

Derby City Council
Response to HS2 consultation

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Derby City Council response to DfT consultation on HS2

Introduction

Derby City Council welcomes the opportunity to comment on the Government's proposals to create a national High Speed rail network. In formulating this considered response, and from the outset, the Council must make clear that it is concerned that the proposed route of the East Midlands leg of the 'Y' route of HS2 dissects the East Midlands core cities by locating the station in between Derby and Nottingham, within the Nottinghamshire Green Belt at Toton.

HS2 is said to be the 'engine for growth', helping to drive city regeneration yet the Toton option is NOT city centre, requires much improved connectivity to help regenerate either Derby or Nottingham and merely serves to potentially 'regenerate' an extensive area of Green Belt whose presence is there to prevent the coalescence of Nottingham and Derby.

Provincial connectivity and service patterns are essential and key to the success of HS2. The requirement for north and south links from the Midland Main Line (MML) onto the HS2 will benefit all the cities (Derby, Nottingham and Chesterfield) rather than one which just gives Nottingham all the benefits. Such links would also provide a good diversionary route off the HS2 in case of breakdown or engineering.

Capacity released from the MML must enable further improvements to connectivity.

A comprehensive national network plan that shapes the future of the rail network as a whole is a must. HS2 must be fully integrated with our existing networks – it is the only successful solution to provide Britain with the connectivity and capacity to thrive. To be that engine to growth HS2 must be connected to our cities with classic compatible services.

Additional connectivity improvements, particularly rail, will be needed over and above those already proposed by HS2 Ltd.

Overview

- Improved provincial connectivity is essential to the success of HS2, being the 'engine for growth', that fully integrates with the existing networks and routes
- Flexibility in design allowing HS2 trains onto the electrified MML to ensure continued connectivity for our cities and flexibility for HS2
- Core to the design and development must be a full timetable recast across the East Midlands
- Absence of detailed planning with subsequent requirement for improved infrastructure to meet the HS2 demands such as:
 1. An urgent review /design of the A52 junction to access the Toton site
 2. Improvements to Derby south junction to accommodate the increase in train paths.
 3. HS2 severing Derby/Nottingham link creates level and topographical differences yet relies on this link for connectivity
- A direct link to MML to reduce the car dominance and the demand to drive from Derby and Chesterfield to Toton where the whole of the East Midlands benefits
- Minimising the number of stops south of Leicester on MML to maintain frequency and level of service/journey times as exist at present
- Creation of a centre of Rail excellence in Derby

Improved connectivity

The issue around HS2 as a project is that it has the potential to close or reduce current flows of passengers and this needs careful consideration with the rail industry/DfT as to how best to accommodate this.

Service patterns are key to provincial connectivity – this is an essential part of the success of HS2. As a consequence a comprehensive national network plan to shape the future rail network is required. HS2 needs to be fully integrated with our existing networks. This is the only realistic solution to provide Britain and the regions with the connectivity and capacity to thrive.

Flexibility needs to be built into the HS2 line to ensure continued connectivity even during maintenance periods or accidents along its length. That flexibility must be allowed in the design now, ensuring fullest connectivity for HS2 trains onto the

electrified Midland Main Line (MML) such as a 'classic compatible fleet and suitably designed junctions to protect services and routes. All such options should be on the table for further consideration as the design progresses – ensuring East Midlands connectivity as a whole.

For Derby, a connection from HS2 near to Tonge (south of East Midlands Airport) to the MML at Sutton Bonington (just south of East Midlands Parkway station) could provide a means of allowing classic compatible services (or HS2 diversions) to access Derby Midland station, since the Midland Main Line will have been electrified in the intervening period.

A further connection between HS2 and the adjacent classic line near to Killamarsh would allow classic compatible services to run north beyond Derby to Chesterfield (and potentially on to Sheffield), or for additional high speed services to run between the North East, York, Leeds, Sheffield, Chesterfield, Derby and Birmingham.

In terms of rail the requirement is for a heavy rail station adjacent to the high speed rail station at Toton which is connected to the national network and which offers good interchange for HS2 services. This would seem to be the purpose of the proposal put forward by HS2 Ltd, together with the service pattern changes, giving the minimum 3tph connection to Derby, however, it should be noted that a review of current operations will be required due to the paths required by freight operators. In addition detailed design work must address the issue of the HS2 line severing the Derby/Nottingham link due to level differences.

The modelled rail peak hour HS2 passenger demand forecasts are an additional 215 heavy rail trips to a high speed rail station at Toton, with around 60 of these trips thought to divert from Derby Midland or be wholly new trips within the Derby catchment area. It is difficult to confirm if these additional trips could be accommodated on existing, diverted services without more detail on background growth and trip origins, however, these numbers suggest additional 20 or so passengers per train in the morning rail peak hour, which would not justify significant additional services.

To provide connectivity to Derby and Nottingham the HS2 Ltd proposal is, presumably, to have trains reversing at Toton. There may be two alternatives to avoid delays associated with this:

1. A specific spur from north of Toton around the Trowell Junction from the South (none currently exists it is only a north-facing junction) would allow through running without the need for reversing anywhere i.e. trains could run from Derby to Toton and continue to Nottingham.

2. A new station is being built North of Toton at Ilkeston with an opening date of December 2014. The station is located north of Trowell Junction which allows running into Nottingham from the north. Services from Derby could run through Toton, then continue up to Ilkeston, reverse at Ilkeston and then run into Nottingham.

A full timetable recast should be considered, as a core part of the design and development work for the station, with the co-operation of partners across the East Midlands in order to focus feeder services around Toton, but not to the detriment of the existing mainline rail stations in Derby, Nottingham and Leicester. A timetable recast may offer further opportunities for Derby and/or offset some of the potential threats with the post-HS2 classic network.

Any timetable change at Derby to best serve HS2 services will have an impact on access to other stations across the heavy rail network and as such may not be feasible to implement. For example, a change of services at Derby may mean that a Cross Country train cannot gain access to Leeds.

The scope of such a timetable recast could also be constrained by the layout of Derby Midland station. The current heavy rail network relies heavily on the junction situated at the southern end of the station which facilitates services arriving from London St Pancras and the east (Nottingham) with the addition of services arriving from the south west (trains routeing via Peartree). Many services arrive at the southern end of the station and depart over the same junction by reversing in the confines of the platforms. This is a time consuming and complex operation.

