

# Workshop: Realising the opportunities of major rail projects

Making the most of rail projects in your Town Investment Plan

2 October 2020



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# INTRODUCTIONS

Your name, town and interest in workshop

# **Purpose of the workshop**



Realising the opportunities of major rail projects

Discuss opportunities and advice to get people, businesses and towns ready for major rail infrastructure projects

What can be done now to prepare for these long-term projects and how this can be articulated in your Town Investment Plans







# Major rail projects: HS2





# Major rail projects: East West Rail

Western (Phase 1)

Western (Phase 2)

Central





← Existing rail line <---> High Speed 2 (HS2)

# Other major rail programmes: Northern **Powerhouse Rail**



# Other major rail programmes: Midlands Engine Rail



# Typical lifecycle of a major rail project



The scope to effect change reduces as planning and design progresses

Stage	GRIP	RIBA	<b>Business Case</b>	RNEP	Scope	Finalised
Initiation	1-2	0-1	Strategic Outline BC	Determine	<ul> <li>Issues identification, problems to be solved</li> <li>Confirm the case for change</li> <li>Define options and perform initial sift</li> </ul>	Broad shape of the scheme
Option Selection	3	2	Outline BC	Develop	Detailed assessment of options to find the preferred solution	Preferred option to proceed
Early Design	4	3	Full BC	Design	<ul> <li>Outline designs produced</li> <li>Full details of overall benefits and costs</li> </ul>	elements (eg. route, stations)
Detailed Design	5	4	Full BC	Design	<ul> <li>Robust engineering design</li> <li>Definitive costs, times, resources, risk assessments</li> </ul>	certainty around scheme Non- infrastructure elements
Construction	6	5	N/A	Deliver	<ul> <li>Built to design specified in GRIP Stage 5</li> </ul>	All aspects of scheme

# HS2 Phase 1 (London to Birmingham)



Construction has begun, though there are still uncertainties around service frequencies, and when stations will be operational

Stage	GRIP	RIBA	Business Case	RNEP	Scope	Finalised
Initiation	1-2	0-1	Strategic Outline BC	Determine	<ul> <li>Issues identification, problems to be solved</li> <li>Confirm the case for change</li> <li>Define options and perform initial sift</li> </ul>	Broad shape of the scheme
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Detailed Design	5	4	Full BC	Design	<ul> <li>Robust engineering design</li> <li>Definitive costs, times, resources, risk assessments</li> </ul>	certainty around scheme infrastructure elements
Construction	6	5	N/A	Deliver	Built to design specified in GRIP Stage 5	All aspects of scheme

# HS2 Phase 2a (Birmingham to the North West)



Stage	GRIP	RIBA	<b>Business Case</b>	RNEP	Scope		Finalised	
Initiation	1-2	0-1	Strategic Outline BC	Determine	<ul> <li>Issues identification, problems to be solved</li> <li>Confirm the case for change</li> <li>Define options and perform initial sift</li> </ul>	Bro	ad shape of the scheme	e
Option					Detailed assessment of ontions to find the		Preferred option to	
Selection	3	2	Outline BC	Develop	preferred solution		proceed	
Early Design	4	3	Full BC	Design	<ul> <li>Outline designs produced</li> <li>Full details of overall benefits and costs</li> </ul>	reasing	Infrastructure elements (eg. route, stations)	Reducino
Detailed Design	5	4	Full BC	Design	<ul> <li>Robust engineering design</li> <li>Definitive costs, times, resources, risk assessments</li> </ul>	certainty around scheme	Non- infrastructure elements	<sup>cope</sup> for <sup>a</sup> keholde luence
Construction	6	5	N/A	Deliver	Built to design specified in GRIP Stage 5		All aspects of scheme	

# HS2 Phase 2b (Birmingham to Leeds)



Currently undergoing a design refinement consultation to be considered by the Secretary of State before he makes the decision on the final route.

