

**CAMBRIDGESHIRE GUIDED BUSWAY**

**To:** Cabinet

**Date:** 5<sup>th</sup> July 2010

**From:** Acting Executive Director: Environment Services

**Electoral divisions:** The Hemingfords and Fenstanton, St Ives, Papworth and Swavesey, Willingham, Cottenham, Histon and Impington, Waterbeach, East Chesterton, King's Hedges, Petersfield, Trumpington, Gamlingay.

**Forward Plan ref:** Not applicable      **Key decision:** No

**Purpose:** This report sets down for consideration by Cabinet the progress being made towards opening of the Cambridgeshire Guided Busway.

**Recommendation:** Cabinet is asked to:

1. note that the Contractor continues to make slow progress towards rectifying the defects which would allow the Council to accept sectional completion of the busway between Cambridge and St Ives, and
2. note that the Contractor is progressing the southern section in accordance with their current programme, which shows the Busway complete in December.

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## **1 BACKGROUND**

- 1.1 The Cambridgeshire Guided Busway Contract was let in July 2006. While there are two sections of busway; the northern section running from Cambridge to St Ives and the southern section running from Cambridge Railway Station to Addenbrooke's Hospital and Trumpington Park and Ride, the contract was let on the basis of the entire project being completed at the same time, in February 2009.
- 1.2 When it became apparent in 2008 that construction was running late, it was agreed between the Council and the Contractor Bam Nuttall that the Contractor would work towards completing the northern section first. As this was not envisaged in the Contract it requires a separate sectional completion agreement. This should have been straightforward to agree as it would be to the benefit of both parties. The Council would be able to bring a section of the busway into use and Bam Nuttall would have relief from that proportion of the liquidated damages that have been levied from the planned handover date.
- 1.3 Unfortunately sectional completion was not achieved as envisaged late in 2009 as the Contractor would not commit to rectifying six key areas of work which had been notified as defects under the Contract. These issues were set out in detail to Cabinet on 16<sup>th</sup> March 2010.
- 1.4 At the subsequent meeting on 27<sup>th</sup> April, Cabinet was advised that Bam Nuttall had provided a timetable for progressing the six issues.
- 1.5 These six issues are:
  - 1 River Great Ouse Viaduct Expansion Joints;
  - 2 St Ives Park and Ride (P&R) surface ponding;
  - 3 Maintenance track flooding;
  - 4 Guideway shallow foundations;
  - 5 Thermal expansion gaps between the guideway beams;
  - 6 Rubber tyre infill between the guideway beams.
- 1.6 Some of these items require physical works to rectify them and for others, simply calculations and confirmation from the designers that the infrastructure will perform as planned and not present long-term maintenance liabilities. Either way, these issues must be addressed if the busway is to be launched successfully.
- 1.7 Progress against the timetable to rectify these issues was reported to the Cabinet meetings on 25<sup>th</sup> May 2010, and 15<sup>th</sup> June. At both of these meetings, members expressed their concern at the slow progress achieved up to that point. This report provides a further

update on progress in resolving these issues and on overall completion of the project.

- 1.8 Members should note that if Bam Nuttall do not address the defects and thus achieve sectional completion then the normal defect provisions in the contract will come into effect upon completion of the whole project; that is that the Contractor will have four weeks to rectify those defects once completion has been achieved and if they do not do so, the Council can step in and carry out the work and recharge the cost to the Contractor.

## **2 PROGRESS**

- 2.1 The progress since the meeting on 15<sup>th</sup> June is set out below with reference to the work that is required as noted in the report to the meeting of 27<sup>th</sup> April. Members will be advised of the latest position on each of these at the meeting.

