

## Appendix C: Report to Development Plan Steering Group on 2009 A14 Scheme



**Cambridge City Council**

**Item**

To: Executive Councillor for Climate Change & Growth:  
Councillor Sian Reid

Report by: Director of Environment & Planning

Relevant scrutiny committee: Development Plan Steering Group 01/12/2009

Wards affected: All Wards

### **A14 Ellington to Fen Ditton Scheme: Publication of Environmental Statement and Draft Orders**

#### **1. Executive summary**

- 1.1 The City Council has been consulted by the Highways Agency on the publication of the Draft Orders and Environmental Statement relating to the proposed A14 Ellington to Fen Ditton scheme.
- 1.2 There have been two previous stages of public consultation on the scheme. The first stage was held in Spring 2005 on the proposed route, however after a legal challenge, a further round of consultation was held between 1 December 2006 and 9 March 2007 on additional route options. The Draft Orders and Environmental Statement relate to this preferred route, and allows for examination of the proposals and offers the opportunity to comment in the form of support, objection or other representation.
- 1.3 Appendix 1 sets out the proposed representations to the Highways Agency on the Draft Orders and Environmental Statement for consideration by Development Plan Steering Group. Appendix 2 is a map of the entire A14 Ellington to Fen Ditton scheme. Appendix 3 is a map showing the stretch of the A14 known as the Cambridge Northern Bypass.

#### **2. Recommendations**

- 2.1 This report is being submitted to the Development Plan Steering Group for prior consideration and comment before decision by the Executive Councillor for Climate Change and Growth.

- 2.2 The Executive Councillor is recommended to agree the City Council's proposed representations to the Highways Agency consultation on the publication of Draft Orders and the Environmental Statement as set out in Appendix 1.
- 2.3 The decision taken by the Executive Councillor will be recorded and reported to Environment Scrutiny Committee.

### 3. Background

- 3.1 The Highways Agency has prepared a scheme for the expansion of a 39km section of the A14 between Ellington, to the west of Huntingdon and Fen Ditton, to the north east of Cambridge (**see Appendix 2**). The scheme, which is subject to the provision by Government of the £1.2billion funding required, comprises of:
- A new dual carriageway to the south of Huntingdon between Ellington and Fen Drayton with three lanes in each direction (except between Ellington and the A1, where only two lanes would be needed).
  - Widening the existing A14 to at least three lanes in each direction between Fen Drayton and Fen Ditton.
  - Local access roads alongside the widened A14 to separate local and strategic traffic, creating a total of ten lanes in the section immediately north west of Cambridge.
  - Major new interchanges with the A1 at Brampton, the existing A14 at Fen Drayton, and the M11/A428 at Girton.
- 3.2 Following on from two previous stages of public consultation, held in 2005 and 2006/07, the Highways Agency published the Draft Orders and Environmental Statement on 30 September 2009 for comment. Draft Orders are required under the Highways Act 1980 in order to authorise the building of the scheme and to acquire any necessary land. The Environmental Statement is a document that provides a systematic and objective account of the significant environmental effects to which the proposed project is likely to give rise.
- 3.3 In March 2007, the City Council gave its general support to the Highways Agency's proposals to upgrade the A14 trunk road, by agreeing to an 'A14 Ellington to Fen Ditton Proposals Joint Statement Of Support' along with numerous other major stakeholders. However, this support was conditional and these conditions have not been met to date.

- 3.4 Appendix 1 sets out the City Council's proposed representations to the Highways Agency for this consultation. For reference, Appendix 2 is a map that shows the entire A14 Ellington to Fen Ditton scheme. Appendix 3 is a map showing the stretch of the A14 known as the Cambridge Northern Bypass.
- 3.5 Appendix 4 is an extract from The Cambridge Climate Change Strategy & Action Plan. Appendix 5 is the Regulations and Act of the Infrastructure Planning Commission, and Appendix 6 is the Guide to the Infrastructure Planning Commissions 'Role and Operation'.
- 3.6 A review of the transport policy context for the widening of the A14 has been carried out to inform the City Council's response to the proposals. This is set out in Appendix 7. Whilst this is not an exhaustive list, it does put the proposals for the A14 in a wider transport policy context, which has evolved towards the promotion of more sustainable approaches to planning for future transport capacity.
- 3.7 A summary of the proposed representations detailed in Appendix 1 is set out below:
- The City Council recognises the importance of the A14 as the main trunk road for vehicular traffic wishing to travel in an easterly or westerly direction between the Midlands and the East of England. The section of the A14 from the West of the Girton Interchange also provides a North-South connection between the A1 and the M11. The City Council is concerned about the number of road traffic accidents suffered on the A14, and the continued congestion it experiences. To this end, it is recognised that there is a need for an alternative to be found to help alleviate the current situation.
  - Concern relating to the escalating cost of the proposed scheme. The forecast cost of the present A14 improvement proposals has risen from £490million in 2005 to £1.2billion in 2009. This is a considerable sum of money, and investment of this magnitude comes at a time when investment in other key transport strategies is severely lacking. The City Council believe that road building to reduce congestion and gain improvements in efficiency is a discredited approach, and investment of this scale in other, more sustainable alternatives would be more in line with recent local and national policy.

The City Council instead supports investments and improvements in the available alternatives to road building in helping to alleviate the problems suffered on the A14. This includes investment in rail freight infrastructure, investigating the possibility of freight

congestion charging, increased speed reduction and safety measures and increasing urban access through public transport.

