

SOUTH CAMBRIDGESHIRE DISTRICT COUNCIL

REPORT TO: The Portfolio Holders for Planning, 10 December 2009
New Communities and Environmental
Services

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A14 ELLINGTON TO FEN DITTON IMPROVEMENT SCHEME RESPONSE TO THE DRAFT ORDERS

Purpose

1. The purpose of this report is to agree the response to the Highways Agency to the draft Orders for the A14 Ellington to Fen Ditton Improvement Scheme.
2. This is a key decision because:
 - it is likely to be significant in terms of its effects on communities living or working in an area of the District comprising two or more wards, particularly those in or adjacent to the A14 corridor.
 - it is of such significance to a locality, the Council or the services which it provides that the decision-taker is of the opinion that it should be treated as a key decision.

It was first published in the February 2009 Forward Plan.

Background

3. The principle of the A14 improvement was included in the remit of the Cambridge to Huntingdon Multi-Modal Study (CHUMMS), undertaken on behalf of the Department for Transport, Local Government and Regions (DTLR). The CHUMMS recommendations were presented to the Regional Planning Body, the East of England Local Government Conference (EELGC) in August 2001. In October 2001 the EELGC passed a resolution to support the Preferred Plan as a complete package¹ and recommended it to the Secretary of State for Transport as the basis for the resolution of the transport problems in the Cambridge to Huntingdon corridor. In December 2001 the Minister for Transport confirmed the Government accepted the EELGC's recommendations on CHUMMS.
4. The Highways Agency developed the highway elements of the Plan into a scheme for entry into the Targeted Programme of Improvements (TPI) in April 2003. The TPI report recommended the preliminary design should focus on the route corridor identified in the CHUMMS Preferred Plan and provided recommendations for junction options and local access road provision.
5. Following inclusion in the TPI a review of the route options was undertaken, although options considered and rejected by the CHUMMS study were not re-examined. The options study was reported in the Initial Route Options Report (IROR) in October 2003 in which a number of options were recommended for further detailed technical,

¹ CHUMMS consists of three main components: public transport - Cambridgeshire Guided Bus; road improvements – A14 widening; and policy measures – development of an integrated land use/transport plan for Cambridge to stabilise traffic flows into the city, and to manage demand on the A14 Cambridge Northern Bypass.

economic and environmental appraisal. Some options were rejected at this stage on cost and risk grounds. In August 2004 the detailed Technical Appraisal Report (TAR) was published following further route development work to optimise the designs.

6. A scheme for the improvement of the A14 between Ellington and Fen Ditton was developed through to a Public Consultation in 2005. Following a legal challenge, a second Public Consultation was carried out in 2006-2007. Preferred Route Announcements were made for the Fen Drayton to Fen Ditton section in March 2007 and for the Ellington to Fen Drayton section in October 2007.
7. A contract was awarded to Constrain Skanska JV in January 2008 to design the entire scheme and to build part of it. The publication of proposals as draft Orders (and the Environmental Statement) on 30 September 2009 is the next step in the scheme's progress. The plans show in detail the line of the road, the structures, drainage provisions, landscaping and other engineering features. The Environmental Statement sets out the effects of the proposed scheme on noise, air quality, landscape, water environment, ecology and nature conservation, cultural heritage and road users.

Project Timetable

8. The draft Orders, plans and Environmental Statement were published on 30 September 2009 for 14 weeks during which responses can be made in writing to the Highways Agency, by 6 January 2010. Draft Orders are required under the Highways Act 1980 in order to authorise the building of the scheme and to acquire any necessary land.
9. Once confirmed, the draft Orders will give the legal authority to build the scheme. These Orders include the:
 - New A14 mainline Orders,
 - Side Road Orders for altering and extending the existing County side roads as local access roads, including the new ones in Huntingdon Town Centre,
 - De-trunking Orders for the old A14 probably from Fen Drayton to Alconbury, and Brampton to Spittals Interchange, which will subject to negotiation, become the responsibility of the County Council,
 - Compulsory Purchase Orders for the above.
10. The Highways Agency has decided to request an Award Variation under Section 32 of the Land Drainage Act as a means of securing the legal consents for the proposed piping and diversion works. As part of this process, the Council has asked to be consulted on all variations affecting its awards.
11. Following the period for making comments, the next stage in the process is for the Orders to be 'made', or if any objections are received then a public inquiry will be held in front of an independent Inspector.
12. The rest of the programme is summarised as follows:
 - Summer 2010 – Public Inquiry (if needed – depends on the nature of objections received)
 - Summer 2011 – Secretaries of States consider the Inspector's report before making a decision (Secretaries of State for Environment and Transport)
 - Spring 2012 – Start of works
 - 2015-2016 – Opening in stages. The Strategic route (new A14) could be open to traffic winter 2015/16.
 - 2016 – completion of Huntingdon works by the end of 2016 at the earliest.

Brief Summary of the Scheme

13. The published scheme comprises:
- A new two lane dual carriageway to the west of Huntingdon between Ellington and the A1.
 - A new three lane dual carriageway between A1 and Fen Drayton around the south of Huntingdon.
 - Widening of the existing A14 to three lanes in each direction between Fen Drayton and Fen Ditton.
 - A new eastbound and westbound dual carriageway Local Access Road alongside either side of A14 route for 2.5km between Fen Drayton and Trinity Foot and also for 3.5km between Bar Hill and Girton Interchange. A new dual carriageway Local Access Road on the south side of the A14 for 2.8km between Trinity Foot and Bar Hill. The Local Access Road will separate local and strategic traffic.
 - Major interchanges with the A1 at Brampton, the existing A14 at Fen Drayton and the M11/A428 at Girton.
 - Removal of the Huntingdon viaduct carrying the A14 over Huntingdon railway station and replacement with new link roads connecting into Brampton Road.
 - Where the existing A14 is bypassed by the new widened section of the A14, it will be de-trunked and transferred to Cambridgeshire County Council, and will remain as a very important route.
14. The scheme is considered in more detail below, together with an outline of any specific issues for South Cambs.

Previous Responses to the Highways Agency

15. In response to the Highways Agency's consultation on possible routes for a road between Ellington and Fen Drayton in December 2006 the Council signed up to a joint statement with other stakeholders and partners including: Cambridgeshire local authorities, Cambridgeshire Horizons, East of England Development Agency, Greater Cambridge Partnership, Cambridgeshire Chambers of Commerce and Industry, and others. The statement was in general support for the Highways Agency's proposals urged the delivery of the scheme as soon as possible and made several more detailed points, summarised below:
- Welcome proposals to upgrade the A14 and support the "orange" route at dual three lane standard, and support the principle of separating through traffic from local traffic
 - Recognise that the A14 is currently not adequate to cater for current traffic demand and that forecast from regional growth and urge delivery of the scheme as soon as possible
 - Consideration should be given to the needs of local traffic, including traffic impact on local roads and the economic and environmental impact on villages and market towns
 - Where opportunities exist to assist public transport and Park and Ride they should be taken
 - Local access roads should be built to two lane dual carriageway standard throughout to adequately serve operational and local access requirements
 - Account needs to be taken of potential traffic generation and access requirements of proposed developments along the corridor (e.g. Northstowe)

- Account must be taken of traffic generated by the wider Regional Growth Agenda and in particular the need for Girton Interchange to be designed to accommodate **all** movements
- Provision should be made for maximum ameliorative measures for residents affected by the scheme including measures to reduce noise, avoid deterioration in air quality, minimise visual impact, flood risk, and environmental disturbance. Safeguarding Public Rights of Way is essential.

16. In addition to signing the joint statement, the Council also submitted its own comments in March 2007 as follows:

- Support the scheme in general terms in order to improve road safety, accessibility, air quality, economic development, and to reduce congestion and the impact of noise on communities, but urge careful consideration be given to mitigating the environmental impacts through the development of strategies for spoil, landscape, noise, air quality and ecology.
- No preference between the routes, but seek a minor realignment near Conington to increase the gap between the road and the village.
- Support for the non-inclusion of an additional interchange with the A1198 as it considers it would add to traffic on the A1198 and impact on villages along it.
- Support the intention to ensure most rights of way will not be severed.
- The scheme should be given the highest priority and delivered at the earliest opportunity. It is essential the Bar Hill to Girton section is the first phase to facilitate new development close to Cambridge especially Northstowe.

17. In June 2005 the Council supported the scheme in general terms, and urged delivery at the earliest opportunity. Support was given to the alternative based on the CHUMMS proposal to provide a new three lane dual carriageway from Fen Ditton to the A1. However the Council sought a minor realignment to the route north of Conington to increase the gap between the road and the village. The Council did not support the County Council's proposal for a new interchange at A1198, believing it would add traffic to the A1198 and therefore impact on villages. There was support for the revised proposals at Fen Drayton and Trinity Foot brought forward during the consultation process allowing direct access for the Swavesey services from the A14. Members resolved to urge the Highways Agency to provide a two lane parallel distributor road without intermediate roundabouts between Fen Drayton and Bar Hill so that it is of the same standard as elsewhere along the route. The Council urged delivery of the Bar Hill to Girton stretch in the first phase to facilitate development, and considered the proposals for Girton Interchange should be revised to enable all-movements in order to prevent traffic passing through local villages. The Council also urged more consideration be given to the needs of non-car modes of travel, and in particular supported the suggestion that there should be a foot/cycle bridge over the A14 at the B1049 at Histon/Impington.

18. A further supplement to this response was sent from the Planning Portfolio Holder concerning the environmental impact of the proposals between Girton and Fen Ditton. It followed discussions between the Highways Agency and Cambridgeshire County Council, who are responsible for the junctions at Histon and Milton, about junction capacity. It was determined that no additional capacity beyond that already planned would be provided, therefore the Highways Agency needed to include longer off-road slips at these junctions for longer queues to form without causing obstruction the A14. The Council expressed concern about the potential implications for public health resulting from standing traffic on nearby houses and employment, in terms of air quality and noise, and urged appropriate mitigation or other design solutions.

