



# **CREWE : Now – New – Next**

## **Options for the HS2 Cheshire railhead**

JRC, for Crewe Town Council

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## Rail projects – six main criteria

- Broad national and regional gains
  - economic growth, place shaping, jobs, homes
- Business case
  - specified, costed, good benefit-cost, deliverable
- Merits and priority against other projects
- Government and stakeholder backing
- Funding / financing
- Affordability

## Reasons for action – regardless of HS2

### Six main elements

- **R**egeneration & skills & access
- **I**nvestment and economic growth zones
- **C**apacity vs. demand
- **H**ousing & population growth
- **E**nvironment / petrol prices / low carbon
- **S**ervices expanded on Northern / Mids. lines

## Recent examples

- Capacity and city region focus
  - Manchester Hub, new local stations, Crossrail
- National and regional economic gains
  - Northern Powerhouse, HS3 to underpin growth
- Regeneration and accessibility
  - NW electrification, service capacity increases
- Area reconstruction: new jobs & housing
  - Trans-Pennine, rail links for new developments

## Existing Crewe - strengths

- **Established hub for NW and N.Midlands**
- Well served by WCML and regional lines
- 4,265 arrivals and departures every week
- Local catchment 10+ miles, inter-urban 15+
- Major employment node – high value jobs
- Spare land for extra platforms / services
- Freight hub: most can avoid station lines

# Existing Crewe - strengths



An Intercity Hub – but one of many with 1-2 direct trains per hour

# HS2 adds more value

## HS2 Phase One London train services Indicative specification



## Case for Cheshire railhead

- HS2 designation points to strong future
- More than just 'Now Crewe', to add value
- Needs to show wide benefits, not a project in isolation
- **Work with, and be part of:**
  - strategies linking with developing centres
  - economic growth + regeneration objectives
- So specify Outcomes > Outputs > Inputs

## HS2 at Crewe – to date

- HS2 is going to happen: in new Govt manifesto, backing also by Labour, LibDem, ScotNat desires Scotland >< HS2
- Draft HS2 to NW routed via Crewe 2012
- 2014 'HS2 Plus' favours early Crewe Hub
- Numerous reports:
  - embrace wider stakeholder priorities
  - place rail scheme at core of area economy