Therefore, if additional or strengthened heavy rail services are to be provided at Derby Midland to feed HS2 services, changes to the infrastructure at the southern end of the station to enable quicker access and less complicated operations to take place will be required, principally involving a second chord connecting to the easternmost platforms, allowing trains from the south to enter and exit the station at the same time. This may also require changes to the platform layout proposed by HS2 Ltd.

Assuming a high speed rail station at Toton, HS2 Ltd should be asked as a matter of urgency to review the proposed form of the junction with the A52 and confirm that it can cater for the anticipated traffic levels without a significantly adverse impact on the operation of the A52 itself.

Some 500 vehicles in the rail peak hour are anticipated to access the new station, and so there is some doubt as to whether an at-grade roundabout is the correct junction form, added to the fact that there is no analysis as yet of the impact of these additional turning vehicles on A52 through traffic if Toton is chosen.

The NET system extension appears key to the operation of an HS2 station at Toton, with onward connections to Nottingham city centre, linking the station to areas of likely high demand for HS2 to the east.

What has not been considered to date, but may be of benefit in a number of ways, is a further extension of NET to the west of the high speed rail station at Toton, and to the west of the M1. This could provide the opportunity to establish a park and ride site in this area, serving both the HS2 station and Nottingham for trips from Derby, which would also help to alleviate any problems on the highway network with the forecast numbers of additional car trips, however, on its own the NET (tram solution) will not give the levels of connectivity required to maximise the investment in HS2.

Regeneration and unlocking development

A station at Derby Midland will positively impact upon the following elements of the Derby Economic Strategy:

Supporting growth of companies and relocation opportunities; Improving Derby as an investment proposition; Developing a vibrant city centre; Reinforcing cultural/leisure facilities and the city's infrastructure; and aligning supply and demand of skills.

The Derby Local Development Framework Preferred Growth Strategy supports development adjacent to the station site, including that at Pride Park and at Chaddesden sidings (both South and West).

The Regeneration potential of the Derby station solution is 500 new housing units supported, and of these, between about 330 and 400 would be in areas of relatively high deprivation (HS2 Ltd). Whereas only 150 new housing units would be supported by the Toton station and that would be some 5km away (HS2 Ltd).

The Derby solution would be adjacent to Castleward Urban Village site (circa 800 homes alongside other uses) in between city centre and the station, as well as Chaddesden Triangle site (Network Rail strategic employment site). Osmaston Vision (former Rolls Royce) redevelopment (mixed use) is around 2.5km from the station site.

A HS2 station at Derby Midland could have a positive impact on delivery of City Centre Regeneration Framework to enhance CBD as a thriving commercial hub, a retail, leisure and cultural destination, and a beacon for quality design and cherished heritage.

D2N2 Growth Plan supports development of effective 21st Century infrastructure

and enhanced of connectivity between the area and London, which includes HS2. The D2N2 LEP has expressed a desire to see an accelerated construction of Phase 2 of HS2.

Generating more jobs

The Derby station option would support an estimated 3,600 jobs through development around the station generated as a result of HS2. Of these about 80% would be in areas of relatively high deprivation (HS2 Ltd). Which is over 40% more jobs than around the Toton station and none of these would be in areas of relatively high deprivation (HS2 Ltd).

This equates to £145m (NPV) to Derby, and £295m (NPV) to D2N2 LEP area, over 60 years (Arup) for the Derby option compared with only £55m (NPV) to Derby, and £275m (NPV) to D2N2 LEP area, over 60 years (Arup) for the Toton option.

Attracting investment in skills and training

Derby and Derbyshire Rail Forum (DDRF) companies will have opportunity to bid for work relating to construction of HS2 and rolling stock which will boost investment in skills of local companies/employees.

Bombardier as a key strategic supplier nationally is best placed to help the regeneration opportunity missed by Derby if Toton is chosen, to maximise the economic benefits associated with the HS2 programme.

Supporting existing local businesses and attracting new ones

HS2 enables improved access to London for companies – to boost opportunities and business linkages

Growth boost to DDRF companies – contracts, knock-on benefits of knowledge transfer from HS2 involvement

Improves the offer to businesses looking to locate in Derby

A recent 'Business Roundtable' discussion hosted by Marketing Derby, raised the following points about the HS2 proposal

1. Whilst welcoming investment in rail infrastructure, the continually shifting rationale of speed, capacity and regional growth, hasn't helped build support

for HS2. Government really needs to define the purpose and, if anything, bring forward Phase 2 (the Y beyond Birmingham) which many fear will never happen.

2. There has never been a robust, consistent business case and cost/benefit projections vary enormously. Again, this needs definition with credibility, not spin.
3. There is serious fear that HS2 will result in a reduced London service for cities like Derby, Nottingham, and Leicester. For many this would be a deal breaker and Government should be very clear on intent on this...i.e. will Derby still have the direct, hourly, one stop service (via Leicester) on MML train post-HS2?
4. Ticketing must be straightforward and not be at a premium. There is no indication of ticket prices; again Government needs to be clear, at least in today's prices.
5. Government should join up its approach to the rail, roads and air reviews – HS2, Heathrow, M1 etc - they appear to be disjointed.
6. It would be good to see the results on the consultancy on the Derby station option – is it straighter, thus cheaper, faster, and cleaner and if so why isn't that the preferred choice? Particularly in the light of recent comments by the new Chair of HS2 Ltd.
7. With respect to Toton, unless there is genuine, rapid, city-Toton links, passengers will drive to HS2 and there is no confidence that the already congested A52/M1 area around Toton can cope. The NET (tram solution) is too slow for genuine high speed connectivity.
8. Many felt it was astonishing that HS2 will burrow under an airport, with no station above. We do not understand why the opportunity for a station at East Midlands Airport is being overlooked; such a facility would be a major boost to the region allowing fast and easy access from the airport to the East Midlands cities and in addition to most parts of the country by rail. The line is proposed to pass the airport, if not tunnel beneath it. Such a facility may even be able to take pressure from Heathrow and other London airports if central London is only just over an hour by rail.
9. It is key that the current train services in the region are not watered down in any way as a result of HS2, this applies to the Midland mainline but also to the east and west coast mainlines and other lines into the south midlands which are used by our workforces for business and leisure travel.