Responding to the draft Orders

19. As outlined above, the Council has always strived to offer general support for the A14 improvements and encouraged its timely delivery. However, this needs to be balanced with achieving a quality scheme, which addresses and appropriately mitigates any environmental issues.
20. In considering its response to the draft Orders, the Council may want to bear in mind:
 - If the Council objects to any part of the proposals it may need to be considered through the public inquiry (depending on the nature of the objection), which may lengthen the inquiry process and cause delay to the delivery of the scheme.
 - The Council may wish to reserve its position and object to aspects of the scheme proposal with a view to seeking amendments to the proposals or commitment to include at detailed design stage, ahead of the public Inquiry.
 - Matters of detail will be considered at a later date and officers will continue to work with the Highways Agency and its partners. The Council / County Council will have certain powers as local planning authorities in discharging certain conditions, for example in terms of hours of work, or in relation to Minerals and Waste extractions.

Officers have been in dialogue with the Highways Agency and Costain Skanska JV to try to resolve concerns. This is explored in more detail below.

Issues for South Cambridgeshire

21. In publishing the draft Orders and Environmental Statement the Highways Agency have addressed some of the Council's previous concerns, but not all – these and other issues are explored in more detail below. The report focuses first on strategic issues surrounding delivery of the scheme, then looks at site specific and topic based issues. Where a response to the draft Orders is recommended this is highlighted. These are also reflected in the recommendations at the end of the report.

STRATEGIC ISSUES

Scheme Delivery

Phasing & Timing

22. The prompt delivery of the A14 improvements is important to address the current inadequacy of the route, including safety issues, and to facilitate the growth agenda in the Cambridge Sub-Region. The Council has previously urged delivery of the scheme as soon as possible.
23. The latest programme does not anticipate construction to start until 2012. The Highways Agency propose to begin construction of the section between Bar Hill and Histon first, with the Girton Interchange taking approximately 3 years to construct. The sections of road either side will then be delivered in parallel, with the off-line section between Ellington and Fen Drayton being constructed without affecting the existing A14. The whole scheme (with the exception of removing Huntingdon viaduct) will be completed for full opening at the same time, anticipated in 2015.
24. The completion and phasing of the A14 is crucial to the delivery of development in the district, particularly at Northstowe and on the Cambridge Fringe. The Council, in its

previous responses has urged the Highways Agency to focus on the delivery of the Bar Hill to Girton stretch in the first phase, to facilitate the delivery of Northstowe. This has been reflected in the phasing plan, with the work to the Girton interchange determining the length of the construction.

Recommendation: Support the A14 improvement scheme in principle and urge the delivery of the scheme as soon as possible. The delivery of the improvements are necessary for the delivery of the Growth Agenda, and to improve journey times and road safety for the travelling public.

Construction Strategy

Traffic Management

25. During the construction it is expected that there would be a need for full traffic management, with reduced speed limits (likely to be 50mph), through the Girton interchange and eastwards through the Cambridge northern bypass. Elsewhere there are likely to be temporary access restrictions and overnight closures to trunk or local roads to allow for traffic management changes, demolition of some structures and completion of tie-in works. A phased construction of junctions will entail a sequence of localised diversions. The River Cam bridge will need to be reconstructed to accommodate the additional lanes of traffic, requiring a temporary diversion to the north of existing A14 over temporary bridge.
26. Whilst the Environmental Statement outlines a number of general principles to be adhered to during the operation of traffic management on the existing roads (19 principles), including reference to providing clear signing at roadworks, it does not directly address the potential for traffic rat-running along alternative routes. This could potentially occur as a result of traffic seeking to avoid the traffic management measures in place during the construction works, and is an issue that should be addressed.

Construction Environmental Management Plan (CEMP)

27. A CEMP will define and control the environment performance of the contractor throughout the works. This includes control over the hours of work, which will mean working generally 7am – 7pm weekdays and 7am – 2pm Saturdays. Works outside these hours, for example for a bridge span removal or placement, will generally be subject to liaison with the local Environmental Health Officer. Other issues covered by the CEMP will include measures to control dust generation from the works, control of noise, water and drainage.

Storage compounds

28. Compounds are proposed at several locations, reflecting the size of the scheme and the fact that construction activities will be underway in more than one area at a time. These include locations south of Trinity Foot (for works to Sections 1 and 2 of the scheme), at the River Cam bridge (Section 3) and there will be secondary compounds at Ellington, Brampton, Girton, and all the main junction locations.

Construction traffic

29. Construction traffic will face restricted movements to avoid peak hours and minimise disruption to the travelling public. Primary vehicle movements to and from the site will be from the following locations: A14/A1 Brampton Hut junction, A1 Brampton interchange site, A1198 at its intersection with the proposed route alignment, A14 Fen Drayton interchange site, A14 Trinity Foot junction, A14 Girton interchange, A14

Histon junction, A14 Milton junction and A14 Fen Ditton junction. Movement along the site will then be via haul roads shown in the Environmental Statement. There will also be a nominal quantity of supplementary deliveries that utilise alternative routes.

Recommendation: Urge the Highways Agency to work with Cambridgeshire County Council, as the local highway authority, to prepare a strategy to address construction traffic movements and to prevent general traffic rat-running through villages during the A14 improvement works. The Council seek commitment from the Highways Agency to include it in discussions on the Construction Environmental Management Plan.

Minerals and Waste Implications

30. It is estimated there is a need for approximately 7 million tonnes of material for the A14 works. To deal with some of this large construction requirement the Highways Agency have put forward ten new borrow pit sites for clay extraction and one existing waste site as part of the County Council's Minerals and Waste Local Development Framework Preferred Options 2 consultation. It is understood the Submission Plan will include six borrow pit sites for the A14 in terms of sand and gravel and nine borrow pit sites for the A14 in terms of clay extraction. It will also propose Alconbury Airfield as an allocated area of search for recycled aggregate from disused runways, hardstandings and shelters that could potentially provide in the region of 2 million tonnes of recycled aggregates. Apart from hard rock, which will need to be imported into the area, the objective is for the A14 upgrade, in relation to minerals and waste, to be virtually self-sufficient, thereby reducing the need to transport materials by road. Some specialist materials may be sourced locally, but others may have to be sourced from further afield. There may be an opportunity for the A14 scheme to recycle waste material from the Northstowe development site, this is something that should be explored to minimise the transport of materials.
31. These are issues that will be addressed through Cambridgeshire County Council's Minerals and Waste planning processes, on which the Council will be formally consulted.

Recommendation: Urge the Highways Agency to explore opportunities for the recycling of waste materials from the Northstowe development site.

Route Alignment and Junction Proposals

32. This section highlights key issues for South Cambridgeshire with the route alignment and junction proposals.

Route Alignment

33. The published scheme has been developed from the Preferred Route and indicative layouts shown at public consultation. The Council previously requested, in its responses in 2005 and 2007, the Highways Agency reconsider the alignment of the new road past Conington, to move it further northwards away from the village. Whilst it is not possible to route the road over the old landfill site, the alignment has moved north by approximately 40m in order to increase the separation between Conington and the new A14, which is to be welcomed.

Recommendation: Support the revised route alignment to the north of Conington, which increases the separation between the village and the new A14.

A1198 Junction

34. The Council has previously supported the absence of a junction at A1198 (response to Highways Agency in March 2007). However the scheme now includes a junction with west-facing slips, and emergency only east facing slips.
35. The Environmental Statement indicates that west-facing slips greatly improve traffic in Huntingdon and there will be no worsening of traffic through South Cambridgeshire's villages. West-facing slips would primarily benefit longer distance traffic, whilst east-facing slips would be used more for local movements. Given the Scheme intention to separate strategic and local traffic the option selected is for west-facing slips, but with east-facing slips for emergency access only.
36. With the west-facing slips levels of through traffic in Huntingdon decreases. Traffic on the A1198 north of the new junction also decreases with the provision of slip roads as traffic would not need to go through Huntingdon to access the A14. On the A1198 south of the junction there is a slight increase in traffic, which reflects the more attractive role of the A1198 as a means of accessing the A14, especially to traffic on the A428 and areas south and east of the Caxton Gibbet. However, the traffic flow would be less than if the new A14 was not constructed at all.
37. The bridge at Ermine Street will be constructed approximately on the existing road line to preserve the general relationship of the historic alignment in the landscape and to reduce the loss of the existing tree belts beside the road and adjacent fields.
38. There are demonstrable benefits to inclusion of a junction, and it recommended that the Council support inclusion of the junction in the form proposed.

Recommendation: Support the provision of an A1198 junction with west-facing slips and emergency only east-facing slips.

Fen Drayton & Trinity Foot

39. A combined pair of junctions provide access to the Local Access Road (LAR) and to the existing A14 towards Huntingdon, as well as direct access from the new A14 to Cambridge Services. The Council previously supported the provision of direct access from the A14 to Cambridge Services.

Recommendation: Support the revised junction arrangement at Fen Drayton and Trinity Foot allowing direct access to the Cambridge Services from both the A14 and Local Access Road.

Bar Hill Junction

40. Various options were considered in order to accommodate existing traffic and additional traffic from Northstowe. Officers have considered the proposed scheme in conjunction with the latest planning application (S/7007/07F) and are satisfied it accommodates the highway links to Northstowe proposed by the developers. The proposed junction arrangement retains the existing bridge as a segregated route for non-motorised users (NMU), combined with a new bridge to Hattons Road. The junction will only provide access onto the LAR, not the new A14.

