A10 Cambridge to Ely Strategic Outline Business Case

Transport Data Report

BESP0020-JAC-XXX-XX-RP-TR-001 | 1

31/03/2020

Cambridgeshire and Peterborough Combined Authority

CPCA

A10 Cambridge to Ely Strategic Outline Business Case

Project No:	BESP0020
Document Title:	Transport Data Report
Document No.:	BESP0020-JAC-XXX-XX-RP-TR-001
Revision:	1
Document Status:	P00
Date:	31/03/2020
Client Name:	Cambridgeshire and Peterborough Combined Authority
Client No:	CPCA
Project Manager:	Kate Beirne
Author:	Harry Dinnage
File Name:	BESP0200-JAC-XXX-XX-RP-TR-0001.docx

Jacobs U.K. Limited

1180 Eskdale Road
Winnersh, Wokingham
Reading RG41 5TU
United Kingdom
T +44 (0)118 946 7000
F +44 (0)118 946 7001
www.jacobs.com

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
0	4/3/20	First draft for client Comment	HD	TW	TC	KB
1	31/03/20	Updated to address comments from CPCA	HD	TW	TC	KB

Contents

Executive Summary

A review of currently available transport models/data has been undertaken to assess their suitability or otherwise to form part of the supporting evidence base for the A10 Dualling and Junctions, Cambridge to Ely, strategic outline business case (SOBC). Where gaps or shortcomings have been identified, these are outlined in this document together with any proposed remedial actions.

The evidence has been considered in four broad categories:

- Transport modelling
- Proposed highway improvements on the corridor
- Environmental constraints
- The need for new primary traffic surveys

A process of fact-finding and data collection has established the existence of the A10E2C model, and the related CSRM2 model, which was used for the pre-SOBC modelling. A review of the documentation supporting the A10E2C model has established that the model is fundamentally a suitable evidence base from which to develop forecasts for the SOBC appraisal. However, some minor updates to the base model are required. Documentation for the CSRM2 model, and the pre-SOBC A10 forecast modelling undertaken using the CSRM2 has established that the forecast models are of sufficient quality to use a starting point for developing new forecast of the A10E2C model, and that, given the data upon which it relies, these forecasts would be considered acceptable for an SOBC appraisal.

A review of proposed highways improvements on the corridor has identified existing technical reports including a Junction Assessment Report from the A10 pre-SOBC submission, and a Transport Assessment for Waterbeach New Town. These reports identify junctions along the corridor which require improvement and include some high-level scheme drawings. There is also the developer led scheme at nearby Lancaster Way. These drawings can be used as the future baseline position from which potential modifications can be developed to support the wider proposals for the corridor.

Environmental constraints data will be used to identify significant constraints which would prevent a particular option or given indicative alignment. It will also establish constraints of a less significant nature which would have implications for particular design requirements (for example, flood plains) in terms of cost, buildability and risk. The constraints data has been collected from public (web-based) sources and covers topics such as air quality, cultural heritage, biodiversity, etc.

Finally, the potential for collecting new primary sources of traffic data, i.e. new traffic surveys has been considered. However, given the availability of existing data sources for transport modelling it was considered that new surveys were not required as the existing secondary data sources would be sufficient to meet the requirements of an evidence base for the SOBC.

1. Introduction

On behalf of Cambridgeshire and Peterborough Combined Authority (CPCA), Jacobs is developing a strategic outline business case (SOBC) for potential improvements on the A10 corridor between Cambridge and Ely. Since project inception, Jacobs has undertaken a process of research and data compilation in order to establish a comprehensive understanding of the scheme study area and background. The compiling of this data has largely consisted of reviewing reports, liaising with stakeholders (including Cambridgeshire County Council (CCC)) and partaking in meetings with CPCA to better understand the A10 and aspirations for improvement schemes.

