only incorporated widening the section of road to the south of Meadfield Road and not to the north. As such, the scheme costs are not considered sufficiently well developed at this stage and a significant proportion of the scheme costs relate to contingency and risk.

2.108 The Commercial and Management Cases are considered to be relatively succinct, but broadly compliant with requirements. They provide sufficient evidence to demonstrate that the procurement approach offers value for money within the context in which the scheme must be delivered and that there are, generally, robust measures in place to manage the delivery of the project. Since there is significant development work still to completed, the programme will need to be closely monitored and there remain a number of critical milestones, including land agreements, detailed scheme costings and consultations over removal/relocation of on-street car parking.

2.109 It is our conclusion that there is sufficient evidence presented to support the overall strategic and economic case for investment in the scheme, but only in the event that Hollow Hill Lane being closed. It has good strategic alignment and there is an established need for intervention. The overall economic case demonstrates a reasonable probability that the scheme should deliver high value for money.

2.110 There are, however, clear limitations in the detail of the scheme costs, as currently presented, and more information is required to verify that a sound financial case exists. In addition, more certainty is required around the necessary acquisition of land to accommodate the proposed scheme design.

Recommendations

2.111 On the basis of the strength of the strategic and economic cases we recommend the scheme for approval but with the following conditions:

1) SBC to demonstration positive discussions with the Langley Memorial Ground Trustees that result in an outline agreement for the acquisition of the land required to develop the scheme;
2) Production of a revised, and more robust, assessment of scheme costs, post-preliminary scheme design; and
3) Formal confirmation (e.g. S151 Officer letter) to cover SBC funding allocation, along with confirmation that SBC will cover any potential cost overruns.

2.112 These conditions should be met at the earliest feasible date, but no later than 31st August 2020.

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[i] http://thamesvalleyberkshire.co.uk/Portals/0/FileStore/StrategicInfrastructure/StrategicInfrastructure/BLTB/Assurance%20Framework%20for%20Berkshire%20Local%20Transport%20Body%2014%20November%202013.pdf
[ii] http://www.slough.gov.uk/parking-travel-and-roads/plans-for-the-future.aspx
[iii] http://thamesvalleyberkshire.co.uk/Portals/0/FileStore/StrategicInfrastructure/StrategicInfrastructure/BLTB/Assurance%20Framework%20for%20Berkshire%20Local%20Transport%20Body%2014%20November%202013.pdf
[iv] http://www.slough.gov.uk/moderngov/ieListDocuments.aspx?CId=601&MId=5473&Ver=4
[v] http://www.slough.gov.uk/parking-travel-and-roads/plans-for-the-future.aspx

Appendix 3

Langley High Street (Section 1) Carriageway Widening between Langley Road and Elmhurst Road
Full Business Case

Slough Borough Council
26 June 2020

Extension to original Langley rail station access and Harrow Market junction improvement scheme – LEP Ref 2.21

Contents

Introduction

The B470 Station Road / High Street (hereafter referred to as High Street) runs through the centre of Langley village and is a key strategic link for businesses and residents, providing access to residential properties, jobs, education and amenities. The High Street runs from Langley Station in the north to the A4 and M4 in the south and is currently a single carriageway in each direction. However, this important stretch of road is frequently subject to traffic congestion particularly during peak hours.

The scheme deliverable is the widening of the High Street carriageway between Elmhurst Road and Langley Road, from a single lane carriageway in each direction to a two-lane carriageway in each direction. The main objective of the scheme in the short term is to reduce delay to traffic along High Street, which currently experiences congestion particularly during the AM and PM peaks. Current traffic congestion negatively impacts journey quality for both private vehicles and bus service passengers and reduces the vibrancy of High Street and Langley village. In the longer-term, the widening of the carriageway will primarily support the anticipation of significant volumes of traffic being re-routed through Langley as a result of the closure of Hollow Hill Lane. The closure will sever a key north-south route linking South Buckinghamshire with Slough/Langley, to accommodate a new rail network line to Heathrow, the Western Rail Link to Heathrow (WRLtH). The rail link will significantly reduce the journey time to Heathrow however, Slough Borough Council are acutely aware that this could negatively impact traffic flows along Langley High Street if not addressed.

In January 2020, a proforma application was submitted to the Thames Valley Berkshire Local Economic Partnership (TVB LEP) for funding of a package of interventions to ensure Langley High Street has sufficient capacity to accommodate an increase in traffic as a result of the Hollow Hill Lane closure, and the impact this will have on already congested roads. The package of interventions was split into three sub sections, as shown in Figure 1. In May 2020, a supplementary full business case was submitted to the TVB LEP to secure the funding of for Section 2. The TVB LEP have subsequently provisionally agreed to the funding of Section 1 subject to a more thorough business case application. This Full Business Case has been produced to present the case for the proposed widening of the High Street between Elmhurst Road and Langley Road and the appraisal that has been undertaken.

Figure 1 - Proposed widening of High Street from Langley Station to the A4 from one lane in each direction to two lanes in each direction (Note: Section 1 is the focus on this business case).

It should be noted that the benefits and impacts associated with the proposed scheme mirror those proposed in the January 2020 submission, which supported a package of interventions. However, the scale of the benefits should be considered as a proportion of those proposed in the original proforma document. This document contains the economic appraisal for Section 1 only, to justify and support the Value for Money statement as per TVB LEP requirements.

1. Rationale for the scheme and strategic fit

How will the scheme contribute to the delivery of Thames Valley Berkshire's Strategic Economic Plan (SEP)?

Scheme alignment with the Thames Valley Berkshire's SEP

The TVB LEP proudly promotes itself as the most productive sub-region in the UK and the key to supporting, nurturing and growing this economic powerhouse is a robust and sustainable transport infrastructure . Providing smooth and efficient movements of people and goods will not only drive growth from within Langley, Slough and the wider TVB area but will also bring outside investors into the region, thus improving economic prosperity and productivity.

The TVB LEP Strategic Economic Plan (SEP) 2015/2016 – 2022/2021 rightly states that the close proximity of Heathrow airport provides a locational advantage for the region, particularly for Slough and Langley, by ensuring residents have access to highly-skilled and high wage jobs. Although in recent months Heathrow has been hit heavily through a combination of social and economic impacts of COVID-19 and slowing progress on the designs of the Heathrow expansion, the Council remain optimistic that the levels of passenger demand will return to their pre-COVID levels, high levels of employment will continue, and the strategic need for the expansion will remain.

Independent of the Heathrow Expansion and its anticipated growth, the Western Rail Link to Heathrow (WRLtH) will provide a step change in supporting the existing employment and organic growth within Slough and Langley by providing quick and reliable access to Heathrow. The TVB LEP's support for the WRLtH scheme is clearly articulated throughout the strategic planning documents including the SEP, the SEP Implementation Plan and the Evidence Base. This strategic support is continued through the creation of WRLtH project team and Stakeholder Steering Group, showing the TVB LEP's continued and dedicated support to the implementation of the WRLtH scheme.

Slough Borough Council appreciates the importance of this opportunity, although it is understood that improvements to the rail network should not be detrimental to other modes of transport. To deliver the WRLtH alongside the existing Great Western rail network, the road tunnel (Chequers Bridge) on Hollow Hill Lane will have to be permanently closed. As a popular commuter route, this will force traffic to use alternative routes, potentially adding a significant amount of pressure on local roads. The current level of congestion experienced along High Street is already cause for concern, but with the additional traffic anticipated as a result of the closure of Hollow Hill Lane, High Street could face significant operational issues, become uninviting and be unable to cope with the natural economic growth expected in the region. The scheme aims to support the WRLtH and

economic prosperity in the TVB region whilst mitigating the impact that will result from the closure of Hollow Hill Lane.

In response to the growing concern of a global recession as a result of the COVID-19 pandemic, the robustness of both local businesses and corporate firms, and the support received from the LEP will be crucial to helping businesses and employees through this unprecedented and difficult time. Therefore, the TVB LEP must be confident that the scheme will contribute to the delivery of the SEP in both the short- and long-term. The SEP indicates that the growth of the economy is fundamentally shaped by the maturity of the transport infrastructure which will continue to encourage sustainable local transport networks that promote active travel. Slough Borough Council is confident that the scheme will help to develop the transport infrastructure assets through Langley, including the passive provision for cycle lanes to promote active travel in the future if deemed appropriate by the Council. The ability to convert one of the traffic lanes in the future to a cycle lane provides adaptability for the Council as it allows an understanding of the long-term shift towards active travel, or whether an increase in cycle space is a temporary consequence of the COVID-19 restrictions.
Figure 2 below highlights the key transport infrastructure surrounding the scheme, including the Slough Mass Rapid Transit (SMaRT) Phases 1 and 2 along the A4 and the M4 Smart motorway scheme to the south, Langley Station improvements, Crossrail and the proposed WRLtH.

Figure 2 - Wider geographical area showing the key transport infrastructure.

The proposed scheme, which is an extension to the original rail station accessibility and Station Road/ High Street/ Langley Road junction improvement scheme in Langley, will complement the SEP's overall vision by ensuring that:
"The ambition and creativity of our established businesses will be energised through strong, knowledge-rich, networks [and] our infrastructure will match the scale of our ambition and potential" i
Slough Borough Council recognises that TVB is in the final stages of the current SEP delivery period, and whilst the scheme is due for completion in early 2021, there is confidence that the proposal will align with the subsequent SEP by delivering improved transport infrastructure, indirectly supporting economic growth in Langley, Slough and the wider TVB district.
In addition, this scheme extension will contribute to the delivery of the following packages within the Thames Valley Berkshire's (TVB) Strategic Economic Plan (SEP):
(N.B. The text below shows how the proposed extension to the original Langley Highway improvement scheme will support the delivery of the SEP in chronological order, despite the Packages not being in numerical order.)

SEP Package 2: Enhancing urban connectivity
High Street is the central north-south aligned road that links businesses and residents to Langley rail station and the strategic road network (A4, M4 and M25), and is a popular through route for commuters and public services. Currently, High Street suffers from congestion during the AM and PM peaks as the High Street is the key link between residential areas and the wider road network as shown in Figure 2 above.
In the short-term, the scheme aims to reduce congestion along High Street between Elmhurst Road and Langley Road and reduce the externalities such as the negative environmental impacts that are

associated with the slow-moving nature of congested traffic, notably noise and air quality. Both High Street/ Langley Road and High Street/ Meadfield Road junctions are popular and of strategic importance to the operation of traffic movements within Langley village, as they support east-west movements. Both have received TVB LEP funding to improve the operational performance of the junctions (Langley Road junction improvements were completed in March 2020 and Meadfield Road junction improvements has conditional funding from the TVB LEP). As the proposed scheme will deliver increased capacity on both the north and south approaches to the Meadfield Road junction, the widening of the carriageway will compliment and supplement the existing connectivity improvements along High Street.

In the long-term, this route will become increasingly important after the proposed closure of Hollow Hill Lane. Strategic traffic modelling has shown that the closure of Hollow Hill Lane will result in a re-routing of traffic onto High Street in Langley and this increased number of vehicles will make the High Street more congested. The downstream effects of this congestion threaten to impact labour supply to local businesses, access to high wage and high skilled jobs and will inhibit future economic prosperity.

It is also important to consider the importance of High Street as an access route to education facilities. Figure 3 shows the location of key education sites including Marish Primary School, Langley Hall Primary Academy and Langley College, and their close proximity to High Street.

Figure 3 - Education sites located in close proximity to the proposed widening of High Street.

It is vital that the High Street continues to provide safe and efficient access to these education facilities, supporting both Slough Borough Council's and the TVB Local Economic Partnership's investment in future generations. In addition, solving traffic congestion is expected to reduce noise and air pollutant levels which particularly ameliorate the risk for children. According to the WebTAG guidance, the locations of schools, nurseries, playgrounds, community centres, parks, open spaces and other facilities used by children, should be considered as sensitive receptors in an air quality impact analysis. Local junction modelling has forecast that the increase in traffic on Meadfield Road, which currently uses Hollow Hill Lane, will adversely affect the flow of traffic along High Street, resulting in long delays for vehicles and other negative environmental impacts associated with slow moving traffic. The previously submitted business case (May 2020) for Section 2, being the signalisation of High Street/ Meadfield Road junction, will begin to address the impact of Hollow Hill Lane. However, the proposed scheme will add a two-lane northbound and southbound approach to the High Street/ Meadfield Road junction (Section 2), therefore providing additional benefit to the operation of the junction. The addition of the two land southbound approach is also seen within the local junction modelling to provide benefit to the High Street/ Langley Road junction too, by way of reduced queuing and delay. The proposed scheme aims to accommodate future demand as a result of the Hollow Hill Lane closure, on the High Street between Elmhurst Road and Langley Road by enhancing the efficiency and flow of vehicle movement within Langley, thus improving access to the strategic road network.

