High Speed Rail: Consultation on the route from the West Midlands to Manchester, Leeds and beyond

Sustainability Statement

Appendix E8 – Access

A report by Temple-ERM for HS2 Ltd

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July 2013

CONTENTS

1. INTRODUCTION

1.1.1. This report has been prepared to support the HS2 Phase Two proposed scheme for Consultation Sustainability Statement (the Sustainability Statement, Volume 1), a report which describes the extent to which the Government's proposed scheme for HS2 supports objectives for sustainable development. This document is a technical appendix which summarises the method for the Access appraisal, informing the Sustainability Statement main report. The Sustainability Statement places emphasis on the key impacts only. This technical report summarises all the conclusions relating to the Access appraisal.

2. SCOPE AND METHOD

2.1. Outline scope

2.1.1. The scope of the access appraisal considered interchange opportunities at proposed stations to inform the Appraisal of Sustainability (AoS) process[1]. The aim was to provide a broader contextual picture of how the proposed scheme interacts with the wider transport network and, at a preliminary stage, look at how this can be optimised.

2.1.2 Accessibility will be revisited at the EIA stage, when more detail on the scheme and more up-to-date information on public transport services would be available.

2.1.3 The way the proposed scheme potentially impacts with existing Public Rights of Way (PRoWs) was also assessed, including a review of the strategy being used by Phase One for crossing Rights of Way, with a view to setting out the definitive position of how such impacts will be mitigated in Phase Two both during construction and permanently.

2.2. Outline method

2.2.1. The baseline review for the appraisal of interchange opportunities starts with a review of guidance and literature. Following this, an identification of the major transport arteries at a regional scale for Greater Manchester, West Yorkshire, South Yorkshire, East Midlands, was undertaken. This provided an appreciation of the key rail, road, coach and bus routes within these areas, which could be used to access the stations.

2.2.2. A 1km (or 2km if more rural) catchment area around the Phase 2 stations was then studied. These stations are; Manchester Piccadilly Station, Manchester Airport High Speed Station, East Midlands Hub Station, Sheffield Meadowhall Station, Leeds New Lane Station. Within these catchments, existing potential connections with trains, buses, coaches, planes, trams and road access were assessed.

2.2.3. Finally, for Public Rights of Way, comprising promoted routes (including strategic footpaths/bridleways, National Trails) and National cycle routes which would potentially be severed and/or require potential diversion, assessment of impact has been undertaken using available OS base layers and other relevant mapping.

1 Appendix B (AoS Method and Alternatives) provides an explanation of the methodology used for the AoS and the rationale behind it.

3. BASELINE REVIEW

Literature review

3.1.1. At a national transport policy level, the current transport White Paper, 'Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen' (2011), focuses on local transport, and reinforces the need to improve accessibility and integration, and includes a reference to the Equality Act 2010 and access for disabled people.

3.1.2. On how to specifically assess accessibility and integration at interchanges when planning a transport project, the DfT's online Transport Analysis Guidance (known as 'WebTAG'), has working units specifically relevant to these topics including Unit 3.6.3 (Accessibility sub-objective) and Unit 3.7.1 (Interchange sub-objective). At the AoS stage, HS2 is not assessing the scheme against this for accessibility, but it has been an influence on the method used, and remains a useful reference and source of information on accessibility assessment.

3.1.3. The Interchange guidance looks at passenger indicators which one can assess to their standard, including:

- Waiting environment.
- Level of facilities.
- Level of information.
- Visible staff presence.
- Physical linkage for next stage of journey.
- Reliability of connection.

3.1.4. The Accessibility guidance looks at the importance of accessibility and its links with social exclusion, in particular for those without a car. Accessibility can be affected by many factors, including the physical availability of transport; the cost of transport; the ease of access to services and activities; safety and security; and individual's travel horizons.

3.1.5. In terms of providing practical advice for those designing interchanges, another guidance has been developed to optimise the interchange experience for passengers called the 'Interchange Best Practice Guidelines' developed by Transport for London in 2011[2]. Although focussed on London stations, is still useful for its core themes and principles.

3.1.6. There are four themes in this guidance document:

- Theme 1. Efficiency: This includes discussion of operations, movement within an interchange, movement within the wider interchange zone and sustainability.
- Theme 2. Usability: This looks at accessibility, safety and accident prevention, personal security and the protected environment.
- Theme 3. Understanding: Focussing on legibility (of signage), permability of the station, wayfinding and service information.
- Theme 4. Quality: Perception of quality, the built design, urban realm and sense of place are key to this theme.

[2] TfL Interchange Best Practice Guidelines (2011) can be found at; http://www.tfl.gov.uk/microsites/interchange/default.aspx

3.1.7. Other research reports exist which have also investigated the improvement of interchange and to the overall passenger journey. For example, Transport Research Laboratories (TRL) produced a report called 'Door to Door Journeys' for the Campaign for Better Transport in 2011.