Recommendation: Support the retention of the existing over bridge at the Bar Hill junction as a segregated route for non-motorized users.

Girton Interchange

41. The draft Orders propose that Girton Interchange will be remodelled and expanded to provide the same links as currently provided, but with Improved safety, less weaving

of traffic between lanes, and more direct routes. The existing A14 westbound loop will be replaced with a free flow link through the junction (the eastbound loop is retained for emergency only use). The junction will also provide links onto the LAR. The draft Orders do not propose to make the junction all-movement to include the missing links between A428 / M11 or A428 / A14 W.

42. The CHUMMS Preferred Plan included consideration of providing additional links between the A428 and A14 / M11 at this interchange, and the Council has previously indicated its support for an all-ways junction.
43. The Environmental Statement accompanying the draft Orders indicates that additional movements at Girton were considered by the Highways Agency. Sensitivity tests were carried out in the traffic model to assess the need for the missing links, but it was determined that the benefits would be limited.
44. In order to consider this important issue further officers sought additional information on the costs versus benefits of creating additional movements at the Girton Interchange. To provide these missing links (A428 / M11 and A428 / A14 W) would require an additional 15 structures by way of overbridges or underpasses, adding a third tier to the junction. Transport modeling shows low flows anticipated on the missing links: the highest demand is for the A428 / M11 link with 765 Annual Average Daily Traffic (AADT) movements, and A14W / A428 is less than 100 AADT movements, whilst the other two movements; A428 / A14W and M11 / A428 show no demand. The A428 / A14 W link would be 3km longer than the existing route via Dry Drayton, which would be less attractive as an alternative route and unlikely to result in much transfer of traffic away from the village. There would be considerable additional land-take to accommodate the links and the landscape impacts would be markedly increased. Non-motorised users would also be impacted, with longer diversions or the use of more underpasses, which are less attractive to users. The cost of providing the missing links would be in excess of £95m (one tenth of the total cost of the scheme).
45. The Highways Agency concluded the additional links do not represent good value for money, they would markedly worsen landscape, visual and NMU impacts, and would increase loss of agricultural land. Considered against the low level of forecast demand, the benefits do not outweigh the economic and environmental costs.
46. Given this evidence Members will need to consider their stance on this junction, and whether they wish to maintain an objection to the orders.

Recommendation: Given the evidence supplied by the Highways Agency, the Council accepts that an all movement interchange at Girton is not currently justified.

Cambridge Northern Bypass

47. Online widening of the Cambridge Northern Bypass will consist of four lanes between Girton to Histon (due to the merge of the LAR and A428 traffic, both dual 2 lanes), which reduces to three lanes through the Histon interchange (one lane becomes the off-slip) and two through Milton interchange (the third lane becomes the off-slip and is picked up on the other side). This alleviates the need to alter the bridges / junction arrangements, which are the responsibility of Cambridgeshire County Council.
48. The Council has previously raised concerns (in the supplementary response made in 2005) over lengthening the slip roads and the potential impact of queuing traffic on nearby properties in terms of air quality and noise. Noise and air quality issues are addressed in more detail in the topic based issues section later in the report.

Policies and Plans

49. The Policies and Plans chapter of the Environmental Statement provides an assessment of the wider context of national, regional, strategic and detailed planning policies. In the local context it references current planning policy documents in the Council's Local Development Framework and relevant policies therein. However it is not possible for the Environmental Statement to list all relevant policies from each of the authorities affected by the scheme, therefore it has concentrated on issues and the corresponding relevant policies that are likely to be significant the scheme.
50. That said, there are some minor factual inaccuracies, but these would not have a bearing on the overall scope of the scheme. However, the more significant issues concern the North West Cambridge Area Action Plan (AAP) and Site Specific Policies Development Plan Document (DPD) as these contain sites for further development close to the A14.
51. The North West Cambridge AAP was adopted in October 2009, and now includes a larger development footprint to that contained in the Submission plan, to which the Environmental Statement refers.
52. The Council received the Inspectors' Report into the Site Specific Policies Development Plan Document in September 2009. When adopted, anticipated in January 2010, the plan will include new allocations for housing to make up the identified housing shortfall. This includes the NIAB extra site and additional development at Orchard Park. In addition, the site at Chesterton sidings that was proposed for development in the Submission plan will be removed.
53. These new allocations, together with the NW Cambridge larger footprint, are not recorded in the Environmental Statement. Officers have been in constant discussion and the Highways Agency to ensure they are aware of the latest position, particularly with regard to the location of allocations for development. It is understood the Highways Agency will produce a schedule of technical corrections to the Environment Statement for the Inquiry.

Note – the Highways Agency published a Corrigenda to the Environmental Statement on 25 November. This picks up some of the more minor typographical corrections and clarifications. However, there remain a number of factual inaccuracies in the Environmental Statement and Corrigenda.

Recommendation: The Council seek confirmation from the Highways Agency that they have taken account of the latest position in relation to the Council's Local Development Framework, particularly concerning revisions to allocations for development.

SITE SPECIFIC ISSUES

NIAB Extra

54. The Inspector's report into the Site Specific Policies Development Plan Document allocates the NIAB extra site to make up part of the housing shortfall. As the Inspectors' report was received around the time of publication of the draft Orders it is not included in the Environmental Statement. However, officers have been in discussion with the Highways Agency to ensure they are aware of the proposal in designing the scheme. There is a gap in the noise barriers proposed along the A14 in the vicinity of the NIAB extra site, as there is no existing development. The development site is around 200m from the A14. The Site Specific Policies DPD (to be adopted in January 2010) refers to noise attenuation measures being provided as

part of any planning application if they are needed. Appropriate mitigation will be a matter to be addressed by the development, and depending on the form of attenuation there may be benefit to coordination with the A14 scheme, that could be considered at the A14 detailed design stage.

Orchard Park

55. The embankments will be made steeper to accommodate the additional road width along the Cambridge Northern Bypass. It is proposed to move the position of the existing noise fence closer to the development at Orchard Park, and the 3m high fence will be replaced with a 4m fence.
56. The Environmental Statement does not provide details for the design of any noise fences, merely showing where they will be positioned and how high they will be. Officers have therefore been exploring with the Highways Agency the type of fence proposed and whether there is scope to put in a higher standard of design in this location. Officers have accepted that the fence must now be permanent at Orchard Park, as it has not proved possible to deliver, as originally planned commercial buildings along this edge of the site that protect the residents from road noise. The Highways Agency have made it clear that if an alternative design of the fence incurs additional cost this may only be feasible if additional funding can be found. One option may be through the use of S106 monies from the development although the uncertain timing of this may not provide and other sources of funding may need to be sought. These discussions will continue through to the detailed design stage. It is important that the opportunity to improve the fence design is not lost and to help this it would be helpful for the Agency to confirm the timing for the decisions on the fence design. Members should be aware that improvements to the fence may not be possible with or without additional funding.

Recommendation: The Council wish to reserve its position and seek commitment from the Highways Agency to include it in discussions at detailed design stage to allow possible improvements to the noise attenuation barrier along the Orchard Park boundary.

Blackwell Travellers Site

57. The Blackwell Travellers site provides 15 pitches for Gypsies and Travellers run by the District Council. It adjoins the existing A14 north of Cambridge Regional College. In order to accommodate the additional lanes the embankment will be widened, bringing the road slightly closer to the site. However, noise barriers will be erected, together with additional planting and a safety barrier. This will improve the noise environment and improve the privacy of the site.
58. The site will be protected during the construction process by the installation of a temporary close boarded or panel type fence. The fence will be installed on the line of the proposed CPO boundary, prior to the main earthworks activities adjacent to this area. A traffic barrier will be maintained in a permanent or temporary position throughout the duration of the works.

Recommendation: Support the provision of a noise attenuation barrier and additional planting adjacent to the Blackwell Traveller Site which should improve the environment of the site.

Milton Country Park

59. There are no proposals for noise barriers adjacent to Milton Country Park. The Highways Agency advises that it will only provide noise barriers to protect residential

property. If noise barriers were provided on the A14 road embankment, the benefits of noise reduction are unlikely to extend beyond 200-300m back and would not protect any houses. The Environmental Statement shows the predicted noise increases on the park are limited and localised.

TOPIC BASED ISSUES

Air Quality

60. Air quality is primarily covered in Chapter 10 of the Environmental Statement along with Appendix E and associated figures, maps and tables. In summary, the report covers:
- National and local air quality legislation, policy and guidance
 - Background to the project
 - Details of an air quality screening assessment
 - Detailed assessment type, methodology and sources / uses of input data
 - Model verification and sensitivity testing
 - Model outputs for changes in air pollution concentrations and absolute concentrations
61. The methodology and approach to the detailed assessment were previously agreed between South Cambridgeshire District Council (SCDC), Huntingdonshire District Council, Cambridge City Council and WS Atkins and are deemed to be acceptable.
62. In 2008, Cambridge Environmental Research Consultants (CERC) were engaged by SCDC and Cambridge City Council to carry out a detailed air quality assessment using ADMS-Urban by modelling air quality across the Cambridge area and northwest towards Bar Hill, Oakington and Cambourne.
63. When compared, the output from the baseline studies carried out by WS Atkins (baseline year 2007) and CERC (baseline year 2006), are similar. It is noted in Chapter 10.5 that traffic figures used within the WS Atkins modelling study take into account the predicted growth in the area.

