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Independent Assessment Summary Report: Slough Mass Rapid Transit Phase 2

A Final Report by Hatch Regeneris Consulting
January 2019

Thames Valley Berkshire Local Enterprise Partnership

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Executive Summary

- i. This technical note provides an independent assessment of the Slough Mass Rapid Transit Phase 2 (MRT 2) Scheme Business Case submission to the Thames Valley Berkshire Local Enterprise Partnership.

Scheme Summary

- ii. The full business case submission sets out the case for investment in a range of highway, public transport, and urban realm improvements along the A4 between Junction 5 on the M4 and Sutton Lane and includes a new Park & Ride (P&R) site. In summary this includes:
 - Widening the South East quadrant of the M4 Junction 5 roundabout from 3 to 4 lanes with modified slip road for eastbound traffic;
 - London Road link widening to 2 lanes westbound between M4 Junction 5 roundabout and Sutton Lane;
 - Park & Ride site located on land adjacent to M4 Junction 5 and Sutton Lane;
 - Modifications and signal provision at the Sutton Lane gyratory; and
 - Public realm enhancements on the northern frontage of the A4 between Langley High Street and the M4 J5 roundabout.

Review Findings

Conclusions

- iii. The overall scheme aligns well with strategic priorities and supports the development of the SMaRT bus network that will support the growth and expansion of both Slough Town Centre and the area around Heathrow. It has been demonstrated that, in general, the scheme will meet the stated objective to minimise stop/start travel along the A4 and improve the reliability of journey times, although this is not necessarily the case for westbound trips in the PM peak, which could see increases in journey times as a result of changes to traffic signal priorities.
- iv. The P&R element of the scheme will encourage mode shift away from private car trips, although it is less clear the extent to which the wider scheme will enhance existing bus services sufficiently to encourage higher bus patronage.
- v. The P&R site itself is forecast to be well utilised by 2036, with at least 85% of the parking capacity used on a typical working day. It will, however, be reliant upon the delivery of the SMaRT bus services by Heathrow Airport Ltd and the long-term commercial viability of the site is not discussed within the business case.
- vi. The scheme is forecast to have a marginal adverse impact upon air quality and this needs to be considered carefully within the context of the AQMAs that cover parts of the scheme impact area.
- vii. The overall economic case forecasts the scheme will deliver high value for money, although the extent to which the benefits are sensitive to external factors is not fully examined. There is potential for £1.5m of private sector funding provision which, if secured, would significantly enhance the margin of return on public sector investment.

- viii. The financial case appears robust, with significant contingency in place. It will be important to establish the conditions and mechanism for securing the potential private sector contribution that may become available.
- ix. The commercial and management cases are generally considered to be robust, although limited in detail in some areas. There is no specific assessment of the commercial viability of the P&R operation, particularly the SMaRT bus services, although it is accepted that this will be part of DCO conditions that Heathrow Airport Ltd will need to deliver. It is not clear, however, how long this agreement would extend and, hence, the duration of commitment to operate the SMaRT service. Ensuring that this agreement is in place, and the SMaRT service in operation, in advance of the delivery of the P&R site will be important to maximise the benefits. Similarly, there are some uncertainties over the land requirements for the scheme and, in particular, when precisely Highways England will release the main site to enable the P&R facilities to be developed.
- x. It is our conclusion that there appears to be a strong overarching case for the scheme, with good strategic alignment and offering high value for money from investment. Whilst there are some concerns about potential negative impacts upon westbound vehicle movements along the A4, potential negative air quality impacts, the delivery of the P&R element, and the on-going operation of P&R services, sufficient clarifications have been provided to demonstrate that these can be addressed, or managed, as part of the detailed development of the scheme.

Recommendations

- xi. On this basis that the potential negative impacts on westbound traffic movements and air quality are minimised through careful detailed design, and that the risks to programme delivery are swiftly and effectively resolved, we recommend the scheme for approval.

1. Introduction

- 1.1 This report provides an independent assessment of the Full Business Case (FBC) submitted by Slough Borough Council (SBC) for a range of enhancements to highway, public transport, and urban realm along the A4 between Junction 5 on the M4 and Sutton Lane and includes a new Park and Ride (P&R) site.
- 1.2 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.
- 1.3 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 Transport (DfT) WebTAG.

Submitted Information

- 1.4 The independent assessment process for the Slough Mass Rapid Transit Phase 2 (MRT 2) submission has been conducted on the following set of documentation submitted by SBC and their consultant team (Atkins):
 - Option Assessment Report (8th October 2018)
 - Appraisal Specification Report (8th October 2018)
 - Full Business Case Report (17th January 2019)
 - Clarification e-mail (17th January 2019)
- 1.5 In addition to these formal documents, Hatch Regeneris have engaged with Atkins between September 2018 and January 2019 to discuss the requirements of the final business case submission and comment upon the acceptability of the proposed appraisal approach and input assumptions and parameters.