Stage	GRIP	RIBA	<b>Business Case</b>	RNEP	Scope	Finalised
Initiation	1-2	0-1	Strategic Outline BC	Determine	<ul> <li>Issues identification, problems to be solved</li> <li>Confirm the case for change</li> <li>Define options and perform initial sift</li> </ul>	Broad shape of the scheme
Option Selection	3	2	Outline BC	Develop	Detailed assessment of options to find the preferred solution	Preferred option to proceed
Early Design	4	3	Full BC	Design	<ul> <li>Outline designs produced</li> <li>Full details of overall benefits and costs</li> </ul>	Infrastructure elements (eg. route, stations)
Detailed Design	5	4	Full BC	Design	<ul> <li>Robust engineering design</li> <li>Definitive costs, times, resources, risk assessments</li> </ul>	certainty around scheme infrastructure elements
Construction	6	5	N/A	Deliver	Built to design specified in GRIP Stage 5	All aspects of scheme

# **EWR Western Section (Oxford to Bedford)**



No scope to influence infrastructure, and very limited scope to influence non-infrastructure elements. Focus should be connecting to and maximising the benefits of the final design.

Stage	GRIP	RIBA	Business Case	RNEP	Scope		Finalised	
Initiation	1-2	0-1	Strategic Outline BC	Determine	<ul> <li>Issues identification, problems to be solved</li> <li>Confirm the case for change</li> <li>Define options and perform initial sift</li> </ul>	Broa	d shape of the schem	ne
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Detailed Design 💊	5	4	Full BC	Design	<ul> <li>Robust engineering design</li> <li>Definitive costs, times, resources, risk assessments</li> </ul>	certainty around <sub>scheme</sub>	Non- infrastructure elements	scope for stakeholden nfluence
Construction	6	5	N/A	Deliver	Built to design specified in GRIP Stage 5		All aspects of scheme	

# **EWR Central Section (Bedford to Cambridge)**



A preferred route option has been chosen, but there is still scope to influence the specific route alignment and the precise location of stations.

Stage	GRIP	RIBA	<b>Business Case</b>	RNEP	Scope	Finalised
Initiation	1-2	0-1	Strategic Outline BC	Determine	<ul> <li>Issues identification, problems to be solved</li> <li>Confirm the case for change</li> <li>Define options and perform initial sift</li> </ul>	Broad shape of the scheme
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Construction	6	5	N/A	Deliver	Built to design specified in GRIP Stage 5	All aspects of scheme

# **EWR Eastern Section (Cambridge to East Anglia)**



Very early stages of development, with all details of the scheme still to be determined. Consultants have just been appointed to develop a business case (pre-SOBC).

Stage	GRIP	RIBA	Business Case	RNEP	Scope	Finalised
Initiation	1-2	0-1	Strategic Outline BC	Determine	<ul> <li>Issues identification, problems to be solved</li> <li>Confirm the case for change</li> <li>Define options and perform initial sift</li> </ul>	Broad shape of the scheme
Option Selection	3	2	Outline BC	Develop	Detailed assessment of options to find the preferred solution	Preferred option to proceed
Early Design	4	3	Full BC	Design	<ul> <li>Outline designs produced</li> <li>Full details of overall benefits and costs</li> </ul>	Infrastructure elements (eg. route, stations)
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Construction	6	5	N/A	Deliver	Built to design specified in GRIP Stage 5	All aspects of scheme

# **Northern Powerhouse Rail**



An initial SOBC has been drawn up, with a proposed route map, but the shape and specifics of this scheme will be determined in the coming years.

 Stage	GRIP	RIBA	Business Case	RNEP	Scope	Finalised
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# Major rail projects – key decision makers



#### **Scheme Owner / Promoter** Plans, develops and secures funding for the scheme east West NORTH HS2 Midlands Connect Point of contact for: Optioneering Station process locations Route Costs and design Service benefits frequencies

Many aspects of projects (eg. route design, service frequencies) involve multiple stakeholders or departments, increasing the lead time - early engagement is critical.

#### **Infrastructure Owner**



Owns, maintains and manages the infrastructure elements. The 'System Operator' deals with all early stage schemes, then responsibility transitions to the Route or Region as the scheme develops.





# Major rail projects – stakeholders



The support of a broader network of stakeholders is highly beneficial in influencing the shape of a major rail project.



