MOTT MACDONALD

Northern England Station Enhancements Programme

Strategic Outline Business Case

May 2022

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Transport for the North

Northern England Station Enhancements Programme

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Northern England is a diverse region; home to 15.6 million[1] people and 8.8 million jobs[2]. Covering a diverse geography across three Government regions of the North East, North West, and Yorkshire & the Humber, the North includes a substantial geography which ranges from some of the UK's largest, core cities to its most celebrated natural landscapes and national parks. The North's railway lines are the arteries that bind together its vast, diverse, geography. This rail network comprises 601 railway stations and these stations have untapped potential to further enhance connectivity within and across the north. This is demonstrated in 8.4 million residents (54% of the total) living within 2 kilometres of a railway station; 2.9 million (19%) of which live within 800 metres of a station. Building upon this, 4.5m (50% of total) jobs are located within 2 kilometres of a railway station, of which 1.96m (22% of the total) are within 800 metres of a station.

A primary factor preventing smaller stations (i.e. those in Network Rail categories C1 to F2) from fulfilling their full potential and attracting the level of footfall they should is the historic lack of investment in comparison with, for example, investment in rolling stock, investment in larger stations, or investment in stations elsewhere in the country. A lack of investment in stations has resulted in an inconsistent overall rail product image and offering for the customer. This is apparent when benchmarked against other localities with discrete operators in control of the majority of the stations, e.g. Chiltern, Scotland, and Wales.

There is now an opportunity to deliver a coordinated programme of enhancements to stations in Northern England which will increase the consistency and standard of the product offer, improve satisfaction, and deliver a comprehensive programme with transformational outcomes. To maximise the success of this programme requires it to contribute towards the wider aims and objectives underpinning the policy of northern local and combined authorities and other bodies such as DfT and TfN.

Strategic fit and investment aims

Consideration of the overarching policy aims and objectives of the north led to the following themes being developed for this programme:

People, places, and the economy

With these themes in mind, Chapter 3 considers the wider economic, social, and environmental context across Northern England. This in turn leads to a number of key findings, such as the

1 2020 ONS mid-year population estimates

2 Business Register & Employment Survey (BRES)

large number of jobs and, more importantly, the number of development sites in close proximity to stations. Investment in stations will improve economic development of the areas around them by improving access to employment and other opportunities, through reducing barriers to travel, increasing the appeal of developing nearby sites, whilst attracting inward investment to areas around stations. Simultaneously, this will make these sites more accessible and attractive places for companies to do business, resulting in mutually beneficial change.

In delivering station upgrades, it is also critical improvements are inclusive. Poor design and lack of inclusivity adds time and cost to journeys, and makes some journeys impractical, denying an intending passenger the ability to travel by train – reducing the number of opportunities they have access to. Within England, the North has the largest proportion of people who have an illness or disability which restricts their activity levels. Furthermore, Index of Multiple Deprivation (IMD) and Healthy Life Expectancy (HLE) data evidence the poorer social outcomes those residing in the North have.

Station enhancements also have the capability to improve access to opportunities by creating a better user experience – a key priority at national, regional, and local levels.

The economic and social priorities that a station enhancements programme can address have strong synergies with the 'Levelling Up' agenda, and the aim to both raise productivity and reduce adverse social outcomes from current economic underperformance. The full programme offers the opportunity to do this in an equitable (across groups and geography) and inclusive manner, ensuring that the North's rail network is able to contribute towards improved outcomes for its places and communities.

The challenge explored

Chapter 4 builds upon Chapter 3 by exploring the current situation with respect to railway stations, their assets, quality, and condition of provision, and resulting passenger satisfaction. Chapter 4 illustrates the low level of provision of basic facilities such as CCTV and real-time information across stations in Northern England. The Station Stewardship Measure (SSM) is then utilised to assess the condition of these station assets and their remaining asset life. This is often short, particularly at the smaller stations in categories E, F1 and F2. There is an opportunity to invest in the smaller stations which are approaching the end of their asset lives.

With regard to user experience, it is revealed passengers in Northern England are much less satisfied with their stations than the national average or with a comparable TOC (Chiltern Railways) operating in the Midlands and South East. Within the North, passengers are more satisfied with stations operated by Merseyrail and TPE than Northern.

Data demonstrates there are clear regional disparities across the North related to personal security issues. The number of crimes appears to be greatest at category C and D stations, despite fewer passengers than at category A and B stations. Analysis of crime data also identifies Blackburn, Blackpool, Bradford, and Hull as locations across the North West and Yorkshire and The Humber with the highest number of crime incidents affecting passengers.

Only half of stations in Northern England are fully accessible to passengers with mobility issues through allowing access to all platforms without the need to use steps. Another quarter rely on ramps which are too steep for a wheelchair user to use independently. A quarter of stations are not usable for passengers with mobility issues because they cannot reach some or all platforms without the need to use steps.

This section also investigates other issues including commercial potential, and wider passenger priorities highlighted in surveys by Transport Focus, and seeks to understand the value which passenger's attach to various types and levels of enhancement, and the forecast increase in passenger demand.

Options available

Chapter 5 describes the rationale behind the project's package development and the decision to pursue 'acceptable' Value for Money (VfM) as opposed to maximising VfM, to achieve a 'levelling up' of standards while also permitting enhancements linked to the themes of the programme to be included.

After deciding how packages will be developed and to what extent VfM would be prioritised, it was considered how station enhancements could deliver positive outcomes for the seven themes underpinning the programme. This included considering how stations can improve access to services, jobs, and other opportunities such as education, health, and leisure activities and contribute to wider regeneration and community development whether through major developments or smaller grassroots community programmes organised through bodies such as Community Rail Partnerships (CRPs). In addition, the document explores how station enhancements can improve the environment through inducing modal shift, lowering energy usage in station buildings, and improving security and safety through enhanced surveillance and improved design.

Economic and Financial Case Headlines

An economic analysis of three packages of options for station enhancements as then undertaken, with increasing levels of ambition. The results are as follows:

Item	Minimum Standards	Acceptable Standards	Desired Standards
Present Value of Benefits (PVB)	375,000	435,000	560,000
Indirect Taxation (PVB)	-35,000	-45,000	-55,000
Present Value of Costs (PVC)	140,000	215,000	425,000
Net Present Value (NPV)	**200,000**	**180,000**	**75,000**
Benefit Cost Ratio (BCR)	**2.46**	**1.84**	**1.18**

Source: Mott MacDonald

An assessment of the programme's costs and benefits has been undertaken in line with the DfT's TAG suite and accompanying Great Britain rail industry guidance. Investment costs have been freshly derived and operating expenditure estimates produced from benchmark rates. Considering only 'established' transport (inclusive of 'Level 1' economic) impacts, the BCR of the 'acceptable standards' option is 1.84, and that for the 'minimum standards' is 2.46. Both exclude additional impacts which are either non-monetised at this stage or primarily of qualitative nature. These are greater under the 'acceptable' package, and a factor greater again under the 'desired standards' option. Benefits are achieved across the desired economic, social, and environmental objectives of the programme, including the levelling up agenda, inclusivity and equalities, place-making, user experience, and pathways to enhanced physical activity and carbon neutrality.

This initial assessment is exclusive of Wider Economic Impacts (WEIs). It is likely that inclusion of these would ensure the 'acceptable standards' option represents 'high' VfM, considerate of net UK impacts only. Regional and local impacts would be a factor higher again, and link heavily to place-based objectives for Northern England. A programme of complementary investment, including both transport and non-transport interventions, is currently ongoing. The potential for additional induced investment and generating dynamic land use change, including Transit Orientated Development (TOD), has been identified, with a (further) potential step change in the VfM.