Having attained a thorough understanding of the available data, this report assesses its fitness for purpose and identifies any significant gaps. The structure of this Transport Data Report is as follows:

- Section 2: Sets out the available strategic modelling data
- Section 3: Outlines the existing highways and junction modelling data
- Section 4: Summarises environmental constraints data that could impact the development of the scheme
- Section 5: Summarises traffic survey data

This report is accompanied by the Appraisal Methodology Report[1], which sets out Jacobs' proposed approach to undertaking the SOBC drawing on the available data, as set out in this report.

[1] A10 Cambridge to Ely Strategic Outline Business Case, Appraisal Methodology Report, January 2020

2. Strategic Modelling Data

2.1 Introduction

Strategic transport modelling is a fundamental requirement for appraising the transport user benefits of the scheme; which is an essential part of the economic case. This section sets out the existing strategic modelling data which is available for use in appraising an A10 scheme for the SOBC. The information contained within this section has been gathered from existing reports and documentation provided by CPCA and CCC, and subsequent engagement between Jacobs, CPCA and CCC.

There are two existing strategic models covering the study area; the A10 Ely to Cambridge (A10E2C) model, and the Cambridgeshire Sub-Regional Model version 2 (CSRM2). Both are described here.

2.2 A10E2C

2.2.1 Overview

The A10E2C model was developed by Atkins on behalf of CPCA. It is a bespoke model, developed from the CSRM2, specifically for the purposes of appraisal of potential highway improvements on the A10 and cognisant of the requirements of TAG in this regard. The development of the model is set out in detail in the A10 Ely to Cambridge Transport Study, Local Model Validation Report, November 2018. The model links to the wider CSRM2 model and retains the network from that model.

Of relevance to the A10 study area, the base model does not include the A142 Ely Southern Bypass, which has recently been opened. However, this is not considered to be an issue for the A10 appraisal as the new bypass is not considered to affect travel patterns on the A10 south of Ely; the new bypass mainly affects local east-west trips, rather than strategic north-south trips.

The model has a 2018 base year, and its core study area was determined through “preliminary testing” of a “significant development to the A10 corridor”. Within the core study area, the network and zone system from the CSRM was supplemented with additional spatial detail to provide an appropriate level of detail for a business case model. Beyond the core study area, the existing CSRM2 zone system and network was retained and the assignment methodology utilised Saturn’s “Fixed Cost Function” methodology which held travel costs outside of the core area fixed; this allows for local enhancements to the model within the core study area, whilst maintaining links to the CSRM2.

The trip matrices for the model were derived from the CSRM2 matrices, with trips through or within the study area taken from CSRM2 prior matrices, and trips external to the study area taken from the CSRM2 post matrices. The matrices were disaggregated to the detailed zone system within the core study area, and matrix estimation undertaken; this approach ensured that the internal trips could be adjusted to improve local calibration, the external trips were maintained from the CSRM2, and that matrix estimation was applied only once to any given movement.

2.2.2 Base Model Performance against Key Validation Criteria

TAG sets out key metrics and criteria which models would be expected to comply with in order to help demonstrate that model’s suitability for forming an evidence base for appraisal. In terms of the A10E2C model performance against those metrics, the model meets most of the criteria, or just marginally fails to meet it. Where the model has failed to meet the criteria, it is not considered to be a significant breach.

One minor concern is with journey time route 1S – the southbound A10 route, in the AM peak. Although this route meets the TAG criteria, there is evidence that the model underestimates delay between Waterbeach and the A14. This may result in an underestimate of scheme benefits when assessed in a business case, which is not considered to be an issue for the SOBC assessment but would need to be addressed when progressing to an Outline Business Case through revisions to the base model.

Also, it has been noted in the Appraisal Methodology Report that for the model, the coding of the A142 Angel Drove (Ely) junction and the A142 Witchford Road (Ely) junction are both incorrect, as each has incorrect lane allocations on two arms of the roundabout. This would need to be revised in order to provide an accurate Do minimum forecast model.

Aside from the issue described above, the model is considered to perform well and is therefore an acceptable base model for use in the A10 appraisal.