Assessment of Likely Impacts

64. Construction dust mitigation - it is noted within Chapter 10.4.4.1 that a Construction Environmental Management Plan will be prepared and submitted for the project. A summary of likely mitigation measures that may be implemented has been provided with further detail submitted in Chapter 4.
65. NO₂ and PM₁₀ - the Air Quality Management Area (AQMA) is an area that lies along the A14 between Milton and Bar Hill where the annual mean nitrogen dioxide concentration and daily average PM₁₀ concentrations are currently exceeding national air quality objectives. From the centre of each carriageway of the present A14, it extends North and South by approximately 70 metres and includes a number of properties in the parishes of Girton and Impington to the north and Orchard Park to the south.
66. The modelling work carried out by WS Atkins shows that by 2015, the National Air Quality Objectives for NO₂ and PM₁₀ will be met throughout the AQMA. The Environmental Statement indicates that with the proposed scheme, higher concentrations of NO₂ and PM₁₀ may be experienced at Orchard Park, Girton and Impington although the concentrations at these locations are still shown to be below the National Objectives. Maximum annual means of 36.3µg/m³ for NO₂ and 27.5µg/m³ for PM₁₀, both compared to objective levels of 40µg/m³ per annum, have

been predicted at relevant receptor locations, which is a reduction on current monitored levels. In addition, the number of days exceeding the 24-hour mean PM₁₀ objective (50µg/m³ not to be exceeded on more than 35 days in any one year) is predicted to be 18 in 2015, showing a significant reduction and substantial improvement on current conditions and well within the National Objective. The modelled concentrations submitted by WS Atkins for the baseline year of 2007 correspond well with the actual measured values obtained from the monitoring network at Orchard Park, Girton and Impington, and by 2015 it is predicted that annual mean objectives for NO₂ and PM₁₀ and the 24-hour mean objective for PM₁₀ will be achieved at all relevant and sensitive locations.

67. SCDC has recently completed a joint Air Quality Action Plan (AQAP) with Cambridge City Council and Huntingdonshire District Council. The AQAP focuses primarily on reducing the poor air quality measured within the Councils' respective Air Quality Management Areas (AQMAs).
68. The AQAP contains 5 priority actions for each Authority that are considered to have the greatest impact on improving local air quality. Two of the five priority actions for SCDC are related directly to the A14 improvement proposals. It was expected that the improvements to the A14 would result in improvements to local air quality, potentially leading to a revocation of the AQMA. However, the Environmental Statement suggests that there will be a small increase in concentrations of NO₂ and PM₁₀ at various receptors located at Girton, Impington and Orchard Park. The largest increases in pollutant concentrations are predicted to be in the region of 2-3µg/m³ but in areas where Air Quality Objectives are predicted to be achieved by 2015 both with the do-minimum and do-something scenarios. If the pollutant concentrations predicted within the Environmental Statement are realised then the AQMA may be revoked.

Recommendation: The Council accepts that the forecasted changes in air quality will mean that national air quality objectives would be met. As part of its duties in Local Air Quality Management (LAQM), Environmental Health will continue to monitor air quality at strategic points along the A14. Should the predictions made in the modelling such as improvements in fleet emissions, pollutant background concentrations, traffic figures etc. not be achieved and as a result the air quality objectives will not be met then the Highways Agency will be required to engage with the local authority to investigate potential mitigation measures (which could include speed limits and traffic light phasing at junctions to reduce queuing). These may be based on long term emissions reduction measures at the detailed design stage, should information come to light before this stage, or at any point in the future as part of the LAQM process.

Noise & Vibration:

69. The Environment Statement (ES) includes a detailed assessment of the noise and vibration impacts associated with the proposed A14 improvements. Assessment has been undertaken in accordance with a Highways Agency guidance document entitled the "Design Manual for Roads and Bridges: Volume 11-Environmental Assessment, Section 3-Environmental Assessment Techniques, Part 7- HA 213/08- Noise and Vibration, August 2008" (hereafter referred to as DMRB).

70. Supporting information is provided in Volume 2; Chapter 9 which includes various noise related illustrative figures including future traffic forecasts, predicted noise contour maps and an Appendix D which details predicted noise levels at noise sensitive premises.
71. Noise and vibration is also reported as an impact in Chapter 20 - Cumulative Impacts.
72. DMRB-HA 213/08 is the standard document used in the UK to assess the noise and vibration impact of all road schemes including new construction, improvements and maintenance.
73. It provides guidance on the appropriate level of assessment to be used.
74. DMRB is up to date having been revised in 2008 to refresh and update the approach to the assessment of noise and vibration to reflect current best practice.
75. The objective of any assessment is to gain an overall appreciation of the long and short term impact on the noise and vibration climate at noise sensitive receptors both with and without the project / scheme, referred to as Do-Minimum and Do-Something conditions.

The Assessment of Noise and Vibration Impact

76. The assessment considers the effects of the Scheme and impacts of traffic noise and vibration on the surrounding areas. The assessment considers both those areas that may be adversely affected by increases in traffic noise due to the Scheme and those areas that would benefit from expected noise reductions. It takes into account the introduction of and the effects of the new section of road between Ellington and Fenstanton as well as the sections of on-line improvements from Fenstanton to Fen Ditton. It also describes the measures proposed to mitigate the effects of traffic noise.
77. In the United Kingdom, traffic noise is assessed using the noise descriptor $L_{A10, 18h}$ as it correlates well with traffic impact and intrusion. It is the arithmetic average of the noise level exceeded for 10% of each hour during the 18-hour period from 0600 to 2400 on an average weekday. Construction noise on the other hand fluctuates with time due to the varying nature of the activities taking place and is best described using the L_{Aeq} metric which is used to describe such activities.
78. Noise impacts typically result from changes in:
 - Road alignment (vertical and horizontal);
 - Sound generation (traffic flow, speed, gradient and road surface type);
 - Sound propagation (ground absorption, screening, reflection and scattering).
79. For the A14 improvements the main factors influencing any increases or decreases in noise includes the new road alignment that may bring road traffic noise closer to or further way from noise sensitive receptors and any reasonable foreseeable increase in future traffic flow volumes (including percentage of HGVs) having regard to any noise mitigation measures such as noise barriers / bunds and the use of a low noise road surface.
80. The assessment also considers the temporary effect of construction and associated processes and the mitigation that will be required to control noise and vibration.
81. A 'detailed assessment' has been undertaken by the Highways Agency of the Scheme in accordance with DMRB.

82. Affected properties have been classified according to the ambient façade noise level, comparing “Do-Minimum” (without the scheme) and “Do-Something” (with the scheme) noise levels in the opening baseline year (2015) and for a future assessment year (2031).
83. A detailed study area 600m either side of the centreline of the road has been defined for the purposes of a quantitative assessment. A qualitative assessment for a wider area has also been undertaken which extends from 600m from the centreline out to a maximum of 2 km from the project boundary and this is described as the “wider area”.
84. Noise predictions have been carried out at a height of 4 metres above local ground level. This is a variation from DMRB which recommends prediction to a height of 1.5m. The Highways Agency justification for taking such an approach is that the majority of the housing in the detailed study area is of two storey construction. This approach is acceptable and can also give a better indication of impact at a typical bedroom height, which can be the most critical room for noise sensitive receptors at locations where noise mitigation measures such as noise barriers / bunds are implemented and where other screening is provided by building structures noise levels will be several dB lower at a ground level of 1.5m. Predictions at 4m will result in higher noise levels in most circumstances and allows for testing a worse case scenario.
85. All dwellings within the detailed study area that will be affected by changes of 1 dB or more have been listed in Appendix D5 to the ES.
86. The detailed assessment has been well defined and the future traffic flow / volume forecasts that have been used to predict future noise have been derived from detailed traffic modeling / assessments, are robust and have taken into consideration major growth areas such as Northstowe, NIAB etc. It is the view of officers that a worst case reasonable foreseeable future scenario is considered for the purposes of the assessment.
87. Future noise levels have been predicted using the computerised noise model NoiseMap, which incorporates DMRB - HA 213/08 additional updated advice / clarifications on the procedures for predicting noise from road traffic as described in the Calculation of Road Traffic Noise 1988 (CTRN), to take account of certain features and conditions not fully accounted for following recent design developments, thus providing more up to date and accurate advice. For example, DMRB gives additional advice on vehicle classification, sound absorptive noise barriers and retained walls.
88. Noise data collected from previous studies in 2006, 2008 and 2009 were used to verify the model predictions. Other inputs to the model involve traffic flows, vehicle mix, detailed topography and noise mitigation proposals such as barriers, bunds, road surfacing materials and vertical and horizontal alignments.
89. The following descriptions of the magnitude of impacts from changes in noise levels are used in the ES and are reproduced from recognised standards and DMRB to help understand the impact of changing levels of traffic noise:

Changes in Noise Levels	Magnitude of Impact
Increase 5.0dB or more	Major Impact (adverse)

Increase 3.0 to 4.9dB	Moderate (adverse)
Increase 1.0 to 2.9dB	Minor (adverse)
Increase 0.1 to 0.9dB	Negligible (adverse)
0dB	No Change
Decrease 0.1 to 0.9dB	Negligible (beneficial)
Decrease 1.0 to 2.9dB	Minor (beneficial)
Decrease 3.0 to 4.9dB	Moderate (beneficial)
Decrease 5.0dB or more	Major Impact (beneficial)

90. When considering noise levels, it may be of assistance to note that doubling or halving of the otherwise similar traffic flow is equivalent to a change of approximately 3dB(A). The smallest change in environmental noise that is generally noticeable to the human ear is about 3 dB (A) and a 10 dB (A) change approximates to a subjective doubling or halving of loudness.