10. Accessibility to any HS2 station must be readily available on good roads with secure car adjacent parking at sensible charges and for those further afield by a frequent heavy rail service tied into the classic rail network.
11. Presently there is a lack of fast trains south from the Midlands early in the morning from Midland stations; that needs to be improved.
12. All trains need better facilities for free high speed internet access and much improved mobile telephone services, we are now seeing mobile phone boosters in road tunnels so why not in rail tunnels.
13. Overall journey time is key in business travel, to have to spend half an hour getting to a station to save only 10 minutes on the rail journey time results in a significantly slower overall journey.
14. We are getting mixed messages about HS2, some relate to a faster service, others relate to increased rail capacity, either way, this is a once in a generation opportunity so let's collaborate fully and make the best of it that we can.

Barriers to unlocking the full potential of HS2

The answer really lies with the issue of master planning - if and when a station location in the East Midlands is confirmed, then there needs to be a good deal of work done around how this new facility is going to support the D2N2 LEP's growth agenda (and in particular the new Strategic Economic Plan), as well as the Economic Strategies and Local Plans of the adjacent cities and authorities, and what this means for land use planning (and connectivity) over the next 20 years.

So, the barriers are really two-fold at the moment:

1. How can you start doing this (and investing time and resource in the process) when there is still (some) uncertainty over HS2's future?
2. Who takes the lead for it, given that the impact of an East Midlands station goes beyond local Council and even LEP boundaries? For example, should HS2 be looking to set up individual growth 'task forces' around each station location under the remit of Lord Deighton's group? This is of particular concern for a remote new Toton station that has no existing hub infrastructure to rely on.

Measures that need to be put in place to ensure that the benefits are realised Derby

Assuming a station at Toton the mitigation requests for Derby can be summarise as follows:

- HS2 Ltd should be asked as a matter of urgency to review the proposed form of the junction with the A52 and confirm that it can cater for the anticipated traffic levels without a significantly adverse impact on the operation of the A52 itself.

Derby's preferred rail connectivity package for the new station, if it has to be at Toton:

- Full/partial recast of the heavy rail timetable/route usage with partners across the East Midlands;
- Further infrastructure improvements at the southern end of Derby Midland station – such as improvements to Derby South junction to accommodate increased train paths to ensure Derby is not to fall behind in terms of UK connectivity;
- Increased usage of platform capacity at Derby Midland;
- To reduce car dominance and the draw to drive to Toton from Derby and Chesterfield catchment areas direct rail links are needed to the MML using a classic compatible fleet;
- MML link to HS2 using classic compatible maintains the benefits to Derby offering the option of an HS2 train service through to Derby maintaining City connectivity and flexibility for HS2
- Minimising the number of additional calls south of Leicester on Midland Main Line Derby (or Sheffield) to London St Pancras services so as to maintain a good alternative for trips to London direct from the City Centre; maintaining frequency and level of service/journey times as exist at present
- Examining how best to use additional released capacity between Birmingham and Sheffield for additional local/regional services for Derby, such as a regional shuttle service calling at Chesterfield and Burton en route between Sheffield, Derby and Birmingham.
- Improved connectivity into Toton beyond that currently proposed, possibly including a westward extension of NET and certainly a direct heavy rail link from Derby.

These points will help to reduce the car dominance and the inherent draw to drive to Toton from Derby and Chesterfield/ South Sheffield catchment areas.

- Creation of a centre of excellence in Derby. This would build on the existing rail related strengths in Derby, (the Rail Technical College, Rail Forum, Derby University and Derby College [the latter being based in the award winning former railway 'Round House'].) and maximise opportunities for the established rail industry and associated growth.

Q4: The Route & Supporting information

Do you agree or disagree with the Government's proposed route between West Midlands and Leeds? This includes the proposed route alignment, the location of tunnels, ventilation shafts, cuttings, viaducts and depots as well as how the high speed line will connect to the East Coast Main Line?

This question appears to raise several issues in terms of the potential impact on communities; noise and severance are the major concerns. Importantly the route doesn't allow for the station to be in Derby. **The City Council must therefore disagree with the proposed route from Birmingham to Leeds.**

There doesn't appear to be enough strategic thought and no evidence of strategic planning for the route.

The impacts of the proposed route and an alternative route to the existing Derby MML station can be assessed side by side as follows:

TOTON PROPOSED BIRCHMOOR TO LONG EATON:

Noise from HS2 trains would result in annoyance for an estimated 1,151 people (equivalent to the occupants of some 489 dwellings).

Approximately 476 dwellings would be located within 100m of the route section that could be at greater risk of disturbance from construction activity.

The route would cross about 10.1km of Grade 2 agricultural land, and about 3.3km of green belt. It would cross some 7km of Flood Zone 3 - about 1km of this would be cutting and therefore at risk of flooding.

There are 11 SSSIs within 2km of the route that could be affected indirectly, but impacts on these are considered unlikely.

Where the route section diverges from the A42 corridor across open countryside, there would be a landscape impact. The long embankment across the floodplain of the River Soar north of Kegworth is likely to give rise to moderate visual intrusion. Further north the route would cross the Trent Valley on high viaduct where it would have a moderate adverse impact on landscape character and visual impact. Toton station itself would occupy about 206ha of Grade 2 agricultural land, would affect about 33ha of green belt, and the station footprint would occupy about 5.7ha of Flood Zone 3.

TOTON SANDIACRE TO TIBSHELF:

Noise from HS2 trains would result in annoyance for an estimated 3,525 people (equivalent to the occupants of some 1,494 dwellings).

Approximately 300 dwellings would be located within 100m of the route section that could be at greater risk of disturbance from construction activity.

The route would cross about 10.7km of green belt. It would also cross about 8km of Flood Zone 3, over 2km of which would be cutting and therefore at risk of flooding.

One SSSI would be located within 2km, but any adverse effects are considered unlikely.

The route section would run close to existing transport corridors - an existing rail line, the Erewash Canal and the A610, but would potentially cause significant landscape impacts on parts of the Erewash Valley (ERM).

Whereas the Derby option brings forth the following points of substance:

DERBY BIRCHMOOR TO SUNNY HILL:

Noise from HS2 trains would result in annoyance for an estimated 827 people (equivalent to the occupants of some 351 dwellings).