2.2.3 Gaps in the A10E2C Model

As noted from above, the A10E2C base model is generally considered to be a good model and suitable for use as an evidence base in a business case for A10 schemes. However, a small number of actions will need to be addressed immediately, whilst there are other actions which can be delayed to a later stage of work.

A summary of the gaps in the modelling, along with a RAG rating (Red – action required as part of the SOBC work, Orange – action likely to be required at a later stage of the business case, Green – action would be nice to undertake but not considered crucial) is presented below.

Gap	Why important	Remedy	RAG status
Junction coding at the A10/A142 Angel Drove, and A10/A142 Witchford Road junctions to be corrected.	These two junctions are included in the junction package. Modelling them correctly will ensure that scheme benefits can be correctly assessed	Correct junction coding and re-run model Also update the LMVR with the new cal-val statistics	Red
Lack of evidence for core study area coverage in the LMVR.	The DfT may wish to see more detailed evidence for the selection of the model's core study area	For example, a flow difference plot from the preliminary testing referenced in the LMVR which confirms that the core study area entirely covers the area of influence of an A10 dualling scheme.	Amber
Lack of a calibration/validation screenline to the east of the A10:	Would provide even better evidence of accuracy of modelled demand	Such a screenline could probably be created from the count data that has been collected for the model so it would be good if this were covered off.	Green
Lack of a calibration/validation screenline in eastern part of core study area:	Count and journey time calibration extends to the A142 around Soham and Newmarket, however, there are no screenlines in this area to help demonstrate the suitability of trip matrices.	Such a screenline could probably be created from the count data that has been collected for the model so it would be nice if this were covered off.	Green
Generalised cost parameters based on June 2018 TAG Databook	That version of the TAG Databook has now been superseded with updated values of time.	Re-run base model with revised Value of Time parameters	Green
Journey time validation for route 1, southbound, AM peak:	Although the model satisfies the TAG criteria for journey times, the section of the route between Waterbeach and the A14 has less delay in the model than there is in reality, which could lead to underestimation of scheme benefits	Local revalidation	Amber
Lack of any forecast models for the A10E2C model	Forecast scenarios will be required in order to undertake the economic assessment of the scheme. They should coincide with the scheme opening year, and a forecast year ideally fifteen years after scheme opening.	Forecasts need to be developed. A suggested methodology is set out in section 5.3 of the Appraisal Methodology Report	Red

Gap	Why important	Remedy	RAG status
Lack of forecast scenarios for dependent development testing	The scheme is anticipated to enable increased development at Waterbeach and North-East Cambridge. These could contribute additional benefit to the scheme through land value uplift so should be included in the business case	Forecasts need to be developed. A suggested methodology is set out in section 5.3 of the Appraisal Methodology Report	Red
Lack of a Variable Demand Model (VDM):	Given the size of the proposed interventions, TAG requires a VDM to be used.	A VDM model needs to be utilised, either through the existing CSRM2 model, or through development of a new VDM. Further detail is provided in section 5.3 of the Appraisal Methodology Report	Red

Table 2.1: Gap analysis for A10E2C model

In addition, it cannot be ruled out that the DfT may raise other concerns with the modelling which have not been described here, however, these cannot be anticipated at this stage.

2.3 CSRM2

CSRM2 is the existing sub-regional model of Cambridgeshire. It has a base year of 2015 and forecast years of 2026, 2031, and 2036, which form part of the 'D-Series' iteration of the model. The model was developed primarily to support the assessment of transports schemes in Cambridgeshire across all modes, and the interaction between transport supply and demand. CSRM2 is widely used across the county and has a history of use in support of appraisals. It includes a highway assignment model in SATURN, a public transport model in MEPLAN, and a demand model (including variable demand), also in MEPLAN.

Noting from the above that the A10E2C base model is considered generally acceptable for appraisal at SOBC level, the further summary of the CSRM2 model below will focus on its forecast scenarios.

