Application by Highways England for an Order Granting Development Consent for the A428 Black Cat to Caxton Gibbet Road Improvement scheme

Written Representation

Prepared by

Central Bedfordshire Council

In response to Examining Authority's (ExA)

First Written Questions dated 20 August 2021

&

Hearing Actions Points from Hearing on 18 August 2021

August 2021

1.1 Central Bedfordshire Council (CBC) have been in consultation with Highways England (HE) over the proposed scheme for a lengthy period and have provided detailed responses to the statutory Pre-Application consultations.

1.2 We have maintained through the pre-application stage that we are supportive of the proposal in principle and would wish to see it achieve its stated objectives to the greatest effect, whilst minimising any negative impacts. Whilst HE have engaged positively throughout we still have some concerns and issues to address. To assist the Examination presented below are details of areas of concern and/or matters outstanding to CBC, which it requests are addressed in the mitigation and requirements contained and referenced in the draft Development Consent Order (or documents incorporated by reference) and, where applicable, a Development Consent Order.

2 Context

2.1 The section of proposed works located directly within the Central Bedfordshire Local Authority Area, consist of a section of the new proposed dual carriageway to the south of Little Barford, passing under Barford Road, with ancillary works to Barford Road itself proposed including a new bridge structure and realignment of the carriageway.

2.2 However, the scheme is also expected to impact the wider highway network within Central Bedfordshire during both the construction and operational phases of development.

3 Construction Phase Impacts

3.1 The National Policy Statement (NPS) for National Networks contains the following relevant policies:

• 5.211 The Examining Authority and the Secretary of State should give due consideration to impacts on local transport networks and policies set out in Local Plans, for example, policies on demand management being undertaken at a local level.

3.2 The scheme itself, due to the scale and complexity of works involved, is expected to take a considerable period of time to fully construct, with a works programme extending to 45 months. As such, whilst construction phase impacts will be temporary, the duration is such that they will have a considerable impact upon local roads, the travelling public and the local communities which they pass through, in their own right.

3.3 Section 9.4 of the submitted Transport Assessment (TA) (APP-241) provides an overview of construction phase traffic impacts, with a summary of forecast flow changes over a 12 hour period provided in figures 9.2 to 9.8. Following a request from CBC subsequent and more detailed construction phase flow plots were provided by HE, which forecast significant daily increases in traffic on a number of east-west routes, as traffic is predicted to be displaced from the existing A428 during the proposed works. Whilst not exhaustive these impacts include 12 hour increases of circa 1,069 vehicles through Blunham (during Phase 1 of the works), increases of circa 934 through Moggerhanger (during Phase 4 of the works), and increases in the order of 800 additional 12-hour movements through parts of Sandy, Potton and Gamlingay (during Phase 4 of the works). Lower but still substantial increases are also forecast elsewhere within the CBC network (see figures 9.2 to 9.8 in the TA, Document 7.2 (APP-241)).

3.4 Whilst it is accepted that some displacement of traffic will inevitably take place as works progress, there are constraints on a number of the routes within the authority area which make them unsuited to accommodating significant changes in traffic flow and/or composition. For

example, Blunham, which is predicted to experience some of the highest increases in flow, contains weight restricted bridges where traffic is limited to single lane working over a distance of approximately 70m, and is unsuited to taking heavy traffic.

3.5 The likelihood is that the displacement of traffic onto local roads will therefore result in considerable and ongoing local concerns, resulting in a significant increase in the resource required from CBC to monitor and manage the effects of this displaced traffic, including local liaison. This would include monitoring not only increases in overall traffic (and the associated increase in safety concerns when using lower specification local roads), but also monitoring and enforcing against HGV traffic using inappropriate routes.

3.6 The detailed wider effects of these increases in flow are not fully known at this stage, and it is appreciated that the transport work cannot extend to individually cover each link and junction impacted by displaced traffic, however it is the view of CBC that, due to the expected duration and extent of these traffic impacts, an appropriate fund and contained in the Development Consent Obligation should be allocated and payable to CBC for addressing resulting safety, capacity, or amenity issues. CBC would welcome a discussion with HE over the amount of this fund.

3.7 In addition to the fund detailed. It is also our position that, due to the considerable amount of monitoring, management and local liaison that will be required throughout the construction period, that funding is put in place in the Development Consent Obligation or secured in some other manner in connection with the DCO payable to CBC to cover the following for the duration of the construction works (and a subsequent reasonable period post completion to carry out any post construction monitoring):

- A CBC officer with specific responsibility for monitoring, addressing, and managing local impacts, including local liaison.
- CCTV and / or ANPR coverage for impacted routes to enable and support monitoring and enforcement.
- Temporary and / or permanent signage.

3.8 Whilst reference is made to the provision of signage (para. 3.15) and CCTV and temporary speed cameras (para. 3.16.7) within the Outline Construction Traffic Management Plan (OCTMP) (Document 7.4 (APP-244)), this is with regards to the routes subject to traffic management and therefore would not address the monitoring of the wider displaced traffic. CBC would welcome a discussion with HE over the level of funding and the mechanism to secure it required to support the above measures.

As per Section 59 of the Highways Act 1980, Central Bedfordshire Council may also seek to recover expenses from Highways England for the diversion of extraordinary traffic onto local roads or the use of CBC roads for extraordinary construction traffic.

4. Construction Routing

4.1 The National Policy Statement (NPS) for National Networks contains the following relevant policies:

• 5.211 The Examining Authority and the Secretary of State should give due consideration to impacts on local transport networks and policies set out in Local Plans, for example, policies on demand management being undertaken at a local level.

4.2 The outline construction traffic management plan identifies the route to the east of Tempsford as a permitted construction traffic route (with restrictions), allowing for construction traffic associated with the eastern abutment to the proposed rail bridge, along with associated works and utility diversions (see Appendix C, Document 7.4 (APP-244)). It is noted that the same route was proposed for the forming of a compound for the archaeological survey and excavation of the site under planning permission ref. CB/20/04083 for the Temporary change of use and forming of site compound comprising site offices, welfare facilities and off-road parking with associated works (a copy of the related permission is provided as **Appendix 3**). However, at that time Central Bedfordshire determined that any permission should be related purely to the archaeological survey elements of the A428 scheme due to the standard of the associated access route and local concerns over traffic impacts. This was addressed in condition 3 of the permission, which stated that:

'The temporary access road hereby permitted shall only be used by traffic in connection with the required archaeological investigation and for no other purpose, including any works associated with the A428 improvement Scheme (Black Cat to Caxton Gibbet).'

4.3 Within Tempsford, the available carriageway width varies, with narrower sections being in the order of 5.2m, with on street parking reducing the usable width to approximately 3.0m. Further to the east, outside of the confines of the village, the road narrows to approximately 4.0m with limited formal passing opportunity.

4.4 CBC remains of the view that Station Road is not suited to accommodating significant construction traffic or extraordinary loads, with sections of narrow and poor condition carriageway, on street parking further limiting available carriageway widths through Tempsford, and a level crossing to negotiate. As such, CBC requests that consideration is given to restricting the use of Station Road by larger vehicles, with the preferred option being for construction access to the works associated with the East Coast Rail Bridge and the utilities diversion works to be via an extension of the works required to deliver the section of the A428 to the immediate east, as detailed in works plan regulation 5(2)(j) Sheet 4 (Document 2.3 works plans part 2 (APP-010)). CBC requests that this is addressed in connection with the DCO (whether as a DCO requirement, incorporated documents listed in Schedule 2 or some other mechanism). CBC would welcome discussion with HE.

5 Diversion Routes

5.1 The National Policy Statement (NPS) for National Networks contains the following relevant policies:

• 5.211 The Examining Authority and the Secretary of State should give due consideration to impacts on local transport networks and policies set out in Local Plans, for example, policies on demand management being undertaken at a local level.

5.2 In addition to the expected increases in traffic identified within the Transport Assessment during the four modelled construction phases, the A603, west of the A1 is also identified within the Outline Construction Management Plan as being a signed diversion route when the A1 north of Sandy is closed to traffic (see Appendix D, Document 7.4 (APP-244)). This route has a recognised road traffic collision history which may be exacerbated by increased flows, with the 1.2km section between Hatch Road and the centre of Moggerhanger having 12 recorded injury collisions, including 4 serious injury collisions, within the most recently available 5 years' data. The initial junction onto the A603 from Vinegar Hill is also known to be difficult for right turners, which will be the predominant flow for diverted northbound traffic. As such temporary or permanent signal control or other works are expected to be required to regulate traffic flows. As this junction is outside the confines of the DCO

CBC would welcome a discussion with HE to agree an appropriate contribution to deliver these works as part of the Development Consent Obligation or a highways agreement.

5.3 The diversion route for the Wyboston to Black Cat junction is considerable, and the expectation is that traffic travelling between the A1 and the A428 will instead select to route via Barford Road rather than following the diversionary route. As such further consideration should be given to the monitoring of the related diversion and / or the split between diversionary signage for local and longer distance traffic. It is also noted that there are proposals for a haul road crossing on Barford Road, (para. 3.2.3 of the OCTMP (APP-244)). The timing of any closures and any associated diversions should also be considered in the context of the proposed works to Barford Road itself to ensure no conflict between the two.

5.4 CBC would welcome discussion with HE on measures to mitigate such traffic and safety impacts of diversion routes and incorporating them into the DCO requirements (or incorporated documents listed in Schedule 2).

6 Operational Phase Impacts

6.1 The National Policy Statement (NPS) for National Networks contains the following relevant policies:

• 5.211 The Examining Authority and the Secretary of State should give due consideration to impacts on local transport networks and policies set out in Local Plans, for example, policies on demand management being undertaken at a local level.

6.2 Strategic modelling identifies predicted impacts within Central Bedfordshire following completion of the scheme, in both the 2025 and 2040 forecast years.

6.3 When considering links within the authority area, the operational phase impacts of the scheme are largely positive and welcomed, with predicted daily reduced levels of traffic (when compared to the 'Do-Nothing' scenario), on the majority of local roads, including those passing through Blunham, Moggerhanger, Biggleswade, Everton, Potton, Gamlingay, Sutton, and Wrestlingworth.

6.4 However, there are a number of exceptions to this, as detailed within the submitted Transport Assessment Annex, largely related to expected increases in flow on the A1 and A421, south of the scheme (Sections 3.18 to 3.21, Document 7.3 (APP-243)).

6.5 In terms of any increase in flows on the A1, the Council is concerned that a solution to mitigate additional pressure on this key route is not being put forward, with the areas of the A1 impacted falling outside of the confines of the DCO application. As HE will be aware, the capacity of the A1 is something that has been identified as a concern for some time. It is already at capacity and there is a need for realignment or an alternative (but significant) solution to be found and funded.

6.6 This was recognised in the Highways England 'A1 East of England Strategic Study Report' (provided as **Appendix 4**) which had the stated aim of looking 'at the case for improving the non-motorway section linking the two parts of the A1(M) to motorway standard', which specifically covers the section of the route within CBC.

6.7 This report rated all of the at-grade roundabout junctions within the CBC authority area as Red (poor conditions), when assessing the route. (Figure 13 - RAG rating for links and junctions within study area).

6.8 It was cited in the evidence informing Central Bedfordshire's recently adopted Local Plan as one of the reasons why additional growth was not currently being considered in the Tempsford / Sandy area. (Section 7.9 Identified Locations for Future Growth). This was also referenced in the supporting document EXAM12: Note on the Identified Locations for Future Growth (provided as **Appendix 5**). If growth were to be proposed in this area that would impact upon this part of the network, it would need to demonstrate a mitigation solution to ensure the network was not overloaded. The same should apply to the A428 scheme if it results in increased pressure on a network that is already under stress. A joined-up approach is required when considering other infrastructure schemes currently being considered in this location, in particular the East – West Rail (EWR) proposals, to ensure the impacts are being monitored cumulatively and that every opportunity is taken to future-proof when considering future growth requirements. This also relates to a further point we put forward below, with regards to a new vehicular link off the A428. This scheme cannot be considered alone, when it so heavily relates to the A1 and East West Rail, and government ambitions for growth in this area.

6.9 The Annex (APP-243) identifies the impacts at Sandy, Biggleswade and at Junction 13 of the M1, as being of sufficient scale to merit a proposed 'Monitor and Manage' approach to mitigation.

6.10 Whilst the reference to Monitor and Manage is acknowledged, there is no specific requirement within the wording of the Draft Development Consent Order (DCO) for this, nor is there any detail as to how any such Monitor and Manage approach would operate in practice and who would provide the funding for any management/mitigation measures if identified in the monitoring. CBC would welcome a discussion with HE as to whether this is something that could be covered by a Development Consent Obligation, for example. We also note that within the Transport Assessment Annex (APP-243), the responsibility for 'Monitoring and Managing' the impacts of the scheme upon the operation of public transport (where on routes impacted by the scheme but not directly on the trunk road network – for example the junction of High Street / Bedford Road in Sandy) has been identified as a matter for the Local Highway Authority to address. We would therefore request that certainty is provided in terms of additional provision within the DCO and a Development Consent Obligation (regarding funding and mitigation) or in some other manner in connection with the DCO so as to specify and control the 'Monitor and Manage' process, including timing, frequency, methodology, governance, triggers for intervention, and funding. CBC would welcome a discussion with HE on this.

6.11 With regards to the impacts upon Sandy in particular, CBC continue to have significant concerns with regards to both the construction phase and operational phase impacts of the scheme. We have been provided with two sets of model data, one of which is taken from the Strategic A428 model (impacts summarised in table 3-73 and 3-74 of the Transport Assessment Annex (APP-243)) and the other from a localised VISSIM model covering key links within Sandy (impacts summarised in Section 3.18 of the Transport Assessment Annex (APP-243)).

6.12 The Strategic model identifies significant increases in traffic movements through the centre of Sandy (in the order of 3,928 vehicle movements within a 12-hour period), as a result of traffic re-routing onto St. Neots Road to avoid southbound congestion at the A1 / A603 junction to the west. This is not an unexpected impact based upon the increased levels of north-south flow predicted following the completion of the A428 scheme and known capacity issues already identified at the A1 / A603 junction.

6.13 The more detailed VISSIM work (summarised in section 3.18 of the Transport Assessment Annex (APP-243)) however predicts little overall change in the operation of either the A1 / A603

junction or changes in flow on St. Neots Road. Whilst it is accepted that VISSIM modelling can be more representative than strategic models when assessing congested networks, the results of the VISSIM model do currently appear counterintuitive, with increased flows on all but one arm of the A1 / A603 junction (and an overall net increase of 300 vehicle movements (actual flow) through the junction in the AM peak hour between the 'Do-Minimum' and 'Do-Something' scenarios) resulting in generally improved journey times, and with minimal traffic choosing to route through Sandy to avoid the southbound A1 queues.

6.14 The potential implications within Sandy, should the initial Strategic Model results be more representative than the VISSIM modelling, are significant, resulting in considerable increases in flow through the centre of the town.

6.15 As such the Council would request that any Monitor and Manage package proposed for Sandy is extended to include assessment of traffic levels passing through the centre of the town, via St. Neots Road. Furthermore, that the requirement for improvement works under 'Monitor and Manage' would be triggered by the deterioration in operation of either the A1 / A603 junction or the St. Neots Road / High Street junction.

6.16 Whilst the Transport Assessment Annex concludes that the overall impact at the junctions within CBC is Minimal overall (Table 3-91 (APP-243)), it is noted that this is global comparison taking into account the overall operation of the junctions and does not therefore make clear that this is partly the result of increased forecast flows on the mainline A1 being offset against reduced flows from the local road junction approaches.

6.17 It is noted, for example, that in Table 3-75 of the Transport Assessment Annex (APP-243), that the overall flows through the A1 / A603 VISSIM model are predicted to increase by only 29 vehicles in the AM peak hour (2040 forecast), despite the much larger predicted increases in flow on the A1 forecast within the A428 strategic model (with an increase of circa 474 two-way movements on the A1 north of Sandy in the AM Peak hour).

6.18 Similarly, it is noted in Table 3-78 of the Transport Assessment Annex (APP-243) that the modelling of the Biggleswade North roundabout junction is based upon 2040 forecast flows in which the A1 flows increase by 3% (north) and 8% (south), whilst the local road flows decrease by 17% (east) and 18% (west).

6.19 As such, and whilst discussions with regards to the modelling in question are ongoing, it appears that the strategic model is routing local traffic away from these junctions due to increased predicted levels of delay for local road traffic.

6.20 As such, we would be seeking reassurance that any 'Monitor and Manage' approach would also take into account the operation of the side roads as a criterion for intervention, with funding to be provided by HE to CBC secured in the Development Consent Obligation or some other manner in connection with the DCO, as the expected effect of increased flows on the A1 would be increased difficulty for drivers to exit from local road approaches. This would be applicable to all of the junctions within the CBC area covered by the 'Monitor and Manage' process.

6.21 Notwithstanding the above, whilst Monitor and Manage has a role to play in addressing the short term impacts of the scheme, it is the view of Central Bedfordshire Council that a comprehensive solution to the treatment of the A1 in particular, whilst outside the immediate scope of this DCO, needs to be secured within forthcoming Highways England Road Investment Strategies to identify and deliver appropriate mitigation.

6.22 Maintenance liabilities - Discussions with regards to the assets to be maintained by CBC are ongoing, however it is expected, as per Section 4 of the Highways Act 1980, that Highways England are to pay Central Bedfordshire Council for taking on any maintenance liabilities. This payment will be in the form of commuted sum/s. The calculation will be based on routine maintenance and lifecycle work activities for assets. CBC would also refer to point 1.B of Section 94 of the Highways Act 1980 in relation to Central Bedfordshire Council only maintaining the highway rather than the structure and Section 277 of the Highways Act 1980, with regards to the recovery of expenses from Highways England for maintenance activities relating to the Barford Road Bridge. Maintenance funding is requested to be secured by the Development Consent Obligation or other statutory agreement.

7 Barford Road Bridge

7.1 The National Policy Statement (NPS) for National Networks contains the following relevant policies:

• 5.205 Applicants should consider reasonable opportunities to support other transport modes in developing infrastructure. As part of this, consistent with paragraph 3.19-3.22 above, the applicant should provide evidence that as part of the project they have used reasonable endeavours to address any existing severance issues that act as a barrier to non-motorised users.

• 5.215 Mitigation measures for schemes should be proportionate and reasonable, focussed on promoting sustainable development.

• 5.216 Where development would worsen accessibility such impacts should be mitigated so far as reasonably possible. There is a very strong expectation that impacts on accessibility for non-motorised users should be mitigated.

7.2 The proposed works to Barford Road have the potential to create a barrier to longer term sustainable movement North and South. Where the new dualled A428 passes under Barford Road, the bridge will enable access across the new dual carriageway for vehicles. CBC would request that this bridge is constructed with sufficient width to accommodate pedestrians, cyclists and horse riders. Central Bedfordshire Council has policies within its Local Transport Plan, recently adopted Local Plan, as well as its Sustainability Plan, which all place great emphasis on supporting sustainable modes of travel as a priority over vehicular movements, and which must be taken into account when considering any infrastructure schemes, particularly those of this magnitude. Existing communities must not be disadvantaged in terms of what is being proposed here.

7.3 In terms of providing pedestrian and cyclist access, there is also an ambition to create a cycleway that runs along the East Coast Mainline (north/south), that would cross the route of the new dual carriageway, where it goes over the railway line. This is something that must be considered now as part of the DCO, as it won't be able to be implemented at a later stage is sufficient land is not retained to enable this to be delivered.

7.4 This infrastructure will provide an important route for existing communities, but it is also clear from the Spatial Framework (Planning for Sustainable growth in the Oxford-Cambridge Arc, para 1.23) and the March 2020 Budget policy paper (para 2.129) that significant growth is being considered in this location. Failing to properly consider and make provision for pedestrian and cyclist access under and over the new A428 in this location will provide a huge barrier to that growth and its ability to come forward as a sustainable (and therefore appropriate) scheme. This is further emphasised by the recent East West Rail (EWR) consultation dated 31st March – 9th June 2021

(Section D, page 212), which proposes a new station either north or south of the A428 in this location. Whichever option is selected, in order to encourage sustainable growth and ongoing sustainable and active travel journeys, there will need to be access over/under the A428 for sustainable transport modes in line with the sustainable transport policies in the NPS for National Networks that make it as easy as possible for people to access these services without using their cars. It would be entirely contrary to government policy in relation to sustainable travel and climate change not to future proof what is being proposed in this regard.

7.5 The designers should assess the potential drainage impact on an undefined ditch at the south-western end of the scheme. This is however a matter that has previously been brought to the attention of the applicant team and is therefore expected to be addressed through the detailed design process.

8 A428 Connection

8.1 The National Policy Statement (NPS) for National Networks contains the following relevant policies:

• 5.205 Applicants should consider reasonable opportunities to support other transport modes in developing infrastructure. As part of this, consistent with paragraph 3.19-3.22 above, the applicant should provide evidence that as part of the project they have used reasonable endeavours to address any existing severance issues that act as a barrier to non-motorised users.

8.2 Related to these points, as discussed above, the Tempsford/Barford area is clearly going to be subject to significant change in the future, with an EWR station and potentially levels of significant growth. We also already know the A1 is struggling in terms of capacity. As such, the Council considers a vehicular link off the proposed A428 route to the east of Little Barford should be provided or funded by HE, for example, through the Development Consent Obligation or a highways agreement, to enable traffic to divert off this road to the new EWR station, and potentially to new homes, prior to it reaching the A1. It is difficult to understand, without this, how any future growth could be accommodated in this area, and it is surely beneficial to consider this now as opposed to once the road is built out, when subsequent changes would be more costly and cause further disruption for communities. CBC would welcome discussion with HE on this.

9 Air Quality

9.1 The impacts of the construction phase of the proposed scheme are not considered likely to have a long-term significant detrimental effect air quality in our area. With regards to construction dust impacts the applicants have stated that dust control measures in accordance with IAQM guidance for controlling construction dust will be followed and those set out in Annex A of the Environmental Management Plan (First Iteration (APP-234)) appear to accord with this. We are generally satisfied with this in principle. However, our experience is that the failure in site dust controls that give rise to complaints tend to be because of poor implementation and management controls. Again Annex A (APP-234) and the associated tables set out a number of management measures that will be implemented to ensure dust controls are effective, and we are encouraged by this. Whilst the measures include a website where residents can report complaints, our experience is that residents prefer to complain to their Local Authority rather than the source of the problem. Therefore, close liaison and contact details for relevant Site Managers or other Senior Officials will need to be clearly established to deal with issues as and when they arise. Table A-3 of the First Iteration Environmental Management Plan (APP-234) says that “Regular liaison would be undertaken with the relevant local authorities, this would include discussing any complaints that had been received.” However regular is

not defined and CBC requests greater clarity and confirmation of close liaison and contact involved in the document.

9.2 The applicant has predicted an adverse impact on our Sandy AQMA and are not proposing to undertake any mitigation to counteract or offset that. The applicant during its Air Quality Modelling (see Sensitivity Test using 2020 Uncertainty Log Data report (APP-160 to APP-162) actually identified the potential for medium level impacts for the 7 properties that lie in the existing Sandy AQMA. However, because less than 30 properties are affected, they have simply classed this impact as "not significant". The size or scale of the impact is not the material factor as far as we are concerned – anything that likely to result in an adverse impact on the health of CBC residents at this highly sensitive location and is likely to counteract our fundamental efforts to improve air quality in the AQMA is not acceptable, particularly without mitigation measures to offset those adverse impacts. CBC's view is that mitigation must be incorporated and a requirement of the draft DCO.

9.3 We have significant concerns regarding the impact on air quality and on human receptors in the operational phases of the scheme: Currently it has been observed by Council officers visiting the area that there is regular congestion along the southbound A1 at the A603 roundabout, with queuing regularly stretching past the row of cottages fronting the A1, certainly during peak times (and sometimes beyond these periods), within the AQMA (declared for both the hourly and annual NO_2 Air Quality Objectives). The capacity of the A1 is already a concern, as my colleagues from CBC Highways have advised. It is already operating at capacity and there is a need for realignment or an alternative (but significant) solution to be found and funded and, whilst this issue falls outside of the DCO project, it highlights the need for the air quality issues from the project to be fully mitigate to avoid making the existing situation worse as a cumulative impact of the project. The proposed works would enable the A1 southbound traffic to be free flowing at the Black Cat roundabout, but this traffic would be held up at the next stopping point (the A1/A603 roundabout). The Transport Assessment concluded that there would be a "slight impact", however this is on the basis that local road traffic is predicted to reduce as a result of increased flows on the A1, with para. 10.5.3 of the Transport Assessment Annex (APP-243) acknowledging that 'In the 2040 AM peak hour, the traffic flows are predicted to increase significantly in the Do Something relative to the Do Minimum. Therefore the free-flowing traffic would add to the existing congestion/delays at the A1/A603 and this in turn would increase the road transportation emissions from tailpipes and have a detrimental impact on the pollution concentrations within the AQMA. There is a legal obligation for Local Authorities and Highways England to work to reduce concentrations of air pollutants and therefore the conclusion of the Air Quality Assessment that although the level of impact was medium, the fact less than 30 properties were adversely affected the overall impact was "imperceptible" and therefore no mitigation was proposed, is unacceptable.

9.4 The Sandy AQMA was declared in respect of both the NO_2 annual and hourly Air Quality Objectives and diffusion tube monitoring has shown exceedances of both AQOs at the 7 receptors annually. In 2019, the diffusion tube monitoring results showed that the concentration of NO_2 had decreased to below 60µg/m^3 (the level recognised to highlight breaches of the hourly objective) occurred for the first time at the location of the 7 identified receptors. The 2019 result (57.5 µg/m^3) is close to the hourly objective figure (see **Appendix 6**). However the results do vary year on year and therefore it is too early to conclude that air quality has improved enough to revoke the AQMA relating to the hourly objective exceedance.

9.5 Covid 19 restrictions have had an impact on air quality during 2020 & 2021 – lockdowns significantly decreased traffic flow numbers, and this was reflected in the 2020 monitoring result of 43.6 µg/m^3 at this location (see **Appendix 6**). However both 2020 & 2021 should be considered atypical

as air pollution concentrations will increase as traffic flows return to a more "normal" level. Given the high concentrations of NO_2 monitored prior to the proposed scheme, the additional delays at the A603/A1 roundabout will result in more congestion and queuing which already often stretches past the 7 receptors during peak times (and often beyond these periods) and within the AQMA. The predicted increase of NO_2 concentrations at this location because of the proposed scheme is counter to legislation requiring improvements in air quality to meet the AQOs. Additionally, the impacts of air quality on human health is well documented and the AQOs have been set with those in mind, so monitoring results above the 40 $\mu g/m^3$, show that impacts on the health of the receptors within the Sandy AQMA are a relevant concern and any scheme that will negatively impacting air quality, without offering any mitigation is unacceptable and this should be incorporated into the draft DCO requirements.

9.6 Central Bedfordshire Council have produced an Air Quality Action Plan (AQAP) (see **Appendix 7**) in order to improve air quality in the AQMA. This document has been published to the Council's website and Highways England were consulted and had input into the drafting and formulation of the document. We would contend that rather than offering no mitigation to offset the adverse impacts that they have identified as a result of this project, Highways England could use this as a starting point to identify a range of mitigation measures that could be reasonably implemented. Measures are either:

- Strategic (i.e. aimed at integrating air quality into all relevant areas of decision making within Central Bedfordshire Council); or
- Specific (i.e. aimed at promoting more sustainable travel choices and reducing traffic related emissions within the two AQMAs and the district as a whole).

Four 'Package of Measures' have been recommended for implementation at this time:

- Package 1: reducing emissions through strategic measures
- Package 2: optimising traffic flow through the AQMAs
- Package 3: reducing transport emissions
- Package 4: promoting sustainable transport options

9.7 Whilst more detail is available in the AQAP, we would suggest that the following measures may be most relevant to the current project:

Measure 1: Improve links with the Local Transport Plan (LTP)

Measure 2: Improve links with the Local Planning and Development Framework

Measure 4: Junction and Congestion Investigations

Measure 7: Research impact on use of average speed cameras / change to speed limit

Measure 10: reducing the emissions from goods vehicles within AQMAs

9.8 Whatever mitigation measures are identified, we are also acutely conscious how important it is that adequate measures are put in place to ensure that the A1 can operate effectively and cope with the volume of traffic at this location as a result of the project, otherwise traffic may be pushed onto local roads creating higher levels of pollution in those locations.

9.9 Of further concern to us is the fact that the applicant has not adequately factored in the cumulative impacts on AQ when combined with the East-West Rail Link (EWR) proposals, in particular regarding the proposed new station at Tempsford or St Neots and what that is likely to mean in terms of traffic generation on the A1 and consequent congestion etc. There appears to be an information disconnect with the EWR Project team (so we have been advised by the Black Cat Project Team), despite the EWR Project Team assuring me separately that they were liaising on the cumulative impacts for both projects. They need to resolve this to ensure an accurate assessment of cumulative impacts to accompany the DCO application is reflected in their prediction of air quality impacts, and the impacts on the Sandy AQMA are paramount in this respect.

10 Noise & Vibration

10.1 Construction Noise: Paragraph 11.3.11 of APP-080 makes reference to further baseline monitoring that was due to be carried out but "postponed" due to the impacts of Covid 19. We have now been advised that this further monitoring will not be taking place but are unclear as to the justification for this, as there was clearly an identified need for the further monitoring in the first place. The justification is requested from HE. We are concerned about the level of construction noise impact given the duration of the construction project. The proposed hours of work are outside those that we allow for construction sites in Central Bedfordshire, i.e. starting before 8am. CBC would normally allow 8am to 6pm Monday to Fridays, 8am to 1pm on Saturdays and no working on Sundays or Bank Holidays. However, in view of the size and scale of the project, CBC would consider it would be appropriate to allow variation to these hours where particular circumstances required this and appropriate mitigation measures were in place and requests the draft DCO requirements to be updated in this respect. Central Bedfordshire is an area of considerable growth with a plethora of construction sites already operating across our district, and residents have therefore been subject to impacts from these construction site operations at a local level for some time. For such a major project, it will be essential to ensure that any noise impacts are robustly controlled in accordance with the provisions of BS5228:2009 Parts 1 & 2 at all times and that this is a requirement of the draft DCO.

10.2 Construction Noise: Most of the receptors identified in table 11-10 are outside of Central Bedfordshire. However, the small number of receptors identified in our district (R16,17 & 18) are predicted to experience noise levels above the LOAEL, with R16 expected to experience levels above the SOAEL for daytime, evening & weekends and night-times which is a significant concern p 40, Document TR010044 Volume 6 6.1 Environmental Statement Chapter 11: Noise and Vibration (APP-080). The assessment states that these works will be of very short duration (p 46-7, Document TR010044 Volume 6 6.1 Environmental Statement Chapter 11: Noise and Vibration (APP-080)), but this is not clarified and clarification from HE is requested. We would need to see further clarification (once details of the works are known, as referenced in paragraph 11.9.13) of this before we can comment on the assessment of significance, although the level of impact (i.e. daytime, evening & weekends and night-times) predicted for R16 above the SOAEL in itself is a concern even if this is of "very short duration". We note the proposed use of localised noise barriers (p36 Paragraph 11.8.4, Document TR010044 Volume 6 6.1 Environmental Statement Chapter 11: Noise and Vibration (APP-080)) and encourage these to be deployed where necessary to reduce construction noise impacts on residential receptors and for this to be set out as forming part of the construction noise mitigation measures required under the First or Second Iteration of the Environmental Management Plan. We note the intention to undertake surveys to check compliance with BPM measures, but would want to know details as to frequency of these, and who would be carrying them out, reporting arrangements etc. The details are requested from HE.

10.3 Operational Noise: Our concerns for this phase of the project relate to the identification of significant adverse daytime and night-time noise impacts on a small number of receptors in our area (see Table 11-13 and paragraphs 11.9.54 & 11.9.56-60 on TR010044 Volume 6 6.1 Environmental Statement Chapter 11: Noise and Vibration (APP-080)) who will see noise levels as a result of the new road scheme increase by around 9dB. The project team are not proposing any further mitigation beyond the embedded mitigation measures already identified to try and address these significant adverse impacts i.e. therefore the +9dB increase will be present even with the embedded mitigation in place. The report states that noise bunds and barriers have been considered, but these have been discounted either because they are not considered to be effective or on cost grounds. We would contend that these are not the only mitigation measures that could or should be considered. Furthermore, we have not seen any cost-benefit calculations to justify their exclusion on cost grounds and this is requested from HE. In my opinion, they are failing in their primary objectives as set out in their Noise & Vibration Environmental Statement chapter (APP-080), reflecting the NPSE objectives (see 11.2.18). Our position at this point is that it is simply not acceptable to expect existing residents, no matter how small in number, to be subjected to such significant long-term adverse noise impacts as a result of the operation of the new road scheme and not identify and incorporate further noise mitigation measures into the draft DCO requirements that could be implemented to alleviate those impacts.

10.4 Operational Noise: The cumulative noise impact of both the EWR project and this project operating at the same time has again not been assessed and this is requested by CBC. In theory, we would anticipate it is possible that noise from the A1 to dominate to such an extent that the contribution of the EWR operation overall will have little additional impact over and above that already identified. However this still needs to be considered and demonstrated as both are major infrastructure projects that are likely to impact on the ambient noise environment in this area for the long-term. We appreciate there may be difficulties with communication and co-ordination between the two project teams, but that does not obviate the need for these impacts to be properly and robustly assessed, particularly for 2 schemes of such magnitude and significance and in such close proximity to each other.

11 Archaeology

11.1 The Council can confirm that the fieldwork element of advanced archaeological mitigation works in Field 34 has been completed and we have received a timetable for the post-excavation assessment works. The fieldwork element of the advanced archaeological mitigation works in Field 44 commenced in July 2021 and is ongoing with Archaeology Team having accompanied representatives from AECOM/Highways England on two monitoring visits thus far. Further monitoring visits are scheduled and the excavations in Field 44 are anticipated to continue (as per the agreed timetable) into the spring of 2022.

11.2 With reference to the documents submitted in support of the DCO application, the Archaeology Team can confirm that we are content with baseline data gathered and presented in section 6.6 of Chapter 6, Cultural Heritage (APP-075). It is our opinion that this information is sufficient to describe the significance of any heritage assets affected by the proposed scheme and to develop an appropriate mitigation strategy. In this regard, we consider that the information presented by the applicant on the baseline archaeological resource is compliant with section 5 of the NPSNN, paragraph 194 of the NPPF (revised July 2021), Policy HE1 of the Central Bedfordshire Local Plan 2015-2035 (adopted July 2021) and Reg 18 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended 2018). Whilst we accept the scheme will result in the loss of archaeological remains, which are an irreplaceable resource. It our considered opinion that

the proposed mitigation will allow for a greater understanding of the historic environment within this part of Central Bedfordshire and create opportunities for enhancement of and public engagement with the resource.