The enhancements will add associated farebox revenue, and, while the additional assets will add to ongoing operating expenditure, it is expected that the enhancements will lead to an ongoing financial surplus from the investment. This, alongside other commercial opportunities which a holistic solution for stations would seek to generate, offers the opportunity to reduce net public subsidy while delivering across national, regional, and local priorities.

1 Introduction

Railway stations are important assets for the people, places, and economy of Northern England. They act as gateways, enabling residents and visitors to access services, economic opportunities, and attractions, helping to connect the region, share prosperity, and maintain activity and wellbeing. Benchmarking against other regions shows that Northern England has a much wider disparity in both provision of station assets and their overall standard tends to be lower. Research evidence shows that not only does this discourage use of the network, but it also has a negative effect on communities and limits the economic, social, and environmental benefits that the rail network delivers. Regional and local partners have therefore identified that stations in Northern England are not maximising their potential, and that there is a case for a widescale investment programme to enhance the assets.

1.1 The Location

Northern England covers a diverse geography across the three Government regions of the North East, North West, and Yorkshire & Humber. It is home to a population of 15.6 million people[3], and 8.8 million jobs[4], it contributes approximately 23% of the UK's GDP[5]. In addition to five of the UK's 'core cities'[6], the area combines a dispersed set of major cities and towns, intermediary places with their own distinct character, and substantial areas which are predominantly rural in nature. This includes five of the UK's national parks[7]. The area's substantial coastline has some of the most celebrated landscapes and visitor destinations in the country.

The North of England's economy is worth an estimated Gross Value Added (GVA)) of £424 billion[8]. However, the per head figure is 17% less than the UK average.

Table 1.1: Northern England GVA Comparison

Region	Population	Total GVA (£ millions)	GVA per head (£s)
North East	2,669,941	64,260	24,068
North West	7,341,196	212,843	28,993
Yorkshire and The Humber	5,502,967	146,746	26,667
North of England (total)	**15,514,104**	**423,849**	**27,320**
UK	66,796,807	2,214,362	32,876
North of England (as a % of UK)	**23%**	**19%**	**83%**

Source: Office for National Statistics

3 2020 ONS mid-year population estimates

4 Business Register & Employment Survey (BRES)

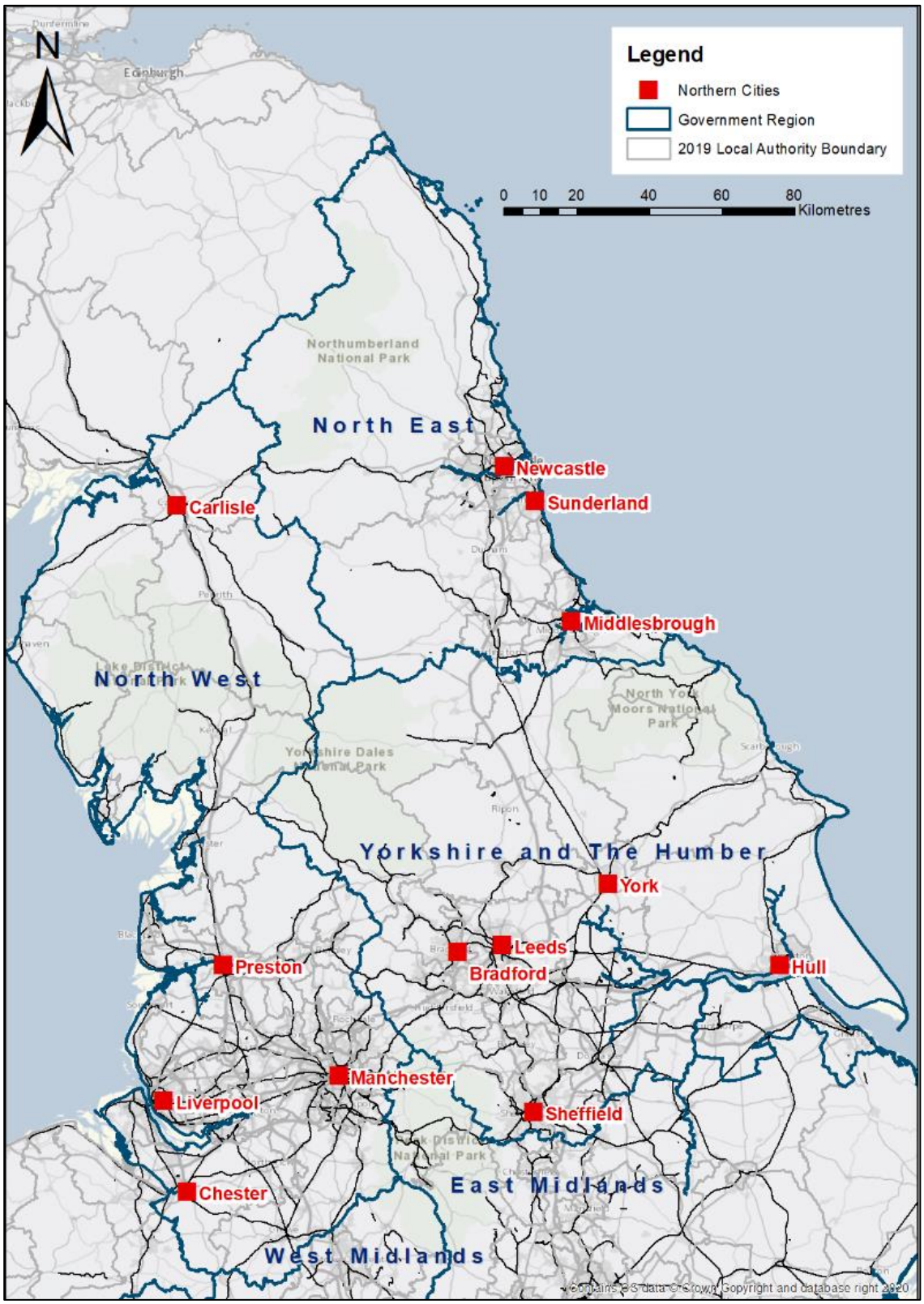
5 Office for National Statistics

6 Leeds, Liverpool, Manchester, Newcastle, and Sheffield.

7 Lake District, Northumberland, North Yorkshire Moors, Peak District (shared with the East Midlands), and the Yorkshire Dales.

8 As of 2019

Map 1-1: Northern England Geographic Context



Source: Ordnance Survey

The three North of England regions also, in part linked to the above GVA statistics and the underlying industrial structure, display:

- Above average levels of deprivation;
- Lower absolute and healthy life expectancies;
- Lower levels of skills and qualifications;
- Car availability, which is lower than other regions, but higher levels of car dependency due to the lack of practical alternatives; and
- Resulting adverse economic, social, and environmental outcomes due to the car dependency.

Addressing these adverse economic, social, and environmental outcomes is a shared priority at the national, regional, and local level. Regional and local stakeholders have identified enhancements to both rail services and stations as important projects to help deliver better outcomes and positive impacts for residents, businesses, and visitors in Northern England.

1.2 Context

There are 601 railway stations (see Table 1.2 and Map 1-2 overleaf) serving Northern England[9]. Within 2 kilometres of these stations there are 8.4 million residents (54% of the total), and 4.5m jobs (50% of the total). These stations provide a variety of functions, including acting as:

- Entry points to the rail network for local communities, allowing them to access opportunities and services;
- Gateways to the places they serve, providing the critical first step of the connection to places of work, business, and leisure; and
- Hubs for local activity, including promoting clustering of economic and/or social activities.