Although the scheme does not include any direct improvements to bus services or Non-Motorised Users (NMU) infrastructure, it is important to note that introducing a two lane in each direction carriageway will provide passive provision, to allow Slough BC to turn one lane in each direction to either a bus lane or cycleway in the future. As evidence suggests, this will reduce risks for cyclists,

and therefore have an impact on the net safety result. This would also support the long-term capacity and strategic need for the road, encouraging active and sustainable travel modes.

SEP Package 6: Enhancing the strategic transport network

The SEP Implementation Plan recognises that the strategic road network is becoming increasingly constrained combined with minimal opportunities to create new roads. Therefore, the challenge is the maximise existing capacity and tackle pinch points across the network. The previously funded High Street/Langley Road junction and the proposed High Street/ Meadfield Road junction will deliver improved operational performance at two key pinch points along the High Street. However, the proposed scheme to widen the existing High Street carriageway will support the ambition to improve existing infrastructure rather than investing in new roads.

As a result of completing the Slough Mass Rapid Transit (SMaRT) Phase 1 and 2 programmes, the east-west corridor through Slough has been well developed in recent years and is beginning to transform Slough, Langley and the wider TVB district. However, north-south connections through both town centres remains both a challenge and a priority to Slough Borough Council. The scheme aims to improve the flow of traffic along High Street between Elmhurst Road and Langley Road, supporting north-south connectivity and helping to deliver SEP Package 6.

Although the proposed scheme aims to delivery carriageway widening along a small section of High Street, Slough Borough Council are committed to exploring additional sources of funding to develop the scheme along the entire length of Langley High Street, between the Rail Station and the A4 As such, the benefits of increased capacity on the road and reduced congestion will be enhanced from those described within this business case and will support the development of the wider strategic transport network.

To some extent, the improved connectivity and traffic flow along High Street will also benefit the two local bus services that currently use High Street as part of their route. Bus passengers are likely to see an improvement in their journey quality as bus services will be less likely to experience congestion along Langley High Street. As a result, a number of potential benefits associated with improving bus users journey time may potentially arise (e.g. reduction in bus travel times in the urban network, and operational speed benefits including savings on fleet size requirements, fuel and labour cost, among others).

Within Package 6, the TVB LEP also indicates the importance of the WRLtH, and the need to provide certainty with regards to its early implementation. The strategic need for the WRLtH is a clear narrative throughout the Strategic Economic Plan, enhancing and supporting the growth of the strategic transport network, of which the scheme aims to support.

SEP Package 5: Foundations for future growth for housing, transport and utilities

Widening the carriageway from one lane in each direction to two lanes in each direction will increase the capacity of High Street between Elmhurst Road and Langley Road. In addition to supporting the increase in demand as a result of the Hollow Hill Lane closure, the increased road capacity will support future growth in housing, businesses and retail through providing a fit-for-purpose, resilient transport network which is a key factor for potential development investors.

By ensuring that High Street operates efficiently, the scheme will support the future growth in housing, businesses and retail in a sustainable manner. Although the scheme does not directly support or unlock a significant growth in housing, transport and utilities, the efficiency and

robustness of a transport network, of which this scheme supports, underpins the foundations needed for effective and sustainable growth. The scheme will indirectly support the planned housing provision outlined in the Strategic Economic Plan (planned housing in Slough between 2006-2026 is 6,300 dwellings)i, including those which require up-front investments in infrastructure to achieve successful delivery.

The efficiency of High Street, particularly through the proposed scheme will support access for SMEs and residents to local and national infrastructure projects including Langley Business Centre, Crossrail, the Heathrow Airport Expansion and the wider strategic road network. The scheme's main priority of reducing current and future congestion along the High Street, will improve access to the local labour supply supporting businesses and the wider Thames Valley district. The scheme will also support and further improve the operational performance of two key junctions along High Street (Langley Road/High Street and Meadfield Road/High Street) which have both received TVB LEP funding.

SEP Package 1: Unlocking housing developments

The scheme will complement the ongoing transport infrastructure improvements in Langley, the combined effects of which will help to unlock new housing developments and support the TVB SEP Implementation Plan of delivering 21,060 jobs and 10,702 houses by 2021 across the wider TVB area . This includes the collaboration between the Borough of Slough and South Buckinghamshire District Council to develop proposals for the Northern Extension . The permanent closure of Hollow Hill Lane could prove detrimental to the Northern Extension business case if local roads prove unable to cope with additional vehicles. Slough Borough Council is taking a proactive approach to ensure that the roads remain efficient, for both short term benefits of closing Hollow Hill Lane and future developments such as the Northern Extension. Thus, the proposed widening of High Street from one lane in each direction to two lanes in each direction, between Elmhurst Road and Langley Road, will prove valuable to the efficient movement of vehicles and wider housing developments.

SEP Package 3: Encouraging vibrant town centres

High Streets across the UK are undergoing a radical change, primarily driven through a large shift towards online shopping . In addition, the ongoing COVID-19 pandemic is adding further strain on High Streets as retailers struggle to cope with the rapidly changing demands of social distancing and consumer confidence in shopping in store rather than online. As a result, the customer experience and public perception and ambience of High Street shopping and services, now more than ever, is vital to ensure their success in the future.

It is unlikely that a heavily congested High Street will attract and retain both businesses and consumers, thus the scheme will play an important role in ensuring the ambience of Langley High Street remains inviting. The proposed widening of High Street aims to continue to support Langley Village in retaining its status as a vibrant and prosperous town centre through the introduction of mild public realm improvements implemented as part of the scheme. The current feasibility design, found in the Appendices, includes a central reservation between the northbound and southbound carriageways, allowing for trees and shrubbery to be planted, improving the sense of place along High Street. The new carriageway will retain the current speed calming measures to ensure the safety of pedestrians and cyclists along High Street.

Alignment with other local and regional policies

Berkshire Local Industrial Strategy (BLIS) March 2019 (Framework document for consultation)
Local Enterprise Partnerships had been tasked with producing Local Industrial Strategies to seek to boost economic competitiveness. Thames Valley Berkshire LEP had framed the BLIS around three locally defined imperatives, as set out in section 5.2 of the document. The BLIS sets out an agenda for action under five distinct Priorities. Within this framework, the scheme will contribute to the delivery of the following priorities:

Priority 3: International trade, connections, collaborations and investment

International trade, connections, collaborations and investment recognises the importance of Berkshire's location in relation to Heathrow Airport and national transport infrastructure (particularly the M4 and Great Western Railway) in maintaining its economic prosperity. However, it also cites congestion and maintaining attractive places as barriers to attracting investors and innovation-focussed industries that would ensure long-term growth. The BLIS therefore supports the TVB LEP's view for the strategic need for the WRLtH – giving improved access to Heathrow– but highlights the need for congestion mitigation and placemaking measures to ensure the potential benefits are fully realised. The proposed widening of High Street from one lane in each direction to two lanes in each direction will support the economic prosperity of the local economy by alleviating congestion and reducing average delay which facilitates connectivity and investments.

Priority 4: Vibrant places and a supportive infrastructure

Vibrant places and a supportive infrastructure highlight the importance of sites close to railway stations and motorway junctions, and in strategic transport corridors to achieve these aims. It is anticipated that, as a result of the Hollow Hill Lane closure, the High Street will become overly congested with the redirected traffic. As the location of Langley High Street is within such close proximity to the M25 and M4, large volumes of commuter traffic could use the High Street as a shortcut, particularly if long queues are witnessed on the SRN. This scheme will support the BLIS framework by improving the flow of traffic along Langley High Street and carrying out streetscape improvements to enhance the livability of the surrounding environment.

Slough's Five Year Plan (2020 – 2025)

The Five Year Plan document outlines the Council's vision for Slough, the priority outcomes and the milestones towards delivering it. The Plan focuses on five priority outcomes, of which the scheme will help to deliver the following:

Outcome 2: Our people will be healthier and manage their own care needs.

The Five Year plan describes poor levels of physical activity as a key issue leading to particular challenges around preventable diseases such as cardiovascular health and diabetes which put pressure on the health and social care services. Whilst there are no pedestrian or cycle improvements specifically related to Section 1, the road widening is expected to provide an opportunity to provide segregated cycle infrastructure in the future. The scheme will also maintain the current pedestrian infrastructure along High Street, adjacent to the Langley Memorial Ground ensuring that residents wishing to pursue an active and healthy lifestyle have the opportunity to do so in a safe environment.

Outcome 3: Slough will be an attractive place where people choose to live, work and stay

This priority highlights the need to invest in infrastructure to enhance the visual appeal of the public realm, improve air pollution and promote community events to achieve the regeneration of Slough and the associated positive impacts for the community. By reducing congestion along High Street, it will become a more attractive place to work and shop. As a result, opportunities exist to increase physical activity and improve air quality through the scheme development. It will also

reduce congestion associated with large-scale events including Slough Canal Festival and the Horticultural Show in Bloom and Lascelland Parks nearby.

Outcome 4: Our residents will live in good quality homes

As recognised in the plan, the opportunity for new housing development in Slough is severely limited in terms of space and the capacity of the network. Increasing the capacity of the road network in Langley would enable future housing developments to be realised, including attracting new investors into the area. However, due to the size of the scheme, it is unlikely to unlock major housing development by itself.

Outcome 5: Slough will attract, retain and grow businesses and investment to provide opportunities for our residents

As part of this priority, the Council aims to make the most of the benefits of the Heathrow expansion and WRLtH to maximise the growth potential of Slough and Langley. The proposed scheme supports the WRLtH by implementing mitigation measures to ensure the smooth operation of traffic through Langley as a result of the closure of Hollow Hill Lane. In addition, the priority aims to encourage modal shift towards sustainable forms of transport, of which the scheme supports in a similar argument to Priority Outcome 2.

Slough Local Development Framework Core Strategy 2006 – 2026 (Adopted December 2008)

The Core Strategy is the central strategic policy document in the Local Development Framework. It highlights the key issues Slough will encounter over the next 20 years, and the Council's plan to proactively address for development across the Borough. The primary themes are to enhance the transport network and encourage the use of sustainable modes of transport within the community. In order to deliver the polices, a number of Strategic Objectives have been proposed in the strategy, of which the scheme will help to deliver the following:

Strategic Objective E: To encourage investment and regeneration of employment areas and existing town, district and neighbourhood shopping centres to increase their viability, vitality, variety and distinctiveness. The strategy identifies congestion as a key issue that needs to be addressed because it limits development and erodes the character of town centres and residential areas. Improving congestion issues on Langley High Street will help to ease pressure on the wider road network to help to deliver this objective.

Strategic Objective I: To reduce the need to travel and create a transport system that encourages sustainable modes of travel such as walking, cycling and public transport. The Framework recognises the importance of local bus services for tackling congestion. With reduced congestion along High Street, passengers using bus 7 (Heathrow – Slough Town Centre), 459 (Poyle/ Iver – Heathrow), and 583 (Hedgerley – Slough) will benefit from shorter, more reliable journey times that will increase the attractiveness of the bus service.

Slough's Third Local Transport plan 2011 – 2026

The Local Transport Plan for Slough outlines the fifteen-year plan for the local transport network, describing how Slough Borough Council will maintain and improve transport in the borough, to align with both national and local objectives. The proposed scheme will support the following objectives outlined in the LTP:

Table 1 - Alignment of the High Street widening with objectives of Slough's Third Local Transport Plan.

