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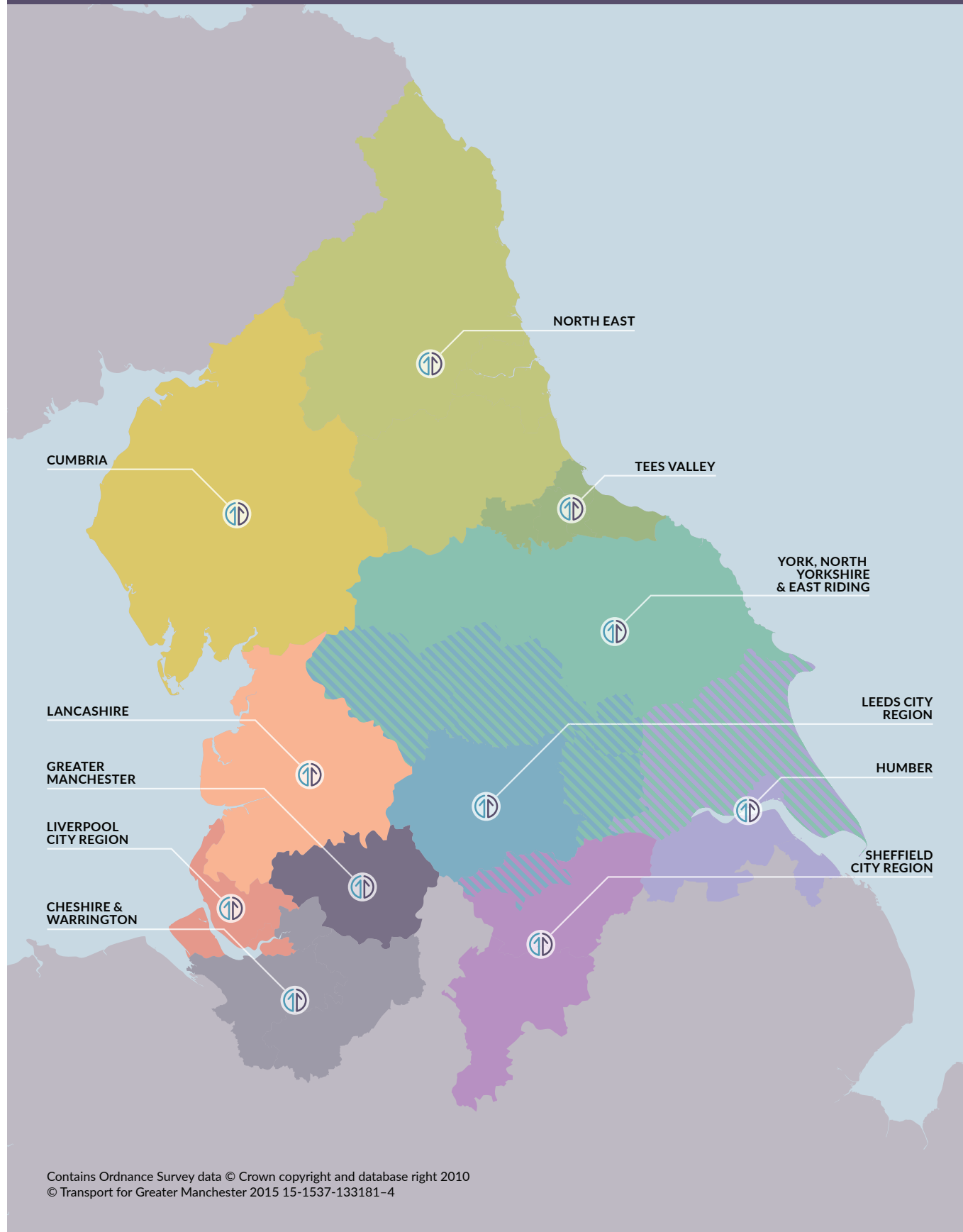
The Northern Transport Strategy:
Spring 2016 Report

One Agenda. One Economy. One North.



March 2016

The Northern Powerhouse by LEP area



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Foreword by John Cridland CBE

Chair of Transport for the North



It has been an important first year for Transport for the North. The partnership has been established and now truly represents the North – a credible voice to develop a one-North vision for a one-North economy where the whole is greater than the sum of its parts. It is with this voice that we continue our strong progress to becoming a statutory body – the first of its type. Transport for the North is playing a unique role in drawing together existing activity and developing new transformational schemes to add significant value to national transport planning addressing the needs and opportunities for integrated transport for the Northern Powerhouse.

I am delighted to be the first independent Chair and to be able to shape the future of northern transport investment. I believe that the North can foster the right conditions to outstrip the average UK growth rate and rebalance the economy, providing significant benefits for the residents of the North and, critically, to the United Kingdom as a whole. We already have globally significant capabilities in advanced manufacturing, health innovation, digital and energy creation. We now need to nurture their growth – foster a labour market with the skills to take advantage of opportunity, and an efficient service sector and supply chain.

During my time as the Director-General of the Confederation of British Industry (CBI), I understood and promoted the conditions in which businesses of all sizes and sectors can compete and prosper. Broad-based growth needs pro-enterprise policies, a skilled workforce and a business culture that innovates and can win investments from overseas. Growth and productivity gains also rely on businesses hiring the right people, sharing ideas and being able to access their supply chains and markets efficiently. That is why Transport for the North has set out on a path to transform the way the North is connected, and work collaboratively on wider policies and programmes beyond transport.

To make this a reality we need to think long-term and to think differently. Incremental changes will not deliver the economic gains that the North requires. With Government, Transport for the North has considered pan-Northern connectivity, particularly east-west movement, in new ways and in levels of detail not seen before. We are well on our way to setting out our shared strategy and prioritised investment programmes that demonstrate transformational change is deliverable, including our implementation plan for Smart North – our vision for simplified fares, integrated ticketing and improved passenger information.

This report details the progress we have made and critically sets out our plans to continue to drive forward and develop the programme of investments. I welcome the creation of central government's Transport Development Fund which, we trust, will allow us to continue working on its development, ensuring market confidence and public buy in.

Transport is not an end in itself. The Northern Powerhouse is about raising aspirations, allowing people to realise their potential and, through growth, improving the overall quality of life for people in the North. I look forward to working with partners across the North and with Government to make this happen.



John Cridland CBE
Chair of Transport for the North

Foreword by the Rt Hon Patrick McLoughlin MP

Secretary of State for Transport



One year ago this month we launched the Northern Transport Strategy with the aim of transforming economic growth in the North. A year on we are building the Northern Powerhouse – our vision to bring the North together so that it once again become a powerhouse for the UK – with stronger civic governance, investment in world-class science and culture, and, importantly, modern transport links. Bringing together the great towns and cities of the North, and the talent and potential of over 15 million people with an economic output of £300bn, will create a powerful unified economy able to compete with the world's strongest regions. And we are now seeing firm signs of progress. The highly centralised model of government that failed the people of the North has started to be redressed through devolution deals which have seen the largest shake up of local government in a generation. In science and culture we have committed £235m to the Sir Henry Royce Institute of Advanced Materials Research and we have given further funding to help expand Hull's UK City of Culture in 2017.

Central to all our plans is enhancing our transport connectivity – this Government is spending £13bn on transport for the Northern Powerhouse over this Parliament, including dramatic improvements to our roads and railways in the North. Construction is under way on a series of major projects, and the new rail franchises are being mobilised. This includes schemes like the widening and provision of additional lanes on the A1 Newcastle – Gateshead western by-pass which will improve traffic flow at this longstanding and notorious congestion hotspot; and the new northern rail franchises that will bring 500 new carriages for the North and the removal of outdated 'Pacer' trains.

We have witnessed the growth of Transport for the North – now representative of the whole of the North, with John Cridland at the helm leading a powerful partnership between local authorities and, crucially, northern businesses represented through the Local Enterprise Partnerships. That inclusive partnership brings together the interests of the whole of the North and with the goal of driving the continued economic growth of the region. This pioneering approach to the delivery of transport, seen in TfN, is inspiring other parts of England, like the Midlands with Midlands Connect, to follow suit. These are exciting times in devolving power over the delivery of transport interventions to those who know their local economies best.

The Northern Powerhouse will not be delivered through one scheme or in a short period of time. This is something the Government is committed to for the long term, because with that investment collectively the North can be so much more than the sum of its parts and take on the world. This report marks the achievements made in the last 12 months. I look forward to the further stages in delivering the Northern Powerhouse in the years ahead.



Rt Hon Patrick McLoughlin MP
Secretary of State for Transport



Executive summary

The Northern Transport Strategy Spring 2016 Report

Transport for the North (TfN) is leading the creation of the Northern Transport Strategy, in order to align transport investment in pursuit of building the Northern Powerhouse. TfN allows the North to speak with one voice on its transport priorities – a crucial new role adding substantial value through enhancing the existing relationships between local and central government and filling an important gap to plan and deliver world-class, strategic transport networks and connectivity across the North.

This report provides an update on the significant amount of progress across all workstreams and sets the firm direction for the next 12 months to develop the first Northern Transport Strategy with a prioritisation framework and prioritised investment programme. The report also summarises the evidence of the first Northern Powerhouse Independent Economic Review and how this underpins the development of the Northern Transport Strategy.

Spring 2016 Report headlines

In the three months since the Autumn 2015 Report was published, progress has been made across the full range of TfN's work towards an integrated strategy and long-term investment programme. We have the following headline findings.

The Northern Transport Strategy is underpinned by the first Independent Economic Review for the North identifying the region's key prime and enabling capabilities¹ and economic assets and will allow better prioritisation of our investment programmes.

- Evidence shows that the North has four distinctive prime capabilities within the world economy that have the highest potential to drive growth and increased productivity:
 - **digital technology**, including software and content;
 - **advanced manufacturing**, especially materials and processes;
 - **energy**, including nuclear and offshore wind; and
 - **health innovation**, including life sciences, medical technology and service delivery.
- To support these prime capabilities and drive job numbers, there are three key enabling capabilities – financial and professional services, higher education, and logistics.
- A number of the prime and enabling capabilities require a central location in the North's largest towns and cities and benefit from agglomeration effects, which increase with employment density. Transport connectivity is key allowing the agglomeration effects to be more fully realised across the network of the largest towns and cities in the North – creating a single economy.
- The report identifies the important role of transport connectivity in closing the productivity gap, alongside other key components of the economic ecosystem such as skills improvement and pervasive innovation.

¹ The term 'capabilities' is used rather than 'sectors' because the capabilities cut across the conventional statistical definitions of sectors, and include wider competencies in the knowledge and asset bases. For example, 'Health Innovation' comprises activities found in both manufacturing industry, in services, and across the research base. Prime capabilities are those that are distinct and specialist across the North and competing on a global stage.



- There are three other key transport elements of closing the North's prosperity gap:
 - accommodating growth in housing and employment to increase the size of the labour market;
 - improving access to education, training, employment, and cultural and leisure opportunities; and
 - embracing new technology to improve transport connectivity.
- The review's complete findings will be published in April 2016.

Northern Powerhouse Rail – options have been identified to achieve the vision for reductions in journey times and increases in frequency and capacity between the largest cities and Manchester Airport.

- As we continue to develop options, a picture is emerging of those that look like the most promising at this stage to deliver the vision in full. For example:
 - Between Leeds and Manchester and Sheffield and Manchester, our work to date has shown that we need to go further than committed investments in the existing routes to achieve the vision for faster journeys and more frequent services. On these routes we are therefore developing a range of options, including new lines for the route, or very significant sections of new line;
 - Between Leeds and Newcastle, and Leeds and Hull substantial work to upgrade the existing line is likely to move us significantly towards the vision; and
 - Between Manchester, Manchester Airport and Liverpool there is potential to integrate with the planned HS2 infrastructure including the option of providing a new line.
- Outline feasibility work will be completed by Autumn 2016, allowing assessment of the options before the end of the calendar year.

Improving rail services – rail franchising and committed schemes.

- Rail North has demonstrated the potential of strong partnership working between the North's local authorities and the Department for Transport. Transformational investment is being made in the North's two new rail franchises, Northern and TransPennine, which will provide more frequent services to more places, with improved journey times.
- The £1.2bn investment includes 500 brand new carriages for the north of England as well as removal of the unpopular, outdated 'Pacer' trains. The economy will be boosted by the operation of an additional 2,000 services per week and space for an extra 40,000 passengers at peak times. The Northern franchise will provide nearly a 40 per cent increase in capacity and introduce a new, faster, higher quality Northern Connect service on 12 routes between major centres.
- TransPennine will provide new 125 mph links including a new service to Edinburgh via Newcastle and a capacity uplift of nearly 70 per cent at peak times.
- In addition, Rail North is working with Transport for the North - will become a joint client with Department for Transport – for Network Rail's North of England enhancement programme, including electrification and Transpennine upgrades. This means that Northern partners will be able to influence projects in effect forming the first phases of the Northern Powerhouse Rail programme.

Improving the North's road network – recent and committed schemes.

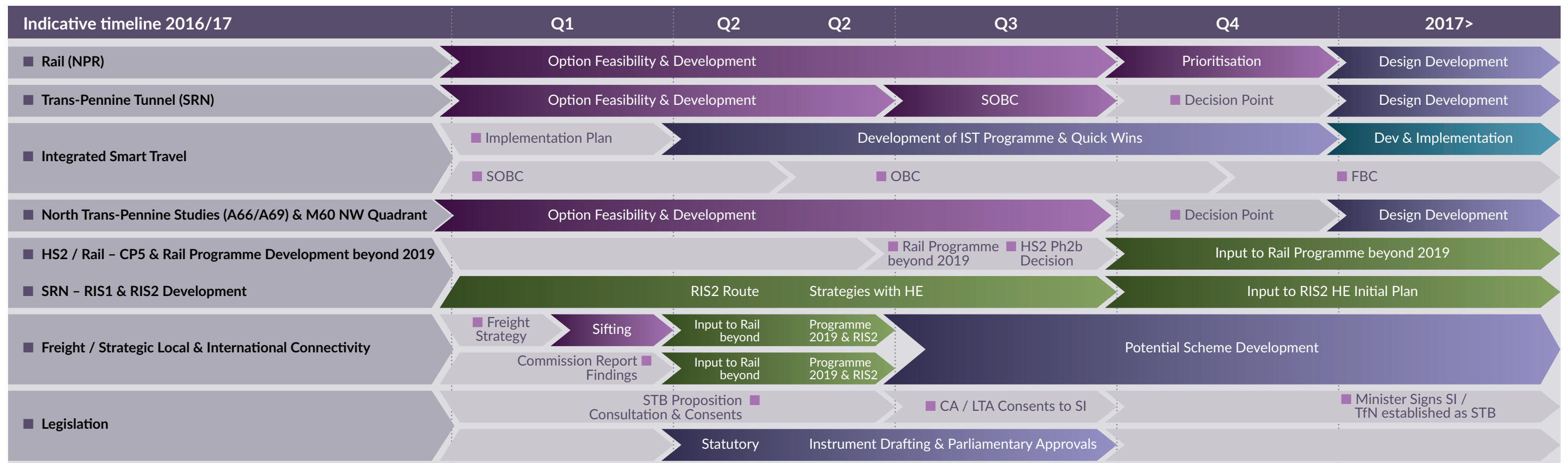
- The Road Investment Strategy has announced 42 schemes equating to £2.9 billion regional investment in the first Road Period to 2020. Within this, there are 27 new schemes including the upgrade of the A1 to continuous motorway standard throughout Yorkshire and to Newcastle, and the M1 and M62 to smart motorways to provide continuous four lane standard from Leeds and Sheffield to Manchester and London.
- TfN will produce its prioritised investment proposals for the second Road Investment Strategy (2020 to 2025) for the North of England, working with the Department for Transport and Highways England.