Each station has previously been assigned by DfT to a category based on its relative importance and usage[10]. This Strategic Outline Business Case (SOBC) focuses on enhancements to Category C to F stations (N = 578[11]), which in 2019 collectively catered for approx. 150 million journeys per annum, made up of:

- 99 million journeys to/from category A and B stations in the North
- 36 million journeys between category C to F stations in the North
- 14 million journeys to/from places outside the North.

Prior to the Covid-19 pandemic, these stations had seen a sustained period of demand growth, with total entries and exits increasing by 27%[12] in the decade from 2009/10 to 2018/19.

In common with other areas of the country, many stations date back to the origins of the passenger railway in the 1830s/40s, subsequently modified as needs and demands changed through periods of private and public ownership of the railway system.

There is a huge variety in the facilities provided and their condition due to past policies and individual decisions to maintain, develop, or withdraw facilities. For example, in some areas, rationalisation programmes during the second half of the 20th century saw all station buildings

[9] This area includes the North East, North West, and Yorkshire & Humber regions, plus selected stations in neighbouring East Midlands authorities on routes which orientate towards the North's major centres.

[10] Four newly-opened stations do not appear to have been given a category yet and so we have assigned categories for the purposes of this SOBC, as follows: Buckshaw Parkway (D), Horden (F1), Low Moor (F1), and Warrington West (D).

[11] The study has excluded category A and B stations which are the major hubs managed directly by Network Rail (e.g. Leeds, Manchester Piccadilly etc.) and other TOCs (e.g. Darlington, Preston etc.) which typically have the highest volumes of annual passenger journeys.

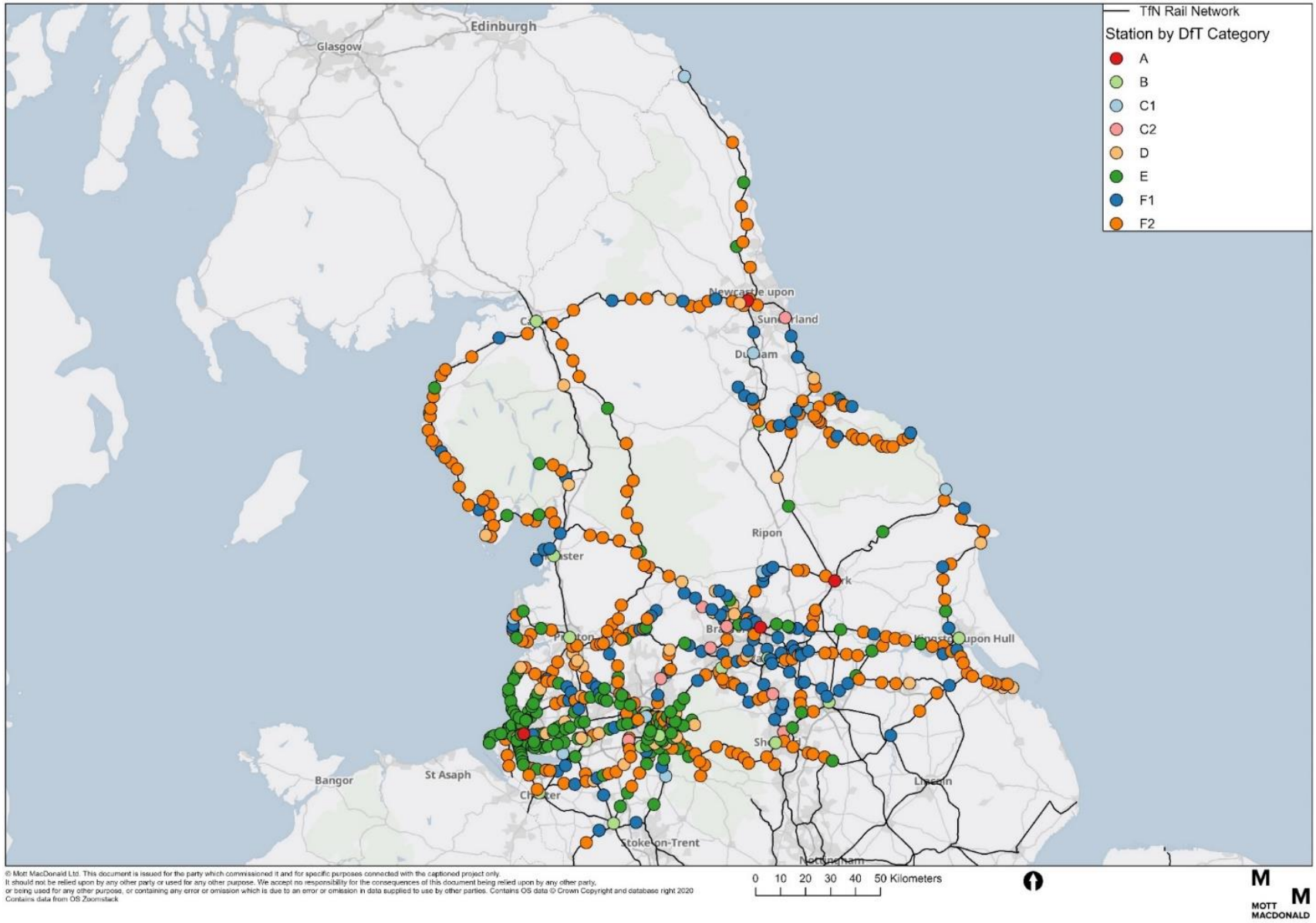
[12] 27% average for station in the North East, North West, and Yorkshire & Humber regions based on Office for Rail & Road station usage statistics.

removed and only basic 'bus' type shelters provided in their lieu. In other areas most station buildings were retained, even if underused.

Table 1.2: Northern England Station Categorisation

Station Category		Description	Number of stations	Typical trips per annum	Examples in the North include
A		National hub	5	> 2 million	Manchester Piccadilly, Leeds, Liverpool Lime Street, Newcastle, York
B		Regional interchange	18	> 2 million	Manchester Victoria, Sheffield, Huddersfield, Hull
C	C1 city / junction station	Important feeder	22	0.5–2 million	Manchester Oxford Road, Runcorn, Bradford Interchange
	C2 other railhead				Barnsley, Halifax, Sunderland
D		Medium staffed	41	0.25–0.5 million	Deansgate, Grimsby, Chorley, Penrith
E		Small staffed	162	< 0.25 million	Bebington, Congleton, New Pudsey, Swinton
F	F1 (> 100k trips)	Small unstaffed	353	< 0.25 million	Bishop Auckland, Helsby, Stockton, Wavertree Technology Park
	F2 (< 100k trips)				Bamber Bridge, Darnall, Drigg, Padgate
Total			**601**		

Map 1-2: Northern England Stations by Station Category



1.3 The Case for Investment

The opportunities and potential associated with investment in station assets are considerable for many places across Northern England, benefitting the economy, residents and visitors, and environment.

Smaller stations (i.e. categories C1 to F2) in the North have suffered from an historic lack of investment in comparison with, for example, investment in rolling stock, investment in larger stations, or investment in stations elsewhere in the country. This manifests itself in an inconsistent overall rail product image and offering for the customer, where:

- The quality of many stations in the north is much inferior to other aspects of service such as the trains, where TOC fleets are increasingly new or refurbished to a high standard, and compliant with the Persons with Reduced Mobility Technical Standard for Interoperability (PRM TSI), whereas only half of stations have step-free access to all platforms (and, even then, many ramps are too steep for wheelchair users to use unassisted);
- Customers' experiences of their home stations are often very different to many city stations where there has been significant investment (Manchester, Leeds, Newcastle, etc); and
- There is poor satisfaction with stations in the north by comparison with other aspects of service, and by comparison with stations elsewhere in the country (see Section 4.3).