3.1.8. Four key attributes of door to door transport are identified as:

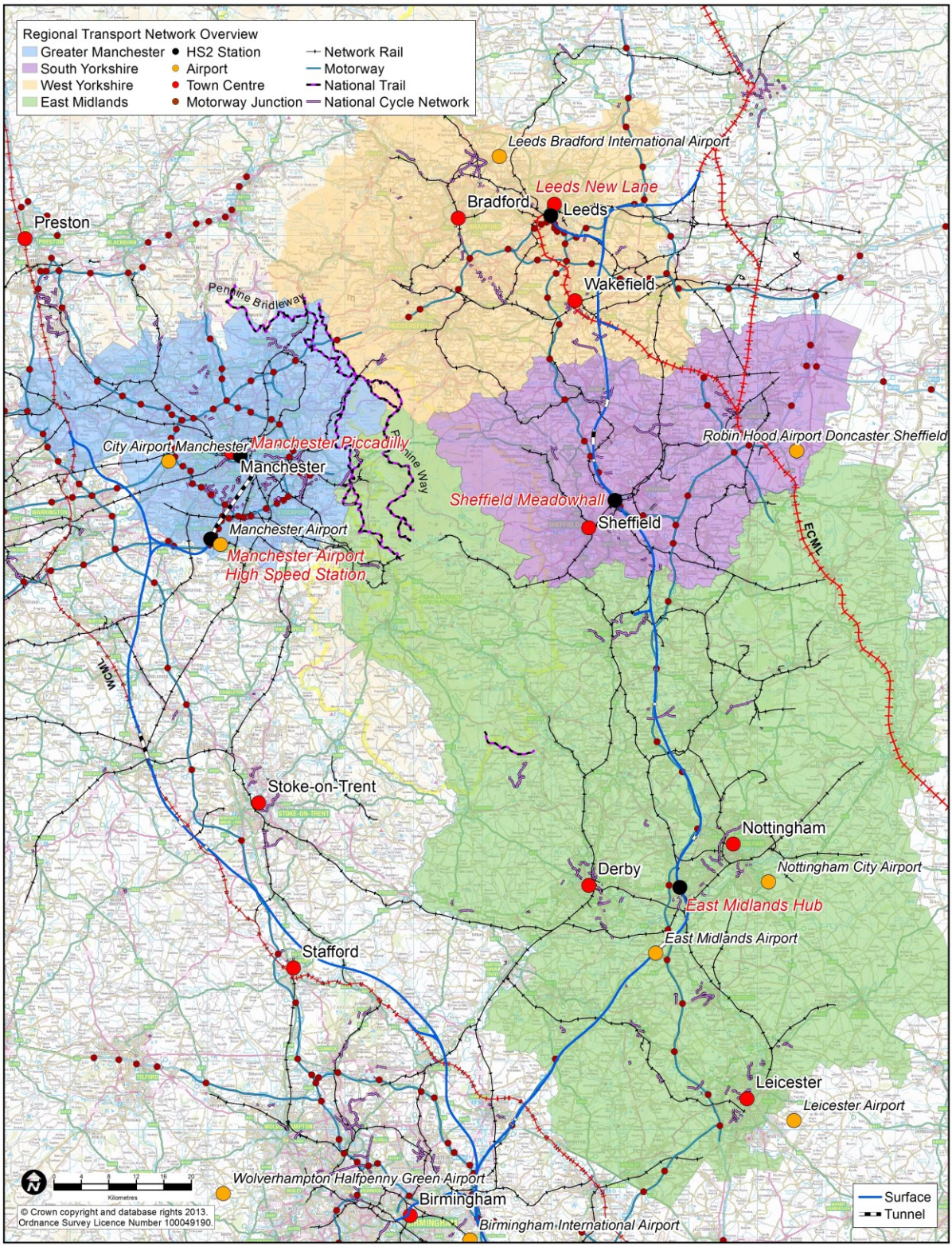
- Information before and during the journey.
- Interchange between different public transport services and between public transport and other modes.
- Connections between different public transport services.
- Ticketing for whole journeys.

3.1.9. These attributes are supported in the local transport white paper.

Regional transport

3.1.10. The regions within which the proposed route fall into, are shown on **figure 3.1** below.

Figure 3.1 - Regional transport overview



4. BASELINE STATION ACCESS

4.1.1. At earlier stages in the process, the engineering and socio-economics studies investigated the accessibility of the possible station sites, which contributed to station selection.

4.1.2. Current knowledge of access to the proposed stations is set out below.

4.2. Western leg

Manchester Airport High Speed station

4.2.1. A new HS2 station here would provide direct links to Manchester Airport, which would be less than 1km away. This station would also give the wider Cheshire area easy access to the high speed rail network, both by public transport and by car. Access via walking and cycling from the surrounding area would be limited, except for the closest of residential properties.

4.2.2. It is currently expected that passengers transferring to Manchester Airport would use some form of People Mover. The journey time to Manchester Airport Teminal 1 could be approximately five minutes. Manchester Airport is the 3rd busiest airport in the UK, and handles about 20 million passengers a year to around 190 destinations. The Airport is planning to expand to 50 million passengers per year by 2030[3].

4.2.3. The station would connect with the existing airport surface transport interchange, with its large network of bus and coach services. From the airport, buses serve many other locations throughout Greater Manchester area, and a network of National Express coach services operate to destinations further afield. There are two bus routes currently along the A538 Hale Road/ Wilmslow Road (routes 18 and 19); a slight modification to these routes would enable them to serve the interchange station directly.

4.2.4. The existing airport station is located between Terminals 1 and 2 of the airport, and linked to both with a moving walkway. Frequent direct rail services run to and from the airport with TransPennine Express and Northern Rail. These run 24 hours a day, 7 days a week, to destinations such as Sheffield, York, Newcastle and some trains to Edinburgh. Trains run every 10 minutes to and from Manchester Piccadilly Station in the city centre, taking around 20 minutes.

4.2.5. The Manchester Metrolink light rail system is currently being extended to the airport, with the station at Manchester Airport planned to open in 2016.