Report Structure

- 1.6 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 its suitability and robustness against TVB LEPs assurance requirements, and provide recommendations in relation to the approval of LEP funding for the proposed scheme.
- 1.7 The report is structured as follows:
 - Section 2: Option Assessment Report – provides commentary upon the OAR and the process by which a preferred scheme option has been identified.
 - Section 3: Appraisal Specification Report – presents a high-level review of the ASR and the acceptability of the proposed appraisal approach to be adopted
 - Section 4: Full Business Case Submission – presents an initial summary of scheme elements included in business case submission, alongside the details presented within each of the five 'cases' (Strategic, Economic, Financial, Commercial, Management). It also sets out the recommendations to the LEP Local Transport Body relating to the suitability of the scheme for funding.

2. Option Assessment Report

Overview

- 2.1 An OAR for the scheme, dated 8th October 2018, has been reviewed. This sets out the background for the scheme and its context, the evidence of the problems and challenges and the need for intervention now and in the future, the subsequent identified objectives of the scheme, and the stakeholder engagement undertaken.
- 2.2 It then develops and appraises five options for transport provision across the identified A4 corridor:
- **Do Nothing:** As existing, with background growth, committed schemes and schemes under construction
 - **Do Something 1:** highway infrastructure measures on the A4 between High Street Langley and Sutton Lane gyratory Brands Hill, introduce signalling and pedestrian facilities and public realm improvements. Junction enhancements and the provision of a segregated lane or 'track' along the A4 Colnbrook Bypass east to the Borough boundary, including real time information (SMaRT technology) measures. Facilitates accessibility to the proposed Slough International Freight Exchange (SIFE)
 - **Do Something 2:** As DS1, with the provision of a Park and Ride site
 - **Do Something 3:** As DS1, but without segregated bus lane and SMaRT technology along the A4 Colnbrook Bypass or facilitating SIFE, although compatible for future upgrades to include SMaRT technology and/or SIFE
 - **Do Something 4:** As DS1, but without segregated bus lane and SMaRT technology along the A4 Colnbrook Bypass or facilitating SIFE, although compatible for future upgrades to include SMaRT technology and/or SIFE, with the provision of a Park and Ride site.
- 2.3 Each scheme option is appraised in terms of:
- How it complements the six infrastructure investment packages within the Strategic Economic Plan;
 - How they will deliver against the three established scheme intervention objectives; and
 - How deliverable they are, with reference to:
 - Infrastructure Feasibility
 - the option.
 - Operational Feasibility
 - Land Take Requirements
 - Complexity of Delivery
 - Environmental Impact
 - Socio-Distributional Impacts
 - Wellbeing
 - Stakeholder Acceptance/Support
 - Costs
 - Affordability
 - Timescales for Delivery

- 2.4 The OAR concludes that the Do Minimum option fails to address strategic objectives. However, each of the remaining four Do Something options present certain merits to meet objectives, for varying cost.
- 2.5 It is ultimately concluded that Do Something 4 offers the potential to deliver the best benefits that align with the TVB LEP's and SBC's objectives for the scheme, at the same time as being affordable and deliverable

Review

- 2.6 The OAR represents a well set out document, providing a detailed understanding of the underlying issues along the A4 corridor and generating a specific set of objectives.
- 2.7 The introduction refers to a broader option generation process, however, a long-list of potential scheme options is not presented and the variation within the four Do-something options is relatively limited, with common elements across all of them. None-the-less, it provides evidence that some scheme optioneering has taken place.
- 2.8 One area of concern relates to the provision of the Park & Ride site. There is no discussion of potential alternative options for this provision in terms of i) absolute location; ii) overall size of provision; iii) access and egress arrangements; or iv) on-site provision. It is assumed that the chosen site represents the only viable site along the corridor, however, evidence that this is the case should ideally have been presented. This will need to be addressed within the full business case submission.
- 2.9 The option appraisal framework appears comprehensive, considering both the likely performance of each option in supporting strategic and scheme specific objectives, as well as a wide-range of deliverability issues.
- 2.10 There is a pattern of scoring between the Do Something Option without and without the Park & Ride element in relation to delivery against objectives. In all instances, the with Park & Ride outscored the without options. There is no variation between the Do Something options with and without the segregated bus lanes and SMaRT technologies. This may, in part, be due to the aggregate nature of scoring system applied, but in practice we would expect some differences and it is considered that this may underplay some of the benefits of this provision.
- 2.11 In terms of deliverability, the 'without Park & Ride Do Something' options outperform the 'with' options. In addition, the options without the segregated bus lanes and SMaRT technologies are considered to outperform those options with them included.
- 2.12 The Applicants conclusion that the Do Something 4 is the preferred option is not without reasonable logic, albeit it would appear to be a somewhat subjective assessment with the limited available knowledge in relation to the Park & Ride provision.
- 2.13 The final business case submission will need to clearly demonstrate the benefits of the Park & Ride element within the overall package of measures.

3. Appraisal Specification Report

Overview

- 3.1 The Appraisal Specification Report (ASR) was submitted for assessment and reviewed by Hatch Regeneris in October 2018. It provided:
- A summary of the scheme and its location;
 - The objectives of the scheme;
 - An overview of the challenges and issues, this implications of doing nothing, the options being considered; and issues around deliverability and risk;
 - An overview of the transport modelling that will be required, including the existing models available and their calibration/validation, and the proposed modelling approach;
 - The proposed appraisal methodology, including the approach to the economic, environmental, social and public accounts assessments, and the data sources to be utilised; and
 - An Appraisal Specification Summary Table.
- 3.2 Various meetings and telecoms were held with SBC and their consultants, (Atkins), to discuss the broad approach. A large focus of these discussions relating to the modelling tool available, with a new 2018 model being created but potentially not being ready in time to complete the modelling analysis within the required timeframes.