Local Transport Plan Objective	Alignment with the proposed scheme

To minimise the noise generated by the transport network, and its impacts.
Noise exposure leads to annoyance and impairment of quality of life. By reducing localised congestion, noise levels on High Street are expected to be reduced.
To achieve better links between neighbourhoods and access to the natural environment.
Connectivity for public transport users will be enhanced as bus services will operate with improved journey time reliability and customer experience. Likewise, supporting the WRLtH will improve connections across the wider TVB area.
To improve the journey experience of transport users across Slough's transport networks.
Bus services will experience lower travel times as a result of reduced congestion. This will improve journey experience of transport users.
To reduce transport CO2 emissions and make the transport network resilient to the effects of climate change.
Reducing the start-stop nature of congested traffic will support the reduction in transport CO2 emissions and other pollutants.
To facilitate the development of new housing in accordance with the LDF. New commercial and housing development will generate new demands for travel. The scheme will increase the capacity of the network, enabling it to better support future development.

Emerging Local Plan for Slough

The emerging Local Plan for Slough aims to address key challenges Slough and Langley will encounter during the 2016-2036 delivery period, including how to tackle congestion on the road network. The new Local Plan will update the existing core strategy, site allocations, and local plan saved policies. The Planning Policy Team are currently working on the Emerging Local Plan and the preferred Spatial Strategy and its publication and adoption is still to be confirmed due to the uncertainty surrounding the proposed third runway at Heathrow Airport. In any case, the road widening, which is the focus of this funding application, aligns with both the current and emerging Local Plan to help address the issue of future congestion on Slough's roads.

Overview of Strategic Alignment

The table below presents an overview of how the widening of Langley High Street, from a single to two-lane carriageway between Elmhurst Road and Langley Road, aligns with the policies and plans detailed in the preceding sections.

Table 2 - Alignment of the scheme with local and regional policies.

	Main Scheme Objectives		
Strategic policy	Relieve localised congestion and provide potential additional capacity within the network	Mitigate future impact of noise and air quality pollution and greenhouse gases on High Street	Provide additional benefit to the operation of adjacent junctions
Berkshire Local Industrial Strategy (BLIS)			
Slough's Five Year Plan			
Slough Local Development Framework Core Strategy			
Slough's Local Transport Plan			
Emerging Local Plan for Slough			

What is the rationale for the scheme?

Scheme extension location

Langley is a large village within The Borough of Slough, approximately two miles east of central Slough. Whilst primarily residential, Langley also includes light industrial, commercial, retail and leisure use. Key sites within Langley include the Langley Hall Primary Academy & Langley College, Langley Park Memorial Recreation Ground, Langley Business Centre & Waterside Drive Business Park, Harrow Market and Langley Rail Station (which is on the Great Western Main Line to London Paddington and which will soon be on Crossrail, providing connectivity into London).

Langley High Street is single carriageway, with one lane in each direction. It is north-south aligned, running from the A4 Junction 5 in the south to Langley rail station in the north, and through the heart of Langley in the centre. North of this, it continues into South Buckinghamshire. It is subject to 20mph and 30mph speed limits along its extent.

To the immediate east of and running parallel to High Street is Mansion Lane / Hollow Hill Lane / Market Lane. This connects traffic from Iver in the north to Sutton Lane / M4 Junction 5 in the south and is a route used by thousands of commuters each day. Traffic surveys undertaken by Network Rail in 2015 recorded an average weekday (24 hours) flow of 7,767 vehicles (two-way). The high volume of vehicles using Hollow Hill Lane, of which a large proportion is expected to divert onto High Street as a result of the WRLtH proposal, is a key driving factor for the rationale for the proposed widening of High Street from one lane in each direction to two lanes in each direction. Figure 4 below shows the location of the scheme, alongside key geographical landmarks reported above.

This scheme is an extension to the 'original' improvement scheme developed for Langley (LEP Ref 2.21), consisting of:

1. Junction upgrade at Station Road/ Waterside Drive and accessibility improvements to Langley Rail Station (scheme delivered in 2018) shown in Figure 4.
2. In addition to the above original scheme, junction improvements (conversion of a mini roundabout to signalised junction with pedestrian crossings) at High Street/ Station Road/ Langley Road (completed on site in March 2020), shown in Figure 4.
3. In May 2020, Slough Borough Council submitted a business case application to the TVB LEP to signalise the High Street/ Meadfield Road junction as the junction was considered high priority in mitigating the impacts of the closure of Hollow Hill Lane. The TVB LEP have confirmed conditional funding for the implementation of the High Street/ Meadfield Road junction.

Figure 4 – Location of the proposed scheme, Langley Village and surrounding landmarks.

Scheme rationale

As aforementioned, this scheme is an extension to the original improvement scheme in Langley (LEP Ref 2.21) and is primarily in response to the expected re-distribution of traffic from Hollow Hill Lane to High Street, as a result of Hollow Hill lane being permanently closed. Complementing the Section 2 scheme (High Street/ Meadfield Road signalisation), the scheme aims to provide added efficiency and increase capacity of High Street between Elmhurst Road and Langley Road and is therefore designed to reduce additional congestion and delay through Langley that would otherwise be caused.

In the short-term, the scheme will help to alleviate the current traffic congestion witnessed along High Street and will directly improve the operational performance of two key junctions (High Street/Langley Road and High Street/ Meadfield Road). As High Street will continue to be a key road within Langley, it is likely that the number of vehicles using the road will increase organically in line with anticipated economic growth predicted in the strategic documents reported above. As such, the scheme will help to ease congestion issues currently observed along High Street in line with gradual growth in vehicle numbers.

As aforementioned, in the longer-term, the widening of the carriageway will primarily support the anticipation of significant volumes of traffic being re-routed through Langley as a result of the closure of Hollow Hill Lane.

Slough Borough Council understands the importance of the WRLtH and the significant benefits it will bring in terms of employment, connectivity and improved economic prosperity for both Langley, Slough and the wider Thames Valley area. However, the benefits associated with the WRLtH could be overshadowed by the possible negative effects of overly congested roads, environmental disbenefits associated with queueing vehicle traffic, reduced vibrancy of Langley town centre and negative public opinion accompanying such changes. Thus, a strategic objective of this scheme is to support Network Rail and the WRLtH by increasing capacity and reducing congestion on a key stretch of carriageway, whilst also striving to improve livability in the built environment.

There have been multiple independent studies commissioned to assess the impact of closing Hollow Hill Lane and the potential redistribution of traffic on surrounding local roads. The results of these studies support the strategic fit and provide evidence for a compelling case for change. The following three studies are discussed in further detail below:

- Experimental closure of Hollow Hill Lane and resulting traffic flow analysis, Slough Borough Council and Buckinghamshire County Council (2016);
- Western Rail Link to Heathrow modelling outputs, Network Rail (January 2020); and
- Strategic and local traffic modelling, Atkins (June 2020).

Experimental closure of Hollow Hill Lane (Slough Borough Council and Buckinghamshire County Council)

In 2016, a six-month experimental closure of Hollow Hill Lane was conducted to better understand the effects upon the local highway network. This is the most robust example of impact analysis possible and strongly complements the strategic modelling undertaken by Network Rail and local modelling undertaken by Atkins reported in further detail below. Whilst the focus of the traffic impact study was on Iver, given that the investigation was commissioned by Buckinghamshire County Council, the Study Area also covered Langley Park Road which leads directly to Station Road High Street and the extent of this extended scheme. The Study reported the following key impacts upon Langley:

- 24 Hour: An additional 1,389 northbound and 2,836 south bound vehicles on Langley Park Road, which leads to Station Road/ High Street through Langley;
- AM Peak flows between 08:00-09:00 show that approximately 60% of vehicles previously using Hollow Hill Lane as part of their journey route now use Langley Park Road; and

- PM peak flows between 17:00-18:00 observed a 48% increase in vehicles using Langley Park Road who would have previously used Hollow Hill Lane.

Although the study gives no indication to the percentage of vehicles subsequently travelled onward to Langley High Street, as the major north-south road connector, we can assume that a significant proportion continued through the High Street. These modelling results show a similar pattern to the strategic traffic modelling undertaken separately by Network Rail and Atkins.

The Study found that a majority (67% based on 24 hour) of re-distributed traffic uses Langley Park Lane (and onwards to Station Road/ High Street through Langley) rather than the most feasible other alternate route being Thorney Lane North (25%) through Iver. This supports Station Road/ High Street as being an important location for the focus of remedial measures. As High Street is frequently subject to congestion and queuing traffic during the AM and PM peaks, the anticipated increase in traffic volume stated above will place severe pressure on the infrastructure and significantly impact passenger experience of using the road.

The Study concluded that the increased levels of traffic observed through the Study will serve to exacerbate the existing congestion and environmental functions of the roads within the Study Area. Whilst the Section 2 scheme which has already received conditional LEP funding addressed this, the proposed widening of High Street to two lanes in each direction provides added operational improvement and is therefore required as a strategic step towards mitigating the impacts of the WRLtH. It is recognised, however, that this will not solve the full congestion problems described above, alone. Slough Borough Council will continue to seek a wider package of works to implement before Hollow Hill Lane is permanently closed which will allow the High Street to continue to operate as a strategic through route and Langley to function as a centre for housing, employment, education and local commerce. This includes a further extension of the proposed scheme to widen the High Street carriageway to two lanes in each direction between Langley Station and Langley Road, and south of Elmhurst Road to the A4. The completion of carriageway widening along the entire length of Langley High Street will significantly increase the capacity of the road and will support the organic and step change growth in vehicle numbers expected.

Western Rail Link to Heathrow modelling outputs (Network Rail)

In January 2020, to support their business case submission and case for change to implement the Western Rail Link to Heathrow, Network Rail released the outputs of their highway modelling which assessed the impacts of the closure of Hollow Hill Lane on the surrounding local road network, including Langley High Street. The results of the modelling shown in Figure 5, are for absolute change in PCUs in the AM and PM peaks in a 2028 weekday scenario from ‘without scheme’ to ‘with scheme’.

Figure 5 - Western Rail Link to Heathrow modelling outputs (Change in PCUs: without scheme/with scheme.)

In line with the outcomes of the Buckinghamshire County Council Iver study reported above, the results of the Network Rail modelling analysis show a high absolute change in the number of PCUs using Langley Park Road and subsequently Langley High Street as an alternative route upon the

closure of Hollow Hill Lane. The report continues to focus on individual junctions within the study area rather than the impact on stretches of road as proposed by this scheme. However, the flow diagrams above indicate that Langley Park Road/ Langley High Street will have a significant increase in the number of vehicles using the road during the AM and PM peaks, thus the need for the proposed widening of the scheme remains consistent with Network Rail modelling results.

Strategic modelling to understand the wider area impact of the closure of Hollow Hill Lane (Atkins)

As aforementioned, Network Rail is proposing to create a high-speed rail link from Langley to Heathrow T5 (WRLtH), which would require the permanent closure of Hollow Hill Lane. Strategic modelling has been undertaken in SATURN, a highway assignment model, and has demonstrated that the impact of this closure would be the re-routing/ re-distribution of a significant amount of Hollow Hill Lane traffic onto High Street, through Langley.

Figure 6 below captures the forecast change in traffic flows by the model in future year 2028, as a direct result of the closure of Hollow Hill Lane. It is evident that the model is forecasting a re-distribution of traffic from Mansion Lane/ Hollow Hill Lane/ Market Lane onto High Street, as vehicles are using the route through Langley as the most feasible alternative.

Figure 6 - Changes in traffic flow associated with the closure of Hollow Hill Lane (output from the strategic model, where blue represents a reduction in traffic and green represents an increase in traffic).

Specifically, the model is forecasting an increase in traffic on High Street, north of Harrow Market in the centre of Langley, of between 140 and 190 vehicles in each direction, during the peak hours. This is an increase of approximately 15-30% in traffic in both directions along High Street, in relation to today's flows. It should be noted that in reality some strategic re-routing is expected to occur as there are other alternatives for traffic (e.g. Thorney Lane to the east of Langley, Willoughby Road and Parlount Road) and it is unrealistic to expect vehicles to queue when there are alternate routes available – as explained in the sub-section below. This was witnessed during the experimental closure of Hollow Hill Lane where, even though the majority of traffic rerouted through Langley High Street, it was also observed that some strategic redistribution occurred through alternative routes to avoid queuing. Further details and consequences of this effect will be covered though a sensitivity test in the Value for Money section of this Business Case.
The consequence of this, without the mitigation which this scheme is designed to provide, is increased delay and queuing through Langley, leading to adverse environmental impacts as a result of stationary or slow-moving traffic (increased noise and reduced air quality).