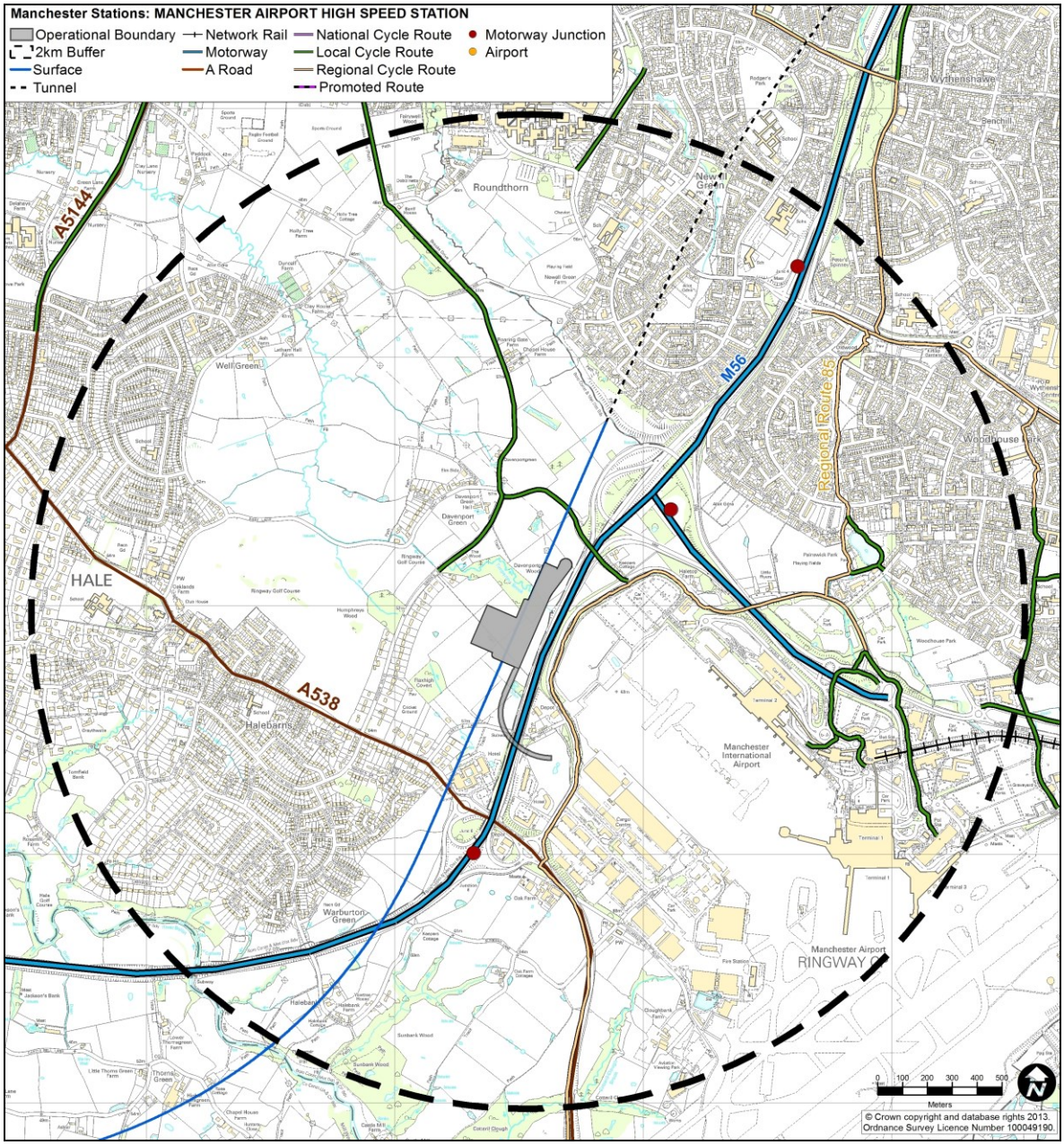
4.2.6. The site enjoys direct connection to the motorway network via Junctions 5 and 6 on the M56. The M56 provides connections north, into central Manchester (a 20 minute drive), and west, towards Liverpool. The A538 Wilmslow Road provides an east-west connection from the M56 serving local towns of Altrincham and Wilmslow. These road connections are illustrated in the map below. Works are currently planned as part of existing planning agreements for growth at Manchester Airport to help ease congestion on this motorway section; these proposals will be revised, and their performance validated, to include the traffic components generated by the interchange station.

4.2.7. Taxi and private vehicle drop off and pick up facilities would be located next to the station entrance.

[3] The Need for Land, 2010, Manchester Airport Group (MAG)

4.2.8. A four storey car park for up to 3,000 cars to be constructed adjacent to the southern half of the platforms to the west and would be over 4 floors. The airport itself has over 22,000 parking spaces in a total of 16 car parks across the airport site. These are for use by passengers, staff and service providers. As part of Manchester Airport's proposed expansion, the number of car parking spaces could increase to between 39,500 to 53,800[4].

Figure 4.1 - Manchester Airport High Speed station and surrounding transport connections



Manchester Piccadilly station

4.2.9. This station is to be built alongside the existing station at Manchester Piccadilly (parallel with Platform 1) in the centre of the city, immediately to the north of the existing station. In current designs, the station would have four elevated platforms with concourse facilities below to the west side of Metrolink. The primary pedestrian entrance to the HS2 concourse would be from the realigned Sheffield Street parallel with, and to the north of, the HS2 station. Onward pedestrian travel from the concourse to the city centre would be either via

[4] The Need for Land, 2010, Manchester Airport Group (MAG)

Store Street and London Road, or via the pedestrian link between Store Street and Ducie Street which is proposed as part of the adjacent Inacity Tower development.

4.2.10. Manchester Piccadilly station offers existing rail connections to various key destinations across the city and region including Manchester Airport, Salford, Stockport and Bolton as well as destinations further afield including London Euston, Birmingham New Street, South Wales, the south coast of England, Edinburgh and Glasgow.

4.2.11. The HS2 station would also be served by Manchester's light rail system, known as Metrolink, which provides connections to Bury, Altrincham, Eccles, Salford Quays and other destinations.

4.2.12. The Metrolink has expansion plans, extending the network from Chorlton to East Didsbury, from Droylsden to Ashton-under-Lyne town centre, through Oldham and Rochdale town centres and to Manchester Airport[5].

4.2.13. The primary pedestrian entrance to the HS2 concourse is currently designed to be from the realigned Sheffield Street parallel with, and to the north of, the HS2 station. Pedestrian travel from the concourse to the city centre would be either via Store Street or London Road, or via the pedestrian link between Store Street and Ducie Street, which is proposed as part of the adjacent Inacity Tower Development. Taxi drop off and pick up would be provided for by a new forecourt running parallel with the station and Sheffield Street.

4.2.14. Connections to local bus services would be provided outside the Fairfield Street entrance on Sheffield Street. The Manchester Central Coach Station is a short walk away on Chorlton Street, and provides numerous regional coach services.

