



**ANNEX D**

## Major Projects Authority Project Assessment Review (PAR)

Template Version 0.5, June 2014

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<b>Programme or project:</b>	<b>High Speed Two (HS2)</b>
<b>Version number:</b>	v.FINAL
<b>Date of issue:</b>	2 July 2015
<b>Organisation:</b>	Department for Transport & HS2 Limited
<b>Senior Responsible Owner (SRO)</b>	David Prout
<b>Chief Executive, HS2 Ltd</b>	Simon Kirby
<b>Programme/Project Director (or equivalent)</b>	Michael Hurn, Jonathan Sharrock, Paul Rodgers, Nick Bisson
<b>Business Case stage reached:</b>	Outline Business Case (OBC) - Phase 1 Strategic Outline Business Case (SOBC) - Phase 2 (as combined in the Business Case published October 2013)
<b>Decision/approval point this report informs:</b>	MPRG Panel – 14 July 2015
<b>Review date:</b>	29 June – 2 July 2015
<b>Review Team Leader:</b>	Marion Price
<b>Review Team Members/s:</b>	Shona Henderson
<b>Departmental Review Team Member:</b>	Jeremy Hotchkiss
<b>Previous review and date:</b>	PAR April 2015

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## 1. Executive Summary

This PAR review relates to the soundness of plans in relation to the Euston station HS2 development and readiness to submit Additional Provision 3 (AP3) to the Hybrid Bill.

Significant progress has been made since the submission of the Hybrid Bill, in particular to understand and mitigate the impact of the development on the existing railway. The revised proposal, being a staged approach, provides additional flexibility and reduces risk and seems more likely to be accommodated within the current Phase 1 funding envelope.

In addition, there has been much closer joint working between DfT, HS2 Limited and Network Rail; engagement with the rail industry and local communities and increased resources and capabilities within the core teams.

There remain a number of areas that require further consideration: impact on rail operations; impact on local communities; affordability; level of contingency; resources within core teams and the risks associated with delivery at pace.

### Delivery Confidence Assessment (DCA)

**Amber – as a number of areas of uncertainty remain to be actively managed. These are understood by the team.**

#### Areas of concern

**Impact on rail operations** – although there is now confidence that this can be managed, this is likely to remain a key risk to the programme requiring careful management.

**Impact on local communities** – while significant progress has been made with community engagement, this needs to be continued throughout the delivery phase.

**Affordability** – while the revised scheme now seems more likely to be accommodated within the current Phase 1 envelope, this needs to be confirmed in the next month.

**Level of contingency** – the amount remaining for Phase 1 after Euston has drawn down from the pot is considered to be at the low end of what is appropriate at this stage.

**Resources within core teams** – while core teams are better resourced they remain dependent on key individuals.

**Delivery at pace** – the dependence on the Hybrid Bill timetable has put considerable pressure on the timetable and has increased the risk of missing key information.

#### Areas that are working well

**Improved understanding of impact on existing railway** – significant progress has been made in this area since the Hybrid Bill. There is now high confidence that the impact on the rail industry can be managed.

**Closer joint working between DfT, HS2 Limited and Network Rail** – in particular the Joint Sponsor Board is working well. The Euston Development Director role has brought together Network Rail and HS2 Limited expertise at a working level.

**Engagement with the rail industry** – there have been significant levels of discussion with train operators to understand and address their concerns.

**Engagement with the local communities** – there has been considerable effort in community engagement. There are plans for a ten year community engagement programme.

**Increased resources and capabilities** – HS2 has been growing its capability and capacity and has established a delivery team in preparation for Royal Assent.

**Additional comments from the SRO**

I agree the executive summary and am grateful to Marion, Shona and Jeremy for their hard work in a very short period of time. I have not yet read the body of the text and will give any detailed comments to the MPA early next week.

## 2. Scope of the Review

### Terms of reference

#### Part 1: Core scheme

##### Options Assessment

- Does the options assessment document provide a clear case for the revised Euston scheme?
- Have the strategic alternatives been identified and properly considered?
- Is there a clearly defined scope for the core scheme with identified outcomes and success measures?