Noise Mitigation Strategy

91. To limit the magnitude of traffic noise as far as reasonably practicable, mitigation is proposed for several areas of the scheme in the form of noise barriers / fences, earth bunds, (or a combination of an earth bund and a noise barrier), false cuttings, vegetation and the use of reduced noise road surfacing along the entire route. An outline of the proposed mitigation measures is given in Appendix 1 to this report.
92. **Barriers can provide reductions of 10 dB** or more for well screened receptors close to the road but **beyond 200 to 300 metres the effects are often negligible** as other factors such as ground conditions become the most significant factor in reducing noise levels.
93. The use of **reduced noise road surfaces** is intended to keep noise as low as practicable and can be effective at all distances. **Typical noise reductions provide are in the region of 2.5 dB(A) to 5 dB(A)**. The assessment has assumed a conservative 2.5dB(A) reduction.
94. Noise mitigation will be positioned as close to the carriageway as possible to ensure maximum attenuation, taking into account alignment requirements, land available, and landscaping and visual requirements. Noise barriers set close to a road can provide protection to garden areas as well as the living space of properties.
95. The Highways Agency has agreed to engage and consult with the local authority on the detailed design for barriers and other mitigation measures. It may be possible at the detailed design stage to consider where practicable, additional novel barrier top edge finishes, such as cantilevering the upper part of the barrier towards the road. This may provide some additional noise protection and in particular where there may be receptors higher than 4m.
96. With any noise barrier there is the potential for reflected noise to have an impact on locations that are relatively close and opposite. Acoustically absorbent barriers will be provided where there is a risk of noise being reflected to locations on the opposite side of the road. The Highways Agency have confirmed that absorbent barriers with

certainly be provided at Orchard Park and at the Girton cutting including the whole of any retaining walls and other locations if detailed design determines that it is necessary.

97. All noise barriers will be constructed in accordance with relevant British Standards such as BSEN14388 for Road Traffic Noise Reducing Devices Specifications and will be tested to meet acoustic performance standards to BSEN 1793 Parts 1 to 3.
98. Best practical means will be used to mitigate construction noise and vibration in accordance with the industry standard British standard 8233. This includes for example the use of the quietest available plant and machinery, use of mufflers / silencers, erection of temporary screens / enclosures for noisy activities and limiting the majority of construction hours to daytime hours. Construction noise monitoring is proposed throughout the construction phase and a Community Relations Officer will liaise with local communities during all construction phases.

Impacts of the Scheme

99. Table 1 below, shows a summary of predicted noise increases and decreases at noise sensitive residential premises within the detailed study area (600m from centre of carriageway). It compares Do-Minimum (without the scheme) and Do-Something (with the Scheme) conditions in 2015 the proposed year of opening and a future assessment year of 2031, respectively. The table also gives an indication of magnitude of impact.

Table 1: Summary of changes in noise increases and decreases by comparing Do-Minimum with Do-Something conditions in 2015 and 2031.

Changes in Noise Level Resulting $L_{A10,18h}$ from the Do-Something (with the scheme) Compared to Do-Minimum (without the scheme) in the Same Year	Number of Dwellings Affected		Magnitude of Impact
	2015	2031	
Increase 5.0dB or more	42	40	Major Adverse
Increase 3.0 to 4.9dB	292	257	Moderate
Increase 1.0 to 2.9dB	1128	1448	Minor
Increase 0.1 to 0.9dB	2712	2737	Negligible
0dB	230	221	No Change
Decrease 0.1 to 0.9dB	1505	1852	Negligible
Decrease 1.0 to 2.9dB	4259	4224	Minor
Decrease 3.0 to 4.9dB	2374	2921	Moderate
Decrease 5.0dB or more	562	493	Major Beneficial

100. The summary evaluates the impact of the project in the short term in the opening year of 2015 and in the long term at a future assessment year of 2031.

101. It is important to note that this summary table is for the number noise sensitive residential premises within the detailed study area along the entire route and is therefore an aggregate of all premises in Huntingdon DC and SCDC.
102. This summary table has been derived from Appendices D5.1 to D5.8 in Volume 3B, Appendix D Map of the ES. These appendices give predicted noise levels at all addresses (approximately 14000) within the 600m detailed study area boundary by Postcode Area, namely CB3, CB4, CB5, CB23, CB24, PE18, PE28 and PE 29.
103. The Highways Agency have been asked to provide additional summary of changes tables or similar for each respective postcode area as a detailed breakdown of noise predictions would better inform the impact noise at a more detailed local / parish level. The additional postcode summary tables are being compiled and can be provided at a later stage if necessary.
104. Officers have considered the information currently available and an overview of the impact of noise has been undertaken.
105. New Barns Farm, south of Fenstanton and the village of Connington is the main area within SCDC that is likely to experience the most adverse impact of noise. The areas closest to the A14 would be affected by a 3 to 5dB increase in noise with the main village experiencing around a 3dB increase. Approximately 10 properties may experience a 5dB increase that could be considered a major impact. The increases in noise in this area is attributable to the fact that this is where the new section of the A14 will be constructed, effectively bringing traffic noise closer to the village, than previously. Mitigation has not been proposed as predictions have indicated that barriers would have no or a negligible benefit. This is due to the fact that Connington is about 300m away from the A14 and at such distances noise barriers have limited effect. In Swavesey a general increase of 1 to 3dB increase in noise is predicted.
106. At Friesland Farm and areas to the north, such as Hill Farm noise would increase by up to 3dB. Close to the A14, the effects of the noise barriers would reduce levels at Hill Farm Cottages by as much as 10dB a major benefit, but 1 to 3dB at the dwellings towards the northern end of the row further from A14.
107. At Bar Hill, noise impacts would be largely neutral with 1 to 3dB decreases at houses nearest to existing A14 which are currently most affected by noise and where realignment of the A14 would move existing traffic noise further away. Similar moderate to major benefits would also be experienced at Hackers Farm, Cambridge Crematorium and Catch All Farm.
108. At Noon Folly Farm, Hazelwell Farm and New Close Farm near Hatton's Road there would be a 3 to 5dB increase in noise which is mainly due to future traffic associated with the proposed access road to the proposed Northstowe development.
109. The most exposed houses to the north of the A14 at Girton, close to the cutting at Weavers Field would experience noise increases in the order of 1 to 2 dB due to the proposed replacement mitigation measures. Houses closest to the barrier may benefit by 1 to 3dB reductions.
110. To the south, the proposed mitigation measures would give a 1 to 3dB reduction in noise to the nearest houses and Wellbrook Way off Girton Road with neutral impacts further south.
111. Near Histon junction to the north of the A14, the proposed noise barriers would reduce noise levels by up to 3dB at the nearest and most affected houses. Further north most houses including those near local roads would have a neutral impact.

However others would be affected by a 1dB increase on account of the increased traffic and reduced congestion.

112. To the south of the A14, noise increases at Impington Farm would be mitigated by the proposed noise barriers and reductions of up to 3dB are calculated.
113. To the north the Holiday Inn, may experience increases of 1dB.
114. East of Histon junction, on the south side at Orchard Park, there would be a 5 dB increase at properties closest to the existing noise barrier on the Northern edge. The remainder of the site will experience increases of 1 to 3dB. The existing barrier is to be replaced with a new barrier that is higher and longer incorporating an acoustically absorbent treatment on the roadside. Even with the barrier noise increases are due to the close proximity of Orchard Park to the A14, the extra lanes which bring noise closer to the site, increased future traffic flow and reduced congestion. Some properties that overlook the barrier may be affected by increases of 5 to 10dB. It should be noted that at ground level the noise impact is likely to be minor throughout the site. The acoustically absorbent treatment will limit the potential for reflected noise to areas to the north such as Impington.
115. Those houses south of Kings Hedges Road would be little affected.
116. On the north side of the A14, the new proposed noise barrier would reduce noise by up to 5dB at the Blackwells caravan site by Kings Hedges Bridge.
117. Those properties to the north of the A14 there would not be affected by change. The area of Milton Country Park immediately adjacent to the A14 is likely to experience minor adverse increases of 1 to 3 dB with the remainder experiencing negligible adverse impact of up to a 1dB increase.
118. At the eastern end of the Scheme to the south of the A14, the closest houses in Fen Road would benefit from the proposed noise barrier where there would be a 1 to 3dB reduction or a neutral impact in the Horningsea Road, Fen Ditton.
119. In the wider area between 600m to 2km of the A14 noise impact is generally negligible and or minor.
120. In respect of ground-borne vibration the ES notes that no noise sensitive property is situated within 5m of the existing or proposed route and therefore no permanent traffic-induced vibration is expected to create an impact on residential dwellings.
121. In considering airborne traffic induced vibrations from Heavy Goods Vehicles the ES explains that low frequency exhaust notes from such vehicles can coincide with the resonant frequency of an element of a dwelling within 40m of a carriageway but there is never enough energy in the sound wave to cause building damage. In general, those properties that will experience an increase in noise level as a result of the scheme will be prone to increased airborne vibration. It is concluded that airborne traffic induced vibrations is negligible in terms of what is already experienced.
122. The ES provides a qualitative assessment of scheme impacts on night-time noise by comparing the differences between daytime and night-time noise and concludes that there is generally a reduction of 6 to 10 dB when comparing noise levels from 0600 hours – 2400 hours against the night-time levels from 2400 – 0600 hours.
123. The ES recognises the importance of planning during the construction phase to mitigate noise and vibration effects. Most noisy construction activity will be planned for normal daytime hours but it is recognised that more detailed negotiations will be

required with the relevant local authorities to ensure that noise from all construction/demolition activities is mitigation according and satisfactorily managed.

Noise Conclusion

124. The noise and vibration assessment is comprehensive and has been compiled in accordance *Design Manual for Roads and Bridges: Volume 11-Environmental Assessment, Section 3-Environmental Assessment Techniques, Part 7- HA 213/08-Noise and Vibration, August 2008*, the standard document used in the UK to assess the noise and vibration impact for road improvements.
125. The noise predictions are robust and a representative future worst case operational scenario has been considered. The magnitude of impacts of traffic noise on sensitive premises in a detailed study along the route have been carefully assessed and acceptable mitigation measures are proposed where it is practical and feasible.
126. Overall the proposed scheme will result in a greater net beneficial improvement in the noise climate in SCDC when compared with conditions that could occur without the scheme.