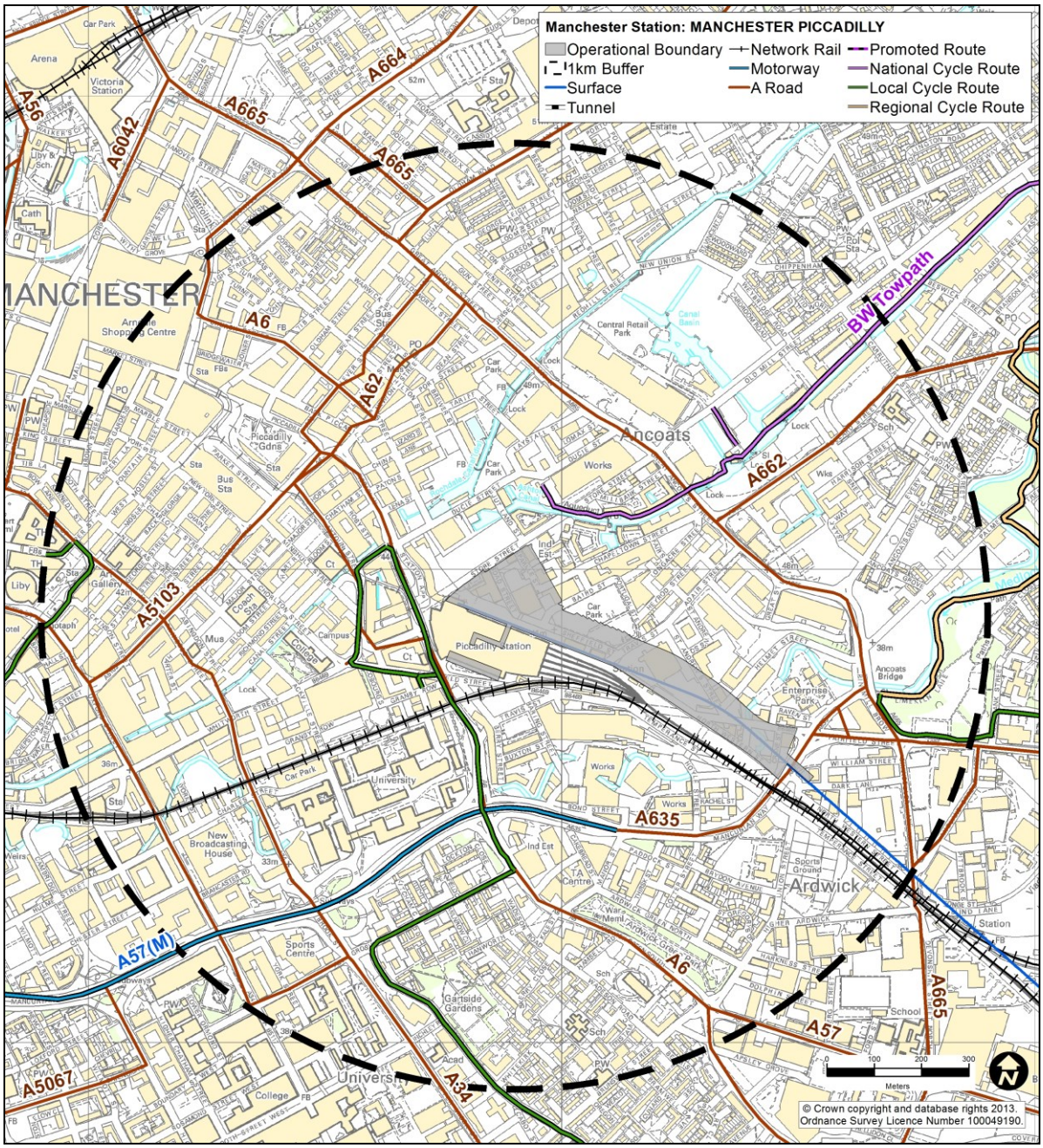
4.2.15. The Inner Ring Road in Manchester City Centre would provide the main route connecting the High Speed Station to radial and regional routes, specifically via the A635 and A635(M) (Mancunian Way). A new spur off Fairfield Street junction would be constructed off Mancunian Way to provide access to the station itself.

4.2.16. A new multi-storey car park with a capacity of up to 2,100 spaces would be built to serve both classic rail and HS2 passengers and accommodate spaces displaced through the removal of existing car parks.

4.2.17. The map below shows the surrounding area, to a catchment of 1km. A significant amount of development is planned for Manchester city centre in the city's Core Strategy and City Centre Regeneration Strategy. In addition to that, Network Rail's Northern Hub project will transform the existing Piccadilly Station to increase its accessibility and functionality. Enhanced Metrolink services will also improve local access to the station. As HS2's route and stations are finalised, the development would need to (and aspire to) incorporate the station and ensure good access, to maximise the benefits brought by HS2's proximity.

[5] http://www.metrolink.co.uk/futuremetrolink/Pages/future-extensions.aspx

Figure 4.2 - Manchester Piccadilly proposed station and surrounding transport connections



4.3. Eastern leg

East Midlands Hub

4.3.1. A new station at Toton, called the East Midlands Hub, is located between Nottingham and Derby. The closest town centre is Long Eaton and the area is primarily residential and agricultural, with some employment land.

4.3.2. The new station would be accessible by public transport from Nottingham, Derby and Leicester. Whilst there is no existing direct passenger rail connections to this area, railway lines could be connected to serve Derby, Leicester and Nottingham. There are no other rail stations in the immediate vicinity; the nearest stations are Attenborough to the east, on the line to Nottingham, and Long Eaton to the south, on the line to Derby.