Priorities for future investment in the North's strategic road network are being identified and assessed, including the key strategic road link between Greater Manchester and the Sheffield City Region, the 'Trans Pennine Tunnel'.

- A new link could reduce today's drive time between Greater Manchester and Sheffield City Region by 30 minutes from the current average of 85 minutes.
- Tunnelling under the Peak District National Park would provide an all-weather link improving the resilience of trans-Pennine road travel and reducing the environmental impact of the existing roads.
- Two other strategic studies will seek to find solutions for existing challenges for the Northern Trans Pennine Roads (A66/A685 and A69) and M60 Manchester North West Quadrant. Initial reports from the two studies are being published alongside this report.
- Further work will be completed by the end of this year to assess the potential costs and benefits of options in each of the three study areas.

Smart North – our vision for simplified fares, integrated ticketing, and improved passenger information has an implementation plan.

- Smart North is the programme to deliver simplified fares, integrated ticketing, and improved online passenger information across all public transport modes in the North.
- It was allocated £150m over the life of this Parliament in the 2015 Spending Review.
- Working with partners in the Combined and Local Transport Authorities and operators, TfN has been developing a strategic outline business case and implementation plan for smart and integrated ticketing across the North.



- The plan sets out the route for TfN to lead the roll-out of the Smart North programme for the development and delivery of enhanced and new smart ticketing provision, including ‘smart’ season tickets and improved online information and journey planning, within this Parliament.

International Connectivity – improved connectivity to the North’s international gateways and beyond to global markets is required to support the North’s businesses competing on the world stage.

- TfN’s Chair, John Cridland CBE, has launched a Commission of business experts to identify the international connectivity needs of the North, taking into account the needs of key capabilities and the opportunities arising in global markets. The Commission will make recommendations to improve the North’s access to the global economy through its ports and airports by the end of Summer 2016.

TfN is working to identify the interventions to improve strategic freight connectivity and local connectivity to the strategic network that will support the overall Northern Transport Strategy.

TfN is continuing to grow its capability and capacity towards statutory Sub-national Transport Body status by early 2017.

- TfN is working closely with the National Infrastructure Commission, now established under the leadership of Lord Adonis, to identify and the strategic transport connectivity needs of the North.
- North East Wales and the north of England are connected through a cross-border economic zone. A Memorandum of Understanding (MoU) has been signed between TfN and the Welsh Government recognising the special importance of connectivity between Wales and the North and to ensure that the views and objectives of stakeholders in Wales are recognised.
- TfN has also signed a MoU with the Scottish Government for joint working between TfN and the stakeholders in Scotland.

- Transport for the North has taken a proactive approach to reviewing potential funding options to support delivery of the Northern Transport Strategy’s prioritised investment programmes.

- The Cities and Local Government Devolution Act 2016 has been passed into law, including the provisions to allow the creation of statutory Sub-national Transport Bodies through further secondary legislation – this will assist TfN in realising its mission to set the strategic direction for transport across the North.

Next steps

TfN represents all 11 Local Enterprise Partnerships and all Combined Authorities and Local Transport Authorities in the North. Its role is to enhance and add value to the existing governance framework between local and central government – filling an important strategic gap to plan and develop the strategic transport networks of the North with its partners to help achieve the vision Northern Powerhouse.

Following changes to primary legislation through the Cities & Local Government Devolution Act, Transport for the North is progressing its aim of being the first statutory Sub-national Transport Body by early 2017. Timescales for creating a statutory Sub-national Transport Body and developing the Northern Transport Strategy and our prioritised investment programmes are shown below.

TfN’s proposed plan is ambitious and realistic to the huge opportunity to get this right. Through a step change in the way we plan and invest in our transport infrastructure across The North, we will make a difference to people and business. We look forward to an important 12 months of planning our investments and moving forward to the development of our proposed programme.



1 Introduction

Our vision for the North

Our shared vision is for a vibrant and growing economy across the north of England which builds on its unique economic strengths, attracts and retains the brightest and best talent, and plays globally in terms of its research, development, and business activities. The North will be one of the world's most competitive regions, playing host to successful and innovative global and local companies, offering its skilled workforce to businesses, and using its advanced transport connectivity to link clusters of thriving businesses – across the North, across the United Kingdom, and globally.

Our ambition for the Northern Powerhouse is to re-balance and grow the economy of the UK through a radical increase in productivity, at the same time as increasing job opportunities. It requires the delivery of a sustained, generation-long investment programme across the North in building infrastructure, strengthening skills, and harnessing innovation.

The Northern Transport Strategy is fundamental to delivering the Northern Powerhouse. Investment in connecting the North's towns and cities into a single economy is essential to creating a transformed integrated Northern economy greater than the sum of its parts. This requires investment in the North's transport networks to better connect the major urban centres and economic assets of the North to market opportunities, including talented staff, suppliers, collaborators and customers, at home and abroad.

The Northern Transport Strategy Spring 2016 Report

Important first steps have been taken in the past year demonstrating progress across all areas. The Transport for the North Partnership Board now represents all the Combined Authorities, Local Transport Authorities and Local Enterprise Partnerships across the North. The partnership, which also includes the Department for Transport, Highways England, Network Rail and High Speed 2 Ltd., is developing its investment priorities collaboratively working with the National Infrastructure Commission.

This report is structured to draw out our key messages as follows:

- **Section 2** sets out some of the emerging evidence base for the Northern Transport Strategy from the Northern Powerhouse Independent Economic Review – the first pan-northern review of its kind. It outlines progress on developing TfN's approach to further strategy development including new approaches to prioritising investment to meet our vision.
- **Section 3** focuses on our progress on solutions development across roads, rail, 'smart' fares and ticketing, international connectivity by air and sea, strategic local transport networks, and freight.
- **Section 4** sets out TfN's forward plans: the committed action plan through to the end of 2016/17 and onto 2020, and the 30-year programme of transformational change that will support long-term economic growth and delivery of the Northern Powerhouse.

2 Progress - strategy development

The Northern Powerhouse Independent Economic Review

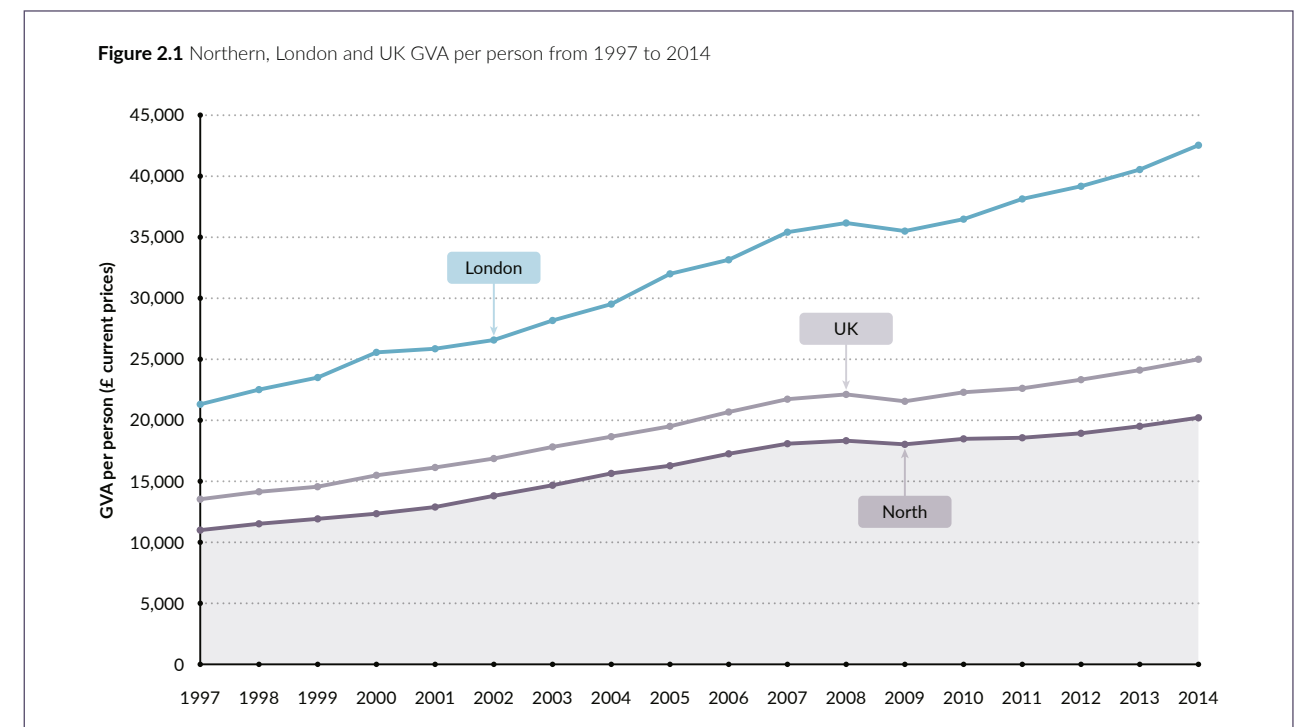
Context

The north of England has a population of over 15 million, provides 7.4 million jobs, and generates around £300 billion Gross Value Added (GVA) per year²³⁴. We have a strong quality of place supported by national parks, culture and history. It accounts for 19 per cent⁴ of the United Kingdom's total exports, but the evidence shows that it has the potential to perform markedly better.

As part of an innovative approach to prioritising transport investment that takes into account the potential for transformational agglomeration benefits from a more integrated economy, and understanding the fulsome opportunities for the broader Northern Powerhouse ambition, local and central government partners have focused on planning and decision making to enhance the economic potential of the North. In November 2015, Transport for the North (TfN) commissioned the Northern Powerhouse Independent Economic Review, to provide the underpinning evidence base for decision-making on transport investment priorities. This report is innovative in two ways, firstly by providing a pan northern analysis and secondly by moving from traditional sector based analysis and instead looking at capabilities which better articulate the integration and interfaces between sectors.

There is a significant economic performance gap between the North and the national average that necessitates the radical change in the economy of the North. The gap equates to a £4,800 per person difference in income between the North and the UK average and a £22,500 per person difference between the North and London in 2014⁵ (see Figure 2.1).

Figure 2.1 Northern, London and UK GVA per person from 1997 to 2014



2 Population Estimates for United Kingdom K Mid-2014 (ONS)
 3 Workforce Jobs by Industry (SIC 2007) Seasonally Adjusted (NOMIS)
 4 Regional Gross Value Added (Income Approach), 1997 to 2014 (ONS)
 5 ibid.





The evidence base

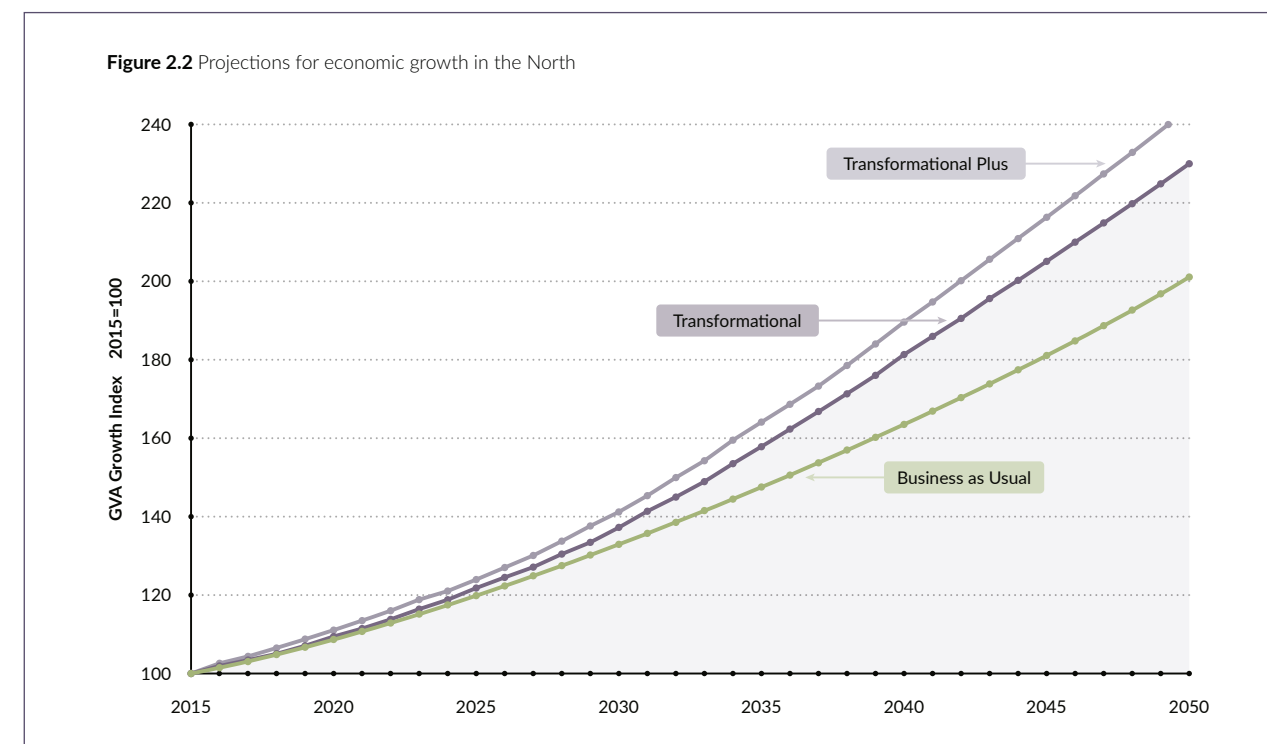
Since March 2015, TfN has been building its evidence base to underpin the vision. As part of an innovative approach to prioritising transport investment, local and central government partners have focused on planning and decision making to enhance the economic potential of the North. In November 2015, TfN commissioned the Northern Powerhouse Independent Economic Review, the first pan-northern economic review of its kind to provide the underpinning evidence base for decision-making on transport investment priorities. We will publish its full findings in April 2016.

As part of the review, modelling of different economic scenarios has been conducted. The modelling considers three different scenarios: Business as Usual, Transformational, and Transformational Plus.

- Business as Usual: assuming that the economy continues to grow as expected.
- Transformational: is a bottom-up scenario that assumes progress is made in tackling the wide range of factors that are responsible for the performance gap observed in the past which in turn drives increased productivity. This scenario pays particular attention to the prime and enabling capabilities identified in the North's economy.
- Transformational Plus: is a scenario in which the assumptions within the Transformational scenario are applied to the Office for Budget Responsibility's baseline assumptions for long-term growth.

Figure 2.2 shows that compared to the Business as Usual scenario, the economy of the North could grow at a transformed rate through increased productivity of the capabilities (see below). In this Transformational scenario, the GVA of the Northern Powerhouse would deliver an additional £56.6 billion GVA per year (in 2015 prices) to the UK economy by 2040⁷.

Figure 2.2 Projections for economic growth in the North



We are keen to benchmark not just against London and the rest of UK, but with Europe and the world's most successful comparable regions. For example, the size, population density and polycentric nature of the North invites benchmarking against the Netherlands' Randstad, one of the most economically successful regions in the world. While there are differences between the regions, such comparison allows us to consider what a world-class, 21st century regional economic ecosystem including transport looks like and achieves for growth and prosperity.

The Randstad includes four major cities: Amsterdam, Rotterdam, The Hague and Utrecht. Its economy is supported by an extensive motorway and principal road network and fast, frequent rail links. These strategic networks rely on comprehensive local rail, tram and bus services to spread connectivity throughout the region and into the centres of the key cities. The convenient, interconnected network allows people to live in or near any of the cities and commute to work in any other. The region's airport, Schiphol, is one of Europe's major airports; it is served by fast, frequent direct trains from all four major cities. The region's largest port, Rotterdam (Europe's largest), is connected directly to a dedicated railway line for freight. The Randstad region generates around half of the Netherlands' Gross Domestic Product (£210 billion in 2011). GDP per inhabitant varies across the region but was between £18,500 and £30,000 per year in 2011⁶.