11.3 The application is also supported by an *Archaeological Mitigation Strategy* (APP-238). The Archaeology Team are broadly in agreement with the overarching principles set out *Archaeological Mitigation Strategy* with reference to the investigation and in some cases preservation *in situ* of archaeological remains affected by the proposed scheme in Central Bedfordshire. We are also pleased to see that our comments on the overarching themes and period specific research aims provided to AECOM in October 2020 have been considered in the preparation of this document. There are elements of the current version of the *Archaeological Mitigation Strategy* that we feel need revision. This largely relates to the fact that at present there is some disparity between this document and the agreed scopes of work and approved written schemes of investigation relating to the investigation and recording of Site 4 (Field 34) and Site 7 (Field 44) associated with planning consents CB/20/04391/FULL https://centralbedfordshire.app.box.com/file/761556624216?s=4n0weqb62zxctzzz5obe13z41dpzdo2d granted for archaeological excavation and engineering works with associated temporary change of use and formation of site compound comprising site offices, welfare facilities and off road parking facilities and and CB/20/04185/FULL https://centralbedfordshire.app.box.com/file/756974384305?s=l99syg3fvqbbyfc4le4nf14cymtkhqro granted for archaeological excavation and associated engineering works This means that the *Archaeological Mitigation Strategy* needs to be amended to reflect the requirements of the *A428 Joint Authorities Archaeology Brief.*

11.4 The key points of issue with the current version of the *Archaeological Mitigation Strategy* (APP-238) are as follows:

- The *Archaeological Mitigation Strategy* should accord with the already approved scopes of work and written schemes of investigation for the advanced archaeological works (see more detailed issues below)
- The *Archaeological Mitigation Strategy* should accord the *A428 Joint Authorities Archaeology Brief* (see more detailed issues below)
- The project objectives (section 2.2) should include a commitment to making the physical (artefacts and ecofacts) archives publicly accessible, through their deposition at an accredited Museum/County Store. In the case of Central Bedfordshire this is the Higgins Art Gallery and Museum in Bedford. This is necessary to ensure that the project complies with paragraph 5.140 of the NPSNN, paragraph 205 and footnote 69 of the NPPF and policy HE1 of the Central Bedfordshire Local Plan 2015-2035
- The *Archaeological Mitigation Strategy* must include details of all artefact/ecofact specialisms likely to be involved in the project. The current list in section 5.3 is partial. It is also recommended that the Local Authority Archaeological Officers are given the opportunity to comment on the proposed specialist input, as our local expertise means we may have knowledge of others who could/should be involved in the project.
- The Site Specific Written Schemes of Investigation (discussed in section 6) should also include Data Management Plans, draft Site Specific Selection Strategies, and details of the proposed location for the final archives including the unique accession numbers assigned and a commitment to provide the relevant web citation for the digital elements of the archive to be deposited with the Archaeology Data Service. This information is required in order that they comply with the Chartered Institute for Archaeologists Standards and

Guidance (as amended in 2020) and local requirements for Bedfordshire and Cambridgeshire. With reference to Site 4 (in Field 35) and Site 5 (Field 35) we suggest that the Site Specific Written Schemes of Investigation should draw on information obtained from the Advanced Works investigations. This should include approaches to the excavation methodology, environmental sampling/processing and artefact recovery. This is necessary to ensure lessons learnt from the Advanced Works are applied across the scheme.

- Section 7 of *Archaeological Mitigation Strategy* deals with monitoring and at present reads as though the applicant is seeking to limit the amount of monitoring undertaken by the Local Authority Archaeological Officers. Our experience of monitoring the Advanced Works fieldwork phase of site 4 (and elsewhere) has demonstrated that the arrangements for monitoring/consultation meetings should not be fixed or limited. We therefore suggest that the provision for monthly meetings is in inadequate and should be amended to allow greater frequency. We also note this section is currently at odds with section 13 of the document which does not restrict the frequency of meetings and the already approved advanced works written schemes of investigation for F34 and F44.
- Whilst we accept that the excavation/feature sampling strategy outlined in the Archaeological Mitigation Strategy is intended to be a guide. We recommend it is brought into line with the sampling strategies already agreed and approved for the Advanced Works sites. We also suggest that a commitment to liaise with the recipient Museum/County Store during finds processing (section 8.8) is added to this section.
- Through liaison with the applicant and AECOM it is understood that part of Site 4 in Field 35 will also be the subject of preservation in situ, indeed it is shown as such in the table that forms part of Appendix D Archaeological Mitigation Action Areas. However, it is absent from Section 11. Clarification is required regarding whether this area will be subject to preservation *in situ* and Section 11, or Appendix D amended accordingly.
- It is noted that 13.4.2 states the intention that all fieldwork inventions will be considered as single “site” for the purposes of post-excavation assessment and analysis. This is ambiguous and seems at odds with the proposals to investigate the individual sites on the basis of the four categories outlined in section 5.1.2. It also seems to suggest that local conditions that may have led to variation in character and significance of each individual site are not relevant. Given these points are highlighted as important in Sections 4 and Appendix C we suggest this statement needs clarification at the very least. Additionally, section 13.5 omits any involvement of the Museum/County Store in the publication and dissemination phases of the project. This needs to be revised to include the Higgins Art Gallery and Museum, who as the intended recipient of the physical archive for the sites in Bedfordshire are a key stakeholder in the project.
- Section 14 needs to explicitly include the Higgins Art Gallery and Museum as a stakeholder during the preparation of both the Data Management Plan and site specific Selection Strategies for the project. Section 14.2.5 needs to be revised to clearly state that each site will be assigned a unique accession number by the recipient Museum/County Store, as this has already been agreed with the Higgins Art Gallery and Museum. It is also suggested that 14.2.7 is updated to include adherence to the deposition guidelines produced by the recipient Museum/County Store and ADS as failure to comply with these could result in the rejection of the archives.
- The inclusion of a dedicated public archaeology and community engagement strategy as Appendix E is welcomed, however suggest that E.1.3.8 should be updated to include relevant elected members as an audience category.

11.5 There is also a need for the *Archaeological Mitigation Strategy* and the *A428 Joint Authorities Archaeology Brief* (prepared by Cambridgeshire County Council in consultation with Bedford Borough Council and Central Bedfordshire Council) to be in congruence. HE is requested to review its plan to ensure this is the case in liaison with CBC.

11.6 The applicant is in possession of our comments on the *Archaeological Mitigation Strategy* and we are given to understand that they are working on a revised document which will take these comments into account. We can also confirm that colleagues in Cambridgeshire are making some minor revisions to the *A428 Joint Authorities Archaeology Brief* which would ensure that the two document complement one another. If this can be achieved, then it is the opinion of the Archaeology Team that Requirement 9 of the applicant's draft Development Consent Order (document reference APP-025) which indicates the development would be carried out in accordance with the *Archaeological Mitigation Strategy* would be appropriate. This will be reviewed when the revised documents are available. Subject to the review of those documents, in our opinion, this would mean that the proposed scheme complies with the section 5 of the NPSNN, chapter 16 of the NPPF (revised July 2021), Policy HE1 of the Central Bedfordshire Local Plan 2015-2035 (adopted July 2021) and that application can be successfully determined in relation to Reg 26 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended 2018).

12. Flood Risk

12.1 The main aspects of the scheme that have the potential to impact flood risk within Central Bedfordshire are located within parts of catchment 1, 3 and 4, as outlined in 'Drainage Engineering Plan Regulation 5(2)(O) & 6(2) Key Plan'. These aspects are predominantly alterations to watercourses and the discharge of surface water from the highway, they have been considered in the Flood Risk Assessment (ES Appendix 13.4 (APP-220 to APP-224)) and Drainage Strategy Report (ES 13.3 (APP-219)).

12.2 The Flood Risk Assessment (FRA) identified the River Great Ouse, a Main River, as the largest watercourse in the study area. The river forms the boundary between Central Bedfordshire Council (CBC) & Bedford Borough Council, due to its classification as a Main River it has associated EA Flood Zone Models and is the EAs responsibility. There is one identified ordinary watercourse in the FRA that falls within the route and CBC boundaries, Rectory Farm (Stone Brook tributary), which has a catchment area of 0.90km^2. Due to the size the Rectory Farm watercourse has no associated modelled Flood Zones.

12.3 The FRA includes 'Annex B: Ordinary Watercourse Modelling Report', which houses the modelling of the Rectory Farm watercourse in a baseline state and under the scheme scenario, inclusive of any diversions and proposed culverting.

12.4 The scheme, a realigned channel and two new culverts beneath the access road and beneath the new dual carriageway, was found to have a negligible impact on Rectory Farm on the inclusion of flood mitigation designed to replace the loss of flood zone caused by the carriageway's placement. The mitigation was conservatively designed for the 1% AEP (+65% CC) so in theory provides ample compensation for the flood zone loss. Any minor increases to channel flow or flood depth fall within the Order Limits and are on undeveloped agricultural land.

12.5 The risk of structure blockages, sediment build up and potential backwater effects caused by high water levels in the River Great Ouse are mentioned and outlined as potential limitations of the modelling. A detailed maintenance plan is therefore key at the detailed design stage to clearly outline the ownership, techniques, and frequency for site drainage maintenance. In the event of a

failure or blockage exceedance flow paths should ensure the flooding is maintained within the study area and is directed primarily to areas of flood zone mitigation.

13 Drainage Strategy

13.1 A drainage strategy is required to ensure that surface water discharge from the site is attenuated on site, discharged at acceptable rates, and undergoes adequate water quality treatment whilst primarily preventing an increase in flooding on or off site.

13.2 The submitted drainage strategy outlines the key parameters and standards that should be followed to generate a detailed, sustainable drainage design. The submitted Drainage Strategy Report (ES Appendix 13.3 (APP-219)) addresses the core requirements of a drainage strategy:

- Manage surface water runoff from the development for up to and including the 1 in 100-year event (+40% CC), whilst incorporating the use of SuDS.
- Discharge rate from the development will be limited to the equivalent greenfield 1 in 1-year rate or Qbar discharge rate, as agreed appropriate by the Local Planning Authority or IDB.
- The use of SuDS has been designed in line with the CIRIA SuDS Manual (2015) and after consultation with the LLFA.
- The loss of Flood Zone caused by the placement of the new carriageway has been considered and accommodated for through the provision of flood zone mitigation areas that compensate for the original loss of area.

13.3 Should the drainage strategy be delivered as specified on the ground then the flood risk posed to land, buildings and infrastructure within CBC should be negligible.

13.4 The key to managing flood risk for the carriageway and drainage systems located within CBC boundaries for the long-term is ongoing maintenance. Provision of a detailed maintenance plan which outlines the ownership, techniques and required frequency of maintenance is pivotal in this role.

14 Comments on draft DCO dated 26 February 2021 (Document 3.1 (APP-02)) / Development Consent Obligation

a) An appropriate fund contained in the Development Consent Obligation or secured in some other manner in connection with the DCO should be allocated and payable to CBC for addressing resulting safety, capacity, or amenity issues. CBC would welcome a discussion with HE over the appropriate level of funding.

b) Station Road is not suited to accommodating significant construction traffic or extraordinary loads, and as such CBC requests that this is addressed in connection with the DCO (whether as a DCO requirement, incorporated documents listed in Schedule 2 or some other mechanism). CBC would welcome discussion with HE.

c) Temporary or permanent signal control or other works are expected to be required to regulate traffic flows at the junction onto the A603 from Vinegar Hill. CBC would welcome a discussion with HE to agree an appropriate contribution to deliver these works as part of the Development Consent Obligation or a highways agreement.

d) CBC would welcome discussion with HE on measures to mitigate the traffic and safety impacts of other diversion routes and incorporating them into the DCO requirements (or incorporated

documents listed in Schedule 2), including the timing of any closures and any associated diversions in the context of the proposed works to Barford Road to ensure no conflict between the two.

e) Monitor and Manage proposal - CBC would welcome a discussion with HE as to whether this is something that could be covered by a Development Consent Obligation, for example, or in some other manner in connection with the DCO, including timing, frequency, methodology, governance, triggers for intervention (including detriment to the operation of local road approaches), and funding.

f) CBC requests that access over/under the A428 is easy as possible for people to access without using their cars, in particular securing sufficient width on the bridge deck for the Barford Road and would welcome discussion with HE regarding securing as a DCO requirement (or incorporated documents listed in Schedule 2).

g) A vehicular link off the proposed A428 route to the east of Little Barford should be provided, to enable traffic to divert off this road to the new EWR station, and potentially to new homes, prior to it reaching the A1. CBC would welcome a discussion with HE regarding funding or provision in connection with the DCO.

h) Sandy AQMA mitigation as a DCO requirement (or incorporated into documents listed in Schedule 2).

i) CBC requests that Table A-3 of the First Iteration Environmental Management Plan (APP-234) is updated so that there is greater clarity and confirmation of close liaison and contact with local authorities in the document.

j) Additional noise and vibration monitoring and mitigation is requested on the matters outlined in this representation, with the mitigation secured as a DCO requirement (or incorporated documents listed in Schedule 2).

k) CBC requests that the working hours in the DCO requirements are updated as follows:

8am to 6pm Monday to Fridays, 8am to 1pm on Saturdays and no working on Sundays or Bank Holidays. However, in view of the size and scale of the project, CBC would consider it would be appropriate to allow variation to these hours where particular circumstances required this and appropriate mitigation measures were in place.

l) CBC requests that the proposed use of localised noise barriers is set out as forming part of the construction noise mitigation measures required under the First or Second Iteration of the Environmental Management Plan.

m) Definition of “advanced works permission” on page 5 – insert date of planning permission as 8th April 2021.

n) CBC would recommend the following underlined elements are deleted from the definition of “commence” in the draft DCO:

“commence” means beginning to carry out any material operation (as defined in section 56(4) of the 1990 Act) forming part of the authorised development other than operations

consisting of archaeological investigations and mitigation works, environmental surveys, **pre-construction mitigation works,** investigations for the purpose of assessing and monitoring ground conditions and levels, **remedial work in respect of any contamination or other adverse ground conditions, erection of any temporary means of enclosure, temporary hard standing, receipt and erection of construction plant and equipment, diversion and laying of underground apparatus and utilities, protection works, demolition (save in relation to Brook Cottages), site clearance, construction compound set up,** and the temporary display of site notices or advertisements, and "commencement" is to be construed accordingly;

o) Article 13 (Construction and maintenance of new, altered or diverted streets and other structures) on page 13 – constructed highways etc. from completion will be maintained by the Local Highway Authority at its expense. However, CBC requests that funding for maintenance is paid by HE to CBC as commuted sum/s and secured by the Development Consent Obligation or other statutory agreement.

p) Schedule 2, paragraph 5 (Details of consultation) on page 58 – there are documents that CBC would like to be consulted on:

i) Air Quality Management Plan;
ii) Noise Management Plan;
iii) traffic management plan
iv) Detailed design of works on CBC highway;
v) Highway lighting on any CBC highway;
vi) Noise mitigation.

q) Schedule 10 (Documents to be certified) on page 222, notable omissions that need to be added:

- Transport assessment (APP-241 to 243) which includes the 'Monitor and Manage' mitigation;
- Air quality mitigation; and
- BS5228:2009 Parts 1 & 2 for noise mitigation.

15 Conclusion

15.1 CBC remains supportive of the proposal in principle, but would welcome further discussion with HE to address its concerns set out above and incorporation of requirements into the draft DCO and any Development Consent Obligation to address its concerns and secure necessary mitigation, particularly regarding:

• Construction phase traffic impacts affecting Central Bedfordshire;

• Construction routing;

• Diversion routes;

• Operational phase traffic impacts affecting Central Bedfordshire;

• Bardford Road bridge, particularly in relation to sustainable transport;

• Requested A428 vehicular link to the east of Little Barford;

• Air Quality including the Sandy AQMA; and

• Noise & vibration.

APPENDICES

Appendix 1 – CBC Table of Replies to ExA Questions dated 20/8/21

Appendix 2 – CBC Table of Replies to ExA Hearing Action Points from Hearing on 18/8/21

Appendix 3 – CBC Planning decision notice and site plan for CB/20/04083

Appendix 4 – Highways England – A1 East of England Strategic Study Stage 3 Report

Appendix 5 – CBC Exam 12: - Note on the Identified Locations for Future Growth June 2019 CBC Local Plan 2015-2025

Appendix 6 – CBC N02 Results Sandy

Appendix 7 – CBC Air Quality Action Plan 2019 - 2024

Appendix 1

CBC Table of Replies to ExA Questions dated 20/8/21

Question number	Question	Who to respond	Answer
Q1.2.1.1	**Decarbonising Transport** The Government recently published "Decarbonising Transport" document in response to the UK's 6th Carbon Budget (2033-2037). What are the implications of "Decarbonising Transport" for the Proposed Development, including in terms of the Environmental Impact Assessment?	Jodie Iriwn Paul Salmon Kay Sterling?	Any move to decarbonising would not impact the use, as the shift to EV vehicles and carbon natural will still mean people using the route. Assist with the old road be detrunked for a local route at carbon zero.
Q1.2.1.2	**Sandy Air Quality Management Area** ES [APP-074, paragraphs 5.9.12–5.9.13] states that the magnitude of NO2 change is predicted to be imperceptible at the 7 identified receptors in Sandy. a) Does CBC agree with this assessment? If not, explain with reasons. b) Are there other design options or measures that should be considered to improve air quality at this location?	Guy Quint	**a)** CBC do not agree with this assessment for the following reasons. Currently, our Air Quality Officer has observed regular congestion along the southbound A1 at the A603 roundabout, with queuing regularly stretching past the row of cottages fronting the A1, certainly during peak times (and sometimes beyond these periods), within the AQMA (declared for both the hourly and annual NO2 Air Quality Objectives). The capacity of the A1 is already a concern, as colleagues from CBC Highways have advised. It is already operating at capacity and there is a need for realignment or an alternative (but significant) solution to be found and funded, outside of the DCO.

			The proposed works would enable the A1 southbound traffic to be free flowing at the Black Cat roundabout, but this traffic would be held up at the next stopping point (the A1/A603 roundabout), this is evidenced in part by the forecast increase in flows on the A1 north of the A1/A603 junction, with 12-hour flow increases of circa 12% and AM peak hour flow increases of circa 17%, as detailed within the Transport Assessment Annex (APP-243) and supporting model flow plots. Therefore, the free-flowing traffic would add to the existing congestion/delays at the A1/A603 and this in turn would increase the road transportation emissions from tailpipes and have a detrimental impact on the pollution concentrations within the AQMA. This is a known consequence of traffic dynamics, as increased queuing traffic at a given location generally leads to increased emissions from vehicle exhausts at that location. There is a legal obligation for Local Authorities and Highways England to work to reduce concentrations of air pollutants The applicants identified the potential for medium level impacts for the 7 properties that lie in the existing Sandy AQMA (as per section 5.5 of TR010044, Volume 7 7.9 Sensitivity Test using 2020 Uncertainty Log Data). However, because less than 30 properties are affected, they have simply classed this impact as “not significant”. The number of properties impacted is not the material factor as far as CBC is concerned – anything that likely to result in an adverse impact on

			the health of CBC residents at this highly sensitive location and is likely to counteract our fundamental efforts to improve air quality in the AQMA is not acceptable, particularly without mitigation measures to offset those adverse impacts. **b)** CBC have produced and published to our website an Air Quality Action Plan (AQAP) (which has been appended to the Council's written representation), which Highways England were invited to contribute to, which sets out a range of mitigation measures that CBC is looking to implement to improve air quality at this location. Measures are either: • Strategic (i.e. aimed at integrating air quality into all relevant areas of decision making within Central Bedfordshire Council); or • Specific (i.e. aimed at promoting more sustainable travel choices and reducing traffic related emissions within the two AQMAs and the district as a whole). Four 'Package of Measures' have been recommended for implementation at this time: • Package 1: reducing emissions through strategic measures • Package 2: optimising traffic flow through the AQMAs • Package 3: reducing transport emissions • Package 4: promoting sustainable transport options Whilst more detail is available in the AQAP, CBC would suggest that the following measures may be most relevant to the current project and mitigation secured as a requirement of the draft DCO:

			• Measure 1: Improve links with the Local Transport Plan (LTP) • Measure 2: Improve links with the Local Planning and Development Framework • Measure 4: Junction and Congestion Investigations • Measure 7: Research impact on use of average speed cameras / change to speed limit • Measure 10: reducing the emissions from goods vehicles within AQMAs CBC know that junctions on the A1 are forecast to be operating at, or over, capacity, even prior to the addition of further traffic associated with the DCO scheme, as detailed within the submitted Transport Assessment Annex (APP-243). Therefore, investigation into the junction/congestion at this location would be advantageous in highlighting problems and identifying actions to reduce congestion/queuing and thereby reducing emissions. Stop/start traffic tends to emit higher emissions. Limiting speeds have been explored at various locations on the HE network and there have been reductions in the speed limit on at least one section of the M1 and probably some other roads made with regard to minimising air pollutants. Speed limits need to be enforced and use of average speed cameras would help prevent drivers from slowing down for the safety camera before accelerating away and need to be secured as a requirement of the draft DCO. It is important that measures are put in place to ensure that the A1 can operate effectively and cope

			with the volume of traffic at this location, otherwise traffic may be pushed onto local roads creating higher levels of pollution in those locations.
Q1.2.1.4	**Dust control** With specific regard to the control of construction dust, are LAs and PHE satisfied with the measures proposed in the first iteration EMP and the level of detail that will be secured in the dDCO through the First Iteration EMP [APP-234, Annex A, Tables A-1, A-2, A-3].	Guy Quint	The applicants have stated that dust control measures in accordance with IAQM guidance for controlling construction dust will be followed and those set out in Annex A to The First Iteration EMP (APP-234) appear to accord with this. CBC are generally satisfied with this in principle. However, our experience is that the failure in site dust controls that give rise to complaints tend to be because of poor implementation and management controls. Again Annex A and the associated tables set out a number of management measures that will be implemented to ensure dust controls are effective, and CBC is encouraged by this. Whilst the measures include a website where residents can report complaints, our experience is that residents prefer to complain to their LA rather than the source of the problem. Therefore, close liaison and contact details for relevant Site Managers or other Senior Officials will need to be clearly established to deal with issues as and when they arise. In Table A-3 of the First Iteration EMP it talks about liaison and states: "Regular liaison would be undertaken with the relevant local authorities, this would include discussing any complaints that had been received." However regular is not defined and is therefore open to interpretation.
Q1.3.1.1	**Protecting and improving**	Liz Anderson / Siobhan Vincent	Within the CBC area we believe they have.

	biodiversity Have all reasonable opportunities for protecting and improving biodiversity been taken, in line with the policy requirements in the NPS NN (paragraphs 5.20-5.38)?	/ Alexandra Fraser	
Q1.3.5.1	**Adequacy of mitigation measures** The Proposed Development includes a four-lane highway, three grade separated junctions and associated works; the existing A428 would be retained and de-trunked. Roads are barriers to the movement of various terrestrial and aquatic species, and the scheme proposes various measures, such as underpasses and culverts, to mitigate this, which are partially referenced in the Schedule of Mitigation [APP-235, Table 4]. Habitat creation and restoration are also proposed. a) NE and LAs, with reference to the habitats to be lost and gained in the area [APP-077, Table 8-9], is the provision of certain types of habitat particularly important to	Liz Anderson / Siobhan Vincent / Alexandra Fraser	**a)** There are no particular issues/concerns within CBC. **b)** No impact on significant land within CBC. **c)** CBC believe the provision of underpasses and culverts within the CBC area is satisfactory. **d)** N/A. **e)** CBC believe this to be satisfactory in the CBC area.

	biodiversity in this area, and if so which types? b) With reference to the habitats to be lost and gained in the area [APP-077, Table 8-9], would there be an increase or reduction of such habitats as a result of the proposed mitigation? c) (NE and LAs, Would the design, number and location of underpasses and culverts be sufficient to prevent aquatic and terrestrial habitat fragmentation? d) Applicant, why are only some of these measures referenced in the Schedule of Mitigation [APP-235], and then only in limited terms (e.g. mammal ledges)? e) NE and LAs, would the size and locations of the proposed habitats be sufficient to create or link to existing functional habitats and so support biodiversity?		
Q1.6.2.2	**Construction compounds** Should the maximum heights for any hoarding that may be required be secured in the	Siobhan Vincent	Yes, this would enable the impact of the compound to be fully considered. In order for there to be minimal landscape impact in relation to the hoarding, the height should not exceed the

	Construction compound management plan, and the dDCO [APP-234, Annex K]		height of the compound buildings.
Q1.6.3.1	**Pre-commencement works plan** a) Pre-commencement works plan is a certified document in Schedule 10 of the dDCO [APP-025]. When will this be submitted to Examination? If this is to be prepared on a later date, can you submit a draft or outline for consideration in the Examination? b) Have local authorities seen a draft or outline of the pre-commencement works plan?	Andrew Cundy	**b)** CBC has not seen a draft.
Q1.6.3.3	**Roles and responsibilities** Provide a list of roles that are named in the EMP, CTMP or any other certified document, that would specifically be appointed for mitigating the effects of the Proposed Development. Provide a brief description of duties and reporting lines. Refer to related questions in Draft	Andrew Cundy	It is CBC's position that, due to the considerable amount of monitoring, management and local liaison that will be required throughout the construction period, that funding is put in place in the Development Consent Obligation or secured in some other manner in connection with the DCO payable to CBC to cover the following for the duration of the construction works (and a subsequent reasonable period post completion to carry out any post construction monitoring): • A CBC officer with specific responsibility for monitoring, addressing, and managing local impacts, including local liaison.

	Development Consent Order.		• Council's Archaeologist would be responsible for monitoring the archaeological mitigation works and ensuring compliance with the AMS APP-238 (see also Requirement 9 of dDCO APP-025).
Q1.7.3.4	**Article 5 – Maintenance of authorised development, and Article 13 – Construction and maintenance of new, altered or diverted streets and other structures** a) Applicant, are there any other instances, other than those identified in Article 13, where an agreement made under this Order would constitute the exception referred to in Article 5. b) LHAs, comment on the provision in Article 13 in relation to maintenance of new, altered or diverted streets and other structures.	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	**a)** N/A. **b)** As per Section 4 of the Highways Act 1980, Highways England is to pay CBC for taking on any maintenance liabilities. This payment will be in the form of a commuted sum. The calculation will be based on routine maintenance and lifecycle work activities for assets and a still to be discussed length of time. Highways England is to refer to point 1.B of Section 94 of the Highways Act 1980 in relation to CBC only maintaining the highway rather than the structure. Per Section 277 of the Highways Act 1980, CBC may recover expenses from Highways England for maintenance activities relating to the bridge. Per Section 59 of the Highways Act 1980, CBC may recover expenses from Highways England for the diversion of extraordinary traffic onto local roads.
Q1.7.3.5	**Article 6 – Application of the 1990 Act** a)Applicant, list the instances where the temporary construction works will be delivered under Article 6, identifying the	All	**a)** N/A **b)** Where temporary access works are provided which may require traffic management to operate effectively and safely, these works may not be suited to permanent retention. Any temporary construction

	relevant local authorities and effected landowners. b)LAs, comment on reasonableness of Article 6(3), in particular "any temporary works constructed under this Order may be retained permanently", and highlight any concerns.		compound areas should be returned to previous condition.
Q1.7.3.6	**Article 7 – Planning permission** a)Applicant, should (1) appear at the start of the first line? b)LPAs and Applicant, are there any extant Planning Permissions issued pursuant to the 1990 Act within he Order Limits that will be relevant under Article 7(2)?	Andrew Cundy	**a)** N/A **b)** The below are relevant and relate to the AW archaeology: CB/20/04083/FULL CB/20/04185/FULL CB/20/04391/FULL
Q1.7.3.7	**Article 9(1) – Limits of deviation** a)The Applicant proposes differing maximum limits of deviation, depending on the works number, represented by coloured shading on each works plan. Why has the Applicant not proposed a consistent, specific maximum distance limit of horizontal deviation in the dDCO (as has been adopted for vertical limits of deviation)?	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	**a)** N/A **b)** It is likely that detailed design would be subject to constraints on the horizontal plane which may vary between sections of the works. As such the extent of potential deviation may also vary.

	b) Do Local Authorities consider the approach taken to be acceptable? If not, explain why		
Q1.7.3.10	**Article 13 – Construction and maintenance of new, altered or diverted streets and other structures** a)Applicant, explain the meaning of "from its completion"; what would determine "completion" of any highways that would be constructed under this Order? Where is this described, and where in the dDCO is the meaning of 'completion' secured? b)LHAs, do you have any concerns with the provisions in Article 13?	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	**a)** N/A **b)** Confirmation of the meaning of 'Completion' is required, i.e.: whether this allows for a maintenance period to identify potential defects. The completion should be 12 months after the works have been finalised, which would be extended for a further 12 months from the final date of any remedial works. This period would allow for Highway England to address any snagging issues. It will allow Highways England to monitor asset performance within the one year guarantee period provided by their works contractor. If there are any performance issues, Highways England would be able to send their contractor back to undertake remedial action.
Q1.7.3.11	**Article 14 – Classification of roads, etc.** a)Applicant, explain the meaning of "completed and open for traffic"; what would determine the roads described in the dDCO are "completed" and 'open for traffic'? Where is this described, and where in the dDCO is the meaning of "completed" and	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	**a)** N/A. **b)** N/A. **c)** Yes, it is not clear and specific and needs more clarity and the vehicle type needs to be clearly defined and written in an order. CBC request discussion with HE on this.

	"open for traffic" secured? b)Should "authorised vehicle" be defined in Article 2? Explain giving reasons, and provide suitable wording. c)LHAs and LPAs, do you have any concerns with the provisions in Article 14?		
Q1.7.3.13	**Article 20 – Clearways, prohibitions and restrictions** Are LHAs in agreement with the intended role and powers of a Traffic Officer? If not, explain why.	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	Yes.
Q1.7.3.15	**Article 22(4) – Protective work to buildings** Is 14 days adequate notice for the undertaker to serve notice on the owners and occupiers of the building of its intention of carrying out protective works under this article, specifying the works proposed to be carried out?	Andrew Cundy	Yes.
Q1.7.3.17	**Article 23 - Authority to survey and investigate the land** a)Comment on the provision in Article 23(1) for the undertaker to, for the purposes of the construction, operation or maintenance of the	Andrew Cundy	**a)** Agree with the provisions. **b)** Yes.

	authorised development, enter any land which is adjacent to, but outside the Order limits. b)In Article 23(2), is 14 days adequate notice for the undertaker to enter land and place equipment for the purposes of survey or investigation? Applicant to comment.		
Q1.7.3.23	**Article 55 – Traffic regulation** Who will determine the date of "opening of the authorised development for public use" referred to in Article 55(3) and (7), and how? Where is this set out and secured? Traffic Authorities to comment?	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	CBC would request clarity on this matter from HE.
Q1.7.5.4	**Requirement 12 – Detailed design** a)Should this secure the Engineering sections? b)Should this include requirement for design principles and detailed design proposals for structural elements of the Proposed Development, such as bridges, viaduct, gantries, and underpasses, and other fixtures, such as street lighting, signages and railings?	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	**d)** Yes; Policy EE5 – Central Bedfordshire Local Plan 2015 – 2035.

	c)NPS NN states that design should be an integral consideration from the outset of a proposal, and Applicant should demonstrate how the design process was conducted and how the proposed design evolved. Should this requirement secure such a design development process for elements that are not yet in the Application material? d)LPAs, are there local design policies that would be relevant for the design development process, and design outcomes, particularly in areas that will affect conservation areas and sensitive landscapes? Should the EMP and Requirement 12 make reference to these local design policies? Applicant to comment.		
Q1.7.5.6	**Requirement 19 – Construction hours** Requirement 19(2) provide widely drawn exceptions to defined construction hours, in particular (k), (m), and (n), which could enable general construction	Guy Quint Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	Restrictions will still apply and some works will not be out of these hours. The construction hours proposed are in excess of those prescribed within the CBC Construction Code of Practice for Developers and Contractors - details of which are available on the Council's website. CBC would expect works affecting

	activities. Provide justification. Local Authorities to comment.		communities within the authority area to be in accordance with the Council's Construction Code of Practice. It is noted that the exceptions to working hour limits are relatively broad, including deliveries, piling works and works associated with, or adjacent to, the Rail Line. CBC would wish to see deliveries subject to the same restrictions as other works, with the option of agreeing specific, rather than blanket, exceptions.
Q1.8.3.1	**Planning Permission for excavations** The Applicant has stated that a planning application to excavate archaeological remains has been submitted to e) CBC [APP-158, paragraph 1.4.3] CBC, provide an update on the status of the Planning Application. f)If the Planning application has been determined, provide a summary of conditions. g)CBC, is the Applicant's approach to these excavations in accordance with the Archaeological Mitigation Strategy [APP-238]? h)HistE, were you consulted on this application, and if so, what were your	Andrew Cundy Hannah Firth	**f)** Yes – Planning application reference CB/20/04185/FULL – Land to the West of Hills Farm, Station Road, Tempsford. Planning permission granted 8th April 2021. Condition 1 – 3-year time limit. Condition 2 – Approve Archaeological works and require post excavation survey to be submitted for approval. Condition 3 – If DCO is unsuccessful or is not progressed following approval the land will be reinstated as agricultural land. Condition 4 – Approved Plans. Conditions 5 & 6 – Construction and Environmental codes of practice. Condition 7 – Gas pipeline exclusion zone. **g)** at present there are some points in the AMS (APP-238) which requirement clarification in order to bring it into line with the archaeological mitigation that has already been agreed in relation to

	views, including with reference to the overall road scheme?		the planning permissions for the excavations granted by CBC. Following a meeting with the applicant and the LA Archaeologists on 12/08/2021 it is understood amendments will be made to APP-238 This largely relates to the fact that at present there is some disparity between this document and the agreed scopes of work and approved written schemes of investigation relating to the investigation and recording of Site 4 (Field 34) and Site 7 (Field 44) associated with planning consent CB/20/04391/FUL and CB/20/04185/FUL
Q1.9.2.1	**Grade separated junctions** Has there been an assessment of the interactions between groundwater and surface water at the three grade separated junctions, the various underpasses and culverts, and, any geographical low points?	Alys Bishop	No.
Q1.9.4.2	**Flood Risk and Pollution Control** a)With reference to the Exception Test, does the FRA demonstrate that the project will be safe for its lifetime, without increasing flood risk elsewhere (NPS NN, paragraphs 5.90 5.115)? b)Will the users of the Proposed Development remain safe in time	Alys Bishop	A drainage strategy is required to ensure that surface water discharge from the site is attenuated on site, discharged at acceptable rates, and undergoes adequate water quality treatment whilst primarily preventing an increase in flooding on or off site. The submitted drainage strategy outlines the key parameters and standards that should be followed to generate a detailed, sustainable drainage design. The submitted Drainage Strategy Report (ES Appendix 13.3 (APP-

	of flood, even when climate change is considered? c)Will the River Great Ouse replacement floodplain storage be adequate, including with regard to the ongoing quarry restoration works? d)Have all sources of flooding been adequately considered in this assessment, including in-combination effects and the likely effects of climate change? e)Have all reasonable opportunities been taken to reduce overall flood risk as part of the Proposed Development? f)Are the proposed pollution control mechanisms sufficient to protect the environment, including with regard to Climate Change?		219)) addresses the core requirements of a drainage strategy: Manage surface water runoff from the development for up to and including the 1 in 100-year event (+40% CC), whilst incorporating the use of SuDS. Discharge rate from the development will be limited to the equivalent greenfield 1 in 1-year rate or Qbar discharge rate, as agreed appropriate by the Local Planning Authority or IDB. The use of SuDS has been designed in line with the CIRIA SuDS Manual (2015) and after consultation with the LLFA. The loss of Flood Zone caused by the placement of the new carriageway has been considered and accommodated for through the provision of flood zone mitigation areas that compensate for the original loss of area. Should the drainage strategy be delivered as specified on the ground then the flood risk posed to land, buildings and infrastructure within CBC should be negligible.
Q1.10.1.2	**Design principles for the Proposed Development** The ExA has seen the alternatives considered for different types of bridges in the ES [APP072, Table 3-3], and finds that the accompanying design appraisal is an early stage	Andrew Cundy	Yes, it would be expected that design principles are set out and secured within the DCO (even if via condition).