2.3.1 Forecast Model

The CSRM2 has various iterations of forecast scenarios. The latest scenarios are known as the 'D-Series'. These D-Series forecasts include 2026, 2031 and 2036 forecast years, although the model can also be run for any other forecast year.

The forecast year models form the CSRM2 "Foundation case" and represent a scenario which includes the currently proposed Local Plans for the four Local Authority Districts (Cambridge City, South Cambridgeshire, Huntingdonshire, and East Cambridgeshire – Fenland district is considered as external). As such, it does NOT align with the DfT's NTEM v7.2 land use forecasts, nonetheless the CSRM2 is considered by CCC to represent a known case and provides a common starting point for constructing and scheme specific forecast scenarios. The land uses assumed for housing differ only slightly from the NTEM forecasts, however, there is significantly more employment growth in the Foundation Case than in NTEM (approximately twice as much growth); if the foundation case were to be used instead of an NTEM constrained forecast, a case would need to be made for applying locally sourced employment growth in place of NTEM. CCC have confirmed that they would be supportive of Jacobs making such a case as it is the council's view that the employment figures in the Foundation Case are more realistic than that of Tempro.

The tender brief references developments along the A10 corridor which need to be considered as part of the appraisal. In terms of the representation of these developments, the CSRM2 model forecasts include the following:

Development	2011-2015[2]	2015-2026	2015- 2031	2015- 2036[3]
Waterbeach New Town	0 dwellings 0 jobs	800 dwellings 0 jobs	2,050 dwellings 996 jobs	3,300 dwellings 1,784 jobs
NE Cambridge aka Northern Fringe – within South Cambridgeshire	0 dwellings 0 jobs	0 dwellings 1,111 jobs	0 dwellings 1,336 jobs	0 dwellings 1,619 jobs
NE Cambridge aka Northern Fringe – within Cambridge City	1 dwelling 1,885 jobs	-1 dwelling 743 jobs	-1 dwelling 1,653 jobs	-1 dwelling 2,665 jobs
Lancaster Business Park	23 dwellings 465 jobs	0 dwellings 1,603 jobs	0 dwellings 1,757 jobs	0 dwellings 1,764 jobs
North Ely	0 dwellings 0 jobs	3,000 dwellings 364 jobs	3,000 dwellings 398 jobs	3,000 dwellings 398 jobs

Table 2.2: Development summary in CSRM2 forecast scenarios

The foundation case forecasts include the following highway schemes:

- A428 Black Cat to Caxton Gibbet Dualling
- A14 Improvement scheme
- A142 Ely Southern Bypass
- Northstowe Phase 2
- Local highway accesses for local plan development

It should be noted that the forecasts do NOT include the M11-A47 link or Cambridgeshire Autonomous Metro; this is considered appropriate for the A10 business case as neither of these schemes have sufficient certainty of coming forwards to warrant inclusion.

The CSRM2 was also used for the pre-SOBC assessment of the A10, as such, there are forecasts available which include the schemes tested within that pre-SOBC. These are:

Forecast name	Description
Do-minimum	CSRM2 2031 Foundation case scenario
Mode-shift	As above, plus a package on non-highway measures designed to encourage mode-shift
Junction+	Mode-shift forecast, with addition of junction improvements along A10 corridor
North-dual	Junction+ forecast, with the A10 dualled between the north access of Waterbeach New Town and Ely
South-dual	Junction+ forecast, with the A10 dualled between the south access of Waterbeach New Town and the A14
Tidal-flow	Junction+ forecast, with a tidal flow lane between the south access of Waterbeach New Town and the A14
Full-dual	Junction+ forecast with the A10 dualled between the A14 and Ely

Table 2.3: CSRM2 forecasts developed for A10 preliminary SOBC modelling

[2] Atkins, 2019, Cambridge Sub-Regional Model 2 D-Series 2026 Foundation Case (Tables 3 and 4)
[3] Atkins, 2019, Cambridge Sub-Regional Model 2 D-Series 2036 Foundation Case (Table 1)