Approximately 470 dwellings would be located within 100m of the route section that could be at greater risk of disturbance from construction activity.

The route would cross about 10.1km of Grade 2 agricultural land, and about 4.3km of green belt. It would also cross some 2.8km of Flood Zone 3, and the River Mease SAC

One SSSI would potentially be directly affected.

The viaduct crossing of the M42 motorway near Tamworth would give rise to visual intrusion for residents on the outskirts of Tamworth and Polesworth, as well as users of Pooley Country Park. The route section would then run north across rolling and relatively empty countryside on low embankment and shallow cutting, with a minor or moderate impact on landscape character.

The footprint of a station at Derby Midland would occupy about 14,300m² of Flood Zone 3, but the rebuilding of Pride Parkway bridge may reduce flood risk to this area of the City.

The station would intersect the City of Derby Conservation Area moderately affecting views and connectivity with the listed former station features on the opposite side of the station, and there would be a moderate heritage impact on the setting of the Grade II* listed former engine shed, carriage shop and former railway workshop.

DERBY SUNNY HILL TO TIBSHELF:

Noise from HS2 trains would result in annoyance for an estimated 1,178 people (equivalent to the occupants of some 500 dwellings).

Approximately 89 dwellings would be located within 100m of the route section that could be at greater risk of disturbance from construction activity.

The route would cross about 12.4km of green belt. It would also cross some 2.1km of Flood Zone 3.

Given the largely modern industrial setting in this area, and the partial screening provided by buildings and trees, any landscape or visual impacts are expected to be minor or moderate at worst (ERM).

Given these comparisons on the route it is clear that the Derby option is more sensitive and less intrusive, the line through Derby is more direct and shorter and would therefore be cheaper to build enabling cost savings to be made, than the proposal, which would help to limit adverse impacts on local communities and environmental assets. However, there will still be adverse impacts along the proposed route that will need to be avoided, or minimised and mitigated through the detailed design process.

MVA's "Options for Phase Two of the high speed rail network – demand and appraisal report" (July 2013) notes that operating costs for a station at Derby are likely to be the same as for Toton. However, whilst this may be true in terms of the operation of the station itself, there is likely to be some additional operating costs associated with additional journey times. This is not reflected in the figures included within the MVA report.

Q5: Proposals for Stations

Do you agree or disagree with the Government's proposals for:

c. An East Midlands station to be located at Toton?

From a Derby City point of view we do not accept the rationale for choosing a new station in a remote site when there is already a perfectly adequate station IN Derby city centre that is already sustainable transport hub and can accommodate and rise to the challenges that HS2 might bring.

Derby accepts and wants the disruption for the long term greater good. HS2 should come to the City of Innovation.

But if Toton is chosen against all the opposition there are several essential ingredients to making this nationally major project more palatable and ensure full integration of HS2 with our existing infrastructure such as: Connectivity, policy, investment, route pricing, commitment to existing 'control periods', procurement through 'Transport for London model' to derive best UK based economic benefit of this major investment.

Highway access would be provided from a new junction on the A52 (shown as an at grade roundabout on the current plans), with over 1,300 car parking spaces provided in a new car park. The proximity to M1 Junction 25 is said to provide good highway access to the wider East Midlands region.

Some 500 vehicles in the rail peak hour are anticipated to access the new station, and so there is some doubt as to whether an at-grade roundabout is the correct junction form, added to the fact that there is no analysis as yet of the impact of these additional turning vehicles on A52 through traffic if Toton is chosen.

The estimated number of HS2 passenger peak hour arrivals at Toton is as follows:

- Car (pick-up/drop off and parking at station) – 1,268 trips
- Taxi – 361 trips
- Heavy Rail – 215 trips
- Light Rail – 116 trips
- Bus – 101 trips
- Walk/Cycle – 51 trips.

Derby MML station currently accommodates some 1,500 peak hour arrivals. If services from Derby are marginalised by HS2 Toton the flow of these peak hour passengers would alter the dynamics of the local road network bringing a significant shift in movement along the A52 corridor which would impact on the nationally and strategically important junction 25 of the M1. It is therefore essential that HS2 works alongside the electrified MML providing compatible

services and inter connectivity.

Assuming a high speed rail station at Toton, HS2 Ltd are asked as a matter of urgency to review the proposed form of the junction with the A52 and confirm that it can cater for the anticipated traffic levels without a significantly adverse impact on the operation of the A52 itself.

HS2 Ltd suggests that existing express bus services could be diverted to serve the site, and bus bays would be incorporated into the station forecourt layout. However, diverting existing services would add additional journey times and it is unclear whether there would be sufficient patronage to encourage existing operators to do this.

The provision of additional shuttle buses is also mentioned by HS2 Ltd, but again, there is no evidence to suggest that such services could be self-financing within the documentation.

HS2 Ltd considers that the proposed location at Toton provides new opportunities for connectivity, although the rail network in the area would require some changes, including the construction of the station itself.

Rail lines could be connected to serve Derby, Leicester, Nottingham and much of the wider East Midlands. For example, HS2 Ltd states that it would be possible for either shuttle or existing services to call at the East Midlands Hub station en route, with a journey time of 12 and 15 minutes from Nottingham and Derby respectively. In terms of service provision, heavy rail trains running south from Chesterfield could operate via Derby providing a call at Toton. Trains running north via Derby could operate over the same route in reverse. This would increase overall journey time but serve both locations of Toton and Derby Midland.

The new Line 3 Phase II of the Nottingham Express Transit (NET) tram service is currently under construction terminating at the Bardills Island (A52), just north of Toton. Trams should be operating in Toton by late 2014. Due to the announcement of the preferred HS2 station at Toton (just a short distance from the Toton Lane terminus) the tram network is planned to be extended to the station across Toton Lane, terminating at the station forecourt. The costs for the extension of the NET system were included within HS2 Ltd.'s scheme cost estimate for Toton.

If Toton is accepted the suggested specifications show the following changes for Derby for services calling at Toton:

- 16 trains per day originating from Derby to London St Pancras with an additional call at Toton HS2 station;
- Cross Country (North East to South West) services truncated at Newcastle and diverted via Leicester, and so will not call at Derby but will call at Toton HS2 station.
- 18 trains per day from Matlock to Derby and Nottingham with an additional call at Toton HS2 station;
- Nottingham to Derby “slow” services to be diverted via Toton HS2 station as well.