4.3.3. The Nottingham Express Transit tram network is likely to be extended with a new tram stop located at Toton Lane, one kilometre from the proposed HS2 station location. This would

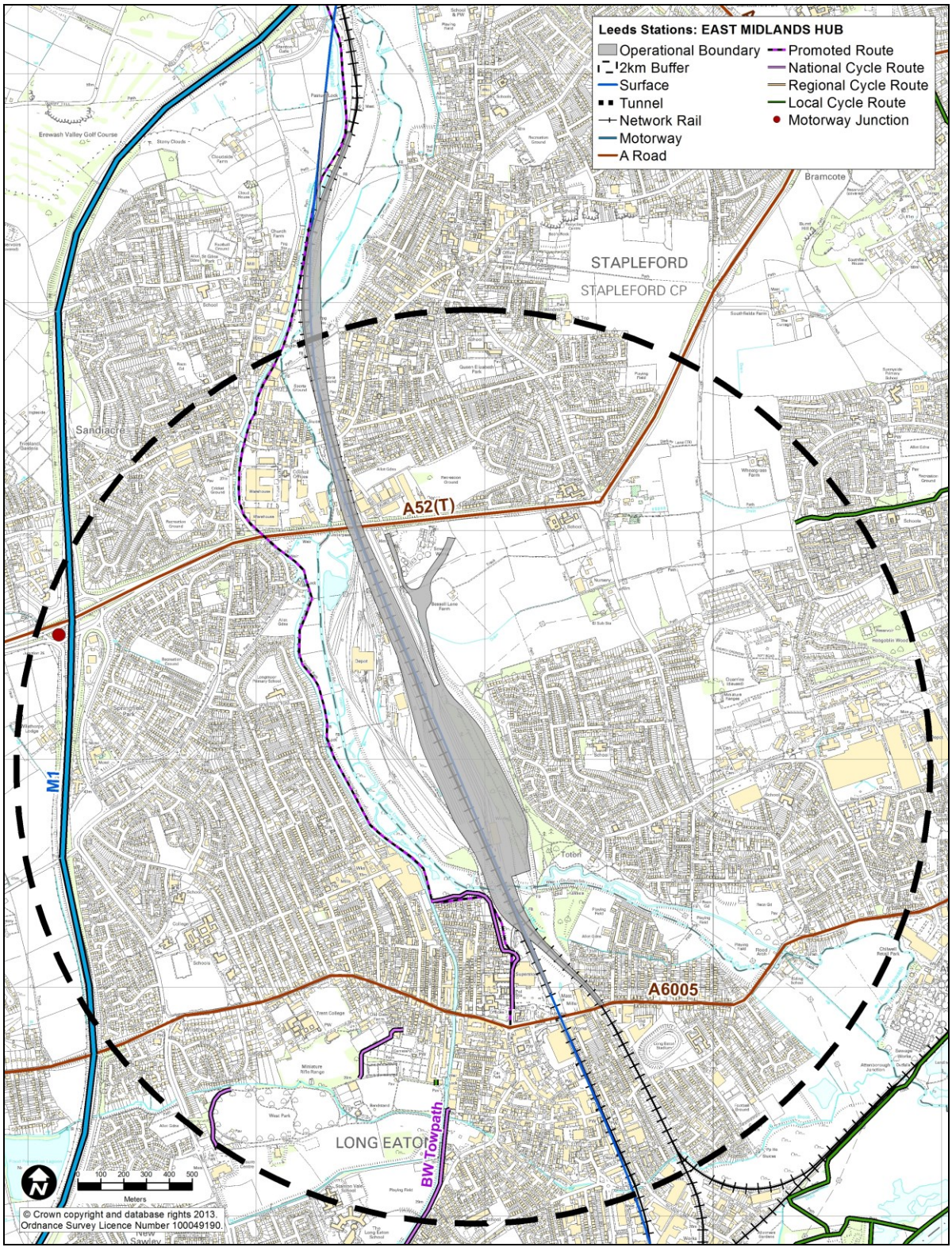
provide a direct interchange between high speed rail, Nottingham city centre, the residential areas of Beeston and Chilwell, the University of Nottingham, and the Queens Medical Centre. The tram stop would be located in the forecourt, connecting directly to the concourse.

4.3.4. The area is currently well served by an extensive network of regular bus services. Modifications would be required to provide an expanded service to this new station at Toton. Bus bays would be incorporated into the station forecourt layout. Pick up and drop off bays for taxis and private vehicles would also be located in the forecourt directly outside the station entrance.

4.3.5. The HS2 station would be connected to the strategic road network via the A52 running east and west between Derby and Nottingham. The A52 also connects with the M1 via Junction 25, which is just under 2km away. East Midlands Airport is approximately a 15 minute drive south along the M1.

4.3.6. The site would have ample space for provision of short-term and long-term parking in a multi-storey configuration beneath the forecourt. This would be for around 1,300 parking spaces in total.

Figure 4.3 - East Midlands Hub and surrounding transport connections



Sheffield Meadowhall Station

4.3.7. The new Meadowhall high speed station would be orientated approximately north-south and be located between Meadowhall shopping centre to the south west and the Firth Rixson premises to the north east. Meadowhall is located in the Lower Don Valley, approximately 6.5km to the northeast of Sheffield and 4.5km to the southwest of Rotherham. The existing Meadowhall Interchange station lies to the west of the proposed high speed station.