- The overall impact of the scheme on carbon emissions. Officers believe that the data provided on carbon emissions within the Environmental Statement is insufficient, despite the City Council having requested such information on three previous occasions from the Highways Agency. Whilst the Environmental Statement itself clearly states that the scheme will lead to an absolute increase in carbon emissions, in conflict with national climate change policy, the carbon emissions data provided does not enable an assessment of the scheme with respect to the per capita carbon emission reduction targets that the City Council has committed to in the Cambridge Climate Change Strategy & Action Plan. The City Council would also like to see the figures for the embedded carbon created by the construction process. Dependant on what type of concrete is used; the embedded carbon in one tonne of concrete can be equivalent to one tonne of CO<sub>2</sub> emissions, which is equal to the average annual transport emissions of one Cambridge resident. The fact that sufficiently detailed carbon emission data is missing from the Environmental Statement, and that the data that is present shows an absolute increase in emissions for the area, means that the City Council cannot support the Highways Agency scheme in the area of carbon emissions.
- Impact on traffic flows along radial routes. The data within the Environmental Statement shows there will be an increase in two-way 24-hour traffic flow along three of the four main radial routes into the city from the A14 if the scheme goes ahead, compared with the 'Do Minimum' figure. The largest increase is seen along the B1047 Horningsea Road. The B1049 Histon Road also receives a sizable increase in traffic flow. Huntingdon Road (the A1307) will see a slight decrease in traffic flow compared to 'Do Minimum', and Milton Road (the A1309) will see a minimal increase. The modelling assumes that all radial routes will see an increase in traffic flow on today's levels, with or without the scheme. Given that some radial routes will be adversely impacted in terms of traffic flow, and that any increase in traffic will lead to decreases in the quality of life of residents through issues like community severance, safety, noise and air quality, the City Council cannot support the Highways Agency in relation to changes in local traffic flows.
- The impact on current and future residents of Cambridge, in particular with regards to noise pollution and air quality.  
In terms of noise, the data shows that generally, over the length of the new road, that more people will see a decrease in noise than

an increase. Notwithstanding this, the northern fringe of Cambridge will be an area where this trend is reversed, and more people will see increases in noise than decreases. However, the level of increase may be less than first indicated for the Orchard Park area, as the Highways Agency have since informed us that an error was made in the original modelling, although these final figures are yet to be received. The City Council also feels that there are areas within the Environmental Statement where the data on noise pollution could be better and more rigorous. To this end, at this time, the City Council cannot support the Highways Agency proposals in terms of effects on noise pollution.

In relation to air quality, the data again shows that the scheme will benefit more residents than it will harm. However, the main detriment in air quality is seen in the north eastern section of Cambridge. City Council officers also highlight areas of the data within the Environmental Statement that could be more thorough. With this in mind, the City Council cannot support the Highways Agency proposals for the A14 in terms of their effect on local air quality.

- Flood Risk Assessment. The City Council feels that there has been a missed opportunity in terms of the Flood Risk Assessment, with the existing A14 carriageway not being updated to the same level as the new areas of carriageway. Although there is an overall reduction in flood risk, the proposals do not go far enough. To this end, the City Council cannot support the Highways Agency proposals with reference to flooding, given the absence of an updated Flood Risk Assessment.
- Infrastructure Planning Commission. Although there is no mention of moving the A14 Scheme into the Infrastructure Planning Commission process and out of the current Public Inquiry process within the Environmental Statement and Draft Orders, the City Council would strongly oppose any potential move to do so.

3.8 The overall position of the City Council is that it cannot support the proposals for the A14 Ellington to Fen Ditton Scheme due to the various reasons outlined above. The City Council's position has also been influenced by the escalating cost of the proposed scheme, and the existence of alternative approaches to the issues outlined as justification for the A14 upgrade. More detailed responses in each area can be found in Appendix 1 of this report.

#### **4. Next steps**

4.1 Following Development Plan Steering Group, officers will finalise all responses to the Highways Agency in preparation for submission by 6 January 2010.

## **5. Implications**

5.1 There are no direct financial, staffing, procurement, or community safety issues arising from this report.

## **6. Background papers**

6.1 These background papers were used in the preparation of this report:

- A14 Ellington to Fen Ditton Scheme – Draft Orders (The Highways Agency, 2009)
- A14 Ellington to Fen Ditton Scheme – Environmental Statement, volumes 1-4 (The Highways Agency, 2009)
- The Cambridge Climate Change Strategy & Action Plan (Cambridge City Council, 2008)

## **7. Appendices**

- Appendix 1 - Proposed Representations to the Highways Agency
- Appendix 2 – Figure 1.2.2 (Volume 2: Figures) of the Environmental Statement, Map showing the general scheme arrangement
- Appendix 3 – Figure 8.1.7 (Volume 2: Figures) of the Environmental Statement, Map showing the area known as the Cambridge Northern Bypass
- Appendix 4 – Extract from the Cambridge Climate Change Strategy and Action Plan (2008)
- Appendix 5 – Infrastructure Planning Commission: Regulations
- Appendix 6 – Extract from the Infrastructure Planning Commission: Guide to its Role and Operation
- Appendix 7 – Evolution of Transport Policy.

## **8. Inspection of papers**

To inspect the background papers or if you have a query on the report please contact:

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## APPENDIX 1

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### **PROPOSED REPRESENTATIONS TO THE A14 ELLINGTON TO FEN DITTON SCHEME: PUBLICATION OF DRAFT ORDERS AND ENVIRONMENTAL STATEMENT**

#### **1.0 Introduction**

**1.1.1** The City Council recognises the importance of the A14 as the main trunk road for vehicular traffic wishing to travel in an easterly or westerly direction between the Midlands and the East of England. The City Council also notes the importance of the A14 in providing Heavy Goods Vehicles (HGVs) with access between East Anglian Ports such as Felixstowe and Harwich, and the Midlands, where access to other major trunk roads such as the M1 and M6 can be gained. Furthermore, the City Council note that the A14, in particular between the Spittals and the Girton interchanges, is an important route connecting North and South as it provides a connection with the A1 and the M11, and this North-South connection provides a basis for justifying some of the proposed upgrades within the scheme. The City Council does however believe that although the North-South connection between the A1 and M11 is important, it is provided in the main by the section of the A14 from the West of the Girton Interchange. Thus, The City Council is keen to ensure that no works on the Cambridge Northern Bypass, to the East of the Girton Interchange, will be justified as a result of the importance of the A1/M11 North-South connection.

**1.1.2** The City Council is concerned about the number of road traffic accidents suffered on the A14, and the continued congestion it experiences. To this end, it is recognised that there is a need for an alternative to be found to help alleviate the current situation.