Local junction modelling, to understand the direct impact upon High Street, due to the closure of Hollow Hill Lane (Atkins)

It is important to note the context of the Section 1 scheme, being that it is a direct extension to the improvements already delivered to High Street/ Langley Road junction, plus the planned improvements to the High Street/ Meadfield Road junction (Section 2), which has secured conditional LEP funding.

As part of the Full Business Case for High Street/ Meadfield Road junction (Section 2), local junction modelling within LINSIG was undertaken to understand:

a) the impact of the Hollow Hill Lane closure on the junction and likely performance in the future (2028), without intervention.
b) the benefit of the Section 2 scheme, being the signalisation of the junction, which has since received conditional approval for LEP funding.

That exercise established, firstly a significant worsening in operation due to the increased flows through the junction without any intervention; and secondly that the Section 2 scheme provided notable improvement to allow the junction to operate to a satisfactory level, with reduced delay to traffic. It is pertinent to note that the model did indicate the potential for southbound traffic at Meadfield Road to queue back into the Langley Road junction, which would want to be avoided for operational and safety reasons.

For this Section 1 scheme, local junction modelling was again undertaken in June 2020, using the same LINSIG model, to establish the further benefit generated by widening of High Street between Elmhurst Road and Meadfield Road, plus between Meadfield Road and Langley Road. To ensure both models were consistent in approach and delivery, one future year was forecast (2028) which included the closure of Hollow Hill Lane. To ensure that the benefits of Section 1 scheme alone were captured, the 'existing' scenario in the model was assumed to be the Section 2 signalised layout, and the 'proposed' scenario was this existing layout, plus the additional two lane northbound and southbound approach added to the model.

The junction model results are shown below. It shows that under the Section 2 scheme, the Meadfield Road junction operates satisfactorily, having mitigated the impact of the Hollow Hill Lane closure, albeit with some queuing on the southbound approach, which has potential to back up into the Langley Road junction. For Section 1 alone, the modelling shows notable additional benefit to junction operation, with delay savings on all three arms and, of particular value, the southbound approach to the Meadfield Road junction thus resolving the possible safety issue of vehicles backing up into the Langley Road junction. Furthermore, the modelling shows that the carriageway widening provides benefit to the High Street/ Langley Road junction too, particularly on the Langley Road approach. This is due to the increased southbound capacity between the Langley Road and Meadfield Road junctions. This demonstrates the added value of the Section 1 carriageway widening scheme, in complimenting the benefit of signalising the two junctions.

Table 3– Junction model results.

In the year 2028 scenario developed, which includes the Hollow Hill Lane closure and the signalisation of High Street/ Meadfield Road junction, the local traffic model showed that, for the current capacity and layout, there is an expected:

- Both junctions are expected to operate within capacity in both the AM and PM peaks. In particular, the Meadfield Road junction is well within capacity. Without the widening of High

Street, several approaches to the junctions would potentially operate close to theoretical capacity by 2028, particularly during the PM peak;

- Both junctions are expected to have low levels of queueing and delay on all arms, with the proposed scheme, by 2028.
- An overall delay difference saving of 48 pcu/hr for the 2028 PM peak scenario at the Station Road/ High Street/ Langley Road junction in the 2028 PM peak.
- A combined delay difference saving of 120 pcu/hr for the 2028 PM peak at the Meadfield Road/ High Street junction in the 2028 PM peak;
- It is important to note the minor increase (<3 pcu/hr) in delay difference for multiple arms across the Station Road/ High Street/ Langley Road Roundabout however the overall operational performance of the junction will improve as a result of the scheme;
- All approaches to the Meadfield Road/ High Street junction result in reduced delay difference in both the 2028 AM and PM peaks, as a result of the interventions delivered as part of the proposed scheme.

The results of the local junction modelling reported above significantly supports the need for the scheme, particularly in response to the closure of Hollow Hill Lane and the potential rerouting of traffic onto High Street. In addition, the table above indicates the combined impact of both the proposed scheme and the junction improvements (at High Street/ Langley Road and High Street/ Meadfield Road) will be significantly greater than those of the individual schemes. The scheme will support both frequent and new users of High Street, bus service passengers and cyclists who will all benefit from increased capacity along High Street. These users will also benefit from the downstream effects of reduced congestion of improved air quality and noise pollution and improved sense of place along Langley High Street.

Scheme details

The proposed scheme is to request funding for an extension of the original Langley Station scheme, to deliver improvements to Langley High Street which would complement the original scheme and the junction improvements at High Street/ Station Road/ Langley Road and High Street/Meadfield Road. As previously mentioned, the overall aim of the proposed scheme is to increase road capacity to alleviate current congestion witnessed along High Street and better accommodate the additional traffic expected at the junction as a result of the potential closure of Hollow Hill Lane to the east of the junction.

For the purposes of this assessment, we have used the estimated differences in delay impacts along Langley High Street as a proxy measure of how the existing and proposed capacity layouts could meet the expected traffic volumes. This local traffic modelling has shown that the scheme will indeed reduce delays overall, but predominantly in the PM peak. Further information can be found in Appendix A.

As part of the proforma application submitted to TVB LEP in January 2020, the proposed scheme was presented a carriageway widening between Meadfield Road and Elmhurst Road. However, since then, design and feasibility considerations has led to the scheme also including widening between Langley Road and Meadfield Road, to incorporate two southbound lanes. This is primarily in relation to:

a) The added benefit gained by the additional southbound lane approach, with regard to queuing and delay at both junctions (as evidenced by the local junction modelling)
b) The added value of removing the potential issue of southbound traffic potentially queuing back into the Langley Road junction during peak hours.

The proposed scheme will therefore implement the following interventions:

- Widening of the High Street from one lane in each direction to two lanes in each direction between Elmhurst Road and Langley Road; and
- Introduce a central median between the northbound and southbound lanes containing small trees (subject to feasibility and safety considerations to be established during the next phase of design) to improve streetscape along proposed stretch of widened carriageway.

These interventions will deliver improved operational performance through the centre of Langley and will be complimentary to the ongoing works along the High Street mentioned above. As a result of increasing the capacity of High Street, the scheme will result in the loss of land to the immediate west of the scheme, currently owned by Langley Memorial Ground. Slough Borough Council have had initial, positive, discussions with the Langley Memorial Group Trustees in Autumn 2019 in relation to potential acquisition of land for the proposed scheme, in addition to a continued relationship from previous schemes (primarily the High Street/ Langley Road junction improvement). Further engagement between the Trustees and Slough Borough Council is planned for July 2020, in specific relation to the proposed scheme.
The scheme will also result in the loss of one parking bay (enough for two cars) immediately south of Willoughby Road on the eastern side of High Street. A solution to the loss/ relocation of parking will be then provided within the next highway design stage in addition to a deeper understanding of how this bay is used.

The Council will also undertake early engagement with impacted parties and look to provide suitable alternative facilities through re-location of the bay. The Council are proposing that the relocation, if deemed necessary, could be suitable in Harrow Market Car Park which is a very short walk away from the current bay location, presenting a good alternative for the needs of both residents and visitors.

It should be noted that the process of removing this bay is straight forward in terms of timescales. Slough Borough Council estimates that this process can take approximately 6 weeks. However, significant complaints and objections could potentially have implications on the programme. To account for this fact, impact upon parking is included as one of the key strategic risks identified during this study (see Table 11).

Although no specific measures are being proposed to improve the facilities and safety for pedestrians and cyclists, the creation of four lanes (two in each direction) will create the passive provision to turn one lane in each direction to a cycleway in the future if demand sufficiently increases , or travel patterns change post COVID-19

A draft feasibility design drawing for the proposed scheme can be found in Appendix B.

What barriers to growth will it address? What is the evidence?

Langley High Street is a key strategic route running from Langley Station to the A4 with economic losses resulting from traffic congestion during peak hours. Future growth in business, housing activity and the closure of Hollow Hill Lane will likely result in further pressures along this corridor. Slough Borough Council recognises that this is a proactive response to a problem that, if not fixed in the short-term, will cause significant barriers to growth in the long-term. Research has shown that congestion reduces the effective productivity of capital and labour. As such, increased congestion on this road will inhibit the economic growth predicted for the local area, limit the attractiveness of the area to outside investment and may cause labour supply issues to businesses located on the High Street and surrounding Slough district. Slough recognises that congestion issues put pressure on the local workforce and businesses, degrades the air quality and threatens the public health. These factors need to be addressed in order to foster 'smart' growth from investment that will support a strong pipeline of high-quality employment. The BLISviii identifies congestion as a key issue that will limit the delivery of future housing development, the delivery of which needs to be accelerated to achieve social and equality objectives.

The emerging Local Plan places emphasis on how Slough will support and benefit from the expansion at Heathrow, which includes the WRLtH tied into the wider rationale for the project. In 2010, there were a reported 4,090 on-airport Slough employees, which equates to 6.8% of the local are workforce . It is conceivable that the number of residents employed by Heathrow will grow in line with the continued development of the third runway. Slough and Langley aim to support the delivery of the emerging Local Plan by improving residents' access to Heathrow.
The original scheme will prepare Langley for future investments including the Northern Extension situated to the north of Langley Station and, the development of Langley Business Park which has submitted multiple planning proposals. These include a data centre with retail, leisure and residential opportunities and other light industrial opportunities, with a minimum of 582 jobs created . As the proposed scheme focuses on Langley High Street rather than the package of interventions proposed in January 2020, a proportionate approach has been taken to calculate the number of houses, jobs and employment floorspace the scheme will help to unlock. Further details can be found in Table 5.

The Northern Extension, Langley Business Park and future developments will all benefit from increased capacity, and thus reduced congestion, on the High Street. This will not only support vehicles from the Hollow Hill Lane closure but will also cater for the additional trips generated from development, including Heavy Goods Vehicles required during construction.

Although the proposed scheme will start to address the impacts of the WRLtH within Langley, Slough Borough Council recognises that this is only the beginning and further mitigation measures will be needed to fully address the impacts of the WRLtH and improved access to the Heathrow expansion.

In the short term, the scheme will support Langley High Street in transitioning to a new normal as a result of the COVID-19 pandemic, enabling the High Street to return its previously vibrant nature. As communities are being encouraged to stay local, through walking and cycling, the effect of reduced congestion along High Street and on the surrounding network will reduced noise and air

pollution associated with the start-stop nature of congested traffic, benefitting those using active travel to access the High Street and its amenities.

What other options have been considered?

Alternative options to re-distribute traffic are limited due to a lack of north-south network links, particularly as Langley High Street is a popular commuter route to the A4, M4 and M25. Alternate north-south routes to the east through Iver and to the west through Middle Green will significantly increase journey time, vehicle operating costs and may have long-term adverse environmental impacts. Indeed, the temporary experimental closure of Hollow Hill Lane demonstrated that the majority of traffic would choose to use High Street Langley rather than Thorney Lane North through Iver.

A possible strategic option would be to consider building a new north-south road to accommodate for the anticipated surge in demand on the High Street. However, as the TVB LEP SEP Implementation Plan states, the challenge for the wider TVB area is to maximise the capacity of existing infrastructure, as the options to develop new infrastructure are limited and costly. The area surrounding Langley is primarily used for residential, light industrial and retail purposes, with the majority of land already heavily developed. The only feasible route to create a new road capable of accommodating large volumes of traffic, is to the East of Hollow Hill Lane/ Market Lane through Richings Park. However, this will also require crossing the WRLtH track and thus presents an issue of building a new and costly bridge which is not considered a feasible option at this stage.
As part of their modelling analysis and business case preparation for the WRLtH, the Network Rail have considered the possibility of constructing a new north-south road bridge across the rail tracks. However, this is not considered a feasible option as the road bridge would require a six-metre clearance from the railway tracks. To achieve such clearance, long approach structures would be required which will cut off access to adjacent cottages and farmland and be a costly alternative.
Other options that promote a shift towards public transport to reduce the dependency on private vehicles, have already been recognised through the SMaRT Phase 1 and 2 programmes and improved access to Langley station. The proposed scheme will complement both projects however the reduced dependency on private vehicles achieved through a long-term modal shift towards sustainable modes of transport is unlikely to make any significant impact on the congestion issues of High Street.

