

Cambridgeshire Guided Busway

To: Cabinet

Date: 28th September 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 is increasingly ignoring the commitments to address those defects given in April.
2. note that contingency plans are being made to rectify defects post completion.
3. note the delay to the southern section of the Busway (reported orally to the last Cabinet meeting) as a result of the Contractor failing to programme the Shelford Road Bridge Assessment.
4. endorse the construction of the Clay Farm Spine Road junction immediately post completion provided that it can be carried out during the defect correction period.

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1 BACKGROUND

- 1.1 The Cambridgeshire Guided Busway construction contract was let in July 2006 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 (BNL) that the contractor would work towards completing the northern section first which would require a separate agreement to deal with sectional completion. Had this been achieved then the Council would have been able to open the northern section of the Busway in 2009. Unfortunately this was not achieved 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 16th March 2010.
- 1.3 At the subsequent meeting on 27th April, Cabinet was advised that BNL had provided a timetable, including pledged dates, for progressing the six issues.
- 1.4 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.
- 1.5 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.
- 1.6 If BNL do not address the defects before completion of the whole project then the normal defect provisions in the contract will come into effect at completion; that is the contractor will have four weeks to rectify those defects and if they do not do so, the Council can bring in its own contractor to carry out the work and recharge the cost to BAM Nuttall.
- 1.7 Progress against the timetable to rectify these issues was reported to the Cabinet meetings on 25th May, 15th June, 5th July and 7th September. At each of these meetings, members expressed their concern and frustration at the slow progress achieved up to that point.
- 1.8 At the meeting on 5th July it was resolved to:

Request that officers now focused their principal efforts on completion of the whole contract rather than the interim stage of sectional completion given the continued failure of Bam Nuttall to rectify the notified defects.

- 1.9 Had sectional completion been achieved as envisaged, then BAM Nuttall would have been entitled to a substantial reduction in the liquidated damages which have been deducted from all payments since February 2009.
- 1.10 This report sets down the current position with the defects as Cabinet also agreed that should the defects be rectified, the Council would still be willing to consider sectional completion. The report also considers progress on the southern section, which, as reported orally to the 7th September Cabinet, is now also showing signs of slippage.

2 PROGRESS

- 2.1 The progress since the meeting on 7th September is set out below with reference to BAM Nuttall's commitments as reported to the meeting of 27th 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 and the design BNL submitted. 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 Although there have been a number of meetings and exchanges of correspondence on this matter, BNL have made no real progress on resolving the issue and continue to argue that a joint in accordance with the contract would be impractical, despite it being demonstrated to them that the contract provisions could have been complied with.
- 2.4 In their statement on 21st April 2010 BNL said:

'BAM Nuttall will conclude and agree design work to address the Council's concerns over the expansion joint at the River Great Ouse Viaduct by 30th April 2010. The required joint will then be ordered and installed by BAM Nuttall as soon as possible thereafter.'

A satisfactory design by BNL is now five months late.

- 2.5 Given the failure by BAM Nuttall to address this issue, contingency plans are now being made to rectify this defect using another contractor post-completion and recharge the cost to BAM Nuttall.

St Ives P&R

2.6 As reported to Cabinet on 27th April BNL committed to complete the design work on the car park by 19th May, some four months ago, and to implement the resulting solution to address the ponding on the site as soon as possible thereafter.

2.7 BNL's public statement of 21st April was:

'BAM Nuttall will conclude and agree design work to address the Council's concerns over ponding of water at the St Ives park and ride site by 19th May 2010. BAM Nuttall will then undertake the remedial works as soon as possible thereafter'.

2.8 A car park design was provided by BAM Nuttall on 12th August, which it is considered would resolve the ponding issues. However this has not been formally submitted with a design certificate in accordance with the Contract, and it appears the contractor is not going to do this. The design certificate in effect acts as a guarantee of the design. Without such a certificate the design is contractually worthless.

2.9 As with the River Great Ouse Bridge contingency plans are now being made to carry out this work post-completion.

Maintenance Track

2.10 BNL's commitment in April was to have design work concluded and agreement with the Environment Agency (EA) by the end of July, and so this is now a month overdue.

2.11 Following meetings held with the Environment Agency in August. BNL have reached informal agreement with the EA to develop pragmatic solutions to resolve the flooding problems on the maintenance track. However, as these proposals fall short of the contract requirements for the level of the maintenance track it is essential that BNL provide information on how these proposals will perform. Without such information it is impossible for the Council to decide whether or not these proposals are acceptable. This has been made clear repeatedly to BAM Nuttall.

2.12 The window for carrying out works prior to the flooding season is coming to an end and it is now unlikely that works will be carried out until next spring, after contract completion.