6 Eurostat <http://ec.europa.eu/eurostat/documents/2995521/5173650/1-27022014-AP-EN.PDF/a46ded44-83cf-4368-9315-27f96bcc3a0e>

7 Northern Powerhouse Independent Economic Review modelling (2016)

The Independent Economic Review provides analysis and a view on the role that the North can play in the global economy. The Review does not downplay the challenges posed by past and present industrial restructuring, but it also identifies the opportunities provided by the North's industrial legacy. The North's legacy includes economic assets such as businesses, skills, and research institutions which provide the foundation for increasing the North's global competitiveness.

The economic assets represent activities in which the North has distinctive specialisation, highly productive jobs and which export to and compete in wider UK and global markets. The North accounts for 19% of total exports in the UK⁸.

The Review's analysis has identified four Northern Powerhouse prime capabilities and three enabling capabilities. The four prime capabilities are:

- **advanced manufacturing** with a particular focus on materials and processes;
- **energy**, in particular expertise around generation, storage and low carbon technologies and processes, and especially in nuclear and offshore wind;
- **health innovation** with a focus on life sciences, medical technologies and devices, and a growing competence in new service delivery models brought about by e-health and devolution within the health service; and
- **digital technology** focusing in particular on computation, software tools/design and content, data analytics, simulation/modelling, and wider strengths in media.

The three key enabling capabilities are **financial and professional services, logistics** and **further and higher education**. It is the combination of key prime and enabling capabilities, the way they interact, and the quality of life provided for the North's businesses and residents, that provide the North's economic distinctiveness and potential for transformational levels of growth.

The capabilities, whose activities require a central location in the largest towns and cities in the North, benefit from agglomeration effects that increase with employment density: access to specialist skills and greater exchanges of knowledge. Transport connectivity is key to this. Better transport connectivity can reduce the friction that hinders supply-chain linkages and help promote a higher employment rate by making the region more attractive to global businesses selecting locations for investment. It can improve access to local, national and international markets; increasing the pool of workers available to work in higher productivity locations. This allows the agglomeration effects available to a network of nearby cities to be more fully realised.

The Northern Powerhouse capabilities have important requirements for good connectivity to key markets across the UK, not just within the North, and to international hubs to export knowledge-based goods and services, to attract foreign direct investment, and to foster innovation across national and international assets.

Many production facilities, in advanced manufacturing and energy require large-scale premises in locations which offer high-quality connectivity to their supply chains, to energy networks, to global markets by sea and air, and to research institutions.

Health innovation and digital technology often cluster in the largest towns and city centres close to higher education and research institutions, such as the North's six university teaching hospitals. They require highly specialist skills. Their successful development in the North depends on their being able to offer the depth of specialisation and the range of jobs that gives workers the prospect of career development without having to repeatedly move location, one of the key agglomeration benefits that better connectivity can support.



In addition to digital connectivity, face-to-face collaboration will remain essential, fostered by good passenger transport links between the major urban areas in the North, as well as to further afield.

Of the three key enabling capabilities, two – financial and professional services and higher education – flourish in the largest town and city centre locations. The most efficient way in which transport can support growth in such businesses is through high-quality passenger transport, within and between the major urban centres in the North, to London, to the wider United Kingdom, and to international airports. The third key enabling capability, freight and logistics, has its own requirements. TfN is developing a freight strategy to meet the requirements for growing this capability to its full potential.

Freight and logistics has its own challenges in supporting the key enabling capabilities. Road congestion, the need to improve air quality and meet EU limits, the lack of gauge clearance and rail paths for freight, and the constraint of poor inter-modal freight transfer act as barriers to the capability. Given the freight and logistics is almost entirely private sector led, TfN has a role to work more closely with the freight capability to develop and deliver a forward plan of investment.

The Review's analysis shows that the four key prime capabilities and the three key enabling capabilities, account for over a third of the North's economy in terms of GVA, and about 30 percent of its jobs. Hence, we are equally concerned to use transport investment to support productivity growth and employment growth in the rest of the economy – more and better paid jobs.

This includes leisure and tourism, business support services, consumer services, and public services. These activities are important for supporting local businesses and communities, attracting inward investment and supporting the region's quality of life offer to attract and retain highly-skilled workers. Transport connectivity is key to this to access their supply chains and customers, but also to provide the capacity and journey times to accommodate large volumes of commuting across the North, efficiently and affordably.

The visitor economy is a vital component of most local economies in the North but is often dispersed given the prominence of the North's national parks, cultural attractions in its towns and cities, and rural and coastal attractions. The visitor economy not only provides GVA and jobs, but adds to the North's rich quality of life, helping retain and attract the highly skilled.

⁸ 2014 data from HM Revenue and Customs: <https://www.uktradeinfo.com/Statistics/RTS/Pages/RTSArchive.aspx>



The Government has committed £13bn to transport in the North over this parliament. This committed pipeline, plus the £1.2 billion investment in the North's two new rail franchises, will support major change over the next five to ten years. This investment is essential in helping to build a Northern Powerhouse. However, TfN's vision is not to stop there. TfN's vision is to build on this major investment and establish prioritised investment proposals that will support a step change in the North's growth trajectory and deliver a transformed economy.

Additional investment from local and central government and other sources will generate further opportunities to support incremental growth in the short-term and act as a platform for schemes with more transformational impacts. TfN, through its workstreams and partners, will input proactively into the planning of the second Road Investment Strategy 2020 to 2025 and the future programme for rail beyond 2019.

Transformational investment is required to realise the potential of the Northern Powerhouse. We need High Speed 2. We also know we need radically improved east-west connectivity enhancements by road and rail for passengers and freight, and for these enhancements to integrate with High Speed 2. It is critical that the connections are made to integrate these schemes with each other, and with classic rail and local transport systems, to create an integrated network that spreads economic benefits across the whole of the North.

The capital investment required over a 30 year planning horizon will be great, but the prize of a Northern Powerhouse will be greater. Investment in local transport will also need sustained investment from central government and local sources, including progressing central government's devolution agenda with Local Enterprise Partnerships and their Combined and Local Transport Authorities.

The Independent Economic Review has highlighted the transformational importance of increasing agglomeration benefits through improved connectivity between and within the largest towns and cities and improving connectivity to markets and supply chains including improved access to international airports and ports. In addition to the review's findings, there are three other important elements of closing the North's prosperity gap related to transport:

- **Accommodating growth in housing and employment and increasing the size of the labour market** – the question of how to accommodate increased commuting demand and for increasingly longer trips becomes more pertinent. Consideration of wider factors such as quality of life and personal health and well-being suggest an expansion based on travel other than by car commuting is likely to play a strong role, with walk and cycle, public transport and rail the most attractive combination as elsewhere in the most economically successful parts of Europe.
- **Increasing access to education, training, and employment opportunities** – in order to reduce unemployment and increase employment levels, getting people who are out of work into jobs or providing affordable access to training, colleges, universities and jobs in towns and cities is important. In addition, helping those in low skilled jobs into more productive jobs has large benefits to the economy. Effective and affordable public transport is the most efficient means of travel for workers at all skill levels.
- **Embracing new technologies** – a key requirement of the North's transport system is the provision of resilient and high-capacity mobile telecoms and internet connectivity for those travelling across the North. The network must also be enhanced and future-proofed to be able to benefit from new vehicular and digital technologies.

The need for a new strategic approach

To achieve the shared vision of a Northern Powerhouse, sustained investment is needed in the North's transport networks. The Northern Transport Strategy calls for commitment to short-, medium-, and long-term investment programmes. The formation of TfN will ensure transport investment priorities for the North are cohesively and collaboratively developed and delivered with all partners playing an integral role.



Recent and committed development – overview

Recent and committed investment is delivering benefits to support the development of a Northern Powerhouse. Such schemes are helping to provide a critical platform for more transformational schemes such as High Speed 2. As such, partners need to collectively ensure delivery as quickly as possible with no slippage to programmes.

At a national level, there has been a recent growth in amount of capital funding available for transport – investment in the strategic road and rail networks, as well as investment in local transport driven by local authorities and Local Enterprise Partnerships.

Schemes such as Northern Hub, rail refranchising, Trans-Pennine Upgrade (including electrification), the Road Investment Strategy's Smart Motorway and road widening schemes, extending the A1(M) to motorway standard north to Newcastle, improvements made to road access of the Port of Liverpool and enhancements of the A180 to the Port of Immingham, all demonstrate central government's and Northern partners' commitment to the immediate infrastructure requirements of the north of England.

The rail network in the North will see significant improvement in the coming years. Through a combination of national and locally led investment, the rail network is receiving the most substantial upgrade in a generation.

Since 2010, the central government has spent £970 million on major improvements to the North's strategic road network. Schemes in the North opened since 2010 and those planned for delivery in the Road Investment Strategy will together add over 200 lane miles to the network.

Local Enterprise Partnerships across the North have also brokered City Deals, Growth Deals and Devolution Deals with Government which have secured over £2 billion in Local Growth Fund allocations for local transport projects. This has been supplemented by locally funded investment programmes in a number of areas.

Since 2010, the central government has spent £970 million on major improvements to the North's strategic road network. Schemes in the North opened since 2010 and those planned for delivery in the Road Investment Strategy will together add over 200 lane miles to the network.

Prioritisation framework and decision making

TfN, working closely with its local and central government partners, is developing a prioritisation framework for decision-making on the options and priorities for the required programmes of investment.

The framework will start with the evidence base initiated by the Independent Economic Review to support the formulation of clear strategic objectives for both TfN's own programmes and those which it will want to influence. This evidence base is being further enhanced via the connectivity studies TfN is leading for freight and logistics, international connectivity, and strategic local connectivity, as discussed in Section 3. These studies will ensure that the transport connectivity requirements are defined with a full knowledge of the local Strategic Economic Plans being promoted by Local Enterprise Partnerships.

In 2016/17, TfN will agree its strategic objectives and targets to underpin completion of its full transport connectivity vision encompassing transformational change in road and rail journey time, frequency, and capacity. The targets for connectivity improvements across modes and geographies will help to articulate the benefits investment will bring, guide the development of schemes to deliver these benefits, inform prioritisation of options and measure progress towards delivering the vision.

TfN is taking an integrated network approach to build requirements at three levels:

- pan-northern requirements driving the significant investment in Northern Powerhouse Rail and the northern Strategic Roads Network needed to integrate the North, which will require TfN to be at the heart of establishing new partnerships with the national transport agencies in the north of England;
- pan-northern requirements also driving significant investment needed to integrate the North, which will inform Highways England's second Roads Investment Strategy 2020 to 2025 and the rail programme for Control Period 6 2019 to 2024, and beyond; and
- local requirements to guide investment to connect into the regional and national networks, led by local partners.

Once priorities have been identified, TfN will seek to ensure that project investment appraisals:

- assess the variety of ways people and businesses will respond to the new travel opportunities;
- are presented against a full set of TfN strategic objectives and corresponding impacts on the local and national economy, related to the evidence of the Independent Economic Review; and
- consider value for money, affordability and deliverability criteria.

To deliver on this, TfN is working with central government to develop best practice in appraisal techniques to ensure that decision-makers understand the economic potential of the North and impacts in terms of productivity, investment and employment from transport investments, building on the report Transport Investment and Economic Performance⁹. TfN will explore impacts across a range of economic scenarios and examine how projects perform as part of overall programmes of investment, which will include complementary economic policies.

⁹ TIEP report, Department for Transport, December 2014 <https://www.gov.uk/government/publications/transport-investment-and-economic-performance-tiep-report>



3 Progress - solution development

Good progress has been made in developing the Northern Transport Strategy and transport options for prioritisation across the North. The investment programme needed to support the North's four key prime capabilities and three key enabling capabilities identified in the Independent Economic Review will be developed through 2016/17, central to the full realisation of the Northern Powerhouse.

Rail

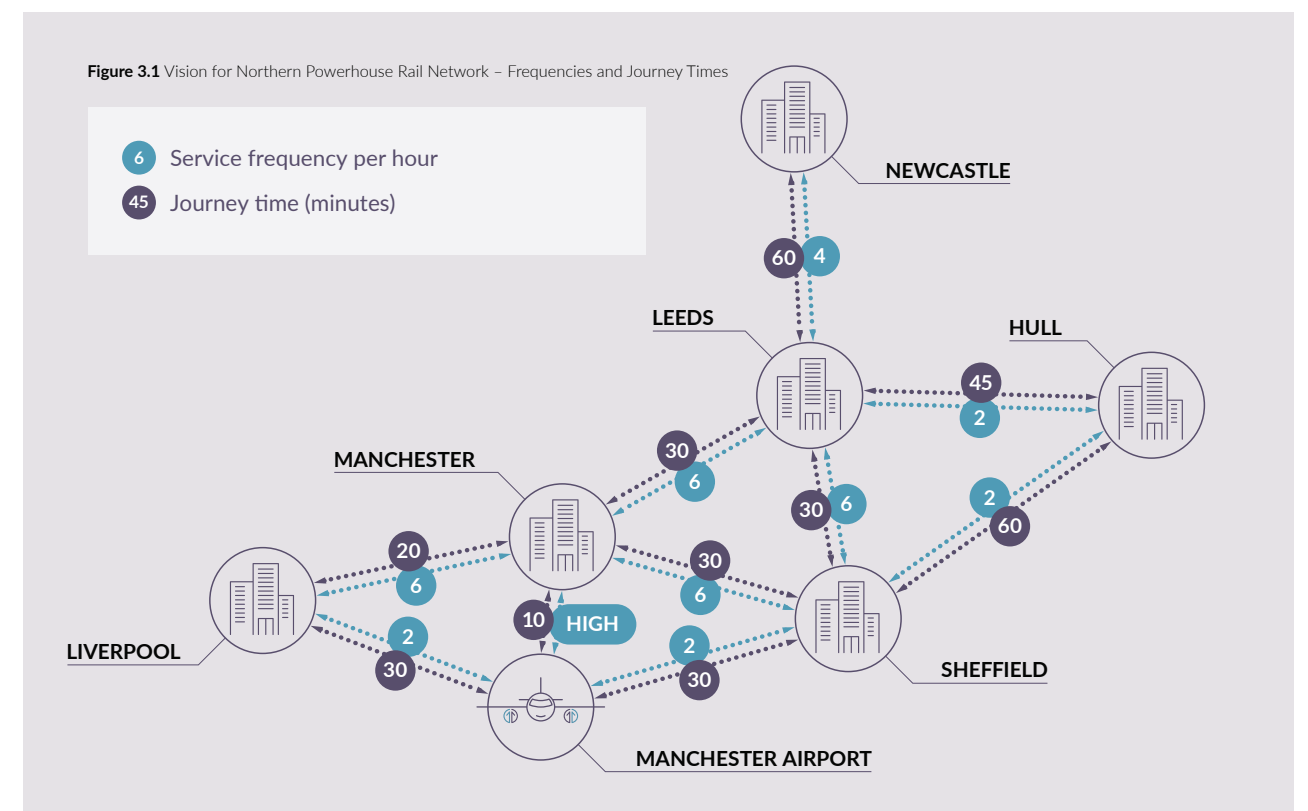
Our vision for rail

The vision is clear – improved journey times and train frequencies linking the six principal city regions and the North's biggest airport, with the right connections to the wider network. We will develop plans for a rail network so good that people do not stop to think about whether and how to travel – passengers are able to turn up and go; travelling fast, in comfort, whilst staying connected online and knowing they will arrive on time.