	assessment of structural typologies, and only for one structural element (bridges) in the Proposed Development. We understand that the Applicant cannot provide detailed design proposals at this stage, however, would it be reasonable to set out design principles (other than HE's design principles [APP-071, Section 2.2]) for Examination, and to be secured in the dDCO? [NPS NN paragraph 4.28 – 4.35]		
Q1.10.2.1	**Design development process** a)What will be the design development process for the structural elements of the Proposed Development described above? How will biodiversity, cultural heritage noise and landscape mitigation be addressed? b)Which parties will be consulted? c)Would it be reasonable to set out design development process for Examination, and for it to be secured in the dDCO?	Andrew Cundy	**b)** Relevant internal technical consultees and external statutory consultees would be consulted as required. **c)** Agree it would be reasonable to set out design development process within the DCO but this may be difficult if required mitigation measures are currently unknown?
Q1.10.2.2	**Design Review**	Andrew Cundy	No.

	a)Has the Proposed Development been for independent design review? Do you intend to take it for independent design review? Provide details. (NPS NN, Paragraph 4.33, footnote 63) b)LAs to comment		
Q1.11.1.1	**Involvement of LHAs** Various LA Adequacy of Consultation Responses and associated RRs refer to the input to date of LHAs in the modelling undertaken by the Applicant. a)How have existing LHA traffic and transport models informed the modelling undertaken by the Applicant? b)How have LHAs been involved in the checking of modelling undertaken by the Applicant? c)Do LHAs agree with the methodology adopted by the Applicant in demonstrating the effects of the Proposed Development, particularly on the local highway network? If not, why not?	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	**c)** CBC are in ongoing discussions with HE with regards to elements of the modelling work undertaken, particularly with regards to the effects of the Proposed Development upon the local highway network.
Q1.11.1.2	**Methodology, inputs and outputs** Paragraph 5.203 of	Lisa Swannell / Jethro Punter / Paul Salmon /	**a)** How has Covid impacted this and the traffic flows and data.

	the NPS NN explains that the Applicant should have regard to policies set out in local plans and 5.204 states that the Applicant should consult relevant LHAs and LPAs, as appropriate on the assessment of transport impacts. S16 The Traffic Management Act 2004, places a Network Management Duty (NMD) on local traffic authorities, or a strategic highways company (the network management authority), so far as is reasonably practicable, to ensure the expeditious movement of traffic on the authority's road network and facilitating the expeditious movement of traffic on road networks for which another authority is the traffic authority. a)Do LHAs have any concerns with the data used to underpin the modelling undertaken? b)If so, please explain your reasoning. If further transport modelling is considered necessary, please	Steve Lakin / Jodie Irwin	**b)** The operation of the junction of Vinegar Hill with the A603 (west of the A1) should be modelled to determine forecast operation as part of the proposed formal diversionary route during closures of the A1. **c)** It should be noted that the Central Bedfordshire Local Plan was adopted on the 22/07/2021 and supersedes the North Core Strategy and Development Management Procedures Order 2009. Construction Phase impacts are expected to include both the formal diversion of traffic onto the local road network, but also the displacement of other existing traffic during construction, (as detailed within Section 9.4 of the submitted Transport Assessment (APP-241)). This will place an increased resource burden upon the local authority in terms of monitoring and managing traffic changes (flow and composition) and a financial burden in terms of reacting to any arising issues. This additional pressure will impact upon the authority's ability to effectively fulfil its Network Management Duty and funding is requested, for example, in the Development Consent Obligation for this.

	explain why and where this is needed? c)Do LHAs consider the Proposed Development accords with requirements of the NMD in all regards? Explain with reasons. d)Applicant to comment.		
Q1.11.2.1	**Road design and layout** The ExA notes that ES [APP-072] provides an overview of alternatives considered and further details about the selection of the preferred option. a)Applicant, provide further information how the proposed highway layouts incorporated feedback from b)Local Authorities and stakeholders? Local Authorities to comment how feedback has shaped the proposals, or not been taken on board.	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	Refer to written representation – despite discussion with HE CBC still has the following concerns: • Construction phase traffic impacts affecting Central Bedfordshire; • Construction routing; • Diversion routes; • Operational phase traffic impacts affecting Central Bedfordshire; • Barford Road bridge, particularly in relation to sustainable transport; • Requested A428 vehicular link to the east of Little Barford; • Air Quality including the Sandy AQMA; and • Noise & vibration.
Q1.11.2.2	**Black Cat Junction** a)Further to the USI1 [EV-001] and consideration of the Black Cat Junction Design Options document [APP-247], the ExA would request clarification as to how the Applicant determined it to not	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	Neutral.

	be feasible to move the junction to the east of that proposed? b)How would the proposed arrangement accommodate access to the intended development near the junction as outlined in the RR received from BBC [RR-008a]? c)Do LAs agree that the proposal presented for the Black Cat Junction is the best design and route alignment option overall? (See related questions to Historic Environment)		
Q1.11.3.1	**Gantries and signage** a)Confirm the likely timescale for submission of detailed signing proposals, including gantries, to the examination. b)If the Applicant is not intending to provide this detail as part of the Examination, how can the ExA be satisfied that specific matters relating to design and visual impact (NPS NN paragraphs 4.28 to 4.35), matters raised in RRs, including [RR-001], relating to signage and highway safety,	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	Request for signs and road markings to be retro-reflective in areas where it is agreed that no lighting is required. This request should not have any adverse impact.

	would be considered? c)Local Authorities to comment. (See related questions in Good Design)		
Q1.11.3.2	**Lighting arrangements** a)Confirm the likely timescale for submission of lighting proposals to the Examination. b)If the Applicant is not intending to provide this detail to the Examination, how can the ExA be satisfied that the Proposed Development would not have adverse significant effects regarding artificial lighting? c)Local Authorities to comment. (See related questions in Landscape and Visual Effects)	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin ~~Guy Quint~~	CBC has not seen any lighting details - details to be submitted to and approved before development commences.
Q1.11.4.1	**M11 Junction 13** The TA Annex [APP-243, Section 3.9] provide analysis of the above Junction and associated roads, explaining that the location is known to suffer severe congestion and would experience additional congestion as a result of the Proposed Development. a)Have any proposals for improvements at this junction been	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	This is not a CBC road or junction.

	progressed since the time of the consultation and application for the Proposed Development? b)What are the indicative timescales for improvements at the location? c)How confident can the ExA be, with reference to what is secured in the dDCO, that improvement works will be undertaken at this location in future?		
Q1.11.5.1	**De-trunking proposals** The Case for the Scheme document [APP-240, paragraph 1.1.3 g], refers to existing safety and maintenance issues along the existing A428. The ExA have visited the route intended to be de-trunked and would request further information as detailed below: a)Please explain what these maintenance issues are. Has the detail of current and proposed asset condition been shared with LHAs? If not, explain with reasons. b)What certainty do LHAs currently have with regard the intended condition	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	There are no de-trunking proposals relevant to CBC.

	of those highway assets that will be their responsibility in future, particularly at the point of handover? c)Will the identified 'maintenance issues' be resolved prior to handover to LHAs and how will this be secured? d)At the point of LHA adoption, how will any outstanding required maintenance be funded and secured?		
Q1.11.5.2	**Speed limits** It was apparent at the time of USI1 [EV-001] that both the existing local and strategic highway network in the area has differing speed limits. ES [APP-071, paragraphs 2.5.101 and 2.5.102] refer to proposed speed limits of the Proposed Development. a)If applicable, do the existing and proposed speed limits of those sections of highway intended to be de-trunked and other sections to be made the responsibility of LHAs meet locally adopted speed limit policies? Explain with reasons. b)How would any necessary	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	The only section of road to be made the responsibility of CBC is understood to be remaining at its current posted speed.

	amendments be secured?		
Q1.11.6.1	**Providing opportunities for NMUs** a)To what extent does the Proposed Development comply with the NPS NN paragraphs 3.3, 3.17, 5.205 and 5.216, and any other relevant policies, which relate to providing opportunities for walking and mitigating impacts for non-motorised users? b)To what extent have pre-existing severance issues, within the extent of the proposed scheme, been addressed as part of the Proposed Development?	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin Adam Maciejewski / Chris Dorow	There is scope to future proof provision for NMU's by adding in sufficient space for pedestrian / cycle provision where structures are to be delivered as part of the scheme. Specifically, sufficient additional width is requested on the deck of the Barford Road bridge to accommodate pedestrian and cycle provision and sufficient retained width is requested passing under the East – Coast Mainline Bridge to enable future pedestrian and cycle provision. Rights of Way is keen to see an improved rights of way network as part of the scheme's delivery – see attached which is a joint Beds Borough/CBC proposal for improving the rights of way network in Tempsford and the surrounding area. Improvement of the rights of way network is in line with government policy as stated in the National Policy Statement: *"In delivering new schemes, the Government expects applicants to avoid and mitigate environmental and social impacts in line with the principles set out in the NPPF and the Government's planning guidance. Applicants should also provide evidence that they have considered reasonable opportunities to deliver environmental and social benefits as part of schemes."* Enhancing the local rights of way network will help allow the local population enjoy the countryside, exercise, and can play a part in improving mental well-being.

			The NPS also states *"As part of the Government's commitment to sustainable travel it is investing in developing a high-quality cycling and walking environment to bring about a step change in cycling and walking across the country."* Improving the rights of way network will, therefore, help deliver the government's commitment to sustainable travel, providing alternative environmentally friendly modes of transport for short journeys. The expectation is that this scheme would help contribute financially to both the legal work associated with their creation and the related construction costs.
Q1.11.6.2	**WCHAR Survey data** The TA [APP-242, Section 2.21] explains that no new pedestrian, cyclist or equestrian usage data has been collected since July and August, 2016. Do LHAs and IPs consider that the information provided gives an acceptable and up to date picture of current usage by walkers, cyclists and horse-riders of the local road and PRoW network?	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin Adam Maciejewski / Chris Dorow	The section of affected highway (excluding PROW) within CBC currently contains minimal pedestrian and cycle provision. The information is acceptable generally.
Q1.11.7.2	**Outline CTMP Consultation** Are LHAs content with the scope and content of the outline CTMP [APP-244]? Please provide reasons for	Jethro Punter	At present CBC's view is that whilst the overarching principles are reasonable, there are elements of the CTMP which require amendment, including proposed construction routing through Tempsford, where Station Road is not suited to

	any concerns with any aspect of it.		accommodating significant construction traffic or extraordinary loads, with sections of narrow and poor condition carriageway, on street parking further limiting available carriageway widths through Tempsford, and a level crossing to negotiate, the need for wider monitoring of construction phase impacts (in terms of displaced traffic) on local roads, and the need for the agreement of suitable traffic management measures (including temporary or permanent works to the junction of the A603 with Vinegar Hill) on diversions via the A603 and this needs to be a requirement of the draft DCO.
Q1.11.7.5	**Cumulative Effects** The ES [APP-084, paragraph 15.3.22] states that full details of the other development projects included within the traffic model (covering developments in Bedford, Central Bedfordshire, Huntingdonshire, Cambridge City and South Cambridgeshire) and the factors applied during the modelling process, are presented within the TA [APP-241] [APP-242]. Confirm whether or not you are satisfied with the shortlist of projects that have been considered.	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin	The Uncertainty log includes major CBC development sites including Marston Vale and Marston Gate, which would be relevant to the assessment of impacts at J13 of the M1. Assumed development also includes Biggleswade East, which would be relevant to the assessment of the two A1 junctions adjacent to Biggleswade. As such CBC is satisfied with the details of the local major development included within the modelling process.
Q1.11.7.9	**Frequency and timing of construction HGVs**	Jethro Punter	**c)** CBC has previously raised concerns with regards to the permitted construction route

	At USI1 [EV-001], the ExA observed, as stated in various RRs, many permitted construction routes appear to be residential in nature, particularly in and around St Neots. a)When does the Applicant intend to provide detail regarding the likely timing and frequency of HGVs using permitted routes? b)If the Applicant does not intend to provide this information for the Examination how can the ExA be satisfied of the assessment of adverse effects and mitigation of construction traffic? C)LHAs to comment		through Tempsford, during technical group meetings and at the DCO Open Floor Hearings (12th August 2021). Whilst the more detailed Traffic Management Plans would be expected to provide a greater level of detail with regards to HGV movements and timings, this remains an area of concern that CBC would wish to see addressed fully at the Outline CMP stage.
Q1.12.1.1	**Methodology and mitigation** The construction of the Proposed Development would result in significant adverse effects on designated heritage assets and archaeological remains, including from the Iron Age and Roman times [APP-075]. a)In light of the residual adverse effects to the historic environment, are parties and	Hannah Firth	**a)** There are no designated heritage assets within Central Bedfordshire which would be affected by the construction of the Proposed Development. While there would be an impact on a number of known non-designated heritage assets with archaeological interest as identified within APP-075, it is considered that with appropriate mitigation the Proposed Development will meet with the policy requirements for the historic environment as identified in the NPS NN paras 5.120-5.144 and specifically 5.141 The applicant has outlined their mitigation strategy in the APP-238, which the Archaeology Team

	Applicant satisfied that the Proposed Development meets the policy requirements regarding sustaining and enhancing the historic environment in the NPS NN (paragraphs 5.120-5.144)? b)Is the proposed mitigation in the ES adequate, given the residual adverse effects [APP075, paragraphs 6.9.286 and 6.9.287]?		are broadly in agreement with and subject to the adoption of the amendments set out in the Written Reps and already sent the applicant, we consider that APP-238 would be appropriate. **b)** Paragraphs 6.9.286 and 6.9.287 refer to Brook Cottages which are in Bedford Borough and not Central Bedfordshire therefore CBC has no comment to make in respect of question Q1.12.1.1 part b.
Q1.12.4.1	**General** There are a number of archaeological remains, in and close to the Order Limits, which would be adversely affected by the construction of the Proposed Development. Furthermore, the proposed diversion of a gas pipeline to enable the scheme to proceed would entail disturbance to archaeological remains [APP-158] a)Applicant, explain how the ES has considered the effects of the proposed pipeline diversion on archaeological remains? Is this the same approach for archaeological remains as for the remainder of the Proposed Development?	Hannah Firth	Comments on Q1.12.4.1 parts **b)** and **c)** to follow Applicant's response. **d)** It is understood that the removal of the trenches related to changes to the order limits, existing and potential constraints and in some cases trenches were re-located or removed following consultation and agreement with the LAs. In Central Bedfordshire it is not considered that the reduction in the number of trenches effects the validity of the results of Phase 1 of the evaluation. **e)** CBC's Archaeologist is content with the approach, scope and conclusions of the archaeological assessment. As noted previously there are some points in the AMS (APP-238) which requirement clarification in order to bring it into line with the archaeological mitigation that has already been agreed in relation to the planning permissions for the excavations granted by CBC. Following a meeting with the applicant and the LA Archaeologists on 12/08/2021 it is understood

	b)Applicant, provide more detailed justification for concluding moderate adverse residual effects from the Proposed Development on the archaeological remains [APP-075, Section 6.9]? HistE and LAs to comment. c)Applicant, what consideration has been given to the of the effect of the Proposed Development on all these remains, combined? HistE and LAs to comment. d)The ES states that for Phase 1 of the trial trench evaluation, the original scope of the works required 771 trenches, but 95 trenches were de-scoped and removed [APP-173, paragraph 4.1.2]. What is the justification for the reduction in scope of the works and what effect would it have on the evaluation, including spatially? HistE and LAs to comment. e) Are parties satisfied with the approach, scope and conclusions of the archaeological assessment, and		amendments will be made to APP-238. The detailed points of issue can be found in the Council's Written Representations.

	proposed mitigation? f)BBC, you state that the focus of the assessment seems to be 'changes to the visual setting of the monument' [RR-008a, paragraph 4.5]. Clarify whether you are referring to a specific monument; if so which one? Or are you referring to the assessment of all assets in general?		
Q1.12.4.2	**Archaeological Mitigation Strategy** a)BBC, submit the Archaeological Design Brief prepared jointly by BBC, CBC and CCC, mentioned in RR [RR-008a] and at Appendix B [APP-238]. b)Applicant, provide a brief summary of the relevance of the Archaeological Design Brief to this Examination, with respect to NPS NN and local planning policies. c)BBC, provide proposed wording for Requirement 9. d)Applicant to comment. e)CCC, HDC, SCDC, CBC and HistE, what are your views on the scope of the archaeological mitigation strategy [APP-238] and its	Hannah Firth	**e)** The CBC Archaeologist has provided detailed comments to the applicant on the AMS (APP-238) and it has been agreed that these comments will be addressed in the revised document. If the revisions are made, then CBC will be content that within the scope of the DCO, the AMS responds to the requirements set out in the Archaeological Design Brief.

	response to the joint Archaeological Design Brief?		
Q1.13.1	**Methodology** Within a predominantly rural landscape the ES states that the proposed scheme would have significant adverse residual effects, both during construction and operation [APP-076, section 7.9]. a)LAs, are you content with the Landscape and Visual Impact Assessment (LVIA) methodology, including the locations of viewpoints and photomontages [APP-123 – APP-137]? b)HistE's views are sought in light of heritage assets that are present, including scheduled monuments such as a Bronze Age barrow and medieval moated sites [APP075, Paragraph 6.6.15], within the affected landscape.	Siobhan Vincent / Julia Scott	**a)** Regular meetings have taken place with the team to agree the content of the LVIA, methodology and locations of viewpoints etc. CBC is happy that the area concerning CBC is adequately covered with both summer and winter photos.
Q1.13.2.1	**Design and visual appearance** Applicant, in the Schedule of Mitigation [APP-235, EMB – LV8] you have identified "Factoring landscape and visual	Siobhan Vincent / Julia Scott / Andrew Cundy	Any LVIA will need to include the full structures and include winter landscape to enable the 'worse case' scenario to be considered.

	considerations into the form and design of permanent structures (for example footbridges)" as a commitment. The ExA notes that there is limited detail about the design and visual appearance of permanent structures, besides the engineering sections [APP-019] and the limited visuals in the ES [APP-072]. a)In the absence of this information, please elaborate on how the design and visual appearance of the various permanent structures of the Proposed Development such as the grade separated junctions, bridges, gantries and signs, have been considered in LVIA? b)Local Authorities to comment.		
Q1.13.3.1	**Mitigation** a)LAs, are you satisfied with the level of detail regarding the proposed mitigation that would have been secured through the First Iteration EMP, including the Landscape and Ecology Management Plan	Siobhan Vincent / Julia Scott / Elizabeth Anderson	**a)** Following discussions with HE, CBC is happy that the proposed mitigation is sufficient.

	[APP-234] and the dDCO [APP-025]? b)The ES states that one of the measures to mitigate the effects of construction activities includes sympathetic lighting to minimise disturbance to nearby receptors. Applicant, are you intending to provide any further information about the objectives for lighting measures, than is already provided in the First Iteration EMP [APP-234, Section 1.4]? LAs and NE to comment. c)LAs, would the Proposed Development be sufficiently screened, particularly relative to existing settlements, such as Roxton, St Neots, or Caxton-Toseland? d)CCC, elaborate on your concerns regarding HE's commitment to timing of planting, maintenance regime, and planting mixes [RR-013]		
Q1.14.1.1	**BMV agricultural land** The ES states that some 348 hectares of the BMV agricultural land will be permanently lost because of the	Elizabeth Anderson / Andrew Cundy	The area of land although important, is not significant in the CBC area.

	Proposed Development, with some 512 hectares used temporarily, in association with the construction of the scheme [APP-078, paragraph 9.9.25]. a)Applicant, please explain in what specific ways consideration was given to BMV during design of the Proposed Development and provide the justification for the acknowledged harm [APP-078, Table 9-14]. For land that is to be returned to agricultural use following the construction of the scheme, what consideration has been given to its soil condition? b)Interested Parties, your RRs refer to land that has been subject to regenerative agricultural practices to improve it [RR-039] [RR-061] [RR-083] [RR-113]. Provide further details about the effects of these practices. LAs and Applicant to comment. c)Applicant, how has the route / junction option selection process considered BMV agricultural land, including in terms		

	of spatial functionality of remaining BMV agricultural land? LAs to comment.		
Q1.16.1.6	**Significant noise effects of construction** ES [APP-080, paragraph 11.3.11] states that consultation has been carried out with the Environmental Health Departments of BBC, CBDC, HDC and SCDC. Can the LAs confirm that they are in agreement with the assessment of significance and that there are no concerns regarding the mitigation provisions outlined, including the subsequent assessment stage?	Guy Quint	CBC is concerned about the level of impact given the duration of the construction project. As advised above, the proposed hours of work are outside those that CBC allow for construction sites in Central Bedfordshire, i.e. starting before 8am. Therefore, CBC request that the following hours are included as a requirement in the draft DCO: - 8am to 6pm Monday to Fridays, 8am to 1pm on Saturdays and no working on Sundays or Bank Holidays. However, in view of the size and scale of the project, CBC would be willing to consider variation to these hours where particular circumstances required this and appropriate mitigation measures were in place. Central Bedfordshire is an area of considerable growth with a plethora of construction sites already operating across our district, and residents have therefore been subject to impacts from these construction site operations at a local level for some time. For such a major project, it will be essential to ensure that any noise impacts are robustly controlled in accordance with the provisions of BS5228:2009 Parts 1 & 2 at all times and that this is a requirement of the draft DCO. Paragraph 11.3.11 makes reference to further baseline monitoring that was due to be

			carried out but “postponed” due to the impacts of Covid 19. CBC has now been advised that this further monitoring will not be taking place but are unclear as to the justification for this, as there was clearly an identified need for the further monitoring in the first place. CBC note the proposed use of localised noise barriers and encourage these to be deployed where necessary to reduce construction noise impacts on residential receptors. CBC would expect it to form part of the construction noise mitigation measures set out in the First or Secord Iteration EMP. CBC note the intention to undertake surveys to check compliance with BPM measures, but would want to know details as to frequency of these, and who would be carrying them out, reporting arrangements etc. Most of the receptors identified in table 11-10 are outside of Central Bedfordshire. However, the small number of receptors identified in our district (R16,17 & 18) are predicted to experience noise levels above the LOAEL, with R16 expected to experience levels above the SOAEL for daytime, evening & weekends and night-times which is a significant concern. The assessment states that these works will be of very short duration, but this is not clarified. CBC would need to see further clarification (once details of the works are known, as referenced in paragraph 11.9.13) of this before we can comment on the assessment of significance, although the level of impact

			predicted for R16 above the SOAEL in itself is a concern.
Q1.16.2.5	**Monitoring** Monitoring requirements are described in the ES [APP-080, Section 11.10]. The LAs are asked to confirm whether or not they are satisfied with the monitoring arrangements proposed.	Guy Quint / Andrew Cundy	CBC is encouraged to note that monitoring for both construction and operational phases is proposed, but cannot comment further on the adequacy of the arrangements as no details of the monitoring arrangements have been provided i.e. frequency, location, who would be carrying out the monitoring, reporting arrangements and most importantly what actions would be taken for any issues identified (and what the benchmarks for action are). These details require further clarification and confirmation before we can confirm that they are satisfactory and the details are requested from HE.
Q1.17.1.1	**Methodology and mitigation** The Applicant has drawn a distinction between combined effects (where an individual receptor is affected simultaneous by more than one type of impact, such as noise, air quality and visual impact, as a result of the Proposed Development) and cumulative effects (where the effects of the Proposed Development are assessed alongside the effects of other proposed schemes on a single receptor) [APP-084, Section 15.3].	Guy Quint / Andrew Cundy	**b)** CBC note the distinction. As we have advised, CBC is particularly concerned about the cumulative impacts of the EWR and Black Cat projects in terms of both noise and Air Quality impacts. The submissions do not seem to adequately consider the cumulative impacts of both projects from an operational perspective in terms of noise and air quality impacts.

	a)Have you assessed cumulative and combined effects for receptors effected by construction traffic? Explain with reasons. b)LAs to comment.		
Q1.17.2.1	**Approach** a)LAs, are you satisfied with the Applicant's approach to shortlisting other proposed schemes for assessing cumulative effects [APP-084, Section 15.3]? b)LAs, do you agree with the five other proposed schemes that have been included in the assessment of cumulative effects [APP-084, Section 15.6]?	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin Andrew Cundy Guy Quint Siobhan Vincent	Neutral.
Q1.17.2.2	**Proposed mitigation** The ES states that three other proposed schemes are predicted to cause significant cumulative effects with the Proposed Development. However, the Applicant has proposed no additional mitigation measures above those presented within the First Iteration EMP [APP-084, Section 15.7] [APP-229].	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin Andrew Cundy Guy Quint Siobhan Vincent	The three other proposed schemes identified with the potential to cause significant cumulative effects (para. 15.6.3) are not located within CBC. As such the locally impacted LPAs would be better placed to comment on this question.

	a)LAs are you content with this approach. b)Applicant provide justification.		
Q1.17.3.1	**Proposed mitigation** Applicant, you have identified four receptors which would experience large adverse combined effects, and numerous others would experience moderate adverse effects [APP084] [APP-112]. a)Applicant, explain your position that no additional mitigation measures are proposed to alleviate the combined effects. b)LAs, do you agree with Applicant's position. If not, what additional mitigation would be appropriate and effective, particularly for the four receptors that are worse effected.	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin Andrew Cundy Guy Quint Siobhan Vincent	Refer to written representation.
Q1.17.4.1	**East West Rail** a)EWR, provide brief background for the EWR scheme and any specific national policy positions (such as NPS NN, NPPF) or local policy positions or approvals that would support your representation.	Lisa Swannell / Jethro Punter / Paul Salmon / Steve Lakin / Jodie Irwin Andrew Cundy	Refer to written representation.

	b)EWR, your submission [AS-004] states that there are likely to be significant engineering interfaces between your scheme and the Proposed Development. Explain what these are. c)EWR, explain if the Proposed Development could, and in what ways, affect the likely deliverability of the intended EWR scheme? d)EWR, what is the appropriate protection that you wish to seek for your scheme that you believe can be secured in this Examination. How do you believe these protections can be secured? e)EWR, explain the modification to the dDCO that you would require. f)Applicant may comment to any of the questions above. g)Applicant, with reference to Advice Note 17, explain with reasons if EWR should be included in the assessment of cumulative effects in the ES? EWR may comment. h)Applicant and EWR, explain if efficiencies could be		

	made if there was greater collaboration between the Proposed Development and the EWR scheme, particularly in terms of land take and loss of functional BMV agricultural land? LAs may also comment.		
Q1.18.1.1	**Human health study area** The ExA notes that study area for human health in the ES [APP-081, Section 12.5]. Should the effect on mental and physical health also be considered for receptors (particularly residential receptors) that will experience large and moderate adverse combined effects [APP-084] [APP-112]? LAs to comment.	~~Guy Quint~~	This would be something for our Public Health teams to consider and comment on.
Q1.19.1.1	**General** There is scope for the construction and operation of the proposed scheme to affect the water environment, including water quality. a)Are you satisfied that construction activities and water use from the scheme would not cause harm to the water environment and the species that	~~Guy Quint~~	This would be a matter for the Environment Agency or our Suds team to comment on.

	live in or around it [APP082]? b)Are you satisfied that the risk of pollution from the scheme, both during construction and operation and both direct and indirect, would not cause harm to the water environment and the species that live in or around it [APP-082]?		

Appendix 2

CBC Table of Replies to ExA Hearing Action Points from Hearing on 18/8/21

Question number	Question	Answer
7	Joint position statement between Local Authorities (LA), NE and Applicant, on matters relating to Habitats Regulations Assessment and mitigation	The issues outlined seem to all be related to woodlands outside of CBC we have no comments to make
8	All LAs to provide detailed responses to questions relating to Good Design in First Written Questions (WQ1).	Refer to answers to first written questions
11	Elaborate on the works excluded from the definition of 'commence' in the dDCO that would need controls either through First Iteration EMP or other means.	The draft DCO (APP-025) states: "commence" means beginning to carry out any material operation (as defined in section 56(4) of the 1990 Act) forming part of the authorised development other than operations consisting of archaeological investigations and mitigation works, environmental surveys, **pre-construction mitigation works,** investigations for the purpose of assessing and monitoring ground conditions and levels, **remedial work in respect of any contamination or other adverse ground conditions, erection of any temporary means of enclosure, temporary hard standing, receipt and erection of construction plant and equipment, diversion and laying of underground apparatus and utilities, protection works, demolition (save in relation to Brook Cottages), site clearance, construction compound set up,** and the temporary display of site notices or advertisements, and "commencement" is to be construed accordingly; We have underlined those elements that we would expect to see covered under the First (or Second Iteration EMP) in terms of controls and mitigation measures to off-set any impacts arising diring the conduct of these

		works. These elements should be deleted from the definition.
12	Historic England, Environment Agency, and LAs to comment on matters relating to historic assets, flood risk, Public Rights of Way and any other matters that would be adversely effected by the Applicant's proposed approach to limits of deviation in the dDCO, referring to specific works plans where appropriate.	Document *APP-238 - TR010044 A428 Black Cat to Caxton Gibbet Improvements 6-12 - Archaeological Mitigation Strategy* sets out the agreed mitigation areas, and these take into account the limits of deviation. Therefore, we have no comments to make. From a Rights of Way perspective, a joint CBC/Beds Borough response to the Black Cat roundabout road scheme has/will be submitted by Bedford Borough Council. CBC has contributed to Beds Borough's thoughts on the potential to improve the RoW network in Tempsford and surrounding area. With regards to flood risk - Provision of a detailed maintenance plan which outlines the ownership, techniques and required frequency of maintenance is pivotal

Appendix 3

CBC Planning decision notice and site plan for CB/20/04083

Development Management

Central Bedfordshire Council
Priory House, Monks Walk
Chicksands, Shefford
Bedfordshire SG17 5TQ
www.centralbedfordshire.gov.uk

Miss C Evans
Schofield Lothian
Level 2
15 Old Bailey
London
EC4M 7EF

Contact David Gauntlett
Direct Dial [redacted]
Email planning@centralbedfordshire.gov.uk
Your Ref
Date 08 April 2021

Town and Country Planning Act 1990
Town and Country Planning (Development Management Procedure) (England) Order 2015

NOTICE OF GRANT OF PLANNING PERMISSION

Application Number:	**CB/20/04083/FULL**
Application Site:	**Land to the West of Hills Farm, Station Road, Tempsford SG19 2BP**
Proposed Development:	**Temporary change of use and formation of site compound comprising site offices, welfare facilities and off road parking with associated works.**

Statement required by the Town and Country Planning (Development Management Procedure) (England) Order 2015 - Part 6, Article 35

The Council acted pro-actively through positive engagement with the applicant at the pre-application stage and during the determination process which led to improvements to the scheme. The Council has therefore acted pro-actively to secure a sustainable form of development in line with the requirements of the Framework (paragraph 38) and in accordance with the Town and Country Planning (Development Management Procedure) (England) Order 2015.

The Council as the Local Planning Authority hereby gives notice of its decision to **GRANT PERMISSION** for the development specified above and shown on the submitted plans, subject to the following conditions:

1 The use(s) hereby permitted shall be discontinued and all structures (if any) removed on or before 31st January 2022 unless before that date the Local Planning Authority has granted planning permission for its (their) continuation.

Reason: To allow the Local Planning Authority to review the use(s) when the permission expires.
(Section 12, NPPF)

2 The development hereby permitted shall not be carried out except in complete accordance with the details shown on the submitted plans, numbers 32'x10' AP Drying; 32'x10' AP Office; 32'x10' AP Canteen; 150-5014 Rev 00; UG2770; HE551495-SKA-GEN-SECT2-CONW-DR-AX-00?? rev C01; HE551495-SKA-GEN-SECT2-CONW-DR-AX-0002 rev C04; and HE551495-SKA-GEN rev P02

Reason: To identify the approved plan/s and to avoid doubt.

3 The temporary access road hereby permitted shall only be used by traffic in connection with the required archaeological investigation and for no other purpose, including any other works associated with the A428 Improvement Scheme (Black Cat to Caxton Gibbet).

Reason: In order to minimise the impact of construction work on the amenities of nearby residential properties (Section 12, NPPF)

4 The development hereby permitted shall be undertaken in full accordance with the Council's adopted 'Construction Code of Practice for Developers and Contractors' https://www.centralbedfordshire.gov.uk/info/44/planning/674/codes_of_practice_for_planning.

Reason: In order to minimise the impact of construction work on the amenities of nearby residential properties (Section 12, NPPF)

5 The development hereby permitted shall be undertaken in full accordance with the Council's adopted 'Environmental Code of Practice' https://www.centralbedfordshire.gov.uk/info/44/planning/674/codes_of_practice_for_planning/3

Reason: In order to minimise the impact of development on existing trees, landscape features and biodiversity (Section 15, NPPF)

6 A fence shall be erected no less than 6m from the position of the high-pressure gas pipeline to demarcate an exclusion zone and prevent the encroachment of works within this exclusion zone. The fence type and position shall be agreed with Cadent Gas and erected prior to the commencement of any work hereby permitted.

Reason: In the interest of Gas Safety and to ensure a satisfactory standard of development.

NOTES TO APPLICANT

Any conditions in bold must be discharged before the development commences. Failure to comply with this requirement could invalidate this permission and/or result in enforcement action.

The application form for approval of details reserved by a condition, guidance notes and fees (i.e. £34.00 for householder applications and £116.00 for all other applications, per submission) can be found on our website: https://www.centralbedfordshire.gov.uk/directory_record/43223/application_for_appro

val of details reserved by condition

1 All ecological measures and/or works shall be carried out in accordance with the details contained in Technical Note –Field 44 Ecological information, Document refHE551495-SKAG-EGN-CONWI_CONW-DT-LE-00001 August 2020 as already submitted with the planning application and agreed in principle with the local planning authority prior to determination.

2 In compliance with recommended condition 6, the developer / contractor is to contact plantprotection@cadentgas.com prior to commencing any works. This is in the interest of gas safety.

Andrew Davie
Assistant Director - Development Infrastructure

Date of Issue: 08 April 2021

TOWN AND COUNTRY PLANNING ACT 1990

NOTIFICATION TO BE SENT TO AN APPLICANT WHEN A LOCAL PLANNING AUTHORITY REFUSE PLANNING PERMISSION OR GRANT IT SUBJECT TO CONDITIONS

Appeals to the Secretary of State

- If you are aggrieved by the decision of your local planning authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990

- As this is a decision on a planning application relating to the same or substantially the same land and development as is already the subject of an enforcement notice [reference], if you want to appeal against your local planning authority's decision on your application, then you must do so within 28 days of the date of this notice*

- If an enforcement notice is served relating to the same or substantially the same land and development as in your application and if you want to appeal against your local planning authority's decision on your application, then you must do so within: 28 days of the date of service of the enforcement notice, or within 6 months [12 weeks in the case of a householder appeal] of the date of this notice, whichever period expires earlier*

- If you want to appeal against your local planning authority's decision then you must do so within 6 months of the date of this notice*

- Appeals can be made online at: https://www.gov.uk/planning-inspectorate. If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000

- The Secretary of State can allow a longer period for giving notice of an appeal but will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal

- The Secretary of State need not consider an appeal if it seems to the Secretary of State that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order

- If you intend to submit an appeal that you would like examined by inquiry then you must notify the Local Planning Authority and Planning Inspectorate (inquiryappeals@planninginspectorate.gov.uk) at least 10 days before submitting the appeal. Further details are on GOV.UK

* delete where inappropriate

TOWN AND COUNTRY PLANNING ACT 1990 APPEAL UNDER SECTION 78

Notification of intention to submit an appeal

Under the provisions of Recommendation 3 of the Rosewell Review into inquiry appeals, this notification is to give the Local Planning Authority and Planning Inspectorate not less than 10 working days' notice of an intention to submit a planning appeal where the appellant will request the inquiry procedure.