There is the opportunity to deliver a coordinated programme of enhancements to stations in Northern England which will increase the consistency and standard of the product offer, improve satisfaction, and deliver the following transformational outcomes for:

User experience	• Improved quality for all users with facilities that meet or exceed passengers' expectations • Improved consistency and a 'one network' offer as seen in other parts of the country.
Place making	• Stations that are attractive gateways to the railway network, promoting mode shift and increasing revenue • Stations that are attractive gateways to the place the railway serves, stimulating regeneration and investment
Economic development	• Access to opportunity, especially employment and training, to reduce economic inequalities • Promoting and enabling inward investment in the North
Environment	• Support mode shift from more polluting modes, contributing to net zero carbon targets and improving local air quality • Enhancing and protecting the natural and built environment around stations
Security & Safety	• Improved real and perceived security for passengers and their personal safety when waiting at stations • Fewer accidents due to slips, trips and falls
Equality	• Much improved physical accessibility between street and trains for those with reduced mobility • Addressing other barriers to using trains for people with less visible disabilities through facilities and information
Commercial potential	• Increased farebox revenue for the industry through mode shift to rail • Supporting additional commercial activity

Investing in the North's stations will complement other investment in the railway, wider transport projects and programmes, and UK Government place-based programmes such as the Towns Deal, Future High Streets Fund (FHSF), Levelling Up Fund (LUF), City Region Sustainable Transport Settlement (CRSTS), and UK Shared Prosperity Fund (SPF). Many of the adjacent city and town centres which the stations serve have been, or will, be recipients of investment from these sources. Significant investment has also taken place in the Category A and B stations. There are also various plans in progress to improve railway services across the North, including via contracts with Train Operating Companies (TOCs), plus the Trans-Pennine Route Upgrade (TRU), Northern Powerhouse Rail (NPR), and HS2.

1.4 Context for this SOBC

This SOBC follows work previously commissioned by Transport for the North (TfN), as part of its Long Term Rail Strategy[13] (LTRS), to understand the impact of investing in stations.

The LTRS is supported by TfN's Strategic Transport Plan[14] (STP). In May 2018, Steer reported[15] on how stations could contribute to the objectives of the STP, recommending a number of next steps, including, inter alia:

- "TfN should consider how to pursue the delivery of a minimum standard across the North, and an appropriate balance between prescriptiveness and tailoring to unique user profiles.
- TfN and its partner authorities should take the lead in securing a rolling programme of investment to deliver Persons of Reduced Mobility (PRM) compliance at stations. Efficiency and effectiveness could be achieved by TfN preparing a targeted programme of investment, for example upgrading all stations along a line of route, or targeting gaps at stations serving the Economic Centres listed in the draft LTRS."

This SOBC follows through on those recommendations, by making the case for achieving minimum standards across different station categories in the North, including for accessibility, designed to ensure consistency and a 'one network' offer as seen in other parts of the country.

TfN expects that this would then be followed by further work to:

- Tailor provision to local circumstances at specific stations or geographic groups thereof;
- Creating a targeted programme of investment, maximising benefits through phasing investment geographically;
- Creating a business case for individual areas, routes, or stations; and
- Developing options and designs through the PACE process (previously GRIP).

1.5 Possible Funding Sources

Several possible funding sources have been identified. These are considered in more detail within the Financial Case (see Section 8).

1.5.1 Rail Network Enhancements Pipeline

The Rail Network Enhancements Pipeline[16] (RNEP) marks a new approach adopted by the Government to the enhancing the rail network. RNEP is underpinned by four priorities; enhancements must deliver on one or (ideally) more of these priorities as they progress:

[13] See: Long-Term-Rail-Strategy_TfN.pdf (transportforthenorth.com)
[14] See: Strategic Transport Plan | Transport for the North - Transport for the North
[15] Long Term Rail Strategy – Stations in the North of England, SDG, May 2018
[16] See: Rail network enhancements pipeline - GOV.UK (www.gov.uk)

- Keeping people and goods moving smoothly and safely – Enhancements provide outcomes that deal with the challenges faced by the existing network; for example, by providing capacity to ease crowding on routes or at stations. The proposed enhancements directly respond to this priority.
- Delivering benefits from committed programmes and projects underway – investment in station assets will directly complement recent, current, and forthcoming investment in services, helping to create a more holistic and consistent offer to users.
- Offering more: new and better journeys and opportunities for the future – The RNEP document uses the reopening of old lines as an example here, thereby driving economic and housing growth. It is believed the proposed enhancements have untapped capacity to indirectly deliver sustainable housing and economic growth by improving the quality of facilities in stations, in turn encouraging Transit Orientated Development (TOD).
- Changing the way the rail sector works for the better – the proposed enhancements will improve the sustainability of the network and assisting delivery of an efficient, value for money service. There is also potential for new technology to create new opportunities for railway staff.

It is believed the enhancements in this Strategic Case have capacity to deliver on each of the four priorities. However, as it is not possible for central government to fund all schemes that meet the priorities, government has established principles which each enhancement will also be assessed against to decide which enhancements will be taken forward, consisting of:

- A robust business case
- Railway demand
- Increasing contestability (i.e. the ability of organisations other than NR to carry out works on the railway)
- A focus on the outcomes provided for railway users and the taxpayer
- The balance of the portfolio
- The impact of the Enhancement on the existing network
- Opportunities for private investment

1.5.2 Levelling-Up Fund

Unitary authorities and district councils (in two-tier areas) in England are eligible to submit a bid for every constituency within their local authority. More broadly, the Levelling-Up Fund (LUF) focuses investment on projects that require up to £20m of funding. Yet, there is also scope for investing in larger high value projects, provided they are transport related. Transport-related bids above £20m and below £50m are also accepted.

However, for the first round of funding in 2021-22, focus is placed upon three transport-related themes:

Transport investments: This includes active travel and public transport improvements, schemes that will reduce carbon emissions, cut congestion, support economic growth and improve the experience of transport users.

Regeneration and town centre investment: This includes, upgrading buildings and dated infrastructure, regenerating brownfield land, crime reduction and bringing public services and safe spaces into urban centres.

Cultural investments: This includes, maintaining, regenerating or repurposing of visitor attractions and heritage assets to serve as cultural spaces.

It is believed the enhancements in this Strategic Case have capacity to deliver on all three themes detailed in this round of funding; particularly as it relates to reducing crime and supporting economic growth through upgrading station buildings, thereby catalysing wider regeneration, the attraction wider investment and businesses to the station building. This will in turn improve the passenger experience through creation of the 'gateway effect' and encourage wider Transit-Orientated Development (TOD).

1.5.3 Shared Prosperity Fund

On departure from the EU, the Government pledged to establish the Shared Prosperity Fund (SPF) to *"reduce inequalities between communities"* to effectively replace the European Structural and Investment funds. A Commons briefing paper was published 25th November 2021, considering the opinions of devolved administrations, local governments, and other organisations for how this fund could potentially be structured.

Most organisations think funding should remain at around the same level (approx. £2 billion annually), but should be planned over longer periods, in consultation with local authorities. Meanwhile, the Local Government Association (LGA) has called for a more bottom-up design of funding, greater devolution, and more accountability at the local government level. Organisations also highlighted that a like-for-like replacement would present a risk that less adaptable parts of the UK would struggle considerably in the face of uncertain post-Brexit scenarios. However, the Briefing Paper does suggest the SPF could use a similar system to allocate funding as illustrated in Map 1-3. As a result, this makes for a complicated picture as to what the SPF will deliver, where geographically will be eligible for the largest funding, and what criteria must be met.