We are building on the opportunity that High Speed 2 will provide to link north with south, and extending this ambition east-west. Our ambition is as clear as our vision – we see transforming transport links in the North as fundamental to rebalancing the economy, driving the process of agglomeration and closing the gap economically between north and south.

The shared vision between TfN and central government for new journey times and frequencies is shown in Figure 3.1. In developing options that meet, or move very closely towards, this vision for passenger rail, we are also considering how we accommodate our ambition for freight growth on the rail network, serving other significant economic centres and providing connectivity to the rest of the network. These aspects are being developed in detail by other workstreams as described later in this section; the network we propose will cater for an integrated set of requirements.

Figure 3.1 Vision for Northern Powerhouse Rail Network – Frequencies and Journey Times



The case for action

We know that transport connectivity is a key enabler of economic growth. Output from the Independent Economic Review has shown that many businesses and research institutions in the Northern Powerhouse's Key Growth Sectors cluster in city centres. Improved connectivity in the North will support growth in the North's Key Growth Sectors and their high value jobs by bringing towns and cities across the North closer together – creating the agglomeration benefits of a much larger, single economy.

Rail travel, in particular, is well-suited to providing fast, frequent journeys into and between city centres, enabling better access to employment and improving business-to-business connectivity. Rail can also play a central role in better freight links to, from and within the North. That is why the development of the Northern Powerhouse Rail network is a flagship of the Northern Transport Strategy. Not just the ability to move more people from 'point A to point B', but a network that allows people to broaden their horizons by living in one area and working in another. A network that makes a meeting in a neighbouring town or city a minor event rather than an all-day commitment. A network that brings the whole North closer together.

Currently, this world-class network does not exist across the North; however, we have seen some major investments in infrastructure, and it is encouraging to see that the effects and impact of this have been striking. For example, The introduction of good quality four-coach electric trains on Northern Rail services between Liverpool and Manchester delivered double digit revenue growth¹⁰ within the first year since electrification; further increases are expected when the timetable is updated to reflect the increased performance of electric trains over diesel. This gives an indication that there is substantial untapped potential for increased rail demand in the north, which our new network will address.

Recent and committed rail programmes through the new Northern and TransPennine Express franchises and other investments will deliver important benefits (see Committed Investment and New Franchises box). These improvements will make a big difference to passengers, and are needed to keep pace with current predicted rail growth. We are looking to go even further, targeting further step changes in rail connectivity which we believe will transform the economic prospects of the North. This requires the level of ambition set out in our vision for the Northern Powerhouse Rail network.

We are confident that, subject to delivering the right rail package, strong growth in rail travel will continue over the next 30 years. This is supported by Network Rail's forecasts suggesting growth of between 62 and 109 percent between 2012 and 2043, as well as strong growth in rail freight¹¹. Our ambition is that this growth will be accelerated by increased patronage as a result of our world-class network, which will use schemes such as the Transpennine route upgrade and Northern Hub as a baseline to build on, including for example, important first steps to improving the Calder Valley line. This transformational growth will support significant investment necessary to build the network we need to realise our vision. A summary of recently completed improvements and schemes in the pipeline for completion is shown in Figure 3.2.

¹⁰ Source: Northern Rail

¹¹ Prospering In Global Stability scenario in <http://www.networkrail.co.uk/improvements/planning-policies-and-plans/long-term-planning-process/market-studies/long-distance/>



Committed investment and new franchises

Through strong partnership working between northern authorities and the Department for Transport, significant investment has been secured for the two new franchises which will provide more frequent services to more places, with improved journey times. On top of the over £1 billion committed for the TransPennine Upgrade and Northern Hub programmes, the new Northern and TransPennine Express franchises will see a £1.2 billion boost to rail services.

In addition to the complete removal of the outdated 'Pacers' by the end of 2019, and investment of £400 million in 281 brand-new air-conditioned carriages, the new Northern franchise will see:

- More than 2,000 extra services each week, with around 400 additional Sunday services, including new direct journeys from Bradford to Wakefield, Sheffield, Nottingham, Liverpool and Hull; from Leeds to Chester and Bridlington; from Lincoln to Leeds; and from Manchester Airport to Warrington, Bradford and Halifax.
- Nearly a 40 per cent increase in capacity, creating space for 31,000 extra passengers travelling into the six major commuter cities (Liverpool, Manchester, Leeds, Sheffield Hull and Newcastle) of the North during the morning rush hour.
- A new high quality 'Northern Connect' service, meaning new or refurbished trains on longer-distance services, faster journeys and stations staffed daily with catering services and free Wi-Fi at each one. As well as serving the six major commuter cities, this network will also serve other important destinations across the North.
- Improved ticketing, including mobile and print-at-home tickets, and discounted fares for jobseekers.

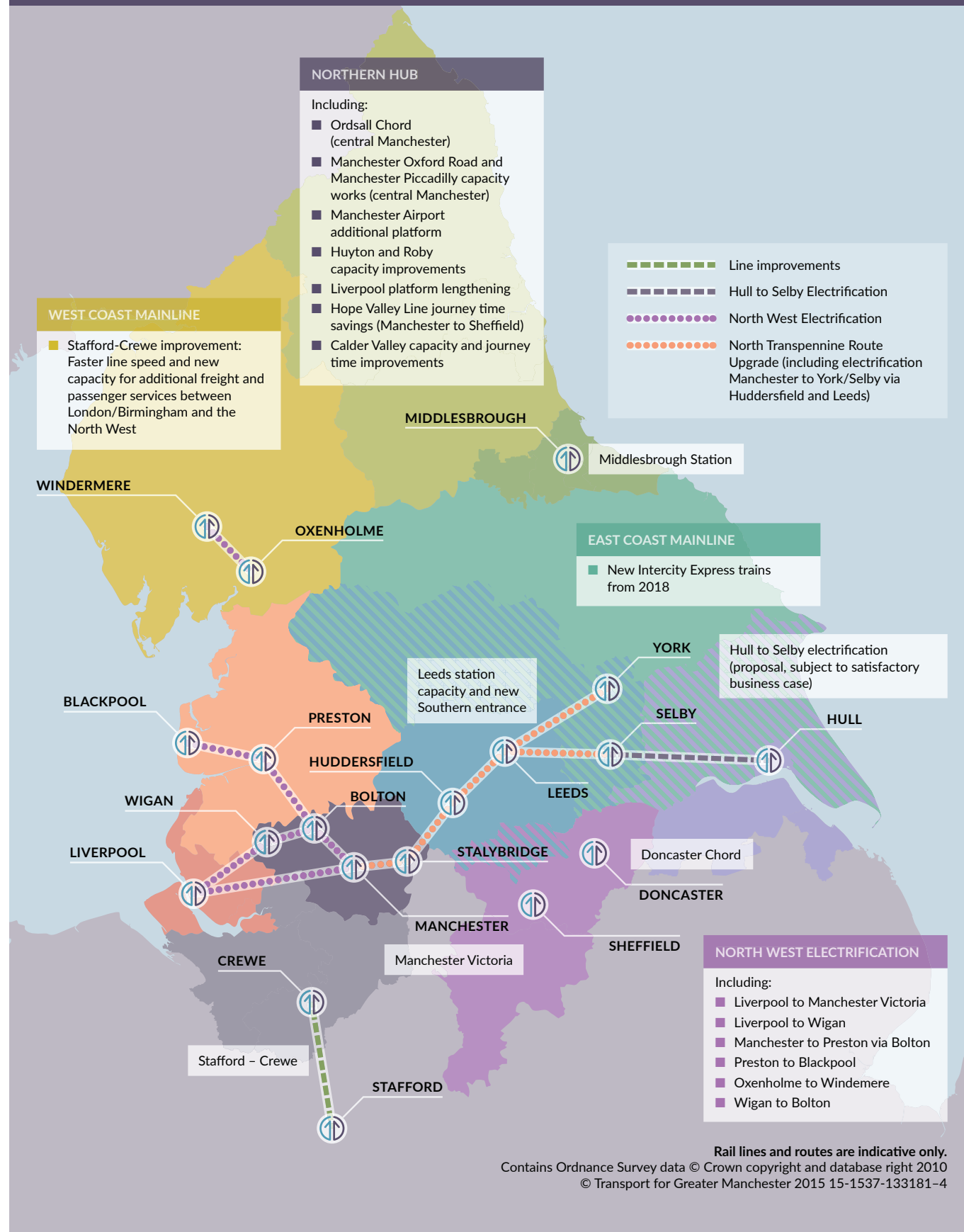
The new TransPennine Express franchise will deliver 220 new carriages, equivalent to 44 trains and worth more than £400 million, providing fast 125 mph services across the network, as well as:

- Introducing new and additional services for Scotland, including a new, direct Liverpool to Glasgow service from December 2018 with new electric trains and extending existing services beyond Newcastle to Edinburgh from December 2019, and bringing in additional services from Manchester to Glasgow and Edinburgh from December 2017.
- Doubling the number of Manchester to Newcastle services and running more daily services to Hull from Manchester and Leeds, both from December 2017.
- Bringing in 9,000 extra seats into Manchester, Leeds, Sheffield, Liverpool and Newcastle – an overall capacity boost of nearly 70 per cent across the region during the morning peak.
- Offering discounted advance fares for 16 to 18 year-olds and jobseekers.

This means that northern partners will be able to influence the outcomes to ensure that the long-term economic benefits are maximised as a preliminary phase of the Northern Powerhouse Rail programme.

Figure 3.2

Network Rail's North of England enhancement programme



Progress to date

Our work to date shows that achieving the rail vision could require a network including new railway lines, major upgrades to existing lines and major work at stations. This network will provide for ambitious passenger and freight growth and would enable better access to destinations right across the North.

Since March 2015, TfN and partners have been working to understand which options make most sense on individual legs of the network. This starts with looking at what more the existing railway can offer towards achieving the vision, including significant investments such as electrification, re-signalling and line speed improvements, and assuming the full High Speed 2 (HS2) network is in place.

We now have a much clearer picture of what is possible, with promising options emerging. For example, significant upgrade work (electrification, sections of four tracking, grade separation of key junctions) between Leeds and Hull and Leeds and Newcastle look likely to move significantly towards achieving our ambition.

TfN welcomes High Speed 2 and the announcement of early delivery of Phase 2a connecting the West Midlands to Crewe by 2027, six years earlier than originally planned. A high speed connection to the south will add value to the economy of the north improving trade, commerce and development. It will regenerate local economies allowing local authorities to use High Speed 2 as an opportunity to develop stations as destinations and interchanges.

The full potential of High Speed 2 can be unlocked by using capacity on the planned route for Northern Powerhouse Rail services and constructing new connecting routes to deliver our vision. This would allow significant reductions in journey times between key city regions. For example, between Liverpool and Manchester there is potential to integrate with the planned High Speed 2 infrastructure including the option of providing a new line. High Speed 2 could achieve the vision for access between Leeds and Sheffield with the right timetable and access to Sheffield city centre.

For some routes, our work to date has indicated that in some cases achieving the vision in full might involve entirely new lines, or in other cases major upgrades to existing routes that are akin to a new line, such as major bypasses and cut-offs. Further work on route options and intermediate stations is being developed as outlined in our November 2015 report. On routes between Leeds and Manchester, and Manchester and Sheffield our work to date has shown that we need to go further than committed investments in the existing railway in order to achieve our vision for faster journeys and more frequent services. We are therefore developing a range of options, including new lines, that look at how we could achieve our longer term transformational vision, as well as accommodate the anticipated growth in freight.

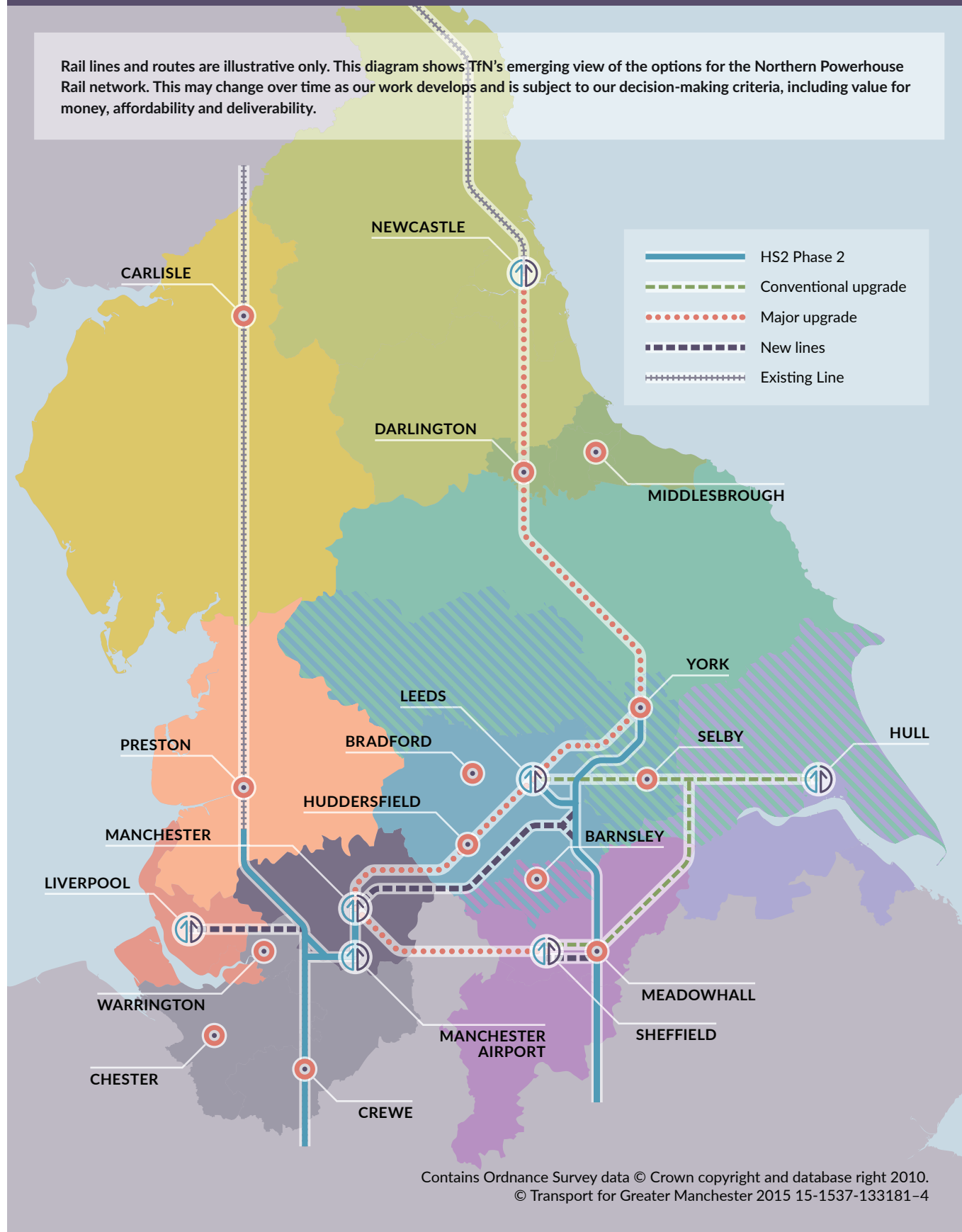
Significant progress has been made in a year, on developing options for our transformational rail network in the North. Plans for the new High Speed 2 station in Leeds have been reviewed to take into account the needs of the Northern Transport Strategy – a major step forward. The work will continue – developing plans for new railways takes time to get right.

We are working on a refined range of options for each corridor, building on the emerging findings from our work to date. We are keeping all these options live, focussing our effort developing those that our studies have indicated are likely to be the most promising in terms of achieving the vision, subject to our decision-making criteria, including value for money, affordability and deliverability. Figure 3.3 (overleaf) shows TfN's emerging view of the options for the Northern Powerhouse rail network. This may change over time as our work develops.