Additional options include the widening of the High Street carriageway from one lane in each direction to two lanes in each direction for the entire length of the High Street (between Langley Station and the A4) have also been considered. It is considered that this will provide the maximum increase in capacity and enhance the benefits proposed as part of this scheme, which only widens one section of the High Street. However, Slough Borough Council is aware that widening the full High Street is costly and disruptive to road users. The Council is keen to progress the widening of the High Street in the future and therefore will be splitting the length of the High Street into sections, of which this proposed scheme is one of them, to spread the cost of construction and potential disruptions.

As part of the option assessment process in developing this scheme, we have carried out modelling of two configurations along Section 1, using the High St/ Meadfield Rd local junction model:

- Scenario A: Section 1 as previously presented, being the introduction of four lanes between Meadfield Road and Elmhurst Road.
- Scenario B: As above, plus an extension to Section 1, to also provide four lanes between Langley Road and Meadfield Road. Currently, there is only a one lane southbound approach to Meadfield Rd, and this extension is to add an additional southbound lane.

In summary, the widening of the High Street, in line with the previously completed Langley Road junction and proposed High Street/ Meadfield Road junction improvements, appears to be the most feasible option to address the rapid growth of traffic and to begin to accommodate the additional traffic anticipated as a result of the Hollow Hill Lane closure. In specific regard to this scheme, it is deemed that there are no alternative options to deliver the additional benefit to junction operation (evidenced by the local junction modelling) than the additional approach lanes to the Meadfield Road junction proposed.

What would be the consequences of a "do nothing" option?

Doing nothing will result in higher traffic congestion on Langley High Street as a result of the traffic growth condition in the region, with a notable rise following the closure of Hollow Hill Lane. This anticipated growth is additional to the congestion already witnessed along High Street, particularly during the AM and PM peak periods. As the proposed scheme is a smaller intervention than the combined package of works considered in the application submitted to the TVB LEP in January 2020, the benefits associated with the scheme and consequences of a "do nothing" scenario will be less severe than those proposed in the previous submission. However, it should be noted that the Council is keen to progress with the widening of the High Street from Langley Station in the north, to the A4 in the south, further preparing Langley Village for the closure of Hollow Hill Lane and future growth in traffic volumes.

The increased congestion will result in labour supply issues to the wider Slough district potential adverse environmental impacts (increased noise and reduced air quality). Doing nothing may also lead to accessibility and connectivity issues to car users as higher levels of congestion may make it more difficult for car users in the north of the Borough to access Slough and employment opportunities via the A4 and surrounding motorways. These arguments are extended to bus passengers who will be impacted if bus services experiences delays, particularly during peak hours. The effects of reduced journey time reliability will produce a negative passenger experience and could lead to reduced patronage and negative perceptions towards public transport.

In June 2020, traffic modelling was undertaken to understand the implications of a "do nothing" scenario. The traffic model assumed the signalisation of the High Street/ Meadfield Road junction (Section 2) and the High Street/ Langley Road junction. (N.B. The B470 Station Road/ B470 High Street/ Langley Road has recently been upgraded to a signalised junction under the original scheme and was completed in March 2020). As aforementioned in a previous section of this funding submission, the results of the modelling show:

- Both junctions are expected to operate within capacity in both the AM and PM peaks. In particular, the Meadfield Road junction is well within capacity. Without the

widening of High Street, several approaches to the junctions would potentially operate close to theoretical capacity by 2028, particularly during the PM peak;

- Both junctions are expected to have low levels of queueing and delay on all arms, with the proposed scheme, by 2028;
- An overall delay difference saving of 48 pcu/hr for the 2028 PM peak scenario at the Station Road/ High Street/ Langley Road junction in the 2028 PM peak;
- A combined delay difference saving of 120 pcu/hr for the 2028 PM peak at the Meadfield Road/ High Street junction in the 2028 PM peak;
- It is important to note the minor increase (<3 pcu/hr) in delay difference for multiple arms across the Station Road/ High Street/ Langley Road Roundabout however the overall operational performance of the junction will improve as a result of the scheme and these minor increases in delay are outweighed by the larger delay savings seen in other approaches to the junctions.
- All approaches to the Meadfield Road/ High Street junction result in reduced delay difference in both the 2028 AM and PM peaks, as a result of the interventions delivered as part of the proposed scheme. The result of the "do nothing" scenario will seek to enhance the delays reported from the modelling above and the closure of Hollow Hill Lane.

As aforementioned, even with the signalisation of the High Street/ Meadfield Road junction and the benefit that brings, there is still potential for southbound vehicles to queue back into the High Street/ Langley Road junction, potentially causing operational and safety issues. This would pose a concern under a "do nothing" scenario.

The economic impact of the "do nothing" option would directly affect Langley High Street where, as a result of continuous congestion along the corridor, individuals will be discouraged to use the services along the High Street due to its unappealing and unattractive nature. This may result in the public choosing to shop elsewhere and a lack of investment from local businesses. This will diminish the vibrancy of the town centre and reduce the economic vitality of the High Street, affecting the delivery of the TVB SEP Packages described above. This is particularly pertinent in the current climate where, as a result of the COVID-19 pandemic, streets are facing an even bigger challenge of convincing shoppers to purchase items in store rather than online.

Currently, the quantitative evaluation of journey time benefits associated with the scheme calculate a £10.88 million saving in journey time, in present value, discounted to 2010. The consequence of a "do nothing" scenario will result in no journey time savings for vehicles using High Street, and potentially will create further disbenefit through increased congestion as a result of the closure of Hollow Hill Lane. In addition, the qualitative discussion of other benefits described below including accidents, journey quality and air quality will be diminished or even eliminated in a "do nothing" scenario. Further details on the economic evaluation can be found in the subsequent pages.

Which partner organisations are involved in, and committed to, the scheme?

Slough Borough Council will be the sole partner for the scheme. As a result of previous infrastructure projects in Langley including the signalised junction improvements along the

proposed route, Slough Borough Council will continue to have a close relationship with necessary supporters of the scheme including Langley Hall Primary Academy & Langley College, Langley Business Centre & Waterside Drive Business Park, Harrow Market Great Western Rail and Network Rail. As the scheme will ultimately benefit the wider transport network, Network Rail and Heathrow Airport are considered as key and have been involved in the continuous discussion surrounding the closure of Hollow Hill Lane.

The scheme requires land purchase from the Langley Park Memorial Recreation Ground which is under the responsibility of the Memorial Park Trust. Slough Borough Council has an existing relationship with the trust and will raise this issue at upcoming board meetings. In the event that the land required to deliver the widening of High Street is not successfully acquired from the Langley Park Memorial Recreation Ground, the Council will revisit the proposed designs to understand where potential land savings can be made, which will be more acceptable to the Memorial Ground trustees. This could include the removal of the central median from the design, to reduce the impact upon the Memorial Ground. However, the Council have previously discussed the scheme to the trustees and anticipate a smooth acquisition of land.
Slough Borough Council is working closely with the LEP to ensure infrastructure investments are delivered in line with its visions and objectives, particularly by addressing the opportunities associated with the expansion of Heathrow.

2. Value for money

What outputs will the scheme deliver?

Section 1 of High Street is a busy stretch of road with a constant stream of traffic during the AM and PM peak periods. In addition, the strategic model has shown that the future closure of Hollow Hill Lane will result in a re-distribution of traffic from Hollow Hill Lane to High Street, Meadfield Road, and Station Road. This re-routing of traffic is not expected to be absorbed by the existing road capacity of High Street, which is now unable to cope with further increases in vehicle numbers.

It is, therefore, prudent to plan for future potential congestion while improving traffic safety and providing additional benefits to the operational performance of adjacent junctions (High Street/Langley Road and High Street/ Meadfield Road). The proposed road widening project of the High Street carriageway between Elmhurst Road and Meadfield Road is anticipated to reduce congestion on a key link, whilst also improving streetscape and delivering decongestion benefits and a reduction in externalities (e.g. air pollution, accidents and noise).
Table 4 summarises the main expected benefits of the proposed scheme. These benefits are linked to relevant scheme objectives identified in the rationale for the scheme and strategic fit section.

Table 4 - Scheme expected benefits.

Expected benefit	Description	Scheme objectives
Journey time savings (decongestion and vehicle operating costs)	Benefits resulting from decreases in journey times have been inferred from the forecast reductions in delays as a result of the High	

Street widening. Reductions in vehicle operating costs are also expected as a result of the scheme. Based on reduced congestion for car users, it is anticipated that fewer disruptions will be experienced by road traffic, thus resulting in improved reliability. Relieve localised congestion and provide potential additional capacity within the network

Increase Network capacity
The scheme will help to reduce congestion on a key link and will increase network capacity by supporting higher traffic flows derived from the closure of Hollow Hill Lane. The road widening is expected to provide additional benefits to the operational performance of adjacent junctions (High Street/Langley Road and High Street/ Meadfield Road). Relieve localised congestion and provide potential additional capacity within the network and provide additional benefit to the operation of adjacent junctions

Journey quality
The proposed intervention is expected to improve journey quality factors, resulting in a better user experience for car users. Relieve localised congestion and provide potential additional capacity within the network

Air Quality and noise impacts As the intervention will result in changes in traffic flows and speeds, environmental improvements in terms of a reduction to noise pollution and emissions are anticipated.

Mitigate future impact of noise and air quality pollution and greenhouse gases on Hight Street.

Accidents
As cyclists prefer to cycle on streets with two lanes rather than on wider roads, there may be fear of potential accidents and therefore concerns about safety However, the scheme is an extension to the High St/ Meadfield Rd junction scheme which will provide safer cycling facilities and result in a reduction of personal injury accidents.
Provide additional benefit to the operation of adjacent junctions

In addition, the scheme will support the Thames Valley Berkshire Strategic Economic Plan (SEP) by facilitating the unlocking of future housing development, enhancing urban connectivity and supporting the creation of jobs and businesses. In this context, Table 5 estimates the outputs that the scheme will deliver, including details from the original Langley Station business case. Due to the scale and nature of the scheme, that is to provide additional capacity, it will help to unlock land for new housing dwellings and support the creation of jobs and businesses. Estimates predicted in the table show that the proposal will facilitate the delivery of new 47 houses in total and provide additional support to the creation of 38 jobs that will yield 258 square meters of employment area.

Table 5 - Scheme expected outputs in terms of new housing dwellings, retail space, jobs and businesses created.

Outputs	2019/ 2020	2020/ 2021	2021/ 2022	2022/

2023	2023/									
2024	Later	Total								
Houses (units)	LGF/Growth Deal									
	Other public sector (specify which)								32	32
	Private sector			11	4		14			
	Total		11	4	32	47				
Jobs	LGF/Growth Deal									
	Other public sector (specify which)									
	Private sector	10			28		38			
	Total	10		28		38				
Employment floorspace (sq m)		LGF/Growth Deal								
	Other public sector (specify which)									
	Private sector				258		258			
	Total					258				
Businesses created	LGF/Growth Deal									
	Other public sector (specify which)									
	Private sector									
	Total									
Business assists	LGF/Growth Deal									
	Other public sector (specify which)									
	Private sector									
	Total									
Other (specify)	LGF/Growth Deal									
	Other public sector (specify which)									
	Private sector									
	Total									

How have these outputs been estimated?

TAG Unit A4.1 recommends monetisation of specific key impacts in order to appreciate their scale relative to other outcomes and to allow robust values to be presented in the appraisal. In accordance to the guidance, where individual impacts are considered to be of lesser importance or where sufficient data or valuations are unavailable to undertake a quantitative approach, it is more amenable to appraise such impacts in a qualitative manner. For this Business Case, only user benefits for car users (journey time savings) are quantified and monetised, using an approach which is proportionate to the size and cost of the scheme. In the interest of proportionality, an assessment on the qualitative a seven-point scale has been undertaken for other identified benefits attributable to the scheme (see Table 4).

The methodology for the assessment of journey time benefits mirrors the approach adopted for the economic appraisal of the High Street/ Meadfield Road junction completed in March 2020, and as agreed with the LEP reviewer in June 2020. It compares the relative benefits of the Do Something (DS) scenario option against the Do Minimum (DM) scenario.

- DM: Signalisation at the High Street/Meadfield Road junction, with one lane southbound at Meadfield Road junction, and one lane in each direction south of Meadfield Road; and
- DS: Signalisation at the High Street/Meadfield Road junction, with two lanes southbound at Meadfield Road junction, plus two-lanes southbound and northbound south of Meadfield Road (DS).