##### Costs and Affordability

- Are the costs of the core scheme fully understood and affordable within the overall Phase 1 envelope?
- Has sufficient contingency been built into the cost estimate based?
- Has there been adequate scrutiny and assurance of the cost estimate by internal and external experts?
- Have all elements of the core scheme been included in the cost estimate, i.e. no notable exclusions?

##### Deliverability and Capability

- Is the current timetable to deliver the core scheme feasible and realistic? Are parliamentary dependencies clearly identified?
- Are the concerns of key stakeholders fully understood and being actively managed? Is there a robust communications strategy in place?
- Is the impact on the rail industry fully understood and mitigated?
- Is there capacity and capability within all relevant parties (HS2 Ltd, NR, DfT and the supply chain) to deliver the core scheme?
- Is there a clear split of responsibilities, e.g. between HS2 Ltd and NR?
- Have the main risks in delivering the core scheme been identified and mitigated?

##### Impact on Overall Programme

- Does the revised core scheme support priorities elsewhere on the route, including accelerated delivery to Crewe by 2027?
- Is there a clear understanding of impacts on the overall programme Royal Assent and the 2026 first service date?
- Is it understood what impact the revised core scheme has on the overall business case for HS2?
- Is it clear how the revised HS2 core scheme fits with Network Rail's plans for the wider Euston station?

## **Part 2: Oversight Development (OSD) Enabling Works**

### **Strategic case**

- Has the programme provided a sound strategic case on the need for OSD enabling works at Euston?
- How will the OSD at Euston contribute to economic growth and wider Government objectives?

### **Value for Money**

- Has the programme provided an initial economic case including a cost benefit analysis that indicates good value for money?
- Has the programme considered the impact of OSD enabling works on the wider economic case for Euston and HS2 as a whole?

### **Costs and Affordability**

- Are the full costs (incl contingency) of the OSD enabling works, and when they will fall, understood and is a funding plan in place?
- Is it clear which costs will still be incurred if a decision is taken not to use the powers being taken on OSD enabling? Are these costs affordable within the overall Phase 1 envelope?

### **Deliverability and Capability**

- Is there a clear plan for who will deliver the OSD enabling works and when? Is the timetable feasible and realistic?
- Is there the necessary capability and capacity (of relevant parties) to deliver the work?

### **Interdependencies with the core scheme**

- Is the impact of the OSD enabling works on the delivery of the core Euston scheme fully understood? Have risks been identified and mitigated?
- Is there an established critical path for when decisions are needed on the OSD enabling works so as to not adversely affect delivery of the core scheme?
- If a decision is taken to not use the OSD enabling powers in the bill is there a back-up design that can be reverted to? What are the implications of this for core scheme delivery?

**3. Summary of Recommendations**

No	Recommendation (extract from the from body of the report)	Criticality (high/med/low)	Do by when? (date)
1.	Further work is required to provide assurance that the contingency remaining for the whole Phase 1 budget is adequate.	Medium	In time for the Spending Review
2.	<p>████████████████████████████████████████</p> <p>████████████████████████████████████████████████████████████</p> <p>████████████████████████████████████████████████████████████</p> <p>████████████████████████████████████████████████████████████</p> <p>████████████████████████████████████████</p>	Medium	October 2015
3.	Recognise the value added by the Euston Development Director role, in particular the direct engagement with the local communities, and ensure these functions continue through all key stages of the project.	Medium	Ongoing
4.	Develop a transition plan for community engagement should this function move from the current Euston Development Director role.	Medium	Prior to transition
5.	Develop succession/resilience plans for key roles in DfT and HS2 Limited.	Medium	September 2015

## 4. Summary of the Programme or Project

### Background and context

The new High Speed 2 (HS2) terminal station at Euston will be a high quality transport hub, and a catalyst for redevelopment and growth in the surrounding area.

The transport solution for HS2 will act as the first crucial step towards upgrading an outdated piece of railway infrastructure, providing immediate benefits to passengers, a new commercial development, and long-term transformation to the surrounding area.