1.5.4 City Region Sustainable Transport Settlements Fund

Mayoral Combined Authorities (MCAs) were eligible for funding from the committed £5.7 billion City Region and Sustainable Transport Settlements fund[17]. Proposals were to be submitted by

[17] See: City region sustainable transport settlements: developing proposals - GOV.UK (www.gov.uk)

the end of August 2021 and the results from these proposals were unveiled in October 2021, with northern MCAs receiving the following:

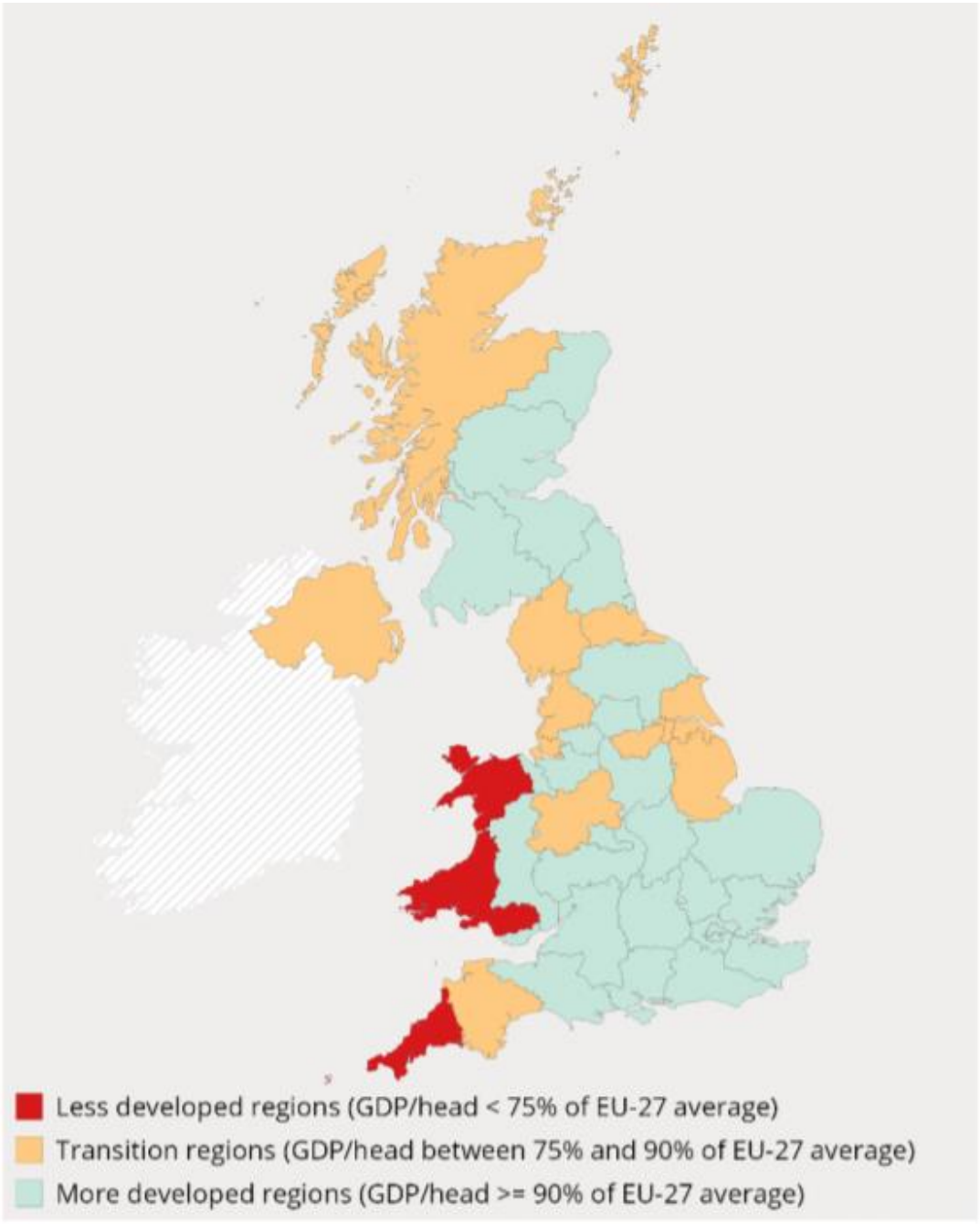
- Greater Manchester - £1.07 billion
- West Yorkshire - £830 million
- Liverpool City Region - £710 million
- South Yorkshire - £570 million
- Tees Valley - £310 million

To succeed, bids needed to clearly show how they will serve the following objectives, shared by the government and all MCAs:

- Driving growth and productivity through infrastructure investment
- Levelling-up services towards the standards of the best
- Decarbonising transport, especially promoting modal shift from cars to public transport, walking and cycling.

The Strategic Case put forward has capacity to deliver on all three of these objectives in some capacity via the same process outlined in Section 1.5.2.

Map 1-3: ESI Funding Regions in the UK



1.5.5 Other Funding Mechanisms

Other possible funding mechanisms include Section 106 (s106) agreements, the Community Infrastructure Levy (CIL), and commercial revenues from productive use of the station estate.

1.6 Structure of this SOBC

The remainder of this document is set out as follows:

Strategic Case

2. Strategic fit and investment aims
3. People, place, and the economy – the social, economic, and environmental outcomes which are driving a need for intervention
4. The challenge explored – the existing condition and performance of railway stations
5. The options available – potential means of enhancing railway stations
6. The opportunity available – how enhancements could contribute to better outcomes

Other Cases

7. The Economic Case
8. The Financial Case
9. The Management Case
10. The Commercial Case

Appendices

11. Appendices.

2 Strategic Fit and Investment Aims

The aspiration for a programme of station enhancements across Northern England has been developed with reference to UK Government, regional, and local priorities.

When considering investment in station quality and facilities, it is critical to consider this within the wider national, regional, and local policy context to ensure improvements deliver most effectively on each tier of policy objectives.

2.1 National priorities

There are seven priorities which underpin Department for Transport (DfT) policy, detailed in national transport and infrastructure guidance documents. These priorities are summarised in Figure 2.1.

Figure 2.1: National Transport and Infrastructure Priorities

2.1.1 DfT priority outcomes

The DfT's current (2021) priority outcomes[18] include:

- **Improving connectivity** across the UK and growing the economy by enhancing the transport network, on time and on budget.
- **Building confidence** in the transport network as the country recovers from COVID-19 and improving transport users' experience, ensuring that the network is safe, reliable, and inclusive.
- **Tackling climate change** and improving air quality by decarbonising transport.
- We will also play our part in **increasing the global impact** of the UK, boosting our influence and maximising trade.

2.1.2 Strategic Objectives for the Whole Rail Industry

The UK Government has developed five strategic objectives for the Strategic Plan over the next 30 years:

I. meeting customers' needs,
II. delivering financial sustainability,
III. contributing to long-term economic growth,
IV. levelling up & connectivity, and
V. delivering environmental sustainability.

[18] See: DfT Outcome Delivery Plan: 2021 to 2022 - GOV.UK (www.gov.uk)

The station enhancements programme can contribute to most of these strategic objectives, by improving the attractiveness, accessibility, and security of the rail network in Northern England for passengers, increasing inclusivity and creating modal shift to rail, improving the environment and providing better access to opportunities, reducing the cost of doing business, growing the economy and providing social benefits in areas where they are most needed.

2.1.3 Equality Act 2010

The Equality Act 2010 protects individuals with protected characteristics, such as disability and age, from discrimination and promotes a fair and more equal society. There are specific provisions which relate to transport service provision for disabled people.

Section 208 of the Act also places a duty on transport service providers to make reasonable adjustments. This applies to the way services are provided and it may require a service to be provided in a different way.

The duty to make reasonable adjustments may also include providing auxiliary aids and services, such as hearing loops in railway stations, information in alternative formats, and ramps; these may be reasonable adjustments and, if so, the transport provider must provide them.

