

Great Yarmouth Third River Crossing

OUTLINE BUSINESS CASE

MARCH 2017

Appendix A - Department for Transport Check Sheet

Great Yarmouth Third River Crossing

Large Local Major Schemes:

Bid for construction funding (March 2017 round)

Part Two: Checklist

Strategic Case

Item		Section/Page
A detailed description of the physical scope of the scheme		OBC 1.2 & 1.4 OBC 2.9 & 2.14
The objectives of the scheme		OBC 2.7
A description of the process by which the scheme came to be identified as the preferred option for meeting those objectives including why alternative options were discarded		OBC 2.13 OAR (2016) Final OAR (2017)
How the objectives of the scheme align with national transport objectives <i>We do not expect all schemes to meet <u>all</u> of these objectives so please mark n/a if necessary.</i>	1. to ease congestion and provide upgrades on important national, regional or local routes	OBC 2.3 especially: OBC 2.3.2 OBC 2.3.3 OBC 2.3.7
	2. to unlock economic and job creation opportunities	OBC 2.3 especially: OBC2.3.2 OBC 2.3.4 OBC 2.3.9 OBC 2.4
	3. to enable the delivery of new housing developments	OBC 2.3.2 OBC 2.3.5 OBC 2.3.6
For schemes that directly aim to facilitate commercial or housing development on specific sites, details of the sites, current planning status, status of developer commitment and the expected impact of the scheme		n/a
The impact the scheme would have on	The Strategic Road Network	OBC 2.14.1 OBC 2.15 OBC Figure 2-42 OBC Table 2-16 OBC 3.14
	Access to planned HS2 stations or sites	n/a

	Access to International Gateways	OBC 2.3.3
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Economic Case

As well as referencing the location of these within the OBC, please supply each of the following documents and refer to Annex A for the checklist of appraisal and modelling supporting material.

Item	Section/Page
Option Assessment Report (OAR)	OBC 3.2 SD1: OAR (2016) SD2: Final OAR (2017)
Data Collection Report	SD3: Data Collection Report
Local Model Validation Report (LMVR)	SD4: LMVR (Paramics) SD5: LMVR (SATURN)
Present Year Validation Report (if required)	N/A
Forecasting Report	SD7: FR (Paramics) SD8: FR (SATURN)
Economic Appraisal Report	SD9: EAR
Social and Distributional Impacts Assessment	SD9: EAR especially: SDI Worksheets SDI Assessment DI Screening proforma OBC3.12

Management Case

Item	Section/Page
Governance structure	OBC 6.4
Detailed Project Plan	OBC 6.5 OBC Appendix M

Risk Management	Detailed Risk Register	OBC Appendix F
	Narrative to explain the most significant risks, how they are being managed and their potential impact on time and budget	OBC 6.10 OBC Appendix F
	Risk management strategy	OBC 6.10 OBC Appendix F
Project Assurance		OBC 6.6
Evaluation		OBC 6.11 OBC 6.12

Commercial Case

Item	Section/Page
Description of the preferred procurement strategy	OBC 5.4 OBC 5.6 OBC 5.7 OBC 5.8 OBC 5.9 OBC 5.10
Rational for the selection of preferred procurement route against possible alternatives	OBC 5.2 OBC 5.3 OBC 5.4 OBC 5.5 OBC 5.6
Explanation of how costs and risks will be shared throughout the contract	OBC 4.3 OBC 5.9 OBC 5.10 OBC 5.11

Financial Case

Item	Section/Page
Detailed cost breakdown	OBC 4.2 OBC 4.3 OBC Appendix E
Independent surveyor's report verifying cost estimates	OBC 4.2.1

Details of and justification for inflation assumption used.	OBC 4.2.5 OBC 4.2.6 OBC Appendix H
Quantified Risk Assessment	OBC 4.3.2 OBC Appendix F
Evidence of commitment for any third party contributions	n/a