#### **1.2 Background and Summary of City Council Position**

**1.2.1** In March 2007, the City Council gave its general support to the Highways Agency's proposals to upgrade the A14 trunk road, by agreeing to an 'A14 Ellington to Fen Ditton Proposals Joint Statement

of Support' along with numerous other major stakeholders. Although general support to the scheme was given, this support was heavily predicated on provision being made for the maximum environmental ameliorative measures for residents affected by the scheme. This included measures to reduce noise; avoid deterioration in air quality; minimise visual impact; minimise flood risk and minimise environmental disturbance during construction. The agreement itself outlines the need for consideration to be given to the needs of local traffic as a consequence of the improvements to the A14 and junction alterations, and that this should include traffic impact on local roads, as well as the environmental impact on villages and market towns. It also states that where opportunities exist to enhance public transport and Park and Ride, they should be undertaken. The City Council has always maintained that its support for the scheme was dependent on these measures and considerations being adhered to, and that the City Council would be looking for a very thorough Environmental Statement to ensure this is the case. Furthermore, the City Council has been consistent in its emphasis that it cannot support measures that will cause a significant increase in greenhouse gas emissions, thus infringing the various carbon reduction targets it has. Since 2007, there has been a greater importance attached to carbon emissions both nationally and locally, and an increased emphasis through the Delivering a Sustainable Transport System (DaSTS) paper.

1.2.2 The data provided within the Environmental Statement means that the City Council cannot support the A14 Ellington to Fen Ditton proposals by the Highways Agency. The City Council has a number of policies and targets related to reducing the impact transport has on the environment, and believe that the proposals set out in the A14 Ellington to Fen Ditton scheme contradict many of these. The City Council is committed to reducing carbon emissions to 4.8 tonnes per person by 2020 (a 23% cut), 2.2 tonnes by 2030 (a 65% cut), and 0.7 tonnes by 2050 (a 89% cut), all from a 2005 baseline, as set out in the Cambridge Climate Change Strategy & Action Plan (this can be viewed by following the following link: <http://www.cambridge.gov.uk/public/pdfs/Cambridge-Climate-Change-Strategy.pdf>). The Environmental Statement does not provide the type or detail of carbon emission data requested by the City Council to enable an assessment with respect to these targets, and the information that is provided confirms the scheme will adversely impact on absolute carbon emissions. The Environmental Statement indicates that traffic flow increases along the Cambridge Northern Bypass and along some radial routes into the city, as a consequence of the increased capacity of the road creating more overall traffic along the A14. Similarly, the scheme is shown to increase emissions of Nitrogen Dioxide (NO<sub>2</sub>) and Particulate Matter (PM10) in the



Cambridge area. Whilst Noise levels will increase for some residents of Cambridge and its adjoining communities. The City Council believes that all of these factors will cause the quality of life for some current and future residents of Cambridge to suffer.

1.2.3 In addition to these factors, the City Council notes the escalating cost of the proposed scheme. The forecast cost of the present A14 improvement proposals has risen from £490million in 2005 to £1.2billion in 2009. This is a considerable sum of money, and investment of this magnitude comes at a time when investment in other key transport strategies is severely lacking. The City Council believe that road building to reduce congestion and gain improvements in efficiency is a discredited approach, and investment of this scale in other, more sustainable alternatives would be more in line with recent local and national policy. The 'Delivering a Sustainable Transport System' (DaSTS) by the Department for Transport (DfT) has an objective which aims to reduce transport-related emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change. Road building is a strategy that would directly infringe upon this objective. Locally, recent efforts by Cambridgeshire County Council on reducing congestion in the city of Cambridge has led to investigations into, and subsequent County Council approval on bidding for Transport Innovation Funding (TIF), which would include a congestion charge. This work highlights the need to minimise the number of vehicles entering the city, and road building schemes such as the A14 Ellington to Fen Ditton proposals, are shown in the Environmental Statement to increase traffic flow into Cambridge, again hindering objectives to reduce detrimental emissions.

1.2.4 The City Council instead supports investments and improvements in the available alternatives to road building in helping to alleviate the problems suffered on the A14. In terms of reducing the impact caused as a result of freight traffic, the City Council is in favour of more provision for rail freight and its necessary infrastructure, as is outlined in the Cambridgeshire and Peterborough Structure Plan 2003 (Policy P8/10). As well as investment in rail infrastructure, the City Council believes more investigation into incentivising the switch of freight from road onto rail should be undertaken. A good working example of this is that of the Leistungsabhängige Schwerverkehrsabgabe (LSVA) fee in Switzerland. This is a nationwide fee that charges HGVs to use the roads. The fee is based on all distance travelled, and is charged per kilometre as well as per ton. It also includes an element on vehicle emissions, and applies to all HGVs weighing more than 3.5tons.

- 1.2.5 In addition to alternatives that could reduce the need for freight travel on the A14, the City Council also supports greater investment in public transport and measures that increase access to urban areas. This includes investment in more Park and Ride facilities, improving cycling facilities and investigating other urban access packages available.
- 1.2.6 Furthermore, the City Council urges the Highways Agency to look into alternative ways of achieving the proposed aims of the Ellington to Fen Ditton scheme, which are to reduce accidents, to reduce congestion caused by accidents and breakdowns, and to increase capacity to cope with the forecast growth in traffic, particularly east-west freight traffic. The City Council believe that an alternative approach, based on electronic traffic management measures, offers a way of achieving these objectives while reducing (instead of increasing) carbon emissions, and at much lower cost. Measures that reduce speed and increase safety, such as more widespread use of Average Speed Cameras and Variable Message Signs (VMS) could be implemented. These have significant benefits in terms of accident reduction and some benefit in terms of increased traffic throughput.