Building a new terminal station at Euston represents a once-in-a-generation opportunity to enable long-term benefits to transport users, visitors and the local community for many years to come. The project will continue to be developed in close consultation with train operators and the London Borough of Camden, using Camden Council's 'Euston Area Plan' (EAP) as the blueprint for wider regeneration.

### Aims and objectives

The DfT will make the case for redeveloping Euston in stages such that the transport benefits of are delivered as quickly as possible whilst minimising disruption to those who are affected during construction.

The first stage of redevelopment will be completed in 2026, providing a newly integrated and upgraded interchange between Phase 1 HS2 services to Birmingham, classic rail, and the London Underground. New commercial development plots will also be enabled as the first step towards achieving the EAP aspirations for the site.

The second stage will be completed in 2033, delivering Phase 2 HS2 services to the North, and further improvements to the concourse and permeability through the Euston site. Further commercial plots will be released during and after this stage in line with the EAP.

Euston also has a role to play in enabling Government's ambition to provide the benefits of HS2 to the North sooner, by ensuring that an accelerated route to Crewe is considered as part of the plans.

During and after the completion of the HS2 elements of the station, the redevelopment of the rest of the station will be taken forward as a separate project by Network Rail, resulting in a fully modernised station, a comprehensive redevelopment as the major component part of realising Camden's EAP.

The Government has seen the transformational effect that new stations can have on the surrounding area. The recent and highly successful regeneration of King's Cross, St Pancras and London Bridge stations demonstrates this. However, important lessons have also been learned which will be taken on board during construction works at Euston to ensure that the benefits are maximised whilst minimising any disruptive impacts on peoples' lives.

### Key Milestones

Milestone	Date
Additional Provision 3 (AP3) Deposit	Sept 2015
Royal Assent for first hybrid Bill	Dec 2016
Start enabling works	Summer 2016
Start main construction works	2018
Start station and underground works	2019
Transition to operations	2024
Start of Phase One service	2026
Start of Phase Two service	2a Post-2026 (TBC)



	2b 2033 (TBC)
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## 5. Detailed Review Team Findings

### Part 1: Core scheme

#### Options Assessment

- Does the options assessment document provide a clear case for the revised Euston scheme?
- Have the strategic alternatives been identified and properly considered?
- Is there a clearly defined scope for the core scheme with identified outcomes and success measures?

Euston has been selected as the London terminus for HS2. Options appraisals have been undertaken to identify the alternative station configurations and select the preferred option, which involves a staged approach with the option of either a split or level deck for the existing platforms to be taken later. Since the Hybrid Bill the team has undertaken significant additional work in exploring station configuration and staging options.

The current proposal provides significant flexibility to accommodate the different phases of HS2 and the option to deliver the service to Crewe early. The Hybrid Bill envisaged building the full Phase 1 and Phase 2 capacity in one single phase. The current proposal provides flexibility over phasing, configuration and removes the dependency on the classic station refurbishment, which is the responsibility of Network Rail. This is less expensive than the single stage level deck option proposed in autumn 2014.

Although the preferred option appears more expensive than the Hybrid Bill it now incorporates the costs of mitigating the disruption to the classic services, which is more fully understood. Taking this factor into account, the current option is less expensive than the Hybrid Bill option and shows improved value-for-money.

There is now a much stronger case for the option selected compared to the alternatives.

The Joint Sponsor Board (HS2, DfT and Network Rail), which was established to govern the assessment of strategic options, created a number of success criteria which it developed into a series of technical requirements. These were used to test the options, which rejected the double deck and ground level solutions, leaving the option to pursue a split level or level deck solution as meeting the requirement. HS2 Limited has provided evidence as to how these criteria will be met. This has provided clarity on the scope of the Euston scheme.

#### Costs and Affordability

- Are the costs of the core scheme fully understood and affordable within the overall Phase 1 envelope?
- Has sufficient contingency been built into the cost estimate based?
- Has there been adequate scrutiny and assurance of the cost estimate by internal and external experts?
- Have all elements of the core scheme been included in the cost estimate, i.e. no notable exclusions?