Complete the following:

The appeal will be against: Central Bedfordshire Council

for:

.....

(insert reason for appeal e.g. refusal, failure to decide or appealing against conditions)

Appellant(s) name:

.....

Site Address: Land to the West of Hills Farm, Station Road, Tempsford SG19 2BP

Description of development: Temporary change of use and formation of site compound comprising site offices, welfare facilities and off road parking with associated works.

Planning application number: CB/20/04083/FULL

Likely submission date of appeal:

.....

Proposed duration of inquiry in days:

.....

Next steps:

1. Complete the above fields
2. Save this document
3. Attach to an email and send to the Local Planning Authority and also the Planning Inspectorate (inquiryappeals@planninginspectorate.gov.uk)
4. Submit your appeal via the Appeals Casework Portal (https://acp.planninginspectorate.gov.uk/) not less than 10 working days after sending this notification.

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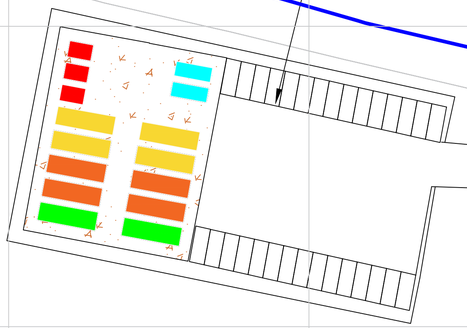
15No. Temporary Cabins- See attached table.

Office, Welfare, Changing Rooms, Toilets & Smoking area

30 No. Parking Spaces for 4x4 Vehicles

EAST COAST MAINLINE



Indicative Compound Cabins Setup

Function	W (m)	D (m)	Area (m2)	No	Total (m2)
w/c	4	2.7	10.8	3	32.4
canteen	3.05	9.8	29.89	4	119.56
drying	3.05	9.8	29.89	4	119.56
office	3.05	9.8	29.89	2	59.78
storage	6.1	2.42	14.762	2	29.524
					360.824

33KV OVERHEAD

10 m EXCLUSION ZONE

OS MAP

LANDOWNERS CURRENT PROPERTY

HIGH PRESSURE GAS MAIN

3M EXCLUSION ZONE

NOTES

Utilities shown, are the ones intersecting with the proposed license area

This plan is for indicative purposes only and is subject to 'general boundaries' principles.
Do Not Scale. It m ay be subject to distortions in scale

For questions relating to this plan please email:
info@a428.co.uk

metres
0 10 20 30 40 50
1:500

Drawing Status: FOR INFORMATION | Suitability: S

SKANSKA

Client: highways england

Project Title: A428

Project Address: Land West of Hills Farm, Tempsford

Drawing Title: A428 - F44 - EARLY ACCESS COMPOUND SETUP Sheet 1 of 2

Scale	Designed	Drawn	Checked	Authorised
1:500	-	DP	RM	SL
Original Size	**Date**	**Date**	**Date**	**Date**
A1	07/10/2020	07/10/2020	07/10/2020	07/10/2020

Drawing Number: HE PIN | Originator | Volume | Location | Type | Role | Number
HE551495 - SKA - GEN - - - -

Project Ref. No.: -

Revision: P02

Appendix 4

Highways England – A1 East of England Strategic Study Stage 3 Report

A1 East of England Strategic Study

Stage 3 Report

Department for Transport

highways england

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Contents

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Executive summary

The A1 East of England Strategic Study was commissioned by Highways England and overseen by the Department for Transport to identify and provide an initial appraisal of potential improvements to the A1, between the M25 (Junction 1) and Peterborough (Junction 17). This 62 mile stretch of road comprises three distinct sections: the A1(M) from Junctions 14-17 built to a high standard (11 miles); the A1(M) from Junctions 1-10 still at motorway standard but more variable in layout (25 miles); and, in-between, a 26 mile section of the A1 with five roundabouts, numerous unnumbered junctions and accesses, which is of variable layout and quality, with settlements and housing in close proximity.

The area's road network is underperforming and there is a risk that this will stifle the potential for sustained economic growth in a region which makes a disproportionate contribution to national economic success. The key problems on the route are:

- Poor journey time reliability with variable speed and congestion;
- Long delays;
- Constrained road and restricted free traffic flow;
- Collisions;
- Capacity;
- Poor conditions for public transport;
- Noise and air quality;
- Impact on landscape and townscape;
- Impact on biodiversity;
- Contributing to undermining growth potential; and
- Anticipated pressure on existing road network as a result of estimated population growth.

An initial list of more than fifty options was generated to address these problems and meet the study objectives and this was then shortlisted to five options which were formed into three packages and appraised. A Strategic Outline Business Case is being prepared for these Packages.

Package A	Package B	Package C
Section of new motorway between Junctions 10 and 14 (mostly offline)	Local improvements to A1 non-motorway section between Junctions 10 and 14	Upgrade non-motorway routes which link to the A1/ A1(M) at Junctions 3 and 4
Add capacity to A1(M) motorway sections through smart motorway management		
Local public and active transport improvements, including behavioural change measures between Junctions 10 and 14		

Package A and B achieve significant levels of benefit, although those are notably lower than the costs. Package A is of higher cost than package B. Package C is lower cost than packages A and B and delivers lower levels of benefit, but could be considered as

complementary to package A or B. Following further refinement and appraisal of the packages, an optimal package could be developed. This optimal package could be considered for inclusion in a future Roads Investment Strategy (RIS). Further analysis of the packages will be undertaken to understand which elements of each package perform comparatively well. Incorporating elements of the packages into the design of the committed schemes could be more cost effective and cause less disruption.

Planned transport schemes will impact on the study area, for example: the A14 Cambridge to Huntingdon A1(M) upgrade, the A1(M) Junction 6 to 8 Smart Motorway scheme and the A428 A1 to Caxton Gibbet scheme. Similarly relevant is the Oxford to Cambridge Expressway strategic study. The next stage of this work should consider the changing transport context as the schemes and study progress. The optimal package should ensure compatibility with planned and potential schemes, and consider potential efficiencies which can be made through concurrent delivery of multiple schemes.

The planned route for East West rail will intersect the study area in the vicinity of Sandy. The Oxford to Cambridge Expressway, if delivered, could intersect the A1 at a similar location. Potential and planned improvements to east west connectivity within the study area raise important strategic questions about the level and location of future growth.

1.1 Study background

1.1.1 The A1 East of England Strategic Study was commissioned by the Department for Transport and Highways England to identify and provide an initial appraisal of potential improvements to the A1. The requirements were set out in the first Road Investment Strategy (RIS) published in December 2014, which announced a programme of six Strategic Studies to explore options to address emerging issues and challenges. The RIS Investment Plan describes the purpose of this study as follows:

"This study will look at bringing consistency to the southern section of the route, from the junction with the M25 in the south to Peterborough in the north. In particular, it will look at the case for improving the non-motorway section linking the two parts of the A1(M) to motorway standard.

"Given the age of the road, much of the current route was chosen with little thought to the impact on the nearby environment. This study will examine whether improvements, including changing the alignment of the road, could reduce the environmental impact of the existing route and benefit local communities."

1.1.2 The study objectives are:

- Assess and form a preliminary strategic case for improving the transport network in the region based on the strategic and economic benefits.
- Define the transport objectives that this ongoing study should seek to identify options for.
- Identify a long-list of options which could meet the transport objectives, and undertake a high level assessment of the potential value for money, benefits and impacts of the different options using the Early Assessment and Sifting Tool (EAST)[1] and WebTAG[2] Options Assessment Framework (OAF).
- Short-list the better options to be carried forward.
- Prepare a Strategic Outline Business Case for the better option(s) for consideration in the development of future RIS.

1.1.3 This study is concerned with a southerly stretch of around 62 miles of the A1 between Junction 1 (intersecting the M25 on the outskirts of London) and Junction 17 (intersecting the A605 and Fletton Parkway near Peterborough). This broadly comprises three distinct sections: the 'northern' A1(M) section from Junctions 14-17 built to a high standard; the 'southern' A1(M) from Junctions 1-10 still at motorway standard but more variable in layout; and, in-between, the A1 with numerous unnumbered junctions and of variable layout and quality.

1 DfT (2011) Early Assessment and Sifting Tool (EAST) Guidance. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4475/east-guidance.pdf

2 DfT (2014) Transport analysis guidance: WebTAG https://www.gov.uk/guidance/transport-analysis-guidance-webtag, retrieved 28/04/2016.

1.1.4 The Local Planning Authorities throughout the study area forecast continued population and economic growth and the A1 route is a central spine to supporting and assisting this growth. The road has lower traffic speeds, higher congestion and an inconsistent profile compared to alternative Strategic Road Network options including the M11 and M1.

1.1.5 This study investigates improvements to the A1 which could contribute to assisting free flow conditions, reducing the number of collisions and managing the severe congestion. As part of this, improvements to the local environment for example improving aquatic habitats, improving biodiversity and opportunities to prevent groundwater flooding, are considered.

1.1.6 The transport objectives for this study, formulated considering the problems identified on the route and the views of stakeholders, are listed in the table below.

Transport Objectives
1. To bring consistency to the route
2. To deliver better environmental outcomes for air quality, noise, biodiversity, CO2 / greenhouse gases, built heritage, water and landscape / townscape
3. To improve connectivity to benefit local communities, address severance, achieve a local / strategic balance, improve accessibility for all modes and improve safety*
4. To encourage growth, including economic and employment, population and housing, and freight
5. To improve the operation of the road network to improve journey time reliability, reduce delays and queues, promote resilience and improve safety*
** Safety is a cross-cutting issue relating to both road operation and local communities.*

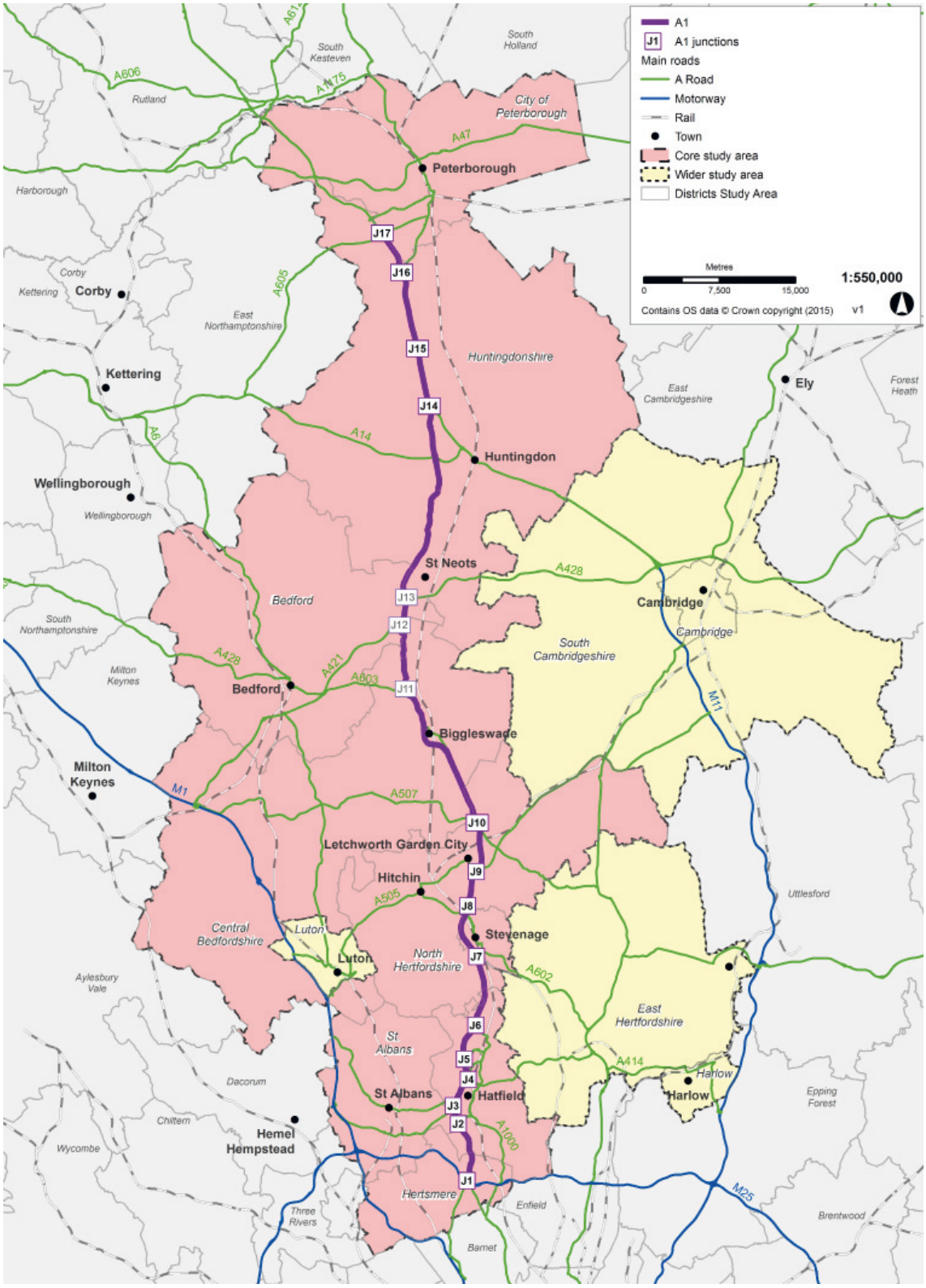


Figure 1: Study Area

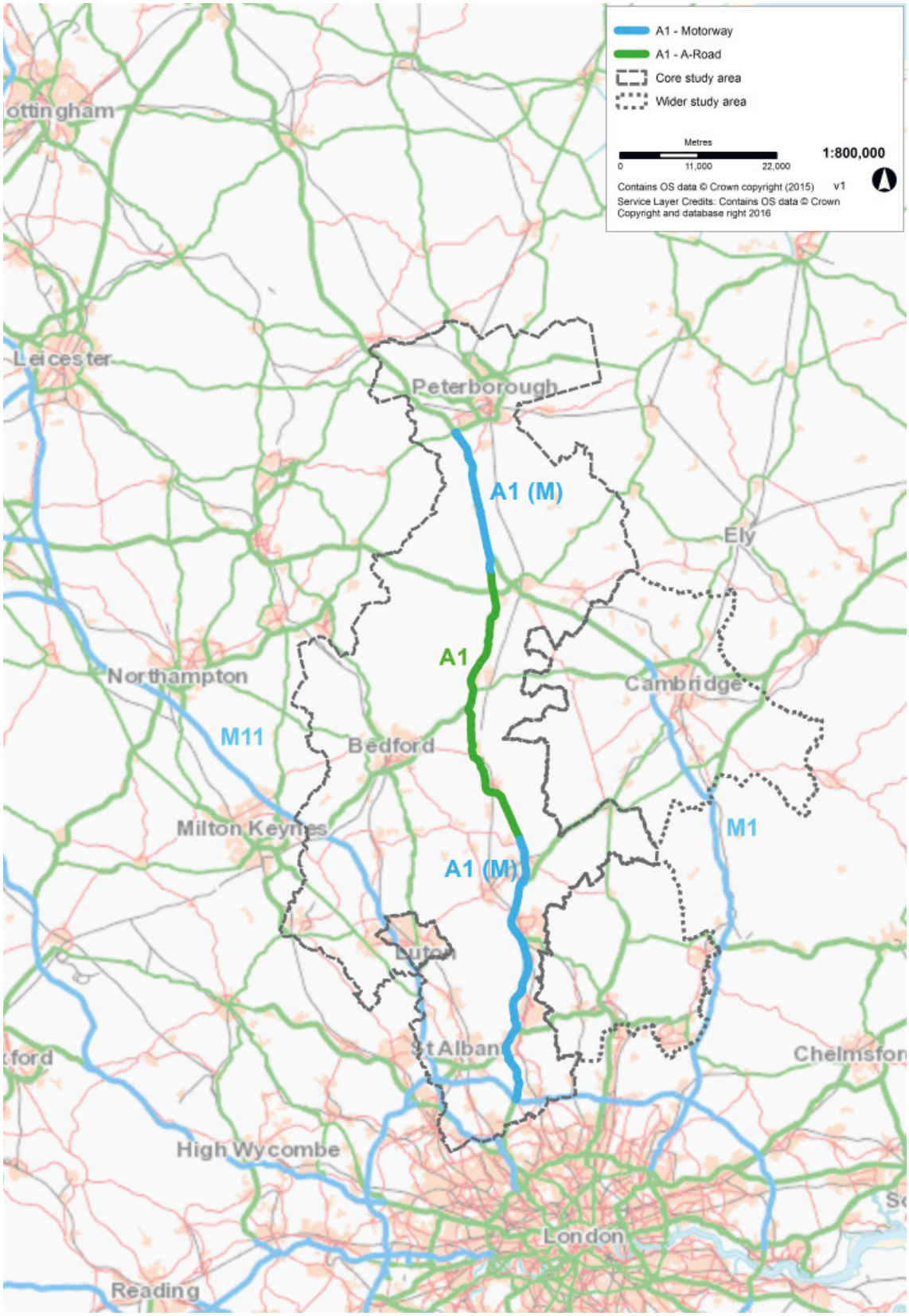


Figure 2: A1 and Wider Strategic Road Network

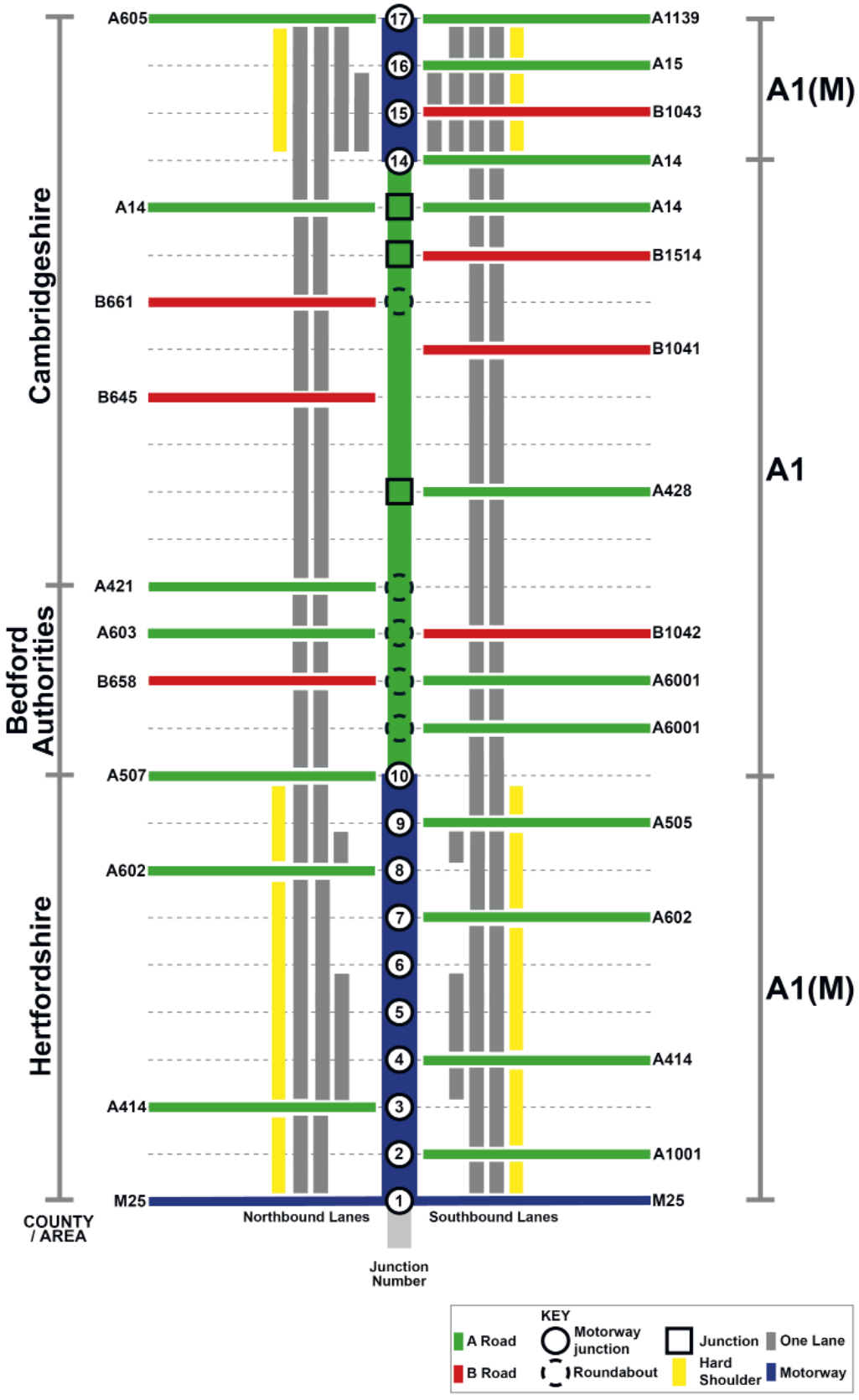


Figure 3: A1/A1(M) Route summary diagram

1.1.7 Figure 3 is a schematic diagram showing the A1 route within the study area. It shows: junctions, key interconnecting routes, the road standard (motorway / non-motorway), the number of lanes on each route section and whether hard shoulder is available.

1.2 The strategic case

The Study Area

1.2.1 The A1/A1(M) in the East of England plays an important role as part of the Strategic Road Network (SRN). It is a strategic inter-regional route for commuting and leisure, both southbound into London and northbound to the rest of the UK. The A1 forms part of the Trans European Transport Network (TEN-T) and is designated as a comprehensive status route in addition to its designation as forming part of the SRN. The route is part of the London – Leeds corridor and provides connectivity via other major roads that lead off the A1 road to a number of key international freight gateways including Stansted, Luton, Heathrow and Gatwick for air; and Felixstowe and London Gateway for deep sea and the Haven Ports/Dover for the short sea routes to continental Europe. It is also a significant secondary freight route and is part of the national freight network. The districts within the study area are economically high performing and there are strong relationships with the London functional urban area and its concentrations of employment and spheres of economic influence defined by the in and out flows of commuting.

1.2.2 Taken overall, the study area is affluent, has a high standard of living, with a wide range of employment opportunities and low levels of deprivation when compared to other parts of the UK. Significant population growth is anticipated, with the existing established industries, the skilled work-force, and the (inter)national focus on the area all factors to encourage private sector employers and investors to relocate or start-up.

1.2.3 The number of working age people is expected to increase across the study area, offering a mobile and skilled workforce for the growing industries in the area. Whilst some districts exhibit high numbers of industrial (Peterborough), manufacturing (Luton) and service and retail economies, others plan to build on their existing thriving economies, for example, research and high-technology (Cambridge and South Cambridgeshire), distribution and film (East Hertfordshire) and development and engineering (Central Bedfordshire).

1.2.4 Businesses communities and government have highlighted the study area as a specific area of investment, with Enterprise Zones at Luton, Cambridge, and Alconbury Weald, four LEPs covering the area and increasing agglomerations of businesses. The Hertfordshire LEP has been explicitly targeting the A1/A1(M) corridor as a focus for business growth. Drivers for success therefore come from county, regional and national levels.

1.2.5 There is a need for investment to support this planned growth without causing undue environmental impacts. The A1 runs through a number of sensitive receptors such as settlements located within 200m of the current alignment, scattered residential properties and environmental areas designated for conservation or amenity value. There are issues with air quality and noise at sensitive locations along the route. Additionally, the A1 negativity impacts on the setting of heritage assets through visual or noise disturbances.

Photograph 1: Welwyn at Junction 5, new development in proximity to A1(M)

1.2.6 The current A1/A1(M) in the study area was constructed to its current alignment and standards in stages. Some sections date back to the late 1950s, whilst others are of more recent construction, having been opened to traffic in the late 1990s. A number of previous studies and proposals for improvements have been considered within the study area. These include grade separation of a number of the roundabout junctions and a proposal for a motorway between Baldock and Alconbury. None of these were progressed.

1.2.7 Committed and potential schemes are set to improve strategic east west transport links within the study area. The potential for growth, particularly within the vicinity of Sandy where schemes are likely to intersect the A1, is important to consider. The Oxford to Cambridge Expressway strategic study is examining the case for creating an Expressway to connect the towns and cities of the 'Brain Belt'. The East West Rail project aims to establish a strategic railway connecting East Anglia with Central, Southern and Western England. The project consists of three sections, an eastern, western and central section, and is being promoted by the East West Rail Consortium, a group of local authorities and businesses. Cambridgeshire County Council, Central Bedfordshire Council and Hertfordshire County Council are all members of the Consortium. The western section is a committed and funded scheme which will link Bedford, Oxford, Milton Keynes and Aylesbury. The Central section, which would connect Bedford and Cambridge, is not currently committed or funded.

1.2.8 As demonstrated in the Task 1 report and summarised in section 1.3 of this report, the A1 route is currently underperforming evidenced by the current traffic conditions, route inconsistencies (variable route standard and number of lanes) and the impact of the route on communities and its environmental impacts. Despite it being difficult to measure the extent of economic growth potential lost by an underperforming road network, socio-economic indicators suggest that worsening road conditions are likely to impinge on drivers of growth, including on the levels of inward investment, the agglomeration of businesses and a buoyant labour market.

The Role of the A1/A1(M) Road

1.2.9 A well-functioning network enables growth by reducing business costs, improving access to markets, improving labour mobility and helping attract inward investment. Good road networks also support quality of life for communities by improving the local environments, enabling better access to facilities and services and widening employment opportunities.

1.2.10 However, the current configuration of the A1/A1(M) risks jeopardising sustained economic growth and the benefits it could bring to businesses and to communities. The route is one of England's oldest trunk roads and also one of the least consistent. With more than fifty years of local upgrades, the road today is a patchwork of different standards, ranging from four-lane motorway to elderly dual carriageway – often within the same ten-mile stretch. The road has severe congestion-related challenges and existing capacity problems and low travel speeds on numerous sections of the road are expected to continue or worsen without extensive intervention. This has implications for future use of the route for freight, commuting and leisure travel. Committed RIS1 schemes will alleviate some pressure but will not address fundamental problems with other sections of the route such as varying speeds along the route and changeable road conditions.

1.2.11 The local authorities served by the A1/A1(M) in the East of England are amongst the highest performing in the country outside of London in terms of their regional share of total Gross Value Added (GVA) and play an important role in contributing to national economic performance. The study area supports a number of strong and growing economic sectors in both employment and output terms. The area's road network is underperforming and there is a risk that this will stifle the potential for sustained economic growth in a region which makes a disproportionate contribution to national economic success.

1.2.12 It is challenging to appraise the extent to which the A1 supports – or thwarts – planned growth across the region. Whilst the districts in the study area have updated evidence bases including Strategic Housing Market Assessment and population and dwelling stock forecasts, the lack of adopted Local Plan coverage (post the 2012 updated National Planning Policy Framework) makes it uncertain where the growth is planned for within the Districts and what the strategic sites are. Direct implications on the road network are therefore difficult to estimate. On trend projections alone, and accounting for growth plans already in place, the population in the study area is anticipated to increase to over 296,000 people over the period to 2037 (14% on 2014 levels), matched with significant anticipated employment growth and new homes provision.

1.2.13 The planning policy 'gap' creates challenges when planning for the future of the area. Taken as a whole, the authorities surrounding the A1 do not yet collectively have a view as to where and how it will be able to deliver to meet anticipated growth and thus of the level and location of growth that the A1/A1(M) might be required to support. Without a clear and agreed policy framework it is not possible to infer where improvements to the A1 route would unlock growth. Therefore, whilst the overall level of growth along the route is clear, the locations for this future development has not yet been defined.

Photograph 2: Black Cat Roundabout

1.2.14 Photographs 3-5 show the inconsistencies on the south, middle and north sections of the A1.

Photograph 3: Junction 16-17, motorway section, high standard with free-flow conditions

Photograph 4: A421-Sandy, non-motorway section, dual carriageway through established communities

Photograph 5: Junction 3-4, motorway section

Committed and potential transport schemes affecting the route

1.2.15 Three improvement schemes within the study area are included in the RIS published in December 2014. These are:

- A14 Cambridge to Huntingdon - a major upgrade to the A14 between the A1 and north Cambridge: widening the road to three lanes; providing a new bypass around Huntingdon; creating distributor roads for local traffic; and remodelling key junctions along the route. The scheme includes improving the A1 between the B1514 and south of J14.
- A1(M) Junctions 6 to 8 Smart Motorway - upgrading the existing two-lane section of the A1(M) around Stevenage to Smart Motorway to provide a third lane of capacity.
- A428 A1 to Caxton Gibbet - improvement of the A428 near St Neots, linking the A421 to Milton Keynes with the existing dual carriageway section of the A428 to Cambridge, creating an Expressway standard link between the two cities via Bedford. The scheme is expected to include substantial improvements to the Black Cat roundabout, where the A1 currently meets the A421.

1.3 Current problems

Transport Issues

1.3.1 The A1 study route varies between motorway and all-purpose standard. There are congestion-related challenges, existing capacity problems and low travel speeds on numerous sections of the road which are expected to worsen without intervention.

1.3.2 The section between Junctions 1 and 3 shoulders London and serves both large communities and numerous businesses in the area, as well as connecting to the north. However it is also one of the least reliable stretches on the route with low average speeds in its two lanes in each direction.

1.3.3 The section between Junction 10 at Baldock and Junction 14 at Alconbury has a number of at-grade roundabouts, minor side roads and direct frontage accesses, often very close to the carriageway. This severely restricts free flow and several sections have speed limits of 50 or 60mph.

1.3.4 The A1 between Junctions 14 and 17 has both the highest volume of HGVs and the highest proportion of HGV movements (19%), reflecting the freight from the A14 which carries substantial volumes from the Ports of Felixstowe and Dover. The A1 between Junction 9 (Letchworth Garden City) and the A14 has a lower proportion of HGVs (13%) and the lowest total number of HGVs. The southern section between the M25 and Junction 9 experiences a higher number of HGVs relative to the A1 between Junction 9 and the A14, although HGVs make up a smaller proportion (9%) of total vehicle movements. This reflects the existence of a number of warehouse facilities, logistics hubs and depots serving Greater London and the South East. HGV flows are shown in Figure 4 and Figure 5.

1.3.5 The A1 is regarded by the local authorities it runs through as an important strategic route assisting in supporting the regional economies and as a strategic link to London and the North. The availability and frequency of public transport varies through the study area, with rail and bus provision poor in some areas. The proximity to London, large communities and buoyant economies suggest that road demand will continue to be high; this is supported by national road traffic forecasts[3]. The road has variable quality, frequent changes between two, three and four lanes, low speeds as a result of congestion and hazardous slip roads. This highlights the case for targeted road improvements to rationalise and improve the road.

1.3.6 Figure 4 and Figure 5 show total daily HGV flows, and HGVs as a percentage of Average Annual Weekly Traffic (AAWT) on the A1 route.

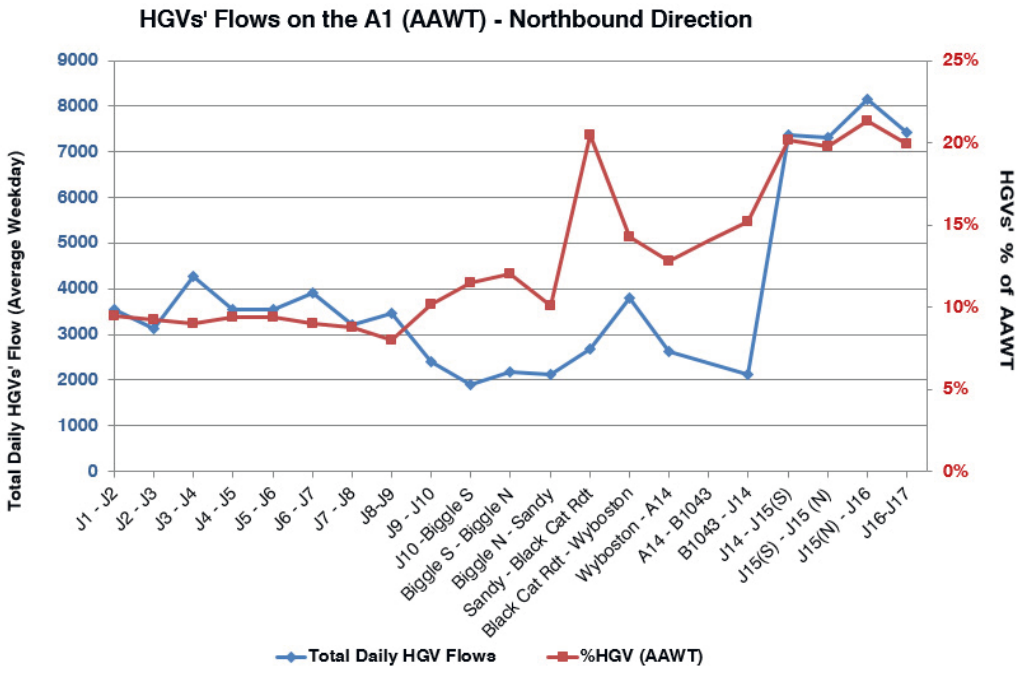


Figure 4: HGV Flows on the A1 Route – NB Direction[4]

3 DfT Road Traffic Forecasts, March 2015
4 TRADS 2015

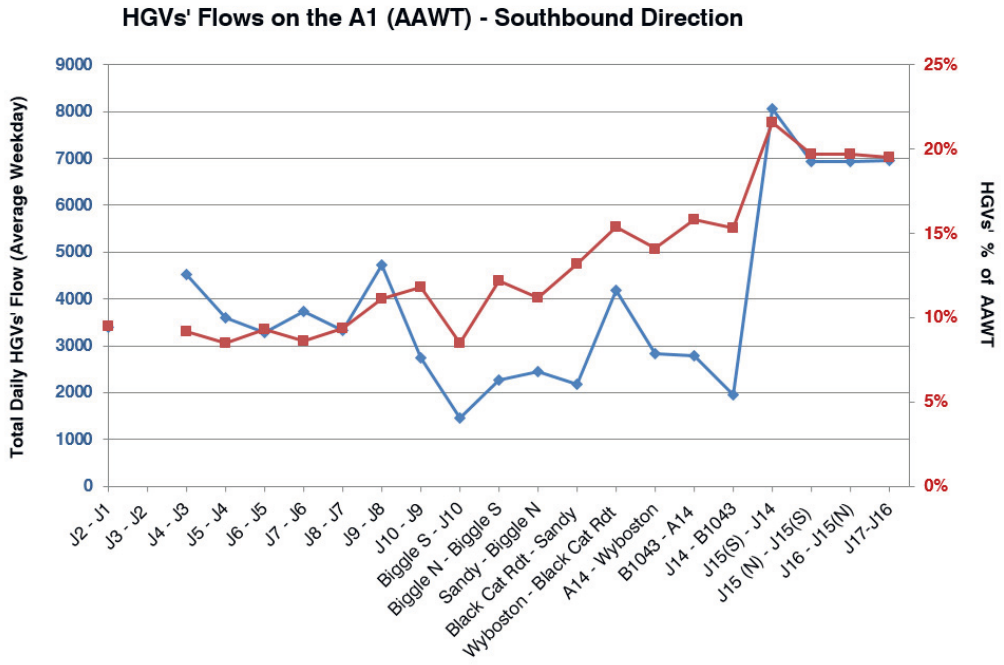


Figure 5: HGV Flows on the A1 Route – SB Direction[5]

1.3.7 Figure 6 and Figure 7 show cumulative travel times (minutes) along the corridor by direction (northbound/ southbound) in the AM and PM peak hours compared to free flow travel times (for this analysis these were based on the prevailing speed limit). The comparison highlights where on the route journey times differ most compared to free flow conditions.