Annex A: Checklist of appraisal and modelling supporting material

Option Assessment

Item	Section/Page
An Option Assessment Report to include steps 1 to 8 set out in WebTAG – the transport appraisal process.	<u>OAR (2016)</u> Step 1 2.1
The appraisal of options was undertaken over an extended period and has been very comprehensive.	Step 2 2.2 Step 3 2.3
The initial process of generating, refining and appraising options is detailed in the OAR (2016) . This was submitted with the application for scheme development costs, and describes assessments undertaken in 2007 (Stage 1) and 2009 (Stage 2). It identified a preferred corridor for the scheme, but did not identify a specific scheme within that corridor.	Step 4a 2.4, Step 4b 2.5 Step 5 3.1 Step 6 3.2 Step 7 3.3, 3.4 Step 8 OAR
Subsequent more detailed assessment work to identify the best scheme within the preferred corridor is described in a further Final OAR (2017)	<u>Final OAR (2017)</u> Step 1 Ch 2 Step 2 Ch 3 Step 3 Ch 4 Step 4a Ch 5 Step 4b Ch 6 Step 5 Ch 7 Step 6 Ch 8 Step 7 Chps 9-12 Step 8 OAR
Both OAR documents are provided in support of the OBC	

Modelling

Item	Section/Page
An Existing Data and Traffic Surveys Report to include:	
Details of the sources, locations (illustrated on a map), methods of collection, dates, days of week, durations, sample factors, estimation of accuracy, etc.	Existing Data Sources and details are given in Section 2 - Review of Existing Data.
Details of any specialist surveys (e.g. stated preference).	RSI, ATC and MCC surveys commissioned specifically for this study are detailed in Section 3 - New Data Collection.

Traffic and passenger flows; including daily, hourly and seasonal profiles, including details by vehicle class where appropriate.	Hourly profiles are given in Table 3-5. Data by time Period and Vehicle Class is given in Table 3-3. Vehicle class proportions are given in Table 4-1. Daily flow profiles are given in Figure 4-1. Observed User class splits are given in Table 4-2. Peak hour traffic flows are given in Figures 3-5, 3-6 and 3-7.
Journey times by mode, including variability if appropriate.	Journey Time information is discussed in the LMVR. This is referenced in Section 2.4 Travel Time Data, of the Traffic Data Report.
Details of the pattern and scale of traffic delays and queues.	Journey Time information is discussed in the LMVR. This is referenced in Section 2.4 Travel Time Data, of the Traffic Data Report.
Desire line diagrams for important parts of the network.	Desire lines based on the RSI surveys have been included in Figure 3-2.
Diagrams of existing traffic flows, both in the immediate corridor and other relevant corridors.	Traffic Flow Diagrams are given in Figures 3-5, 3-6 and 3-7.
An Assignment Model Validation Report to include:	
Description of the road traffic and public transport passenger assignment model development, including model network and zone plans, details of treatment of congestion on the road system and crowding on the public transport system.	Section 6 describes the Network Development. Section 7 describes the Demand development.
Description of the data used in model building and validation with a clear distinction made for any independent validation data.	Section 5 describes the data used.
Evidence of the validity of the networks employed, including range checks, link length checks, and route choice evidence.	Appendix C provides several checks on the acceptability of the network. Appendix G describes route choice in the validated assignments.
Details of the segmentation used, including the rationale for that chosen.	Section 4.7 describes the user classes.
Validation of the trip matrices, including estimation of measurement and sample errors.	Trip matrix validation statistics are given in Section 10.

Details of any 'matrix estimation' techniques used and evidence of the effect of the estimation process on the scale and pattern of the base travel matrices.	Section 10-2 describes the ME process. Section 10-3 gives matrix statistics which measure the level of change between the prior and post ME matrices. Section 10-3 also gives sector to sector matrices which show the impact on the O-D traffic patterns.
Validation of the trip assignment, including comparisons of flows (on links and across screenlines/cordons) and, for road traffic models, turning movements at key junctions.	Section 11 describes the assignment validation.
Journey time validation, including, for road traffic models, checks on queue pattern and magnitudes of delays/queues.	Section 11-2 describes the Journey Time Validation
Detail of the assignment convergence.	Section 11-2 describes the Journey Time Validation
Present year validation if the model is more than 5 years old.	The Model is validated to 2016 as described in Section 2 and throughout the report.
A diagram of modelled traffic flows, both in the immediate corridor and other relevant corridors.	Section 11 gives several diagrams of modelled flows.
A Demand Model Report to include:	
Where no Variable Demand Model has been developed evidence should be provided to support this decision (e.g. follow guidance in WebTAG M2 Variable Demand Modelling – section 2.2).	N/A
Description of the demand model.	The structure and methodology of the demand model are described in Sections 3 and 4.
Description of the data used in the model building and validation.	Data used is described in Section 3.4.
Details of the segmentation used, including the rationale for that chosen. This should include justification for any segments remaining fixed.	Demand segmentation is described in Section 3.4.
Evidence of model calibration and validation and details of any sensitivity tests.	Calibration of the base model is described in Section 5.
Details of any imported model components and rationale for their use.	N/A
Validation of the supply model sensitivity in cases where the detailed assignment models do not iterate directly with the demand model.	N/A
Details of the realism testing, including outturn elasticities of demand with respect to fuel cost and public transport fares.	Realism Testing is covered in Section 5.
Details of the demand/supply convergence.	Convergence statistics are given in Appendices A and B.
A Forecasting Report to include:	
Description of the methods used in forecasting future traffic demand.	Section 3 details the forecasting methodology.