It is a little unclear as to what is meant by “slow” services, but the suggested changes would appear to give Derby a minimum 3 train per hour (tph) service, between Derby Midland and a high speed rail station at Toton.

The figures suggest that a new facility will stimulate growth in markets where none previously existed.

HS2 trains are expected to depart from the East Midlands for around 16 hours each day (0600-2200), and so an average hourly rail demand would therefore be around 1,056 passengers for Toton (16,900 divided by 16).

The MVA report highlights the demand forecast and the proportion of trips which are expected to migrate from current use at the three main East Midlands stations to HS2, as well as new trips at Toton, for journeys to London.

Strategic ‘Fit’

The key reference document is Derby City Council’s/Derby Renaissance’s “Economic Strategy 2011 – 2016” (June 2011), which identifies the themes that the provision of a high speed rail station within Derby would contribute directly to.

In relation to the station option at Toton, it is considered that the increased distance from Derby City Centre and requirement to change modes will impinge upon HS2 achieving good strategic fit with the Derby Economic Strategy.

The D2N2 Local Enterprise Partnership’s “Strategy for Growth 2013-2023” sets out the ambition for the LEP area to be “the best connected place in the country”. It includes maximising the area’s potential in foreign direct investment as a priority, arising from factors such as its central location, the arrival of HS2 and the area’s university base.

One of the LEP’s priorities for action is to continue to work with partners to maximise the potential economic benefits of HS2 for the area, and expresses a desire to see an accelerated construction of Phase 2 of HS2.

The increased distance from Derby city centre of a station at Toton, and the requirement to change modes to reach the City, will impinge upon HS2 achieving good strategic fit with the Derby Economic Strategy.

Toton straddles Broxtowe and Erewash (Nottinghamshire and Derbyshire) administrative areas and is located within the Green Belt

A station at Derby Midland will positively impact upon the following elements of the Derby Economic Strategy:

- Supporting growth of companies and relocation opportunities;
- Improving Derby as an investment proposition;
- Developing a vibrant city centre;
- Reinforcing cultural/leisure facilities and the city's infrastructure; and
- Aligning supply and demand of skills.

The Derby Local Development Framework Preferred Growth Strategy supports development adjacent to the station site, including that at Pride Park and at Chaddesden sidings (both South and West).

D2N2 Growth Plan supports development of effective 21st Century infrastructure and enhanced connectivity between the area and London, which includes HS2. The D2N2 LEP has expressed a desire to see an accelerated construction of Phase 2 of HS2.

Number of New Jobs Created

For **Toton**: The works around the station would potentially displace businesses providing an estimated 600 jobs. However, an estimated 1,500 jobs would be supported through development around the station generated as a result of HS2. Of these, none would be in areas of relatively high deprivation (HS2 Ltd).

For **Derby**: The station would potentially displace businesses providing an estimated 1,500 jobs. However, an estimated 3,600 jobs would be supported through development around the station generated as a result of HS2. Of these between about 2,376 and 2,880 would be in areas of relatively high deprivation (HS2 Ltd).

The Arup report "Economic Impact of HS2 to Derby" (February 2012) includes an analysis of the potential impacts of a HS2 station in or near Derby, based in Wider Economic Impacts (as defined by the DfT), Land Use Regeneration Impacts and CO2 Emissions. **It concludes that the benefits to Derby of high speed rail**

will be maximised by a city centre station in close proximity to the existing rail station.

The Arup work was published as part of the HS2 information in March 2012, and fed into HS2 Ltd's "Options for Phase Two of the High Speed Rail Network" (March 2012), as well as ERM's "Options for Phase Two of the High Speed Rail Network: Appraisal of Sustainability" (March 2012).

There is a lower number of net jobs predicted for Toton as a result of assumed higher levels of sub-regional displacement and a greater regeneration potential at Derby due to the proximity to the urban core and potential for higher density development.

The estimate of jobs displaced during the construction phase is also taken from the HS2 Ltd report.

Value of New Jobs Created

Toton station - £55m (NPV) to Derby, and £275m (NPV) to D2N2 LEP area, over 60 years (Arup).

Derby station - £145m (NPV) to Derby, and £295m (NPV) to D2N2 LEP area, over 60 years (Arup).

The Arup report "Economic Impact of HS2 to Derby" (February 2012) included an estimate of the added value of the additional jobs arising from HS2 for the various station options it considered.

The Arup report also notes that the DfT's appraisal methodology would not necessarily show this, given its current limitations, such that it does not take into account the potential for structural economic change as a result of transport schemes. Arup recommend that Derby should articulate a wider case for high speed rail, based on its role as an advanced manufacturing hub, and its potential to grow the business services sector linked to advanced manufacturing.

Over 9.5% of Derby's jobs are in advanced manufacturing, a sector for which city accessibility is important to enable businesses (including potential inward investors) to access markets, knowledge producers and a skilled workforce. Links to complementary businesses in the adjacent city regions of Birmingham and Sheffield are also important for these sectors.

The sites identified as being supported by a HS2 station at Derby Midland are identified in the "Derby Local Development Framework Preferred Growth Strategy" (October 2012), and further examined in the "City Centre Regeneration Framework" (January 2012). The Nightingale Quarter and Castleward sites, as well

as the railway station itself, are all identified as priority projects.

A station at Toton might attract some business investment and facilitate delivery of a neighbourhood centre, although there is a possibility that some of the occupiers of such space would be diverted away from Derby City Centre and thus the CBD, as well as from other urban centres.

A station at Derby Midland would be seen as a major driver for regeneration in that part of the city and has the potential to become the centrepiece of the "Our City, Our River" Masterplan. The city centre is more likely to attract the sectors seen to most influence economic growth – the financial, creative and professional service sectors for whom the proximity of a high speed station is considered of great benefit.

Impact on Regeneration Potential and Derby CBD

Toton potentially 150 new housing units supported (HS2 Ltd). Around 5km from New Stanton redevelopment site.

Compared to Derby where 500 new housing units are supported, and of these, between about 330 and 400 would be in areas of relatively high deprivation (HS2 Ltd).