## 2 OVERALL IMPACT ON CARBON EMISSIONS FROM THE SCHEME

- 2.1 The City Council is disappointed by the level of detail contained within the Environmental Statement with regards to carbon emissions data. Although it is understood that the data provided in the Environmental Statement meets the required criteria placed on the Highways Agency for this type of document, the City Council has now requested more work on this be carried out on numerous occasions, given its importance on both a local and national scale. The City Council has major concerns about the impact the proposed scheme will have on carbon emissions in Cambridge and the sub region. To date, we have received no Cambridge-specific data on carbon emissions from the proposed scheme, and combining this with the lack of data on this within the Environmental Statement, the City Council feels its ability to respond to this consultation has been severely hindered. The City Council would also like to see the figures for the embedded carbon created by the construction process. Dependant on what type of concrete is used; the embedded carbon in one tonne of concrete can be equivalent to one tonne of CO<sub>2</sub> emissions, which is equal to the average annual transport emissions of one Cambridge resident.
- 2.2 The City Council has a number of targets to meet with regards to carbon emission reductions on both a local and national basis. The targets are set out in the Cambridge Climate Change Strategy and Action Plan 2008-2012. Locally and nationally, there are emission

target dates to be met by 2020, and then again at 2050. In addition, the Cambridge Climate Change Strategy and Action Plan has interim target dates which will help establish the overall progress towards the local emissions targets, these interim dates are at years: 2010, 2020, 2030 and 2050. These targets held locally in the Cambridge Climate Change Strategy and Action Plan are very much in line with both national and international thinking with regards to climate change and carbon emissions.

- 2.3 From the limited carbon emission data that is available in the Environmental Statement, the ability of Cambridge and the sub-region to meet these targets is likely to be hindered by the building of the proposed scheme. It is stated in chapter 7, Policy and Plans, paragraph 7.4.205 that “the scheme would not support government targets for reducing CO<sub>2</sub> emissions” and that “the scheme has to be assessed as ‘adverse’ to policies aimed at reducing greenhouse gas emissions and the impact of Climate Change”. Figures in the Environmental Statement indicate that the scheme will result in an increase in absolute carbon emissions of 3% by 2015, and 7% by 2031, compared to if the scheme was not built. This data is directly related to the modelled increase in vehicle kilometres travelled on the entire route, as a result of the proposals to increase the road capacity of the Ellington to Fen Ditton stretch of the A14 coming to fruition. Vehicle Kilometres are projected to rise by 3% by 2015, and by 7% by 2031, compared to the Do Minimum level (i.e. compared to if the scheme was not built).
- 2.4 The carbon emission data provided is also insufficient for comparison to targets held within the Cambridge Climate Change Strategy and Action Plan 2008-2012, due to the form it is in. In order for the City Council to be able to analyse the figures properly, carbon emission figures are required to be shown as a ‘per capita’ value, with specified population growth projections used. Furthermore, figures would need to be disaggregated from any other potential policy intervention, such as Transport Innovation Fund (TIF) and be disaggregated by district, to give us Cambridge-specific emission figures. This is information that the City Council have provided on three separate occasions to the Highways Agency, when requesting carbon emission figures. The figures in the Environmental Statement, 10.4.73, simply give an absolute carbon emission figures for the scheme as a whole, rather than per capita values.

### 3 IMPACT ON TRAFFIC FLOWS ALONG RADIAL ROUTES

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- 3.1 The City Council has some concerns with regards to the two-way 24-hour Average Annual Daily Traffic (AADT) traffic flow figures for the four radial routes into the city, as shown in Figure 8.1.7 in Volume 2 of the Environmental Statement. These routes are: the A1307 Huntingdon Road, B1049 Histon Road, A1309 Milton Road and the B1047 Horningsea Road. The modelling suggests that if the proposed scheme is constructed, there will be a total increase in two-way traffic flow from all of the four main radial routes to the North of the city of: 2,600 cars per day by 2015, and an increase of 5700 cars per day by 2031, compared to the 'Do Minimum' figure.
- 3.2 The breakdown of the change in two-way 24-hour AADT actual traffic flow figures for the four radial routes into the city, if the scheme is built are as follows (note, the data in Table 1 comes from Figure 8.1.7 in Volume 2 of the Environmental Statement):

*Table 1*

Radial Route	Change in 2-way 24hr traffic flow by 2015 if proposed scheme is constructed (compared to Do Minimum)	Change in 2-way 24hr traffic flow by 2031 if proposed scheme is constructed (compared to Do Minimum)
A1307 Huntingdon Road	-300	-200
B1049 Histon Road	+1200	+1000
A1309 Milton Road	+100	+900
B1047 Horningsea Road	+1600	+4000
Total from all 4 routes	+2600	+5700

- 3.3 Table 2 (below) shows the absolute increase in traffic flow from the 2006 baseline figure, to the 2015 and 2031 figure IF the scheme goes ahead. Comparisons on these total figures with the 'Do Minimum' level can be seen in Table 1 (above).

*Table 2*

Radial Route	2006 baseline traffic flow	Total traffic flow at 2015 with	Absolute increase/decrease by 2015 (from 2006)	Total traffic flow at 2031 with	Absolute Increase/decrease by 2031 (from 2006)

		<b>scheme</b>		<b>scheme</b>	
A1307 Huntingdon Road	11,200	12,900	+ 1,700	18,200	+ 7,000
B1049 Histon Road	28,900	33,600	+ 4,700	40,500	+ 11,600
A1309 Milton Road	30,700	30,200	- 500	36,200	+ 5,500
B1047 Horningsea Road	17,200	22,300	+ 5,100	35,400	+ 18,200
<b>Total from all 4 routes</b>	88,000	99,000	+ 11,000	130,300	+ 42,300

3.4 The data shows significant increases in daily traffic flow along the B1047 Horningsea Road, both at 2015 and 2031. Although it is accepted by the City Council that this high increase takes into account the proposed Cambridge East development, the projected rise in traffic flow along the B1047 Horningsea Road is very concerning as policies within the Cambridge East Area Action Plan (AAP) state that no improvements to the Fen Ditton Junction are proposed in order to cope with increased traffic. The supporting text for Policy CE/10 (paragraph D6.6) in the Cambridge East AAP states: "Ditton Lane/Horningsea Road passes through primarily residential areas in the Abbey Ward of Cambridge City and through the village of Fen Ditton, and has a limited capacity to cope with additional traffic. It is not therefore proposed that any junction improvements are made to the Fen Ditton Junction to improve its capacity".