1.3.8 Northbound, there are delays between Junction 6 and Junction 7 and between Sandy and Black Cat roundabout, particularly in the evening peak hour. Southbound, there are delays between Wyboston and Black Cat roundabout and between Junction 8 and Junction 6, particularly in the morning peak hour.

5 ibid.

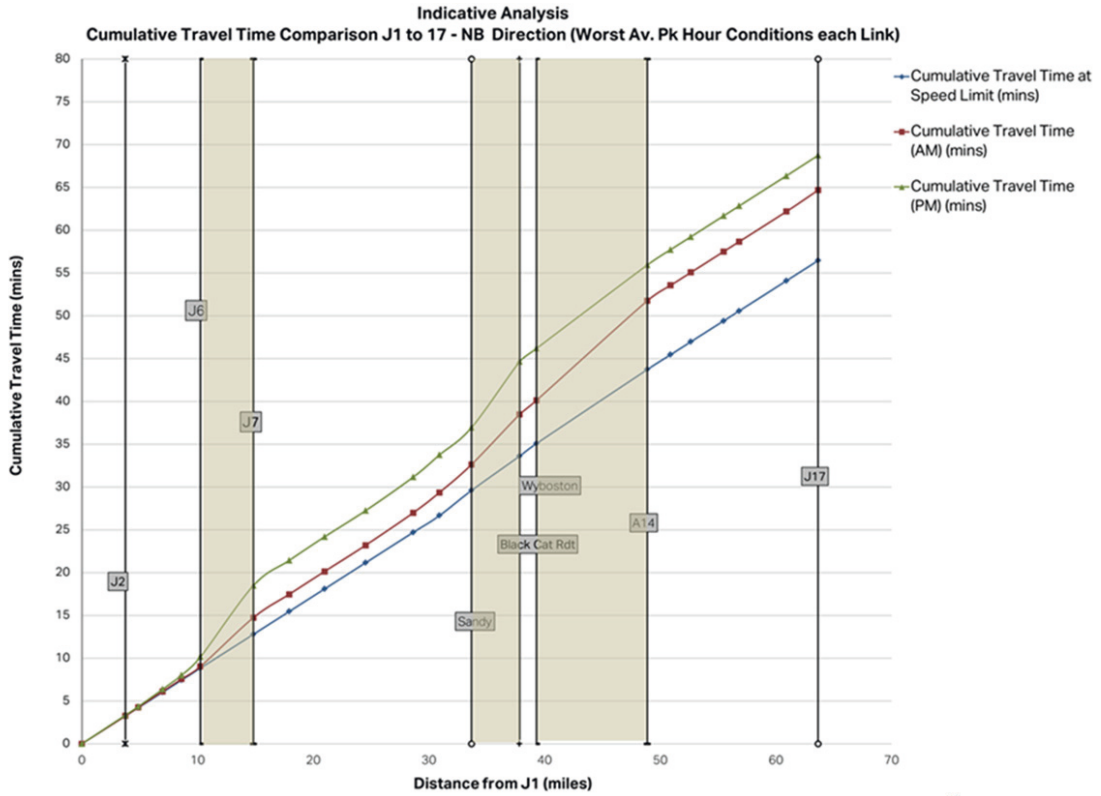


Figure 6: Cumulative Travel Time Comparison (AM/PM Peak Hour vs Free Flow) - NB Direction[6]

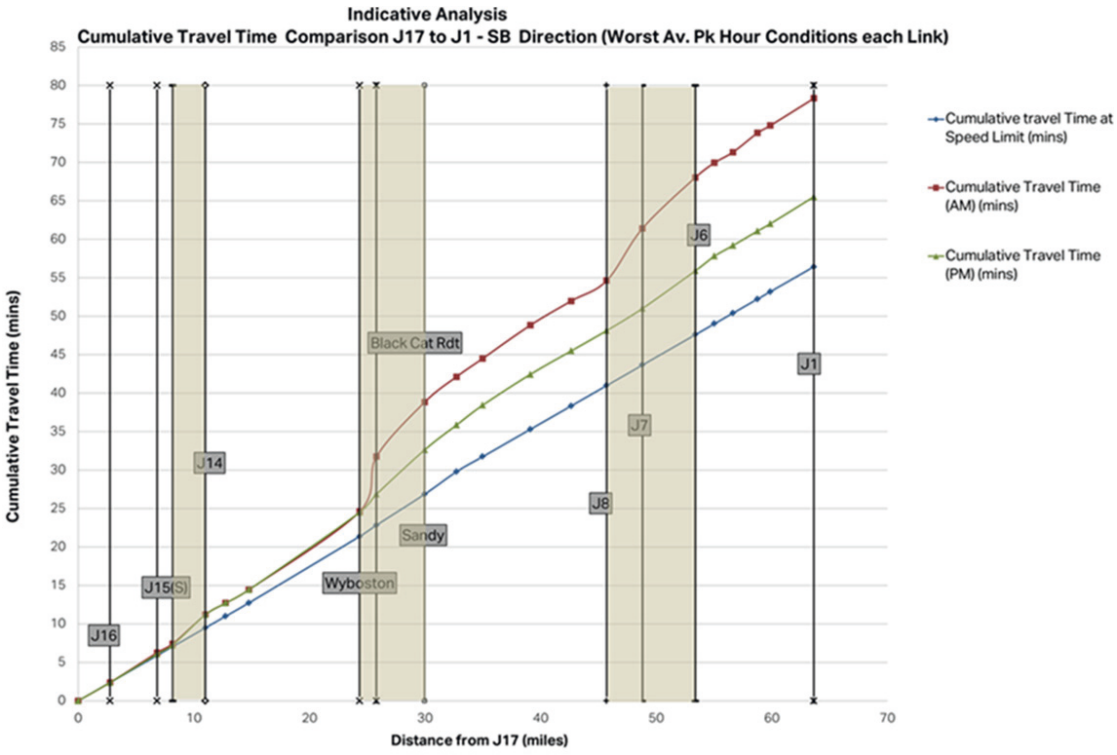


Figure 7: Cumulative Travel Time Comparison (AM/PM Peak Hour vs Free Flow) – SB Direction[7]

6 HATRIS, March 2015
7 ibid

1.3.9 Figure 8 and Figure 9 show speed levels (in mph) and their variability during the entire peak period by direction (AM Peak 07:00 to 10:00 southbound and PM Peak 16:00 to 19:00 northbound respectively), along with the average speed by peak period and the respective speed limits for each link.

1.3.10 The charts indicate substantial journey time variability along much of the route between Junction 1 and Junction 14 (particularly those links identified in Figure 6 and 7 as having the greatest departure from free flow conditions). Such variations indicate poor journey time reliability. There are lower levels of variability between Junction 14 and Junction 17.

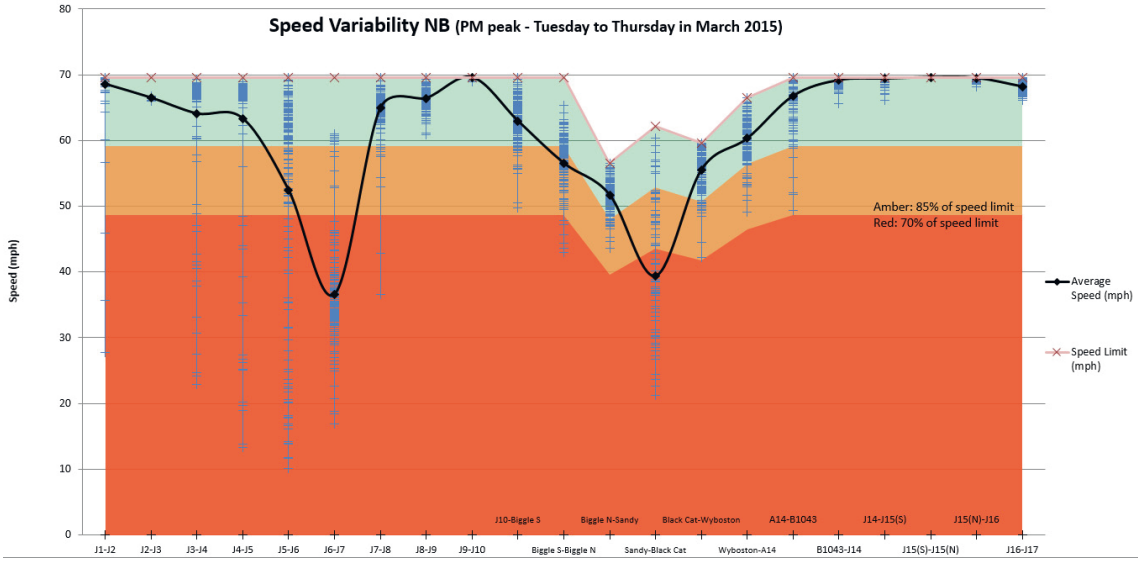


Figure 8: Speed Variability by Link - Northbound Direction PM Peak Period[8]

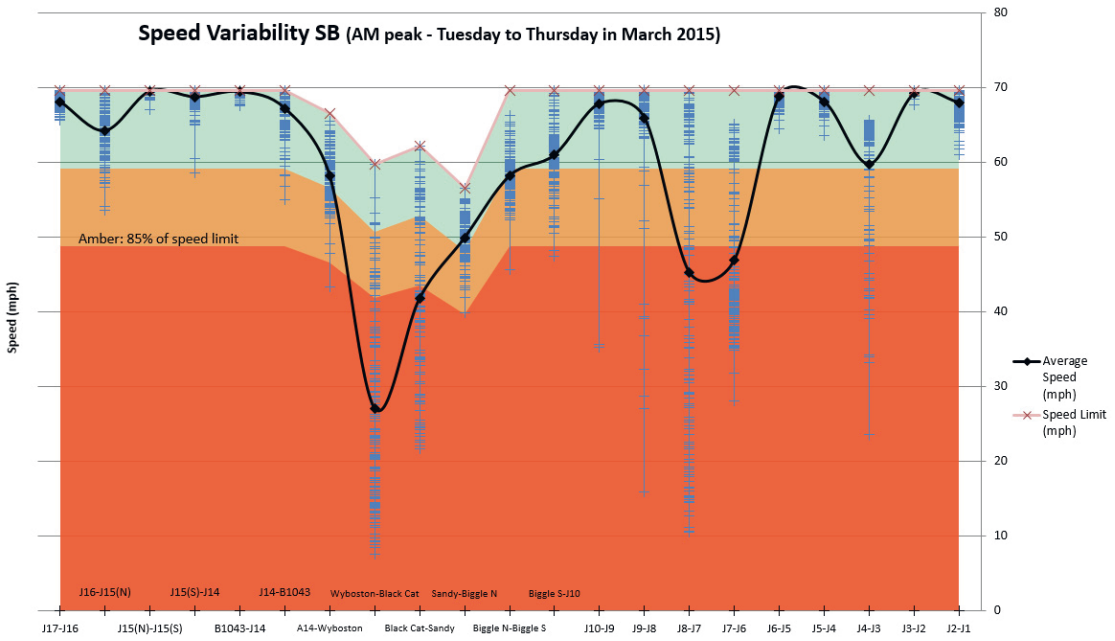


Figure 9: Speed Variability by Link - Southbound Direction AM Peak Period[9]

8 ibid
9 ibid

1.3.11 Figure 10 and Figure 11 show collision rates along the corridor compared to the national average in the northbound and southbound directions respectively.

1.3.12 The average collision rate in the northbound and southbound directions is higher than the national average in the motorway section between Junction 1 and Junction 10. The average collision rate in the northbound and southbound directions for the non-motorway section and the motorway section between Junction 14 and Junction 17 is lower than the national average, likely to be as a consequence of lower speeds on the non-motorway sections.

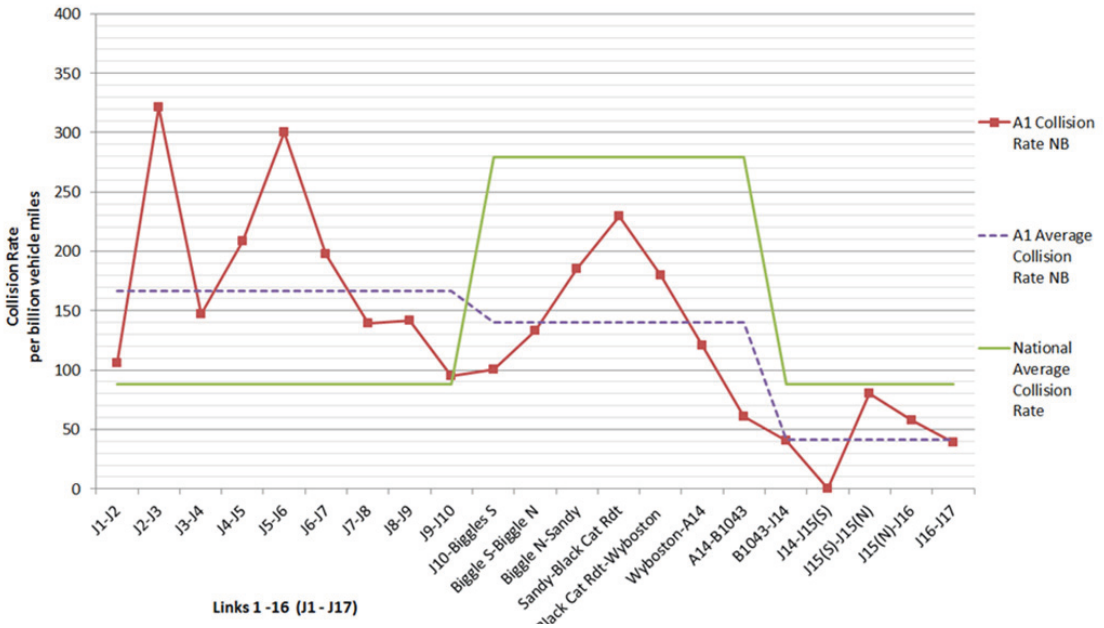


Figure 10: Collision Rate (per billion vehicle miles) 2012-2014 by Link (northbound)[10]

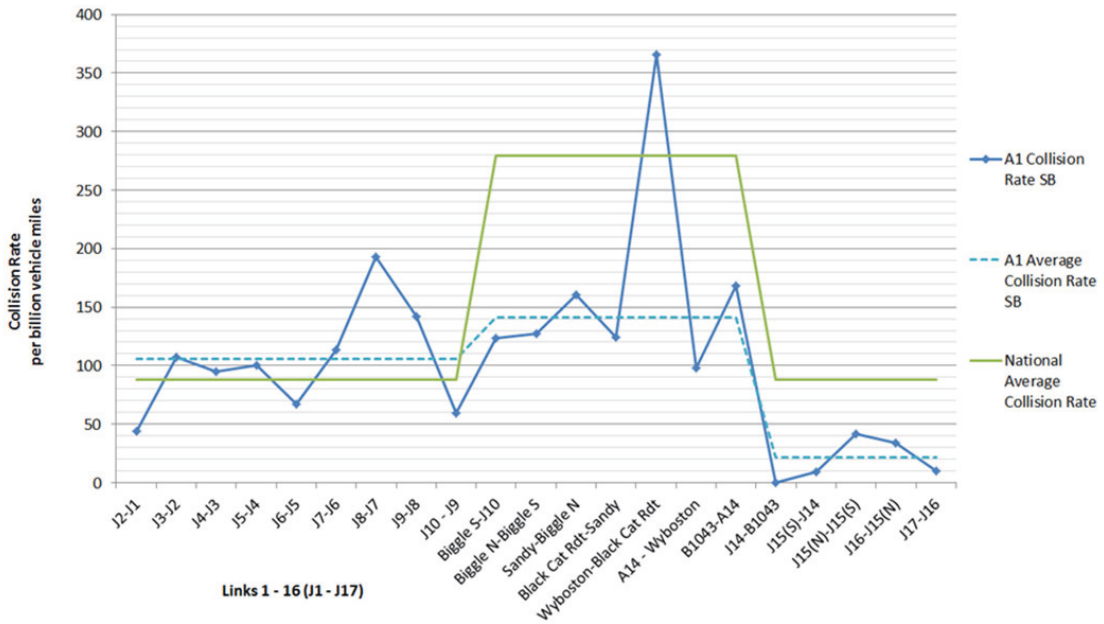


Figure 11: Collision Rate (per billion vehicle miles) 2012-2014 by Link (southbound)[11]

[10] ibid
[11] ibid

1.3.13 In total, 83 people were killed or seriously injured on the route between 2012-2014[12]. Improvements to the A1 route have the potential to reduce the collision rate presented in Figures 10 and 11, and reduce the number of people killed or seriously injured on the route.

Environmental Issues

1.3.14 The A1 runs through a number of sensitive receptors such as settlements located within 200m of the current alignment, scattered residential properties and environmental areas designated for conservation or amenity value. Understanding the environmental context of the A1 is critical to ensure suitable opportunities are explored which enhance the surrounding environment whilst also delivering an improved infrastructure network.

1.3.15 There are five First Priority Locations situated along the study area road where the effects of excessive noise are most significant. These sites are largely dense residential areas, housing estates and retail and commercial areas. There are localised occurrences of poor or reduced air quality, primarily at the northern and southern ends of the study route. A review of traffic data shows that the hotspots of poor air quality are characterised by high traffic flow, congestion issues and a lack of capacity in the road network.

1.3.16 Due to its length, size and importance, the original construction of the A1 undoubtedly affected numerous heritage assets that the road passes through, over, or in close proximity to. The operation of the road also affects the environment in terms of the effect of noise on the integrity of listed buildings and any visitor experience. The impact on heritage assets during ongoing operation of the A1 is minor in comparison to the effects from its original construction.

Photograph 6: Tempsford Bends

12 Department for Transport Road Safety Data https://data.gov.uk/dataset/road-accidents-safety-data

1.3.17 There are four nationally designated sites, including a Scheduled Ancient Monument at Tempsford Bends. Biodiversity and habitats have the potential to be affected by vehicle strike, prevention of movement by the road, disturbance of species as a result of noise, light, and vibration from vehicles and contamination through road run-off and vehicle emissions. The A1 also crosses several major and minor watercourses and their associated floodplains, including the River Great Ouse, River Ivel, River Kym and the River Lee/Lea. There are existing flood defences situated in places along the route to protect existing communities; these have been considered in the development and appraisal of options. Regulation of soil moisture using land drainage systems impacts on the fertility of farmland; this has also been considered. An RSPB reserve is located east of the A1 at Sandy.

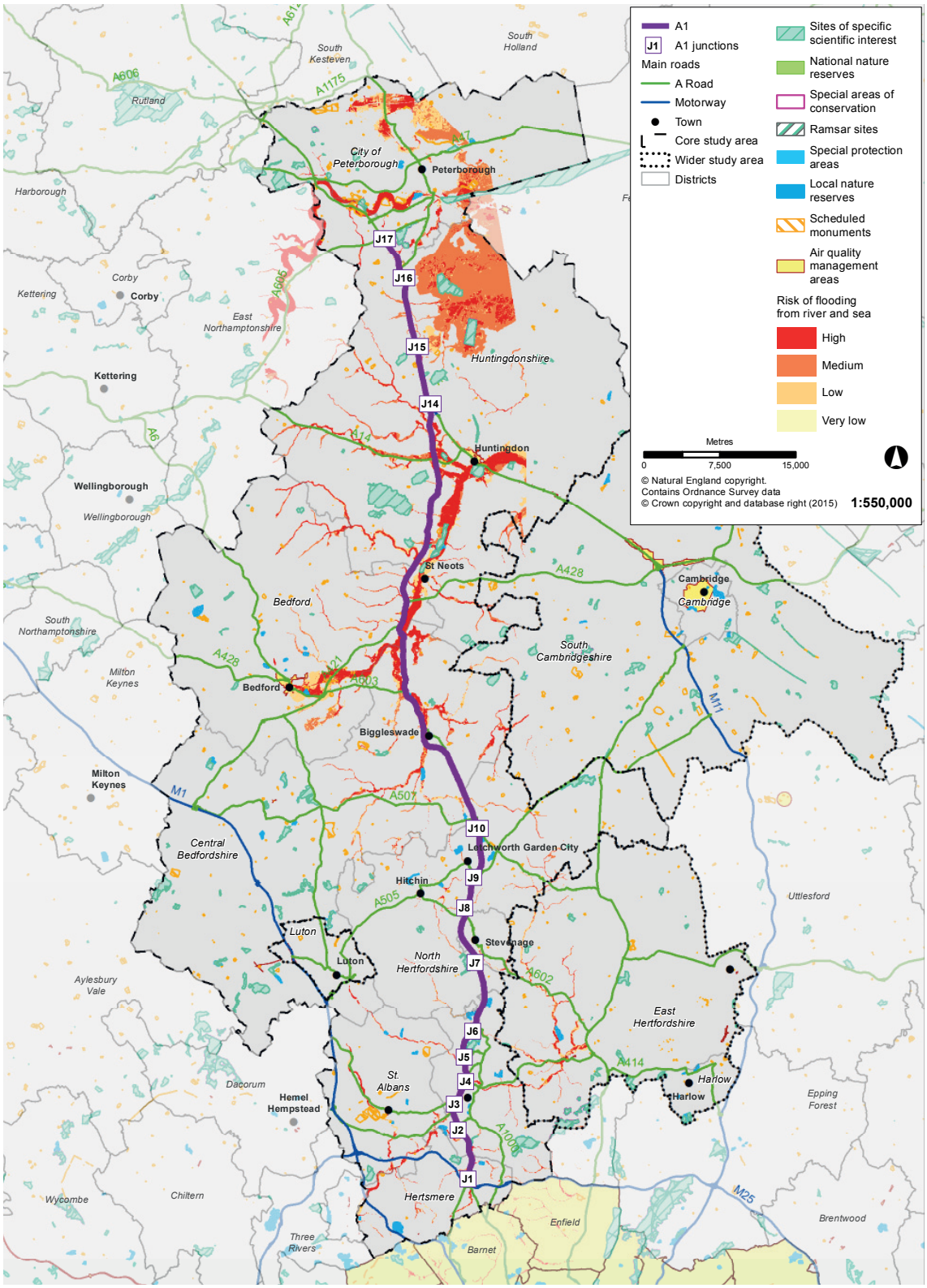


Figure 12 - Environmental Constraints within the Study Area

Summary of Key Problems

1.3.18 The key problems identified (including problems relating to planning and economics) are summarised below. These have been evidenced from reviews of Local Plans and other district strategies, from consultation with stakeholders and from an analysis of evidence-based research including transport models and accidents data.

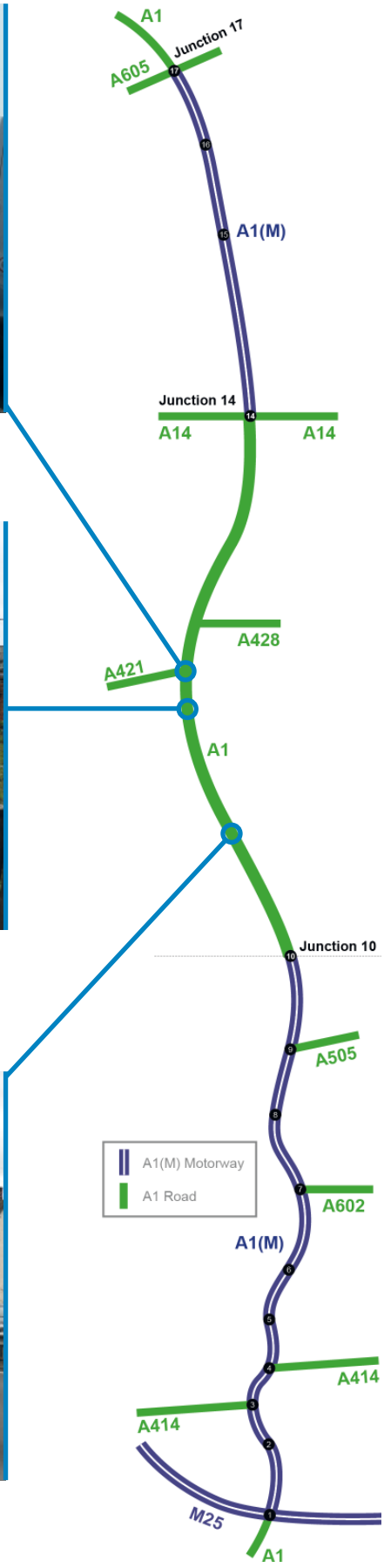
- Poor journey time reliability with variable speed and congestion
- Long delays
- Constrained road and restricted free traffic flow
- Collisions
- Capacity
- Poor conditions for public transport
- Noise and air quality
- Impact on landscape and townscape
- Impact on biodiversity
- Contributing to undermining growth potential
- Anticipated pressure on existing road network as a result of estimated population growth

1.3.19 Photographs 7-9 illustrate some of the key problems identified.

Photograph 7: Black Cat Roundabout – Wyboston. Queuing traffic.

Photograph 8 - Sandy - Black Cat Roundabout. Poor townscape, poor quality footways and hazardous vehicular accesses.

Photograph 9 – Biggleswade North - Sandy. Poor quality pedestrian environment, footways next to A1 route, pedestrian bridge unsuitable for vulnerable road users, segregation caused by A1.



1.3.20 Figure 13 shows the links and junctions examined in the context of this study. It also shows the RAG (Red/Amber/Green) rating given to each link or junction. The RAG rating relates to all problems identifed including transport problems, environmental problems and problems associated with planning and economics. The Figure shows only the motorway route section between Junction 15 and Junction 16 operates well, whilst all other route sections underperform.

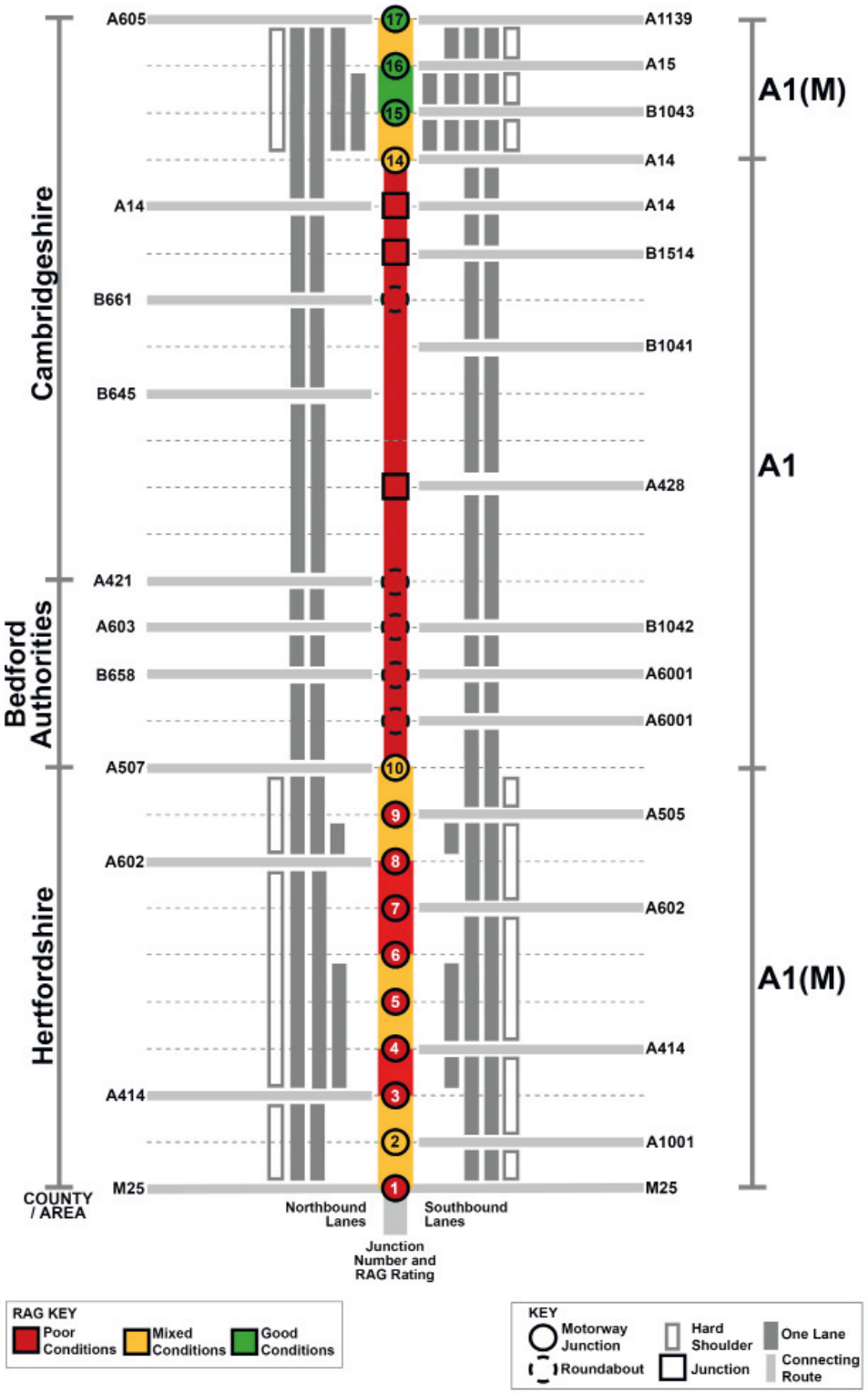


Figure 13 - RAG rating for links and junctions within study area

Case for Change

1.3.21 Current traffic conditions, road safety, environmental impacts and the socio-economic drivers of growth highlight a case for change to rectify and mitigate against the effects of the current A1 road operation.

1.3.22 In transport terms, the A1 is underperforming for much of its length in the East of England. The road has high traffic volumes, congestion, low traffic speeds and an inconsistent profile. An analysis of traffic conditions indicates noticeable journey time variability along much of the route between Junction 1 and Junction 14, with areas of traffic congestion. Such variations indicate poor journey time reliability. Conditions between Junction 14 and Junction 17 stand out in contrast with much lower levels of variability.

1.3.23 Safety issues along the route include collisions and casualties, especially along the most congested sections. Safety is poorest between Junctions 6-8, and between Wyboston Junction and Black Cat Roundabout. In areas between Junction 10 and 14 there are footways next to the A1, with no protection for pedestrians. Highways England are targeting a 40% reduction in the number of people killed or seriously injured on the strategic road network by 2020, and by 2040, no people should be killed or seriously injured on the strategic road network[13].

1.3.24 Poor air quality and noise have been identified as key environmental issues. These affect both the biodiversity in the area and the historic environment, with the impact likely to intensify without intervention. Opportunities for environmental enhancements also arise from road improvements, including river restoration, improved aquatic habitats and measures to improve habitat connectivity.

1.3.25 The study area is forecast to experience substantial growth over the next 20 years which the local areas must accommodate in both housing and job creation. Population increase puts upward pressure on demand for infrastructure services like energy, water and transport. Investment in infrastructure is key to sustaining economic growth. A majority of economic studies report that infrastructure has a significant positive effect on output, productivity, and growth rates, and is a key driver of jobs throughout the economy.

1.3.26 Investment in the road network is key to unlocking growth. Failure to invest in an efficient road network could compromise the sustainability of local economies, disinvestment from businesses, poor quality places to live, and cause further harm to the environment.

13 https://www.gov.uk/government/news/no-one-should-be-harmed-when-travelling-or-working-on-our-highways

1.4 Study approach, programme and development of options

This section presents the study objectives, summarises the four study stages and outlines the stakeholder engagement that has been undertaken.

Study Stages

1.4.1 **Task 1** - Review of existing evidence and confirm the strategic case for improved connectivity on the A1

Task 1 outlined the socio-economic, transport and environmental strategic case for road improvement and investment. Emerging issues and challenges for road efficiency and connectivity were identified; these are the 'problems' that the study brief refers to which then help to define the transport objectives. These problems relate to the current route alignment, with an appreciation of how the problems might develop in the future if not addressed or rectified. Initial stakeholder engagement considered the objectives for the A1 study and confirmed the strategic case for improvement.

1.4.2 **Task 2 - Defining transport objectives that will solve the problem identified and identifying a long-list of options which could meet the transport objectives**

Task 2 outlined the transport objectives for this study which were formulated considering the problems identified on the route and the views of stakeholders. An options 'long long list' was formulated by considering the problems on the A1 route and the identified objectives. The list was then assessed against the transport objectives; suitable options were identified, appropriately grouped and included in an options 'long-list' of eight options. A second stakeholder reference group meeting was held to consider options.

1.4.3 **Task 3a** - Initial sifting of options

In Task 3a the DfT's transport appraisal frameworks (EAST and WebTAG OAF) were used to assess the long-list of eight options. The following options were not taken forward:

- Do minimum – this option was not taken forward as it was considered that further appraisal of this option would not be beneficial.
- Upgrading the existing A1 non-motorway section to online motorway – this option was not taken forward. The scale and impact of property demolition on established communities was deemed not acceptable, particularly as most of the properties to be demolished would be residential. Additionally, the option increases severance, public acceptability is likely to be low and issues with the practical feasibility of the option were anticipated.
- Strategic public transport improvements, including behavioural change measures - this option was not taken forward. The option was considered a very high cost option which fails to adequately address key scheme objectives. It does little to bring consistency to the route, does not improve the performance of the road network and does not provide any significant environmental benefits.

1.4.4 The remaining five options were grouped into three packages for further appraisal. A third stakeholder reference group meeting considered the potential packages in July 2016.

1.4.5 **Task 3b - Work to assess the affordability, value for money and deliverability of short-listed potential options**

In Task 3b work was undertaken to assess the affordability, value for money and deliverability of the three packages A, B and C. The packages will be subject to more detailed appraisal by specialists in the project team to understand the benefits and problems. A Strategic Outline Business Case is being developed to aid in developing future Road Investment Strategies.

The options selection approach and option development process is shown in Figure 14.