Adjacent to Castleward Urban Village site (circa 800 homes alongside other uses) in between city centre and the station, as well as Chaddesden Triangle site (Network Rail strategic employment site). Osmaston Vision (former Rolls Royce) redevelopment (mixed use) is around 2.5km from the station site.

Could have a positive impact on delivery of City Centre Regeneration Framework to enhance CBD as a thriving commercial hub, a retail, leisure and cultural destination, and a beacon for quality design and cherished heritage.

Wider Economic Impacts(as defined by the DfT)

£13.3bn for the whole preferred route, including Toton (PV, 2011) (HS2 Ltd). But such similar benefits, defined by DfT's appraisal methodology, have not been calculated for the Derby Midland option as it was not taken forward as the preferred option by HS2 Ltd.

Agglomeration benefits are usually the most significant in terms of magnitude. Derby Midland will probably have higher agglomeration benefits for the East Midlands than Toton but the extra journey time to key destinations on the HS2 network may reduce the overall Wider Economic Impacts of the whole scheme.

Detail: looking at the two station sites – Toton and the existing Derby MML

station.

For Toton the station would result in the potential demolition of 23 dwellings. The track works south of the station associated with provision of the shuttle service would require the demolition of an additional 13 dwellings (HS2 Ltd).

Whereas Derby station would require the demolition of only 11 dwellings, mainly on the east side of Railway Terrace, as well as the existing Derby Midland station. In addition, part of Derby College is also likely to require demolition (HS2 Ltd).

In terms of visual impact Toton station would involve the development of land designated as green belt and to provide the new access road to the A52 across open, farmed hillside. There would be one Grade I listed church (St Giles) adjacent to the north approach to the station, but impacts on its setting would be minor (HS2 Ltd).

In contrast for Derby to the south and north any visual impact created by the station would be very limited given its existing industrial setting and the route following the existing railway. The station roof line would also be about 10m above existing ground level (HS2 Ltd).

Connectivity

In terms of detailed connectivity -**Toton**

Highway access would be provided from a new junction on the A52, with over 1,300 car parking spaces provided in a new car park. M1 Junction 25 is 1.9km to the west, providing good highway access to the wider East Midlands region (HS2 Ltd).

Up to 9 express bus services per hour currently operate along the A52 from Derby, but would require diversion and additional journey time to serve the proposed station.

The new station and approaches (both HS2 and new classic interchange lines) would be built over existing sidings (partly in use) (HS2 Ltd).

Diversion/implementation of classic heavy rail services to Nottingham, Derby, and Leicester city centre stations proposed, as well as local connections to Alfreton, Beeston and Long Eaton.

Possible extension or diversion of Midland Main Line intercity services via Toton to Leeds/Sheffield/further north (Network Rail).

Diversion of Norwich – Liverpool, Derby – St Pancras, Matlock – Derby - Nottingham, and North East-South West Cross Country services to call at Toton. This gives 2tph to Derby, Nottingham, and Chesterfield. In addition, potential new Birmingham – Toton – Nottingham classic compatible service (MVA).

Further released capacity between Birmingham to Sheffield via Derby, which could provide opportunities for additional services along between these cities (MVA).

Limited provision at present for sustainable modes given location and current use of site. This station site is unique along the HS2 network in that it is devoid of established transport hub benefits to build upon.

By contrast detailed connectivity – **Derby MML**

Highway access to the station would be from Railway Terrace on the west and Roundhouse Road on the east. Railway Terrace and the western concourse would connect to the city centre and Derby's northern, western and southern suburbs via London Road and Station Approach/Pride Parkway. The eastern concourse would serve Pride Park, Derby's eastern suburbs and traffic from the A52 (HS2 Ltd).

There would be good bus connectivity to central Derby and its south eastern suburbs directly outside the station, towards Allestree, Ashbourne, and Leicester via East Midlands Airport (up to 19 buses per hour). New bus stops would be added to those already provided (HS2 Ltd).

The new station would require demolition and reconstruction of Derby Midland station and associated approaches (HS2 Ltd).

Existing direct rail links towards Birmingham, Nottingham, Leicester, Sheffield, and Matlock.

Additional calls to existing Midland Main Line intercity services at intermediate stations south of Leicester. Possibility of introduction of Thames Valley – East Midlands services (Network Rail).

In terms of sustainability Derby MML has very good pedestrian and cycling links to Derby city centre. It is an established transport hub.

Summary of Key Issues

The key issues for the **Toton station** option are as follows:

- Toton is unique as new passenger station on the HS2 network that isn't already a hub of some sort
- There is significantly greater overall modelled demand for HS2 services from Toton, given that it would capture rail travel from across the East Midlands, which drives up revenues and transport-related benefits;
- There is a lower forecast for job creation arising from HS2, and therefore a

lower increase in GVA both within Derby and across the D2N2 LEP area;

- There is no real 'fit' with Derby's Economic Strategy, but a station at Toton would support LEP growth aspirations;
- Some of the environmental issues, in terms of numbers of properties affected by noise and disruption along the route are greater for the Toton option;
- The proposal as it stands does not particularly include the connectivity package for Derby that would be required;

The post-HS2 classic rail changes that have been modelled to serve Toton may adversely affect the residual demand for long distance rail services from Derby.

The key issues for the **Derby Midland station** option are as follows:

- The existing station is already a hub for public service transport facilities with appropriate infrastructure in a highly sustainable location
- As a counterbalance to the points above, there would be much higher job creation at Derby, and hence increased GVA in the City and across the LEP area, but the revenues and benefits for HS2 are less;
- As this is a long term proposal there would be a welcome disruption during the building of the HS2 station, both at the station itself, and on the highway network due to the higher number of structure rebuilds that might be needed;
- The scale of any new station building and high level concourse, amidst the considerably smaller existing structures in the surrounding area, would affect the setting of the conservation area to the west of the station;
- There are very good pedestrian and cycling links to Derby City Centre, which could help reduce the increased demand on the adjacent highway network at peak times.
- Derby MML station is much more sustainable than a new station at Toton

Please let us know your comments on the Appraisal of Sustainability (as reported in the Sustainability Statement) of the Government's proposed Phase Two route, including the alternatives to the proposed route as described in Chapter 9

The Appraisal of Sustainability is a high level strategic document which has been primarily used to inform consideration of alternative lines of route. As such it is generally of an appropriate standard of detail and scope although it does place greater emphasis on the route to Toton rather than less intrusive and more sustainable Derby option

In developing and refining the proposed line of a route to a level required by any future hybrid bill, much more detailed information and analysis will be required, working closely with local councils, local communities and amenity groups. Experience from other similar projects suggests that the quality of the outcome will be dependent on the level and quality of such engagement.