Public Sector Equality Duty

In addition, section 149 of the Equality Act 2010 requires public authorities and those exercising a public function to comply with a general duty which is supported by specific duties. The 'general equality duty' is the overarching requirement or substance of the duty, and the 'specific duties' are intended to help performance on the general equality duty. Taken together these duties are often referred to as the public sector equality duty (PSED).

The general equality duty requires public authorities, in the exercise of their functions, to have due regard to the need to:

- Eliminate discrimination, harassment and victimisation and any other conduct that is prohibited by or under the Act.
- Advance equality of opportunity between people who share a relevant protected characteristic and people who do not share it.
- Foster good relations between people who share a relevant protected characteristic and those who do not share it.

The Equality Act explains that having due regard to the need to advance equality involves having due regard, in particular, to the need to:

- Remove or minimise disadvantages suffered by people due to their protected characteristics.
- Take steps to meet the needs of people with certain protected characteristics where these are different from the needs of other people.
- Encourage people with certain protected characteristics to participate in public life or in other activities where their participation is disproportionately low.

The Act states that meeting different needs involves taking steps to take account of disabled people's disabilities.

2.1.4 Inclusivity Strategy and Access for All

The UK Government' 'Inclusivity Strategy'[19] sets out the Government's plans to make the transport system more inclusive, and to make travel easier for disabled people. While it is

[19] See: Inclusive Transport Strategy - GOV.UK (www.gov.uk)

focused on the inclusion of disabled people, many of the improvements will also benefit other travellers. The Strategy has five main themes:

- Awareness and enforcement of passenger rights - raising awareness of the obligations on transport operators, the processes for raising concerns or complaints and working with regulators to hold operators to account.
- Staff training - ensuring that transport staff (frontline and managerial) understand the needs of disabled people with physical, mental, cognitive or sensory impairments, and can provide better assistance.
- Improving information - ensuring that transport operators provide travel information in formats that all passengers can easily access and understand, before and during a journey.
- Improving physical infrastructure - ensuring that vehicles, stations and streetscapes are designed, built and operated so that they are easy to use for all.
- The future of inclusive transport - ensuring that technological advances and new business models provide opportunities for all, and that disabled people are involved from the outset in their design

The Access for All programme[20] was launched in 2006 to address the issues faced by disabled passengers and passengers with mobility issues (such as heavy luggage or pushchairs) when using railway stations in Great Britain.

The funding is used to create an obstacle free, accessible route from the station entrance to the platform. This generally includes providing lifts or ramps, as well as associated works and refurbishment along the route.

The government's statement of funds available for railway Control Period 6 (2019 to 2024) included a commitment to continue investment in the accessibility of the railway after 2019. Further detail on the new funding, which extends the programme until at least 2024, was published in the July 2018 Inclusive Transport Strategy[21]. Funding has been allocated in three tiers:

1. Main programme, with 200+ stations having received, or are receiving, funding from an allocation of over £500 million.
2. Mid-tier programme, where enhancements are typically smaller scale than the main programme (see below).
3. Small schemes, where 1,500 stations had received total funding of approaching £50 million by 2016.

Main Programme

The main programme continues with between 50 and 100 stations currently seeing significant enhancements from a 2014 funding allocation of £163 million.

Mid-Tier Programme

Following an announcement on 20 February 2020, DfT identified 40 projects, covering 124 stations, to receive funding under the Mid-Tier Programme. The £20 million fund will deliver accessibility improvements leading to small-scale enhancements such as tactile paving, handrails, and Harrington Humps (which increase platform heights to reduce the vertical step between train and platform). Taken together, these improvements will open up journeys for passengers with mobility restrictions, allowing them to travel with confidence.

[20] See: Access for All: funding to improve accessibility at rail stations - GOV.UK (www.gov.uk)

[21] See: Inclusive Transport Strategy - GOV.UK (www.gov.uk)

2.1.5 Tomorrow's Living Stations, 2019, Network Rail

This document[22] envisions a future where people own less, share more, and work more flexibly – trends which have been accelerated and become more pertinent following the COVID-19 pandemic. The document identifies three possible ways the 'Living Station' might respond to these changes:

- As the centre of movement for people
- Supporting inclusive growth
- As the heart of healthy communities.

The Living Stations concept seeks to directly respond to innovations in e-commerce, housing, logistics, leisure, and healthcare.

2.1.6 First and Last Mile Core Principles, 2021, Network Rail

Network Rail has recently completed the development of a set of 'core principles' regarding access and egress to and from stations, or the 'first and last mile'. These principles are:

- Minimise the quantum of car kilometres ad tailpipe emissions associated with accessing the network
- Minimise the net cost of operating the railway
- Maximise levels of physical activity in accessing the railway network
- Maximise usage of the railway network
- Minimise local negative impacts of car-based travel to and from the station

The document recognises that:

"In recent years, there has been a shift towards seeing railway stations playing a greater role in their community, moving away from simply providing access to the rail network and instead being seen as community hubs, providing a gateway to onward travel options as well as providing a focal point for the local community."

The principles are consistent with the national priorities for transport, and those for rail in particular, including levelling up, reduction in transport-related emissions, long term financial sustainability, and enhanced user experience.

2.1.7 Regenerating Britain's Railway Stations, 2017, Rail Delivery Group (RDG)

RDG produced this report[23] to make recommendations for the regeneration of railway stations based on six case studies. The recommendations can be summarised as:

- Have a clear idea of the role the station should play in the local community.
- Go beyond the red line - plan improvements to the area around the station at the same time.
- Be clear about who is delivering what.
- Work with the leadership of the local authority as part of any plans.
- Align the benefits of a better station with those who will gain most from it.
- Look to the rail industry for advice and help.

The RDG also enlists the three priorities underpinning DfT's Station Policy Outcomes Framework, these consist of:

- Better passenger experience

[22] See: Stations of the future - Network Rail

[23] See 2017-06_regenerating_britains_railway_stations_plan.pdf (raildeliverygroup.com)

- Efficient and effective management
- Better community integration.

2.2 Regional priorities

2.2.1 Strategic Transport Plan, 2019, Transport for the North

The Strategic Transport Plan[24] (STP) sets out pan-Northern transport objectives to:

- Increase efficiency, reliability, and resilience in the transport system;
- Transform economic performance;
- Improve opportunities across the North; and
- Promote and support the built and natural environment.

The Plan sets out why change is needed, what that change should be, and how that change should be delivered across rail services and infrastructure.

The Great North Rail Project (GNRP) is Network Rail's branding for a programme of infrastructure and rail service enhancements being delivered across the North in the current railway Control Period. The main station- related programme within the project is the upgrade of stations along the Trans-Pennine route as part of the Trans-Pennine Route Upgrade.

Beyond GNRP, TfN's attention is on ensuring the North's rail network is prepared for the arrival of HS2 and Northern Powerhouse Rail through the Integrated Rail Plan (IRP) – this includes a major programme of improvements to the West Coast Main Line (WCML) and the stations along it. In tandem, TfN highlights that it is critical for stations proposed to be served by HS2 and NPR, as well as stations on the wider network, are made ready for increased demand, interchange, and with onward regional and local connectivity.

Well-planned and designed stations with inclusive gateways to the places they serve, which maximise connections with the space surrounding them, are integral to achieving the wider strategic connectivity objectives. TfN sees it as crucial to ensure this change is delivered in a way that allows for creation of multi-functional spaces which allow stations to become mixed-use buildings. Such buildings include commercial and non-commercial facilities like health and community facilities, catalysing the revitalisation of the communities they serve, and maximising socio-economic benefits.