Foundations

2.13 Following the additional soil testing boreholes in June, BNL provided a report at the beginning of September on the susceptibility of the soils under the foundations to differential settlement in dry weather. But this has not been accompanied by a design certificate.

- 2.14 Notwithstanding the lack of certification the report is being reviewed at the time of writing. Indications are that the report does address many of the concerns about the risk of differential settlement but some additional survey work may be needed in some areas.

Beam expansion gaps

- 2.15 In BNL's statement in April they committed to concluding all calculations to address the Council's concerns over the gaps between the guideway beams being sufficient to allow for thermal expansion by 5th May, five months ago. To date these calculations have not been provided and it appears unlikely that they will be.

Rubber Tyres

- 2.16 The Council needs to be satisfied that BNL have properly considered the potential fire risk of the shredded rubber tyres, which they have used to fill the space between the guideway tracks instead of gravel.
- 2.17 BNL committed in April to concluding the risk assessment by 23rd April, more than 5 months ago. The Designer's Risk Assessment has been through a number of iterations but still does not fully address the possibility of damage to the communications ducts where they are close to the surface. Again, it appears unlikely that BNL will progress this further.

3 Southern Section

- 3.1 As reported to Cabinet on 7th September the BAM Nuttall programme which was received just prior to the meeting showed slippage of the southern section works. This programme shows civil engineering works complete on 3rd December, rather than 19th November as shown in previous programmes, and inspections and testing complete on 14th January, rather than 17th December. Civil engineering works completion has therefore slipped by two weeks, however, this pushes the inspection and testing period over the Christmas break resulting in a four week delay.
- 3.2 An analysis of the programme shows that the delay is the result of including the assessment of Shelford Road Bridge in the programme. All other items are shown as finishing by 15th November.
- 3.3 The southern section of the busway includes three road bridges over the former railway line. Long Road, Shelford Road and Hauxton Road Bridges. The contract requires the Contractor to inspect, assess and repair or strengthen these bridges to the approval of the appropriate Technical Approval Authority (TAA). At the time the contract was signed, Long Road and Hauxton Road Bridges were already owned by the County Council but the Shelford Road Bridge was owned by the British Railways Board (BRB) residuary body. It was anticipated that

the ownership of the Shelford Road Bridge would be transferred by agreement to the County Council at some point.

- 3.4 There are national standards for the inspection and assessment of bridges, and bridges are inspected and assessed as a matter of routine. An assessment involves a more detailed appraisal than an inspection, including calculations of the bridge's load bearing capability. All three bridges have been subject to bridge assessments on behalf of the Council in the past in consequence of the increase in permissible vehicle weights and extensive strengthening was undertaken on the Long Road Bridge some years ago.
- 3.5 Bam Nuttall were reminded at Progress meetings and at other meetings around 18 months ago, before they started work in the Trumpington cutting area, of the need to do this work and the issue of bridge assessments has been discussed regularly since then. Rather than undertake assessments BNL have put forward remedial works based purely on inspections. Without an assessment it is impossible to say whether or not these remedial works are sufficient. BNL have nonetheless begun the remedial works on Hauxton Road Bridge. They have been advised that this is at their own risk and they will not be paid for these works until they can demonstrate via an assessment that they are appropriate.
- 3.6 BNL's programme shows the requirement to seek the technical approval of the BRB residuary body at Shelford Road Bridge delaying overall completion. BNL have also claimed that this is a consequence of the Council not taking ownership of the bridge. In reality, bridge ownership is irrelevant as the requirements for assessment are the same regardless of ownership and have been there since the start of the contract. Nonetheless the transfer of the Shelford Road Bridge ownership has been concluded in order to close down this area of disagreement.
- 3.7 In order to assist BAM Nuttall in mitigating the delay, Council officers and our advisers will seek to minimize the time taken to review BAM Nuttall's proposals once they are received. However BAM Nuttall have not, at the time of writing, carried out additional site investigation at Shelford Road Bridge that is shown in their own programme as taking place in week commencing 6th September. Consequently, there must be the risk of even further delay. An update will be provided at the meeting.
- 3.8 Turning to other matters on the southern section, the main elements of the work such as Hills Road Bridge and the guideway remain on programme, and all works relating to the high pressure gas main are complete. There are however a number of unresolved issues, which, while not individually significant are becoming a cause for concern through BAM Nuttall's slow response. These are being closely monitored and formal contractual notices have been issued. Where

appropriate costs have been disallowed until such time as issues are resolved. This appears to be having some effect.