Review

- 3.3 The ASR sets out a clear overview of the context and the issues surrounding the development of the scheme and identifies the type of impacts that will need to be assessed.
- 3.4 The modelling work will be reliant upon the Slough Multi-Modal Transport Model (SMMTM), with public transport (EMME) and highway (SATURN) components. After a period of uncertainty, it was concluded that the 2018 refresh of the model would be available to conduct the appraisal work. This is considered critical in order to have confidence in the outputs.
- 3.5 It was agreed that, in the event the 2018 Refreshed Model could not be used for any reason, that the original model could be modified and utilised as a proxy, but that the results would need to be verified within the 2018 Refreshed Model at a subsequent date, when available.
- 3.6 In general, the model approach specified appears suitable to test the combination of highway and public transport provision, albeit the lack of detail around the specification of the park & ride provision (notable, what bus services will operate from it) creates some uncertainty.
- 3.7 The wider approach to assessing the economic, environmental, social and public accounts impacts is consistent with WebTAG requirements. A range of assessments will be qualitative in nature. Whilst in principle this is acceptable, given the scale of the scheme and some of the potential environmental impacts, there will need to be clear evidence in the final business case that more detailed quantitative assessments of impacts are not required.

4. Full Business Case

Overview

- 4.1 The full business case submission, for Slough Mass Rapid Transit (SMaRT) Phase 2 and Park and Ride (P&R), sets out the case for investment to increase the accessibility along the A4 corridor. In summary, this includes:
- Widening the South East quadrant of the M4 Junction 5 roundabout from 3 to 4 lanes with modified slip road for eastbound traffic;
 - London Road link widening to 2 lanes westbound between M4 Junction 5 roundabout and Sutton Lane;
 - Park & Ride site located on land adjacent to M4 Junction 5 and Sutton Lane;
 - Modifications and signal provision at the Sutton Lane gyratory; and
 - Public realm enhancements on the northern frontage of the A4 between Langley High Street and the M4 J5 roundabout.
- 4.2 The above outlined scheme is a component of the larger SMaRT package to improve accessibility, though a safe and reliable sustainable transport network, whilst reducing congestion, enabling economic growth, and reducing cost of travel.

Key Input Assumption and Parameters

- 4.3 The overarching business case is considered particularly reliant upon the following key assumptions:
- 60-year benefits appraisal period, with the exception for the urban realm improvements where a 15-year period has been applied
 - The highway elements of the scheme are assumed to open in 2021, with the P&R site opening in 2022, although all benefits have been assessed within the economic case from 2021. No ramping up of benefits has been applied.
 - Use of the AM peak hour transport model to assess inter-peak transport impacts, with benefits to users assumed to be 50% of peak period
 - Introduction of SMaRT bus service linking Slough Town Centre prior to P&R site opening
 - Land for the P&R site will become available in March 2020 (either in part or fully), upon release by Highways England who are using the site as part of their M4 Smart Motorways project

Independent Assessor Comment

- 4.4 The appraisal period is considered consistent with this type of infrastructure project. The assessment of full benefits from 2021 may result in a marginal over-forecasting of the Present Value of Benefits (once discounting has been taken into consideration).
- 4.5 Whilst the use of the AM peak hour transport model to predict inter-peak impacts is not without precedent, care does need to be taken that the AM peak hour model is truly reflective of behaviour in the inter-peak. In particular, there are potential issues around

changes to traffic signals in inter-peak periods having greater impact and the overall level P&R usage may be proportionally lower.

- 4.6 The P&R site will be served by the SMaRT bus service to be delivered by Heathrow Airport Ltd. At this stage no specific commitments are in place and so there is some uncertainty around the level of provision. This could affect the P&R site operations, although the business case notes that conventional bus services could serve the P&R site as well, but this would add journey time to existing bus users.
- 4.7 The development of the P&R site is dependent upon the release of land by Highway England. At this stage there is no definitive date for this to occur and so this could impact upon the delivery programme for the P&R element.