Recommendation: No objection to the Scheme on the grounds of noise impact providing the proposed mitigation measures are fully implemented and maintained.

The Council should seek commitment from the Highways Agency to engage and consult with the local authority on the detailed design stage of barriers and other mitigation measures and their installation.

The Council seek a commitment from the Highways Agency to consult on any Construction Noise & Vibration Management Plan to agree noise and vibration mitigation measures.

Drainage

Impact of Surface Water

127. Discussions have taken place over the past two years between the Surface Water design consultants and all of the drainage authorities along the proposed route of the A14. Discussions have always focussed on developing a design that would avoid an increase in the flood risk as a result of the proposals. Additionally, it was expected that enhanced protection could be provided from the run-off generated by the existing road. In line with normal practice, it is proposed to create a series of balancing ponds along the A14 in order to store surface water.
128. The methodology outlined in the Flood Risk Assessment (FRA) is quite convoluted. However, it is pointed out that the level of protection to the local watercourses from the existing highway appears to be virtually non-existent i.e. direct discharge from the highway mostly occurs. Additionally, other than the Girton interchange, little or no drainage maintenance takes place along the existing road.
129. The new design proposes a free rate of discharge from the existing highway up to the 1 in 5 year level. Thereafter, the run-off from both existing and new roads will be attenuated up to the 1 in 100 year plus 20% level, which reflects national standards. This represents a substantial increase in the level of protection from existing carriageway run-off. Additionally, the Highways Agency have committed to a planned maintenance regime for all the drainage facilities along the route. The Environment Agency have approved the design outlined in the FRA.

South Cambridgeshire DC Award Drains

130. The surface water design proposals will affect twenty award drains in the SCDC area. The implications of the surface water design have been discussed in detail with the drainage designers over the past 18 months. The final design will not impact on the rates of flow in the awards. However, the details of culvert extensions, new planting and minor diversions are the likely areas of conflict. All these have been checked in detail and suitable access points for maintenance have been agreed.
131. There is some uncertainty around the relationship of New Barns Lane with the Award Drain. Officers are working with the Highways Agency and it is likely to be a matter that can be resolved through the detailed design process.

Design of the new road alignment

131. Officers have explored with the Highways Agency the design for the new section of road across from Brampton to Fen Drayton to ensure it adequately takes account of drainage and the potential for flooding. The Highways Agency have reassured officers that the design has taken into account a number of factors, including future climatic events, flooding, horizontal and vertical alignments, design standards, road water drainage and the presence of existing drainage structures. The Environment Agency and Internal Drainage Boards have also been fully engaged in the Flood Risk Assessment, therefore officers are assured the impact on surface and ground water have been adequately addressed.

Lighting

133. The existing road has lighting, mostly associated with roundabouts and junctions. The largest concentration is therefore along the various links of the Girton Interchange and along the Cambridge Northern Bypass to the Girton Road bridge. The junctions along the Cambridge Northern Bypass are also lit, but these are the responsibility of Cambridgeshire County Council.
134. There is no general requirement to light the main line of the scheme. However some stretches are already lit and safety studies indicate that some sections should be considered for lighting; this includes the whole of the Girton Interchange.
135. The proposed lighting will aim to minimise light pollution through use of appropriate height column heights, column spacing, and luminaires with zero upward light output. The daytime appearance will also be considered. The general character will be similar to that seen on the existing road, except for higher lighting columns between Girton and Histon.
136. Lighting on the side road realignments, LAR, and local road elements of junctions will be subject to Cambridgeshire County Council design standards. The proposals include lighting at each of the junctions within South Cambridgeshire, with the exception of the Fen Ditton junction where no lighting is required on local roads. Officers are satisfied every effort has been taken to minimise the amount of lighting required for the scheme and to minimise the potential for light pollution.

Landscape and Cultural Heritage

137. In comparison to the existing road, the scheme includes an increase in the number of lanes with parallel local access roads, increased road heights, and increased infrastructure such as lights, gantries and information signs. Overall the new road will inevitably have a larger scale and appear more developed and urban in appearance

than the existing. The scheme will add to the impact of the present A14 on landscape and townscape character, views to and from the A14, and the experience and perceptions of people travelling along it.

138. The section of the route to the north west of Cambridge goes through open landscapes which contain some landmark churches and settlements. When it gets close to Cambridge, the route is increasingly forming part of the urban:rural boundary to the city which has to be handled with particular care. This area forms a part of the setting of the historic City of Cambridge, which is of very special significance. The A14 is prominent in views from the countryside, for example when looking south from the countryside to the north of the route, from higher ground in Madingley towards the city, and from Madingley Road towards Girton. Views from the A14 are also important with landmark buildings in the centre of the City able to be seen from some parts of the road including junction flyovers.
139. There is some concern that the standard methodology used in the Environmental Statement, and the scoring used, tends to downplay the value of some of the landscapes affected by the road and the impact of the scheme. There is also concern that the setting of Cambridge may not have been fully acknowledged. Officers have requested further information from the Highways Agency on aspects of the Environmental Statement regarding the impact on the setting of Cambridge and surrounding countryside as outlined above.
140. The design of the scheme itself has been considered in the context of the Council's broad support for the scheme, which was subject to the minimisation of negative environmental and visual impacts. Consideration has been given to the design of the scheme including physical features such as gantries across the carriageways and also the landscaping proposed to mitigate its impact. In that context it is considered that the proposed scheme is generally acceptable in landscape terms, notwithstanding the concerns over the Environmental Statement.
141. Once the scheme has been through Inquiry and the Orders approved, there will be a detailed design stage. Experience has shown that there can be changes in highway construction at this stage along with practical problems, which can reduce and change the type of landscaping that can actually be achieved. Officers have asked the Highways Agency to confirm that this will not happen in this case, and the Council should seek commitment that it will be involved in the detailed design stage.
142. The detailed design will need to include a mix of screening and open views, with variety in the types and densities of planting. We have asked the Highways Agency to describe the approach to the landscaping which has shaped the scheme shown in the Environmental Statement. It is important that a set of principles is agreed which will direct the further development of the design.
143. Our contribution to those principles will seek to include:
 - Natural and varied treatments to flood retention and other water-holding areas.
 - Sympathetic transitions e.g. from open farmland to heavily wooded planting as at Girton.
 - A response to changes in landscape character such as that to the east of Milton Country Park.
 - Balancing the loss of hedgerows with the creation of new.
 - Particular attention to be paid to areas where successful landscaping and relationships are difficult to achieve as at the boundary with the Science Park and to areas which are vulnerable to small changes in design.

145. The Environmental Statement describes how off-site planting by agreement with landowners outside the highway boundary will be sought to augment the on-site proposals and provide additional screening. Locations that have already been agreed are shown on the environmental masterplan and others will be sought. Such planting is subject to agreement on implementation and future maintenance being agreed with the landowners and, hence, is not taken account of in the impact assessment. The Council strongly supports the need for off-site planting in addition to on-site proposals and will seek to discuss further opportunities with the Highways Agency. This planting would typically provide extra screening, help on-site planting fit into the landscape, and provide environmental gains to help balance negative environmental impacts.

Recommendation: The Council supports the landscape measures proposed as part of the scheme and seeks confirmation that it will be consulted at the detailed design stage on landscape measures, including schemes for off-site planting. The Highways Agency is requested to provide further information on aspects of the Environmental Statement regarding the impact of the scheme on the setting of Cambridge and surrounding countryside as outlined in paragraph 138.

Biodiversity

146. The Environmental Statement includes an assessment of ecology in accordance with the latest good practice guidance. This includes desk study of all notable habitats and protected species, including statutory and non-statutory sites of nature conservation importance and notable species. Surveys have also been undertaken.
147. An Ecological Management Plan (EMP) will be produced prior to construction works and will detail impacts, mitigation and monitoring, such as post-construction monitoring of newly created habitats (for 5 years). Construction works will follow CIRIA Industry guidance, with ecological surveys before and during construction to ensure ecological constraints are identified and appropriate mitigation is included in the final design. Mitigation will include keeping vegetation removal to a minimum. Where features are being retained these will be fenced within work exclusion zones to prevent damage from construction activities. Measures will also be taken to minimise temporary disturbance, for example through sensitive use of artificial light, environmental barriers to screen visual disturbance, and noise levels will be considered.
148. That said, there are some areas where the scheme could provide better mitigation, and these are explored in more detail.
149. **Water Voles** – the scheme proposes a number of mammal passes to reduce fragmentation of habitats. The survey data did not record water voles on watercourse 18 (Washpit Brook) and therefore no mammal pass is proposed. However, it is an area where the water vole population is known to suffer declines and increases. It can be further evaluated once the Otter and Water Vole Surveys supporting the NW Cambridge development, Cresswell Assoc. 2004, 2005, 2007 & 2009 are made available. As a result, there is concern that the current proposal could result in fragmentation of a habitat with a cumulative effect upon biodiversity conservation targets for the NW Cambridge development. Officer discussions with the Highways Agency have revealed it will review the mammal passes at the detailed design stage.

Recommendation: The Council object to the lack of provision of a mammal pass for water voles on watercourse 18 (Washpit Brook), and would encourage the Highways Agency to provide mammal passes on culverts as standard. The

Council seeks commitment from the Highways Agency to include it in discussions during in detailed design.

150. **Bats** – there is concern about the protection of flight paths for bats in the Hilton area where high numbers of bats have been recorded. It would be expected that this would be mitigated for during the construction period and beyond, for example with the provision of a green bridge, however, this is not provided for in the Environmental Statement and is a concern. The Highways Agency do not feel a green bridge is a cost effective form of mitigation and are looking into their effectiveness in maintaining flight paths. Whilst this is an issue that may be resolved through the detailed design process, there is concern the Highways Agency will rule it out if no suitably priced means of effective mitigation will be delivered.