# Major rail projects – policies and strategies



There are usually growth and skills strategies developed for major projects - building on and aligning with these is a good starting point



# Coming up in this workshop



SKILLS: Getting People Ready (Richard Hadfield) 10 mins

**INNOVATION: Getting Businesses Ready** (Tom Bridges) 10 mins

PLACE: Getting Towns Ready (Peter Neckelmann) 10 mins

**CONNECTIVITY: Getting our Transport Network Ready** (Richard de Cani) 10 mins

**Discussion** (Chaired by Richard de Cani) 40 mins



# **SKILLS: Getting People Ready**

# Major construction projects provide one lens in considering your towns skills needs and opportunities...





Partnerships to nurture

Which sectors & skills will enable prosperity for your town?

Assets to leverage

Major rail construction projects pump prime local economies, innovation and the need for appropriate skills

#### **Two perspectives**

- Project delivery and operational related skills
- Broader skills catalysed by projects

Each project is different

Skills commitments vary

Towns working together along corridors/routes is best way to progress and influence projects/relevant LEPs and Las

The rail industry needs new skills...



# HS2 spotlight – project related skills



- HS2 is a...
  - 1. Transformational construction project
  - 2. National/regional/local rail project
  - 3. Springboard for innovation
- It is a multi sectoral...
  - 1. Engineering
  - 2. Commercial
  - 3. Surveying
  - 4. Logistics
  - 5. Rail
  - 6. Support services (Digital, data, tech, HR)
- It is big! 4 to 5 supply chain layers
- Supply chain/employers contribute to skills generation and do not just provide employment opportunities

Be bold now to be ready to take advantage of major rail construction through all its phases

Influence and nurture projects and contractors

# Major construction programme spotlight – education & skills



Some major construction projects follow a similar approach to education, skills and employment development

Some don't have a clear skills strategy!

Either way – engage, influence (e.g. apprenticeships) and shape the future for your town

Theme	Focus
Employment & skills needs	LEP - Labour force forecasts and skills required
Learning & skills pathways	<ul> <li>Contractually (via contractors/partners) committed pathways such as:</li> <li>Work placements</li> <li>Apprenticeships – procurement/evaluation stage is an important factor</li> <li>Graduate schemes</li> <li>Local community workforce contribution</li> </ul>
Jobs brokerage service	Linking client (e.g. HS2; Canary Wharf group), contractors (the supply chain) through intermediaries e.g. JC+
Education systems & STEM skills	Local schools & colleges – build enthusiasm, awareness and pathways to higher level education

# Leeds City Region – HS2 as catalyst for change





S2 Opportunities Diagram

# **Strategic Development Corridors as skills** catalyst





Promoting and enhancing the built, historic and natural environment



and access to opportunities for all



system

**Central Pennines example** 



Towns

### A 'thinking' framework – aligning E&S with your vision





# Construction phases and getting people ready for jobs

Advanced

workplace skills

Workplace skills

Local

curriculum



	Detailed Design	Constructi	Post construction	
	Planning & Design	Heavy construction – rail and innovation hubs	Fit out/rail	Operation and maintenance
	Higher level / specialised e.g. surveying		Higher level / specialised e.g. signalling	Advanced 'X' hub
Promote	C E La S	onstruction ngineering ogistics upport services	Mechanical Electrical Operational roles - customer and back office	Train drivers Station jobs Innovation hub
job opportunities		1	1	





Clarify your town's vision – skills & employment priorities will follow

Build your partnerships – you can't do this alone! Be bold --to create a major construction project related skills and enterprise legacy for your town



# **INNOVATION: Getting Businesses Ready**

# **GETTING BUSINESSES READY**

Major rail projects offer the opportunity for UK businesses to bid for contracts worth a total of tens of billions of ponds. Businesses in towns have an opportunity to be part of the supply chain. To do so, they will need to innovate and collaborate with others.

Potential HS2 Suppliers by Constituency (104)(288)

Source of image: HS2 Growth taskforce report





# FOCUS ON SME FIRMS AND INNOVATION

- Every £1 spent on major rail projects generates £2.20 in wider economy
- Most major projects now have clear policies, targets and mechanisms for engaging SMEs
- HS2 are aiming for 60% of supply chain to be with SMEs
- We need innovation in rail, and SMEs can innovate in ways large firms cannot
- The rail sector is changing, including through digital transformation
- Importance of collaboration through supply chains

#### NEWS

# HS2 asks SMEs to come up with ideas to speed up building work

By Tom Lowe | 18 August 2020

#### f 💟 in 🕓 🖾



Winning firms will showcase their ideas to investors and supply chain

HS2 has launched a call-to-arms for smaller firms with ideas on how to speed up building work on the £100bn railway using digital technology.