Strategic Case

- 4.8 The Strategic Case provides an overview of the key policy context for the scheme, referencing national, regional and local transport policy. Three key **problems are identified** that the scheme will aim to address and each is discussed in detail, in short to:
- Address congestion and improve journey time reliability
 - Improve the image and environment of Slough
 - Improve accessibility to housing and employment development sites
- 4.9 Existing public transport provision is set out within the corridor, in particular highlighting existing bus routes and frequencies. The **impact of no change** is presented in terms of the constraints transport will place upon growth, how congestion will deter travellers from using the corridor, and how air quality is unlikely to improve as quickly.
- 4.10 The **key drivers for change** in the area are explored, highlighting the role of Slough Trading Estate and Heathrow Airport as key focuses for growth, as well as the upcoming delivery of Crossrail and issues of HGV parking in the area.
- 4.11 A clear set of four **scheme objectives** are presented, focused around improving travel conditions on the A4, encouraging mode shift to public transport, improving the functionality of Sutton Lane Gyratory and improving the landscape and public realm within the corridor. The **measures for success** associated with these objectives are also clearly set out, relating to journey times by all modes, public transport patronage, safety and air quality. **Logic mapping** sets out how the inputs delivered by the investment will translate through into outputs in the short, medium and long-term that address the objectives.
- 4.12 A range of **constraints** are identified, relating to land requirements, statutory powers and consents. Various land acquisitions from private owners are necessary and planning permissions required for the P&R site.
- 4.13 The **dependencies** outline the need for other scheduled highway improvements to deliver the most effective solution for the P&R site.
- 4.14 A wide range of **stakeholders** have been engaged as part of the scheme development process, with letters of support provided.
- 4.15 The **options assessment** process has considered a range of potential locations for P&R based upon available sites, with a summary of why sites were discounted or determined to be sub-optimal in comparison to the selected BIFFA site.
- 4.16 The Strategic Case concludes with a clear **summary** of the component parts of the package of measures, including outline design work for the highway works, (incorporating walking, cycling and urban realm improvements) and the P&R site and why this package of measures meet the strategic needs of the corridor.

Independent Assessor Comment

- 4.17 The Strategic Case is considered to present a comprehensive overview of the issues, objectives and preferred solutions for the identified section of the A4 corridor.
- 4.18 The policy context is well established, with a clear understanding of the priorities of national, regional and local bodies.
- 4.19 There is a clear and logical presentation of the overarching problems that have been identified within the corridor, relating directly to access and movement, the wider setting of the urban environment, and the underlying requirement to delivery housing and commercial growth.
- 4.20 The direct assessment of current transport provision presents an overview of the situation, although does not directly draw upon outputs from the transport model, which would have added context and depth to the subsequent economic analysis. There is no specific discussion of current mode split to demonstrate the extent to which change is required. Likewise, the discussion around delays to car and buses is anecdotal with no quantification of delays. There is no reference to any assessment, or market testing, to determine the attractiveness of a P&R site within this corridor. Similarly, there is limited discussion about the role of walking and cycling within the context of the corridor. It would strengthen the strategic case if more consideration of the vision for transport service provision was set out.
- 4.21 The discussion of the urban environment focuses upon both the physical nature and the air quality issues in the corridor. Again, whilst it is helpful that the AQMAs are identified, there is limited discussion on how severe the issues are and what corrective measures are required.
- 4.22 The issue of accessibility to key housing and employment development areas in Slough Trading Estate and Heathrow is well set out, with clear identification of the need for enhanced transport connectivity to these areas. This is further reiterated within the section on drivers for change.
- 4.23 Whilst the impact of no change is clearly set out, it would again benefit from additional quantitative analysis about the scale of access constraints, congestion, and air quality issues.
- 4.24 There is reference to the issue of HGV overnight parking, but this section is not expansive in detail and so it is unclear to the extent of the problem and how the provision of parking on the park & ride site could resolve some or all of the issues.
- 4.25 The scheme objectives are focused, with associated desired outcomes identified, and the measures for success are considered appropriate. The logic mapping is welcomed and provides a useful understanding of the causal links between the investments and outputs and outcomes. It does, however, appear to omit the P&R element of the scheme.
- 4.26 The section on constraints and dependencies demonstrates that due consideration has been given to external factors that could affect the deliver of the schemes. These are noted as potential risks, not specifically to the overall delivery of the project, but potentially to the timeframes in which the scheme can be completed. This is a key issue that needs to be taken into account given the fixed time periods in which the funding for the project is available.
- 4.27 The list of stakeholders appears comprehensive, but it is noted that a number of these organisations, groups or entities are relatively central to the delivery of the scheme and it is unclear quite how much involvement they have had, individually, to date. Clearly Heathrow Airport Limited and the bus operators are key collaborators in relation to the SMaRT bus services that will serve the P&R site.

- 4.28 The options assessment process demonstrates that consideration has been given to a range of alternative sites for the P&R provision. Whilst not expansive, there are logical reasons given for why the BIFFA site was identified as the preferred option
- 4.29 The summary section provides a useful overview of each scheme element, with some clear outline designs provided that help visualise the outputs. It is considered that there is a strong underlying case for the package of interventions, albeit that the case is broadly reliant upon qualitative assessments without specific quantitative analysis to back up some of the key points raised.