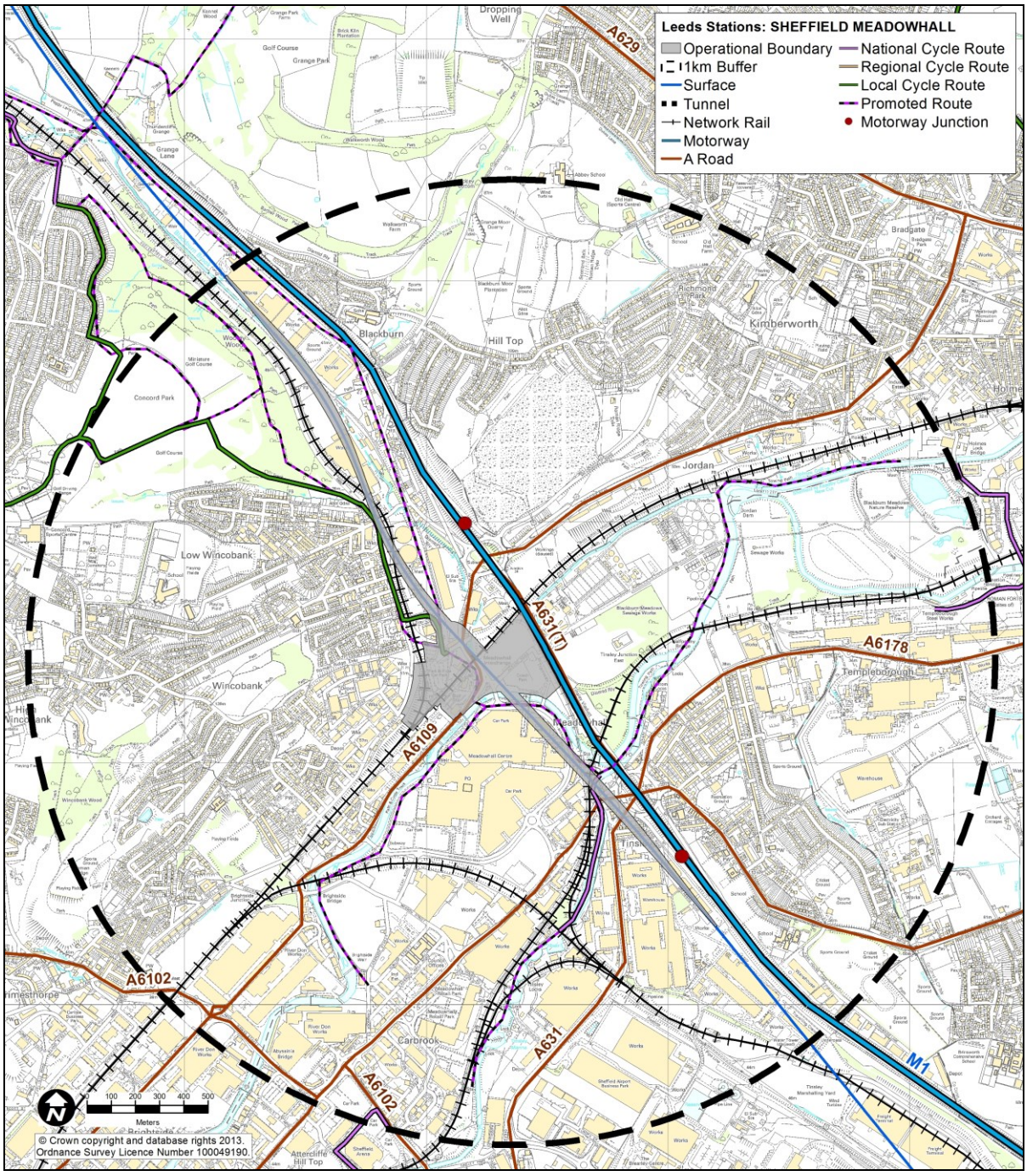
4.3.8. The new station would be integrated with the existing Meadowhall Interchange, located approximately 200m away. From there, there are up to nine trains per hour to the city centre station of Sheffield with journey times of about five minutes. Trains also connect Meadowhall to Rotherham, Barnsley and beyond to Wakefield, Doncaster, Scunthorpe and stations to Leeds and Manchester.

4.3.9. The current Meadowhall station is also linked to the Sheffield Supertram network and is the terminus on one of the lines, a 15 minute journey from the city centre. There are a number of future transport network improvements such as the 'tram-train project' which envisages a new light rail service between Sheffield and Rotherham.

4.3.10. Meadowhall interchange also includes a large bus station with routes servicing the local Sheffield and Rotherham area, as well as the wider South Yorkshire region. The South Yorkshire Passenger Transport Executive (SYPTE), with Rotherham Metropolitan Borough Council (RMBC) and Sheffield City Council (SCC), has proposed the introduction of a Bus Rapid Transit (BRT) system of fast bus services between Rotherham and Sheffield. One of the proposed routes, the Northern Route, would pass in proximity to the high speed station and could create a fast bus route from the station to Sheffield and Rotherham, and augment the other transport modes.

4.3.11. Road access would be via the M1 Junction 34. East-west connections to Sheffield and Rotherham are provided by the A6109 Meadowhall Road, and A6178 Sheffield Road. An enhanced road junction on Meadowhall Road would lead directly to the station via Meadowhall Way. The proposed Tinsley Link would provide access for traffic from the east, avoiding Junction 34. Some 1,530 car parking spaces would be provided in two locations; underneath the platforms to the north of the station concourse and alongside to the north west. Both car parks would be multi-storey.

Figure 4.4 - Sheffield Meadowhall station and surrounding transport connections



Leeds New Lane station

4.3.12. This new HS2 station in central Leeds, alongside the South Bank area of the city centre, would be joined to the existing station via a pedestrian link. It is expected to take five minutes to walk between the two stations. Leeds station offers existing connections to a number of regional rail destinations such as Bradford, Halifax and Castleford, as well as to the city's extensive bus network.