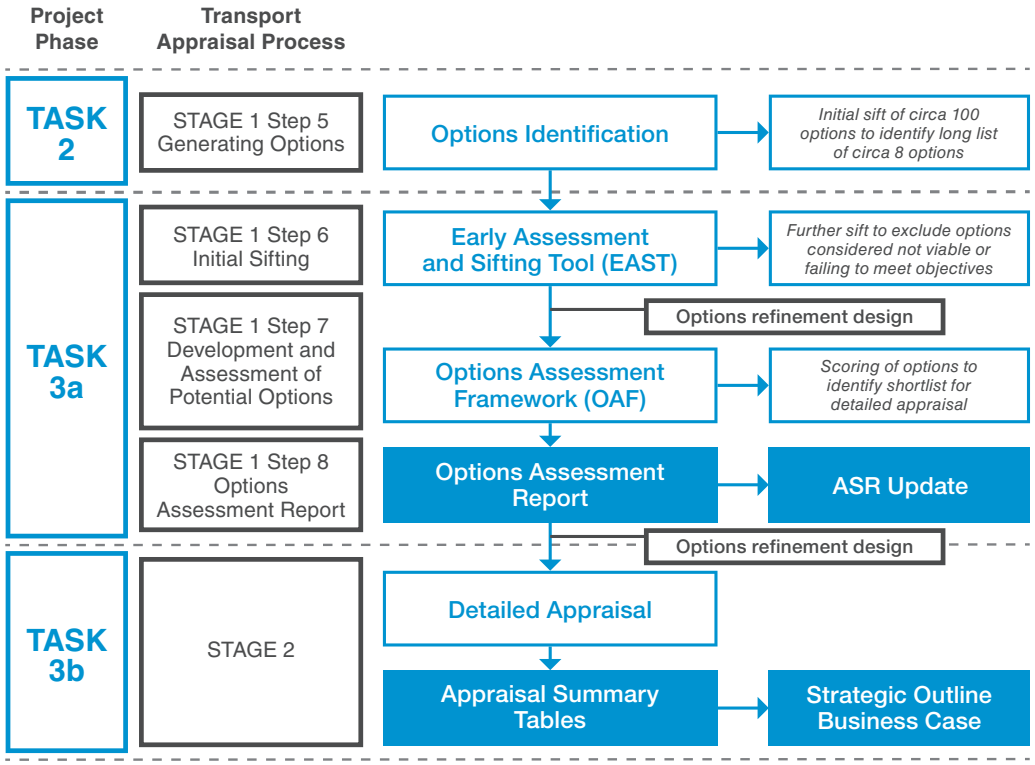


Figure 14 - Options Selection Approach and Option Development Process

1.5 Packages

1.5.1 The output from Task 3a was a short-list of 5 options that were formed into 3 packages to be taken forward for more detailed appraisal. The packages can be described as follows:

- Package A - Middle bypass;
- Package B - Improve existing junctions and route; and
- Package C - Modest improvements.

1.5.2 The diagram below shows the options refinement and development process.

Options Long Long List

A long long list of 56 options was generated. 18 of these options were identified for the long list and then these were grouped and refined to form the long list.

Options Long List and Shortlisting for Further Appraisal

Suitable options from the 'long long list' were identified, appropriately grouped and included in an options 'long list' of eight options. The long-list of eight options is provided below, it includes whether the option is to be taken forward to the next appraisal stage.

1. Do minimum - option not pursued.
2. Online upgrade of existing A1 non-motorway section to motorway (J10-J14) - option not pursued.
3. Section of new motorway (J10-J14, mostly offline) - option shortlisted.
4. Local improvements to A1 non-motorway section (J10-J14) - option shortlisted.
5. Add capacity to A1(M) motorway sections through smart motorway management - option shortlisted.
6. Upgrade non-motorway routes which link to the A1/A1(M) (A414 at J3 and J4)- option shortlisted.
7. Local public and active transport improvements, including behavioural change measures (J10-J14) - option shortlisted.
8. Strategic public transport improvements, including behavioural change measures - option not pursued.

Packages

A summary of the packages, created from the shortlisted options, is presented in brief below:

Package A comprises option 3, option 5 and option 7.

Package B comprises option 4, option 5 and option 7.

Package C comprises option 6, option 5 and option 7.

Full details of the packages is provided on the following page.

1.5.3 The table below shows the packages to be taken forward.

Package A	Package B	Package C
Section of new motorway between Junctions 10 and 14 (mostly offline) A new section of motorway to the west of the existing A1 non-motorway section, with downgrading of the existing route. It is assumed there would be two junctions on the new motorway section, and the route would comprise of three running lanes plus hard shoulder in each direction.	**Local improvements to A1 non-motorway section between Junctions 10 and 14** Various local improvements to the non-motorway section, including: grade separating junctions, removing roundabouts, removing minor accesses, signalising some accesses, rationalising road crossings, provision of bypasses, localised realignment and providing elevated road sections if required.	**Upgrade non-motorway routes which link to the A1/A1(M) at Junctions 3 and 4** Improvements to the A414 between Junction 3 and Junction 4 of the A1(M) including a new link south of Oldings Corner (J4), with upgrading of local roads to provide dual carriageway between J3 and J4.
Add capacity to A1(M) motorway sections through smart motorway management Introduce smart motorway management on A1(M) motorway sections to add capacity. Variable speed limits and ramp metering could also be introduced.		
Local public and active transport improvements, including behavioural change measures between Junctions 10 and 14 Improvements to bus service provision, focusing on local connections and services. Improvements to pedestrian, cycle and equestrian provision which could include new screened or separated routes. Behavioural change measures such as walk or cycle to work initiatives could complement physical improvements.		

1.5.4 Figures 15 to 17 show the packages taken forward.

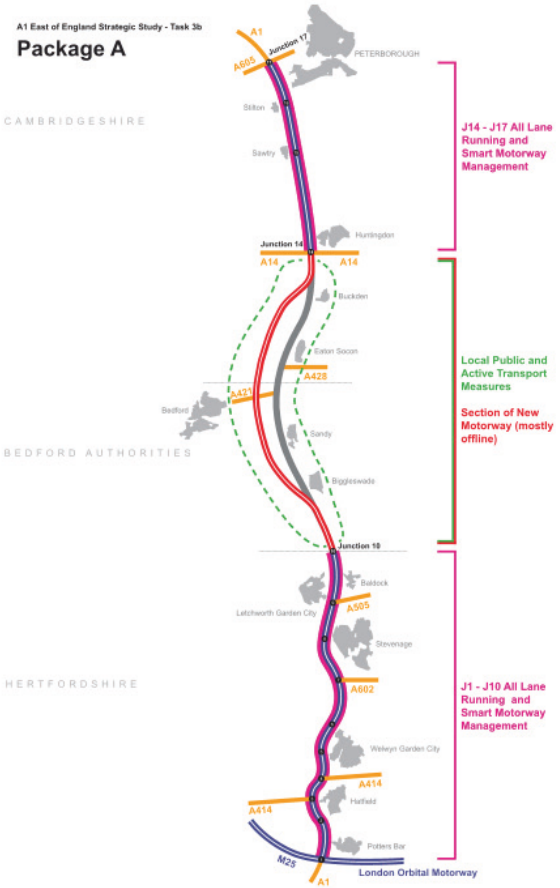


Figure 15: Package A Diagram

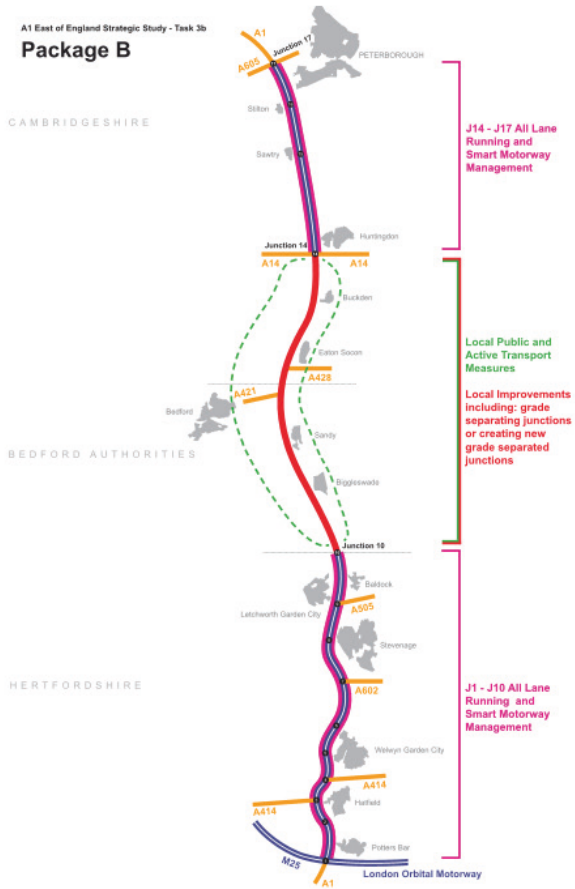


Figure 16 – Package B Diagram

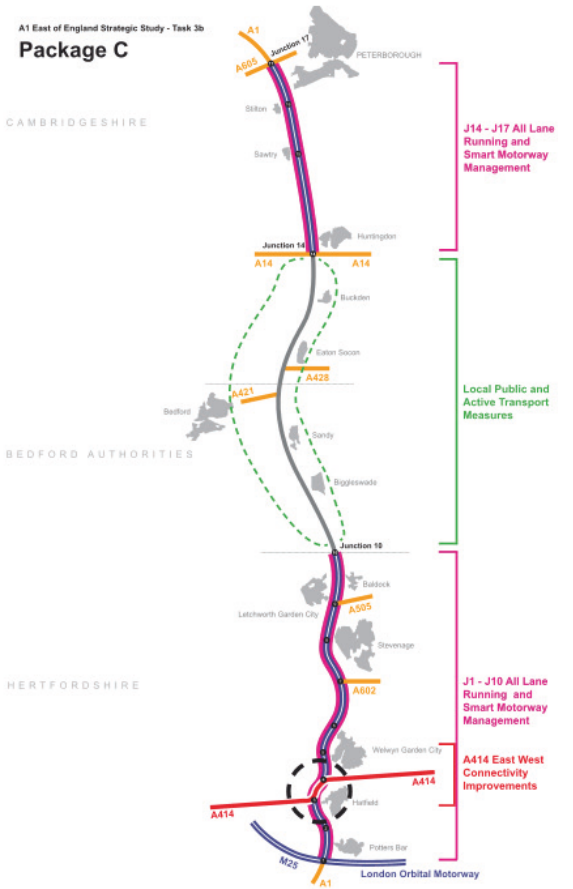


Figure 17 – Package C Diagram

1.5.5 The packages have been evaluated on the basis of their likelihood to bring significant improvements to the A1/A1(M) road network which will cater for increased commuter flows, serve functional urban areas and stimulate an already productive economy with high value activities. The modelling work that underpins this appraisal is based on best-available data on the scale and location of planned growth, but it should be recognised that this is in the context of a region with low local plan coverage.

1.5.6 The appraised packages aim to reduce generalised costs (the sum of monetary and non-monetary costs of a journey) along the length of the route, enabling greater accessibility, including connectivity to employment opportunities. Improvements to the A1/A1(M) as part of the wider Strategic Road Network in the East of England region might be expected to impact upon economic performance by reducing transport costs for business users through lower journey times and improved reliability; through static clustering effects by increasing effective density and improved labour market functioning; and through dynamic clustering as a result of land use change as a result of improved accessibility.

1.6 Likely benefits and opportunities

Transport

1.6.1 Package A has the highest level of benefit, compared with the other packages. It is also the highest cost package. The package is anticipated to have a negative impact on greenhouse gas emissions, and is anticipated to have a positive impact on: accidents; wider public finances; economic efficiency for commuting, other users, and for business users and providers.

1.6.2 Package B has a lower level of benefit than package A and a higher level of benefit than package C. Similarly, the cost is between the costs of package A and package C. The package is anticipated to have a negative impact on greenhouse gas emissions and economic efficiency for commuting. It is anticipated to have a positive impact on: accidents; wider public finances; economic efficiency for other users, and for business users and providers.

1.6.3 Package C has the lowest level of benefit, compared with the other packages. It is also the lowest cost package. In contrast with the other packages, package C is anticipated to have a positive impact on greenhouse gas emissions. It is also anticipated to have a positive impact on accidents, and economic efficiency for commuting and for other users. It is anticipated to have a negative impact on economic efficiency for business users and providers, and on wider public finances.

1.6.4 The table below compares the benefits for each package. Package A can be considered high cost and high benefit, package B can be considered medium cost and medium benefit, and package C can be considered low cost and low benefit.

Economic Case	Package A	Package B	Package C
Benefits	Accidents (reduce accident rate) Wider public finances Economic efficiency for commuting Economic efficiency for other users Economic efficiency for business users and providers	Accidents (reduce accident rate) Wider public finances Economic efficiency for other users Economic efficiency for business users and providers	Accidents (reduce accident rate) Greenhouse gas emissions Economic efficiency for commuting Economic efficiency for other users
Scale of Benefits	High	Medium	Low

1.6.5 Further refinement and appraisal of the packages could be undertaken to understand which elements of each package perform comparatively well. The benefits and costs of the refined package components could then be considered. Additionally, incorporating elements of the packages into the design of the committed schemes would be more cost effective and cause less disruption.

Environment

1.6.6 Package A has the greatest potential for significant environmental effects. These include:

- Increased emissions of nitrogen oxides and greenhouse gases with an overall disbenefit despite some localised areas of improvement;
- Land take and severance of Ickwell Bury (Grade II listed Park and Garden);
- Potential direct impacts on a number of other designated heritage assets;
- Impacts on the settings of further heritage assets;
- Direct and indirect impacts on landscape and views over a substantial area;
- Potential loss of habitats and species decline; habitat fragmentation; biodiversity loss; loss of land for wildlife over a wide area;
- Effects on flow, hydromorphology and Water Framework Directive (WFD) chemical and ecological status of a number of watercourses; and
- Effects on flood risk and groundwater.

1.6.7 With sensitive design there is the potential to avoid or reduce many of the adverse effects and introduce benefits, particularly in terms of biodiversity, landscape and the water environment. However, the scale of the works is such that many effects cannot be fully mitigated. In addition, package A is the most favourable for noise. Whilst the new section of motorway would result in a potentially large impact, the area is not densely populated. Furthermore, with appropriate mitigation measures, such as very low noise road surfacing, earthworks (i.e. cuttings and earth bunds) and noise barriers, this impact can be reduced.

1.6.8 The effects from package B on heritage assets, landscape, biodiversity and the water environment would be broadly of the same nature as those for package A. However as the works would be over a much smaller area, the potential for significant effects is reduced, and the potential to fully mitigate the effects is also improved. In terms of air quality, package B would result in increased emissions of nitrogen oxides and greenhouse gases resulting in an overall disbenefit despite some localised areas of improvement. Package B would also provide localised areas of improvement in terms of noise at Sandy and Buckden.

1.6.9 The works required for package C are minimal by comparison to packages A and B. Furthermore they are in an area that is significantly less sensitive in terms of heritage, landscape, biodiversity and the water environment, i.e. in very close proximity to the current A1(M) alignment and the urban fringe of Hatfield. The potential for significant effects could be reduced. There is good potential for mitigating effects, and mitigation requirements are also expected to be minimal. Package C also provides an overall benefit in terms of air quality, with reduced emissions of nitrogen oxides and greenhouse gases. In terms of noise, package C is less favourable that package A, but more so than package B.

Planning and Economics

1.6.10 All transport interventions will contribute to realising planning and growth aspirations. Local Plan coverage in the area is limited and as such there is uncertainty over growth areas and developments sites. However, while the connection between functional and developed transport networks and housing and employment growth has been established, as discussed in The Strategic Case, it is difficult to measure the levels of growth that have been missed as a result of the underperforming road network, or account for number of business start-ups or relocations that may have occurred. However, stakeholders have raised the existing route as a key issue in the area and as an obstacle to growth. This is due to unreliable travel times and journey quality, some areas of limited local and regional connectivity, present levels of congestion and accidents, and issues caused by severance such as the accessibility to services, housing and employment.

1.6.11 **Package A** would have positive benefits for business users, freight, and commuters. End to end journey times and reliability would be improved for all road users, particularly for freight and long distance journeys, as bottlenecks and congestion levels will be reduced. A new motorway alignment could deliver substantial wider economic benefits. This would reduce business costs, including for freight, potentially allowing businesses to operate more efficiently and making the area more attractive as a business location. It may also lead to agglomeration benefits to the local and regional economy. It would widen labour, supply chain and customer catchments for businesses to access and would allow local residents to more easily access a wider range of employment opportunities. The option also opens up the potential for major new settlements or urban extensions.

1.6.12 **Package B** also has positive impacts to realising growth in the study area. End to end journey times, cost and reliability would be improved for all road users, particularly for long distance journeys and for freight, although to a lesser extent than package A. There may be opportunities for more commuter and local buses to use the road, benefitting transport providers and creating opportunities for modal shift. An upgraded non-motorway section would also have moderate economic benefits including improved journey times, reliability and speed. Reduced congestion and improved reliability would assist in reducing business costs, including for freight, potentially allowing businesses to operate more efficiently and making the area more attractive as a business location.

1.6.13 **Package C** would also have benefits, but to a lesser extent than packages A and B. The package would have a slight positive impact for business users, freight and commuters as end to end journey times would improve, as would the cost and reliability of journeys, although modest in scale. There will be positive local impacts for business users who use the affected section of the A414 and the A1(M), primarily between Junctions 3 and 4. There will be some modest wider economic benefits including to increased road capacity and speed of journeys, assisting in reducing travel costs and assisting in the agglomeration of businesses.

Economic Modelling Analysis

1.6.14 This study has utilised modelling tools to appraise the value for money, economic efficiency and benefits of three proposed packages of road improvement schemes. An economic assessment has been undertaken with reference to current DfT guidance, as proportionate and applicable at Task 3b of the study. Combined link and junction assessments have been undertaken to derive the accident benefits for each package.

1.6.15 Air quality, noise and journey time reliability or quality impacts have not been monetised, nor have the potential impacts of construction on transport user benefits. It should be noted that at this stage the ongoing maintenance and operating costs associated with each package that might be additional to those that would be incurred in the Do Minimum have not been included.

1.6.16 Each package has been assessed as a whole, as part of an overarching objective to bring consistency to the route. A further round of modelling is being undertaken to better understand the nature of benefits and their impact on the network. Full findings will be available in the completed SOBC.

1.6.17 The initial assessment shows that the overall benefits are highest for packages A and B, however, there is a number of high cost components within each package that may not necessarily be justified given the benefits achieved.

1.6.18 Some package elements include redesigning major infrastructure schemes assumed to have been already delivered (such as the Black Cat to Caxton Gibbet scheme, and the A14 Cambridge to Huntingdon improvement scheme). In such cases, the marginal increase in benefits is unlikely to justify such costs, as well as increasing potential negative construction impacts. Incorporating elements of the packages into the design of these committed schemes in the appropriate locations would be more cost effective and cause less disruption.

1.6.19 If combined with the better performing elements of the packages and removing those for which there is little justification (e.g. sections of smart motorway where there is little need to increase existing capacity) and addressing some of the local access issues identified in this report, a more optimal package could be developed. This could however conflict with the aim of bringing consistency to the route. It should also be noted that no enhancements have been modelled north of Junction 17, which may also act as a potential constraint.

1.6.20 The overarching results, and not taking into account wider impacts (such as wider economic impacts or environmental impacts) demonstrate that there are challenges in making a corridor-wide packaged investment that brings overall consistency to the route, on top of the already significant investment planned as part of committed schemes that address the most critical pinch points on the A1(M) and A1. The challenge relates to both the costs of such an investment, and balancing the benefits and disbenefits of different package elements.

1.6.21 Further modelling is being undertaken to better understand the nature of benefits for each package and their impact on the network. Full findings will be available in the completed SOBC.

Costs

1.6.22 The estimated costs of each package are presented below. For each of the packages this comprises the core element of smart motorway and the individual package element i.e. middle bypass for package A, improvements to existing junctions and route for package B, and modest improvements for package C. The costs do not include ongoing operations and maintenance.

	Package A	Package B	Package C
2014 base cost most likely	£1.69bn	£1.14bn	£0.63bn

1.6.23 Local public and active transport improvements, including behavioural change measures between Junction 10 and 14, are proposed as part of all packages. The cost of these measures is in addition to costs in the table above. It is anticipated that the measures will be cost neutral when considered with the benefits, as such measures typically have high benefit cost ratios.

Other Studies

1.6.24 Planned transport schemes, mentioned in Section 1.2, will impact on the study area and on the A1 route. Planned improvements to East West connectivity, notably East West rail, the A14 Cambridge to Huntingdon A1(M) upgrade, the A428 A1 to Caxton Gibbet scheme, and potentially the Oxford to Cambridge Expressway (if the scheme is to go ahead) will be likely to increase demand on the A1 corridor thus supporting the case for intervention. As these other schemes progress it may be worthwhile reconsidering the benefits of an intervention on the A1 corridor.

1.7 Next steps

1.7.1 Packages A and B achieve significant levels of benefit, although these are notably lower than the costs. Package A is of higher cost than package B.

1.7.2 Package C is lower cost than packages A and B, and delivers lower levels of benefit. This is not to say that package C is not worthwhile. Package C could be considered as complementary to package A or B.

1.7.3 Further analysis of the packages will be undertaken to understand which elements of each package perform comparatively well. The benefits and costs of the refined package components will also be considered. Additionally, incorporating elements of the packages into the design of the committed schemes could be more cost effective and cause less disruption.

1.7.4 Following further refinement and appraisal of the packages, an optimal package could be developed. This optimal package could be considered for inclusion in a future Roads Investment Strategy (RIS).

1.7.5 Planned transport schemes will impact on the study area, for example: the A14 Cambridge to Huntingdon A1(M) upgrade, the A1(M) Junction 6 to 8 Smart Motorway scheme and the A428 A1 to Caxton Gibbet scheme. Similarly relevant is the Oxford to Cambridge Expressway strategic study. The next stage of this work should consider the changing transport context as the schemes and study progress. The optimal package should ensure compatibility with planned and potential schemes, and consider potential efficiencies which can be made through concurrent delivery of multiple schemes.

1.7.6 The planned route for East West rail will intersect the study area in the vicinity of Sandy. The Oxford to Cambridge Expressway, if delivered, could intersect the A1 at a similar location. Potential and planned improvements to east west connectivity within the study area raise important strategic questions about the level and location of future growth.

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Appendix 5

CBC Exam 12: - Note on the Identified Locations for Future Growth June 2019 CBC Local Plan 2015-2025

EXAM 12:
Note on the Identified Locations for Future Growth

June 2019

Central Bedfordshire Local Plan 2015-2035

CENTRAL BEDFORDSHIRE COUNCIL
NOTE TO THE EXAMINATION 1

STATUS OF THE IDENTIFIED LOCATIONS FOR FUTURE GROWTH IN THE SUBMISSSION LOCAL PLAN

1. There are four identified locations for future growth in the submission local plan and in particular in Appendix 7. These are Land East of Biggleswade, Tempsford, West of Luton, Aspley Guise Triangle.

2. This note clarifies the purpose of Appendix 7 and the reference to these locations as "for future growth".

3. The Council made reference to "future growth" to acknowledge the potential future but as yet unknown role of Central Bedfordshire in relation to the Cambridge-Milton Keynes-Oxford Arc.

4. The Cambridge-Milton Keynes-Oxford Arc and in particular on the intersection of the corridor with the key national north-south rail and road networks is acknowledged to be of great economic importance nationally and is likely to experience major ongoing pressures for growth. While Government has made commitments to new strategic road and rail infrastructure, the timing, service and route selection for those investments still needs further development and definition while related issues such as potential for capacity upgrades of the A1 have still to be resolved. These decisions, for example on new east-west rail stations, will have a major impact on the location, scale of development and wider potential of strategic growth sites in Central Bedfordshire.

5. Against that background, the Council has committed to a partial review of the Plan within 6 months of adoption of the Plan.

6. The purpose of making reference to the locations for future growth was merely to indicate to those reading and understanding the Plan that the Council would undertake future further assessment of areas for growth as part of the Partial Review to run alongside the emerging decisions in respect of the Arc.

7. The reason that the 4 areas were identified was to acknowledge earlier work that demonstrated that they have a basic technical capacity and therefore fall to be assessed further. There is however insufficient technical evidence and/or supporting infrastructure to support allocation[1] at this time but the Council considers that is significant potential based on their location and Central Bedfordshire's position at the centre of the Oxford Cambridge Growth Corridor.

8. However, the identification of these areas was not to and does not pre-determine the acceptability or make any in principle decisions about whether or not these or any other as yet unidentified areas will be in fact allocated.

[1] See the Site Assessment process which determined that, for example, until further work and information was known about key Government decisions it was not possible to assess the impacts arising from growth or the scale of any growth.

9. The purpose was merely to “flag up” that technically through the work done as part of the evidence base to the submitted Plan, these areas were worthy of further assessment and hence would be considered during the course of the Partial Review.

10. These identified areas are not conferred any preferred status through this Local Plan. There will be a call for sites in the usual way through the Review process and other sites will be assessed together with these 4 identified areas in order to reach final proposed allocations.

11. In the light of the above and having regard to the potential for confusion as to the purpose of the reference to these areas and in view of the fact that these sites are not part of any current plan policy, the Council considers that all reference to “areas of identified growth” be removed from the plan. This is principally “Appendix 7” but there are other consequential minor changes that will need to be made to the text. The Council will provide a list of proposed minor additional modifications to the text.

Appendix 6

CBC N02 Results Sandy

Annual Mean NO_2 Monitoring Results - Table A.4

Enter data into the pink cells

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing	Site Type	Valid Data Capture	Valid Data Capture	NO_2 Annual Mean Concentration (µg/m^3)				
						2016	2017	2018	2019	2020
17	502848	220688	Kerbside		30.8	33.5	29.2	29.6	27.4	18.6
37	502838	222071	Kerbside		65.4	**54.6**	**48.0**	**44.1**	36.5	30.7
39	501151	222821	Kerbside		67.3	35.3	31.6	28.3	31.3	21.8
55	503459	221768	Kerbside		57.7	**44.3**	**41.9**	39.6	39.9	31.2
N23	503458	283039	Kerbside		67.3	**46.4**	**44.1**	**42.9**	39.4	28.4
N31	502420	249109	Kerbside		65.4	27.9	27.4	25.5	26.4	20.8
62	501931	221704	Kerbside		51.9					14.6
1	501936	221837	Kerbside		75.0	**41.5**	35.6	37.2	37.5	25.1
10	501991	223965	Kerbside		82.7	35.5	33.8	29.3	29.5	22.3
18	501705	222089	Kerbside		82.7	**40.1**	35.1	37.7	34.8	26.1
27	503195	222119	Kerbside		75.0	33.2	29.8	31.8	28.1	21.0
33	501962	221884	Kerbside		82.7	39.5	37.4	34.2	37.3	27.6
34	501911	221853	Kerbside		82.7	**48.2**	**40.6**	38.1	36.4	27.4
48	503745	222914	Kerbside		82.7	37.1	33.4	32.7	29.6	22.5
49	503569	223034	Kerbside		75.0	32.8	29.9	28.2	26.9	22.4
50	502815	222065	Kerbside		82.7	**52.2**	**50.8**	**46.5**	**42.1**	34.7
52	492512	225235	Kerbside		82.7	38.9	38.4	33.5	33.3	26.6
56	491800	225041	Kerbside		75.0		26.2	30.7	29.4	22.6
58	497400	226675	Kerbside		82.7			32.5	32.5	22.2
59	499563	241471	Kerbside		82.7			35.3	31.2	25.3
60	507047	222300	Kerbside		82.7					26.4
61	517162	228685	Kerbside		82.7					21.3
N4	517160	248190	Kerbside		82.7	37.2	33.9	33.5	29.8	21.6
N6	516621	249100	Kerbside		82.7	34.3	33.5	30.7	29.4	23.2
N20	516534	249974	Kerbside		75.0	**69.8**	**66.3**	**66.1**	**57.5**	**43.6**
N16	516593	249083	Kerbside		82.7	**40.6**	**40.8**	36.1	34.4	26.2
N17	516569	249074	Kerbside		75.0	**48.3**	**54.0**	**51.2**	**45.1**	34.7
N18	516579	249070	Roadside		82.7	29.9	30.2	27.9	27.4	22.0
N21	503444	238197	Kerbside		82.7	25.9	24.5	24.4	24.5	16.6
N22	503466	238141	Kerbside		82.7	**42.0**	39.7	37.7	38.6	29.0
N25	516568	250174	Kerbside		82.7	38.1	36.8	32.6	32.4	24.6
N26	494900	233230	Kerbside		82.7	**40.7**	34.8	34.1	31.0	22.7
N27	516551	238167	Kerbside		82.7	34.4	33.8	32.5	30.3	22.2
N28	516551	249967	Kerbside		75.0	24.6	25.1	21.4	21.1	15.4
N30	516524	249942	Kerbside		82.7	**59.9**	**57.1**	**46.0**	**44.4**	34.3
N32	514201	237913	Kerbside		82.7	27.9	27.5	25.2	23.7	17.0
N33	514216	249194	Kerbside		82.7		29.7	28.7	28.3	21.1
N35	516493	249175	Kerbside		82.7				**43.4**	33.3

Appendix 7

CBC Air Quality Action Plan 2019 - 2024

Central Bedfordshire Council
Air Quality Action Plan

In fulfilment of Part IV of the
Environment Act 1995
Local Air Quality Management

2019 - 2024

Local Authority Officer	Kay Sterling
Department	Public Protection
Address	Priory House, Monks Walk, Chicksands, Shefford, Bedfordshire, SG17 5TQ
Telephone	0300 300 5065
E-mail	[redacted]
Report Reference number	Ampthill & Sandy AQAP 2019 - 2024
Date	June 2019

Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the action we will take to improve air quality in Central Bedfordshire between 2019 and 2024.

This is the first action plan relating to the Air Quality Management Areas declared in 2015 (Ampthill and Sandy).

Air pollution is associated with many adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas[1,2].

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[3]. Central Bedfordshire Council is committed to reducing the exposure of people in Central Bedfordshire to poor air quality to improve health.

Air Quality within Central Bedfordshire is generally good; the main source of air pollution is from road traffic emissions, specifically nitrogen dioxide (NO_2). In 2015 two areas were designated as Air Quality Management Areas (AQMAs) due to levels of nitrogen dioxide exceeding the Governments Air Quality Objectives; these are:

- Sandy (adjacent to the A1 from the Bedford Road/A603 roundabout to the Georgetown exit) in relation to breaches of both the hourly and annual NO_2 objectives
- Ampthill town centre in relation to the exceedance of the hourly NO_2 objective

An Air Quality Management Area was declared in Dunstable in 2005 regarding the exceedance of the annual NO_2 objective. This Action Plan does not address this AQMA but the existing Air Quality Action Plan for this area will be reviewed as soon as practicable.

We have developed actions that can be considered within 9 broad topics:

- Alternatives to private vehicle use
- Freight and delivery management
- Policy guidance and development control
- Promoting low emission transport
- Promoting travel alternatives
- Public information
- Transport planning and infrastructure
- Traffic management

[1] Environmental equity, air quality, socioeconomic status and respiratory health, 2010
[2] Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[3] Defra. Abatement cost guidance for valuing changes in air quality, May 2013

- Vehicle fleet efficiency

Our priorities are to implement measures to target emissions from road transportation and to promote the uptake of electric vehicles and/or alternative forms of travel such as walking, cycling and public transport.

In this AQAP, we outline how we plan to effectively tackle air quality issues within our control. However, we recognise that there are many air quality policy areas that are outside of our influence (such as vehicle emissions standards agreed in Europe), but for which we may have useful evidence, and so we will continue to work with regional and central government on policies and issues beyond Central Bedfordshire Council's direct influence.

Responsibilities and Commitment

This AQAP was prepared by the Public Protection's Pollution Team of Central Bedfordshire Council (CBC) with the support and agreement of the following officers and departments/agencies:

Steve Brewer, Strategic Transport Planner, Central Bedfordshire Council
Jodie Colclough, Strategic Transport, Central Bedfordshire Council
Nicola Sinden, Public Health, Central Bedfordshire Council
Sarah James, Public Health, Central Bedfordshire Council
Barbara Wonford, Public Health, Central Bedfordshire Council
Development Control, Central Bedfordshire Council
Public Transport, Central Bedfordshire Council
Sarah Naylor, Highways England

This AQAP has been approved by:

The Draft Air Quality Action Plan will be reviewed and finalised following the Public Consultation. We will then report the findings and finalised Air Quality Action Plan to Overview and Scrutiny committee on 11th July 2019 for final review and approval prior to being signed off by Executive Member for Community Services.

Progress each year will be reported in the Annual Status Reports (ASRs) produced by Central Bedfordshire Council, as part of our statutory Local Air Quality Management duties and submitted to Defra (Department for Environment, Food and Rural Affairs).

If you have any comments on this AQAP please send them to the Pollution Team at:

Central Bedfordshire Council, Priory House, Monks Walk, Chicksands, Shefford, Bedfordshire, SG17 5TQ

Telephone: 0300 300 8000

Email: Pollution@centralbedfordshire.gov.uk

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1.0 Introduction

This report outlines the actions that Central Bedfordshire Council will deliver between 2019 to 2024 to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the district.

It has been developed in recognition of the legal requirement on the local authority to work towards Air Quality Strategy (AQS) objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

This Plan will be reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within Central Bedfordshire Council's air quality Annual Status Report (ASR).

2.0 Summary of Current Air Quality in Central Bedfordshire Council

Air Quality within Central Bedfordshire is generally good; the main source of air pollution is from road traffic emissions, specifically nitrogen dioxide (NO_2). In 2015 two areas were designated as Air Quality Management Areas (AQMAs) due to levels of nitrogen dioxide exceeding the Governments Air Quality Objectives; these are:

- Sandy (adjacent to the A1 from the Bedford Road/A603 roundabout to the Georgetown exit) in relation to breaches of both the hourly and annual NO_2 objectives
- Ampthill town centre in relation to the exceedance of the hourly NO_2 objective

An Air Quality Management Area was declared in Dunstable in 2005 regarding exceedance of the annual NO_2 objective. This Action Plan does not address this AQMA but the existing Air Quality Action Plan for this area will be reviewed as soon as practicable.

For further information, please refer to the latest Annual Status Report (ASR) from Central Bedfordshire Council. This can be found at http://www.centralbedfordshire.gov.uk/environment/types-pollution/air/quality.aspx

3.0 Central Bedfordshire Council's Air Quality Priorities

The major source of air pollution in Central Bedfordshire is from road transportation; therefore, measures that target such emissions have a high priority within the Air Quality Action Plan.

In Ampthill, the Air Quality Management Area is within the town centre, which has narrow sections of roads and a double round about to control traffic flow from four traffic streams. The town centre is often congested at peak times and problems occur with traffic negotiating narrow sections and/or parked delivery vehicles.

In Sandy, the Air Quality Management Area is for an area 10metres either side of the carriageway of the A1 (from the Bedford Road/A603 roundabout to the Georgetown exit). The road is a national trunk route, attracting a large amount of traffic daily, some residential properties are close to the carriageway.

3.1 Public Health Context

Air pollution has been deemed one of the greatest environmental risks to the health of the public in the UK. There is a clear body of evidence that air pollution has a significant impact on health and improving air quality is everyone's responsibility. The *Clean Air Strategy 2019* provides guidance on how the UK Government sets out to improve air quality.

Local authorities have a statutory role in assessing and improving local air quality, and the cumulative effects of this local action are significant. The effect of a range of interventions to improve air quality has greater potential to reduce the associated burden of disease than anyone intervention alone. As the greatest impact will be achieved by synergistic packages of interventions, a strategic approach involving a combination of legislative, policy, behavioural and technological interventions is required in order to realise the greatest benefits.

When new plans and programmes are designed, and when new development or regulatory consents are issued, options appraisals can preferentially select approaches that have the greatest potential to benefit air quality and health. Public Health England recommends that evaluation is embedded in the design and costing of all future national and local interventions, from their outset, to systematically gather evidence of effectiveness and cost-effectiveness to inform future policy development.

To improve air quality, local authorities can:

- invest in infrastructure and public transport, and promote active travel and cycle routes
- implement measures to reduce air pollution caused by road traffic and other sources

- design healthy environments, bringing in spatial planning, urban design, road and building layouts, and green spaces

Central Bedfordshire Council will ensure that public health evidence is implemented to prevent and minimise impact of air pollution, including NICE Guidance: Air Pollution, air quality and health (2017) and the Public Health Evidence Review (2019): Review of interventions to improve outdoor air quality and health. To improve local air quality, links between Public Health, Public Protection and other departments with an interest in improving air quality will be strengthened.