Recommendation: The Council object to the lack of provision for the protection of the bat flight path in the Hilton area where large numbers have been observed.

151. **Monitoring** – The Highways Agency propose to monitor newly created habitats for 5 years. However, this is considered inadequate to assess impacts as scrub belts will not have reached any form of maturity and some ponds will only have started to become settled. Whilst it is not suggested monitoring is required every year, it should be extended into a ten year period (as being undertaken for the Cambridgeshire Guided Bus scheme).

Recommendation: The Council seeks a commitment from the Highways Agency to monitor newly created habitats every second year over a ten-year period.

152. There are a number of other areas concerning biodiversity mitigation, such as on land north of the Cambridge Science Park and the diversion of West Brook, where there is scope for additional habitat creation. However these are matters that can be addressed through the detailed design process.

Recommendation: The Council seek commitment from the Highways Agency to include it in discussions during the detailed design stage on ecology matters.

Traffic and Transport

153. The Highways Agency has undertaken traffic modeling to predict future traffic flows. Flows are presented in terms of a 2006 Base Flow, with Do Minimum and Do Something flows for the Opening Year of 2015 and for the Future Assessment Year of 2031. The modelling takes account of the level of traffic that would use the network and traffic growth, taking account of national economic conditions, changes in travel behaviour over time and local patterns of future development.
154. Within South Cambridgeshire the modeling shows that some of the routes around the junctions will have an increase in the volume of traffic under the Do Something scenario when compared to Do Minimum, in both years, in particular Buckingham Road; B1050 Hattons Road; Oakington Road, Dry Drayton; and to the north of the Cambridge Northern Bypass. In most cases the levels of increase are relatively small. However on Buckingham Road the traffic is anticipated to be 50% higher in 2031 with the A14 improvements than without, and the B1050 21% higher. There are decreases in traffic anticipated with the scheme compared to without on surrounding roads such as Rose & Crown Road, Ramper Road, Dry Drayton Road, and Cambridge Road.
155. The modelling shows that traffic on Oakington Road and Scotland Road either side of Dry Drayton is set to double from present rates by 2031, and this will happen with or

without the A14 scheme. As addressed earlier in this report, the HA consider that an additional link at the Girton interchange would not significantly alter this. There is a slightly higher level of traffic using the Oakington Road to Dry Drayton with the scheme compared to without, due to the loss of the direct access from the A14 to Madingley via The Avenue (there will be access to the Avenue from Cambridge only).

156. There is some increase in traffic on the radial routes into Cambridge with the scheme compared to without, but this is fairly minor, with the exception of Horningsea Road (south of the A14), which shows a 13% increase with the scheme compared to without at 2031. The modeling assumes a significant increase in traffic on this route, some of which is due to the development of 10-12,000 houses at Cambridge East. The Cambridge East Area Action Plan includes policies on addressing travel, with an emphasis on encouraging non-car modes, however there will inevitably be a substantial increase in car traffic in the locality from such a large development. The A14 modeling makes the assumption that a new access road would be provided to the Fen Ditton junction. Such a route was an option tested in the Cambridge East Transport Study, although both the study and the Area Action plan highlight that other options are available (such as improvements via Stow-Cum-Quy), and the access arrangements to the A14 for Cambridge East have yet to be agreed.

Provision for non-motorised users (NMU)

157. The scheme makes provision for all existing rights of way where they cross the A14, some with short local diversions to shared bridges with motorised users. However, the Highways Agency are not proposing any additional access where none currently exists.

NIAB Bridge

158. This is a potential issue around the NIAB extra development on the Cambridge Northern Fringe. The Inspectors' Report into the Site Specific Policies Development Plan Document, with respect of the NIAB extra site, refers to providing access into the wider countryside across the A14. The proposal is to replace the existing bridge with another suitable to accommodate agricultural vehicles. The Highways Agency have confirmed that the gradients will be appropriate for cyclists, but the bridge will not be suitable for use by horse riders as it will not have high enough parapets to ensure their safety. However, it will be for the developments to bring forward public rights of way routes to connect with the replacement bridge. Officers are reassured that the proposed bridge is capable of accommodating NMU, and this can be addressed through the detailed design stage.

A14 Cycle Crossing Study

159. Work is beginning on an A14 Cycle Crossing Study by the County Council, at SCDC's request, looking into the feasibility of various options for improving conditions for cyclists crossing from Histon & Impington, and Fen Ditton into Cambridge. Although there will be provision for pedestrians and cyclists alongside the new Cambridgeshire Guided Bus scheme, there is already a very high usage across the Histon & Impington junction (it has the second highest observed cycle use behind the Milton cycle bridge), and there may be further latent demand, for example from children wanting to access schools / Village Colleges.
160. The study will consider the feasibility of various options including a new cycle bridge (similar to the Jane Coston bridge at Milton), bridging through the centre of the junction, improved on-road cycleways through the junction, and potential for traffic signalling through the junction, as well as looking at issues around crossing the slip roads at Fen Ditton. Funding has been secured from Cambridgeshire Horizons to

undertake the study. The Highways Agency have been made aware of the study, but it is unlikely the study will be completed until February 2010.

161. Depending on the outcome of the study and the viability of the options, there may be issues that need to be addressed by the A14 proposals, for example, if it concerns crossing the slip roads. Therefore the Council should reserve its position until the outcome of the study.

New Cycleway Provision

162. A new cycleway will be created on the northern side of the A14 between Girton and Histon. This is the route of a temporary haul road, which will be converted to a cycleway when it becomes redundant. The details of the surfacing will be determined during the detailed design stage.
163. The proposed LAR will have a number of measures to provide for cyclists, pedestrians and equestrians. A segregated cycle route is proposed from Huntingdon Road, Cambridge to Bar Hill, which will link into Northstowe via a dedicated bridge for NMU users over the A14. A link for NMU users will be provide to Swavesey off-line on the north side of the A14 and will continue as a bridleway to Fen Drayton.

Recommendation: General support for the general provision made for non-motorised users. However object in principle to the lack of consideration of crossings over the A14 along the Cambridge Northern Bypass at the Histon & Impington and Fen Ditton junctions, pending the outcome of the A14 Cycle Crossing Study. The Council should seek commitment from the Highways Agency to include it in discussions during the detailed design of the NIAB bridge to ensure its suitability for non-motorised users.

Lorry Parking

164. There is currently a shortage of lorry parking provision along the A14 corridor, which has resulted in several villages, such as Bar Hill and Histon and Impington, experiencing parking in inappropriate locations, for example on village industrial estates, where there is no provision of services to accommodate the driver's needs. A report on Heavy Commercial Vehicle Parking Controls was considered by the South Cambridgeshire Traffic Management Area Joint Committee on 7 July 2008, seeking to address the problems in Impington.
165. The long-term solution requires a clear strategy for managing driver breaks for lorries using the national strategic road network but this is likely to take some time to develop and deliver. The County Council is pressing the need for a long term strategy both at a regional and national level.
166. Whilst the Highways Agency cannot provide commercial sites for lorry parking, it can provide lay-bys. As a general objective the scheme includes a lay-by or junction about every 2.5 km in each direction, with emergency lay-bys at intermediate locations. There are twelve parking lay-bys and seven emergency-only lay-bys proposed, which is to be welcomed. The parking lay-bys are designed with kerbed islands and will be suitable to accommodate parked lorries.

Recommendation: Support for the provision of lay-bys, which should help go some way to address the current shortage of lorry parking along the route.

Public Transport

167. The Highways Agency have confirmed that provision will be made for local buses along the LAR, with the provision of bus lay-bys at Cambridge Crematorium, Lolworth and near the Buckingham business park at Trinity Foot.

Gantries and Information signing

168. The scheme includes 51 gantries, of which 10 would be 'superspan' gantries that cross both carriageways – 6 on the Cambridge Northern Bypass, 3 on the A1 and 1 over the A14 eastbound LAR after the Dry Drayton junction. There will be 20 freestanding message signs in the verge. Variable message signs would be provided on the A14 eastbound approach to A1198 and approaches to the Girton interchange and the Milton junction. The 6 existing message signs within the Scheme, on the A14 and A1 approaches to Brampton Hut and the A14 approaches to Spittals, would be removed.
169. The Highways Agency indicate that all these signs are needed to ensure safety at the numerous junctions. Noting the concerns over their impact on the wider landscape, the Highways Agency have carefully reviewed their location and design to limit their visual impact. However, gantry location is subject to many restrictions, particularly where junctions are closely spaced, such as along the A1 and the Cambridge Northern Bypass. The use of superspan gantries have been included where suitable to minimize the number of separate structures.
170. Gantry design is largely determined by price and performance, hence choice can be affected by shifts in the price of basic components, such as steel. Visually, steel construction would be preferred over concrete, if the price is comparable. The current design standards no longer require there to be access for personnel onto the structure, which allows the design to be substantially simpler than those that are presently seen on the A14.

Detailed Design

171. There are a number of matters that cannot be fully resolved until the detailed design stage. This report has outlined a number of these issues, for example, design of noise barriers, details of the types of landscaping proposed, etc. However, this is not a comprehensive list and the Council should seek a commitment from the Highways Agency to be included in all matters of detailed design that affect the scheme.

Recommendation: The Council seek a commitment from the Highways Agency to include it in discussions at the detailed design of all matters relating to the whole route.

Proposed Response to Highways Agency

172. The overall conclusion of the evaluation of the proposals in the draft Order are recommendations that the Council make the following representations to the Highways Agency as follows:
- **Support** the A14 improvement scheme in principle and urge the delivery of the scheme as soon as possible. The delivery of the improvements are necessary for the delivery of the Growth Agenda, and to improve journey times and road safety for the travelling public.
 - **Urge** the Highways Agency to work with Cambridgeshire County Council, as the local highway authority, to prepare a strategy to address construction

traffic movements and to prevent general traffic rat-running through villages during the A14 improvement works.