Figure 3.3

TfN emerging options for the Northern Powerhouse Rail network

Rail lines and routes are illustrative only. This diagram shows TfN's emerging view of the options for the Northern Powerhouse Rail network. This may change over time as our work develops and is subject to our decision-making criteria, including value for money, affordability and deliverability.



Next steps

During 2016, with a contribution from the Transport Development Fund, scheme development could go further. It would allow us by the end of the year to establish a more detailed view of the physical work required to deliver each option within a corridor. This includes analysis of the indicative costs and benefits, in order to move towards proposing a preferred option on each corridor. We will continue to integrate our work with the other workstreams, maximising the potential to accommodate ambitious freight growth, serving other significant economic centres and retaining the opportunity to connect the Northern Powerhouse Rail network into local markets.

Our strategy for implementation will be further developed, using analysis to inform which corridors to tackle first. We will consider opportunities to make the railway in the north Northern Powerhouse Rail ready, and identify areas where Northern Powerhouse Rail enabling works can be undertaken. That will enable further prioritisation, and a clear plan for delivery will be formed. Our proposed programme for the development of Northern Powerhouse Rail is shown in Section 4.



Improvements to the strategic road network

Our vision for roads

The shared vision for roads, first stated in the March 2015 report, is for a faster, less congested strategic road network, which is crucial to delivering the Northern Powerhouse. Central to this vision was a resilient network of motorways and expressways increasingly offering a 'mile a minute' journey times linked seamlessly to local networks and key locations including ports, airports and other logistics hubs.

The case for action

The number, capacity, and reliability of east-west road connections are seen as a constraint on the Northern economy. The M62 is the only east-west motorway spanning the North and part of the EU designated trans-European network (T-TEN) linking Ireland to mainland Europe. The road that connects Greater Manchester and the Sheffield City Region is a single carriageway road through the middle of the Peak District National Park, taking almost an hour and a half through one of the country's most treasured habitats and landscapes. The drive time between Rotterdam and Utrecht, a comparable distance, is closer to 45 minutes.¹² East-west travel across the Pennines is subject to poor weather conditions, and so can be unreliable with severe delays and closures in bad weather.

High demand for freight travel to and from the North's ports, for commuting to work, and for other business trips means that many parts of the North's road network are heavily congested. Some of the most congested parts of the network include the M60 in Greater Manchester, the M62 in the Liverpool City Region, Cheshire and Warrington, and in West Yorkshire, the M1 around Sheffield, the A1(M) at Doncaster, and the A1 and A19 in the North East and Tees Valley.

Progress to date

Recent investment in the strategic road network has been considerable and the committed schemes under construction in the North will help alleviate some of the worst congestion in the network (see box opposite and Figure 3.4). Similar to the North's rail networks, we are looking to go even further in order to support a step change in road connectivity over the long term.

TfN and the Department for Transport have commissioned Highways England to manage three strategic studies to plan the next generation of major enhancements for northern roads. These studies are being progressed together to identify priorities for the M60 Manchester North West Quadrant; key east west routes across the north Pennines – the A66/A685 and A69; and a high performance transport link between Greater Manchester and Sheffield City Region with a trans-Pennine tunnel. Initial reports on the Northern Trans Pennine and M60 studies will be published in March 2016. An interim report on the Trans Pennine Tunnel study was published in November 2015. Final reports will be completed in Autumn 2016.

All three studies will incorporate work from the Independent Economic Review identifying the North's key economic assets and the role of transport to drive transformational growth.

¹² Based on Google drive times without traffic.

Recent and committed road schemes

Since 2010, the Government has spent £970 million on major improvements in the North's strategic road network, adding over 200 lane miles to the network. It is working closely with Northern partners to identify priorities for future investment.

In the first Road Investment Strategy, published December 2014, government committed to £2.9 billion of road improvements across the north of England in the five year period 2015–2020. This includes 42 major schemes in the North which will see key east-west and north-south links upgraded to Smart Motorways, full motorway standard on the A1 Doncaster to Newcastle and dualling beyond to Ellingham.

Since the publication of the TfN report in March 2015, major schemes to improve access to the Port of Immingham (A160/A180 improvement) and upgrade the M6 Junctions 16 to 19 south of Manchester (Crewe to Knutsford) to a smart motorway have started construction. A smart motorway has opened on the M1 south of Leeds (Junctions 39 to 42) and another in Derbyshire and south Yorkshire (Junctions 28 to 31) will open shortly. Construction work is underway on four further major schemes in the north, including improving the A1 Western Bypass between Coal House and the Metro Centre west of Newcastle and Gateshead.

The first Road Investment Strategy will provide major improvements to port and airport access, with five major northern ports benefitting from committed schemes such as the A5036 Princess Way in Liverpool. Manchester, Robin Hood Doncaster Sheffield and Newcastle airports will also benefit from improvements to the strategic or local network. It also invests in the first new trans-Pennine capacity in over forty years to increase capacity and improve journeys on the M62 between Rochdale and Huddersfield by making this section a smart motorway.

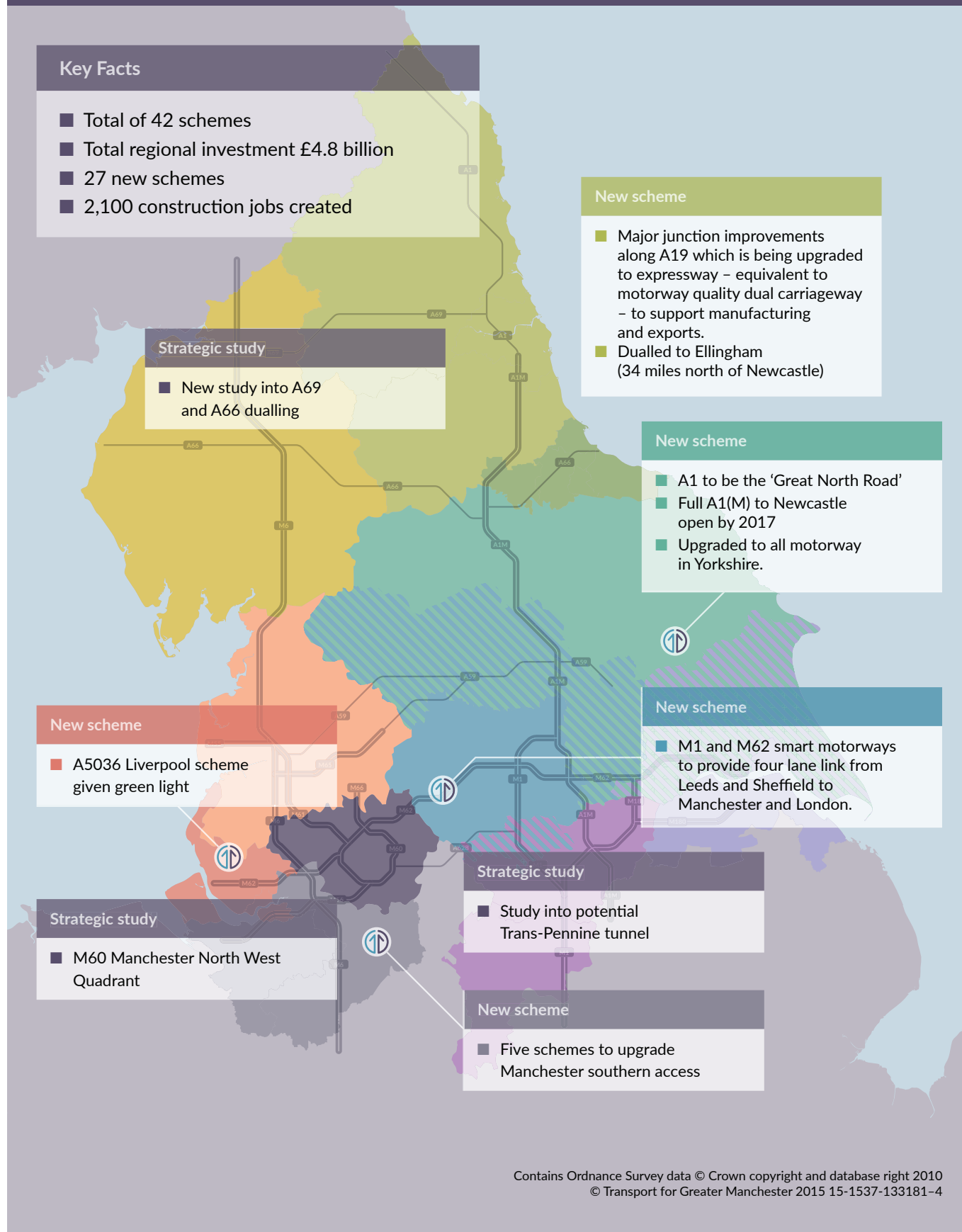
The first Road Investment Strategy also includes commitments to planning complex schemes for the second Road Investment Strategy 2020 to 2025. This includes the reconstruction of some of the most congested motorway junctions in the north, such as the Lofthouse Interchange between the M1 and M62 and Simister Island on the M60 / M62. The improvement of the A1 to motorway standard across the whole of Yorkshire and the linking up of a smart motorway from Wigan to Nottingham, via Manchester, Leeds and Sheffield, both form part of this longer-term plan

The first Road Investment Strategy also announced three strategic studies to consider some of the biggest challenges in the north of England and potentially transform east-west strategic road connectivity:

- The case for a new high performance tunnel under the Pennines between Sheffield and Manchester;
- Upgrading of the east-west A66 and/or A69 to dual carriageway across the Pennines north of the M62; and
- Improvements to the M62/M60 between Warrington and the north and west of Manchester.

Figure 3.4

Measures in the first Road Investment Strategy, 2015–2020



Trans-Pennine Tunnel Study

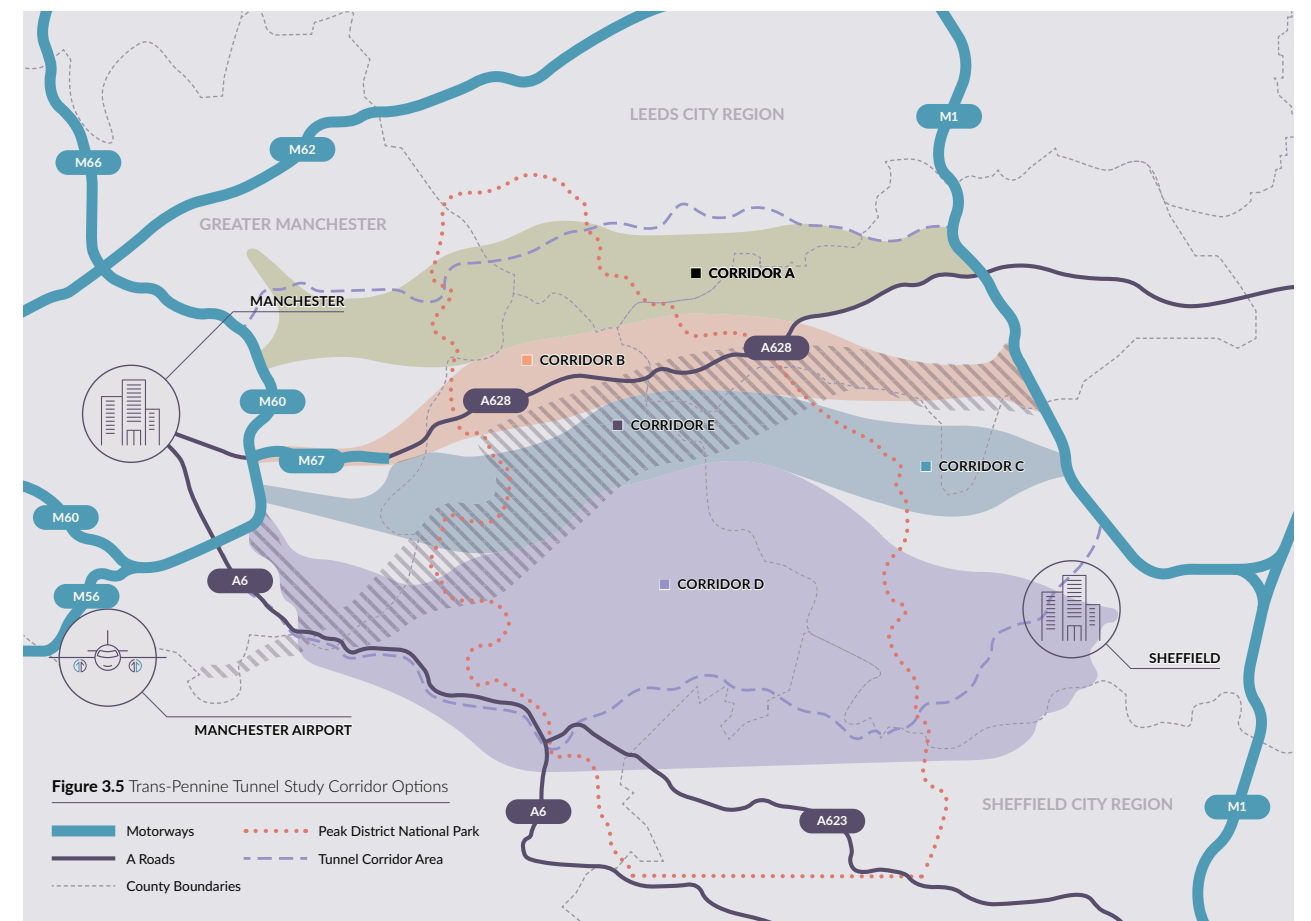
In November 2015, the first report into a Trans-Pennine Tunnel Study was published. This found that there was a strategic case for providing a direct, all-weather link between Greater Manchester and the Sheffield City Region. A tunnel under the Pennines would bring about significant journey time savings and improve resilience. It would also remove a significant volume of traffic from the Peak District National Park itself and permit the improvement of the landscapes and ecology of the park. The study found that there are no insurmountable technical barriers to constructing a tunnel under the Peak District National Park. It concluded that if the balance of costs and benefits is right, there could be a case for this transformational project to go ahead.

This work has been in parallel to scheme development for Northern Powerhouse Rail, also considering rail options between the two city regions. Since Autumn 2015 further work has been under way to identify the most promising corridors for a transformational road link between Greater Manchester and Sheffield City Region. Five potential corridors have been identified, as shown in Figure 3.5.

All corridors offer substantial reductions in journey times of around thirty minutes on the Manchester-Sheffield journey. All corridors would provide relief to the existing road network, improving both reliability and resilience for the network as a whole, and removing large amounts of traffic from existing roads crossing the national park.

The analysis under way suggests that investment in any corridor could generate additional output for the UK economy. These productivity benefits accrue to all regions, with the strongest gains in Greater Manchester and South Yorkshire.

Figure 3.5 Trans-Pennine Tunnel Study Corridor Options



A high level assessment of the potential environmental impact of the corridor options is under way, including consideration of potential noise, air quality and landscape impacts. All corridors would reduce environmental impact by tunnelling under the Peak District National Park.

Future work will consider the integration of the tunnel with other road schemes and rail, and the connectivity of the tunnel portals to other key locations. A final report outlining the initial business case for the different options will be produced by the end of 2016.

Northern Trans Pennine Routes – A66/A685 and A69 Route Study

Between Derby and Stoke-on-Trent in the south and Glasgow and Edinburgh in the north, there is only one continuous east-west dual carriageway – the M62. The aim of this study is to identify options for a new strategic corridor north of the M62 by upgrading one or both of the A66/A685 and the A69 corridors.

Investment in the North Trans Pennine routes would provide significant potential to support the Northern Powerhouse and particularly the economies of the North East, Tees Valley and Cumbria. Other options considered for rail enhancements as part Northern Powerhouse Rail also offer great potential to take freight off the road network entirely.