The impacts of the scheme on journey times for car users have been assessed based on the delay outputs during the AM and PM peak hours, as modelled in LINSIG. Further details of the LINSIG modelling outputs can be found alongside the scheme rationale in Section 1 and Appendix A.
The models have considered the traffic flows along High Street with the closure of Hollow Hill Lane. The future year flows also account changes in flows due to background growth and introduction of other planned schemes in the wider area. The increase in flows on this road however are primarily due to the closure of Hollow Hill Lane.

Traffic flows and delays in seconds per pcu were estimated for both modelled years and for two peak hours: AM and PM in each year . In accordance with TAG Unit 1.3, the calculation of user benefits is based on the conventional consumer surplus theory, defined as the benefit which a consumer enjoys (i.e. reduction in travel time as a result of delay savings). The assessment of consumer surplus only incorporates changes in travel time and does not account for changes in vehicle operating costs or user charges. The difference between the total delay registered in the network in the DM and DS scenarios indicates the daily delay savings experienced on the route. Annual benefits were calculated on the assumption being that they are evenly accrued for 253 working days a year. Using this methodology, benefits were calculated for highway users, disaggregated by user type, with separate values of time for business and non-business users. This is because, as indicated in the guidance, the surplus associated with making a journey will not be the same for everybody and depends on the benefit each individual derives from making that journey.

To summarise, for the purpose of the economic analysis, the following assumptions have been made:

- For the purposes of this appraisal, the journey time savings have been inferred from the forecast changes in delays between the DM and DS;
- The impacts of the scheme have been assessed over a 60-year appraisal period, in line with TAG guidance, with an assumed opening year for the scheme of 2021;
- All costs and benefits in the economic appraisal are discounted to 2010 market prices in accordance with TAG Unit A1.1;
- Scheme costs have been converted from factor costs into market prices using the indirect tax uplift factor of 19%;
- In line with the Green Book, an optimism bias of 15% has been incorporated into the economic appraisal to account for the uncertainty about costs;
- Different values of time were assumed for business drivers and passengers and for commuting and leisure trips (£17.689, £9.953, and £4.543, per hour, 2010 prices). This data has been taken from the TAG data book table A1.3.1;
- Average values for the proportion of travel in work and non-working time were assumed. This data has been taken from the TAG data book table A1.3.4.

A bespoke Spreadsheet Model Tool based upon the delay outputs of the LINSIG model was developed in line with TAG requirements to calculate the economic benefits generated by the proposed scheme. These benefits were monetised to give a Present Value of Benefit (PVB). The monetary benefits are compared against the present value of costs (PVC) to calculate a benefit cost ratio which demonstrates the scheme's value for money. Sensitivity analysis was carried out to assess if the value for money category is likely to change based on small changes in key elements of the value for money assessment. In accordance with requirements set out in 'The Value for Money Framework' published by the Department for Transport, this is a crucial step in mitigating uncertainty in the value for money assessment and increasing the level of confidence of decision-makers.

On the other hand, the outputs reported in Table 5 above focus on planning applications and forecasts from Slough Borough Council's Planning Department. The original scheme (submitted to the LEP in January 2020) reported the indirect delivery of 1,500 dwellings however this has been scaled down to an estimated of 32 houses (public sector) as the original scheme is near completion, and this funding application is only focused on a short section of road (defined as 'Section 1' in the proforma application submitted in January 2020 – see Figure 1).

The other estimates predicted in the table for 2023/2024 include preliminary figures for a data centre at Langley Business Park (originally creating 4,000 sqm of space and 60 residential dwellings and retaining 432 jobs once completed), and current lease of the business park as a temporary filming studio. Likewise, these figures have been scaled down based on costs estimates to reflect the proportionate share to this scheme. In addition, estimates have also considered the cumulative impacts that will result from delivering all the three sub sections of the package of interventions (see Figure 1). Thus, a corresponding percentage reduction has been applied to reflect the fact that this funding application is only focused on High Street (Section 1). It should be noted that this assessment is based on professional judgement, using knowledge in practice and critical reflection. Although interdependencies between the different sections of the original scheme in terms of unlocking housing developments or additional jobs expected to be created are not straightforward to interpret; the estimate is considered conservative in comparison to the potential maximum outcomes to be achieved. These figures are based on publicly available documents and are indicative at this stage as it has not been possible to model the direct link between the new scheme and the benefits relating to housing, retail and employment growth.

It is also understood that in times of COVID-19 crisis and potential economic recession, the importance of investing in infrastructure, such as the proposed scheme, is vital to reviving the economy, boosting employment rates and economic prosperity.

What wider outcomes will be achieved in TVB? Please quantify these if possible.

As shown in Table 4 above, in addition to journey time benefits, other impacts are expected to arise including decreased externalities such as congestion, noise and air pollution and increased liveability and social vibrancy through better urban design. A quantification of such benefits was not undertaken at this stage, but a proportionate qualitative assessment on a seven-point scale was conducted. Results relative to the DM scenario are discussed below.

Journey quality

Slight positive – Journey quality is generally understood as the cumulative travelling experiences of the quality and ambience of a journey . It represents a measure of the real and perceived physical and social environment experienced while travelling and includes factors such as perceptions of safety, information provision and comfort . Journey quality impacts cover a wide range of indicators and can be sub-divided into three categories: Traveller care (based on the general transport environment and facilities), Traveller views (the visual amenity provided by the site and impact on the surrounding visual environment) and Traveller stress (drawing on the perception of safety, security and confusion over onward travel or route choice).

As recognised in the literature and in TAG Unit A4.1, there is limited evidence on monetary valuations of journey quality in relation to highway projects. It is however prudent to conclude that the real and perceived physical environment experienced while travelling is expected to improve as a result of the proposed intervention. For car users, the reduction in travel time may result in a beneficial impact as a result of reduced frustration and stress. In addition, the scheme is expected to improve streetscape and to create a more walkable environment which leads to the livable environment of a city.

However, any journey quality benefits are estimated to be slight due to the size of the scheme. As a result, the qualitative impact on journey quality could be adjudged to be slight beneficial.

Accidents

Neutral – Historic collision data has indicated only two casualties at High Street between Elmhurst Road and Meadfield Road over the last 5-year period (slight incidents). Therefore, there is limited scope to improve collision rates at this location. However, it should be noted that historic collision data available does not reflect the effects of the closure of Hollow Hill Lane. The potential closure of this road could result in a rerouting of traffic through the road stretch and therefore the base year for the analysis might show more collisions as compared with the observed data.

The literature reveals that the number and width of traffic lanes are key factors influencing cycling. Some authors have suggested that the vast majority of cyclists prefer to cycle on streets with two lanes rather than on wider roads (with 4 lanes) . This is because, drivers tend to pay more attention to other vehicles than to cyclists on wider roads, leaving them more exposed to accidents. On the other hand, the scheme is likely to derive in cumulative impacts and to provide additional benefit to the operation of adjacent junctions, which are expected to reduce pedestrians and cyclists' frustration and fear of accidents. Overall, it is likely that the effect of the scheme on accidents will be slight, as increases in the fear of potential accidents might be broadly balanced by relief of accidents derived from adjacent schemes (i.e. Section 2). The impact of the scheme on safety is therefore expected to be neutral.

Air quality and noise

Neutral – A quantitative appraisal of the environmental impacts of the scheme has not been undertaken. A proportionate qualitative assessment was carried out to identify whether significant beneficial or adverse environmental effects are likely to arise. As a result of the scheme, a reduction in traffic delay and start/stop driving is predicted, which would decrease congestion-related impacts such as air and noise pollution levels. However, with the increased speed (due to reduced delays) those benefits might not be able to be achieved due to changes in driving patterns compared to congested conditions.

As indicated in the guidance (TAG Unit 4.2) air quality impacts are likely to occur where an intervention results in significant changes to traffic flows or speed, or where the physical gap

between people and traffic is altered. As a consequence, noise and local air quality levels are not likely to be impacted as the scheme is not expected to significantly affect traffic flow or speeds. The anticipated impact on local air quality and noise is thought to be negligible.

Increase Network Capacity

Moderate positive – The scheme was designed as a long-term solution to reduce congestion now, allow for future traffic growth, and avoid new congestion problems arising in the future derived from the closure of Hollow Hill Lane. In addition, as the scheme is part of a package of interventions (see Figure 1), efficiencies and cumulative impacts are anticipated. In particular, the road widening is expected to provide additional benefits to the operational performance of adjacent junctions (High Street/Langley Road and High Street/ Meadfield Road). This will help to expand the transport capacity to respond to future growth in demand.

On the other hand, connectivity for public transport users will also be enhanced through improved bus journey time reliability and customer experience. Moreover, cyclists will also benefit from increased capacity along High Street. Therefore, the impact of the scheme on network capacity/connectivity is considered to be moderate positive.

To what extent are these outputs (and downstream outcomes/impacts) likely to be additional? What is the basis for this assessment?

The proposed road widening, together with the continuing transport network improvements across Slough and Langley will contribute towards reducing congestion and allow the town centres to remain vibrant places to live and work. This is likely to have downstream outcomes with improved access to labour supply, reliable journey times, and sustainable economic growth through increased productivity levels. In addition, positive impacts such as an increase in journey quality and an increase in network capacity and other efficiencies along the corridor are derived from the Do-Something scenario.

This supports the TVB LEP aims of investing in infrastructure that would unlock future opportunities to enhance cross boundary connectivity. A reliable transport network will also unlock the full potential for future housing developments and business investments, including the Northern Extension. The overall scheme deliverables and benefits also support other relevant strategies such as the delivery of the Berkshire Local Industrial Strategy (BLIS) and the Slough Local Development Framework Core Strategy. Further details are provided in the first section of this funding application.

What is the nature of the resourcing package that is proposed (e.g. balance between private sector investment, loans and grants, etc.)?

Slough Borough Council is proposing an extension to the existing Langley scheme (ref 2.21) which cost £1.76m, with LGF funds of £1.5m awarded. The Council is now proposing an extension to the scheme, which will cost an addition £1,239,600 in total. Of this, £1.033m is requested as a grant from the Thames Valley Berkshire Growth Development Fund to support the delivery of widening Langley High Street between Langley Road and Elmhurst Road.

The remaining £206,600 (20%) will be contributed by Slough Borough Council, consistent with the minimum requirement as part of the total funding for any scheme extension agreed during this round of Growth Development Fund bidding.

(N.B. The scheme estimate and resultant funding request was originally based upon Section 1 comprising widening between Meadfield Road and Elmhurst Road only. Since then, it has been established and indeed evidenced through the local junction modelling, that there is significant benefit in slightly expanding the extent of Section 1 to also incorporate widening between Langley Road and Meadfield Road. It is acknowledged that this will increase the scheme cost; however the funding request remains the same as it is strongly believed that the additional widening can be delivered within the same estimate, primarily through using a proportion of the risk/ contingency included (whilst still retaining some level of risk/ contingency). More advanced scheme cost estimates will be produced as part of the Preliminary Design, to demonstrate this).

Scheme costs have been developed based upon Slough's schedule of rates. The cost estimates for the individual elements of the scheme have been estimated by technical experts with experience in similar schemes including the recently implemented scheme at High Street/ Langley Road junction. The cost estimates above includes an additional 35% of base construction cost for Main Contractor Preliminaries to account for the high number of utilities that will require diversion, as a result of the scheme being located in close proximity to Harrow Market, local businesses and residential properties. In addition, C2 stat search was carried out as part of the High Street/ Langley Road scheme design and therefore we already have sight of likely stats implications. Some design engineering has already been undertaken as part of the feasibility design, to limit impact (and cost) on utilities. The design team will ensure that the designs for the widening of High Street to two lanes in each direction will be complementary to the High Street/ Meadfield Road junction improvement scheme submitted to the LEP in May 2020.