Economic Case

- 4.30 The Economic Case provides an assessment of the transport modelling work undertaken, the benefits appraisal, the derivation of scheme costs and the scheme assessment and supporting analysis.
- 4.31 The main benefits assessed are journey times impacts, indirect fuel tax revenues, greenhouse gases, noise and air quality, and safety.
- 4.32 The **options appraised** establishes four variant scheme options, alongside the Do Minimum scenario. These comprise combinations of alternative high and low cost highway infrastructure for facilitation of SMaRT and with or without the provision of a P&R site. The low cost highway infrastructure with the P&R site is identified as the preferred option. Reference is made to the associated **scheme concept designs** presented within the Strategic Case.
- 4.33 The approach to the **transport modelling** is set out describing the use of the latest, updated Slough Multi-Modal Transport model (SMMTM17). The approach to assessing future year demand for the model is set out, along with the committed transport schemes included within the model. The model covers an average hour within a 3-hour AM peak period and an average hour within a 3-hour PM peak period.
- 4.34 The **highway element** of SMMTM17 is a SATURN model and the underlying assumptions on the trip matrix, trip purpose, peak periods, and vehicles types is presented.
- 4.35 The **public transport element** of SMMTM17 is an EMME model applying the same zoning as the SATURN model. It takes the bus network and bus journey times from the SATURN model as well. A list of public transport services included within the EMME model is presented, along with assignment parameters.
- 4.36 **P&R demand** is estimated outside of the SMMTM17 model using an absolute logit choice model formulation. The underlying assumptions and transport input data into the model is set out.
- 4.37 An overall summary of the approach to the **economic appraisal** is set out. This describes the use of a TUBA model to assess direct transport user impacts. Benefits are assessed for the AM and PM peak periods, using the AM and PM peak hour models. Inter-peak impacts are also assessed using the AM peak hour model, although only 50% of the benefits to users have been captured within the inter-peak to reflect lower levels of congestion. Benefits have been scaled up using localised traffic count data and an annulisation factor of 253, to represent the number of working days in a year.
- 4.38 It is noted that benefits from cycling improvements have not been captured within the monetised benefits assessment.
- 4.39 A section on **outputs** set out the levels of current and future year highway demand, by vehicle type. It then presents the difference in flows and average journey times/speeds between the Do minimum (DM) and Do Something (DS) [with scheme measures] scenarios.

- 4.40 The outputs generally show increases in traffic flows and reduced journey times in an eastbound direction along the A4. Westbound flows appear relatively constant and in the PM peak there are actually reductions in westbound journey times, caused by additional signal control.
- 4.41 The public transport outputs demonstrate that, despite having an additional call at the P&R site, the SMaRT bus services do not suffer any notable reduction in journey time as they benefit from congestion relief along the A4 corridor.
- 4.42 Forecast levels of **P&R patronage** are presented for the AM and PM peak periods and disaggregated by direction of travel towards with Slough or Heathrow. The distribution of these trips, in terms of their origin and final destination, is presented graphically.
- 4.43 The analysis presented indicates that 2036 AM peak 3-hour demand for P&R parking is 502 spaces out of the total 600 available. It is indicated that additional spaces may be occupied during the inter-peak period. The analysis acknowledges that demand will be influenced by a variety of external factors, including parking and car access policies around Slough and Heathrow. It is also noted that under-utilised capacity on the site could be utilised as an over-night parking facility for HGVs.
- 4.44 The **capital and operating costs** associated with the highway improvements and P&R works are set out, with the underlying adjustments made to incorporate them into the economic analysis. Optimism bias of 22% has been applied within the economic assessment.
- 4.45 Changes to **vehicle operating costs** are calculated within the TUBA modelling. A discussion of **revenue impacts** is set out in relation to parking charges and bus fares. P&R site parking revenue and bus revenue impacts are captured within the TUBA modelling but impacts upon parking in Slough or Heathrow are not and so these have been considered separately. The assumption has been made that all individuals who switch to P&R will be paying for parking in the DM scenario and so there will be a loss in associated parking revenue. This is calculated using average parking charges and assumed average durations of stay.
- 4.46 A discussion on **funding** indicates that there is potential for £1.5 million of developer funding that could contribute to the scheme. This is not yet secured, however, and so has not been included within the bid submission.
- 4.47 **Safety** has been considered in terms of the potential impacts of the scheme upon levels of accidents. Accident data is presented for the sections of highway associated with the scheme. A COBALT assessment has been carried out, using the outputs from the SATURN model, to predict the impacts upon accident levels. The outputs forecast a negative impact upon accident levels, resulting primarily from an increase in traffic flow along the route. The associated commentary provided highlights that the scheme will incorporate new pedestrian crossing and cycling facilities that will improve safety levels and that these would not be captured within the standard COBALT assessment.
- 4.48 An assessment of **journey time reliability** is presented with benefit presented quantitatively for highway users and qualitatively for public transport users.
- 4.49 An assessment of **air quality impacts** is presented, highlighting the existing issues within the designated AQMA's and on-going air quality monitoring stations in close proximity to the scheme. The assessment recognises how changes in traffic flows and road alignment could affect the level of emissions for designated receptors. The analysis would appear to conclude that there could, potentially, be negative air quality impacts as a result of the scheme. It is, though, noted that the scheme is supported by Slough Air Quality Management Plan, in terms of encouraging mode shift away from private car trips.

- 4.50 A separate assessment of the **walking and cycling impacts** is presented. This is a qualitative assessment, focusing upon the manner in which the walking and cycling infrastructure will integrate with the existing network and other planned scheme improvements.
- 4.51 A brief discussion on **landscaping impacts** is presented. This notes neutral impacts upon heritage and the water environment but a potential slight adverse impact upon biodiversity and landscape.
- 4.52 A section on **appraisal tables** sets out the required Transport Economic Efficiency, Public Accounts, and Analysis of Monetised Cost and Benefits tables. The information presented indicates the overall scheme is forecast to deliver a monetised Benefit to Cost Ratio of 2.2 to 1. This would represent high value for money from investment.
- 4.53 A clear **Value for Money Statement** is also provided, setting out an overview of the scheme, costs, monetised direct transport benefits, other wider benefits. A full **Appraisal Summary Table** is presented within the appendices.
- 4.54 The Economic Case concludes by reflecting that the scheme is forecast to deliver high value for money, even when including negative accident impacts predicted by COBALT but potentially unlikely to occur. The addition of reliability benefits would also increase the overall case for investment in the scheme.