- 3.9 One issue which may have programme implications is the contractual requirement to provide lighting for the 'two to one' junction east of Trumpington. This is a unique feature requiring the drivers to steer their buses from a double track guideway to single track and vice versa. When BAM Nuttall submitted details of the lighting at the nearby stop earlier this year it was noted that this lighting was not included and this was brought to their attention. Subsequently BAM Nuttall have put in two requests to remove this lighting. These have been rejected as lighting of this junction is considered important for its safe operation. BNL have now accepted that the junction must be lit, but at the time of writing have not yet produced a design. The design, approval and implementation of this lighting is not shown on BAM Nuttall's programme.
- 3.10 Once an item of work is complete the Contractor is required to provide a construction certificate to show that the works have been properly constructed in accordance with the design and specifications. BAM Nuttall have produced a plan but have so far not provided certificates in accordance with this programme. The expectation must therefore be that the certificates will be left until very late in the process and arrive en masse leaving very little time for the necessary inspections, as occurred in the period leading up to the potential sectional completion date for the northern part of the guideway last year. In order to mitigate this we have now begun our own inspection and snagging process. This inevitably will result in some duplication of effort but is essential to manage the process.

4 Other Works

- 4.1 In the report to the 7th September Cabinet it was stated that arrangements were being explored to complete the surfacing of the cycleway from Milton Road to Longstanton before completion, using the Council's existing framework contract. This would have required a degree of co-operation from BAM Nuttall. While there were some indications that BAM Nuttall might co-operate in this it is now clear that this is not the case. Rather than risk any further contractual disputes it is proposed to continue with the original plan of carrying out the work post-completion. The likelihood that the Council will need to carry out defect rectification work after completion increases the time available for this work.

5 Clay Farm Spine Road Junction

- 5.1 The Clay Farm development in the southern fringe is one of the developments which will contribute both funding and patronage to the Busway. Cabinet considered the responses to the planning application at the meeting on 22nd January 2008. The development includes a spine road which will cross the Busway at a new junction between

Trumpington and the Addenbrooke's spur junction. As indicated on the attached development masterplan.

- 5.2 Unfortunately it was not possible to incorporate the junction into the main Busway contract, as was done with the additional Northstowe junction, as the developers were unable to commit to funding the junction. In consequence the developers were advised that the opportunity had passed and that when they came to build their junction they would need to do so over a live Busway.
- 5.3 Subsequently Cambridgeshire Horizons have agreed to meet the cost of providing this junction using Housing Growth Funds and a detailed analysis has been done of how the junction might be built with or without buses running. To maintain bus services while building the junction a temporary diversion would be needed which would add considerably to the cost and duration of the works.
- 5.4 With the likelihood of the whole Busway being completed as one and the probability that defect correction work will be needed on the north section of the busway there is now a window to construct the Clay Farm junction during the same period. The contractor for the junction considers that they can install the junction sufficiently for buses to run over it in less than eight weeks, which would fit within this time frame. Cabinet is asked to agree to proceed on this basis, if, as anticipated, BAM Nuttall fail to rectify the defects prior to completion. Cabinet is therefore asked to approve the construction of these works.

6 Summary

- 6.1 It can be seen from the information above that BAM Nuttall are continuing to resist resolving the defects and the commitments given in April are being increasingly disregarded.
- 6.2 In line with the Cabinet resolution of 5th July the project team are focusing on completion of the whole project, rather than the interim stage of sectional completion, while continuing to remind BNL of their obligations under the contract to rectify defects and of their earlier commitments.
- 6.3 The Southern Section has been delayed into 2011 as a result of BAM Nuttall's reluctance to undertake a bridge assessment at Shelford Road. There is the potential for a similar delay involving the provision of lighting at the junction where the Busway goes from dual to single as BNL have failed to progress a design.
- 6.4 BAM Nuttall are not following their own plan for the orderly completion and certification process. To mitigate the risk of the late submission of a large number of certificates we have commenced our own inspections.

- 6.5 Plans are being developed to install an additional junction to serve the Clay Farm development. Cabinet are asked to support the installation of the junction during the defect correction period.

7 IMPLICATIONS

Resources and Performance

- 7.1 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.

Statutory Requirements and Partnership Working

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

Climate Change

- 7.3 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.
- 7.4 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

- 7.5 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

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

Source Documents	Location
<p>Agenda and Minutes, Cabinet 1/3/2005, 7/2/06, 13/6/06, 11/7/06, 16/10/07, 22/1/08 (Clay Farm) 16/12/08, 29/9/09, 16/3/10, 27/4/10, 25/5/10, 15/6/10, 5/7/10, 7/9/10</p> <p>Cambridgeshire Guided Busway Order</p>	<p>CGB Team Office, Old Police House, Shire Hall, Cambridge</p>