The cost estimates also include a 20% risk contingency to support the risks identified in Table 11. This is based upon DfT guidelines for preparing scheme cost estimates at this feasibility stage of design, as well as professional judgement/ experience of delivering similar highway schemes in the past. Whilst recognising that a notable contingency has been allowed for within the scheme estimate, this is typical and prudent at this stage of highway design. A quantified risk register could be developed as the schemes progresses through additional stages of design, generating a more accurate representation of the risks presented below. The potential risk contingencies costs in the proposed scheme which have been accounted for include:

- The additional scheme cost associated with the widening between Langley Road and Meadfield Road, excluded from the Section scheme presented in January 2020.
- Additional design costs for the refinement of the design through Preliminary and Detailed Design, as experienced on the Langley Road junction scheme.
- Additional base construction costs which are established through the Preliminary and Detailed Design process. This may include additional full depth carriageway construction, or additional signal pits and ducts, than assumed at this stage.
- Third Party Land cost, which was not included within the base construction costs as it is currently unknown (although expected to be circa 50k).
- Additional time required for stakeholder engagement (public and Langley Park Trustees) and buy in (including handling objections through design changes), due to the requirement to relocate the parking bay and for acquisition of land from the Langley Memorial Group Trustees. It should be noted that Slough Borough Council have already approached the Trustees to discuss possible acquisition of land.

- Additional utility costs. We have built into the capital costs a provision for utility works, as we know this is a certain, to a similar level that has been spent at the High Street/ Langley Road scheme. As the proposed scheme is for a significantly longer stretch of the High Street than the previous junction improvement schemes, the number of utility services (and resulting cost) will be proportionately larger. However, it is possible to evaluate the movement of utility services for both the proposed scheme and the High Street/ Meadfield Road junction improvement scheme (Section 2 in Figure 1) together, to introduce efficiency in the delivery of both schemes.
- There is also the risk (and experience thereof) that trial holes uncover additional buried equipment not accounted for in desktop plans, which require diversion. Utility costs are notoriously expensive and can therefore significantly impact upon overall delivery costs, should further works be required than assumed at this initial design stage.
- Provision for more general, unknown and unquantifiable cost uplifts which may affect the scheme:
  - Unforeseen cost overrun due to errors, omissions or abortive work as the design progresses (although this will be best managed to reduce likelihood of occurrence).
  - Degree of complexity involved in stakeholder/ public engagement/ approvals.
  - Overrun of outline programme – potential COVID-19 impact upon resources, ability for site surveys/ intrusive works i.e. trial holes, etc.

A summary of the estimated cost of the scheme (in 2020 factor prices) can be found below in Table 6. The table also outlines additional assumptions applied to the construction costs around overheads and other professional costs. Slough Borough Council will regularly review the costs presented each stage of the design as they become a more accurate representation of the construction costs.

Table 6 - Cost estimate.

Cost Item	Cost
Base construction costs	£387,000
Main Contractor Preliminaries	£135,500
Overheads and profit	£44,500
Risk/ Contingency	£570,000
Professional Fees incl. Surveys	£102,00
Scheme cost estimate (rounded)	£1,239,000

Slough Borough Council is committed to funding any cost overruns; however these are deemed unlikely if supported by careful financial management throughout the entire project lifetime by the Council's experienced project delivery team. Regular cost updates will be reported to the Project Manager to identify any potential risks that could impact the overall cost of the project.

What is the funding package through which the scheme will be delivered?

Slough Borough Council proposes to distribute the funds across the following financial years to assist with the development of further detailed designs and scheme mobilisation before commencing construction onsite in December 2020:

Table 7 - Funding profile for the widening of Langley High Street between Langley Road and Elmhurst Road.

Source	Year	2019/20	2020/21	Later years	Total
Business rates retention pilot					
Growth Deal or other Government Grant		Capital		1,033,000	1,033,000
	Revenue				
Other public sector	SBC Capital Funds		206,000		206,000
Private sector					
Total (rounded)			1,239,000		

What assessment has been made of the value for money of this scheme?
Results of the value for money assessment prepared for the scheme are discussed in this section – see Table 8. The following key economic statistics will be used to demonstrate whether the Do-something option achieves value for money:

- The Present Value of Benefits (PVB), representing monetised journey time savings, discounted to 2010 prices and values;
- The Present Value of Costs (PVC), representing the total project investment costs presented in Tables 6 and 7, plus 15% optimism bias, discounted to 2010 prices and values;
- The Net Present Value (NPV), representing the absolute difference between the PVB and PVC; and
- The ratio of PVB to PVC representing the high-level Value for Money of the scheme.

Table 8 - High level summary of costs and benefits for the scheme.

Value for Money Metric (2010 market prices, discounted to 2010)	Present value (£) – Rounded
Present Value of Benefits (PVB)	£10,881
Present Value of Costs (PVC)	£1,011
Net present value	£9,870
BCR	10.8

The appraisal suggests that the scheme will generate a NPV of £9,870,000 PV. Comparing the scheme's PVB against PVC reveals a BCR of 10.8 which would imply a Very High Value for Money for the public sector investment (i.e. in excess of 4.00) . The reason for the very high level of value for money is the fact that Section 1 will help reduce congestion on a key road through increase capacity. The investment brings both a short-term benefit to users, but also longer-term benefits through improvements in the capacity and quality of the network. Other economic benefits have been found in the qualitative assessment, and whilst these have not been accounted for in the economic assessment, they are expected to contribute positively to the value for money of the project. However, as most of these impacts fall in the "slight/moderate category" it is unlikely that the value for money category will change if these impacts were included in the assessment.
As indicated, the PVB represent the monetised journey time savings from the project discounted to 2010 prices. The PVC was calculated based on the cost components outlined in Table 6, including risk/contingency and Optimism Bias of 15% . As a result, a total estimated Present Value of Costs (PVCs) of £1,011 has been estimated in 2010 market prices, discounted to 2010.

As aforementioned, the DM and DS were modelled in LINSIG. Both models used a fixed demand, which means they have not assessed the potential scales of traffic redistribution over the wider network. Accounting for this uncertainty, conservative assumptions have been applied into the economic appraisal, primarily by treating delay impacts from two weekday peak hours as reasonable approximations of daily impacts. To account for this limitation and noting the potential uncertainties in these PVBs calculated based on the assumption that reductions in delays as a result of the intervention would provide lead to overall journey time savings, a series of theoretical sensitivity tests have been run by reducing the delay benefits by 25% and 50%. This sensitivity test examines the impact of reducing the level of benefits in line with the economic appraisal of the High Street/ Langley Road junction completed in March 2020. It is useful to test the business case with benefits at a lower level to understand how robust the scheme is. Table 9 below presents the results of the sensitivity tests undertaken. The results are also presented for a 60-year assessment. These tests demonstrate that where delay benefits across the network are 50% less than expected in the core scenario, the scheme will still deliver a Very High value for money for public sector investment (BCR greater than 4). It should be noted that the applied approach does not include the scale of wider network journey time impacts could be from traffic redistribution.

Table 9 - Sensitivity testing results using different values of delay benefits.

Analysis of monetised costs and benefits

	Core Scenario	Delay benefits reduced by 25%	Delay benefits reduced by 50%
Present Value of Benefits (PVB) *	£10,881,000	£8,161,000	£5,441,000
Present Value of Costs (PVC) *	£1,011,000	£1,011,000	£1,011,000
Net present value	£9,870,000	£7,150,000	£4,430,000
BCR	10.8	8.1	5.4

*2010 market prices, discounted to 2010.

How will this scheme contribute to the natural capital of Thames Valley Berkshire?

No quantification of environmental impacts has been undertaken as part of the economic analysis. Instead, a proportionate qualitative assessment was carried out in order to assess the environmental effects likely to arise as a result of the High Street widening scheme in accordance with TAG Unit A3 – Environmental Impact Appraisal. This section provides a closer overview of how the scheme is expected to contribute to the natural capital of Thames Valley Berkshire.

In many areas, vehicle emissions have become the dominant source of air pollutants, including carbon monoxide (CO), carbon dioxide (CO2), volatile organic compounds (VOCs) or hydrocarbons (HCs), nitrogen oxides (NOx), and particulate matter (PM) . Likewise, in Langley and Slough, a common source of air and noise pollution is stationary or slow-moving road traffic. The increasing severity and duration of traffic congestion are recognised to have the potential to greatly increase pollutant emissions and to degrade air quality . The rationale behind the claim of lowering emissions is that congestion causes vehicles to function at sub-optimal speeds and accelerations, leading to incomplete combustion and additional emissions of NOx, CO, etc .

Ashe scheme aims to reduce the start-stop nature from slow moving traffic associated with the High Street, vehicle emissions are expected to decrease, consistent with previous studies. However, the Hollow Hill Lane closure is expected to increase the volume of traffic using the High Street and

lead to potential higher air and noise pollution levels, if no mitigation measures are applied. When aligned with the objectives of Slough's Low Emission Strategy and the above assumptions, the anticipated impact of the scheme on air quality and noise pollution is therefore considered to be neutral.

To successfully deliver the benefits of additional highway capacity between Langley Road and Elmhurst Road along High Street, land will be required from the Memorial Park Recreation Ground, which will reduce the natural landscape surrounding High Street. On the other hand, the Council proposes to plant small trees within the central median, separating the northbound and southbound carriageways, which will improve the quality of natural landscaping along High Street. As a result, the overall impact on townscape is considered to be neutral.

The historic environment has been scoped out for further assessment as the potential for affecting the key historic environmental resources and assets is considered relatively low. A high-level environmental constraints appraisal has found that the route does not run through any sensitive areas in terms of biodiversity. Likewise, in terms of drainage and the water environment, an initial assessment has found that the impacts of construction and operation of the scheme will be negligible. As a result, it is expected that the impact on biodiversity and water environment will be neutral.

How will this scheme maximise social value for Thames Valley Berkshire?

Despite specific social impacts are considered to be an important element of a scheme proposal, a detailed approach to the appraisal of social impacts has been scoped at this stage. Instead, a proportionate approach to deliver a high-level social impact assessment has been used in accordance with requirements set out in TAG unit A4-1. Final results are presented in a seven-point scale of beneficial, neutral or adverse. Key points are as follows:

- Journey Quality and Accidents have been previously assessed as wider outcomes to be achieved in TVB (see Page 19-20);
- Security, Access to services, Affordability, Severance, and Option and non-use values will be assessed in a qualitative manner based on professional judgement. Results will be presented in this section.

Security

Neutral – Transport interventions may impact the level of security for transport users. TAG unit A4-1 states that security concerns are greater on roads where motorists are required to slow or stop their vehicle. The numerical results of the modelling describe the effects that the road widening have in terms of delays reduction on the route, reducing the instances where vehicles will be slowed or stopped. Road users are expected to be less vulnerable to crime in such circumstances. A more detailed analysis of recorded criminal acts and incidents of antisocial behaviour should be undertaken to support a final qualitative assessment. This analysis should be accompanied by a full appraisal of the different security indicators in line with TAG unit A4-1. As this assessment has not been undertaken due to the size and scope of the scheme, the impact on security is considered to be neutral, however, this is considered to be a conservative evaluation.

Access to services

Moderately positive – Accessibility is defined as people's ability to reach desired goods, services and activities . Accessibility benefits can be similar to transport user benefits as the changes in journey time and operating costs reduce the generalised cost associated with travel and hence make transport more affordable. Reduced journey times, operating costs and transit delays also increase the range of services that can be accessed for the same cost. Modelling results have shown positive improvements to average journey time from the Do Minimum model scenario (measured in delay in seconds). As a result, accessibility is anticipated to increase to some extent for both car and public transport users. The overall impact on accessibility is appraised as a moderate positive benefit.

Personal Affordability

Slightly positive – Affordability of transportation is primarily a distributional issue as it can be a major barrier to the mobility of certain groups. As mentioned in the TAG Unite 4.2, the most significant impacts of the costs of travel are on young and old people, and low-income households, particularly when travelling to employment or education. As potential changes in the cost of travel have not been evaluated, the assessment presented in this section provides a 'light touch' qualitative consideration of affordability from a wider perspective. The results of this high-level analysis should be confirmed by the TUBA user benefit analysis software or an equivalent process. In this case, as sufficient data or valuations were unavailable to undertake a quantitative approach, it was considered more amenable to appraise this impact in a qualitative manner.
As widening is expected to reduce congestion along the route, leading to reduced vehicles idling, braking and accelerating, a reduction in vehicle operating costs is anticipated. In some cases, minor affordability disbenefits can be found, likely caused by increased vehicle speeds leading to increased fuel consumption. However, the decreased vehicle operating costs are expected to outweigh these affordability disbenefits. Therefore, the overall impact of the scheme to personal affordability is appraised as slight beneficial.