2.3.2 Gaps

The following gaps have been identified in the CSRM2:

Gap	Why important	Remedy	RAG status
Forecasts are not constrained to NTEM	TAG says that the core scenario used for forecasting should be based on NTEM growth in demand, at a suitable spatial area	Either a clear case for deviating from NTEM needs to be made to DfT (CCC have indicated that they will provide support in making this argument), or new forecast scenarios must be created.	Red
Forecast years are limited to 2026, 2031 and 2036 which may not coincide with opening or forecast years for the proposed A10 scheme	To calculate scheme benefits appropriately, model forecast years usually include a scheme opening year, and then a second forecast year ten years thereafter. If the tested forecast years do not align with the scheme, then transport user benefits can be over- or under-estimated	If the available forecast years do not align with the scheme, use interpolation between the available forecast scenarios to approximate the desired forecast years	Amber
The forecast scenarios do not include the appropriate development quanta for the assessment of dependent development impacts.	Improvements to the A10 are anticipated to allow further development at Waterbeach New Town and North-East Cambridge. In order to claim benefit for the scheme of releasing this development, appropriate forecast scenarios are required.	Factor up or down the development trip generation from the CSRM2 model to represent the desired development quanta, as required for assessing the transport impacts of dependent development, described in TAG unit A2.2.	Red
Forecasts for the pre-SOBC scenarios may not reflect the final preferred A10 scheme for the SOBC	The effects of the A10 scheme on traffic demand is ascertained through the application of Variable Demand Modelling within the CSRM2 forecasts. If the available scenarios did not test the exact preferred option emerging form the SOBC, then the modelled demand may not be quite correct.	The closest existing scenario to the emerging preferred option should be used to identify the modelled demand, albeit it may not be quite the correct demand. If challenged on the demand not being quite correct, it should be explained that the approach taken is proportion to the available modelling and the requirements of an SOBC. The modelled network in the A10 forecast should be updated with the correct scheme.	Amber

Table 2.4: Gaps in available CSRM2 forecasts

The previous RAG ratings (Red – action required as part of the SOBC work, Orange – action likely to be required at a later stage of the business case, Green – action would be nice to undertake but not considered crucial) are applicable to the table above.

In the longer term, when the scheme is appraised at Outline Business Case (OBC) level, all of the above gaps will need to be addressed through new runs, specific to the requirements of the A10 appraisal, of the CSRM2 model.

2.4 Modelling Approach

The approach to modelling for the A10 SOBC is set out in the Appraisal Methodology Report. In summary, it is proposed that the A10E2C base model be used, but issues concerning the coding of two junctions (set out as a Red rated gap in Table 2.1 must be corrected first. Then, the existing CSRM2 forecasts from the pre-SOBC A10 modelling should be used to develop new forecast scenarios for the SOBC assessment.

Should the scheme progress to an Outline Business Case (OBC), then new model runs of the CSRM2, bespoke to the requirements of the OBC should be developed.

3. Highways and Junction Modelling Data

3.1 Highways data

Junctions along the A10 corridor have previously been examined as part of the pre-SOBC work, as detailed in the A10 Junction Assessment Report (JAR) undertaken by Mott Macdonald in 2018[4], and by Peter Brett Associates as part of the transport assessment for Waterbeach New Town[5] These previous transport studies have identified the following eight junctions that require improvement:

- Milton interchange
- Butt Lane/Park and Ride
- Denny End Road
- Cambridge Research Park
- Waste Treatment Site
- A1123 Stretham Roundabout
- A142 Angel Drove (Ely)
- A142 Witchford Road (Ely)

CCC have provided Jacobs with drawings of development proposals as part of S106 obligatory contributions to the Highways Authority that could affect option development on the A10. These existing improvement designs have been developed by Peter Brett Associates and include junction modifications, measures to increase vehicle capacity on the A10, and schemes to improve provisions for cyclists and pedestrians.