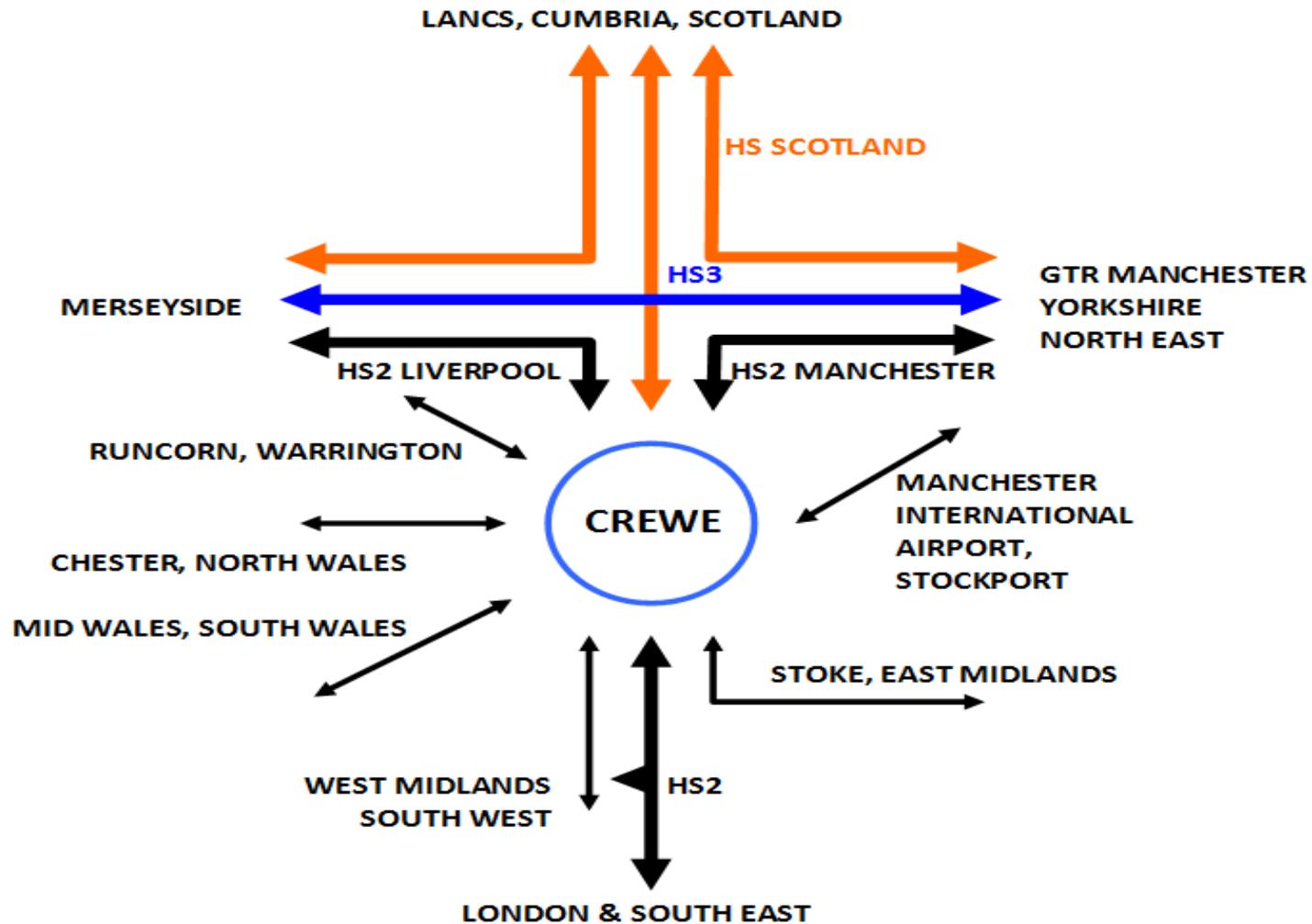
# What future for High Speed GB?

- HS2 London - NW conceived ahead of HS3
- HS2 to Crewe is really HS Phase 1a (2027)
- HS Scotland now high on political agenda
- Danger of separation of new HS networks
- That would repeat Victorian network gaps
  - eg across Manchester (HS2 to HS3)
- **Need urgent policy review of best value for new HS rail and existing lines in North/Mids**

# Antoine de Saint-Exupéry

*Quand tu veux construire un bateau,*  
ne commence pas par rassembler du bois,  
couper des planches et distribuer du travail,  
**mais reveille au sein des hommes**  
**le desir de la mer grande et large**

# What could be...



## The future: HS2 + HS3 + HS Sc

Core proposition:

- **Crewe to be HS Hub facing *North* and *South***
- Scotland, North and Midlands interconnected
- Better travel efficiency to underpin renewed non-London economies
- Through train operation speeding busy flows
- Trains switch at Crewe between HS and 'classic' lines for multi-origins, destinations

## The future: HS2 + HS3 + HS Sc

- New through flows, better connectivity
  - eg direct Cardiff and East Midlands to NW/Scotland
  - direct West Mids to NW and Trans-Pennine area
- Scope to divide/combine HS trains at Crewe
- Expanded operations core for 21<sup>st</sup> Century network
- Option to expand Crewe Hub catchment across Cheshire East, with local feeder services
  - eg Macclesfield commuter trains via Congleton, Alsager
  - new direct services to Middlewich, Northwich, Wrexham

# Heart of new Cheshire economy

- Cheshire East has identified Crewe as core of High Speed-led regional economy
- Complements Stoke-on-Trent's aims
- JRC view: a combined HS2 + HS3 + HS Sc greatly expands Cheshire's economic scope
- A North-facing Crewe hub will stimulate the Stoke-Crewe development corridor
- Review Hub local connectivity and station access, to be 'best fit' for new role



