Approach to mitigating the impacts of HS2

High Speed Two is the Government’s planned new, high speed railway. HS2 Ltd is the company responsible for designing and building the railway, and for making recommendations to the Government.

This factsheet provides a brief summary on what mitigation is and how it is implemented during each stage of the project development.

Mitigation is important to the whole life cycle of the proposed scheme from the earliest stages of route selection, through to detailed design, construction and operation. The mitigation hierarchy, shown overleaf, shows the best practice approach used to prioritise mitigation solutions. As the project design develops, the type of mitigation also evolves.

Mitigation is:
- a physical feature incorporated into the design; or
- a measure implemented into the delivery or operation of a development project for the purpose of avoiding or reducing adverse environmental impacts. It may also include measures to create environmental benefits.

Between July 2013 and January 2014
HS2 Ltd consulted the public on the proposed route and stations for Phase Two of HS2, from the West Midlands to Manchester, Leeds and beyond.

In November 2015
The Government announced its intention to bring forward the delivery of the Phase Two route between the West Midlands and Crewe, known as Phase 2a.

In November 2016
The Government announced proposals for the remainder of the Phase Two route, known as Phase 2b.
Route selection

Selecting the preferred route, as described in the Sustainability Statement, focused on the primary mitigation aim of avoidance. We seek to achieve this through the selection of broad route corridors, and then reduce down to individual route options which, alongside other factors, aim to avoid centres of population and sensitive environmental receptors.

A further process of refinement to the route is undertaken, with more detailed changes to the alignment assessed in order to achieve further avoidance, or where this was not practicable, a reduction in potential impacts.

At present we have focused on the potential long term and permanent impacts of the preferred route. Details of construction are yet to be developed; the impacts that are likely to occur temporarily over the construction period will be considered in due course by the Phase 2b environmental impact assessment (EIA) and during further detailed design.

<table>
<thead>
<tr>
<th>Mitigation Hierarchy</th>
<th>Example Actions</th>
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<tbody>
<tr>
<td>AVOID</td>
<td>E.g. rejecting damaging options, moving alignments away from, or introducing tunnel beneath, sensitive features.</td>
</tr>
<tr>
<td>REDUCE</td>
<td>E.g. lowering alignment into cutting to reduce noise and visual impact.</td>
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<tr>
<td>ABATE</td>
<td>E.g. introducing barriers or bunds to minimise noise and visual impacts.</td>
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<tr>
<td>REPAIR</td>
<td>E.g. restoring or reinstating a feature after an impact has occurred to address temporary construction impacts.</td>
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<tr>
<td>COMPENSATE</td>
<td>E.g. creating and managing new woodland or other habitat, creating new open space.</td>
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Single route option
As the scheme design develops, the opportunity to make significant changes to the route reduces and alternative mitigation options will be explored. The kinds of mitigation that could be applied at the next stage of design on Phase 2b can be seen through the EIA work on HS2 Phase One (London to Birmingham), as directed by HS2’s Sustainability Policy. These measures are generally of three types:

- mitigation that is provided through the planning and design of the preferred scheme, such as through minor variations in alignment, or use of bridges, tunnels and cuttings;
- mitigation that requires physical features, such as noise barriers, landscaped mitigation or balancing ponds; and
- mitigation that requires further measures or policies, which are set out for different topics.

As the scheme is developed, we will be working with local authorities, communities and stakeholders to develop the engineering design in a way which minimises potential impacts as well as discussing proposals for mitigation. These opportunities will be explored alongside the EIA process.

We will continue to develop our understanding of local context and requirements through further engagement and consultation. In addition, we will seek to understand the existing environment further by collecting data and undertaking site surveys to assist in driving mitigation decisions.

Temporary construction impacts and mitigation
Construction activities will be a source of concern to many people along the route. At the current stage of design for Phase 2b, details of construction are yet to be developed. As the design of the preferred route evolves, construction proposals will be defined including, amongst other things, location of work sites, activities, types of equipment, routes for construction traffic and expected duration of different work elements.

We are committed to managing potential impacts and reducing disruption to communities, businesses and the environment in ways that reflect the very best practice used by the construction industry. This will be informed by a Code of Construction Practice (CoCP) which will define mitigating potential impacts from things like noise, dust, lighting, traffic, river crossings, and disturbance to wildlife or disruption to buried archaeology.

It is expected that Phase 2b will have similar plans to Phase One using Local Environmental Management Plans (LEMPs) to set out how, at a local level, impacts during construction would be managed.
Next steps

This graphic shows what would happen between now and when trains start running on Phase Two.

- **2016**: Announce Phase 2b route and launch consultations
- **2017-2019**: Carry out Environmental Impact Assessment (EIA) and produce EIA Report
- **2019**: Deposit hybrid Bill for the Phase 2b route
- **2022**: Royal Assent for the Phase 2b route hybrid Bill
- **2023**: Commence construction
- **2033**: Commence train services on the Phase 2b route

Presenting a hybrid Bill to Parliament is how the Government gets permission to build the railway, and provides the opportunity for everyone’s comments to be heard. Construction can only begin with Parliament’s approval.

We will also carry out an Environmental Impact Assessment (EIA) to understand how the project would affect the environment and local communities, and what we can do about it. Further work will be done to mitigate the impact of the railway as the design develops.

To find out more about the documents mentioned in this factsheet, visit [www.gov.uk/hs2](http://www.gov.uk/hs2)
The Residents’ Charter is our promise to communicate as clearly as we possibly can with people who live along or near the HS2 route. You can read it by visiting:
www.gov.uk/government/publications/hs2-residents-charter
We also have an independent Residents’ Commissioner whose job is to make sure we keep to the promises we make in the Charter and to keep it under constant review. The first of the Residents’ Commissioner’s reports is published at:
You can contact the Commissioner at:
residentscommissioner@hs2.org.uk

You can find out all about HS2 and properties along the line of route by visiting:
www.gov.uk/government/publications/hs2-property
You can also find out if you’re eligible for compensation at:
www.gov.uk/claim-compensation-if-affected-by-hs2

To see what jobs are available on HS2 at the moment, check our careers page:
http://careers.hs2.org.uk
If you’re a student wondering what careers in STEM subjects are like, check out articles and have a look around our Plotr World:
www.plotr.co.uk/careers/worlds/hs2
And if you’re a business wondering how to get involved with HS2, have a look at our guides and updates on:
www.gov.uk/hs2 – search for HS2 business

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