Description of the future year demand assumptions (e.g. land use and economic growth - for the do minimum, core and variant scenarios).	Future Year demand assumptions are detailed in Section 4.
An uncertainty log providing a clear description of the planning status of local developments	Future Year demand assumptions are detailed in Section 4.
Description of the future year transport supply assumptions (i.e. networks examined for the do minimum, core scenario and variant scenarios).	Section 5 describes the transport network assumptions.
Description of the travel cost assumptions (e.g. fuel costs, PT fares, parking).	These are incorporated into the cost parameters that are detailed in Section 4-7.
Comparison of the local forecast results to national forecasts, at an overall and sectoral level.	Growth forecasts are controlled to national growth via TEMPRO. This is described in Section 6.
Presentation of the forecast travel demand and conditions for the core scenario and variant scenarios including a diagram of forecast flows for the do-minimum and the scheme options for affected corridors.	To be provided in final version
If the model includes very slow speeds or high junction delays evidence of their plausibility.	To be provided in final version
An explanation of any forecasts of flows above capacity, especially for the do-minimum, and an explanation of how these are accounted for in the modelling/appraisal.	To be provided in final version
Presentation of the sensitivity tests carried out (to include high and low demand tests).	Section 9 details the sensitivity test outputs.

Cost Benefit Analysis

Item	Section/Page
A clear explanation of the underlying assumptions used in the Cost Benefit Analysis.	This is provided in the OBC Economic Case and within the EAR.
Information on local factors used. For example the derivation of growth factors and annualisation factors in TUBA (to include full details of any calculations).	Appendix G includes full details of annualisation factors and TUBA methodology.
A diagram of the network (if COBALT used).	Will be documented in EAR and provided post-submission as agreed.
Information on the number of junctions modelled (if COBALT used), for both the do-minimum and the do-something.	Will be documented in EAR and provided post-submission as agreed.
Details of assumptions about operating costs and commercial viability (e.g. public transport, park and ride, etc.).	These are within the Commercial Case.
Full appraisal inputs/outputs (when used, COBALT and/or TUBA input and output files in text format should be supplied).	Zipped excel TUBA input/output files have been provided with Appendix G TUBA methodology note

Evidence that TUBA/COBALT warning messages have been checked and found to be acceptable.	OBC Appendix G TUBA report and the TUBA output files.
Spatial (sectoral) analysis of TEE benefits.	OBC Appendix I
Details of the maintenance delay costs/savings.	Will form part of the Full Business Case
Details of the delays during construction.	Will form part of the Full Business Case
Appraisal tables (AMCB, PA, TEE) in excel format.	Attached separately.

Economic Case Assessment

Item	Section/Page
A comprehensive Appraisal Summary Table in excel format.	Attached separately.
Assessment of Economic impacts.	OBC Economic Case.
Economic impacts worksheets.	OBC Economic Case SD9: EAR.
Assessment of Environmental impacts, to include an environmental constraints map.	SD12: Environmental Options Assessment Report OBC Appendix D
Environmental impacts worksheets.	SD12: Environmental Options Assessment Report
Assessment of Safety impacts and the assumed accident rates presented (when used, COBALT output should be provided).	SD9: EAR
Assessment of Social impacts.	SD9: EAR
Assessment of Distributional impacts.	SD9: EAR
Social and distributional impacts worksheets (including DI screening pro forma).	SD9: EAR
Cost pro forma	OBC Financial Case OBC Appendix H