Community Severance

Neutral – Community severance is defined in TAG unit A4-1 as the separation of residents from facilities and services they use within their community caused by substantial changes in transport infrastructure, or by changes in traffic flows. This impact is of particular importance for certain social groups, including people without access to a car, children, older people, and people with disabilities and parents with pushchairs. As no significant traffic volume change is expected as a result of the scheme, the impact is likely to be neutral. In addition, the scheme is not expected to introduce or remove barriers to pedestrian movement.

Option and non-use values

Neutral – Option values and non-use values relate to the implementation or withdrawal of a public transport service. TAG Unit A4-1 requires that option values and non-use values are assessed if the scheme being appraised includes measures that will substantially change the availability of transport services within the study area. As the scheme includes no changes to any public transport routes or services provided in the area, no further appraisal is required for this indicator.

Apprenticeships

Neutral – The development phase (project management and design) of this scheme will not directly produce any apprenticeships. However, Slough Borough Council will work closely with the Slough

Academy to promote any opportunities that arise for apprentices during this scheme. The Council will also look to consider the use of apprentices as a criterion when procuring construction services.

3. Deliverability and risks

How secure are the funding contributions from your own organisation and elsewhere?

The 20% local contribution will comprise of Slough Borough Council Capital Funds and are considered a reliable source of funding.
A further extension to the scheme, which will deliver highway widening of a similar nature along the full length of Langley High Street from Langley Station to the A4, is not proposed for funding within the current Growth Deal. However, Slough Borough Council is exploring additional sources of funding to support the completion of this additional scheme.

What are the key scheme milestones?

The key milestones of the proposed scheme are presented below:
Table 10 - Key project milestones for the widening of High Street between Elmhurst Road and Langley Road scheme.

Date	Project Milestone
Pre-2020 (already completed)	Feasibility design and traffic modelling of the Section 2 High Street/ Meadfield Road junction design.
January 2020 (already completed)	Feasibility design and initial cost estimate for Section 1 scheme.
June 2020 (in progress)	Refinement of Section 1 scheme feasibility design to ensure tie in with Section 2 High Street/ Meadfield Road junction scheme.
	Additional local junction traffic modelling of High Street/ Meadfield Road to incorporate a two lane north bound approach and two lane south bound approach (Section 1 scheme), to demonstrate the benefit of the scheme.
	Development of Full Business Case for Section 1.
July 2020	Financial (LEP) approval
June – July 2020	Preliminary Design
July 2020	Public Information/ Engagement (date subject to Council Leader instruction), including with Langley Memorial Ground Trustees.
August – November 2020	Detailed Design
End of August 2020	Refinement of and update of the scheme cost
Late 2020	Mobilisation and Statutory consents.
December 2020	Commencement of site works.
Early 2021	Completion of site works.

Slough Borough Council is confident that the proposed scheme can be successfully completed on time and in budget. The internal Council management structure has a wealth of experience in managing capital infrastructure improvements including close monitoring of project progress and cost. The proposed scheme mirrors a similar improvement at High Street/ Langley Road junction completed in March 2020, and those proposed with the High Street/ Meadfield Road business case submitted to the LEP in May 2020. Detailed design for the High Street/ Langley Road scheme began in July/ August 2019 and therefore confidence can be gained in the outline programme in Table 10, which broadly follows the same timescales. This successfully demonstrates Slough Borough

Council's competency in managing transport infrastructure improvements. Consideration has also been taken for the effects of COVID-19 on the proposed programme outlined above. At the time of writing (June 2020), the COVID-19 social distancing restrictions are beginning to ease and thus, the Council remain optimistic that the pandemic will have minimal impact on the delivery of the scheme. Slough Borough Council are confident that the next steps in the delivery of the proposed scheme, primarily feasibility/preliminary design and public engagement, can be successfully completed through web-based work with minimal face to face interactions, ensuring no risks are presented to either individuals or the delivery of the project.

As the necessary detail is unavailable at this stage, an update on the scheme costs will be provided by September 2020. Whilst this will not be based upon final detail design, the preliminary design will permit a more accurate assessment of base costs with a construction schedule. A quantified risk assessment can be conducted then to generate a more accurate assessment of the risk budget. Construction works will be assigned to Slough Borough Council's Direct Service Organisation (DSO) (Contractors), as an extension to the original scheme works recently completed on site at the High Street/ Langley Road junction and the original Langley Station and Access Improvements scheme. Slough Borough Council will continue to use the procurement process already in place for the previous schemes which has proven to provide a high quality and efficient service. In addition, resources are readily available from the original scheme and are ready to be mobilised at short notice. The Council will consider using the same contractor for the proposed scheme and the Meadfield Road junction improvement scheme to maximise cost efficiency. Therefore, Slough Borough Council deems it appropriate not to engage in any new, competitive procurement process. Both Public Engagement and commencement of site works will be undertaken with appropriate safety measures in line with the government advice on the COVID-19 pandemic. At time of writing this business case, Slough Borough Council remains confident that the pandemic will not affect the timeline of the proposed scheme.

What are the proposed arrangements for project management?

The Project Team in Slough Borough Council will be responsible for ensuring that the scheme follows the identified programme and will maintain overall responsibility for the delivery of the project. Each work stream will report quarterly to the Project Team on progress and expenditure. This method of governance has been effective for previous transport network improvements including the original Langley Station and Accessibility improvements and SMaRT Phase 1 and will be scaled appropriately for a scheme of this size. A consistent project team will be used in Slough Borough Council for the delivery of both the proposed scheme and the Section 2 High Street/ Meadfield Road junction improvements which has secured LEP conditional funding approval. This will ensure that both schemes are harmonious, and the Council will seek to use value engineering to deliver a more efficient construction programme, including reduced disruption to road users. Responsibility for accurate, timely and appropriate communications within the project team rests with the SBC Project Manager, who will also ensure that the Project Board is kept up to date with programme developments. Project team meetings are held on a monthly basis with regular updates provided to the LEP Board via the Berkshire Strategic Transport (BSTF) forums (officers and members). Throughout the project, the risk register will be maintained and updated as necessary, with mitigating and contingency measures used appropriately throughout the scheme delivery. The Council will seek to allocate risks to the appropriate party to ensure the impacts associated with each risk are spread across the entire project team.

Construction works will be assigned to SBC's DSO (Contractors), as an extension to the original scheme works recently completed on site at the High Street/ Langley Road junction. Contracts will likely mirror the structure of the High Street/ Langley Road scheme, which was successfully completed in March 2020. Slough Borough Council anticipate that the same construction works contractor will be used for both the proposed scheme and the High Street/ Meadfield Road scheme, which has secured provisional LEP funding approval.

What are the principal risks linked to the scheme's delivery, and what actions will be (or have been) taken to mitigate and manage these?

A summary of the key strategic risks identified during this study can be found in the table below, including the risk COVID-19 presents to the delivery of the scheme.

Risks will continue to be reviewed as the project develops and progresses through feasibility/ detailed design stages and proposed commencement of site works in December 2020. Mitigation actions have also been identified and described below.

Table 11 - Risk register for the widening of High Street between Elmhurst Road and Langley Road scheme.

Risk	Likelihood (H / M / L)	Severity (H / M / L)	Mitigating actions
Increased cost due to need to protect/ relocate statutory undertakers equipment.	M	M	• Undertake C2/C3 NRSWA searches prior to Preliminary Design, so design engineering can be undertaken to best reduce impact on utilities. • Early engagement with statutory undertakers at the outset of detailed design (C4), as experience shows that utility works are often the critical path through delivery.
Impact of COVID-19 delaying consultation and scheme delivery	M	M	• Slough Borough Council will proactively monitor the COVID-19 pandemic situation with regards to public/stakeholder consultations and will seek alternative arrangements to ensure the safety of consultation attendees. • If in December 2020, the pandemic continues to require social distancing measures, Slough Borough Council will take appropriate measures, guided by the central Government, to ensure the safety of construction workers.
Land acquisition	M	M	• The proposed scheme requires land take from Langley Memorial Ground on the western side of B470 High Street. • Slough Borough Council will undertake engagement with Langley Memorial Ground Trustees on proposals, with the aim of securing the land necessary to deliver the scheme. During the delivery of the High Street/ Langley Road junction improvement scheme to the immediate north, engagement with Trustee members has already been made and they are already aware with potential land requirements for the delivery of this scheme. • If an agreement from the Langley Memorial Ground Trustees is not reached, a contingency plan would be to revisit the design and reduce the lane widths (to a width still within guidelines) to see if the scheme can be delivered whereby only the footway requires relocating within the Memorial Ground, which is likely to be more

acceptable to Trustees. One way of potentially achieving this, is to remove the central median as currently in the design.

Environmental issues M M

- The proposed scheme requires land take from Langley Memorial Ground on the western side of B470 High Street.
- Slough Borough Council will undertake an environmental appraisal during Preliminary Design and set out a suitable construction methodology to mitigate any impacts identified.

Impact of design changes made through Preliminary Design M L

- There is potential to extend the Section 1 scheme to include four lanes between the High St/ Langley Rd and High St/ Meadfield Rd junctions. This will provide added benefit to traffic and reduce the risk of queuing back from the Meadfield Rd junction into the Langley Rd junction.
- It is anticipated that this additional, short, section of carriageway widening can be accommodated within the current scheme cost (using a proportion of the risk/ contingency monies) to deliver it. The cost of this small extension to Section 1 will be established and refined through Preliminary Design.
- Slough Borough Council will carefully weigh up the additional benefit to traffic against any cost impacts to the scheme in the further development of the design.There is potential, during Preliminary Design, to look to amend the design slightly to provide greater benefit for traffic, particularly on the High Street northern arm i.e. by providing a two lane rather than one lane southbound approach to the Meadfield Road junction.
- Slough Borough Council will explore the potential and feasibility for the above during Preliminary Design, although it is identified that by providing added benefit for traffic, there may be an impact upon Third Party Land and utilities (with potential scheme cost implication).
- Slough Borough Council will carefully weigh up the additional benefit to traffic against any cost impacts to the scheme in the further development of the design.

Impact upon a parking bay M L

- The scheme may require the loss of a parking bay (for two vehicles) outside of Barclays bank, on the eastern side of High Street, just south of Willoughby Road junction.
- An understanding of how this bay is used will be sought during the next stage of design.
- A solution to the loss/ relocation of the bay will be provided within the next stage of highway design, if deemed necessary. Harrow Market Car Park which is only a very short walking distance away, can be considered as a good alternative for the needs of both residents and visitors.

Objections through planning /consultation process L M

- Targeted public consultation and close working with Ward Members and key stakeholders to achieve early ‘buy in’.
- Undertake assessment so that the benefit of the scheme can be clearly communicated with the public and stakeholders.

Increase in construction costs L M

- Scheme to be delivered using the Council's term contractor using an agreed schedule of rates.
- Appropriate levels of contingency has been built into the initial cost estimates. Design engineering also to be undertaken to reduce overall scheme cost.
- Reasonable level of confidence in initial scheme costing, based on actual scheme cost of junction improvement scheme delivered in 2019/20 for the High Street/ Langley Road junction.
- Scheme costs will be refined through Preliminary Design to provide increased level of confidence. C3 utility searches will be considered to be carried out during Preliminary Design to better assess utility costs.

Delay in construction or cancellation of the WRLtH L M

- Should the construction of the WRLtH be delayed or project completely cancelled, the anticipated step change in traffic demand along High Street and Meadfield Road will not occur, as Hollow Hill Lane will remain open to traffic. However, with peak hour congestion already witnessed along High Street and the approaches to the High Street/ Meadfield Road junction, the strategic need for the scheme will remain the same. Reducing congestion will enhance the transport network to support and accommodate future growth in employment and housing. The scheme will also still offer an extension to the adjacent High Street/ Langley Road junction improvements delivered in March 2020, plus the Section 2 High Street/ Meadfield Road improvements which has secured LEP conditional funding approval.

Failure to coordinate with previous parts of the scheme / highway works on High Street L L

- The scheme has already been designed to feasibility design stage accounting for and tying into the junction improvement scheme at High Street/ Meadfield Road (Section 2), to ensure they are harmonious.