- **Seek commitment** from the Highways Agency to engage and consult with the local authority on the detailed design stage of the whole route, in particular regarding the following issues:
 - Barriers and other mitigation measures and their installation.
 - Construction Environmental Management Plan.
 - Construction Noise & Vibration Management Plan to agree noise and vibration mitigation measures.
 - Landscape measures, including schemes for off-site planting.
 - Ecology Matters
- **Support** the revised route alignment to the north of Conington, which increases the separation between the village and the new A14.
- **Support** the provision of an A1198 junction with west-facing slips and emergency only east-facing slips.
- **Support** the revised junction arrangement at Fen Drayton and Trinity Foot allowing direct access to the Cambridge Services from both the A14 and Local Access Road.
- **Support** the retention of the existing over bridge at the Bar Hill junction as a segregated route for non-motorized users.
- **Seek confirmation** from the Highways Agency that they have taken account of the latest position in relation to the Council's Local Development Framework, particularly concerning revisions to allocations for development.
- The Council wish to **reserve its position and seek commitment** from the Highways Agency to include it in discussions at detailed design stage to allow possible improvements to the noise attenuation barrier along the Orchard Park boundary.
- **Support** the provision of a noise attenuation barrier and additional planting adjacent to the Blackwell Traveller Site which should improve the environment of the site.
- The Council **accepts** that the forecasted changes in air quality will mean that national air quality objectives would be met. As part of its duties in Local Air Quality Management (LAQM), Environmental Health will continue to monitor air quality at strategic points along the A14. Should the predictions made in the modelling such as improvements in fleet emissions, pollutant background concentrations, traffic figures etc. not be achieved and as a result the air quality objectives will not be met then the Highways Agency will be required to engage with the local authority to investigate potential mitigation measures (which could include speed limits and traffic light phasing at junctions to reduce queuing). These may be based on long term emissions reduction measures at the detailed design stage, should information come to light before this stage, or at any point in the future as part of the LAQM process.
- The Council has **no objection** to the Scheme on the grounds of noise impact providing the proposed mitigation measures are fully implemented and maintained.

- The Council **supports** the landscape measures proposed as part of the scheme and seeks confirmation that it will be consulted at the detailed design stage on landscape measures, including schemes for off-site planting. The Highways Agency is requested to provide further information on aspects of the Environmental Statement regarding the impact of the scheme on the setting of Cambridge and surrounding countryside (as outlined in paragraph 138).
- The Council **object** to the lack of provision of a mammal pass for water voles on watercourse 18 (Washpit Brook), and would encourage the Highways Agency to provide mammal passes on culverts as standard.
- The Council **object** to the lack of provision for the protection of the bat flight path in the Hilton area where large numbers have been observed.
- The Council **seeks a commitment** from the Highways Agency to monitor newly created habitats every second year over a ten-year period.
- **General support** for the general provision made for non-motorised users. However, **object in principle** to the lack of consideration of crossings over the A14 along the Cambridge Northern Bypass at the Histon & Impington and Fen Ditton junctions, pending the outcome of the A14 Cycle Crossing Study. The Council seek commitment from the Highways Agency to include it in discussions during the detailed design of the NIAB bridge to ensure its suitability for non-motorised users.
- **Support** for the provision of lay-bys, which should help go some way to address the current shortage of lorry parking along the route.

Implications

173.	Financial	None, unless the Council objects and needs to appear at the public Inquiry
	Legal	If the Council object to any of the proposals, there may be a need for legal representation at an Inquiry.
	Staffing	Currently within existing staff resources, although if representation at public Inquiry is required this could require additional staff time.
	Risk Management	Any delay to the delivery of the A14 improvements may have knock-on effects for the delivery of growth in the district, particularly at Northstowe, North West Cambridge and NIAB extra. However, any delay to the scheme's delivery may pose a risk to life given the existing accident record.
	Equal Opportunities	The improved road and provision for non-motorised users may improve access to a wider range of people. However, any delay to the scheme's delivery will continue the poor living conditions of those living close to the road.

Consultations

174. Internal consultation with officers including Environmental Health, Conservation, Development Control, New Communities.
175. Consultation with partner authorities including Cambridgeshire County Council and Cambridge City Council.
176. Continual dialogue with the Highways Agency and their partners.

Effect on Strategic Aims

177.	Commitment to being a listening council, providing first class services accessible to all.
	N/A
	Commitment to ensuring that South Cambridgeshire continues to be a safe and healthy place for all.
	The A14 scheme should improve road safety, accessibility, air quality, economic development, and to reduce congestion and the impact of noise on residents, particularly those living in close proximity to the road.
	Commitment to making South Cambridgeshire a place in which residents can feel proud to live.
	The A14 scheme should improve road safety, accessibility, air quality, economic development, and to reduce congestion and the impact of noise on residents, particularly those living in close proximity to the road.
	Commitment to assisting provision for local jobs for all.
	N/A
	Commitment to providing a voice for rural life.
	N/A

Conclusions/Summary

178. The purpose of this report is to agree the response to the Highways Agency to the draft Orders for the A14 Ellington to Fen Ditton Improvement Scheme. The principle of the A14 improvement was included in the remit of the Cambridge to Huntingdon Multi-Modal Study (CHUMMS), undertaken on behalf of the Department for Transport, Local Government and Regions (DTLR). The detailed improvement scheme has been developed with the aid of public consultations in 2005 and 2006-7, before the Preferred Route announcement in 2007.
179. The publication of proposals as draft Orders (and the Environmental Statement) on 30 September 2009 is the next step in the scheme's progress. The plans show in detail the line of the road, the structures, drainage provisions, landscaping and other engineering features. The Environmental Statement sets out the effects of the proposed scheme on noise, air quality, landscape, water environment, ecology and nature conservation, cultural heritage and road users.
180. The Council has always strived to offer general support for the A14 improvements and encouraged its timely delivery. However, this needs to be balanced with achieving a quality scheme, which addresses and appropriately mitigates any environmental issues. This report explores a number of issues for South Cambridgeshire and recommends a response to the Highways Agency.

Recommendations

181. It is recommended that The Portfolio Holders agree the representations to be made to the Highways Agency as set out in paragraph 172.

Background Papers: the following background papers were used in the preparation of this report:

Highways Agency - A14 Ellington to Fen Ditton Improvements – draft Orders and Environmental Statement (September 2009)

Highways Agency - A14 Ellington to Fen Ditton Improvements - Environmental Statement Scoping Report (June 2008)

Highways Agency - A14 Ellington to Fen Ditton Improvement Ellington to Fen Drayton Section Preferred Route Announcement (October 2007)
Highways Agency - A14 Ellington to Fen Ditton Improvement Fen Drayton to Fen Ditton Section Preferred Route Announcement (March 2007)
Planning and Economic Development Portfolio Holder Decision: A14 Ellington to Fen Drayton Proposals Joint Statement of Support (March 2007)
Planning and Economic Development Portfolio Holder Decision: Consultation on possible routes for a new A14 road between Ellington and Fen Drayton (January 2007)
Highways Agency - A14 Ellington to Fen Ditton Improvements – Consultation on possible routes for a road between Ellington and Fen Drayton (December 2006)
The Portfolio Holders Report: A14 Improvements Response to Consultations (23 June 2005)
Highways Agency - A14 Ellington to Fen Ditton Improvements – Consultation on Ellington and Fen Ditton Improvements Proposed Scheme (March 2005)
CHUMMS Report, Department for Transport (2001)
Cambridge East Area Action Plan (2008)
Cambridge East Transport Study (2006)

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Appendix 1

Location of Proposed Noise Mitigation Measures in SCDC

Mitigation Type	Features to consider	Area of Protection
3m Noise barrier	As close as possible to the road.	To protect Hill Farm Cottages
3m Noise barrier	On cutting edge adjacent to Local Access Road.	Hackers Farm etc
3m Noise barrier	As close as possible to the road.	Catch Hall, Cambridge Crematorium etc
Replace existing 2m barrier on cutting with 4m noise barrier plus extensions to the east and west	On retaining wall, edge of cutting or adjacent to slip road to gain most effective protection. The barriers and retaining walls would be provided with acoustically absorbent surfaces.	Housing in the North of Girton - Oakington side.
3m Noise barrier	On retaining wall (where applicable) or edge of cutting or adjacent to slip road to gain most effective protection. The barriers and retaining walls would be provided with acoustically absorbent surfaces.	Housing in South of Girton – Wellbrook Way side.
3m Noise barrier	As close as possible to the road.	Woodhouse Farm.
3m noise barrier reducing to 2m east and north of roundabout.	As close as possible to the road. The barriers would be provided with acoustically absorbent surfaces.	Housing at Histon.
3m noise barrier.	As close as possible to the road The barriers would be provided with acoustically absorbent surfaces.	Impington Farm & nearby buildings west of B1049.
Present 3 to 3.5m Orchard Park barrier to be replaced with a 4m barrier with an extension to the west and possibly the east.	As close as possible to the road. The barriers would be provided with acoustically absorbent surfaces.	Housing, School and Commercial at Orchard Park.
3m barrier.	As close as possible to the road. The barriers would be provided with acoustically absorbent surfaces.	Caravan Park (Travellers).
2m barrier.	As close as possible to the road.	Poplar Hall / Northern Bridge Farm etc.

N.B.

- A reduced noise road surface to be used along the entire route
- There are numerous earth bunds / and raised embankments along the route which are primarily for landscaping. They may provide some additional noise reduction but have not been specified as noise mitigation measures.