Q 8: Freed Capacity

Please let us know your comments on how the capacity that would be freed up on the existing rail network by the introduction of the proposed Phase Two route could be used as described on Chapter 10.

Capacity released from the Midland Main Line must enable further improvements to connectivity. **Provincial connectivity and service patterns are essential and key to the success of HS2.**

A comprehensive national network plan that shapes the future of the rail network as a whole is a must. HS2 must be fully integrated with our existing networks – it is the only successful solution. To provide Britain with the connectivity and capacity to thrive. HS2 is the engine to growth but must be connected to our cities with classic compatible services.

Additional connectivity improvements, particularly rail, will be needed over and above those already proposed by HS2 Ltd. These can be summarised under the following headings:

Highways

The potential highway network impacts of car trips from HS2 passengers are

greatest in the immediate vicinity of the planned stations, but there will also be an effect of the additional trips on the network accessing the station.

Considering the peak hour car arrival estimates, and the likely source of those trips, the main highways issue to take into account will be accommodating the estimated trips turning right into the station at Toton across the westbound A52, which will be those trips from Derby, Leicester and a proportion of the new trips.

This could amount to 500 vehicles in the rail peak hour, and so there is some doubt as to whether an at-grade roundabout is the correct junction form, added to the fact that there is no analysis as yet of the impact of these additional turning vehicles on A52 through traffic.

Any new junction on the A52 clearly needs to accommodate the estimated number of trips and likely turning movements, and reinforces the need to develop the preliminary design further and agree a suitable junction layout **in advance of the Toton being confirmed as the preferred station location.**

Our assessment suggests additional trips on the Derby highway network of around 210 vehicles in the 0700 to 0800 time period, much of which will be using either the Inner or Outer Ring Roads to access Toton. Whether the highway network could accommodate such additional traffic levels is unknown at the present time, and will require further analysis and possible mitigation.

Bus

Outbound bus and light rail services from both Derby and Nottingham city centres serving Toton are likely to have sufficient capacity to accommodate the estimated new trips (there would be around 10 additional passengers per service), given that the direction of travel is generally counter to the prevailing peak hour demand inbound towards the centres in the rail peak hour.

Rail

As a starting point, the requirement is for a heavy rail station adjacent to the high speed rail station at Toton which is connected to the national network and which offers good interchange for HS2 services. This would seem to be the purpose of the proposal put forward by HS2 Ltd, together with the service pattern changes, giving the minimum 3tph connection to Derby described above, however, it should be noted that more detail is needed to confirm whether any physical connections between high speed and local rail lines are to be provided at Toton, and that a review of current operations will be required due to the paths required by freight operators.

The modelled rail peak hour HS2 passenger demand forecasts are an additional 215 heavy rail trips to a high speed rail station at Toton, with around 60 of these trips thought to divert from Derby Midland or be wholly new trips within the Derby catchment area. It is difficult to confirm if these additional trips could be accommodated on existing, diverted services without more detail on background growth and trip origins, however, these numbers suggest an additional 20 or so passengers per train in the morning rail peak hour, which would not justify significant additional services.

The industry has provided some solution to the issue of excess passenger demand by “strengthening” services (attaching an additional train), and this could be an intermediate option for enhancing connections between Derby and Toton. However, it must be considered that to strengthen services could cause issues elsewhere on the network due to platform lengths being too short at some of the intermediate stations.

As an alternative to, or as well as, train strengthening, a full timetable recast should be considered with the co-operation of partners across the East Midlands in order to focus feeder services around Toton, but not to the detriment of the existing mainline rail stations in Derby, Nottingham and Leicester. A timetable recast may offer further opportunities for Derby and/or offset some of the potential threats with the post-HS2 classic network.

However, whilst a timetable recast may work for Derby, it cannot be done in isolation - the rail industry assesses the amount of space available on the rail network and calculates the trains that can run over it, these are known as paths. Any timetable change at Derby to best serve HS2 services will have an impact on access to other stations across the heavy rail network and as such may not be feasible to implement. For example, a change of services at Derby may mean that a Cross Country train cannot gain access to Leeds.

The scope of such a timetable recast could also be constrained by the layout of Derby Midland station. The current heavy rail network relies heavily on the junction situated at the southern end of the station which facilitates services arriving from London St Pancras and the east (Nottingham) with the addition of services arriving from the south west (trains routeing via Peartree). Many services arrive at the southern end of the station and depart over the same junction by reversing in the confines of the platforms, and this is a time consuming and complex operation.

Therefore, if additional or strengthened heavy rail services are to be provided at Derby Midland to feed HS2 services and to take advantage of freed capacity, changes to the infrastructure at the southern end of the station to enable quicker access and less complicated operations to take place will be required. This will principally involve a second chord connecting to the easternmost platforms, allowing trains from the south to enter and exit the station at the same time. This may also require changes to the platform layout proposed by HS2 Ltd.

Possible Connections to a High Speed Network

As well as good connections to a HS2 station at Toton, there are other opportunities for Derby, as well as Leicester and Nottingham, to be connected to the HS2 network from the outset. Such a connection could allow HS2 classic compatible trains to access the city centres directly, thus supporting economic growth even further, but connections to the classic network could also provide diversionary routes for HS2 in the event of maintenance or incidents. Potential to run trains on both HS2 and the Midland Main Line, to widen connectivity between existing stations in the East Midlands and the north and west of England (making use of spare capacity on HS2 north of the junction at Water Orton) and to enable the development of a 'regional high speed network' to complement the London services. This could radically improve a range of journeys that are currently very difficult to make by rail, but for which Network Rail's Long Distance Market Study indicates there is strong latent demand. For such movements to be possible there must be a direct link between the Midland Main Line and HS2, allowing some trains to run on both lines.

