



Derby City Council

**REGENERATING OUR CITY OVERVIEW AND
SCRUTINY BOARD
21 February 2017**

ITEM 8

Report of the Strategic Director of Communities and
Place

HS2 and Implications for Derby

SUMMARY

- 1.1 The location of the High Speed 2 (HS2) hub at Toton adjacent to the A52 provides opportunities and challenges for Derby. Unless the 8.5 mile gap can be reduced in terms of connectivity, then the benefits of HS2 for Derby when it opens in 2033, and the social economic case that underpins HS2, will not be fully realised.
- 1.2 The A52 dual carriageway road and the adjacent parallel rail line provide the main strategic transport connections between Derby and Nottingham. However, both these transport links are already at capacity and will not provide the level of connectivity required to integrate the local and HS2 high speed elements of individual journeys.
- 1.3 Road based public transport connections between Derby and Nottingham are currently caught in the same congestion and reliability problems as other traffic on the A52. In addition, Derby's rail station is not located directly in the city centre and this physical gap provides another connectivity challenge.

RECOMMENDATION

- 2.1 To note the report and presentation explaining the ongoing assessments for the 'HS2 A52 Corridor Connectivity' to Derby

REASONS FOR RECOMMENDATION

- 3.1 It is important to Derby and our economic growth that we are linked in the best ways possible to maximise the benefits emanating from the HS2 station at Toton.

SUPPORTING INFORMATION

Classification: OFFICIAL

- 4.1 The local authorities adjoining the HS2 East Midlands Hub area, agreed to support Toton as the preferred location. However, from Derby's perspective this was on the basis that investment would be needed to improve transport connectivity to Toton.
- 4.2 Derby City Council has set out a broad connectivity strategy and includes the following proposals:
- New rapid transit link
 - Road based access
 - Heavy rail shuttle service
 - High quality cycle route
 - Protection of existing passenger rail network
- 4.3 Elements of the connectivity strategy are currently being developed in more detail by partners. A detailed study has also been undertaken by Network Rail to assess the service level and infrastructure requirements for providing a dedicated heavy rail shuttle service between Derby and Toton and Nottingham and Toton.
- 4.4 Further, Nottingham Express Transit (NET) with input from Local Authority (LA) partners has looked at possible extension of the NET system west from the hub station at Toton, as well as a potential longer distance extensions to the Airport and west to Derby. This study has broadly looked at the feasibility of engineering options and cost. The current alignment options are set out in Figure 1.
- 4.5 Figure 1 Net Extension Alignment Options



4.6 However, there are elements of Derby's connectivity strategy that need the same level of assessment and design to be undertaken as the heavy rail and light rapid transit options. As such, Derby City Council is currently working on two packages of feasibility work, which will reach a conclusion in March 2017.

4.7 Package 1 – Highway Improvements

This package of work is focusing on the pinch points on the A52 corridor between Derby City Centre and the city boundary. The package of work will not include issues across the M1 as these are going to have to be considered by Highways England as part of the access layout to the East Midlands Hub. Two broad options have been identified:

- Partial widening option. Construction of a third lane in the westbound direction from the Spondon Junction on-slip merge. This will join the proposed improvements at the Wyvern Junctions and continuing to the Pentagon Island. The estimated construction cost of this scheme about £75 million.
- Full dual three lane carriageway widening. Widening of both sides of the A52 to three lanes in both directions. The estimated construction cost of this scheme about £175 million.

4.8

Both options include the following junction improvements.

- Conversion of Pentagon Island to a 'double hamburger' roundabout.
- Signalisation of the Acorn Way/Raynesway Roundabout.
- Partial signalisation of the Spondon Roundabout on the eastbound off-slip arm.

4.9

Package 2 - Bus Rapid Transit

Whilst a study on extending NET west of Toton has been undertaken, the option for Bus Rapid Transit (BRT), or alternative priority for buses, needs working up in more detail to set out the feasibility options.