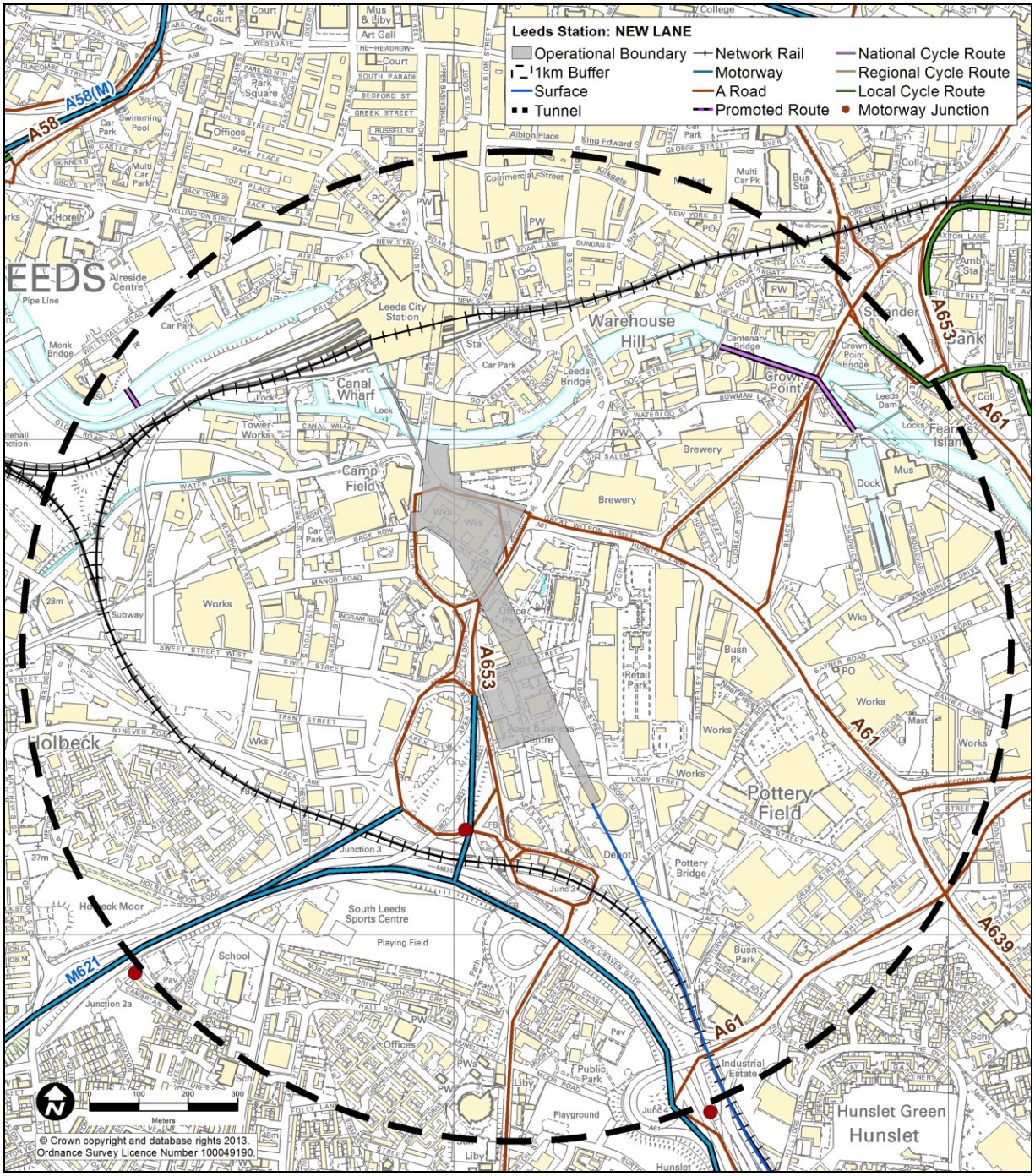
4.3.13. Pedestrian access to the station would be via Neville Street. Bus, taxi and vehicle access to the north concourse would be from the forecourt sited on the east side of the station, with further bus stops on the west side of the station. The station also includes facilities for cyclists.

4.3.14. Leeds Bradford International Airport is located to the north-west of the city and has scheduled flights to destinations within Europe and beyond. There are direct bus services (half-hourly in daytime) to the airport from Leeds and Bradford city centres.

4.3.15. Traffic circulation within central Leeds is based around the Inner Ring Road, which largely carries through traffic around the city, and the City Centre Loop, which distributes local traffic around the city centre. Highway access to the Leeds High Speed station would be from the M621 (Junction 3), which connects to the Inner Ring Road and also to regional motorways.

4.3.16. Car parking would be provided at the southern entrance for those not arriving on foot or by public transport, with up to 1,800 spaces. Access to the north vehicular forecourt would be off Great Wilson Street.

Figure 4.5 - Leeds New Lane station and surrounding transport connections



Interchange principles

4.3.17. Overall principles to follow, adapted from the TfL Interchange guidance, include:

- Maximising **efficient** passenger use of the interchange – minimising walking distances, reducing possibility of conflict of movement.
- Optimising **usability**, maximising the number of usable transport options for interchange, paying attention to safety, personal security and accident prevention as part of design.
- Adopting best practice in **legibility** of signage, adopting clear and consistent messages, wayfinding and the latest technology in service information.
- Demonstrating good **quality** of design, urban realm and sense of place at the new interchanges.

5. PUBLIC RIGHTS OF WAY APPRAISAL

5.1.1. A review of the potential crossing of public rights of way (such as footpaths, bridleways and cycleways) has been completed. Where the proposed scheme or its construction would potentially sever rights of way, new crossings or temporary access would be provided where practicable, subject to discussions with relevant local authorities. As a result, we have not identified all such potential impacts. However, we have recorded any 'promoted recreational routes' potentially affected. These rights of way are given additional status, albeit informally, by their designation as long distance paths, including National Trails.

Western leg

5.1.2. The western leg of the proposed scheme would cross eight promoted recreational routes, including the Trans Pennine Way National Trail at Heatley, east of Lymm. The other crossings would affect the Way for the Millennium; the Staffordshire Way; the Stone Circles Challenge (two intersections); the South Cheshire Way; the Crewe and Nantwich Circular Walk; the Cheshire Ring Canal Walk (two intersections); and the North Cheshire Walk.

5.1.3. Three national cycle routes would be crossed by the proposed route.

5.1.4. HS2 Ltd would aim to avoid stopping up existing rights of way where possible, and to maintain access across the railway through the on-going design of the scheme. This would involve working with local people, local authorities and relevant organisations to determine the best way of achieving this where feasible. A detailed appraisal of all access crossings will be undertaken as part of the EIA.

5.1.5. No country parks would be directly affected on the western leg, although Pennington Flash Country Park is within about 75m of Golborne depot.

Eastern leg

5.1.6. The eastern leg of the proposed scheme would cross 14 promoted recreational, including the Trans Pennine Way National Trail, which would be intersected in nine locations and would run parallel to the route for approximately 4.5km alongside the Aire and Calder Navigation Canal. The other crossings would affect the Heart of England Way; Ivanhoe Way (two intersections); Derwent Valley Heritage Way; Midshires Way; Trent Valley Way; Nutbrook Trail (two intersections); Robin Hood Way (two intersections); Cuckoo Way (three intersections); Sheffield Country Walk (three intersections); Barnsley Boundary Walk (three intersections); Dove Valley Trail; Dearne Way; and Leeds Country Way (three intersections).