### River Great Ouse

- 2.2 The River Great Ouse viaduct has been built without expansion joints between the bridge deck and the abutments, contrary to normal practice. As a result, water from the bridge deck, which in the winter would contain de-icing salt, falls directly onto the main steel beams of the bridge and the bearings, with the potential to significantly reduce the life of both.
- 2.3 As set out at the meeting on 15<sup>th</sup> June a design for the expansion joint has been submitted and commented upon by our designers, and there have been further exchanges between the designers. The stumbling block is that Bam Nuttall are seeking a Departure from Standard for the proposed solutions. This is not necessary as the proposed solution was included and accepted in their initial outline design submission for the bridge. Agreeing a Departure would transfer some of the liability for the design from Bam Nuttall to the County Council.
- 2.4 On the 15<sup>th</sup> June it was reported that a meeting was being sought with Bam Nuttall's designers to try to resolve this issue. At the time of writing this had not taken place, as BNL were awaiting a letter from their designers setting out the designer's position.

### St Ives P&R

- 2.5 As reported to Cabinet on 27<sup>th</sup> April BNL committed to complete the design work on the car park by 19<sup>th</sup> May and to implement the resulting solution to address the ponding on the site as soon as possible thereafter.
- 2.6 In reality BNL initially put forward a design which involved more extensive work than was necessary. Following this, parameters were agreed for a simpler, less expensive and quicker to implement solution.

This included the Council officers indicating that they would accept some minor relaxations of the specification if it assisted in securing a more economical solution.

- 2.7 Bam Nuttall subsequently provided revised designs all of which would achieve the desired result and it was agreed at a meeting on 7<sup>th</sup> June that Bam Nuttall would develop their preferred solution into a detailed design for implementation.
- 2.8 Unfortunately rather than progress this to implementation, Bam Nuttall have chosen instead to put forward a grossly inflated cost estimate for the works and suggest that a 'wait and see' approach should be adopted, i.e., the Council to take over the site and consider at a later stage if the remedial works are needed. This approach has been rejected and Bam Nuttall have been told that they must remedy the defect prior to buses commencing operation.

#### Maintenance Track

- 2.9 Following a meeting held with the Environment Agency on 18<sup>th</sup> May BNL's designers are developing proposals for further discussion with the Environment agency (EA) at a site meeting. BNL report that this work is sufficiently advanced that they anticipate meeting with the Environment Agency to discuss proposals on site in week commencing 5<sup>th</sup> July. If the proposals are acceptable to the EA and meet the Council's requirements of a maintenance track that only experiences flooding when the surrounding areas are flooded then the next step would be detailed design. If these criteria are not met then BNL will need to revisit their approach to providing flood storage.
- 2.10 BNL's designers have provided a programme for the development and approval process outlined above, which, if met, would allow construction work to commence in September. The duration of the works themselves will depend on the extent of the work that is required.

#### Foundations

- 2.11 The additional soil testing boreholes to establish the susceptibility of the soils under the foundations to shrinkage in dry weather, in particular where there are high water demand trees was completed on 28<sup>th</sup> May. The testing of the resulting samples was complete on 28<sup>th</sup> June and the respective experts are now assessing the results of the tests.

#### Beam expansion gaps

- 2.12 As previously reported at the last meeting, BNL have produced calculations which confirm that a number of the expansion gaps between the guideway beams are not sufficiently wide to allow for the full effect of thermal expansion of the beams in hot weather. This is particularly the case if this is combined with differential settlement arising from soil shrinkage.

- 2.13 Rather than insist on the beams being re-laid to achieve the correct gaps it has been suggested to BNL that they demonstrate through calculation that the beams and other components will withstand the resulting compression.
- 2.14 While some calculations have been provided by BNL, they are not sufficient to give confidence and the Project Manager wrote to BNL on 16th June identifying their shortcomings and restating the position. No response has yet been received.

#### Rubber Tyres

- 2.15 The Council needs to be satisfied that BAM Nuttall have properly considered the potential fire risk of the shredded rubber tyres, which they have substituted for gravel infill between the guideway tracks.
- 2.16 BNL have submitted a Designer's Risk Assessment, which has been through a number of iterations. The currently outstanding issues are the risk of damage to the communications ducts, where they are close to the surface, and the potential for smoke to disrupt rail services. The latter risk only applies to the southern section.