2.2.2 Long Term Rail Strategy, 2018, Transport for the North

The Long Term Rail Strategy[25] (LTRS) informed the Vision of TfN's STP of forging:

"A thriving North of England, where modern transport connections drive economic growth and support an excellent quality of life."

The objectives of the strategy are complemented by a tangible set of conditional outputs integral to realisation of the TfN Vision. These outputs are guided by five main themes. Figure 2.2 details these five themes and their corresponding station-related conditional outputs.

For stations, the strategy sets out nine principles which underpin the overarching vision and conditional outputs for the North and illustrates how it will be achieved. The principles include:

[24] See: Strategic Transport Plan | Transport for the North - Transport for the North

[25] See: Long Term Rail Strategy (LTRS) | Transport for the North - Transport for the North

- Customer focused
- Seamless journey experience
- Safe and secure environment
- Flexible and long-term stewardship
- Optimised network
- Intelligent use of technology
- Reflect local needs and opportunities
- Entrepreneurial spirit
- Shared industry know-how

To fulfil these outputs TfN proposes the following actions:

- Setting minimum standards for the North's stations, seeking to raise the condition and improve facilities at stations across the region, while providing greater consistency and levels of passenger comfort;
- Recognising stations' role as gateways to the North's towns, cities, and communities;
- Recognising the potential greater role stations have in the economic and social fabric of the areas they serve, whilst seeking to optimise their accessibility, operational performance, and interchange to, from and across the rail network. Several notable community station projects are ongoing across the North, helping to support this action. TfN seeks to encourage friends of stations groups and station adopters, Community Rail Partnerships (CRPs) and other community representatives to take greater ownership of stations; and
- Delivery of a pleasant and safe travelling and waiting environment that is inclusive, accessible for all and meets its respective capacity needs.
- Stations are not always fully integrated into the local community. Improving door-to-door journey time also aligns with this action, as fully integrating the station will simultaneously tackle strategic gaps in the multi-modal network (including Active Travel) while improving the quality and safety of the public realm surrounding stations.
- Options are under investigation for greater devolved powers across the North to address this with the management and operation of stations at a local level, potentially assisting delivery of these actions.
- Where feasible, improving the commercial viability of stations should be explored, which could include introducing valuable new revenue streams as well as supporting local enterprise and providing employment.

Figure 2.2: TfN LTRS Rail '5 Cs' Themes and Conditional Outputs

2.2.3 TfN Stations Strategy - The Case for Inclusive and Sustainable Interventions

The document highlights four key themes for sustainable, inclusive stations and focuses upon how small and medium (Category C to F) stations should deliver this. The four key themes consisted of:

- Sustainable stations;
- Connected stations;
- Accessible stations; and
- Stations for sustainable development.

The Strategy then assesses the economic benefits of delivering numerous interventions (such as ambience, health, adding community office space and concourse expansion), applying numeric values to these more intangible improvements.

The main conclusions were for the packaging of interventions and clustering of station improvements, which this SOBC seeks to deliver.

2.3 Local priorities

2.3.1 Summary of local priorities

Local (development) plans and transport-related strategies of Local and Combined Authorities across the North have been analysed, allowing for identification of recurring themes and policy objectives related to railway stations.

Several recurring priorities were identified across the documents reviewed. Firstly, the upgrading of station facilities, increasing station capacity, and the use of the stations as a catalyst for wider regeneration appear to be common objectives across the North. Station gateways prove integral to the wider objectives of a range of authorities (see Figure 2.3). Building upon this, many local authorities are looking to facilitate delivery of multi-modal transport interchanges at stations at a variety of scales; thereby integrating the rail network with other modes of transport, thus improving the efficiency of the local transport network for users. This helps improve accessibility to stations, delivering wider economic benefits and assists in addressing social isolation.

Local authorities also identified a priority to improve safety and ensure inclusive design across stations, through a range of different measures.

Figure 2.3: Summary of key priorities identified in document review

2.3.2 Analysis of local policy documents

Figure 2.4 provides an overview of the priorities of Local Transport Plans and other transport-related strategies of Local and Combined Authorities across the North that are relevant to railway stations.

Figure 2.4: Local Transport and Rail Plan Station Related Priorities

Stations and the Economy 	Blackburn with Darwen	LTP3	2011-2021
	Cheshire East	LTP	2019-2024
	East Lancashire	Highways and Transport Masterplan	2014
	Greater Manchester	Transport Strategy	2040
	Liverpool City Region	Long-Term Rail Strategy	2018
	Liverpool City Region	Transport Plan	2019
	North Yorkshire	LTP	2016-2045
	Sheffield City Region	Integrated Rail Plan	2019
	Tees Valley	Rail Implementation Plan	2020
	Tees Valley	Strategic Transport Plan	2020-2030
	West Yorkshire	Rail Strategy	2021
	West Yorkshire	Transport Strategy	2040
Stations and Placemaking 	Blackburn with Darwen	LTP3	2011-2021
	Blackpool	LTP Implementation Strategy	2018-2021
	Cheshire East	LTP	2019-2024
	Cheshire West and Chester	LTP	2011-2026
	East Lancashire	Highways and Transport Masterplan	2014
	East Riding of Yorkshire Council's	LTP	2021-2039
	Greater Manchester	Transport Strategy	2040
	Hull Area	Strategic Study	2019
	Liverpool City Region	Transport Investment Prospectus	2022/2023 – 2026/2027
	North East	Transport Plan	2021-2035
	North East Lincolnshire	LTP	2016-2032
	North Lincolnshire	Local Transport Plan	2011-2026
	North Yorkshire	LTP	2016-2045
	Sheffield City Region	Integrated Rail Plan	2019
	Sheffield City Region	Transport Strategy	2019
	Tees Valley	Strategic Transport Plan	2020-2030
	Tees Valley	Rail Implementation Plan	2020
	Warrington	LTP4	2019
	West Yorkshire	Rail Strategy	2021
	West Yorkshire	Transport Strategy	2040
	York	LTP	2011-2031
Stations, Sustainability and the Environment 	Greater Manchester	Transport Strategy	2040
	Sheffield City Region	Transport Strategy	2019
	Sheffield City Region	Integrated Rail Plan	2019
	West Yorkshire	Rail Strategy	2021
	West Yorkshire	Transport Strategy	2040
Stations, Communities and Opportunity 	Blackburn with Darwen	LTP3	2011-2021
	Cheshire West and Chester	LTP	2011-2026
	East Lancashire	Highways and Transport Masterplan	2014
	East Riding of Yorkshire Council's	LTP	2021-2039
	Greater Manchester	Transport Strategy	2040
	Sheffield City Region	Integrated Rail Plan	2019
	Tees Valley	Strategic Transport Plan	2020-2030
	West Yorkshire Rail Strategy	Rail Strategy	2021
Stations and Social Inclusion 	Cheshire East	LTP	2019-2024
	Cheshire West and Chester	LTP	2011-2026
	Cumbria	Transport Plan Strategy	2011-2026
	East Riding of Yorkshire Council's	LTP	2021-2039
	Greater Manchester	Transport Strategy	2040
	Sheffield City Region	Integrated Rail Plan	2019
	Sheffield City Region	Transport Strategy	2019
	Tees Valley	Rail Implementation Plan	2020
	West Yorkshire	Rail Strategy	2021

2.4 Vision and objectives

Based upon the national, regional, and local priorities, TfN and local partners have developed a vision for a station enhancements programme which is:

"Our vision is for stations in the North to be safe and secure, in good condition, with fit for purpose facilities, and inclusive of all users' needs. They will contribute in full to the economic and environmental development of their locations, maximising the railway's commercial and social potential."