Independent Assessor Comment

- 4.55 The Economic Case is well formulated and presents information on the approach adopted, the tools utilised, and the forecast economic costs and benefits.
- 4.56 The options assessment process is a little limited in scope but does demonstrate that alternative approaches have been considered.
- 4.57 The approach to transport modelling and forecasting of demand is broadly considered sound. The use of SATURN and EMME provides a powerful predictive tool for assessing the multi-modal impacts of the package of highway and public transport measures proposed. Both models would appear to be sufficiently robust for the purposes of the assessment, with sensible input assumptions. The P&R demand forecasting is restricted to a simple binary logit choice between car travel or P&R. Whilst this is not considered to be unreasonable it would be useful to explain the reasoning behind this approach and, specifically, identify if there is any potential (or risk) for existing bus users to switch to P&R. There is also no presentation of the underlying comparative generalised costs of travelling by P&R as opposed to car, for given origin-destination pairs. This would be useful to understand how attractive the P&R offer is from this site.
- 4.58 The use of the AM peak hour model to forecast inter-peak impacts is not without precedent; however, there is limited discussion of how representative the AM peak hour model is of inter-peak traffic movements. It is acknowledged that only 50% of the forecast AM peak user benefits are captured for the inter-peak but where there are changes to the signalisation of junctions this can potentially have adverse impacts in off-peak conditions.
- 4.59 The outputs from the SATURN model present a mixed forecast of potential impacts. The scheme appears to particularly favour eastbound traffic movements along the A4 corridor, with westbound trips forecast to have broadly neutral or, in the PM peak, negative impacts. It is understood that this relates to the junction signalisation arrangements required to access/egress the P&R site. The impact upon westbound traffic is not fully explored, particularly in terms of the operation of bus services, including the new SMaRT P&R service.

- 4.60 There is no specific assessment of the impact of the scheme upon overall public transport levels and whether scheme will encourage use of the SMaRT bus services, over and above the forecast P&R usage.
- 4.61 The presentation of forecast P&R patronage and users original and destinations is helpful. The calculation of predicted P&R site car parking space occupancy suggests that the site will operate at above 85% of parking capacity on a typical working day capacity, by 2036.
- 4.62 The assessment of economic costs and direct user benefits is considered to be robust. The forecast impact upon parking revenues is considered to be a sensible approach.
- 4.63 The submission identifies a potential £1.5 million private sector funding contribution that could come forward, but that has not been included within the scheme funding as it is not committed. Whilst this is considered to be a robust approach to take, any final funding agreement for the scheme will need to specify the circumstances in which this private sector funding could be secured in place of LGF funding.
- 4.64 The COBALT assessment of accident benefits identifies a potential negative impact of the scheme, however, the arguments presented about the tool being strategic in nature, and so does not capture some of the specific enhancement to pedestrians and cyclists, is well made.
- 4.65 The approach to adopting journey time reliability impacts for highway trips, whilst referenced, is not clear within the formal business case but has been clarified separately with the Applicant and is considered acceptable.
- 4.66 The assessment of air quality impacts is generally qualitative in nature but with some assessment of changes in vehicle flows. Whilst this approach is acceptable, the conclusions drawn imply a potential deterioration in air quality. This would appear contrary to the aims of the schemes.
- 4.67 The scheme would appear to deliver positive walking and cycling benefits, albeit these are not captured within the quantified assessment of benefits.
- 4.68 The overall assessment of the economic case concludes that the scheme offers high value for money and that there are additional, non-monetised benefits. There are no sensitivity tests presented to demonstrate whether the scheme would deliver high value for money under different input assumptions. These could include tests of high and low growth assumptions, a test with the removal of inter-peak benefits, and a test with varying P&R demand. The Applicant has provided separate commentary about potential variances in a clarification response. This provides some additional assurances that the scheme will perform strongly under a variety of scenarios.

Financial Case

- 4.69 The Financial Case provides a detailed breakdown of the capital scheme costs and the estimated funding and cost profile.
- 4.70 The total cost of the scheme and funding ask is £13.249m, of which £6.029m relates to the capital highway costs, £2.327m on the Park and Ride capital costs, £0.5m on land costs, £2.15m on preparatory and site supervision costs. A further £2.243m is set aside as a risk contingency.
- 4.71 A detailed scheme cost profile is presented, with the total per annum summarised below:
 - 2019/20 = £2,434,900
 - 2012/21 = £5,089,600
 - 2021/22 = £5,724,500

- 4.72 Operation and maintenance costs are also clearly set out for the P&R site.
- 4.73 Funding is to be sourced entirely from the 2018 Business Rates Retention Pilot with £10.1m drawn during 2018/19 and remaining £3.15m in 2019/20. There is the potential for a £1.5 private sector contribution, however this is not currently secured.

