

A14
Cambridge to Huntingdon
improvement scheme
Development Consent Order Application

HE/A14/EX/85

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Response to ExA's Second Written Questions:
Principal Issue 7 Economic and Social Effects

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The Infrastructure Planning (Examination Procedure) Rules 2010

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7 Economic and Social Effects

Question 2.7.1

Local authorities are seeking an assessment of the impact of artificial lighting on people and their living conditions to assess potential impacts of quality of life and health. As a minimum they suggest there should be a commitment to ensure that artificial lighting would be installed having due regard to national and industry best practice and standards. What is the applicants view?

Response

1. Road lighting for the proposed scheme would be designed in accordance with industry practice and recognised standards, namely the national standard *BS 5489*, which itself is informed by the adopted European standard *BS EN 13201* and the international standard *CIE 115*. An additional requirement has been added to the draft Development Consent Order (DCO) submitted at Deadline 7 to secure that a lighting scheme be submitted to and approved by the Secretary of State. That requirement also ensures that the lighting is provided to at least the standard assumed for the purposes of the *Environmental Statement* (Applicant reference 6.1, PINS reference APP-340).
2. The standards noted above reflect good industry practice when designing lighting for roads and public areas. The characteristic of 'glare' and other non-useful light, such as spill light beyond the area required to be lit, is discussed in the standards documents and methods outlined for its reduction.
3. There is a balance to be struck between the requirement to light a road effectively and safely and the need to control the distribution of light so as not to negatively impact the surrounding environment. As such it may not always be possible to eliminate all non-useful light, but modern technologies and equipment ensure that it can be constrained to a minimum:
 - More efficient modern lighting units mean that lower mounting heights than may have historically been necessary can be used in sensitive areas, reducing the spill footprint of the lighting.
 - Modern units ensure compliance with British and European standards relating to minimising upward light pollution – namely compliance with glare ratings, which ensure that wasted light emitted above 90° (the horizontal) is kept to a minimum, reducing skyglow and the visual impact of the installation.
 - Intelligent technologies can be employed to vary the amount of lighting provided through the night, ensuring that an appropriate level of illumination based on actual usage is provided only when

necessary and reducing the impact of the installation during less trafficked hours.

4. If the application is granted, the detailed design of the proposed scheme, according to the approved lighting scheme, would take into account the surrounding natural and human environmental features. A significant element of industry practice lighting design is the careful and considered placement of lighting units to not only light the area effectively, but to also reduce the installation's negative impact on natural and human environments.
5. Again, if the application is granted, the detailed design process, according to the approved lighting scheme, would be used to mitigate or eliminate most issues with regard to human receptors. If a specific issue was identified that could not be mitigated through general design parameters, such as a lighting column that was required to be installed adjacent to a domestic premises on a previously unlit route, then there are methods of assessing the impact of such a situation on the human receptor, including:
 - Two-dimensional assessment of likely lighting levels at the receptor, using industry standard lighting design software.
 - Use of guidance documentation, such as *GN01 Guidance Notes for the Reduction of Obtrusive Light*, which sets out parameters for the assessment of potential obtrusive light, acceptable levels and mitigation measures.
6. Following assessment, if obtrusive light cannot be reduced or eliminated through design processes then physical mitigations may be employed, such as shields attached to the lighting unit – a range of which are described within *GN01*.
7. *GN01* would be applied if a specific issue relating to potential light pollution is identified at a specific property or receptor. Good design would generally eliminate most conflicts in advance of this. Due to the consideration of the above aspects in the design of the scheme, widespread light pollution at specific receptors is not anticipated.

Question 2.7.2

In view of reduced costs for specific items of works, what would be the effect of excluding the removal of the existing A14 Huntingdon viaduct and the associated road works from the scheme on its overall cost, the economic appraisal for the scheme and the projected benefit to cost ratio?

Response

8. This response is covered in the *Huntingdon Viaduct Response Collated report (Response to ExA's Second Written Questions: Huntingdon Viaduct, Applicant reference HE/A14/EX/93)*.