

High Speed Rail: Phase 2b Preferred Route

Sustainability Statement including Post Consultation Update

Appendix C6 – Property and Community
Integrity

A report by Temple-RSK for HS2 Ltd



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1. INTRODUCTION

- 1.1.1. This report has been prepared to support the HS2 Phase 2b Sustainability Statement including Post Consultation Update report, which describes the extent to which the Government's preferred route for HS2 Phase 2b supports objectives for sustainable development. This document is a technical appendix which summarises the methodology for appraising community integrity and how the key findings and conclusions inform the Sustainability Statement main report. The Sustainability Statement places emphasis on the known key impacts only at this stage in the design, prior to commencing the Environmental Impact Assessment.

2. SCOPE AND METHOD

2.1. Demolitions Methodology

- 2.1.1. Demolition estimates have been calculated using the same consistent approach as adopted for the scheme consulted on as part of the Sustainability Statement 2013¹.
- 2.1.2. All demolition counts generated are based on the Ordnance Survey (OS) Address Layer 2 Postal Address Point Layer, dated January 2014. Each of the address points within the data set was classified into one of the following four categories:
 - residential;
 - commercial and retail;
 - manufacturing and industry; or
 - community.
- 2.1.3. This follows the same classification as adopted for the HS2 Phase One Appraisal of Sustainability (AoS), Phase Two Sustainability Statement (2013) and Phase Two Post Consultation Update West Midlands to Crewe (2015).
- 2.1.4. The address points were then reviewed within Geographical Information Systems (GIS) alongside the proposed route earthworks boundaries and OS Master Map base mapping, also dated January 2014. The review team was composed of relevant engineering, environment and property representatives to ensure an informed approach to a consistent methodology across both the western and eastern legs.
- 2.1.5. All address points that fell within the earthworks boundary were automatically classed as demolitions. Address points that fell outside of the earthworks boundary but whose building outline was intersected by the earthworks boundary, were also classed as demolitions.
- 2.1.6. The final stage of the review addressed known engineering constraints that would impact immediately beyond the earthwork boundaries at particular locations. In locations where there is an adjoining set of buildings (with separate address points), which individually may partly fall outside of the earthworks boundary (e.g. terraced housing, adjoining commercial units), these have been classed as

¹ HS2 Phase Two Sustainability Statement 2013:

<https://www.gov.uk/government/publications/hs2-phase-two-consultation-sustainability-statement>

demolitions. This is only where it can be reasonably assumed that for construction purposes the entire structure would need to be demolished.

- 2.1.7. The same method as that described above was applied for station and depot locations, but using the proposed scheme construction boundary instead of the earthworks boundary.
- 2.1.8. The following known limitations and assumptions apply to the demolition reporting. These will be addressed, as far as possible, within the Environmental Impact Assessment at the next stage of the scheme design:
- demolition counts are based on the OS Address Layer 2 Postal Address point data, with property boundaries identified using OS Master Map base mapping. To enable a consistent comparison of route options, the data sets used in the AoS have to be frozen at the start of each design stage. For the last design stage, the base data was frozen in January 2014 following consultation. Any buildings that did not have an associated address point within this dataset are not included with the property counts;
 - address point data and land use may be categorised incorrectly within the OS data set;
 - demolitions are based the extent of the earthworks associated within the preferred route at this early stage of the process and are therefore likely to change with further design development and environmental assessment. For example, demolitions resulting from ancillary works and realignment of existing infrastructure are not included due to the level of design information available at this stage;
 - demolitions associated with construction boundaries have only been considered in station and depot locations;
 - demolitions arising from land associated with a property becoming untenable due to land take are not included;
 - OS Master Map base mapping is updated on a tile by tile basis; there may be instances when properties have been built or removed but the associated OS mapping is yet to be updated; and
 - whilst the demolitions methodology is the same as that applied previously for the Phase Two route as reported in the Sustainability Statement (2013), changes to demolition numbers have occurred as a result of the updated datasets as well as route refinements.

2.2. Isolation Methodology

- 2.2.1. Isolation estimates have been calculated based on the approach outlined below. Sections of the preferred route in tunnel (including cut & cover tunnel) are not considered when appraising isolation.
- 2.2.2. The method requires identification of residential or community properties that may be isolated from the wider community as a result of the preferred route. These properties are usually situated in areas that would be enclosed (or nearly enclosed) by major linear features² or other major physical boundaries (e.g. airfields/woodland). Major linear features include:
- the preferred route;

² Minor roads, single lane A-roads, ditches, brooks and streams, and administrative boundaries are *not* considered major linear features.

- existing railway lines;
 - motorways or dual carriageways; and
 - major rivers, canals or waterbodies.
- 2.2.3. Generally, areas of isolation are only considered up to a distance of 500m from the preferred route.
- 2.2.4. To record the area of isolation, a polygon around the boundary of the isolated areas is digitised within GIS (using the identified linear boundaries, together with the outer edge of the earthworks). OS base mapping (dated January 2014) was used to identify the linear or physical boundaries.
- 2.2.5. The counts of residential and community properties within the identified areas are then derived from the address point data (2014 Address Layer 2) using GIS, providing a count for each area. Properties that have already been identified as demolitions are removed from these counts where applicable.
- 2.2.6. The same limitations apply in regards to the accuracy of the OS dataset.

2.3. Severance Methodology

- 2.3.1. Severance estimates have been calculated based on the approach outlined below. Sections of the preferred route in tunnel or on viaduct are not considered when calculating severance.
- 2.3.2. The methodology involves looking for communities that will be severed by the preferred route such that one part of a town or settlement would be cut off from another. The severed area is that which contains properties cut off from the main community or from essential services (either from an associated main settlement, or the smaller part of a bisected settlement). At this level, a detailed appraisal of community facilities or local traffic routes has not been undertaken, although some key features may be evident from the base mapping.
- 2.3.3. To record the area of severance, a polygon around the boundary of the severed areas is digitised within GIS (using the identified linear boundaries, together with the outer edge of the earthworks). OS base mapping (dated January 2014) was used to identify the linear or physical boundaries.
- 2.3.4. The counts of residential and community properties within the identified areas were derived from the address point data (2014 Address Layer 2) using GIS, providing a count for each area. Properties that have already been identified as demolitions are removed from these counts where applicable.
- 2.3.5. Areas that were identified but were found to contain no properties were labelled as “no properties” to provide record that they have been identified, even if there are no impacts to report.
- 2.3.6. The same limitations apply in regards to the accuracy of the OS dataset.



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