Independent Assessor Comment

- 4.74 A clear breakdown in **cost estimates** is presented demonstrating how each of the five main costs elements have been developed. A £0.5m allowance for land costs is included, although it is understood that the process of land acquisition is at a relatively early stage with negotiations with private sector land owners required. A 15% overall allowance for preparatory costs and a 10% allowance for site supervision have then been added, to provide a sub-total of £11.006 million.
- 4.75 A **Quantified Risk Budget** of £2.243m (or 20.4% of the sub-total) has been set aside to meet any unexpected costs. This is based upon a detailed assessment of risks presented within the Appendices and would appear to be a reasonable amount of contingency funding.
- 4.76 The reported **funding ask** is presented in Q4 2016 prices, rather than nominal prices. This may result in some minor discrepancies, however, any variation is likely to be covered within the allocated risk contingency.
- 4.77 As stated previously, it will be important to understand under what circumstances, and what mechanisms, the £1.5m private sector contribution could be secured.

Commercial Case

- 4.78 The Commercial Case provides an output-based specification for the scheme, an overview of potential procurement options, and the preferred procurement routes are outlined, along with the contract management procedures.
- 4.79 In total four procurement routes were considered, each judged by their offer, risk transfer, and advantages and disadvantages. These are listed in turn:
- Traditional, procurement, construction, separate maintenance;
 - Design and Build (D&B) construction, separate maintenance;
 - Early Contractor Involvement (ECI), separate maintenance; and
 - Private Finance Initiative (PFI) Funding, Design Build Operate and Maintain (DBOM).
- 4.80 The preferred route has resulted in the scheme being divided into five elements for the procurement process:
- Infrastructure design – will be competitively tendered
 - Infrastructure build – delivered through the Councils contractor for Direct Service Organisation
 - Infrastructure maintenance and renewal – to be undertaken by SBC, as an extension of existing highway and parking maintenance
 - Operation of the P&R – to be undertaken by SBC as part of its parking operation
 - Operation of additional bus services – to be secured by Heathrow Airport Ltd

- 4.81 The project will be managed internally by SBC adopting PRINCE2 methods for programme management and NEC 4 principles. Risk will be allocated during the contract negotiations in the most cost-effective manner. The contract length for the P&R services would be expected to be 8 years.
- 4.82 The procurement strategy will follow the SBC Council Procurement Strategy (2012).

Independent Assessor Comment

- 4.83 The Output-Based Specification for the scheme is relatively broad but covers the core elements of the scheme.
- 4.84 The procurement strategy outlines the framework that governs procurement. Though a detailed account of advantages and disadvantages for several procurement options were presented, this does not particularly flow through to the preferred route, although some rationale for the chosen path is presented.
- 4.85 There is some information on risk allocation and transfer, contract length, contract management that provides an overarching understanding, without presenting the detail of the proposed approach.
- 4.86 There is no specific reference to the commercial viability of the Park and Ride, particularly in relation to the SMaRT bus services that will serve the site, and, hence, how sustainable these services are in the long-term.

Management Case

- 4.87 The Management Case presents information on how the proposal will be delivered and managed.
- 4.88 Two examples of Slough Borough Council's **experience** in successfully delivering two transport infrastructure schemes are provided.
- 4.89 **Programme and project dependencies** are set out in relation to planning and CPO requirements, procurement, and engagement.
- 4.90 An organogram and **governance structure** are presented which lists the individual, job title and team. For each team, a list of responsibilities is listed. Roles will be chosen by relevant experience.
- 4.91 Reference is made to SBC's Gateway Process for assessing projects at critical stages, as part of the **assurance and approval** process. **Project reporting** processes are also set out.
- 4.92 A **Communication & Stakeholder Management Strategy** is set out with objectives, key stakeholders, communications, engaging with the public, handling of the media, and public consultation.
- 4.93 An **Implementation Plan** sets out the key workstreams and issues and milestones.
- 4.94 A **Risk Management Plan** is to be developed throughout the lifetime of the project. The associated Risk Register is included and identifies risks by their likelihood, impact and cost and are categorised as: strategic/political/policy, economic/financial/management, statutory process/legal/land acquisition, design/technical/preparatory works, stakeholder management/consultation, procurement, construction, and operation.
- 4.95 A **Benefits Realisation Plan** is set out along with a **Monitoring and Evaluation Plan** with key performance indicators and targets.
- 4.96 A **Contingency Plan** is also provided setting out contingency arrangements.

Independent Assessor Comment

- 4.97 The previous project examples of SBC delivery relate to highway elements of the project but are less relevant to the P&R element. They do demonstrate competency of delivering major transport schemes.
- 4.98 The project dependencies section is presented and draws directly from the risk register but does not identify whether the scheme is dependent on other schemes.
- 4.99 The governance structure is clear, with responsibilities outlined.
- 4.100 The SBC Gateway Process for assurance and approvals appears robust, although limited detail is presented. The responsibilities for project reporting are also clear.
- 4.101 The communication and stakeholder management strategy is considered comprehensive and covers core expectations.
- 4.102 The implementation plan sets out key workstreams covering the majority of key delivery issues, however, it is noted there is no reference to land acquisition, in particular when Highway England will vacate the land for the development of the P&R site.
- 4.103 There are some key milestone dates within the programme that relate to the delivery of the SMaRT bus services and the P&R site itself. Both of these are reliant upon external bodies.
- 4.104 The underpinning governance and management of risk is well structured and considered. The Risk Register presented is comprehensive and mitigation actions sensible but could be enhanced. The methodology to determine the estimated cost and likelihood of each risk (i.e. a £603,572 cost has been associated to “Scheme does not integrate with wider policy”) is not specifically referenced. However, as mentioned within the Financial Case, the overall contingency budget would appear robust.
- 4.105 The Benefits Realisation Plan establishes the benefits that will be tracked, although it does not specifically contain details on proactive actions that the SBC will undertake to ensure benefits are realised.
- 4.106 The Monitoring and Evaluation plan includes specific 1-year and 5-year targets for each indicator.
- 4.107 The Contingency Plan sets out a range of contingency arrangements that are considered to cover most potential outcomes, although some of the issues of land availability are not specifically referenced.