# From one among many...



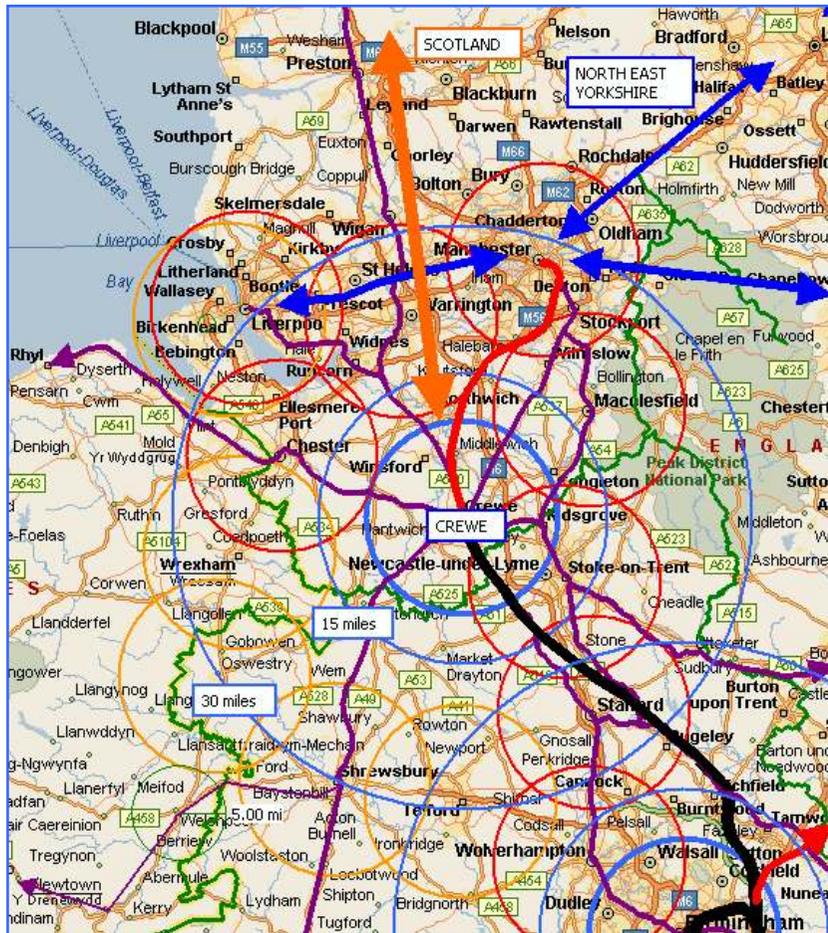
Crewe now



Crewe Hub southwards –  
HS2 Stage 1A



# to the future: HS2 + HS3 + HS Sc



**Crewe Hub northwards –  
HS3, HS Sc**



**Crewe Hub – regional access**

# Hub to be 'best fit' for new role

## Practical considerations:

- Train capacity requirements with full Hub network
- Adaptation costs if existing station or adjoining it
- Alternative of 'New Crewe' station at Basford
- Catchment accessibility at each station option
  - Existing station must face into town and into region
- Many common requirements between options
- Who can fund what? What is best VfM?

# Hub to be 'best fit' - volumes

## Weekly train capacity required:

Now: 4,265 arrivals + departures

Future: Demand > 2043 planning

Impact of new Hub functions

Hub: up to 7,160 arrivals + departures

Estimated: +48% Intercity, +36% Inter-region, +150% regional and feeder, +58% non-stop (mainly ex-Scottish air)

Room for 50%+ more freight trains

## Key parameters:

Pre-sorting of Northern corridor by platform group, from south approaches

Maximise through use of freight lines – scope for installation of platforms

Minimise terminating trains (MF vol. calling ca.230 > 400+, term ~200 > 280)

Effective non-stop lines for HS Sc (passive provision as HS Sc cost)

**Common station requirements (Crewe or Basford):** Overall, a quality station fit for next 100 years. Direct bus/rapid transit into town centre, and existing and new employment zones. Access road off A500, large-scale car parking and relief of A634 Crewe Road.