3.5 Clearly, with the projected increase in traffic flow along Horningsea Road shown within the Environmental Statement, and the policy objectives within the Cambridge East AAP preventing any such increase in traffic flow along this route, some works are required to create access from Cambridge East to the A14. Paragraph D6.7 in the supporting text for Policy CE/10 backs this up: "The development of land south of Newmarket Road will require the provision of improved and satisfactory access arrangements to the A14 through junction improvements at Quy, or the provision of a new junction onto the A14 between the Fen Ditton and Quy junctions, as a replacement for the Fen Ditton junction."

- 3.6 This concern is especially prevalent when the total 24-hour two-way ADDT actual traffic flow figure for the 2006 baseline is compared to the 2031 figure for if the scheme goes ahead. In 2006, a total of 17,200 vehicles per day used this road; by 2031 this will have more than doubled to 35,400 vehicles per day. The B1047 Horningsea Road dissects the Abbey Ward, and the City Council has significant concerns as to the impact such an increase in traffic flow could have on the residents and businesses of this ward. There are significant quality of life issues associated with such an increase in road traffic through an area including noise disturbance, air quality issues and safety concerns, in addition to causing some community severance. These concerns are echoed for the B1049 Histon Road, which also sees an increase in traffic flow.
- 3.7 The City Council is also concerned about the lack of traffic flow data and analysis for the A1303 Newmarket Road and the Quy Junction, especially given that this junction is identified by the Cambridge East AAP, supporting text for Policy CE/10 (paragraphs D6.5 – D6.8) as the most appropriate for taking traffic from the A14 into the development, unless a new access junction is built. Traffic flow data for the A1303 Madingley Road (from the M11) is also desired.
- 3.8 The City Council is concerned as to whether the impact of increased traffic flow into the city via the radial routes has been properly examined. The Environmental Statement makes no references to any possible impacts the increases in traffic flow will have on Cambridge and its radial routes. The City Council has a number of targets and objectives it needs to adhere to including carbon emissions reductions, an Air Quality Management Area and a commitment to promote modes of transport alternative to the car. These aims and objectives will be severely hindered by increases in traffic flows.
- 3.9 The City Council is also keen to ascertain if measures that inhibit traffic from entering the city from the A14 have been properly considered, and if so what these measures are. The City Council is keen to understand if the various measures proposed within the Transport Innovation Fund (TIF) package have been taken into account with any of these traffic flow figures, as there is no mention of TIF within this section of the Environmental Statement. If TIF has not been considered, the City Council would like to know if this modelling will take place in the future, as it is likely to impact upon traffic flow figures along the radial routes. The City Council is concerned that there is no discussion within the Environmental Statement about attempting to mitigate against the increased traffic flow along radial routes. The City Council is committed to maximising the use of alternative modes of transport to the car, and is concerned that an

increase in traffic flow along the radial routes into the City will undermine this objective.

## 4 IMPACT ON CURRENT AND FUTURE RESIDENTS OF CAMBRIDGE

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4.1 The City Council has significant concerns about how the A14 Ellington to Fen Ditton proposals will impact on the current and future residents of the city of Cambridge. The increases in traffic flow along radial routes into the city (as discussed above) will have a detrimental effect on residents along the routes, with issues such as community severance, as well as pedestrian and cycle safety issues occurring as a result of the increase in vehicle movement forecasted through the modelling. Noise and air quality is also likely to worsen as a result of increases in traffic flow. Specifically, residents living near the B1047 Horningsea Road and B1049 Histon Road are particularly affected due to the comparatively high increase in traffic flow on today's level. The section of the A14 between Fen Ditton and the Girton interchange, known as the Cambridge Northern Bypass, will also see a very large increase in traffic flow. This will have an impact on residents to the north of the city. Developments along the northern edge of Cambridge, such as Orchard Park, NIAB (National Institute of Agricultural Botany) and NIAB Extra, will also see significant impacts with regards to noise pollution, visual intrusion and air quality degradation. Some of these developments lie within South Cambridgeshire District Council currently. However, they could fall within City boundary in the future if the proposed boundary review, currently being considered by the boundary commission, is approved.

### 4.2 NOISE

4.2.1 The City Council has concerns with regards to the how the proposed scheme will impact on noise pollution within the current and future areas of the city of Cambridge, and have some comments on the detail of the data provided within the Environmental Statement on noise. Whilst overall there are more beneficiaries in relation to noise than those adversely affected, unfortunately the Northern Fringe of the City is one area where noise levels are shown to increase. The actual predicted level is not known at present, as we understand that there was an error in the original modelling covering the Orchard Park area, but in part is likely to be slightly lower than in the original Environmental Statement.

#### *4.2.2 Construction of the scheme*

Chapter 4 of Volume 1 of the Environmental Statement gives information on the construction of the scheme. Here it details Hours of Work, Control of Dust and Control of Noise. The City Council feel that these topics are linked and should be cross-referenced within the Environmental Statement to other relevant detailed topic chapters, such as Chapters 9 Noise & Vibration and 10 Air Quality & Emissions.

#### *4.2.3 Calculation of road and traffic noise*

Chapter 9, paragraph 9.3.26 details the calculation of road and traffic noise (CTRN) within the Environmental Statement. It is stated here that future noise levels have been calculated using the method detailed in the publication CRTN (1988). The City Council also note that the recent revision of Design Manual for Roads and Bridges (DMRB) guidance, published in 2008, is used as the method for assessment in the Environmental Statement. The DMRB guidance was introduced to provide additional advice and clarification on the procedures for predicting noise from road traffic as described in CRTN 1988. DMRB takes into account certain features and conditions that have been developed between the publication of CRTN in 1988 and DMRB in 2008, such as developments in design efficiency, thus providing more up to date and accurate advice. For example, DMRB gives additional advice on vehicle classification and sound absorptive noise barriers and retained walls.