The costs of the scheme are far better understood than at the time of the Hybrid Bill and are robust enough for the purpose of the Additional Provision (AP3). This includes appropriate provision for the impact on the classic network. These costs are currently outside the overall Phase 1 envelope by some £400m. However, there is now a high degree of confidence that this can be accommodated through the line X option, discussed later in this paper and through further efficiencies within the current funding envelope. Work is under way over the coming four weeks to confirm this.

The original Hybrid Bill included a 38% contingency across the entire Phase 1 programme. Euston has drawn from this pot which has reduced the amount available for the programme to [REDACTED]. This is considered to be at the low end of what is appropriate at this stage.

There is a comprehensive assurance process in place, which includes the Project Representative (P-Rep) and an appropriate governance structure including the BICC (DfT Board Investment Commercial Committee). P-Rep provides continuous independent assurance to DfT of the scheme by ongoing observation and challenge.

A cost estimate has been prepared with significant work done on understanding the costs of mitigating the disruption to existing services. There was a high degree of confidence that all elements of the core scheme have been included in the cost estimates.

<p><b>Recommendation 1: Further work is required to provide assurance that the contingency remaining for the whole Phase 1 budget is adequate. Essential, in time for the Spending Review.</b></p>
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### Deliverability and Capability

- Is the current timetable to deliver the core scheme feasible and realistic? Are parliamentary dependencies clearly identified?
- Are the concerns of key stakeholders fully understood and being actively managed? Is there a robust communications strategy in place?
- Is the impact on the rail industry fully understood and mitigated?
- Is there capacity and capability within all relevant parties (HS2 Ltd, NR, DfT and the supply chain) to deliver the core scheme?
- Is there a clear split of responsibilities, e.g. between HS2 Ltd and NR?
- Have the main risks in delivering the core scheme been identified and mitigated?

There is a high degree of confidence that the current timetable can be met and fits in with the delivery of Phase 1 and Phase 2 of the wider scheme. Furthermore, the staging of the station works has reduced the complexity of delivering the scheme.

The dependency on the Hybrid Bill process is fully understood and integrated into the timetable. This has put considerable pressure on the timetable for developing the AP3 proposal, which has increased the risk of missing key information.

The biggest stakeholders are the local community, the rail industry and Transport for London (TfL). The HS2 team has invested considerable effort in community engagement and has set up six sub-groups to

reflect the views of different communities. There are plans for a ten year community engagement programme building on the good work of the existing team. There has also been significant effort to understand the impact on the rail industry, which is covered in the paragraph below. The design for the new station incorporates TfL's thinking about better links to the tube network.

At the time of the Hybrid Bill the impact on the existing rail industry had not been fully explored. Since the Bill the Rail Industry Steering Group has been instrumental in improving the understanding of the impact on the operational railway and incorporating mitigation into the core design. The staged approach, which allows for sixteen operational platforms rather than thirteen, is a significant improvement. A menu of further mitigations has been drawn up. [REDACTED]

[REDACTED] There is now high confidence that the impact on the rail industry can be managed, subject to confirmation from detailed performance modelling, which is planned to conclude towards the end of this year. However, this is likely to remain a key risk to the programme requiring careful management.

HS2 has been growing its capacity and capability. In particular, a delivery team has been established in preparation for a prompt start post Royal Assent. The DfT High Speed team is well resourced although remains dependent on a few key individuals. Network Rail has a dedicated team for Euston. The creation of the joint HS2/Network Rail Euston Development Director role is considered to have been successful, particularly in regard to engagement with the local community, despite having limited resource. This role is currently under review, however there would be considerable support for its continuation.

Although the HS2 programme is subject to a supply chain skills shortage that will be addressed by the creation of the Skills College, the Euston station development will be able to access the wider civil construction market where sufficient capacity is believed to exist. Network Rail is confident that it will be able to provide the specialist skills needed for the enabling works.