### **3 Southern Section**

- 3.1 BAM Nuttall's current programme for completion of the southern section from Cambridge Railway Station to Addenbrooke's and Trumpington Park and Ride shows that BAM Nuttall (BNL) expect to complete construction activities in mid-December. There would then be a period of checking and commissioning prior to handover.
- 3.2 BNL are currently on target to meet their programme in the southern section. Work is progressing at Hills Road Bridge, Trumpington Cutting and the connection to Trumpington Park and Ride. The final section of double track guideway is being laid into Trumpington Cutting. The gantry will then be modified for single track construction through the cutting.

### **4 Summary**

- 4.1 It can be seen from the information above that progress on resolving the issues has been limited. In particular Bam Nuttall's approach to resolving the River Great Ouse viaduct and St Ives car park defects, potentially two of the more straightforward issues, appears to be increasingly intransigent.
- 4.2 While there has been some progress on other issues, such as the soil testing, these remain a long way from resolution. Based on experience to date there can be little confidence that resolution will be straightforward or quick and the expectation must be that opening to St Ives remains several months away. This will remain the case until such time as Bam Nuttall actually commence work on rectifying the defects,

or supply the information requested to satisfy the Council regarding long term maintenance issues.

- 4.3 Members will note that progress continues on the southern section of the busway, which should be physically complete in accordance with Bam Nuttall's programme in December. Given the contrasting lack of progress in resolving the defects, officers' views now are that there is increasing doubt that the opening of the Cambridge to St Ives section of the Busway will be in advance of completion of the whole project.

## **5 IMPLICATIONS**

### **Resources and Performance**

- 5.1 Finance and risk management – the report sets out the latest progress towards resolving the issues that have prevented the opening of the northern section of the busway. The busway is a high profile project and whilst the Council is keen to secure beneficial use as soon as possible, this should not be at any cost, particularly in terms of future maintenance liabilities. At present, whilst the notified defects are not expected to cost a very large amount of money to rectify, that is not yet clear, particularly for the foundations and beam gaps issue and so resolving these technically is essential to protect the Council's interests.

### **Statutory Requirements and Partnership Working**

- 5.2 There are no significant implications for any of the headings within this category.

### **Climate Change**

- 5.3 The busway will provide a good alternative to use of the car for travel into Cambridge, St Ives, Huntingdon and other villages along the route. When operational, it is expected to significantly increase the bus patronage in this corridor and as such assist in our objectives to reduce the emission of greenhouse gasses from vehicles.
- 5.4 The buses which are already running, run on bio fuel and this also has environmental benefits. These environmental benefits have been partly secured as a result of the guided buses currently running on ordinary roads, where it has believed even on the existing services, patronage has increased. Patronage will increase significantly further when the busway is fully operational.
- 5.5 The busway should also have a high quality track alongside that is available for pedestrians and cyclists and this again will increase its environmental benefits. This is already being used unofficially and usage will increase when the scheme is formally open.

### **Access and Inclusion**

- 5.6 The busway will provide good public transport and cycle/foot links between St Ives, the intervening villages and Cambridge. This will open up travel opportunities by increasing the quality of bus services in those communities and benefit particularly those without use of a car.

### **Engagement and Consultation**

- 5.7 There are no significant implications for any of the headings within this category.

<b>Source Documents</b>	<b>Location</b>
Agenda and Minutes, Cabinet 1/3/2005, 7/2/06, 13/6/06, 11/7/06, 16/10/07, 16/12/08, 29/9/09, 16/3/10, 27/4/10, 25/5/10, 15/6/10 Cambridgeshire Guided Busway Order	CGB Team Office, Old Police House, Shire Hall, Cambridge