4.2.4 However, the City Council are concerned that the Environmental Statement refers to the use of the 2007 edition of the computer program/model NoiseMap. As the NoiseMap referenced is dated April 2007, it may not take account of the additional methodology advice offered in DMRB from 2008. Confirmation is required on this fundamental CRTN/NoiseMap uncertainty, as the noise modeling upon which the entire assessment is based may be flawed and not in accordance with DMRB.

#### *4.2.5 Basis of calculations*

It is stated in paragraph 9.3.8 that noise calculations have been carried out at a height of 4 meters above local ground level. This is an approach welcomed by the City Council as it details the noise mitigation at bedroom height, which is the most critical room use for noise sensitive receptors. However, the City Council also believes that carrying out calculations at a height of 1.5 meters above ground level would have been beneficial. This would show benefits and/or mitigation at pedestrian level and at ground level for the external private and public amenity areas located within the area affected by the proposed scheme.



#### 4.2.6 *Magnitude of noise impacts*

The City Council feels that paragraph 9.3.18, which discusses the magnitude of noise impacts, does not go far enough. The possible magnitude of the impact is detailed; however the significance to the receptor of the noise is not. The significance of an environmental impact will be determined not only by the magnitude of the impact but also by the sensitivity of the receptor, and the overall significance of an environmental impact from road traffic noise is determined by the interaction of magnitude and sensitivity.

4.2.7 The City Council considers the scheme should set targets for acceptable noise levels that should be achieved by mitigation and environmental noise improvement.

#### 4.2.8 Legislation relating to noise

Paragraph 9.3.33 details the noise legislation used within the Environmental statement. However, the City Council note that no reference is made to the Environmental Noise (England) Regulations 2006, which was introduced into the UK to implement the Assessment and Management of Environmental Noise Directive 2002/49/EC. It is stated in the revised DMRB (Volume 11: Environmental Assessment: Section 3 Environmental Assessment Techniques, Part 7 HA 213/08 Noise and Vibration) in August 2008, that it was expected by the time of publication, or in the future, that Noise Action Plans and additional guidance may be available to Highway Authority designers. These would hold information that might need to be taken into account during the assessment of road projects.

4.2.9 The regulations of a noise action plan require it to manage, and if necessary, reduce the effects of noise from transport, road traffic, rail traffic, air traffic and from sites of industrial activity. These regulations will help avoid, prevent or reduce the harmful effects noise exposure has on receptors (people). Another key part of noise action plans is to inform the public about environmental noise.

4.2.10 Currently DEFRA Explain what DEFRA is as I think it is first use of this acronym is consulting on their Draft Noise Action Plan Major Roads (outside first round agglomerations) until 4 November 2009.

4.2.11 The Highways Agency, which is responsible for motorways and other trunk roads, would come under the definition of 'a relevant noise making authority' under the regulations and noise action plans.

4.2.12 The DEFRA consultation identifies sections of the A14 that are included in the A14 Ellington to Fen Ditton improvements, as first

priority locations under the Major Roads (outside first round agglomerations) draft action plans.

4.2.13 The noise-making authorities will be required to initially investigate the first priority locations of the identified important areas, and consider what further noise management measures, if any, might be implemented within the context of sustainable development.

4.2.14 The City Council believe that proposed A14 improvements should be viewed as an opportunity to thoroughly scrutinize and characterise the existing noise levels along the A14 in relation to noise sensitive receptors. Whilst DEFRA is at a consultation stage, the Environmental Statement should provide some commentary on how any of the proposed noise mitigation measures will contribute towards compliance with the obligations and regulations. This is especially important, as the Highways Agency are identified as a 'relevant noise making authority' under the DEFRA regulations.

4.2.15 The City Council feel that all realistic opportunities for environmental improvement to enhance and provide new and the best possible mitigation should be taken. The improvements are an opportunity to install better barriers than the existing ones, and improve the quality of life for those living close to the A14, whilst using current techniques and materials to solve site-specific problems.

4.2.16 *Noise management of existing conditions*

The City Council is concerned that no noise measurements were undertaken at Cambridge's adjoining communities such as Orchard Park and the Blackwell Gypsy and Traveller Site near Milton. These both have a high number of receptors located close to the A14. Additionally, South Cambridgeshire District Council has recently allocated new sites for residential development within Orchard Park close to the existing A14, and these sites have been approved by the Inspectors for the South Cambridgeshire Site Specific Allocations Development Plan Document. Given that the proposed boundary review would see Orchard Park being inherited by the City, the City Council would argue strongly for more noise measurements to be undertaken at Orchard Park.

4.2.17 It should also be noted that it appears that no night-time noise monitoring was undertaken at the aforementioned areas. The need for assessment of night-time hours noise (2300hrs-0700hrs) should be given careful consideration. It is the most sensitive time of day for residential premises, such as those at Orchard Park, and as parts of A14 are very busy during this time, consideration should be given to providing some type of a night-time noise survey. The City Council

urges that some night-time monitoring at areas such as Orchard Park take place.

#### 4.2.18 Mitigation strategy for noise scheme

Noise barriers and bunds are detailed as the main type of noise mitigation measure in addition to a low noise road surface. The City Council agrees believes that the detailed design of each noise barrier/structure should be provided and explained in layman terms in the Environmental Statement. This will help to demonstrate how and what mitigation is to be provided, particularly in adjoining communities and those under boundary review, such as Orchard Park. The City Council also believe that the indirect impacts of the proposed barriers in terms of landscape/visual impact should be cross-referenced.

**4.2.19** Further to this, the City Council feels that although the heights of respective barriers are detailed, no reference is made to design specification. It is assumed that barriers will only be installed which have been designed in accordance with BSEN14388 Road Traffic Noise Reducing Devices Specifications and have been tested for acoustic performance to BSEN 1793 Parts 1 to 3 rating to be agreed and for mechanical/structural performance to BSEN1794. This should be detailed in the Environmental Statement.

4.2.20 In addition, it is understood from the Highway Agency that the new barrier at Orchard Park will be constructed before the old one is removed.

#### *4.2.21 Noise and vibration during construction*

The City Council would like it noted that although construction can be transitory, on a local level it has the potential to be significant.