This package of work is investigating the various options for providing fast public transport links between Derby City Centre and Toton. The options cover proposals for bus priority, partially segregated BRT, and options for a fully segregated BRT system. It seems logical that a fully segregated BRT system will follow similar alignment options to a Tram system. However, due to the flexibility of buses some compromises could be made, and hence reduced costs, that are not an option for a fixed track tram system. Figure 2 provides an example of a fully segregated BRT system.

Figure 2: Luton Fully Segregated BRT System



4.10 A52 Quality Bus Option

- Bus priority lanes west of A52 / A6005 roundabout but no provisions in the eastbound direction
- Shared running with general traffic along majority of A52
- Approximate cost £50m to £70m – essentially highway widening scheme
- Journey time of approximately 12 – 22 mins

4.11 A52 Bus Rapid Transit Option

- Bus priority lanes west of A52 / A6005 roundabout
- Segregated BRT section along centre of A52 from Wyvern Junction to HS2 Station
- Approximate cost £450m – creation of central segregated corridor and widening of multiple structures
- Journey time of approximately 12 – 19 mins

4.12 Former Canal Corridor Direct Option

- Along former canal corridor from A52 / A6005 roundabout to HS2 Station
- Serves Spondon, Borrowash, Draycott, Breaston and Sandiacre
- Serves potential Longmoor Road and Megaloughton Lane P&R sites
- Approximate cost £250m
- Journey time of approximately 17 – 27 mins

4.13 Former Canal Corridor via Risley Lane Option

- Along former canal corridor from A52 / A6005 roundabout to Risley Lane. Shared running along A52
- Serves Spondon, Borrowash, Draycott and Breaston
- Serve potential Megaloughton Lane P&R site
- Approximate cost £140m
- Journey time of approximately 16 – 24 mins

All these options include sub options of routes through Pride Park with stops that include the Wyvern area, Derby Arena and iPro Stadium and the rail station.

4.14 Next Stage and Multi-Model Study

At this stage the A52 Highway Connectivity study, and the other feasibility connection studies, provide broad engineering based option improvements. These studies do not consider forecast demand or the transport economic benefits of different multi-modal options, or their potential interaction with each other.

4.15 The next stage of the process will be to consider this and develop a detailed transport economic business case and preferred connectivity strategy to Toton, which the HS2 Growth Strategy Group will present to Government. The funding for this work will primarily come from Midlands Connect. The East Midlands HS2

Connectivity Strategy has been identified as an important part of the wider Midlands Connect strategy.

4.16 Key Message for Partners

There is significant infrastructure investment that is required for the A52 corridor. However, the problem is that there is not any direct funding from HS2 to match these aspirations. As such, Derby and its partners need to promote the demand for investment through sub-regional economic and transport strategies and Government funding streams. The key message is the following needs to underpin connectivity to HS2 and inter-urban links with a Nottingham metro area:

- New rapid transit link. This could be a tram, BRT or significant improvement to express bus services.
- Road based access, including local widening and junction improvements.
- Heavy rail shuttle service.
- High quality cycle route.
- Protection of existing passenger rail network.

OTHER OPTIONS CONSIDERED

- 5.1 The options considered are highlighted in this report and will be refined as more detail is applied

This report has been approved by the following officers:

Legal officer Financial officer Human Resources officer Estates/Property officer Service Director(s) Other(s)	
For more information contact: Background papers: List of appendices:	Paul Clarke 01332 641642 paul.clarke@derby.gov.uk None Appendix 1 – Implications

IMPLICATIONS

Financial and Value for Money

1.1 None directly

Legal

2.1 none

Personnel

3.1 None directly

IT

4.1 none

Equalities Impact

5.1 None from this report

Health and Safety

6.1 None from this report

Environmental Sustainability

7.1 Sustainable options will be considered as part of any options appraisal

Property and Asset Management

8.1 None directly

Risk Management

9.1 The risks will be managed as options are refined

Corporate objectives and priorities for change

10.1 Adhering to longer term objectives for regeneration and economic growth