Initial analysis identifies that:

- While both routes are currently operating within their theoretical capacities, there is a strategic case for intervention
- Sections of both roads have higher than average collision rates and collisions on the single carriageway sections are generally higher than on adjoining dual carriageways.
- Journey times are unreliable and prone to significant disruption in bad weather, and road standards are inconsistent.
- In these corridors, there is significant reliance on private cars for transport.
- At present, two out of every three lorries crossing the Pennines uses the M62. The creation of a strategic route further north would provide a realistic alternative for freight traffic, especially to/from the North's east coast ports, greatly increasing the resilience of the road network in the North of England and on to Scotland.
- The ecology and landscapes of the North Pennines will be a major consideration in developing potential options.

This study will incorporate work underway in Cumbria to consider the role of the A66, A595 and A590 to the west of the M6. Tees Valley are considering the role of the A66 and other routes to the east of the A1.



M60 Manchester North West Quadrant Study

While the M60 around Manchester fulfils a similar strategic role to the M25 around London, it is also an integral part of Manchester's local road network and accommodating future local growth. It carries some of the highest flows of traffic on the national motorway network. The findings from the first stage of the study have confirmed that:

- The M60 within the study area performs multiple functions, serving international, national, regional and local connectivity.
- The strategic road network within the study area suffers from severe congestion with the majority of links falling within the worst 10 per cent nationally in terms of journey speeds and journey time reliability.
- Given the nature of the existing radial public transport network, there are significant challenges for public transport to be an attractive alternative for the commuter traffic that uses the M60.
- The volume of freight (15 per cent) and the topography and layout of the M60 means that freight can be slow moving, affecting overall performance.
- Air quality within close proximity to the M60 North West Quadrant is poor (with measured concentrations above EU Limit Values) and this will constrain traditional highway solutions.
- Morning and evening peak periods are becoming increasingly longer, and there are high traffic flows throughout the day.

Potential multi-modal interventions are being developed that would meet the objectives of the study. Further analysis will consider wider impacts, including noise and air quality.



Next steps

TfN will continue to work with Highways England to deliver all committed schemes in the first Road Investment Strategy.

TfN will also continue to work with Highways England to develop schemes identified for implementation in the next Road Investment Strategy (2020 to 2025) including amongst other schemes upgrading the A1(M) Doncaster by-pass and the A1 between Redhouse and Darrington to motorway standard, providing a better route to the North East and Scotland, improving key junctions on the M62 at Lofthouse Interchange and Simister Island to improve traffic flow and reduce congestion, and completing the Smart Motorway programme in the North to provide a full four lane link between Manchester and Leeds and a single, continuous network stretching over 140 miles.

These schemes, and schemes identified through the next round of Route Strategies (managed by Highways England covering all strategic roads in the North and the rest of England), and through other Northern studies will be key building blocks of developing TfN's Roads Programme for the North.

TfN and Highways England will work with all relevant stakeholders to ensure a thorough understanding of their priorities and the opportunities to support growth in the north of England, and how to deliver against their other strategic objectives.



Smart North – an integrated ticket across all public transport modes

Our vision for Smart North

The vision for integrated and smart travel in the North focuses on encouraging more people to travel by public transport by making it easier for people to identify their most cost-efficient, accessible and quickest options.

The need for action

In recent months, TfN has been working with Combined and Local Transport Authorities, public transport operators, Transport Focus, the Department for Transport and others to evaluate the best options for smart ticketing, and related fares and information work, in the North. The cooperation and support from these partners has been gratefully appreciated and immensely valuable in developing a programme for Smart North. Recent research carried out by Transport Focus shows that public transport passengers in the North want easy travel on and between modes with a reduction in time taken to think about and then buy tickets. They want a durable product and, if possible, to be able to use a device such as a smart phone or card that they already have. The above vision for Smart North addresses this.¹³

Enhanced customer and management information will enable service planning to be more informed and efficient, and will allow development of improved and targeted offers for passengers. This will encourage and generate additional travel and, in parallel, will improve efficiency of ticketing operations. Whilst there are a number of good sources of travel information currently available to passengers, Smart North will seek to bring these together under an improved digital customer interface which will link journey planning directly to ticket purchase, thereby improving convenience and reducing the cost of sale.

¹³ Transport Focus was commissioned by the Department for Transport to carry out customer research on current transport usage and smart ticketing across the North of England in January 2016.



Progress for Smart North

An Implementation Plan has been developed for this transformational initiative that will support integrated, easy-to-use, seamless public transport journeys across the North's transport networks. The Strategic Outline Business Case for Smart North will be presented to Government in Spring 2016 to accompany the implementation plan that is summarised below. Once TfN has been granted the necessary business case approvals, there will be access to the funding allocation announced by the Chancellor of the Exchequer in the 2015 Autumn Statement for the delivery of a smart and integrated ticketing programme up to 2020. Smart North has four key objectives against which initiatives are being evaluated.

- **Improving the customer experience** by providing seamless inter-region and multi-modal travel; reducing time queuing to purchase tickets, to enter/exit stations and to board buses, trains and trams; providing an enhanced information offer including greater availability of service and pricing information; and, over time, offering a 'price promise' to improve passenger perceptions on receiving value for money.
- **Increasing operational efficiency** across the transport network utilising more efficient, customer-focused ticket sales channels, increasing the accuracy and timeliness of data available to optimise operations and tailor services to passenger needs. Operational costs will be reduced via shared back office activity.
- **Providing a consistent and familiar travel experience** throughout the North with more simplified fare structures and consistent product definitions.
- **Enabling economic growth** in the North by providing passengers with more affordable access to a wider and more integrated jobs market in the North

There are a number of existing operator and Combined and Local Transport Authority smart ticketing schemes. The role of TfN will be to accelerate the roll out of those schemes and ensure that they evolve in a way that delivers a consistent and enhanced customer experience across the North's transport network.

The eventual aim is to offer a 'fair price promise'¹⁴ across the region, where the passenger knows they are getting a good deal without needing to select products in advance – they can simply turn up and go and get value for money. Further, the offer is that all of a customer's public transport ticketing in the North can be handled together, for example using the same customer medium, and the same account for travel within towns and cities and between them.

Achieving the aim of a 'fair price promise' will mean carrying out fares calculations based on passengers' actual journeys. This will require calculation in a back office that is away from passengers' ticket and information points. The expectation is that over time many customers will set up accounts for their public transport travel and payments. Ticketing provision would also be made for those who do not want to register.

Next steps – the Smart North Implementation Plan

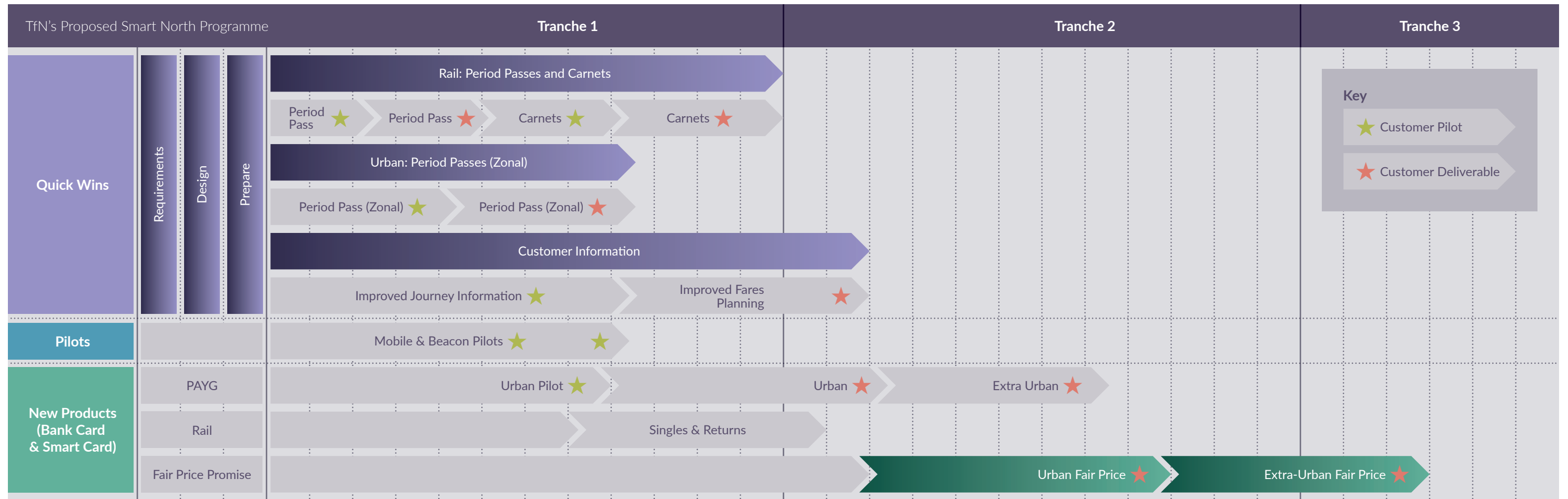
Figure 3.6 sets out TfN's proposed programme for the Smart North implementation plan, which will be subject to business case approval. The plan is to achieve these aims by a series of 'releases' of new, smart services over a number of years, as follows:

- **Tranche 1: Enhanced and new smart ticketing provision and core IT development.** TfN will implement and support ticketing schemes, such as smart season tickets that will provide early benefits to passengers and operators, give insights on how passengers may respond to potential new ticketing offers, and / or test new ways of ticketing. In this tranche, investments will be made in new equipment including ticket machines that will be required to support the introduction of Smart North. Building on existing schemes, TfN will explore developments in a small number of towns or cities and routes in this first phase. Additionally, TfN will use this period to develop the technology infrastructure that is required to develop the more advanced ticketing offers and integrated online information and journey planning. A core innovation workstream will enable ongoing Research & Innovation to drive forward rather than react to technology in this area, supported by partnership with higher education institutions and private sector industry leads in the North and further afield.
- **Tranche 2: Transition and 'Pay As You Go North'.** TfN will seek to support the transition of many current smart ticketing services to use the new technology infrastructure, giving passengers the opportunity to move from a dedicated transport smart card to a contactless bank card or a smart phone should they chose to do so. TfN will also aim to launch a 'pay as you go' offer that works across all of the North. These will be rolled out place by place, working with Combined and Local Transport Authorities and operators, once each has the appropriate equipment in place, e.g. gates and ticket machines that can read contactless bank cards as well as industry standard (ITSO) smart cards.
- **Tranche 3: Fare-capping and a 'fair price promise'.** TfN will work within operators and others in seeking to develop fare-capping and a 'fair price promise' to passengers on daily (and in due course weekly) basis. TfN will expect this to apply to travel during a single day (where a passenger may reach a daily cap and be charged no more) and during a week (where their travel may reach the equivalent of the weekly ticket in which case they would pay no more). This is an ambitious aim, and will require reaching agreements with the Combined and Local Transport Authorities and with commercial operators on how the 'fair price promise' and fare –capping will work locally. Initially, we it is expected that this will work by each Local Transport Authority continuing having its own scheme and scheme rules. It is envisaged that these will become more aligned over time.

Tranche 1 is planned to take place during the lifetime of this Parliament. Tranches 2 and 3 build on the proposed programme set out for Tranche 1, however, they are planned for completed delivery beyond the life of the existing spending commitments (see Figure 3.6).

¹⁴ 'Fair price promise' means an aspiration to be the lowest fare but recognise there would be some scenarios or fares where it is difficult to achieve.

Figure 3.6 TfN's Proposed Smart North Programme





A comprehensive Northern Transport Strategy

Improving international connectivity

In a global economy, high levels of international connectivity are crucial for the North's economic success. The North has many successful exporting businesses, exporting £55 billion a year internationally¹⁵. There is significant scope to expand into new international markets, and with particular export growth potential amongst small and medium enterprises. The North also benefits from around £1.9 billion in revenue from in-bound tourism¹⁶, with huge potential to attract more international tourists to the many world-class attractions on offer. The Independent Economic Review has demonstrated the need for the North's key prime capabilities to be able to compete internationally, including enhanced connectivity to international hubs and markets.

Highway England's current Road Investment Strategy 2015 to 2020 recognises that increased demand on roads to ports and airports is making it harder to access export markets. Already in development are schemes to improve linkages, such as improving road access to the Port of Liverpool, the A63 Castle Street link to the Port of Hull, and junction improvements on the route to Teesport. Meanwhile Doncaster's, Great Yorkshire Way, has now opened, providing improved direct access to Robin Hood Airport.

TfN is, therefore, identifying the trade links that best secure competitive advantage and export growth potential for the North. Existing and future barriers to growth will be identified, along with ways in which the competitiveness of the North's airport, port and inland waterway facilities can be enhanced. This will then lead to an assessment of the infrastructure improvements likely to be required to allow the North to be adequately globally connected as a single economy.

¹⁵ 2014 data from HM Revenue and Customs: <https://www.uktradeinfo.com/Statistics/RTS/Pages/RTSArchive.aspx>

¹⁶ <https://www.visitbritain.org/nation-region-county-data/>

Enhanced international connectivity can only be delivered through strong leadership and the investment of private industry. To investigate these issues and make recommendations for improvement, the Chair of TfN, John Cridland CBE, is bringing together (and will chair) a Commission on the International Connectivity of the North with a panel appointed from leading business and industry representatives. The Commission will also engage with airport, airline, port, inland waterway, ferry and cruise operators, central government, Local Enterprise Partnerships, Local Authorities and trade groups to ensure TfN has a joint approach.

The first key output of the strategy will be a description of current levels of international connectivity, key challenges and options. Options generated will be prioritised, giving consideration to wider impacts and synergies with schemes from other workstreams, and an investment programme will be developed in order to deliver improvements to international connectivity.

Freight and logistics

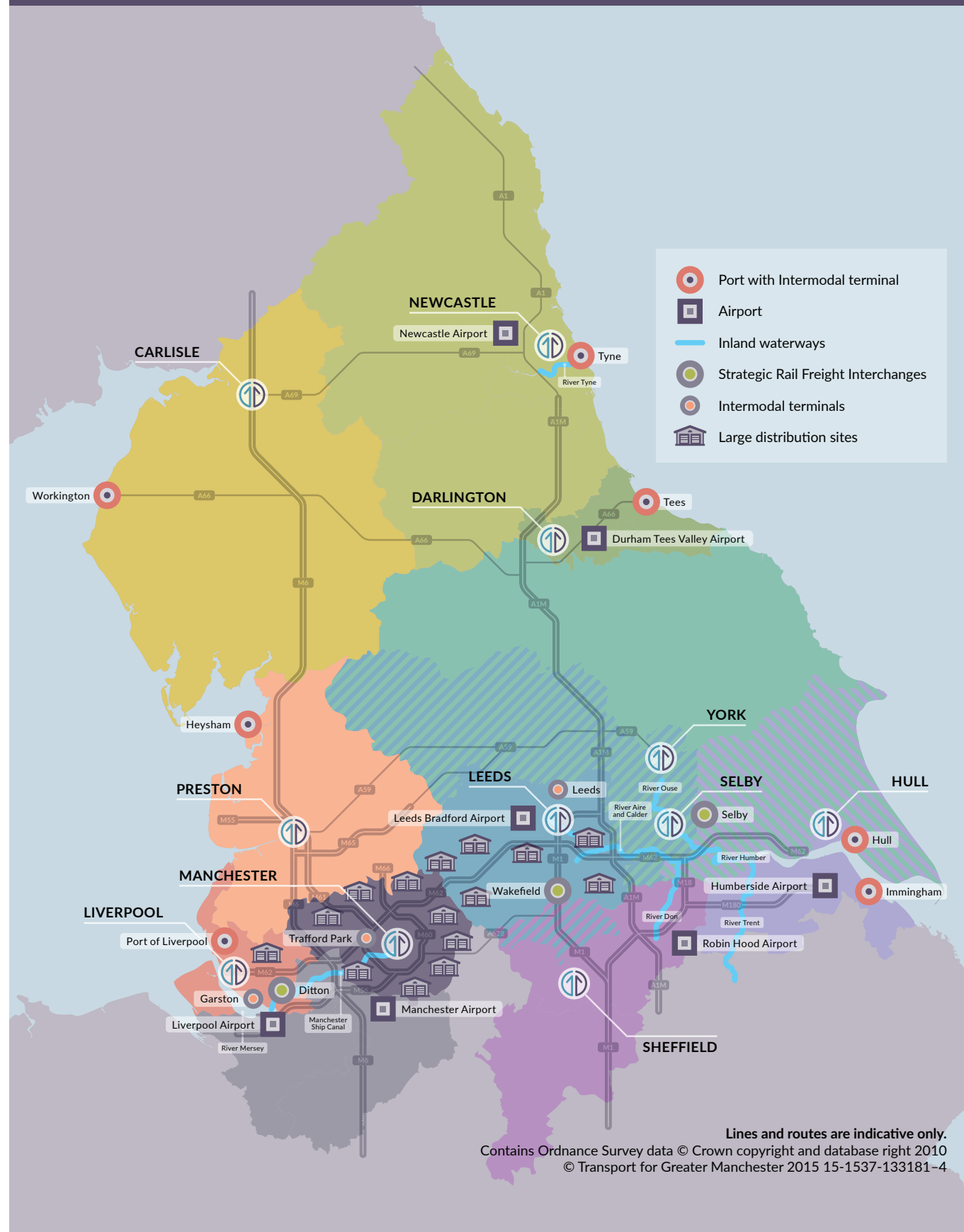
The North's freight industry has a number of key strengths including:

- proximity to markets (consumer and production);
- land and labour favourable (compared with the South);
- industrial heritage;
- ports and airports have capacity and options for expansion;
- passenger improvements on rail could free up capacity for freight,
- waterways, such as the Manchester Ship Canal and ports along it; and
- a large manufacturing base to capitalise.