HS2 should consider whether such connections can be made in both a south and north-facing direction for the three main centres. The starting point for this analysis should be whether a connection can be made in both directions for each city rather than what passenger demand may be satisfied by such a connection. The potential benefits could be enormous: enabling the provision of regular services between Leicester and Leeds of less than 50 minutes, Derby and Leeds of less than 40 minutes and Nottingham and Birmingham of less than 30 minutes.

It is acknowledged that, south of Birmingham, the HS2 network will be operating close to its capacity from the opening of Phase 2, but north of Birmingham, there are opportunities to use 'spare' capacity on the HS2 network to enhance connections between the core cities on the eastern leg.

For Derby, a connection from HS2 near to Tonge (south of East Midlands Airport) to the Midland Main Line at Sutton Bonington (just south of East Midlands

Parkway station) could provide a means of allowing classic compatible services (or HS2 diversions) to access Derby Midland station, since the Midland Main Line will have been electrified in the intervening period.

A further connection between HS2 and the adjacent classic line near to Killamarsh would allow classic compatible services to run north beyond Derby to Chesterfield (and potentially on to Sheffield), or for additional high speed services to run between the North East, York, Leeds, Sheffield, Chesterfield, Derby and Birmingham.

The MVA report considers a classic compatible HS2 service for Derby directly, in addition to services at Toton. This would be in addition to the modelled service pattern for Toton (as illustrated below) and would give a journey time of 55 minutes to London (reduced from 97 minutes). This would assist in meeting the present peak hour demand of 1500 passengers experienced at Derby MML.

This proposal was not taken forward by HS2 Ltd, based on the MVA appraisal as the business case was not sufficiently strong - the operational expenditure for the additional classic compatible service scenario is around £490 million (PV, 2011 prices), whilst the improved service levels and accessibility would deliver benefits of around £190 million and revenues of £130 million (PV, 2011 prices).

However, a classic compatible service going via Derby to Chesterfield and Sheffield, via any new connection at Sutton Bonington and Killamarsh/Meadowhall, may generate sufficient additional revenue so as to make the business case for the additional service viable particularly given the existing daily total passenger numbers experienced at Derby MML is in the region of 15,000 per day.

Post-HS2 Opportunities and Threats for Derby

As noted above, the opportunity exists for a timetable recast/review to provide a changed network in the East Midlands alongside the opening of a high speed station at Toton, and this should be a core part of the design and development work for the station.

The issue around HS2 as a project is that it has the potential to close or reduce current flows of passengers and this needs careful consideration with the rail industry/DfT as to how best to accommodate this. Therefore, Derby is certain of its asks for future rail connectivity and has a robust case to support them.

Derby is very well served at present and patronage is high. However, the proposed changes to calling patterns on the Matlock – Derby - Nottingham and

Midland Main Line to serve a station at Toton may increase journey times, which is proven to reduce patronage and may also result in additional changes of trains at other locations. It would be unacceptable to serve the Hub Station by diverting existing cross county rail services, which will lead to overcrowding, delays and poor passenger experience.

As well as the changes to serve Toton, two other changes were suggested in HS2 Ltd's "Updated economic case for HS2 (August 2012): Explanation of the service patterns" (January 2013):

- 16 trains per day from Sheffield to London St Pancras, calling at Derby;
- 20 trains per day Cross Country (North East to South Coast) services truncated at York (currently Newcastle) and diverted via Coventry, but will call additionally at Burton-on-Trent, Tamworth and Meadowhall HS2 station;

Taking these changes into account, as well as the changes proposed by HS2 Ltd highlighted earlier in this note, Derby will have good connectivity to London St Pancras, with 32 direct services per day, 16 of which start/stop in Derby and call at Toton HS2 station.

However, the report by Network Rail that accompanied the HS2 Ltd public consultation launch, "Better Connections: Options for the Integration of High Speed 2" (July 2013), alludes to the potential for these services to serve additional calling points south of Leicester (principally Kettering and Wellingborough).

Additional stops will add to the journey times on this route and potentially make them less attractive. Even with a HS2 station at Toton, there will still be residual demand for long distance rail services to HS2 destinations (including London) of some 6,400 passengers per day in 2043, and so catering for this demand through classic rail services at Derby will be vital to the City and its economy.

Derby will also have good direct connections with the South West and Yorkshire with changes to the timetable, but the proposals will see Derby will lose direct connections to Newcastle and Scotland in the amended Cross Country timetable. The MVA report identifies that further released capacity on Midland Main Line could allow for more local services around Derbyshire and the East Midlands between Birmingham and Sheffield, which may actually be of more direct benefit to Derby than the loss of one Cross Country service per hour. However, again the issue of the southern junction at Derby will need to be addressed if additional local/regional services are to be provided, and so such an

improvement is important for Derby to press for alongside a HS2 station at Toton.

Summary of Connectivity Issues

Notwithstanding the objections raised by Derby City Council to the proposed route and Toton station option assuming a high speed rail station at Toton, HS2 Ltd should as a matter of urgency review the proposed form of the junction with the A52 and confirm that it can cater for the anticipated traffic levels without a significantly adverse impact on the operation of the A52 itself.

If Toton is chosen as the new station Derby must request the following points as part of as their preferred rail connectivity package for a new station at Toton:

- Full/partial recast of the heavy rail timetable/route usage with partners across the East Midlands;
- Further infrastructure improvements at the southern end of Derby Midland station;
- Increased usage of platform capacity at Derby Midland;
- Improved connectivity into Toton beyond that currently proposed, such as additional rail services to/from Derby;
- Provide both south and north-facing connections between HS2 and the classic rail network so as to allow the possibility of classic compatible services direct to Derby and Chesterfield - the benefits of such connection to HS2, in terms of providing a diversionary route for maintenance and incidents, would also be stressed.

The latter point should be taken forward through Derby working with its partner authorities in the East Midlands. Derby will also remain engaged with Network Rail as to possible changes to the classic rail network alongside the implementation of HS2, as well as considering its response to some initial proposals. For example, further released capacity on the Midland Main Line could allow for more local services around Derbyshire and the East Midlands between Birmingham and Sheffield, which may actually be of more direct benefit to Derby. On the other hand, minimising the number of additional calls south of Leicester on Midland Main Line Derby (or Sheffield) to London St Pancras services will be important, so as to maintain a good alternative for trips to London direct from the City Centre.

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