Currently there are several ongoing projects being managed by Public Health colleagues, which although have the intention to increase physical activity/reduce obesity will have a positive impact on air quality, these include:

- Excess Weight Partnership Strategy which involves input from some 18 departments within Central Bedfordshire Council and Bedford Borough Council
- Sustrans BikeIt Programme runs within 34 schools to encourage children and staff to bike to school (not currently within Ampthill), the KPI results show that levels of physical activity have risen by over 25% and therefore the programme has achieved its targets. However, these programmes ended in March 2018 and as a result, focus is now to target parents to ensure that these levels are maintained/increased in future years. This is being achieved by school staff members becoming BikeIt champions to continue the work achieved thus far.
- However, from April 2018, the STARS (Bedfordshire Sustainable Travel Access to Railway Stations) Funding programme will focus on the promotion of walking and cycling (and bus use) to the Midland Mainline train stations in Bedfordshire towns with railway stations (or in the vicinity) - including Ampthill/Flitwick/Harlington.
- Asthma Schools – this is a relatively new initiative which involves the school nursing teams to deliver a package of training which has been developed around issues surrounding asthma including triggers and ensuring the correct care is in place. The first training sessions took place in April 2017.
- PSHE – is a programme for schools to be used by teachers as a resource for information surrounding various issues – i.e. mental health, safety, health, etc. This resource could be used to give information regarding air quality for use by teachers to develop class plans, etc.

These will be included in the measures on the AQAP has they are currently or will potentially benefit air quality by assisting to reduce the dependence on cars for making journeys, encourage take up of walking and cycling, or to provide more information regarding air quality

3.2 Planning and Policy Context

Both PM_{10} and NO_2 emissions can arise during the construction and operational phases of new development, with the impacts influenced by the size and location of the development.

The land use planning system is recognized as playing an integral part in protecting and improving air quality by managing the environmental impacts from development. This is achieved by ensuring new developments do not have a negative impact on the local air quality and that public exposure to air pollutants is reduced in areas which exceed the air quality standards.

The National Planning Policy Framework (NPPF), adopted in March 2012, and revised in February 2019, sets out the Government's planning policies for England and how these are expected to be applied. The NPPF replaces over a thousand pages of national policy (including *'PPG 23: Planning and Pollution Control'*). The NPPF must be considered in the preparation of Local and Neighbourhood Plans and is a material consideration in planning decisions. Planning policies and decisions must reflect and where appropriate promote relevant EU obligations and statutory requirements.

Paragraph 181 of the NPPF 2019 states:
"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

A declaration of an AQMA does not necessarily mean that there will be no new development within that area. Rather it means that greater weight must usually be given to the consideration of air quality impacts and their mitigation. It is not necessarily the case that a proposed development in an area of poor air quality will have a negative impact. The fact that the development is close to the existing AQMA does not mean that it will necessarily affect the area of exceedance of the air quality objectives, or that it will be affected by air pollution that exceeds the objective. However, it is important to recognise when such development might introduce additional people into an area of poor air quality.

The importance of the role of the planning regime in controlling air pollution was recognised in the 2012 and 2019 National Planning Policy Framework (NPPF), by the identification of air pollution as a material planning consideration **(DCLG 2012).**

Paragraph 170 (part e) of the NPPF refers to the generality of its role:

Planning policies and decisions should contribute to and enhance the natural and

local environment by:

- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans

Central Bedfordshire Council's planning policies currently reflect that of the legacy authorities, thus:

Currently the North Local Development Framework covers the north area of central Bedfordshire. The Local Development Plan for the north includes the Core Strategy and Development Management Policies Development Plan document (adopted November 2009), the Site Allocations document and the Proposals Map. There are also a number of saved policies from Mid Bedfordshire Local Plan 2005.

The North Local Development Plan, contains policies which relate to the control/reduction of air pollution through the planning/development control mechanisms, these include:

Policy DM3 – high quality development

- comply with current guidance on noise, waste management, vibration, odour, water, light and **airbourne pollution;**

Policy CS4 -linking communities – accessibility & transport

- appropriate access and linkages including provisions for cyclists/pedestrians and public transport

Policy DM9 – Providing range of transport

- reduce need to travel, promote more sustainable transport modes, maximise capacity of existing transport network and add capacity & new infrastructure where needed

Policy DM2 – Sustainable construction of new buildings

- to make central Bedfordshire a more environmentally, economically and socially sustainable place

Meanwhile, the South Local Development Framework covers the south area of central Bedfordshire. The Local Development Plan for the south includes a written statement, which sets out the policies and proposals for the development of the area and the justification for them. This is accompanied by the proposals maps, which represents the policies spatially. The South Bedfordshire Local Plan was adopted in 2004. The Endorsed Core Strategy (was accepted for by the Secretary of State in 2011); there are also many saved policies from South Bedfordshire Local Plan.

The South Local Development Plan contains policies which relate to the control/reduction of air pollution through the planning/development control mechanisms. These include:

- Policy T1 – to control the location of development and maximise the likelihood of achieving reduced levels of trip generation.

- Policy T3 – council will work with relevant parties to sustain and improve bus access, services and facilities to reduce dependence on the private car.
- Policy T5 – Improve safety and attractiveness of the pedestrian environment.
- Policy T6 – Provide network of safe, direct and attractive high-quality cycle routes and improved facilities for cyclists.

Central Bedfordshire Council submitted their Local Plan to the Planning Inspectorate on the 30th April 2018, following a Regulation 18 consultation from 4th July – 29th August 2017 and a Regulation 19 consultation from 11th January to the 22nd February 2018. This is in accordance with the Town and Country Planning Act, 1990. As result of this, the Local Plan will be going through an examination period later this year prior to adoption. Its contents include the proposed planning policies and procedures to help ensure that planning applications that may have impacts on air quality are assessed appropriately against these national policies.

Once the Local Plan is adopted, the policies within the plan will supersede those of previous plans, specifically development management policies identified within the existing Core Strategy. Therefore, applications made after the adoption of the Local Plan will need to comply with and/or refer to the new policies.

This Action Plan aims to highlight measures to mitigate pollution concentrations for the Ampthill and Sandy AQMAs. The planning regime will be used to support the Action Plan measures.

3.3 Source Apportionment

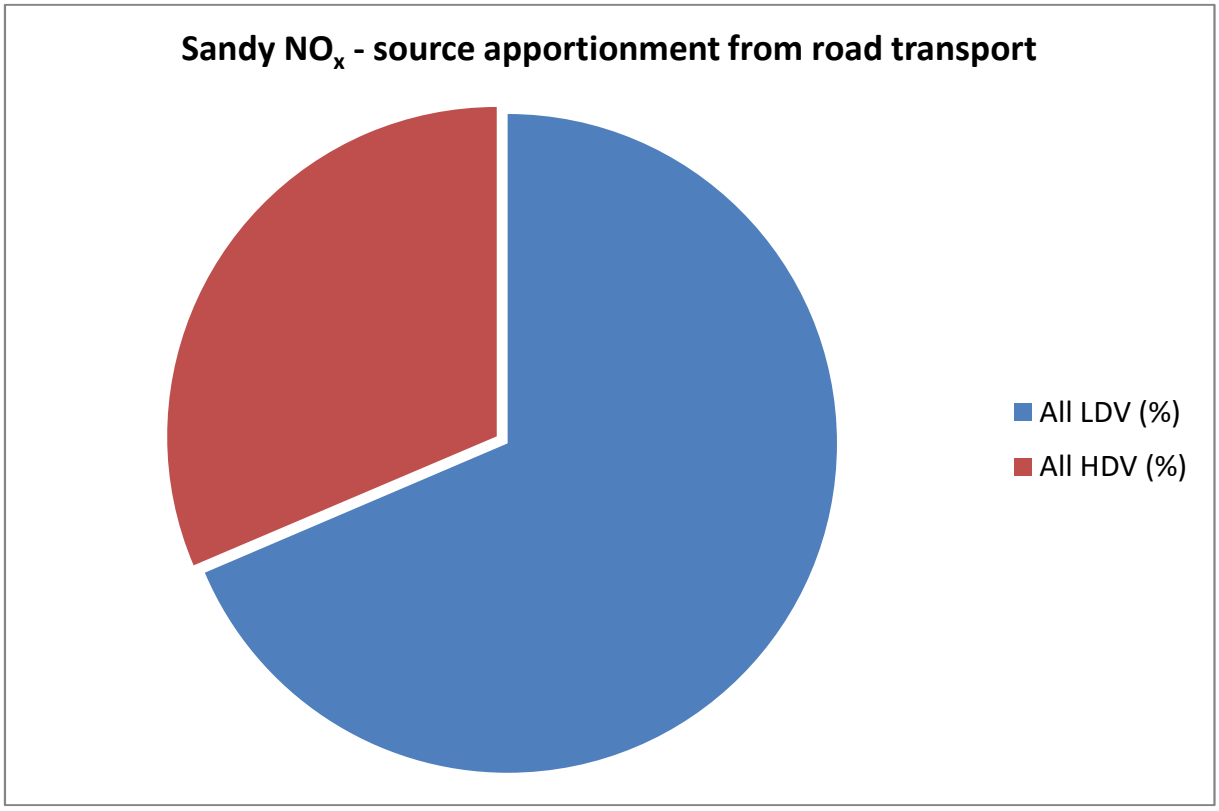
The AQAP measures presented in this report are intended to be targeted towards the predominant sources of emissions within Central Bedfordshire Council's area.

The major source of pollution for both the Ampthill and Sandy Air Quality Management Areas is road transportation. Therefore, measures within this plan, include actions to target reduction in emissions from transport.

The Emissions Factor Toolkit[4] was utilised to provide some details relating to the contribution of emissions from road transportation. Traffic count information for the count point between the A603 roundabout and the Georgetown exit in Sandy was obtained from Department of Transport.

[4] EFTv6.02 – released November 2014

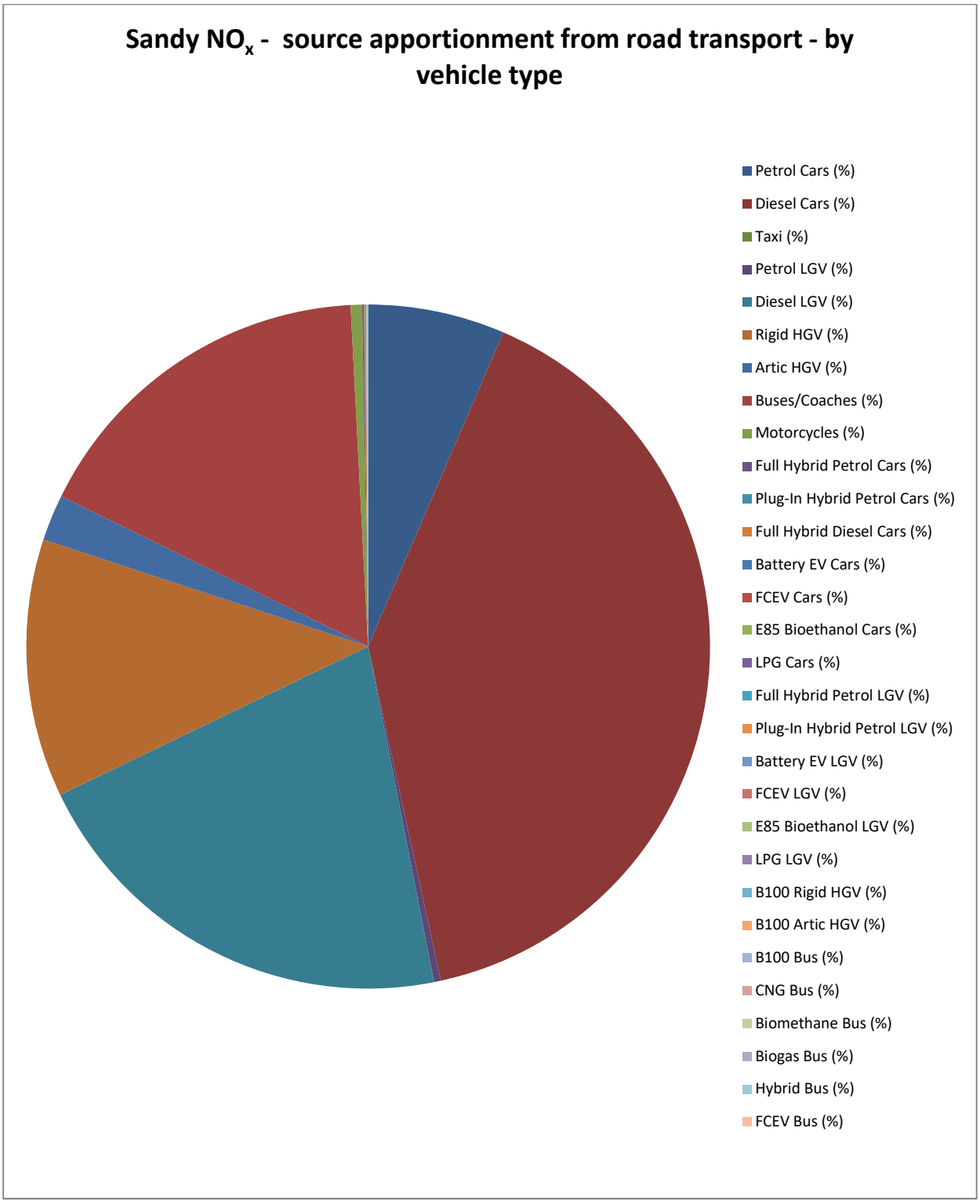
Figure 3.1 – Source apportionment of NO_x emissions from road transport – NAEI 2017 (based on 2016 traffic count figures)



Results show that LDV vehicles account for 68.59% of NO_x emissions and HDVs some 31.41%

A more detailed breakdown of the source apportionment from the traffic in Sandy can be seen in Figure 3.2 below, it can clearly be seen that diesel cars are the major contributor of NO_x emissions (some 40.11%); diesel LGVs contribute 20.95%; buses/coaches contribute 16.93%; rigid HGVs contribute 12.21% and petrol cars some 6.47%.

Figure 3.2 – Source apportionment of NO_x emissions from road transport, split by vehicle type - NAEI 2017 (based on 2016 traffic count figures)



In Ampthill, the fleet split has a much lower percentage of large HGVs due to the restrictions for such vehicles through the town; there are many bus routes and operators providing routes to Bedford, Milton Keynes, Flitwick, etc. Emissions from the bus fleet will greatly depend on the age of the vehicles and their associated Euro emissions standards. Generally, the newer the bus the less emissions it emits to the atmosphere.

The main HGVs contributors then are lorries, either delivering to locations in the town or lost/ignoring HGV restrictions on the local road network; or buses/coaches.

However, the rise in the sales of diesel cars over recent years have greatly increased, it is therefore likely that this sector of the road transport fleet will be a major contributor to the pollution levels in the town centre.

There is unfortunately no traffic count information currently available in this location and therefore source apportionment cannot be completed (like Sandy above).

However as further research/scoping work is carried out into proposed improvements to the Public Realm more information may be available, which will enable modelling the likely impact on the local air pollution concentrations of the options.

3.4 Required Reduction in Emissions

In Sandy both the hourly and annual objectives are being exceeded, therefore in some locations the required reduction in emissions are much greater than in others.

Results from diffusion tube sites in Sandy show the location of the exceedances of the AQOs to be within the declared AQMA. The results are shown overleaf (note that annualisation, bias adjustment and distance correction calculations have been applied as per Defra Technical Guidance).

Figure 3.3 – Results from NO2 diffusion tube monitoring in Sandy

Site ID	Site Type	Monitoring Type	Valid Data Capture 2016 (%) (2)	NO_2 Annual Mean Concentration ($\mu g/m^3$) (3)				
				2012	2013	2014	2015	2016
N1	Roadside	Diffusion Tube	100	35.5	32.4	33.7	33.7	36.4
N6	Roadside	Diffusion Tube	100	36.56	35.54	35.38	33.29	34.25
N20	Roadside	Diffusion Tube	100	**80.45**	**80.39**	**74.15**	**67.32**	**69.77**
N16	Roadside	Diffusion Tube	83	34.4	35.49	31.5	33.7	34.6
N17	Roadside	Diffusion Tube	100	35.6	36.1	37.8	38.6	34.6
N18	Roadside	Diffusion Tube	100	35.61	28.58	29.92	27.76	29.94
N25	Roadside	Diffusion Tube	100	NA	NA	NA	34.25	38.13
N28	Roadside	Diffusion Tube	100	NA	NA	NA	NA	24.62
N30	Roadside	Diffusion Tube	100	NA	NA	NA	NA	**59.91**
N31	Roadside	Diffusion Tube	100	NA	NA	NA	NA	27.93

The results from the real-time analyser in Sandy (approximately 2metres from the kerb of the A1) indicate that there is not a breach of the hourly objective at that location. This is confirmed by the diffusion tube monitoring results which show that whilst some monitoring locations are near to the annual AQO limit of 40µg/m^3; none exceed this.

The location in breach of both the annual and hourly AQOs is a localised spot, a row of cottages immediately fronting the A1 (approximately 1metre from the kerb). The tube sited on the downpipe of one of the cottages (site N20) has been consistently over the 60µg/m^3 (which Defra Guidance advises is the level at which is likely to indicate a breach of the hourly AQO of 200 µg/m^3 not to be exceeded more than 18 times a year).

However, another tube placed in the vicinity (site N30), again 1 metre from the kerb of the A1, which is in a more open position than N20, shows an exceedance of the annual and hourly mean.

Figure 3.4 – 1-Hour Mean NO_2 Monitoring Results (realtime analyser in Sandy)

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2016 (%) (2)	NO_2 1-Hour Means > 200µg/m³ (3)				
					2012	2013	2014	2015	2016
MD3	Roadside	Automatic		93	**0**	0	**0 (113)**	**0 (130)**	**1**

Notes:

Exceedances of the NO_2 1-hour mean objective (200µg/m³ not to be exceeded more than 18 times/year) are shown in **bold.**

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

Therefore, it can be seen from monitoring site N20 a 29.77µg/m³ reduction in nitrogen dioxide (NO_2) is required to achieve compliance with the annual AQO and 9.77 µg/m³ to achieve compliance with the hourly AQO.

In Ampthill only the annual objective is being exceeded. Results from diffusion sites in the town show the locations of the exceedances of the AQO to be within the declared AQMA. The results are shown overleaf (note that annualisation, bias adjustment and distance correction calculations have been applied as per Defra Technical Guidance).

Figure 3.5 – Results for NO2 diffusion tube monitoring in Ampthill

Site ID	Site Type	Monitoring Type	Valid Data Capture 2016 (%) (2)	NO_2 Annual Mean Concentration (µg/m³) (3)				
				2012	2013	2014	2015	2016
N21	Roadside	Diffusion Tube	100	26.57	27.14	26.97	23.49	25.94
N22	Roadside	Diffusion Tube	100	**40.69**	**41.03**	**42.25**	36.2	30.1
N23	Roadside	Diffusion Tube	100	**47.07**	**43.34**	**47.71**	**42.08**	**46.37**
N27	Roadside	Diffusion Tube	83	NA	NA	NA	NA	34.44
N32	Roadside	Diffusion Tube	92	NA	NA	NA	NA	NA

As can be seen from the above results Site N23 (Dunstable Street, Ampthill) requires a 6.37µg/m³ reduction in nitrogen dioxide to achieve compliance with the annual AQO.

3.5 Key Priorities

Our priorities are to:

- Priority 1 – Implement measures to target emissions from road transportation
- Priority 2 – Promote the uptake of electric vehicles
- Priority 3 – Promote alternative forms of travel such as walking, cycling and use of public transport

4.0 Development and Implementation of Central Bedfordshire Council's AQAP

4.1 Consultation and Stakeholder Engagement

In developing/updating this AQAP, we have worked with other local authorities, agencies, businesses and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 4.1. In addition, we will undertake the following stakeholder engagement: (This will be carried out during the Public Consultation period)

- E.g. website
- Articles in local newspaper
- Questionnaires distributed directly to households along major roads

The response to our consultation stakeholder engagement is given in Appendix A. (When the public consultation regarding the Draft Air Quality Action Plan is closed all comments will be reviewed and amendments to the Action Plan will be made to reflect these, where appropriate. A summary of responses will then be shown in Appendix A of the Final Air Quality Action Plan).

Table 4.1 – Consultation Undertaken

Yes/No	Consultee
Yes	the Secretary of State
Yes	the Environment Agency
Yes	the highways authority
Yes	all neighbouring local authorities
Yes	other public authorities as appropriate, such as Public Health officials
Yes	bodies representing local business interests and other organisations as appropriate

4.2 Steering Group

Meetings were held with individual officers within various departments of Central Bedfordshire Council (such as Public Health & Transport Planning, etc.) alongside discussions with colleagues in Highways England.

From these a number of actions were identified, and a draft Action Plan developed for consultation, initially with these colleagues, to ensure that details were correct.

A Public Consultation will be carried out after the internal consultation is complete and any comments/amendments have been incorporated to the Action Plan.

5.0 AQAP Measures

The 19 measures within this Air Quality Action Plan (AQAP) are those that have been selected for adoption and implementation in pursuit of the air quality objectives within the two Air Quality Management Areas of Ampthill and Sandy and to improve the air quality across the district as a whole. These measures have been grouped into 'packages' where they have similar characteristics or are alternative options to achieve the same end. The Council does not necessarily have the power to implement them all directly but potentially does have a role in attempting to influence those bodies or individuals who could implement them.

Measures are either:

- Strategic (i.e. aimed at integrating air quality into all relevant areas of decision making within Central Bedfordshire Council); or
- Specific (i.e. aimed at promoting more sustainable travel choices and reducing traffic related emissions within the two AQMAs and the district as a whole).

Four 'Package of Measures' have been recommended for implementation at this time:

- Package 1: reducing emissions through strategic measures
- Package 2: optimising traffic flow through the AQMAs
- Package 3: reducing transport emissions
- Package 4: promoting sustainable transport options

This Action Plan is:

- Focused – road transport is the major source of emissions in the AQMAs and ambient background levels are an additional significant source.
- Proportionate – the plan puts most emphasis on reducing ambient background concentrations and emissions from road transportation and contains specific measures to attempt to address those emissions.
- Realistic – the measures in the plan have been assessed as being the more feasible, acceptable and cost effective among many options.
- Strategic – key measures to be implemented include improving the council's capacity to manage air quality, to prevent worsening the air quality and to make progress towards achieving the air quality objectives/standards.

5.1 Action Plan Measures

Package of Measures 1: Reducing emissions via strategic means

Measure 1: Improve links with the Local Transport Plan (LTP)

The air quality problem in Central Bedfordshire is predominantly a result of emissions from road vehicles, as is the case elsewhere in the UK. Consequently, the LTP constitutes a key mechanism for delivering initiatives aimed at improving local air quality.

The Public Protection team responsible for providing local air quality management work will work closely with colleagues responsible for producing the LTP to ensure that this Action Plan and the associated measures to improve air quality within the two AQMAs and across the district in general, are integrated into future versions of Central Bedfordshire Council's LTPs.

Measure	Title
1	Improve links with the Local Transport Plan (LTP)
Key intervention	
Measures to ensure the current poor air quality in the two AQMAs (Ampthill & Sandy) is improved where possible and to avoid future problems are implemented via the LTP	
Definition	Measure/indicator
Future versions of the LTP to include: • Reference to the three AQMAs (Ampthill, Sandy and Dunstable) and measures included in the AQAP(s). Integration of AQAP with LTP. • Develop action plan options that will be implemented via the LTP	Integration of AQAP into next version of the LTP
Responsibility	
Public Protection, Strategic Transport Team (Central Bedfordshire Council)	

Measure 2: Improve links with the Local Planning and Development Framework

PM_{10} and NO_2 emissions can arise during the construction and operational phases of new development, with the impacts influenced by both the size and location of the development. The land use planning system plays a central role in managing environmental impacts of new development and contributes to the protection and long-term improvement in air quality. This is achieved by ensuring that new developments do not have a negative impact on local air quality and that public exposure to air pollutants is reduced in areas which breach the air quality objectives/standards (and no viable actions are available to reduce pollutant concentrations).

To maintain and improve air quality within Central Bedfordshire, Public Protection are consulted on planning applications to assess the likely impact on air pollution concentrations and/or if the development is likely to result in people being exposed to poor air quality. Public Protection officers may request that a further assessment be carried out by developers to determine any appropriate mitigation for the development given its location/size and subsequent impact of the development on the local environment. Alternatively, Public Protection officers may recommend refusal of the development should there be no suitable mitigation measures.

Air quality is a material planning consideration and Central Bedfordshire Council's Submitted Local Plan (currently awaiting examination)) includes policies to aid consideration and control of development which may impact on air quality. Central Bedfordshire Council's Design Guide also sets out sustainable approaches to development with the aim of reducing impacts on the environment and the community.

Public Protection were consulted during the preparation of the Local Plan and comments were taken into consideration.

<table>
<tr><td>Measure</td><td colspan="2">Title</td></tr>
<tr><td>2</td><td colspan="2">Improve links with the Local Planning and Development Framework</td></tr>
<tr><td colspan="3">Key intervention</td></tr>
<tr><td colspan="3">Local planning considerations aim to mitigate the cumulative negative air quality impacts of new development.

Measures to ensure the current poor air quality in the two AQMAs (Ampthill & Sandy) is improved where possible and to avoid future problems are implemented via the planning regime</td></tr>
<tr><td colspan="2">Definition</td><td>Measure/indicator</td></tr>
<tr><td colspan="2">• Require developers to undertake an Air Quality Assessment in circumstances where a new development could have a negative impact on air quality and provide a mitigation plan where necessary

• Continue to use planning conditions and legal obligations to require developers to adopt measures, such as requesting travel plans, provision of cycle parking facilities and installing electric vehicle recharging infrastructure

• To produce a developer's, guide re AQ</td><td>No of assessments

No of sites with:

Travel plans
Cycle parking facilities
EV charging points

Inclusion of Developers Guide re AQ on Planning webpage and to be made available to developers.</td></tr>
<tr><td colspan="3">Responsibility</td></tr>
<tr><td colspan="3">Public Protection, Local Planning and Development Framework (Central Bedfordshire Council)</td></tr>
</table>

Measure 3: Improve links with Public Health

Central Bedfordshire Council will ensure that public health evidence is implemented to prevent and minimise impact of air pollution, including NICE Guidance: Air Pollution, air quality and health (2017) and the Public Health Evidence Review (2019): Review of interventions to improve outdoor air quality and health. To improve local air quality, links between Public Health, Public Protection and other departments with an interest in improving air quality will be strengthened.

Measure	Title
3	Ensure that public health evidence is implemented to minimise the impact of air pollution
Key intervention	
Improve local air quality by joint working with Public Health, Public Protection and other departments with an interest in improving air quality.	
Definition	Measure/indicator
• Joint working to reduce air pollution is strengthened by use of national public health evidence.	A strategic approach involving a combination of legislative, policy, behavioural and technological interventions will realise the greatest benefits. Therefore policies, relationships and processes will be put in place to ensure air quality is considered across departments. No of joint projects KPI
Responsibility:	
Public Health & Public Protection, Central Bedfordshire Council	

Package 2: optimising traffic flow through the AQMAs

It is recognised that traffic flow through the AQMAs could be significantly improved. To bring about improvements, (whether through the re-design of the current road layout or traffic flow prioritisation alterations, etc), it is essential that the traffic movements/flow and associated issues within each area are fully understood; this is to be achieved through initial investigations. The findings of these investigations will be used to inform the development of a business case or funding for highway infrastructure improvements.

Currently the Highways team are surveying and modelling various options for managing the traffic through the AQMA in Ampthill – re-prioritising the main north-south route and improving the Public Realm, etc. This may impact areas including air

quality, congestion and safety. Conclusions and recommendations from these studies will form the basis of future actions in Ampthill.

Meanwhile Highways England is reviewing the situation in Sandy, to identify options which may be adopted to improve the air quality in the AQMAs.

Measure 4: Junction and Congestion Investigations

A roundabout is utilised at the A1/A603 junction at Sandy. At peak times, there are considerable tailbacks both on the A1 and the local road (A603). There are residential properties which are situated particularly close to the A1 (which is in the location where the NO_2 hourly air quality objective is being breached) and in peak times some queuing outside these properties is evident. Pollution deposition is evident on these buildings.

In Ampthill town centre, there is a double mini-roundabout serving a four-way junction. Some of the roads are narrow at this point and at peak times there is congestion. Residential properties front some of the stretches of road leading to the junction. The Dunstable Street – Bedford Street is the main route providing a route to the A507 and Flitwick to the south and Bedford to the north. Woburn Road provides a link to the A507 and Church Street leads to other villages. Pollution deposition is evident on some of the buildings.

It is proposed to assess the feasibility for the investigation of the efficiency of both junctions (Sandy A1/A603 roundabout and the Ampthill town centre mini roundabout). A review of currently available information from existing sources (i.e. reports/studies) and use the findings to identify realistic potential actions/measures to improve traffic flow within these AQMAs. If feasible actions/measures are identified, then the development of a business case for funding highway infrastructure improvements should be undertaken.

<table>
<tr><td>Measure</td><td colspan="2">Title</td></tr>
<tr><td>4</td><td colspan="2">Junction and congestion investigations</td></tr>
<tr><td colspan="3">Key intervention</td></tr>
<tr><td colspan="3">A feasibility study into investigating efficiency and impacts of congestion of relevant junctions within the AQMAs, identify actions to improve traffic flow at these locations.</td></tr>
<tr><td colspan="2">Definition</td><td>Measure/indicator</td></tr>
<tr><td colspan="2">Review the efficiency/congestion at relevant junctions and road layouts within the AQMAs at the following:
A1/A603 roundabout at Sandy
Ampthill town centre (Bedford Street / Dunstable Street / Woburn Street and Church Street) which is currently controlled by mini roundabouts.</td><td>Reports produced – identify potential measures to improve air quality, road safety and reducing congestion by improving traffic flow.
development of a business case for funding highway infrastructure improvements should be undertaken</td></tr>
<tr><td colspan="3">Responsibility:</td></tr>
<tr><td colspan="3">Highways England & Strategic Transport Team & Public Protection, Central Bedfordshire Council</td></tr>
</table>

Measure 5: Road signage and satellite navigation alterations

Carry out a review of the highways signage in the vicinity and within the Ampthill AQMA to ensure that traffic is being directed along the most appropriate route and remove unnecessary traffic from the town centre. For instance, ensure traffic travelling to Bedford from the A507 is not directed through Ampthill but signage directs them to use the A6 or A421.

There is a restriction on HGVs within the vicinity and within Ampthill itself, however HGVs still use the local road network and cut through the town centre. The occasional presence causes some disruption as the roads are narrow in places causing delays/congestion and these vehicles (pre-euro 6) emissions are generally high, which add to the air pollution levels in the AQMA. There is a need to review the signage/satellite navigation systems advising HGVs the most appropriate route avoiding the restricted routes.

In addition, visitors to the district and/or through traffic will not be familiar with the local road network and will often rely on satellite navigation systems. There is the potential that these systems can be updated to avoid unnecessary travel through the Ampthill AQMA and for HGVs to avoid restricted routes.

There will be a need to enforce the HGV restrictions within the Ampthill AQMA and within the district.

Unfortunately, the Sandy AQMA relates to the A1 which is a major trunk road and therefore traffic is not able to be re-routed.

<table>
<tr><td>Measure</td><td>Title</td></tr>
<tr><td>5</td><td>Road signage and satellite navigation alterations</td></tr>
<tr><td colspan="2">Key intervention</td></tr>
<tr><td colspan="2">Determine significance of current road signage and satellite navigation routes on AQMA through traffic</td></tr>
<tr><td>Definition</td><td>Measure/indicator</td></tr>
<tr><td>Investigate current road signage within the vicinity of the Ampthill AQMA, to identify opportunities for improvement, with the aim of preventing unnecessary through-traffic (this measure does not apply to the Sandy AQMA as the A1 is a major trunk road).
Investigate the need for altering satellite and online route planning routes to avoid the Ampthill AQMA where possible</td><td>Undertake review of road signage in and near the Ampthill AQMA

Review routes advised by satellite navigation systems and online route planners to ascertain if amendments are needed.</td></tr>
<tr><td colspan="2">Responsibility:</td></tr>
<tr><td colspan="2">Strategic Transport & Public Protection, Central Bedfordshire Council</td></tr>
</table>

Measure 6: On street parking/delivery

There are a limited number of on street parking bays in Ampthill, mainly on the wider sections of the roads along Woburn Street (not within the AQMA).

There are a few layby areas providing off-street parking alongside the AQMA, so reducing potential congestion/air pollution caused by parked vehicles on the highway.

However, the town centre has a number of shops and delivery vehicles are often parked outside, although there is a restriction on delivery times in Ampthill, this causes delays and congestion as the traffic flow is impeded at these times, which adds to the burden of air pollution in the area. Should these delivery vehicles or vehicles using the on/off street parking facilities leave their engines idling then this will add to the pollution emissions and potential impact on local residents.

Currently the Highways team are surveying and modelling various options for managing the traffic through the AQMA – re-prioritising the main north-south route and improving the Public Realm, etc. This would impact many areas including air quality, congestion and safety. Conclusions and recommendations from these studies will form the basis of future actions in Ampthill.

In Sandy, there are no on street parking facilities and deliveries to houses fronting the A1 are not frequent enough to cause issues to the road network. Thus, Sandy is not included in this measure.

Measure	Title
6	On street parking / delivery
Key intervention	
Determine significance of on street parking and deliveries on road network (Ampthill only)	
Definition	Measure/indicator
• Review impact of on-street parking & deliveries within AQMA	Could be a part of the report dealing with the Public Realm improvements including potential road layout amendments in Ampthill
Responsibility:	
Strategic Transport & Public Protection, Central Bedfordshire Council	

Measure 7: Research impact on use of average speed cameras / change to speed limit (Sandy only)

It is recognised that the A1 attracts a great many vehicles and has various speed limits along its length. Currently there is a 50mph speed limit from St. Neots Road to the A603 roundabout; a safety camera is sited near to the cottages where the diffusion tube measures exceedances of both the hourly and annual NO_2 AQOs.

There is local knowledge to indicate that this speed limit may not always be obeyed and that some traffic may brake to avoid detection by the camera and then accelerate off. As such, emissions from the road traffic may be increased (heavy breaking and then acceleration).

Therefore, it is proposed for a feasibility study to be considered to research into the impact of the use of average speed cameras to prevent the braking/acceleration of vehicles, thus smoothing the traffic speeds and the impact on air quality, safety and congestion. In addition, the study could review the impact on decreasing the speed limit to 40mph (from the current limit of 50mph) through this section of the A1.

It is proposed to contact other local authorities who have adopted the use of average speed camera and/or lowering speed restrictions on trunk roads/motorways to ascertain effectiveness in achieving improvements to the local air quality.