The division of responsibilities between the various parties appears to be clear with HS2 being responsible for developing the design for high speed part of Euston station and Network Rail the remainder. It is planned that HS2 will deliver the first stage, with the option of either party delivering the second stage and Network Rail delivering the upgrade to the existing station. Network Rail will also deliver the enabling works on the station approach.

The Euston core scheme is a major project in its own right with a high level of complexity and hence risk. Considerable work has been done to identify, quantify and mitigate risks which is considered appropriate for this stage. The scheme is still at a relatively early stage of development: more detailed risk assessment is planned as the solution matures.

<b>Recommendation 2:</b> <b>Develop a contingency plan for further mitigating impacts on existing services</b> [REDACTED] [REDACTED] [REDACTED]
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**Recommendation 3: Recognise the value added by the Euston Development Director role, in particular the direct engagement with the local communities, and ensure these functions continue through all key stages of the project. Essential.**

**Recommendation 4: Develop a transition plan for community engagement should this function move from the current Euston Development Director role. Essential.**

**Recommendation 5: Develop succession/resilience plans for key roles in DfT and HS2 Limited. Essential.**

### **Impact on Overall Programme**

- Does the revised core scheme support priorities elsewhere on the route, including accelerated delivery to Crewe by 2027?
- Is there a clear understanding of impacts on the overall programme Royal Assent and the 2026 first service date?
- Is it understood what impact the revised core scheme has on the overall business case for HS2?
- Is it clear how the revised HS2 core scheme fits with Network Rail's plans for the wider Euston station?

The revised core scheme is considered to be sufficient to support route priorities and accommodate accelerated delivery to Crewe by 2027, however this will require timetabling modifications on the wider network. This will need to be considered in due course.

The Parliamentary timetable is clearly understood and has been factored into the overall timetable for delivery.

The revision to the core scheme has been assessed as having a limited impact on the overall business case for HS2 given the relative scale of the sums involved.

The plans for the revised HS2 core scheme have removed the potential dependency on Network Rail's plans for the wider Euston station and provides the flexibility for both parties to pursue each solution jointly or independently.

## Part 2: Oversight Development (OSD) Enabling Works

### Strategic case

- Has the programme provided a sound strategic case on the need for OSD enabling works at Euston?
- How will the OSD at Euston contribute to economic growth and wider Government objectives?

DfT are, at this stage, only seeking the powers in the Hybrid Bill to carry out enabling works for OSD and are not seeking investment approval, which would be needed later in the year subject to SR15 and a developed business case. There remains the option not to take this forward should the business case not be proved. Nonetheless, a strategic outline business case has been developed which shows a strong case for oversight development which could not take place without the enabling works. This suggests significant potential contribution to regeneration and wider economic benefits in the Euston area, which have not yet been substantially quantified.

There does not appear to be any compelling reason not to seek the powers as part of AP3 as this would close down the option prematurely.

### Value for Money

- Has the programme provided an initial economic case including a cost benefit analysis that indicates good value for money?
- Has the programme considered the impact of OSD enabling works on the wider economic case for Euston and HS2 as a whole?

Some initial financial assessments have been performed on a series of options, which suggest a strong financial return even on conservative assumptions. Work is continuing on an economic case but wider benefits in excess of £200m GVA have so far been identified.

The impact of OSD on the wider economic case for Euston and HS2 is believed to be positive but has not yet been quantified.

### Costs and Affordability

- Are the full costs (incl contingency) of the OSD enabling works, and when they will fall, understood and is a funding plan in place?
- Is it clear which costs will still be incurred if a decision is taken not to use the powers being taken on OSD enabling? Are these costs affordable within the overall Phase 1 envelope?

Some initial cost profiling has been done, which will need to be refined in due course. These are outside the overall Phase 1 funding envelope and would have to be funded separately.

There is limited risk of incurring nugatory costs if a decision is taken not to use the powers as the enabling works can be descope. The only non-recoverable costs would most likely be around the initial design and the preparation of a business case. These costs are not likely to be significant.

### Deliverability and Capability

- Is there a clear plan for who will deliver the OSD enabling works and when? Is the timetable feasible and realistic?