Summary and Conclusions

Summary

- 4.108 The review of the five cases has identified a series of points for further consideration. These are summarised below:
- The Strategic Case demonstrate strong policy alignment and a good case for intervention, albeit additional quantified analysis, including the reference case outputs from the transport modelling, would enhance the arguments presented in relation to the levels of underlying congestion, delays to bus services and poor accessibility to key centres in Slough and Heathrow.
 - There is underlying discussion of the value of delivering P&R provision in terms of enhancing public transport opportunities and encouraging mode shift but the Strategic Case does not present strong evidence on the underpinning demand for this type of service and how attractive it will be for individuals of differing journey

patterns. The demand forecasting analysis in the Economic Case does predict that the site will operate at above 85% capacity by 2036.

- The project is dependent upon a range of land acquisitions, planning requirements, and third-party actions and there remains some uncertainty about how great a risk this represents to overall delivery of the scheme, in particular the P&R and SMaRT bus service elements.
- Overall the economic case for the scheme appears strong. There are some areas where the scheme does not perform as strongly as might be anticipated, including reducing journey times, with the westbound PM peak hour trips along the A4 forecast to see journey times increases. The accident analysis also indicates potential negative impacts, although it is accepted that this may generally be the result of the limited sophistication of the standard available DfT modelling tool. Air quality impacts may also be marginally negative, although again not modelled in detail.
- A robust financial case is presented with a clear breakdown of costs and risk contingencies. The funding profile is presented in Q4 2016 prices, as opposed to nominal prices, which will need to be accounted for. The potential to secure £1.5m private sector contribution is not fully explored.
- The commercial and management case provide reasonably detailed information to demonstrate surety in the preferred procurement processes and the overall deliverability of the project. Land availability and third-party provisions appear to be the biggest risks associated with delivery.

Conclusions

- 4.109 The overall scheme aligns well with strategic priorities and supports the development of the SMaRT bus network that will support the growth and expansion of both Slough Town Centre and the area around Heathrow. It has been demonstrated that, in general, the scheme will meet the stated objectives to minimise stop/start travel along the A4 and improve the reliability of journey times, although this is not necessarily the case for westbound trips in the PM peak, which could see increases in journey times as a result of changes to traffic signal priorities.
- 4.110 The P&R element of the scheme will encourage mode shift away from private car trips, although it is less clear the extent to which the wider scheme will enhance existing bus services sufficiently to encourage higher bus patronage.
- 4.111 The P&R site itself is forecast to be well utilised by 2036, with at least 85% of the parking capacity used on a typical working day. It will, however, be reliant upon the delivery of the SMaRT bus services by Heathrow Airport Ltd and the long-term commercial viability of the site is not discussed within the business case.
- 4.112 The scheme is forecast to have a marginal adverse impact upon air quality and this needs to be considered carefully within the context of the AQMAs that cover parts of the scheme impact area.
- 4.113 The overall economic case forecasts the scheme will deliver high value for money, although the extent to which the benefits are sensitive to external factors is not fully examined. There is potential for £1.5m of private sector funding provision which, if secured, would significantly enhance the margin of return on public sector investment.
- 4.114 The financial case appears robust, with significant contingency in place. It will be important to establish the conditions and mechanism for securing the potential private sector contribution that may become available.

- 4.115 The commercial and management cases are generally considered to be robust, although limited in detail in some areas. There is no specific assessment of the commercial viability of the P&R operation, particularly the SMaRT bus services, although it is accepted that this will be part of DCO conditions that Heathrow Airport Ltd will need to deliver. It is not clear, however, how long this agreement would extend and, hence, the duration of commitment to operate the SMaRT service. Ensuring that this agreement is in place, and the SMaRT service in operation, in advance of the delivery of the P&R site will be important to maximise the benefits. Similarly, there are some uncertainties over the land requirements for the scheme and, in particular, when precisely Highways England will release the main site to enable the P&R facilities to be developed.
- 4.116 It is our conclusion that there appears to be a strong overarching case for the scheme, with good strategic alignment and offering high value for money from investment. Whilst there are some concerns about potential negative impacts upon westbound vehicle movements along the A4, potential negative air quality impacts, the delivery of the P&R element, and the on-going operation of P&R services, sufficient clarifications have been provided to demonstrate that these can be addressed, or managed, a part of the detailed development of the scheme. On this basis, we recommend the scheme for approval.



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London: 0207 336 6188

Manchester: 0161 234 9910