# Hub to be 'best fit' – Crewe option

## Existing Crewe: Issues:

- Station in poor condition
- Junction arrangements limit capacity
- Local line speeds slow non-stop trains
- Town accessibility needs improvement
- Station area swamped with car parks
- Railheading affected by poor road links

## Existing Crewe: Opportunities:

- Renewal & alterations needed in 2020s
- Upgrades and changes are feasible
- Least disturbance to all approach lines
- Underlying cost Network Rail's not HS2
- Maintains high value staff employment
- Enhances nationally famous location

**Area regeneration and economic growth:** Re-allocate car parking sites into high-capacity multi-storey with direct link from A500. Scope to re-designate station vicinity as high-intensity quarter for university expansion and skills training. Direct bus/rapid transit into town centre, and into existing and new employment zones. Development of Hub feeder rail services to underpin new NW growth location.

# Hub to be 'best fit' – Basford option

## Basford: Issues:

No station now exists

Interworking jcms forced southwards

New works for Stoke & Marches lines, time penalties for Cardiff-Manchester

Overall station access worsens for whole town: average of 1.4>2.3 miles

Disruption to freight operations

Extra station costs allocated to all lines

## Basford: Opportunities:

Scope to relocate freight (Northwich)

Clearing freight and yards creates brownfield site for easy construction

Allows modern functional Hub, easier design for HS2 'GC' train platforms

Supports regional railheading via A500

Locates Hub by Basford redevelopment

Rapid transit link to Crewe town

**Area regeneration and economic growth:** Rapid transit link to achieve connectivity with town, or scope for other local stations incl. a stop at existing Crewe. Stimulus for further expansion in area around A500/Basford, beyond existing permissions. Easy ability for large-scale car parking.

## Tests for which station? - economy

**Crewe as a parkway / railhead Hub can succeed in both locations –if *North facing* as well as South**

- But is Cheshire East better served locally by a strong Crewe centre or by Basford business parks?
  - Impact on Crewe town economy if the station 1 mile further away?
  - What are the regeneration prospects in Central Crewe with this?

**What are Crewe's core assets?**

**People, land, the railway**

- How can these be retained / enhanced?
- What adaption / enhancement is **affordable**?

# Tests for which station? - transport

## Time disbenefits:

- Major time cost for town users with Basford
  - eg, 1½m town passenger, foreseeable growth
- Marginal reduction in car access time at Basford *and* at Crewe if A500 link
- Time disbenefits for passenger trains reversing at Basford
  - eg Cardiff-Marches-Manchester

## Differential costs:

- Rapid transit / bus costs to address town access at Basford
- Comparative A500 link costs to ameliorate car access

## Station context with *north-facing* hub:

- Basford is then illogical location for station

# Tests for which station? - transport

**Rail freight:** Basford displaces freight services

- New costs not easily recharged on marginal cost operations

**Station external funding sources:**

- Limited extra funding for station in either location with low initial site values – Crewe town has good uplift potential

**Overall gross and net infrastructure costs**

- Interfacing HS2 with existing railway needs new junctions with all options
- Re-use of existing station can reduce net additional costs if lines and platforms can be adapted for HS2 – a key test
- Disinvestment costs incurred if replacing existing station
- Existing Crewe supports rail Hub functions – why change?
- Whole-life operations costs to be considered

## Next steps – a proposition

**Crewe is a creation of the railway. The railway in its new form will also be the creator of Crewe's future**

- The case for a Cheshire Hub at Crewe is clear. High Speed with a North facing and South facing Hub can be a huge win
- The economic impact for Crewe town is less clear – risks and opportunities, dependent on the choice of station site
- Transport issues suggest that Basford isn't the best option
- There will be multiple options for adaption and revision to the existing Crewe station, rail infrastructure and its access

**JRC supports detailed Network Rail analysis to optimise how Crewe can be adapted, to be a new National High Speed Hub**

- **This will underpin the repositioning of the Northern, Scottish, and Midlands economies**