- Is there the necessary capability and capacity (of relevant parties) to deliver the work?

Plans for delivery of the enabling works assume that HS2 Ltd will design and deliver the enabling works as they are integral to the station development. The plans contain a schedule for delivery consistent with the delivery of the wider Euston development.

Plans to resource and deliver the enabling work are currently being developed.

#### **Interdependencies with the core scheme**

- Is the impact of the OSD enabling works on the delivery of the core Euston scheme fully understood? Have risks been identified and mitigated?
- Is there an established critical path for when decisions are needed on the OSD enabling works so as to not adversely affect delivery of the core scheme?
- If a decision is taken to not use the OSD enabling powers in the bill is there a back-up design that can be reverted to? What are the implications of this for core scheme delivery?

The OSD works are part of the integral design. Work has been undertaken to align the time scales of the OSD and Euston station and to understand the key interdependencies and risks.

There is a decision matrix which aligns the key decisions on the OSD works with the main station scheme timetable. This requires an in-principle decision in the last quarter of 2015 in order to revert to a non-OSD solution, if required.

There remains the scope to revert to a non-OSD solution but this is not yet fully developed or optimised. There may be some impact on design and delivery but the decision to retain the basement in the current scheme mitigates the risk to some extent.

## 6. Additional Information for the MPRG panel or Treasury Approval Point

### Issue 1 - Impact on rail operations

#### Evidence and findings

A number of mitigations have been identified and planned which will reduce the disruption to the rail network. [REDACTED]

[REDACTED] line that improves resilience), which has now been confirmed as the preferred option and included in AP3. DfT and HS2 Ltd are confident that this can be managed, but there remain some residual rail industry concerns.

#### Suggested lines of enquiry

[REDACTED]

How confident are you that the remaining disruption can be managed within your existing plans?

What are your alternatives if planned measures fail?

### Issue 2 - Impact on local communities

#### Evidence and findings

Significant progress has been made with community engagement largely by the Euston Development Director. This role is currently under review.

In addition, there is a ten year plan for community engagement.

#### Suggested lines of enquiry

What are your plans to continue community engagement and maintain the quality?

How will you ensure continuity during the transition to the delivery stage?

### Issue 3 - Affordability and level of contingency

#### Evidence and findings

Currently £411m over budget but the proposal to reinstate Line X could remove most of this excess, subject to confirmation from modelling over the next four weeks.

Costings are more mature than in the Hybrid Bill and include the impact on existing railway operations.

Euston has drawn down from the Phase 1 contingency pot and has reduced the amount available for the programme from 38% to [REDACTED]

#### Suggested lines of enquiry

How confident are you that you can accommodate the Euston scheme within Phase 1 funding envelope?



How confident are you that the reduced contingency is sufficient for the Phase 1 programme?

**Progress against previous review recommendations**

**N/A**

**Annex B – List of Interviewees**

The following stakeholders were interviewed during the review:

<b>Name</b>	<b>Role/title</b>	<b>Organisation</b>
David Prout	Director-General, High Speed Rail Group and SRO	DfT
Michael Hurn	Director of Major Projects	DfT
Nick Joyce	Director Corporate Finance	DfT
Jonathan Holland	Sponsor for Euston OSD	DfT
Caroline Botwood	Deputy Director, Funding and Costs	DfT
Simon Kirby	Chief Executive	HS2 Ltd
Alison Munro	Managing Director of Development	HS2 Ltd
Rupert Walker	Euston Director	HS2 Ltd
Jim Crawford	Phase 1 Director	HS2 Ltd
Roger Hargreaves	Hybrid Bill Delivery Director	HS2 Ltd/
Stephen Brundle	Project Representative (P-Rep)	P-Rep
Clare Moriarty	Director General	Rail Executive
Paul Seller	Rail Commercial Deputy Director, North and Midlands	Rail Executive
Patrick Butcher	Group Finance Director	Network Rail
Stephen Dance	Head of Infrastructure Delivery	Infrastructure UK
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