The North's key freight infrastructure locations are shown in Figure 3.7.

Figure 3.7

Locations of key freight infrastructure



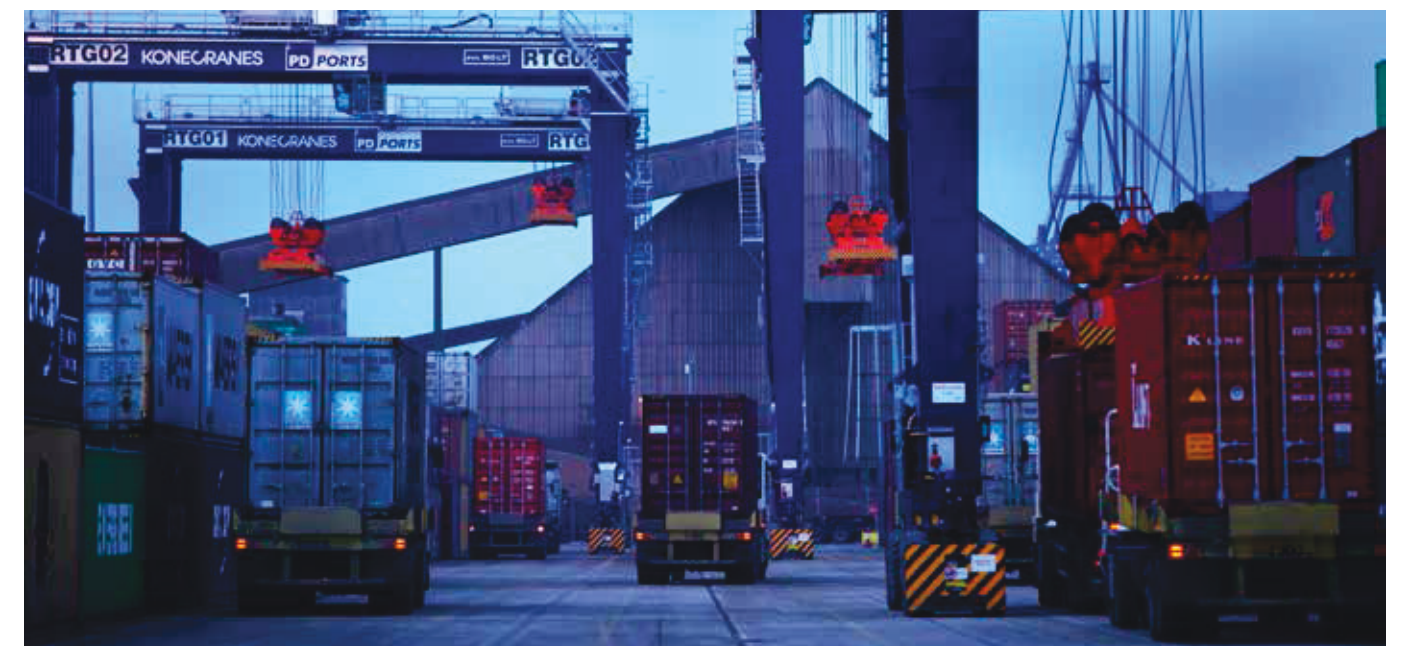
Since the publication of its Autumn Report in November 2015, TfN has continued to develop the UK's first pan-regional freight and logistics strategy. This will articulate the vision for a vibrant and well-connected northern economy underpinned by a world-class transport network that supports a thriving freight and logistics capability delivered through collaborative public-private sector action. It will also reflect the role of freight in supporting delivery and operation of ambitious development aspirations, including Nationally Significant Infrastructure Projects in specific location (e.g. new nuclear power).

Initial findings demonstrate how investment could deliver transformative outcomes – indicative results, subject to peer review, are in the order of £32 billion of user and non-user benefits¹⁷, as well as significant wider economic benefits.

In order to achieve these potential benefits to the UK, TfN has focused on reducing the cost of freight movement within, to, and from the North. A series of draft key principles for action have been developed that articulate the priorities for investment. The draft key principles for action are:

- increasing network capacity and resilience for freight, with particular emphasis on rail and water but also addressing road pinch points;
- supporting growth in strategically located rail and water connected freight interchanges/distribution centres in the north of England;
- supporting growth in traffic through northern ports by improving their connectivity and enabling shipping lines to offer more cost-effective services;
- working collaboratively across Local Transport and Planning Authorities on the efficient implementation of measures; and
- creating a long-term, consistent business environment to stimulate private sector investment in sustainable, low emission technology and distribution practices across the North.

¹⁷ This figure represents the benefits of the strategy in terms of efficiency gains, reduced environmental costs and reduced congestion and accidents. The calculation is based on a 60 year appraisal period and is subject to peer review of the draft strategy.





There is significant opportunity for the ports of the North to increase the number of short sea and deep sea shipping lines directly serving them. In particular, more deep sea services can now be accommodated at Port of Tyne, Teesport and Liverpool as a result of recent capacity enhancements. However, additional network capacity and connectivity is needed if access to these ports is to be improved. Regional ports also have potential to support economic activity and provide additional capacity, reducing pressure elsewhere.

TfN is looking at the proposed development of a rail and water-connected distribution network; investment in the port and hinterland connections and infrastructure; the utilisation of capacity released on the rail network by HS2 and Northern Powerhouse Rail for freight services; and a package of infrastructure solutions that would facilitate new Strategic Rail Freight Interchanges in the North and would allow larger and longer freight trains to access these interchanges, including gauge clearance where necessary.

TfN is looking at a range of highway measures such as:

- the development of a network of secure HGV parking facilities and the delivery of improvements to land side access to ports, including Liverpool, Teesport and Hull;
- the development of 'last mile distribution' solutions and impact mitigation, including electric vehicles; and
- appropriate vehicle signage and routing strategies and recognition schemes to improve standards, delivered in conjunction with central government and local partners.



Improving strategic local connectivity

The North requires a network that not only joins the major urban centres, but also provides local links to the strategic network. All transport systems need to be seamlessly linked for the passenger or road user to begin, conduct and complete their journey easily and conveniently. TfN aims to assess, develop, fund and deliver the projects that will secure the greatest growth in the northern economy, across traditional journey to work boundaries, which present high value for money and are affordable. Working with central government and local partners, the most appropriate mechanisms for scheme development, funding and delivery will be agreed.

For more local schemes, Local Enterprise Partnerships, Combined Authorities and Local Transport Authorities are best placed to make decisions about local connectivity, including for roads, rail, tram, bus, walking, cycling, demand management, and behaviour change.

It is important to ensure economic benefits are spread across the North to deliver the vision of a Northern Powerhouse. TfN will ensure that, as well as the major cities, key towns and employment sites (including Enterprise Zones) and development opportunities are better connected to contribute to and benefit from the Northern Powerhouse. This is an important step in consolidating TfN as a credible voice for its partners across the North – reflecting opportunities across the entire region.

TfN has started to identify transport gaps and challenges based on the evidence of the Independent Economic Review and proposed solutions from local partners. TfN and its partners across the North are developing a framework that will assist and enable important strategic local transport gaps and solutions to be endorsed by TfN based on those that most contribute to the overall objectives for TfN and complement other strategic objectives. The intention is to continue to develop a rolling programme of solutions that clearly demonstrate their contribution to improving connectivity and to the Northern Powerhouse.

As TfN develops this programme, it will consider how best to deliver the interventions. Combined Authorities and Local Transport Authorities might be best placed to develop and fund schemes through established local mechanisms, including through the devolution of funding for transport as part of Devolution Deals. In other cases, it may be better for schemes to be integrated into TfN's programme for scheme development and funding, where they significantly enhance the economic impact of investments in TfN's strategic corridors; or for schemes to be integrated into funded national programmes.

Recent and committed investment in strategic local connectivity

Since 2010, Local Enterprise Partnerships and Combined Authorities across the North have brokered City Deals and Growth Deals with Government which have secured over £2 billion in Local Growth Fund for local transport projects. This has been supplemented by locally funded investment programmes and delivering key schemes such as the A6 Manchester Airport Relief Road, the Wakefield Relief Road, Blackburn to Bolton Rail improvements, Hull to Selby Electrification, Sunderland Strategic Transport Corridor, Halton Curve, Port of Workington access improvements, Chester Central and Chester Bus Station, Olympia Park Selby, Middlehaven Dock bridge and Lower Don Valley highway improvements.

The North is now leading the way in agreeing ground-breaking Devolution Deals with Government, seizing the opportunity presented by City Region Mayors to agree a range of transport investment priorities, the transfer of functions and powers to more effectively manage the local transport network and funding to support long term investment in that network to support the Northern Powerhouse, as well as committing Government to work alongside northern partners on the delivery of the Powerhouse.

These investments are intrinsic to the story of transformation and provide necessary conditions to support the radical step-change required to deliver the Northern Powerhouse and strategic transport improvements to underpin this. However, whilst significant and strongly welcomed, the investment committed to date will, based upon current and trend levels of travel demand, allow for incremental growth in job numbers and productivity, but not deliver the transformed connectivity and journey time improvements needed for a step-change in growth to deliver the Northern Powerhouse.





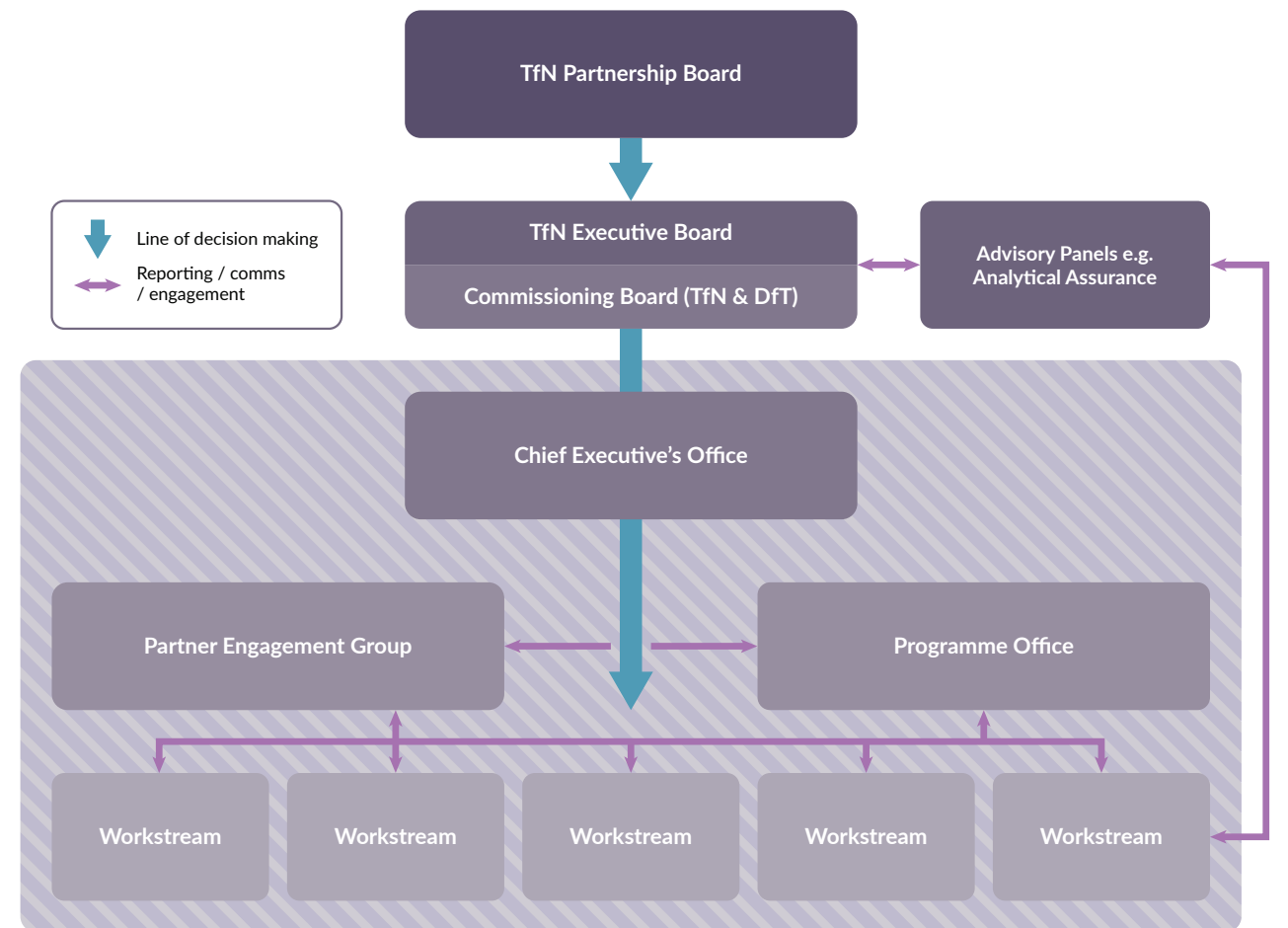
4 Next steps

Governance

In order to deliver on the ambitions set out in this report, TfN and its local and central government partners are putting in place effective governance arrangements, to bring together partners across the North, to speak with one voice and make decisions about the priorities for transformational investment across the North. The TfN Partnership has been created as a unique partnership between the Combined Authorities, Local Transport Authorities and Local Enterprise Partnerships of the North, central government and its transport and infrastructure agencies and partners (Highways England, Network Rail and High Speed 2 Ltd.).

TfN's governance structure is shown in Figure 4.1.