5.1.7. Six national cycle routes would be crossed by the proposed route.

5.1.8. HS2 Ltd would aim to avoid stopping up existing rights of way where possible, and to maintain access across the railway through the on-going design of the scheme. This would involve working with local people, local authorities and relevant organisations to determine the best way of achieving this where feasible. A detailed appraisal of all access crossings will be undertaken as part of the EIA.

5.1.9. Four country parks would be crossed on the eastern leg, namely Kingsbury Water Park (for about 1,140m); Pooley Country Park (for about 570m); Rother Valley Country Park (for about 750m); and Rabbit Ings Country Park (for about 720m). The route would also pass alongside Rothwell Country Park for about 240m.

6. FINDINGS

6.1. Phase Two station accessibility and integration

6.1.1. The proposed stations are well located in terms of existing public transport connections and integration into local networks, and HS2 would improve existing facilities within these interchange vicinities.

Western leg

6.1.2. A significant programme of improvements at Manchester Piccadilly will take place in connection with the Northern Hub programme of targeted upgrades to the railway in the North of England. Scheduled to complete in 2019, it will allow up to 700 more trains to run each day and provide space for 44 million more passengers a year. The programme includes the construction of a link between Manchester Victoria and Manchester Piccadilly, as well as two new platforms at Manchester Piccadilly station that will enable better onward connections to the North. There will be new direct services to Manchester Airport and more fast trains to a variety of destinations.

6.1.3. Specifically at Manchester Piccadilly Station, both local and longer distance connections are very good, given the urban location at a major city centre, and include the following:

- Regional rail services to stations such as Salford, Stockport, and Bolton.
- Good road access, using the Inner Ringroad and the A635 and A635(M) (Mancunian Way), and a planned multi-storey car park on site.
- Manchester Metrolink.
- Manchester Central Coach Station.
- Local buses.
- Walking and cycling (cycle parking would be provided).

6.1.4. At Manchester Airport High Speed Station, long distance connections are excellent, and local connections are reasonable. These include:

- Manchester Airport, which provides connections to 180 destinations, domestic and international.
- Excellent road access via junction 5 of the M56 and Wilmslow Road for an east-west connection, and a planned multi storey car park at the station and ample existing parking at the nearby airport.
- Rail services (such as the TransPennine Express and Northern Rail).

- Local buses serve many locations throughout Greater Manchester area.
- National Express coach services operate to destinations further afield.

6.1.5. In terms of public rights of way, the western leg of the proposed scheme would cross eight promoted recreational routes and three national cycle routes.

Eastern leg

6.1.6. At the East Midlands Hub, transport connections are reasonable, and there is a lot of scope for significant enhancements such as local rail connections and extensions of the Nottingham Express Transit. Exisiting connections include:

- Regular local bus services.
- Connections would be made with the A52 which runs east and west between Derby and Nottingham, and to the M1 via Junction 25. A multi storey car park is planned on site as part of HS2.
- East Midlands Airport is approximately a 15 minute drive south along the M1.

6.1.7. The new Sheffield Meadowhall (South Yorkshire) station would be integrated with the existing Meadowhall interchange, which has excellent connections, including:

- Rail to Sheffield, Rotherham, Barnsley, Wakefield, Doncaster, Scunthorpe and further stations to Leeds and Manchester.
- Sheffield Supertram network.
- Bus services to and from the local Sheffield and Rotherham area, as well as the wider South Yorkshire region.
- Road access would be via the M1 Junction 34. East-west connections to Sheffield and Rotherham are provided by the A6109 Meadowhall Road, and A6178 Sheffield Road. A car park is planned on site.

6.1.8. Finally, the Leeds New Lane station, as a city centre location, typically has good transport linkages. These include:

- The new HS2 station should be around six minutes walk to Leeds city centre rail station, which provides links to many destinations.
- Leeds station includes a bus interchange, providing connections to the city's extensive bus network.
- Highway access to the Leeds HS2 station would be from the M621 (Junction 3). A multi storey car park is also planned.
- Walking and cycling connections (Leeds station also includes a cycle hub).

6.1.9. In terms of public rights of way, the eastern leg of the proposed scheme would cross fifteen promoted recreational routes and six national cycle routes.

7. RECOMMENDATIONS AND FURTHER WORK

7.1.1. The overall principles to follow, adapted from the established guidance on good interchange, are:

- Maximising **efficient** passenger use of the interchange – minimising walking distances, reducing possibility of conflict of movement. Providing passenger services where possible.
- Optimising **usability**, maximising the number of usable transport options for onward connections, paying attention to safety, personal security and accident prevention as part of design. Applying the latest and most efficient ticketing and journey planning technology. Also to adhere to the Equalities Act 2010 in providing disabled access at stations.
- Adopting best practice in **legibility** of signage, adopting clear and consistent messages, wayfinding and the latest technology in service information.
- Demonstrating good **quality** of design, urban realm and sense of place at the new interchanges.

7.1.2. HS2 Ltd. has established 'Stations City Working Groups', as an engagement channel between Station Development Partners (such as Local Authorities, Passenger Transport Executives, Network Rail and the Highways Agency) and HS2 Ltd. The purpose of these working groups is to allow all the stakeholders involved in the development of the station to work collaboratively on the proposals to create vibrant new transport hubs, integrated into their built environment in a way which will attract new development and act as a catalyst for regeneration. In particular, the Groups will concentrate on the relationship between the region and the external facing elements of the station, including:

- Advancing synergy between HS2, Network Rail and local transport networks to develop an integrated transport hub.
- Exploring potential impacts on the local highway network any identifying options to improve the network.
- Examining passenger flow and accessibility to the station from the region.
- Ensuring that indicative HS2 proposals are in line with local planning frameworks.