4.2.22 Orchard Park and the Blackwell Gypsy and Traveller site, both of which are adjoining communities to Cambridge, have not been identified as likely locations to experience significant impact; this is surprising considering their proximity to the A14. The City Council believes special consideration should be given to the Orchard Park and the Blackwell Gypsy and Traveller site to the north of Cambridge. Although it is understood that any new barrier at Orchard Park would be in place before the existing one is removed, the City Council is keen to ensure that this is categorically the case. Any removal or replacement of the Orchard Park A14 noise barrier, even on a temporary basis, has the potential to cause significant disturbance. Barrier replacement needs to be phased and timed carefully.

4.2.23 The City Council has a concern about the vibration that is likely to occur as a result of the 'piling' method used during construction. It is

noted that in paragraph 4.4.9, it is explained that it is proposed that the piling will be mainly bored cast in situ, with some sheet piles and kingpost to be inserted by hydraulic methods. The City Council support the methods proposed as the least noisy form of piling.

#### 4.2.24 Construction activities and control

Cambridge City Council also makes the following comments on specific paragraphs of chapter 4.4 - Construction activities and control:

4.2.25 Paragraph 4.4.2 – The City Council notes the proposed hours of work and support the proposed limitations on night-time work. However, full details of any night-time working in the area adjacent to Cambridge's northern fringe will be required.

4.2.26 Paragraph 4.4 5 - The City Council notes and supports the proposed mitigation measure for dust control.

4.2.27 Paragraph 4.6.3 – The City Council thinks that more detail on the location of the proposed storage compounds is required from the Environmental Statement, including arrangements for access routes.

4.2.28 Published Scheme Traffic Noise Contours – Detailed Area 2015 and 2031 Cambridge City Council have the following comments on the Figures 9.9.7 and 9.11.7, found in Volume 2 of the Environment Statement, which shows modeling data for absolute noise levels in the area for the years 2015 and 2031:

4.2.29 Assuming the above modelling figures are accepted as being correct, then purely from the current City boundary, it appears that the absolute noise levels as shown in the figures above are likely to be, and remain within Planning Policy Guidance Note 24: Planning and Noise, noise band B for existing developments. The Environmental Statement predicted that the noise values will rise in order of 3-5 dB but this may be lowered for the Orchard Park area by 1-2 dB when the revised modelling has been checked. Noise increases in this range will be noticeable. It should be noted that levels below 3 dB would generally not be perceived as an increase and that an increase of 10 dB represents a doubling of loudness to the human ear. Generally over the length of the new road, there will be more areas where noise levels will decrease rather than increase. Unfortunately, Cambridge's northern fringe is one area where there will be an increase. Nevertheless, we do not consider it would be appropriate to object. However, we rely on SCDC analysis regarding land within their area, which is much closer to the A14, albeit that Cambridge City may inherit some areas in the future following a boundary review.

## 4.3 AIR QUALITY

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4.3.1 The City Council have a number of comments and concerns with regards to the impact the proposed scheme will have on air quality within existing and future areas of the city of Cambridge, and the detail of the data provided within the Environmental Statement on air quality.

### 4.3.2 *General observations*

The City Council is happy with the general information provision and the methodologies followed for assessment of air quality impacts, notably the use of DMRB screening methods for the wider area and the use of ADMS Roads (a type of model) to carry out dispersion modelling of the detailed assessment area.

4.3.3 The general conclusion is that the new scheme will benefit more dwellings in terms of air quality than those that will experience a detriment. This is illustrated clearly in tables 10.13 and 10.14 looking at the effect on air quality in the wider area and detailed area respectively.

4.3.4 In the wider area, there is an improvement shown for 14,115 properties and a worsening in air quality for 3,531 properties along the route. In the detailed assessment area, up to 200 metres from the new route, there is shown to be an improvement for 5,516 dwellings and a detriment to 1,814 dwellings.

4.3.5 The majority of the improvement in air quality for residents occurs due to the realignment of the road in the western part of the scheme. The new route simply takes the road away from populated areas. Where widening occurs along the existing route and greater flows are expected, local residents will be adversely affected. This is particularly apparent in the Cambridge Northern Bypass section of the route where population density is greatest and widening brings the carriageway closer to housing.

4.3.6 This is of particular importance for the City Council as the greatest number of adversely affected properties are in the Orchard Park development, which is currently partly within an Air Quality Management Area (AQMA) and may under boundary changes become part of the City.

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### 4.3.7 Magnitude of impact

Focusing on the Cambridge northern fringe and, in particular, Orchard Park the report states that an increase of  $2.7\mu\text{g}/\text{m}^3$  in annual mean

Nitrogen Dioxide is to be expected in this area in 2015 on giving a maximum concentration of  $32\mu\text{g}/\text{m}^3$ . This is an increase of some 9.2% on levels experienced without the scheme.

4.3.8 Impacts for Particulate Matter (PM10) in the area show similar upward trends set against a statutory target to reduce human exposure to PM2.5 by 15% between 2010 and 2020

#### 4.3.9 *Errors and sensitivities*

Maximum levels of annual mean  $\text{NO}_2$  at Orchard Park are at  $32\mu\text{g}/\text{m}^3$ , predicted to be well below current objective of  $40\mu\text{g}/\text{m}^3$ . Sensitivity testing of the model shows that this level could rise to  $36\mu\text{g}/\text{m}^3$  in a poor air quality year and would rise even further if expected reductions in background concentrations in the area are not realised.

4.3.10 Moreover, predictions are heavily dependent on the DfT emission factors. These data show the year on year reduction in vehicle emissions expected as a result of new technology entering the fleet. Work undertaken by the City Council over the past 10 years has clearly indicated that only a fraction of the expected improvement predicted from these technologies has been experienced in monitored levels of Nitrogen Dioxide in the Cambridge area.

4.3.11 Although the Environmental Statement does include some sensitivity testing, it does not look at a scenario where technologies for emission improvement are not seen in the fleet or are taken up at a slower rate than is predicted. The latter is a real danger in a recession.