Figure 4.1 TfN Governance Structure



The membership of TfN now includes all parts of the North through an expanded membership of the TfN Partnership Board and its supporting official structures. The governance of TfN reflects the different arrangements that exist across the North to manage transport effectively. The main urban centres and their surrounding city-regions are represented on the TfN Partnership Board through Combined Authorities – Greater Manchester, Liverpool City Region, North East, Sheffield City Region, and West Yorkshire. From April 2016, the Tees Valley will also become a Combined Authority. The TfN Partnership Board now also draws representation from other Local Transport Authorities and Local Enterprise Partnerships, which come together in partnerships representing the following Local Enterprise Partnership areas – Cheshire and Warrington, Cumbria, Lancashire, Humber, and York, North Yorkshire and East Riding.

The TfN Partnership Board includes an elected Council Leader or Cabinet Member from each Combined Authority and Local Transport Authority, and private sector members drawn from Local Enterprise Partnership. TfN and central government will work with each Combined Authority, Local Transport Authority, and Local Enterprise Partnership to develop arrangements for TfN's operation as a statutory Sub-national Transport Body by the end of 2016/17.

Memoranda of Understanding have now been signed between TfN and the Welsh and Scottish Governments, to support joint working on investments and services that cross the boundaries between the North and the devolved nations, helping to support strong economic links and opportunities for growth.

In November 2015, John Cridland CBE was appointed as TfN's Chair. John is the outgoing Director-General of the CBI, and brings a wealth of experience in promoting economic growth and business success across the UK. His appointment marks a key milestone in the development of TfN. An effective advocate for infrastructure investment, John will be instrumental in driving forward TfN's ambition to create a Northern Powerhouse through transformed connectivity, working with leaders, Ministers and stakeholders across the north of England.

John joins the new TfN Chief Executive, David Brown, who brings experience in leading transport delivery in Merseyside, South Yorkshire and through the Rail North partnership. TfN is also supported by an executive group made up of senior officials from each of its constituent areas, who individually take a lead on specific workstreams. A core team to support TfN is currently being recruited.

Creating a statutory Sub-national Transport Body

TfN represents all 11 Local Enterprise Partnerships and all Combined Authorities and Local Transport Authorities in the North. Its role is to enhance and add value to the existing governance framework between local and central government – filling an important strategic gap to plan and develop the strategic transport networks of the North with its partners to help achieve the vision Northern Powerhouse. Following new primary legislation through the Cities & Local Government Devolution Act, TfN is progressing its aim of being established as the first statutory Sub-national Transport Body by the end of 2016/17.

It is important to note that the powers of TfN are created by devolution from central government, not through any loss of powers, responsibilities or funding from local level. TfN provides an effective forum for coordination between local authorities, but any pooling of powers can only be undertaken by agreement. On this basis, TfN will work on the basis of 'subsidiarity', with local responsibilities exercised at local level, and cross-northern collaboration focused where it adds value and becomes greater than the sum of its parts; securing devolution of responsibilities that would otherwise be exercised by national government.

TfN is looking at powers to:

- create a statutory Northern Transport Strategy;
- coordinate and deliver a new north-wide system of smart and integrated ticketing;
- partner with central government to commission Department for Transport agencies;
- coordinate and oversee the delivery of transformational pan-northern transport investments;
- support and assist Local Transport Authorities and Local Enterprise Partnerships to deliver strategic local transport improvements;
- further strengthen governance arrangements allowing northern transport authorities to participate as members of TfN; and
- agree arrangements to develop the role and powers of Rail North.

Rail North is currently established as a company, owned by the transport authorities of the North, to work with DfT to deliver improvements in the Northern and Transpennine Express passenger rail franchises. It has already secured significant improvements to the plans for these services. Moving forward, there is a strong case for Rail North to be included within the new statutory arrangements for TfN. This could allow Rail North to benefit from new statutory powers, to strengthen its role and, over time, support a further shift of responsibility from central government to the North, allowing rail services to be managed more directly from the North, on behalf of the North.

Funding and financing

The proposed programme of investment to deliver the vision will require a significant sum. A mixture of funding and financing from international, national, local public and private sector sources is envisaged.

Transport investments can benefit users, local property owners (through higher land prices); and the wider public (for example through reduced road congestion). Major transport projects are, therefore, increasingly funded from a 'basket' of sources, including user charges, land value capture mechanisms (such as business rate uplifts) and general taxation.

TfN is at an early stage of the development of its programme and the identification of funding packages it believes could contribute to the roll-out of the schemes. TfN has started to review possible funding options and will develop these further with stakeholders as the TfN investment programmes develop to ensure transparency and fairness. In the short term, a contribution to funding from central government is needed to progress to the next stage of the journey and to keep to the shared plan and programme.

The timing difference between the costs being incurred and the funding being received drives the financing requirement. TfN is progressing market testing with financiers and there is appetite to invest in northern transport projects, if certain criteria are met. TfN will continue to develop an understanding of the size of the financing requirement, particularly when considering the large number of projects that may be being developed at any one time.



Plan for scheme development

The proposed TfN investment programme comprises the following inputs:

- Northern Powerhouse Rail;
- Trans-Pennine Tunnel Study (road);
- 'Smart North' (simplified fares and integrated ticketing);
- Northern Trans-Pennine Routes Study (road);
- Manchester M60 North West Study (road);
- The current rail programme for the north of England (2015 to 2019);
- The future rail programme for the north of England (beyond 2020);
- First Road Investment Strategy 2015 to 2020 (North of England);
- Second Road Investment Strategy 2020 to 2025 (North of England); and
- Road, rail and other strategic transport schemes emerging from the Freight, International Connectivity, and Strategic Connectivity Local workstreams, of which there is likely to be a significant overlap with those schemes destined for inclusion in the rail programme for Control Period 6 2019 to 2024 and the second Road Investment Strategy 2020 to 2025.

In developing the programme, inputs will also be provided, and findings and proposals shared, with the National Infrastructure Commission.

Scheme development will continue at pace through 2016/17 for Northern Powerhouse Rail, with a potential contribution from central government's £300 million Transport Development Fund to support and accelerate scheme development. By Autumn 2016, options analysis will be presented with relative costs and benefits, before identifying a single preferred option by the end of 2016/17. Our team established in partnership with Network Rail, High Speed 2 Ltd. and the Department for Transport will then continue scheme development into 2017/18.

The strategic road studies managed by Highways England (Trans Pennine Tunnel, M60 Manchester North West Quadrant and Northern Trans-Pennine Routes) in collaboration with TfN will conclude in Autumn 2016. TfN will work with Highways England and the Department for Transport to establish an effective partnership to develop these schemes in parallel with the Road Investment Strategy 2020 to 2025 in the North.

The Smart North programme is significantly advanced, with the Implementation Plan developed and the Strategic Outline Business Case to be submitted to central government in Spring 2016, to unlock the previously confirmed central government allocation of £150m of funding to develop and implement this exciting programme.

Other schemes on the rail and highway network are being identified by TfN and its partners through three strands of work which will be brought together into a prioritised investment programme throughout 2016:

- TfN's studies for International Connectivity, Freight and Strategic Local Connectivity;
- TfN's programme for taking forward the schemes prioritised by the Northern Electrification Task Force; and
- other schemes identified by TfN for early funding as a platform for transformation.

The Annual Update of the Northern Transport Strategy in March 2017 will present a prioritised programme of investment. This is likely to include Northern Powerhouse Rail and schemes from the three studies from the northern Strategic Road Network – the Trans-Pennine Tunnel Study, the M60 Manchester North West Quadrant Study and the Northern Trans-Pennine Study.

Other schemes on the national road and rail networks will be taken forward for development through different pathways. Some will be taken forward most effectively by Local Transport / Combined Authorities using their recently devolved powers; other schemes by TfN through its own funded programmes; and others by the Department for Transport, Highways England and Network Rail, through the Road Investment Strategy 2020 to 2025, and rail programmes for 2020 and beyond.

Schemes will be prioritised by TfN with its partners, against their contribution to agreed strategic objectives and the vision for journey times, frequency and capacity along with criteria related to value for money, affordability, deliverability and timescales.



Partnership arrangement for scheme development and implementation

The most effective partnership arrangements will be determined in 2016/17 in collaboration with the Department for Transport and its agencies, based on the initial proposals summarised in the table below.

Table 4.1 Initial proposals for scheme development partnership arrangements

Investment Programme	Scheme Development Delivery	Seeking Central Government Development Funding from
Northern Powerhouse Rail	Partnership (TfN/DfT/NR/HS2)	Transport Development Fund
Trans-Pennine Tunnel Study	Partnership (TfN/DfT/HE)	Transport Development Fund
'Smart North'	Partnership (TfN/DfT)	£150m (Smart in the North)
Northern Trans-Pennine Routes Study	Partnership (TfN/DfT/HE)	Transport Development Fund
Manchester M60 North West Study	Partnership (TfN/DfT/HE)	Transport Development Fund
The current rail programme for the North of England (2015 to 2019)	Partnership (TfN/RN/DfT/HE)	<i>Committed and in delivery</i>
The future rail programme for the North of England (beyond 2019)	Partnership (TfN/RN/DfT/HE)	To be confirmed
Road Investment Strategy 2015 to 2020 (North of England)	Partnership (TfN/DfT/HE)	<i>Committed and in delivery</i>
Road Investment Strategy 2020 to 2025 (North of England)	Partnership (TfN/DfT/HE)	To be confirmed
Road, Rail and Strategic Public Transport Schemes (North of England)	Partnership (DfT/TfN or LTA/CA with HE and NR as relevant)	TfN/Transport Delivery Fund/ local funding as appropriate



Key timescales

The key phases of work and their timescales are shown in Table 4.2 through to 2020, with programmes for 2016/17 and for 2016 to 2020 and beyond in Figure 4.2 and Figure 4.3 overleaf.

Table 4.2 Key milestones for the proposed programme

Investment Programme	2016/17	2017/18 to 2019/20	Beyond 2020
Northern Powerhouse Rail	Option generation and initial prioritisation	Scheme development	Implementation
Trans-Pennine Tunnel Study	Option generation and initial prioritisation	Scheme development	Implementation
'Smart North'	Scheme development (outline business case/design)	Scheme development	Implementation
Northern Trans-Pennine Routes Study	Option generation and initial prioritisation	Scheme development	Implementation
Manchester M60 North West Study	Option generation and initial prioritisation	Scheme development	Implementation
The current rail programme for the North of England (2015 to 2019)	Implementation	■ Implementation ■ Completion of Programme delivery	N/A
The future rail programme for the North of England (beyond 2020);	■ Option generation ■ Consultation	■ Option generation and initial prioritisation ■ Scheme development	Scheme development/ implementation
Road Investment Strategy 2015 to 2020 (North of England)	Implementation	Implementation	Completion of delivery
Road Investment Strategy 2020 to 2025 (North of England)	■ Option generation ■ Consultation	■ Option generation ■ Scheme development	Implementation
Road, Rail and Strategic Public Transport Schemes (North of England)	Outline feasibility/options generation to preferred option (ongoing)	■ First wave development of TfN programmes (design and powers where possible) ■ Promotion of TfN programmes, including Rail Programmes for 2019 and beyond and Road Investment Strategy 2020 to 2025	Scheme development/ implementation

Figure 4.2 Proposed Programme for 2016/17

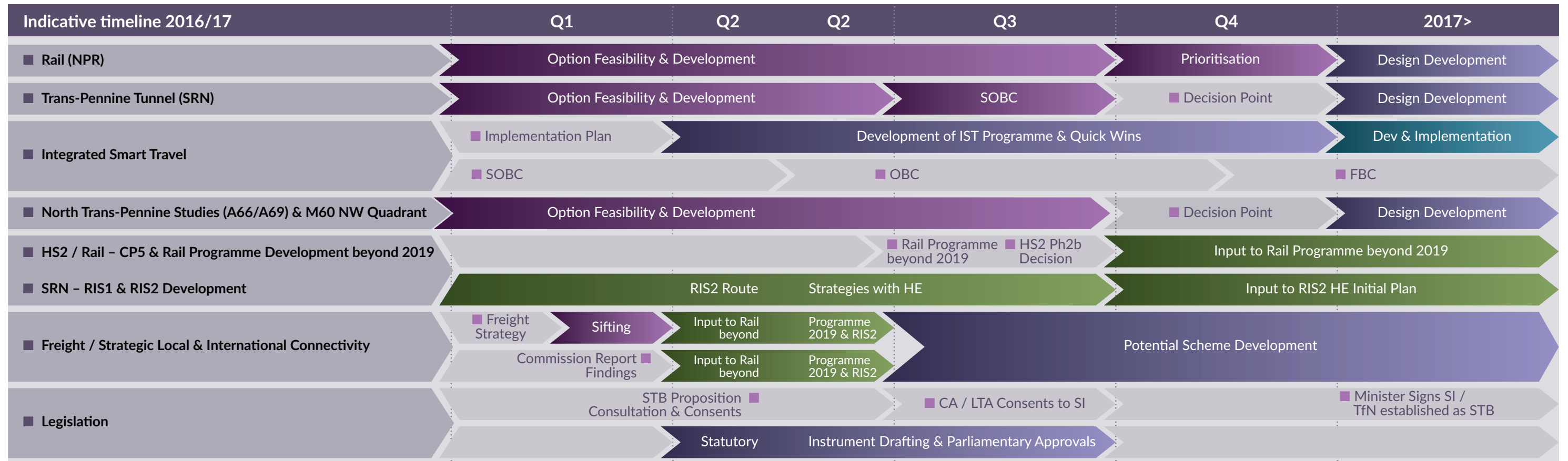
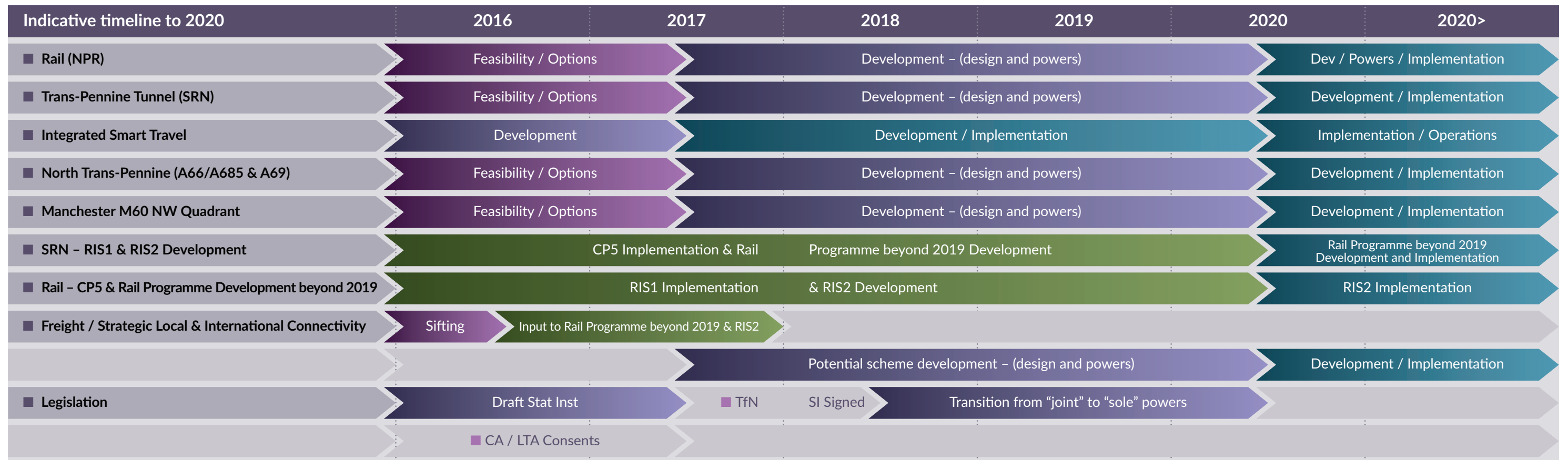


Figure 4.3 Proposed Programme to 2020 and beyond







HM Government