The drawings contain the following measures for junction and highway enhancements:

- Stretham Roundabout flare changes
- Denny End Road junction modifications
- Capacity enhancements between Butt Lane and Milton Park and Ride
- A10 Cycle Scheme
- Signalisation of Landbeach road/Humphries way A10 junctions
- Signal timing adjustments for A10 junctions at Butt Lane and Milton Park and Ride.

3.2 Junction Modelling

Junction modelling was undertaken by Mott Macdonald as part of the pre-SOBC work and by Peter Brett Associates as part of the Transport Assessment for Waterbeach New Town.

Junctions were tested using traffic data based on observed turning counts growth to the assessment year of 2021 and 2031 using factors derived from CSRM2 (B series). Development flow data has also been derived from this model. Observed turning count data was obtained for each junction from a range of sources and for various years and time periods, as detailed in the following table:

A10 Junction	Source	Year
Milton Interchange	Waterbeach TA (S/0559/17/OL)	2014
Butt Lane/Park and Ride	Atkins Survey	2018

[4] Ely to Cambridge transport study, A10 junction assessment report, October 2018
[5] Waterbeach Barracks and Airfield, Transport Assessment, May 2018

Landbeach Road	Atkins Survey	2018
Waterbeach Road/Car Dyke	Waterbeach TA (S/0559/17/OL)	2015
Denny End Road	Relocated Waterbeach Station TA (S/0791/18/FL)	2017
Cambridge Research Park	Waterbeach TA (S/0559/17/OL)	2014
Waste Treatment Site	Incinerator TA for Waste Treatment Site (S/3372/17)	2017
A1123 Stretham Roundabout	Atkins Survey	2018
Little Thetford junction	No data available	No data
A142 Angel Drove (Ely)	A1 and B1 near Cambridgeshire Business Park, Ely (17/00428/FUM)	2016
A142 Witchford Road (Ely)	A1 and B1 near Cambridgeshire Business Park, Ely (17/00428/FUM)	2016

Table 3.1: Source and scope of observed count data

Whilst some of the observed count data is now five years old, this is not considered to detract from the conclusions of the study as to whether junction improvements are needed; whether based on 2014 or 2019 count data, noting that the counts were factored up to a 2021 and 2031 assessment year it's unlikely that the use of more recent count data is going to change the conclusions of whether or not interventions are required.

Both the existing layouts and proposed improvement layouts were modelled, using the following software:

- Junctions9: For priority junctions and roundabouts
- LinSig: For signalised junctions

The report provides a summary of model outputs, in terms of Ratio of Flow to Capacity (RFC) or Degree of Saturation (DoS) for the existing and each proposed layout, for each junction. Detailed model outputs and geometries, from which it would be possible to rebuild the junction models, are not provided.

With the data from the model outputs, a total of 8 locations (listed in 3.1) were identified as junctions that would benefit from improvements. Jacobs will be using existing design options from each of these junctions to develop the SOBC as well as examining high level junction modifications for those affected by online dualling.

4. Environmental Constraints Data

Prior to options identification, relevant environmental constraints were collated from publicly available databases which allowed the information to be imported into a geographic information system (GIS). This consisted of a desk-based exercise focusing on existing designated features that are protected at a European, national or local level such as Site of Special Scientific Interest (SSSI), scheduled monuments, conservation areas etc. A summary of the sources that were used to obtain the data is presented below.