<table>
<tr><td>Measure</td><td>Title</td></tr>
<tr><td>7</td><td>Research use of average speed cameras/speed limit (Sandy only)</td></tr>
<tr><td colspan="2">Key intervention</td></tr>
<tr><td colspan="2">Feasibility study to be considered to determine significance of current speed limit on emissions and the effects of traffic slowing and then accelerating and the impact of the introduction of average speed cameras (Sandy only)</td></tr>
<tr><td>Definition</td><td>Measure/indicator</td></tr>
<tr><td>Feasibility study to be considered to determine significance of speed limit/traffic speed on emissions and the effects of braking/acceleration at current safety camera. Research into the impact of the use of average speed cameras to prevent the braking/acceleration thus smoothing the traffic flow by ensuring speed limit observed and potentially decreasing speed limit to 40mph (from the current 50 mph).
Research other local authorities that have adopted such measures to ascertain effectiveness</td><td>Outcome of feasibility study

Use of appropriate modelling to ascertain significance and to show if any improvement could be made to the air quality and if so by what amount

Response from other LAs</td></tr>
<tr><td colspan="2">Responsibility:</td></tr>
<tr><td colspan="2">Highways England & Public Protection, Central Bedfordshire Council</td></tr>
</table>

Package of Measures 3: Reducing transport emissions

This can be achieved in several ways, e.g. promotion of alternative fuels and low/zero emission vehicles, car sharing schemes and incentives and reducing the volume of traffic, etc.

Measure 8: Promote use of electric vehicles (EV)

It is recognised that EV could offer solutions to the air quality issues; as such the aim is for the council to promote and encourage the uptake and use of electric (plug in and hybrid) vehicles. By communicating both the personal and business benefits of EVs and the Government grants available to both towards the cost of each new EV vehicle (subject to certain conditions). The Government announced in April 2017 that people purchasing an EV vehicle will benefit from up to £4,500 off the cost of an Ultra-Low Emission Vehicle; up to £2,500 of the cost of a hybrid and £500 towards the cost of installation of a charge point in their home.

Central Bedfordshire Council (CBC) recognises that there are barriers preventing the successful uptake of EV, for example the range of the vehicles; the availability and accessibility of charging points; the disposal/recycling of the batteries and the potential of different networks providing the equipment which results in the user having several various cards to use the differing systems.

Central Bedfordshire Council has had an EV network for 5 years, however the demand was low. Demand has been increasing over the last year. Currently there are 9 charging points in the district.

<table>
<tr><td>Measure</td><td colspan="2">Title</td></tr>
<tr><td>8</td><td colspan="2">Promote use of electric vehicles (EV)</td></tr>
<tr><td colspan="3">Key intervention</td></tr>
<tr><td colspan="3">Encourage use and uptake of electric vehicles</td></tr>
<tr><td colspan="2">Definition</td><td>Measure/indicator</td></tr>
<tr><td colspan="2">Management of CBC EV network to go out to tender in 2017 and include:
Upgrading existing ageing equipment
Developing new locations/sites with various EV charging facilities (ie rapid charge, etc)
Promoting locations of EV charging facilities
Require EV provision in new developments (at least ensuring cabling is in place so EV charging points can be installed at a later date
Explore possibility of local incentives, such as the waiving of car parking charges when using EV equipment and priority bays for EV</td><td>No of charging stations and additions to the network.
Usage of the sites
No of new developments installing such equipment / no of charging points</td></tr>
</table>

• Promote the presence and availability of existing EV charge points within the district	Percentage increase in usage
Responsibility:	
Strategic Transport, Development Control/Planning, CBC Assets Team & Public Protection, Central Bedfordshire Council	

Measure 9: Green incentives for taxi drivers

Taxis do considerable local mileage and consequently add to the air pollution within the district. Therefore, there is good reason to encourage taxi companies and drivers to use cleaner (e.g. electric) vehicles.

Currently new vehicles licensed to be utilised as taxis must be under 5 years of age, however vehicles currently licensed will be permitted to be re-licensed annually provided they pass the necessary mechanical inspection, but any replacement vehicles must meet the age requirement. A second (6 monthly) inspection will be required for vehicles over 5 years of age to ensure that standards are maintained.

This means that the taxi vehicle fleet will naturally become cleaner as newer vehicles are licensed and the older more polluting vehicles are no longer viable for this use.

The council sets licence fees annually on a strict cost recovery basis as case law prohibits councils from cross subsidising or making surplus on fees charged for their licensing functions. It would therefore not be possible for CBC to offer a subsidy to taxi companies and drivers who licence cleaner vehicles, thus reducing the licence fee paid to below cost-recovery levels.

However, St. Albans City and District Council currently have adopted a reduction of £60 of the cost of a 1 year vehicle licence fee for authorised low emission CO_2 vehicles or fully electric vehicles. Authorised vehicles are the Toyota Prius, 1500cc VVTi and any fully electric vehicle that complies with the licencing conditions. Therefore, Central Bedfordshire Council will aim to ascertain how this reduction in fees is funded from the Licensing Team at St. Albans and review if such an option is practicable within Central Bedfordshire.

Generally, taxis will impact more on the Ampthill AQMA as there is a taxi rank within the town centre and more patrons wanting their services, than that of the Sandy AQMA, where a small number of taxis will pass through. The town centre taxi rank on Friday and Saturday nights is an on-street one, a small number of vehicles wait on the road in the town centre (near the roundabout) the remaining queue is held in a supermarket car park, this limits the number of cars causing an obstruction to passing traffic. However, if engines are left idling when queuing then this will add to the air pollution – therefore taxis should be encouraged to switch engines off whilst waiting fares.

Taxi companies and drivers should be encouraged to use smarter driving techniques by promoting that this can increase fuel efficiency whilst reducing emissions.

<table>
<tr><td>Measure</td><td>Title</td></tr>
<tr><td>9</td><td>Impact of Taxis'</td></tr>
<tr><td colspan="2">Key intervention</td></tr>
<tr><td colspan="2">Green Incentives for Taxis and encourage taxi companies and drivers to use smart driving techniques and adopt anti-idling at ranks</td></tr>
<tr><td>Definition</td><td>Measure/indicator</td></tr>
<tr><td>• Check idling whilst carrying out spot licencing checks
• Include information regarding Smarter Driving Techniques and Idling in information pack
• Approach St. Albans Council to ascertain how the reduction in the 1 year vehicle taxi licence is funded to ascertain if practicable in Central Bedfordshire</td><td>• No of taxis' found to be idling at each spot check
• No of packs sent out. Demand for training
• Identify funding stream and if available in Central Bedfordshire and are members agreeable to suggestion</td></tr>
<tr><td colspan="2">Responsibility:</td></tr>
<tr><td colspan="2">Licensing Team & Public Protection, Central Bedfordshire Council</td></tr>
</table>

Measure 10: reducing the emissions from goods vehicles within AQMAs

Central Bedfordshire Council's Freight Strategy (2011) states that in 2008 95% of freight moved in the district is carried by road in lorries and vans. The Freight Strategy (2011) also states 1 in 20 businesses registered in the district are transport and storage operators. A further 55% were engaged in sectors that rely directly on transport operations such as construction/manufacturing/agricultural and retail.

The Strategy's objectives include:

- Minimise the negative impacts on local communities and the environment from freight traffic and operations
- Encourage the movement of freight by means other than road haulage where appropriate and feasible

The Strategy details the Designated Road Freight Network (DRFN) which specifies primary and secondary freight routes in the district, ensuring that such vehicles travel on primary routes avoiding town centres as feasible, unless serving local communities or moving to generators/destinations not on the delegated network.

The Freight Strategy (2011) advocates that promotion of the use of cleaner vehicles and smarter driving to local freight companies are measures to be used.

Generally, the vehicle weight restriction which covers the Ampthill AQMA limits the number of the HGVs entering the area; however Light Goods Vehicles will contribute

to the air pollution. There are already limits on the times deliveries cannot take place (during peak rush hours).

The Sandy AQMA is adjacent to the A1 and therefore is a major trunk road and is used as a freight route, there is no suitable alternative route to avoid the AQMA. Central Bedfordshire Council is working with Highways England to identify actions to reduce emissions from HGVs along the A1.

<table>
<tr><td>Measure</td><td colspan="2">Title</td></tr>
<tr><td>10</td><td colspan="2">Reducing the emissions from goods vehicles within AQMAs</td></tr>
<tr><td colspan="3">Key intervention</td></tr>
<tr><td colspan="3">Target reduced emissions from LGVs and HGVs operating within the AQMAs</td></tr>
<tr><td colspan="2">Definition</td><td>Measure/indicator</td></tr>
<tr><td colspan="2">Enforce vehicle weight restrictions within Ampthill
Enforce delivery time restrictions within Ampthill
Encourage companies accepting deliveries within the Ampthill AQMA to get drivers to switch off engines (where possible) to prevent emissions and to try to park in locations which will cause less disruption to the traffic (to prevent tailbacks/congestion)</td><td>No of breaches
No of breaches
Promote to local businesses and seek voluntary agreements. Adoption of delivery policies before planning permission granted.</td></tr>
<tr><td colspan="3">Responsibility:</td></tr>
<tr><td colspan="3">Strategic Transport, Development Control/Planning & Public Protection, Central Bedfordshire Council</td></tr>
</table>

Measure 11: reducing emissions from the Council fleet

Central Bedfordshire Council has some 90 vehicles in its fleet, including hire vehicles; 46 vehicles are used to transport SEN Education and Social Services clients to centres and to provide home to school transport.

The council should lead by example and target reductions in emissions from its transport fleet activities as much as practicable. To this end:

Actions:

Central Bedfordshire Council's Fleet Policy includes the need to minimise the environmental impact of its fleet.

Recently the Fleet Team procured new minibuses; a stipulation in the tender was that the vehicles must be Euro6 compliant. Euro6 engines helps halve the amount of nitrogen oxides that is emitted, the EU focus in on the NOx because it is one of the most harmful greenhouse gases. It can last up to 150 years, significantly longer than other greenhouses gases.

In addition, the fleet utilises AdBlue which is a Selective Catalytic Reduction agent that works by being sprayed into the exhaust gas and helps to breakdown NOx into

steam and nitrogen, resulting in the tailpipe emissions from these Euro6 diesel engine minibuses are cleaner than their predecessors.

Fleet vehicles have recently been fitted with a device called Lightfoot which consists of a simple dashboard display to show the driver when the engine is operating within its most efficient/economical range. Lightfoot has been independently tested at Bath University and was shown to reduce NOx emissions by 20%; particulate emissions by 15%; fuel consumption by approximately 10% and CO_2 emissions by 10%.

The Fleet Team are looking to replace the other older minibuses within the fleet with Euro6 compliant vehicles with the Lightfoot system installed by November 2018.

Once this project is complete, attention will focus on reviewing the smaller vehicles in the fleet (i.e. smaller 9 seater minibuses, panel vans, 4x4s, etc) that would need to be replaced to maintain the environmental standards across the fleet.

<table>
<tr><td>Measure</td><td colspan="2">Title</td></tr>
<tr><td>11</td><td colspan="2">Reducing the emissions from the council's fleet</td></tr>
<tr><td colspan="3">Key intervention</td></tr>
<tr><td colspan="3">Reducing emissions from the council's fleet</td></tr>
<tr><td colspan="2">Definition</td><td>Measure/indicator</td></tr>
<tr><td colspan="2">Continue to target reductions in emissions from the council's flee1
o Continue replacing older minibuses with Euro6 compliant vehicles by November 2018
o Review smaller vehicles in fleet to identify those requiring to be replaced to maintain environmental standards.</td><td>EMS performance indicator for annual fuel usage reduction
No of vehicles meeting Euro6 standards</td></tr>
<tr><td colspan="3">Responsibility:</td></tr>
<tr><td colspan="3">Fleet Manager & Public Protection, Central Bedfordshire Council</td></tr>
</table>

Measure 12: Promote Liftshare, Dial-a-Ride & Travel choices

The encouragement of travellers to plan their journey and share transport, whenever possible is likely to lead to fewer vehicle trips and therefore fewer emissions. 'If half of UK motorists received a lift one day a week, pollution would be reduced by 10% and traffic jams by 20%.' (Liftshare.com, 2017). Car sharing and travel planning are therefore important measures to improve air quality.

Lift share schemes are currently in operation within Central Bedfordshire and throughout the country; Central Bedfordshire Travel Choices Liftshare aims to match those requesting lifts with those able to provide that service and this scheme is not affiliated with any large organisations, currently there are 162 members. Additionally,

there is the Central Bedfordshire Council Liftshare for employees of the council, currently there are 130 members.

The Council will aim to promote these schemes with the intention to increase the membership and uptake of car sharing journeys.

Incentives to aid the uptake of car sharing may be required and will need further consideration as to their suitability and practicality but could include designated parking bays for high occupancy vehicles and reduced parking charges.

Central Bedfordshire Council has a new contract for community transport providing 'dial-a-ride' services throughout the mid and east Bedfordshire areas, which commenced on the 15th October 2018. This service operates Monday to Friday between 8:30am to 5pm, with bookings being taken up to a week in advance.

The Greensand 'dial-a-ride' service is available on a membership basis with which normally costs £20 per year (but currently there is a special launch offer for free membership until 31st March 2018 for anyone joining before the end of 2018). Fares then range from "2.25 for shorter trips to £3.75 for longer journeys.

The new service will cover Ampthill and Sandy.

Central Bedfordshire Council also funds similar 'dial-a-ride' services in other areas including Leighton Buzzard and Dunstable.

<table>
<tr><td>Measure</td><td colspan="2">Title</td></tr>
<tr><td>12</td><td colspan="2">Promote Liftshare, Dial-a-Ride and sustainable travel through the Travel Choices project</td></tr>
<tr><td colspan="3">Key intervention</td></tr>
<tr><td colspan="3">Aim to promote these schemes with the intention to increase the membership and uptake of car sharing journeys</td></tr>
<tr><td colspan="2">Definition</td><td>Measure/indicator</td></tr>
<tr><td colspan="2">o Actively promote these schemes throughout Central Bedfordshire and seek increase in membership both with the council staff and public schemes
o Investigate potential incentives to increase car sharing</td><td>Number of members

Determine viable incentives used by other local authorities/companies and investigate suitability for adoption by CBC</td></tr>
<tr><td colspan="3">Responsibility:</td></tr>
<tr><td colspan="3">Strategic Transport & Public Protection, Central Bedfordshire Council</td></tr>
</table>

Measure 13: Encouraging smarter driving

Encouraging people to drive and operate their vehicles more efficiently, results in reduced fuel consumption and reductions in exhaust emissions. This is achieved by improving driving skills (smoother driving, less harsh breaking and smoother acceleration) and undertaking regular vehicle servicing (checking tyres, fuel filters and engine tuning) as well as carrying out journey planning. These measures are known as “Smarter Driving”. Other measures include minimising the use of air conditioning and reducing the weight of the vehicle (i.e. removing roof racks and unnecessary items in the car boot).

Many new vehicles are equipped with stop-start technology, whereby the engine shuts off automatically and then restarts when needed (by applying pressure to the accelerator) – this reduces the amount of time the engine spends idling, reducing fuel consumption and emissions. Drivers of older vehicles should be encouraged to switch off their engines when in stationary traffic or parked; countdown timers on traffic signals would be advantageous to both drivers and pedestrians. Drivers should also be encouraged to allow stationary vehicles waiting to make a right turn into side roads or those waiting to exit side roads to do so, where practicable, as these stationary vehicles cause tailbacks and congestion.

Measure	Title
13	Encouraging smarter driving
Key intervention	
Raise awareness of smarter driving techniques	
Definition	Measure/indicator
Raise awareness and encourage residents and businesses to adopt smarter driving methods	Incorporating messages into relevant communication channels and campaigns over the next 12 months
Explore the possibility of providing/obtaining smarter driving training for council employees	Undertake sufficient research to determine whether the possibility of providing/obtaining training is viable
Review effects of the Lightfoot system installed into new fleet vehicles on actual reductions in emissions and fuel usage	Review emissions and fuel usage data and driver feedback/testimonial
Promote ‘anti-idling’ ethos & raise awareness of emissions and fuel usage	Public education of issues surrounding idling – leaflets/posters/web, etc
Responsibility:	
Fleet Manager, Corporate Training & Public Protection, Central Bedfordshire Council	

Package 4: promoting sustainable transport options

Measure 14 – Participate with Public Health's Excess Weight Strategy to increase the number of families walking and cycling to school/work

Although the result of the departments differ Public Health aims to increase physical activity and reduce levels of obesity, whilst Public Protection aims to improve air quality and reduce concentration levels of pollution, the path to achieve these objectives can be a shared one. Success can be measured using BikeIt and Travel Hub data.

Measure 15 – Participate with other Council initiatives (which could impact on air quality)

- Sustrans BikeIt Programme runs within 34 schools to encourage children and staff to bike to school (not currently within Ampthill), the KPI results show that levels of physical activity have risen by over 25% and therefore the programme has achieved its targets. However, this programme ends in March 2018 and as a result, focus is now to target parents to ensure that these levels are maintained/increased in future years. This is being achieved by school staff members becoming BikeIt champions to continue the work achieved thus far.
- However, from April 2018, the STARS (Bedfordshire Sustainable Travel Access to Railway Stations) Funding programme will focus on the promotion of walking and cycling (and bus use) to the Midland Mainline train stations in Bedfordshire towns with railway stations (or in the vicinity) - including Ampthill/Flitwick/Harlington.
- Asthma Schools – this is a relatively new initiative which involve the training of Asthma Champions being trained in each school which includes the potential triggers (which can be air pollutants), as well as ensuring suitable care is in place to prevent asthma attacks (identifying triggers, behaviour change, use of inhalers, remove trigger, etc.) and provide a suitable care/treatment plan should it be necessary. This is being delivered through school nursing teams and the first round of training took place in April 2017.
- PSHE – is a programme for schools to be used by teachers as a resource for information surrounding various issues – ie mental health, safety, health, etc. This resource could be used to give information regarding air quality for use by teachers to develop class plans, etc.

Measure	Title
14/15	Participate with Public Health initiatives which impact on air quality
Key intervention	
Measures to ensure the current poor air quality in the two AQMAs (Ampthill & Sandy) are improved where possible and to avoid future problems are implemented	
Definition	Measure/indicator
• The work surrounding Public Health's Excess Weight Strategy aims to increase the number of people walking/cycling to school/work • Sustrans Bike It programme • STARS	Success can be measured using BikeIt and Travel Hub data No of participants/schools KPIs
Responsibility	
Public Health, Sustainable Transport Team & Public Protection, (Central Bedfordshire Council)	

Measure 16: Promote travel planning

A Travel Plan is a package of measures designed to influence the travel behaviour of individuals, businesses, schools and other organisations, by promoting sustainable travel. The general aim is to reduce the negative effects of traffic by encouraging alternatives, especially to that of single-occupancy car journeys.

Central Bedfordshire Council are working with schools, businesses, developers and individuals to promote sustainable travel through use of Travel Plans.

Travel Plans should seek to:

- Reduce the use of cars by encouraging car sharing
- Provide links to enable the use of public transport
- Improve road safety for pedestrians and cyclists and
- Identify any mitigation works to be funded by the developer in conjunction with the proposal.

Public Health and Transport colleagues have aimed to increase opportunities for children/young people to travel to/from and between schools and colleges by sustainable modes through schemes such as within the Excess Weight Strategy and the BikeIt programme. From April 2018, the STARS programme will focus on sustainable transport to/from railway stations on the Midland mainline (Flitwick & Harlington).

Measure	Title
16	Promote Travel Planning
Key intervention	
Measures to ensure the current poor air quality in the two AQMAs (Ampthill & Sandy) are improved where possible and to avoid future problems are implemented	
Definition	Measure/indicator
• Continue working with schools, businesses, developers and individuals to promote sustainable travel through use of Travel Plans • Requirement for proposed new developments that would have significant transport implications to have a Travel Plan. • STARS programme to focus on sustainable transport to/from rail stations	No of participating organisations
Responsibility	
Development Control/Planning, Public Health & Public Protection, (Central Bedfordshire Council)	

Measure 17: Promote walking and cycling

There are numerous financial, health and environmental benefits to be gained from walking and cycling such as:

- Walking and cycling improves overall physical fitness and wellbeing
- Travelling by bicycle is often just as fast (or faster) as a car door to door across towns, especially at peak times.
- Travelling by bicycle or walking cuts congestion and creates no air pollution emissions
- Bicycles are free to park
- Walking and cycling incurs no road tax, fuel bills

The promotion of walking principally involves providing well-maintained footways, highlighting the many associated environmental, social and economic benefits, providing literature such as local walking maps and supporting/promoting the existence of local walking groups.

<table>
<tr><td>Measure</td><td>Title</td></tr>
<tr><td>17</td><td>Promote Walking and Cycling</td></tr>
<tr><td colspan="2">Key intervention</td></tr>
<tr><td colspan="2">Promote Walking and Cycling</td></tr>
<tr><td>Definition</td><td>Measure/indicator</td></tr>
<tr><td>• Review and maintain/improve the walking & cycling environments

• Promote the benefits of walking & cycling to the public

• STARS programme to focus on sustainable transport to/from rail stations</td><td>• No of dedicated cycle paths / usage & location of cycle parking facilities.
• Update Central Bedfordshire Council’s Walking and Cycling Strategies
• Provide maps to show walking/cycling routes
• Promote Travel Choices service and extend to the north of the district
• KPI, etc.
o Uptake of sustainable transport</td></tr>
<tr><td colspan="2">Responsibility</td></tr>
<tr><td colspan="2">Public Health, Highways Development Management Team & Public Protection, (Central Bedfordshire Council)</td></tr>
</table>

Measure 18: promote use of public transport

The council recognises that improvements to and the promotion of public transport will bring about reduced congestion and improve air quality.

Public transport can provide a good alternative to the car for the journey to/from work. For businesses, developing a public transport strategy reduces the need for expensive parking spaces and improves site access to staff and customers. For employees, journeys via public transport can be cheaper that the real cost of travelling by car; are less stressful than driving and help build exercise into the daily routines (i.e. walking to/from bus stop or rail station).

Central Bedfordshire Council is currently in the process of producing a Public Transport Strategy.

<table>
<tr><td>Measure</td><td>Title</td></tr>
<tr><td>18</td><td>Promote use of Public Transport</td></tr>
<tr><td colspan="2">Key intervention</td></tr>
<tr><td colspan="2">Promote use of Public Transport</td></tr>
<tr><td>Definition</td><td>Measure/indicator</td></tr>
<tr><td>• Complete and publish Central Bedfordshire Council's Public Transport Strategy

• Promote the benefits of public transport to the public

• STARS programme to focus on sustainable transport to/from rail stations (especially commuters from Ampthill (and those traversing through the AQMA travelling from Flitwick rail station)</td><td>• Ensure KPIs are included to measure impact on air quality, i.e.:
o No of passengers
o Euro standards of vehicles
• Promote health/speed of journey/financial benefits
• Provide timetables and route maps
• Promote Travel Choices service and extend to the north of the district to aid travel planning
• KPI, etc.
o Uptake of sustainable transport
o No of passengers etc</td></tr>
<tr><td colspan="2">Responsibility</td></tr>
<tr><td colspan="2">Public Health, Highways DM Team & Public Protection, (Central Bedfordshire Council)</td></tr>
</table>

Measure 19 – Re-introduction of an early warning of air pollution system

Central Bedfordshire Council along with other local authorities throughout Bedfordshire and Hertfordshire are working to re-introduce a free air quality alert service to notify people with respiratory conditions (e.g. asthma, COPD) at times when poor air quality is predicted.

This service will be designed to inform vulnerable people the day before the poor air quality is predicted to occur, to assist them make informed choices about managing their respiratory health (e.g. changing daily activity).

<table>
<tr><td>Measure</td><td>Title</td></tr>
<tr><td>19</td><td>Re-introduction of an early warning of air pollution system</td></tr>
<tr><td colspan="2">Key intervention</td></tr>
<tr><td colspan="2">Re-introduce and promote an early warning of air pollution system</td></tr>
<tr><td>Definition</td><td>Measure/indicator</td></tr>
<tr><td>Continue work of Herts & Beds Air Quality Network group (made up of local authorities within Herts and Beds) to re-introduce the system
Promote the benefits of system to the public and other organisations</td><td>Contract put out for tender bids and supplier chosen
Herts & Beds group to work with supplier to establish format of messages (test/email)
Promote service
No of subscribers
Promote impacts on health for users</td></tr>
<tr><td colspan="2">Responsibility</td></tr>
<tr><td colspan="2">Public Protection, (Central Bedfordshire Council) & Herts and Beds Air Quality Network Group</td></tr>
</table>

Figure 5.0 Summary of action plan measures to be adopted

Measure	Title
Package of Measures 1: Reducing emissions via strategic measures	
1	Improve links with Local Transport Plan (LTP)
2	Improve links with Local Planning/Development Framework
3	Ensure that public health evidence is implemented to minimise the impact of air pollution
Package of Measures 2: Optimising traffic flow through the AQMAs	
4	Junction & Congestion investigations
5	Road signage and satellite navigation system alterations
6	On-street parking & deliveries
7	Research impact on use of average speed cameras and lower speed limit (Sandy only)
Package of Measures 3: Reducing transport emissions	
8	Promote use of electric vehicles (EV) & ultra-low emission vehicles (ULEV)
9	Green incentives for taxi drivers
10	Reducing emissions from goods vehicles
11	Reducing emissions from the council's fleet
12	Promote Liftshare, Dial-a-Ride and Travel Choices
13	Encourage smarter driving
Package of Measures 4: Promoting sustainable transport options	
14	Support the Public Health's Excess Weight Strategy includes promotion of cycling/walking
15	Participate with other council initiatives (which could impact on air quality)
16	Promote travel planning
17	Promote walking and cycling
18	Promote use of public transport
19	Re-introduction of an early warning of air pollution for vulnerable people

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Table 5.1 – Air Quality Action Plan Measures

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
	Title				Date	Date				Date	
1	Improve links with Local Transport Plan (LTP)	Freight & Delivery Management	Route Management Plans/ Strategic routing strategy for HGV's	Central Bedfordshire council	current	3months - ongoing	AQAP included in LTP 2026			2026	
2	Improve links with Local Planning / Development Control	Policy Guidance and Development Control	Other policy	Central Bedfordshire Council	current	Ongoing	Number of: AQ assessments Sites with travel plans Sites with cycle parking Sites with EV charging points		AQ required to be assessed for large sites or sites in areas where the development could affect AQ	-	
3	Improve links with Public Health	Policy Guidance and Development Control **and** Promoting Travel Alternatives	Other policy **and** Promotion of walking/cycling	Central Bedfordshire Council	current	3months - ongoing	KPI re AQ No of joint projects Policies, etc in place to ensure AQ is considered where relevant			-	
4	Junction Investigations	Traffic Management	Strategic highway improvements	Central Bedfordshire Council **and** Highways England	current	12 – 24 months	Reports produced to identify potential measures to improve AQ, safety and reduce congestion by improving traffic flow		Work currently being undertaken to identify potential changes & benefits	2020	

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
5	Congestion Study	Traffic Management	Congestion management	Central Bedfordshire Council **and** Highways England	Current	12 - 24 months	Action measures identified and adopted		This may be addressed through studies for other potential measures	2020	
6	Road Signage & Satellite Navigation System alterations	Traffic Management	Strategic highway improvements	Central Bedfordshire Council	3 months	6 – 12 months	Undertake review of signage in/near of Ampthill AQMA Review SatNav & route planners to see if amendments needed		Work yet to commence	2020	
7	On Street Parking & deliveries	Traffic Management	Strategic highway improvements **and** Parking enforcement on highways	Central Bedfordshire Council	Current	12 - 24 months	Likely to be part of report dealing with Public Realm improvements- ie road layout amendments		Likely to be part of report dealing with Public Realm works ie. road layout amendments	2020	
8	Research impact on use of average speed cameras (Sandy only)	Traffic Management	Strategic highway improvements	Highways England	3-6months	9 -12 months	Use of modelling to ascertain significance of improvements in AQ Response from other Local Authorities who used such measures in AQAPs		Work yet to commence as other potential measure being investigated		This may well be investigated further if the potential of a barrier between A1 & cottages is not viable

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
9	Promote use of electric vehicles	Promoting Low Emission transport	Prioritising uptake of low emission vehicles	Central Bedfordshire Council	ongoing	ongoing	No charging stations& additions to network Usage of sites No of new developments installing such equipment & no of points % increase in usage		New tender due for management of equipment. Upgrade of equipment due. Looking to expand network	2022	
10	Green incentives for taxi drivers	Promoting Low Emission transport	Taxi emission incentives	Central Bedfordshire Council	3 months	9 - 12 months	No idling at spot checks No of packs issued & demand for training Identify potential funding & if members agreeable to incentives		Work yet to commence	2021	
11	Reducing emissions from goods vehicles	Freight & Delivery Management	Delivery/service plans **and** Quiet/out of hours delivery	Central Bedfordshire Council	Current	6 – 12 months	No of breaches of vehicle weight restriction (Ampthill) Enforce delivery time restrictions (Ampthill) Seek voluntary agreements with local businesses re anti-idling deliveries Agree delivery policy prior to planning permission		Work yet to commence	2020	

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
12	Reducing emissions from council fleet	Vehicle fleet efficiency	Fleet efficiency	Central Bedfordshire Council	Ongoing	12 – 24 months	EMS performance indicator for annual fuel usage reduction No of vehicles in fleet meeting Euro6 standard (& % of fleet)		Fleet being updated with Euro 6 standard. EMS indicator to monitor fuel usage etc	2022	
13	Promoting Liftshare & Travel Choices	Alternatives to private vehicle use	Car lift/sharing schemes and Other	Central Bedfordshire Council	Ongoing	12 -24 months	No of members (% increase) Determine viable incentives used by other LAs' & companies and suitability for use in central Beds		Schemes in place but need rolling out to cover north of district and publicising to maximise usage	2021	
14	Encourage smarter driving	Vehicle fleet efficiency	Driver training and ECO driving aids	Central Bedfordshire Council	Ongoing	12-24 months	Ascertain if obtaining/providing training viable Review emissions & fuel usage data and driver feedback Incorporate messages in relevant communication channels & campaigns Develop public education re idling through press, leaflets, posters& web		CBC fleet being updated with Euro 6 vehicles & fitted with smarter driving system (Lightfoot)	2022	

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
15	Support the Public Health's Excess Weight Strategy (inc promotion of walking & cycling)	Promoting travel alternatives	Promotion of walking/cycling & Intensive active travell campaign	Central Bedfordshire Council	Ongoing	Ongoing	Use BikeIt & Travel Hub data No of participants / schools KPIs		Schemes ongoing more may be developed		
16	Participate with other Council initiatives (which could impact on AQ – i.e BikeIt & STARS)	Policy Guidance & development Control; Promoting travel alternatives and Public Information;	Other	Central Bedfordshire Council	ongoing	4 months then ongoing	Use BikeIt & Travel Hub data No of participants / schools KPIs		Schemes ongoing more may be developed		
17	Promote travel planning	Promoting travel alternatives	School/workplace travel planning & other	Central Bedfordshire Council	ongoing	ongoing	No of participating organisations STARS programme objectives /KPIs No of proposed new developments requiring travel plans		Number of schools & businesses already participating STARS starting in April 2018		

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
18	Promote walking and cycling	Promoting travel alternatives	Promote cycling & walking	Central Bedfordshire Council	ongoing	ongoing	No of dedicated cycle paths / usage & location of cycle parking facilities. Update CBCs Walking & Cycling trategies Provide maps to show routes Promote Travel Choices service & extend to the north of the district KPI, etc. *Uptake of sustainable transport*		Schemes in place but need rolling out to cover north of district and publicising to maximise usage		
19	Promote use of public transport	Promoting travel alternatives	Promote use of public transport	Central Bedfordshire Council	Ongoing	ongoing	Ensure KPIs are included to measure impact on air quality, i.e.: *No of passengers Euro standards of vehicles* Promote health / speed of journey / financial benefits Provide timetables & route maps Promote Travel Choices service & extend to north of the district to aid travel planning KPI, etc.*Uptake of sustainable transport No of passengers*				

Appendix A: Response to Consultation

Table A.1 – Summary of Responses to Consultation and Stakeholder Engagement on the AQAP

Consultee	Category	Response
None as yet as full public consultation due after the internal consultation		

Appendix B: Reasons for Not Pursuing Action Plan Measures

Table B.1 – Action Plan Measures Not Pursued and the Reasons for that Decision

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
	Complete table for all measures that will not been pursued.	Add a 2-3 sentence summary for each action
Strategic	Road signage to indicate presence of AQMAs	Minimal benefit. Potential blight to residents
Strategic	Road user charging	Not viable
Remove receptors	Remove homes & businesses	Not practicable. No emission reduction
Receptors	Install mechanical ventilation at residential properties (Sandy)	Not an ideal solution and mechanical ventilation not favoured by this authority. No reduction in emissions. A last case possibility for mitigation if no other measures practicable. On hold for now pending feedback on other potential measures.
Remove sources	Pedestrianisation of AQMAs	Unsuitable in Sandy as A1 is a trunk road. Highways colleagues are investigating work to the Public Realm in Ampthill town centre but to still allow through traffic.
Remove sources	Relief Road/Bypass	Ampthill already benefits from the A507 which provides a route to the M1 junction 13 and the A428 to Bedford and and the A1 at Baldock (junction 10). The A1 is a major trunk road and there are no plans to alter the route. New roads often induce new traffic. Potential to generate new exposure. Very expensive to implement new infrastructure projects. Limited land for this type of development.

Reducing transport emissions	Vehicle emissions testing	Lack of resources for enforcement
Reducing transport emissions	Idling vehicle enforcement	Lack of resources for enforcement
Reducing transport emissions	Fleet/fuel monitoring of council vehicles	Incorporated with reducing emissions from council fleet. No need for specific measure within this AQAP
Reducing transport emissions	Bidding for grant for the Bus Clean Technology Fund (retro upgrade to Euro IV emission standard for older buses)	Raised options with bus operators – no interest and therefore no bid submitted to Defra
Other	Home energy efficiency	Not significant in terms of existing problems. Dealt with elsewhere (HECA)
Other	Enforcement of Smoke Control Areas	There are no such areas within Central Bedfordshire
Other	Environmental nuisance (including bonfires)	Regulated by separate legislation (Environmental Protection Act 1990)
Other	Controlling industrial air pollution emissions	Regulated by separate legislation (Environmental Permitting Regulations 2016 (as amended))
Other	Reporting of smoky vehicles	Place link to online reporting form on Central Bedfordshire Council's air quality page. No need for specific measure within this plan
Other	Promote air quality issues	Council already has dedicated webpage for air quality. Local Air Quality Management reports available. Hertfordshire and Bedfordshire Air Quality Network webpages also provides a significant amount of data.
Traffic management	Research impact on emissions at the cottages fronting A1 (Sandy) if barrier was	The study carried out by Highways England was exploring the potential of erecting a barrier between the A1 and the residential properties as initial research indicated that an

	erected to minimise emissions affecting residents	area behind the barrier benefitted from lower pollutant concentrations. However, it was concluded that there was not the physical space for a 1metre high barrier to be erected in this location and therefore this measure will not be pursued.

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Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
AQS	Air Quality Strategy
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
EU	European Union
JSNA	Joint Strategic Needs Assessment
LAQM	Local Air Quality Management
NAEI	National Atmospheric Emissions Inventory
NPPF	National Planning Policy Framework
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less

References

- Department of Transport - traffic count information obtained from http://www.dft.gov.uk/traffic-counts/cp.php?la=Central+Bedfordshire
- Defra – Emissions Factor Toolkit (EFTv6.02) obtained from http://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factor-toolkit.html
- Defra NO_x to NO_2 conversion spreadsheet v5.1 (June 2016) obtained from https://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html#NOxNO2calc
- Defra Technical Guidance LAQM.TG16 a copy is available from https://laqm.defra.gov.uk/supporting-guidance.html