It is the second round of recruitment of SMEs and tech start-ups for the railway's Innovation Accelerator programme, following a first phase in June which received over 100 applications.



# **POTENTIAL INTERVENTIONS**



- Engagement in supply chain development programmes
- Supporting innovation including through links with universities
- Helping deliver the right range of business and innovation space
- Business advice and support, including to start-ups and scale-ups
- Skills development





# **PLACE: Getting Towns Ready**

# **Preparation - masterplanning**



#### Looking inside-out

• Developing an understanding how the rail infrastructure (station, depot, or corridor, etc.) will integrate into the immediate context.



# **Preparation - masterplanning**



#### Looking outside-in

- Primary area of impact lies beyond the rail infrastructure
- Developing an understanding of the wider context and how these areas should influence the design.



# **Preparation - masterplanning**



#### **Developing clarity and consensus**

Vision, design principles and a flexible spatial framework.



Legible



Permeable



Human scale



Integrated



Multi-modal



Added amenity



# **Maximising opportunity**



#### **Getting more out of rail infrastructure**

- Maximising the use of all the spaces that are created
- A full range of programmes can occupy these "left-over" spaces







# **Maximising opportunity**



#### **Getting more out of rail infrastructure**

- Ensuring permeability is maintained (or created) where it's required to connect the town.
- The design quality of these points of crossing along a rail trace is vital for their successful use.





# **Maximising opportunity**



#### Getting more out of rail infrastructure

- Use rail infrastructure to create movement corridors suitable for a full range of modes.
- Naturally follow an established route connecting destinations.
- Enhances transit by improving access for pedestrians and cyclists to stations.
- Tend to be contiguous and uninterrupted, with fewer street crossings than normal trails or on-road facilities.
- Shown to reduce trespassing by providing passive surveillance.



# **Starting Early**



#### **Meanwhile uses**

- Seeding change
- Adaptive reuse of existing structures and vacant spaces
- Driving a new sense of place or demonstrating change





# **Starting Early**

#### **Meanwhile uses**

- Using hoardings more productively creating attractions, points of information exchange and areas of play
- Maintain existing movements corridors or establish new routes early to cement movement patterns and generate footfall.











#### Keeping focus on both the big and small picture





# **CONNECTIVITY: Getting The Network Ready**

# Transport connectivity in the project lifecycle



	EARLY ENGAGEMENT (initiation, option selection, early design)	LATER ENGAGEMENT (detailed design, construction, post-opening)
Services	<ul> <li>Service offering</li> <li>What connectivity do you want?</li> <li>Consider trends in travel behaviour and their drivers to understand desire lines</li> <li>Remember to consider freight as well as passenger</li> <li>Are there indirect benefits, e.g. from released capacity?</li> </ul>	<ul> <li>Service frequency and capacity –</li> <li>How do you ensure high frequency and sufficient capacity to serve your town?</li> <li>How do you ensure capacity is not taken up by other projects?</li> </ul>
Route	<ul> <li>Line of route planning</li> <li>How does the alignment affect the town and surrounds, what are impacts and opportunities?</li> </ul>	<ul> <li>Impact mitigation</li> <li>How can you mitigate severance impacts, e.g. bridge / tunnel for links across route?</li> </ul>
Stations	<ul> <li>Station planning</li> <li>What are the location options in the town?</li> <li>If elsewhere, what locations would you support and have good access to?</li> </ul>	<ul> <li>Access (first/last mile)</li> <li>How do you connect to station(s) – infrastructure and/or services, focus on local public transport networks e.g. enhancements to existing rail services, bus network planning</li> </ul>

# Transport connectivity in the project lifecycle



	<b>EARLY ENGAGEMENT</b> (initiation, option selection, early design)	LATER ENGAGEMENT (detailed design, construction, post-opening)
Depots	<ul> <li>Depot planning</li> <li>What is an appropriate environmental location but accessible for jobs?</li> </ul>	<ul> <li>Impact mitigation</li> <li>How can you mitigate impacts (e.g. severance, noise, light)?</li> <li>Access</li> <li>How can you provide better access for job opportunities?</li> </ul>
Spatial planning	<ul> <li>Land use and masterplanning</li> <li>Is improved connectivity an opportunity to support employment and/or housing development in your area?</li> <li>Market effects</li> <li>Can you capitalise on land value spikes on announcement of schemes and route selection?</li> </ul>	<ul> <li>Land use and masterplanning</li> <li>Can you provide improved (public transport) links to development areas linked to the major project – for housing or for jobs?</li> <li>Market effects</li> <li>Are there further opportunities around land value uplift when construction starts and after opening?</li> <li>Anticipate any negative impacts – e.g. firms in your town moving out (to get closer to rail project)?</li> </ul>