Topic	Source	URL
Air Quality	Department for Environment Food & Rural Affairs	http://uk-air.defra.gov.uk/aqma/maps
Cultural Heritage	Historic England	https://services.historicengland.org.uk/NMRDataDownload/default.aspx
Geology and Soil	Natural England	http://environment.data.gov.uk/ds/catalogue/#/catalogue
Land Use	Environment Agency/ Department for Environment, Food, & Rural Affairs	http://environment.data.gov.uk/ds/catalogue/#/catalogue https://data.gov.uk/dataset/database-of-registered-common-land-in-england
Landscape and Visual	Natural England/ Department for communities and local government	http://environment.data.gov.uk/ds/catalogue/#/catalogue https://data.gov.uk/dataset/english-local-authority-green-belt-dataset7
Biodiversity	Natural England/Environment Agency/ RSPB	http://environment.data.gov.uk/ds/catalogue/#/catalogue https://ww2.rspb.org.uk/our-work/conservation/conservation-and-sustainability/mapping-and-gis
Noise and Vibration	Environment Agency	http://environment.data.gov.uk/ds/catalogue/#/catalogue
Road Drainage and Water Environment	Environment Agency/Ordnance Survey	http://environment.data.gov.uk/ds/catalogue/#/catalogue https://environment.data.gov.uk/searchresults;query=Risk%20of%20surface;page=1;pagesize=20;orderby=Relevancy https://www.ordnancesurvey.co.uk/business-and-government/products/os-open-rivers.html

Table 4.1: Sources of Data for Environmental Constraints

The objectives of the data collection were to:

- Identify show stoppers that may prevent a particular option or indicative alignment (e.g. European designated sites or a Site of Special Scientific Interest);
- Identify constraints that would require a particular design requirement that would be sufficient to affect cost or buildability (e.g. flood plain);

- Assess environmental risks that would need to be managed during later development of the scheme (beyond SOBC) and therefore require appropriate budget allowance within the capital cost and/or risk register and within the outline project programme.

The following table shows the criteria for whether an environmental designation was classified as either a show stopper or a constraint for an option:

Show Stopper	Constraint
The impact on the receptor / designated site likely to be a significant effect in terms of the Environmental Impact Assessment Regulations one the three below criteria apply: ▪ The impact on the receptor / designated site likely to prevent Development Consent being obtained for the scheme; ▪ The impact on the receptor / designated site unlikely to capable of being mitigated or compensated for; or, ▪ The mitigation or compensation measures that would require to address the impact on the receptor / designated site would be likely to be so costly / risk that the cost benefit of the option would not be preferred.	The impact on the receptor / designated site likely to be a significant effect in terms of the Environmental Impact Assessment Regulations and one the three below criteria apply: ▪ The impact on the receptor / designated site likely to be a material consideration during the Development Consent application for the scheme and a likely major issue for the relevant statutory consultees; or, ▪ The mitigation or compensation measures that would require to address the impact on the receptor / designated site would be likely to be sufficient that it would affect the overall cost benefit analysis by a factor of at least '1' for the costs.

Table 4.2: Environmental designation criteria

5. Traffic Survey Data

The appraisal for highway improvements will make use of pre-existing models, therefore no new surveys have been proposed for the SOBC. The A10E2C base model used survey data as part of calibrating and validating the model. The following data was collected:

- Traffic counts:
  - Automatic Traffic Count (ATC), Manual Classified Count (MCC) and Manual Classified Turning Count (MCTC) data collected in April and May 2018;
  - WebTRIS count data from March 2018; and
  - Historical count data from 2015
- 2016 TrafficMaster journey time data;
- Signal timing data; and
- Bus service and timetable data

Detailed analysis of the suitability and reliability of the data used can be found in the Data Collection Reports for the A10E2C model[6].

The proposed methodology for undertaking the A10 appraisal at SOBC level is to use the existing A10E2C base model as a starting point for developing new traffic forecasts. As such, no new traffic survey data is required for the SOBC, and therefore the only survey data used (albeit indirectly) is the data used to develop the A10E2C model.

5.1 Summary

Existing data sources, including modelling, environmental data and previous studies of the corridor, have sufficient coverage and depth such that for the purposes of supporting an SOBC, no new significant data collection or traffic surveys is required. For this reason, no new primary data collection is proposed.

[6] A10 Ely to Cambridge Transport Study Data Collection Report, Atkins, July 2018