4.3.12 Dispersion modelling is not an exact science and is subject to its own errors and variability. In this case, the verification of the model is an example of best practice and makes extensive use of local monitoring data provided by the County Council and the two district councils and independent diffusion tube monitoring. However when assessing the impact of the development on local residents, it would be normal practice to take this in to account by looking at a lower trigger level than the national objective.

4.3.13 For example, the districts in their own modelling exercise have statistically derived a model output of  $37\mu\text{g}/\text{m}^3$  annual mean  $\text{NO}_2$  as an equivalent assessment criteria for action against the current objective of  $40\mu\text{g}/\text{m}^3$ .

4.3.14 Given the stated results of sensitivity testing undertaken and the likely model errors, it is reasonable to foresee exceedances of the national air quality objectives for  $\text{NO}_2$  and PM10 will be experienced in

2015, at dwellings in the Cambridge northern fringe area. It is also clear that this is considerably more likely as a result of the scheme.

#### 4.3.15 *Wider effects*

The traffic figures shown in 10.8.7 (and also in figure 8.1.7) show that there would be an overall increase in traffic entering Cambridge of 2,600 vehicles by 2015, with the scheme (see comments on the 'Impact Of Traffic Flow Along Radial Routes). This increase will be of 5,700 vehicles by 2031. An increase in traffic would thus lead to an increase in emissions in Cambridge, which would further delay improvements in our own Air Quality Management Area.

#### 4.3.16 *Detailed review of the modelling data*

The City Council requested detailed modelling data on air quality from the Highways Agency/Atkins prior to the publication of the Draft Orders and Environmental Statement. Model data files have belatedly been provided by Atkins but there has been insufficient time to do a complete review of this data. It is noted however that baseline 2007 and predicted 2015 traffic levels are lower than data previously available and therefore pollutant outputs are likely to be lower than our own earlier modelling work. We are unable to comment on the accuracy of the traffic data used.

#### 4.3.17 *Summary of City Council position on air quality*

**The proposed scheme will benefit more residents than it will harm when considering air quality. The main detriment occurs in the eastern section north of Cambridge. The highest concentration of adversely affected residents occupies the northern fringe of Cambridge. Generally, the technical work is of a high quality, but the City Council believes that there has not been enough discussion of the effects of model error and sensitivity. As a result of the scheme, it is likely that air quality in the affected area will remain poorer for longer and is more likely to continue to breach current objectives.**

## 5 FLOOD RISK ASSESSMENT

- 5.1 The City Council believe that the proposed A14 Ellington to Fen Ditton scheme represents a missed opportunity in terms of reducing flood risk. Although the drainage of the additional impermeable surface area provided by the widening of the carriageway is designed to current recommendations (1:100 year storm + 20%), there is also the opportunity to upgrade the existing carriageway to this standard. This has not been taken, and instead, a very slight increase in capacity to a 1:5 year storm approach has been adopted. Although this represents

a reduction in overall risk, it will not achieve the standard of risk afforded if this was a new road construction.

## **6 INFRASTRUCTURE PLANNING COMMISSION**

- 6.1 The City Council would strongly oppose any potential application by the Highways Agency to take the A14 Ellington to Fen Ditton scheme through the newly formed Infrastructure Planning Commission (IPC) process. The intention of the IPC process is to reduce the time taken to make decisions on large infrastructure schemes, which is achieved due to the omission of the need for a full public inquiry. Although the IPC process does provide for objections to be made and a procedure for evidence to be submitted to an internal hearing, the City Council believes failing to take a scheme such as this through a proper public inquiry process would be inappropriate. The City Council believes this point to be especially prevalent, given the lack of critical data on carbon emissions from the scheme, and the likely impact of noise and air quality on the quality of life of those living close to the road, such as residents of Orchard Park.
- 6.2 Furthermore, it is the opinion of the City Council that it is questionable as to whether the A14 scheme would in fact qualify as nationally critical infrastructure. Countywide concerns about it are often in relation to easing commuting journeys and road safety, rather than concerning the movement of goods across the UK.
- 6.3 It is noted that the Highways Agency state in the Frequently Asked Questions (FAQs) section of their website, that there is currently no intention to make such a move. This is welcomed. However, the City Council is concerned that the reason cited for not using the IPC process is centred on it not being time-efficient, due to the IPC not taking applications until March 2010. The City Council seeks assurance from the Highways Agency that the scheme will continue down the public inquiry process and not go through the IPC process.

## **7 CORRIGENDA TO ENVIRONMENTAL STATEMENT (NOVEMBER 2009)**

- 7.1 In the Corrigenda to the Environmental Statement (published in November 2009), under the amendments to Chapter 7: Policies and Plans; it is stated that the first sentence of paragraph 7.4.231 is to be deleted and replaced with:



- 7.2 'The Cambridge East AAP, which includes the development of Cambridge Airport, is also dependant on the Scheme as it states in Policy CE/10 that development requires A14 widening.'
- 7.3 This is incorrect and should be removed/amended. The proposals to widen the A14 are recognised in the AAP Policy CE/10 (and its supporting text), with development of the site needing to take account of changes to highways infrastructure, which will come forward over the period of development. However, it is incorrect to state that Policy CE/10 in the Cambridge East AAP says development requires widening of the A14. Rather, Policy CE/10 explains that planning permission for Cambridge East will be subject to conditions requiring that sufficient highway capacity is available in the A14 corridor throughout the development of Cambridge East, though it should be recognised that no improvements to the Fen Ditton junction to improve its capacity are required by the AAP (Policy CE/10). Indeed, the focus of the AAP is to ensure that transport infrastructure encourages the use of more sustainable forms of transport; something the figures and statistics in the Environmental Statement indicate is unlikely to be the case if the widening of the A14 takes place.

## **8 Conclusion**

- 8.1 The City Council cannot support the Highways Agency A14 Ellington to Fen Ditton scheme based on the information available through the publication of the Draft Orders and Environmental Statement. The main concerns surround the stated increase in carbon emissions, and the lack of critical carbon emission data. In addition to this, the City Council has concerns about deterioration in air quality and noise, and the increase on traffic flow along radial routes as a result of the proposals.