# Some examples of good practice

•



#### Ashford

Ashford has been one of the biggest winners from HS1, now with a 37-minute journey to Central London (81 before)



#### How did the town maximise the benefit?

- The new line drew both commuters and visitors to the area, transforming the local economy, and generating property value uplift
- New homes, office and leisure facilities have been built as an indirect impact of the economic boost
- Now the town and other Kent MPs are lobbying for more services to tackle peak over-crowding

#### **Tweedbank**

The new 30-mile Borders Railway from Edinburgh included 7 new stations, including Tweedbank



#### How did the town maximise the benefit?

- The Scottish Borders Council are leading on a Tweedbank masterplan to optimise the economic benefit
- Innovation park at Tweedbank to receive £15m of funding, generating up to 350 jobs
- The Borders Railway Blueprint collaboration brought together the key stakeholders very early on, giving a clear vision and opportunity for local input

#### Liverpool South Parkway

New interchange station to link two rail lines and provide access to Liverpool John Lennon Airport



### How did the city maximise the benefit?

- Excellent integration into the transport network, providing direct links between local, regional & national rail services, local bus services, park and ride provisions and the airport.
  - Built using innovative, environmentally friendly techniques, and won the Network Rail Innovation Award, raising the profile and reputation of the area

### Some examples of good practice



#### **Bromsgrove Station**

Replacement station providing four platforms (formerly two), to alleviate capacity constraints.



# How did the town maximise the benefit?

- Worked alongside NR to deliver excellent station access (undercover, secure cycle storage, electric vehicle charge points)
- Delivered a new access road to increase traffic capacity
- Integrated bus services to maximise the attractiveness of using the train to travel between Bromsgrove and Birmingham, reducing congestion, carbon emissions and journey times

#### Cardiff Parkway

A new station due to begin construction in 2021, funded primarily by the private sector



### How is the city maximising the benefit?

- Accessed funding by demonstrating benefits to the private sector when initially unsuccessful in gaining public funding
- A new business district, Hendre Lakes, is proposed adjacent to St Mellons Business Park

# **Building the case for connectivity**



How to go about building the business case	How to articulate projects now, even though they may not happen for 10-15 years
<ul> <li>Stakeholder engagement</li> <li>Engage early with the relevant people and teams who will assess your case, or who could support your case</li> <li>Remember the long lead times to action</li> </ul> Build the evidence base <ul> <li>Have a clear message about what you are trying to achieve, and robust evidence as to why change is needed</li> <li>Remember that new rail connections take people away from your town as well as bring them in</li> </ul>	<ul> <li>Set out vision and objectives</li> <li>Frame these in terms of 'conditional outputs', rather than committing to specific schemes</li> <li>Conditional outputs are more robust to contextual change over time</li> <li>Understand the impact of a changing context</li> <li>For example, sensitivity analysis to show how project benefits and costs will turn out under different assumptions of the future (particularly pertinent with COVID-19 – with more home-working and less commuting, what is the right balance of investment?)</li> </ul>
<ul> <li>Understand and articulate the whole range of benefits, both direct and indirect</li> <li>Follow the government advice (TAG, Green Book) on measuring benefits</li> <li>Consider how you can maximise the benefits of being 'on the map' because of the new scheme</li> </ul>	<ul> <li>Show commitment to supporting projects</li> <li>For example, connectivity to stations (first/last mile), public realm improvements, business incentives, traffic and parking management</li> <li>Get local (public) transport network ready and future-proofed, look for early benefits, think about how you can feed people to/from hub stations</li> </ul>



# DISCUSSION

- How to articulate projects now in your Town Investment Plan
- How to engage with stakeholders such as Network Rail
- Working as a group going forwards

# **Towns Fund** Delivery Partner