Programme level objectives have been developed focussed on seven themes:

Table 2.1: Objectives of the Northern England Station Enhancements Programme

ID	Theme	Objective is to…
1	User Experience	Enhance the efficiency and quality of rail travel for users
2	Place-making	Provide enhanced gateways to surrounding communities and places, helping stimulate regeneration and development
3	Economic Development	Support enhanced access to opportunity, including through local development, to address inequalities
4	The Environment	Promote mode shift to reduce global and local emissions, and help to protect and enhance the natural and built environment
5	Security & Safety	Reduce real and perceived concerns around personal security and safety at railway stations
6	Equality	Address persistent accessibility issues which limit opportunities for those with reduced mobility
7	Commercial potential	Increase the revenue base for the rail industry and help to minimise long-term subsidy requirements

3 People, Places, and the Economy

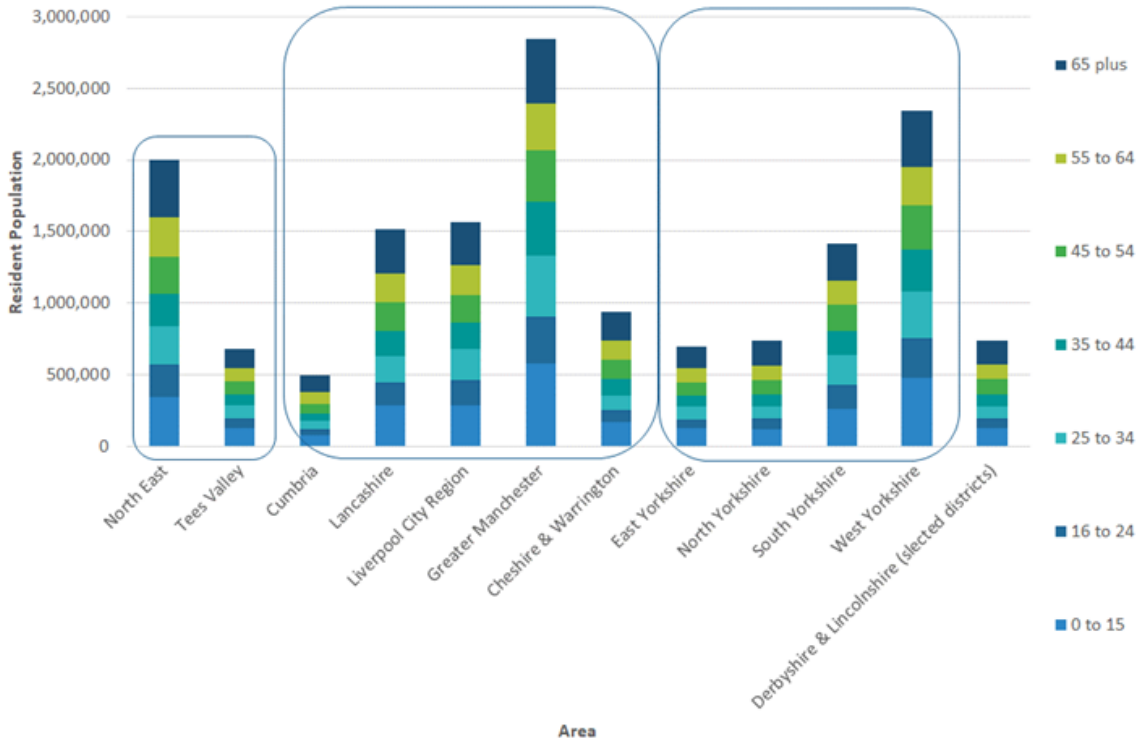
This section considers the wider economic, social, and environmental context across Northern England, and the challenges and issues which Government priorities are seeking to address. By doing so it helps establish the 'case for change' and the need for intervention to help deliver better outcomes.

3.1 Population and places

The North of England has a resident population of approximately 15.6 million[26]. Chart 3.1 shows the distribution across 12 discrete sub-regions[27]. There are some disparities in the population profile between the sub-regions, with the:

- Major metropolitan areas, such as Greater Manchester, the Liverpool City Region, South Yorkshire, and West Yorkshire typically have younger populations with upwards of 30% of the population aged 34 and under; and
- More rural areas such as Cheshire & Warrington, Cumbria, Derbyshire & Lincolnshire, and North Yorkshire having a greater percentage in the two oldest cohorts of ages 55 plus, between 35% and 40%[28].

Chart 3.1: Resident Population by Geography and Age Band



Source: 2020 ONS mid-year population estimates

26 2020 ONS mid-year population estimates

27 These 12 sub-regions are shown 'grouped' to the three Northern England Government regions with selected East Midlands also included.

28 By comparison, the major metropolitan areas have less than 30% in this cohort.

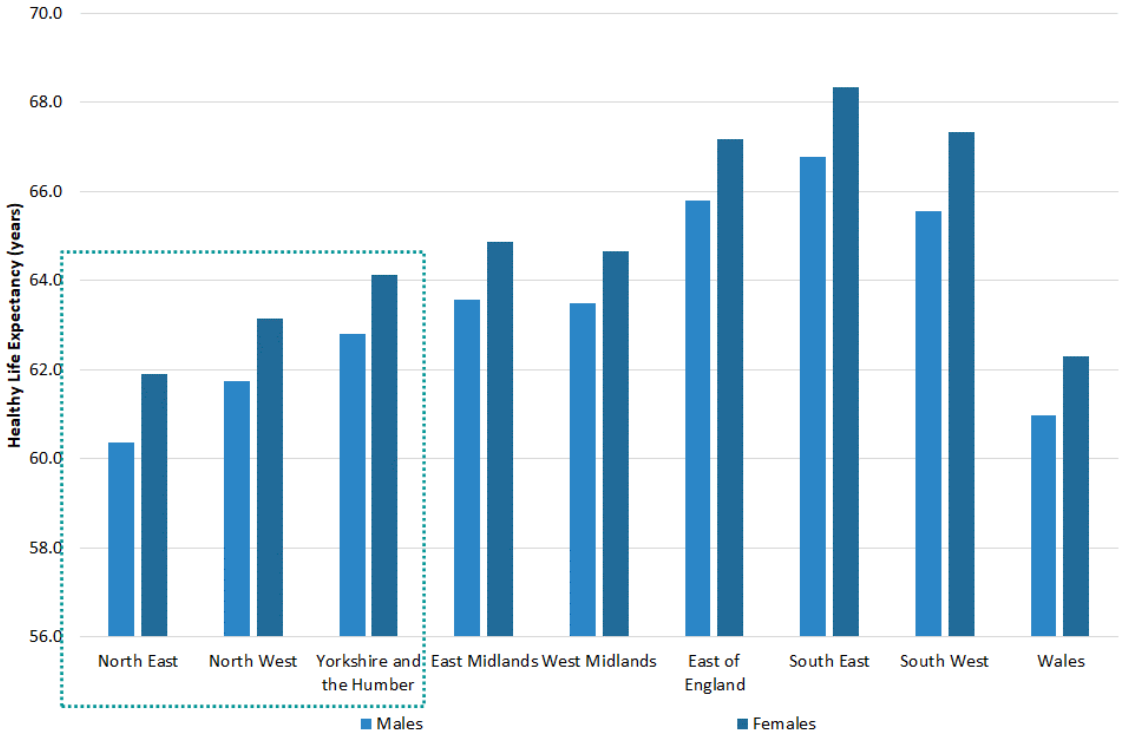
3.2 Deprivation

Many areas of the North suffer from poor social outcomes, as reflected in the Index of Multiple Deprivation (IMD), which is essentially a measure of poverty, combining data on 37 different variables. Map 3-1 (overleaf) shows 2019 levels of deprivation across Northern England.

3.3 Healthy life expectancy

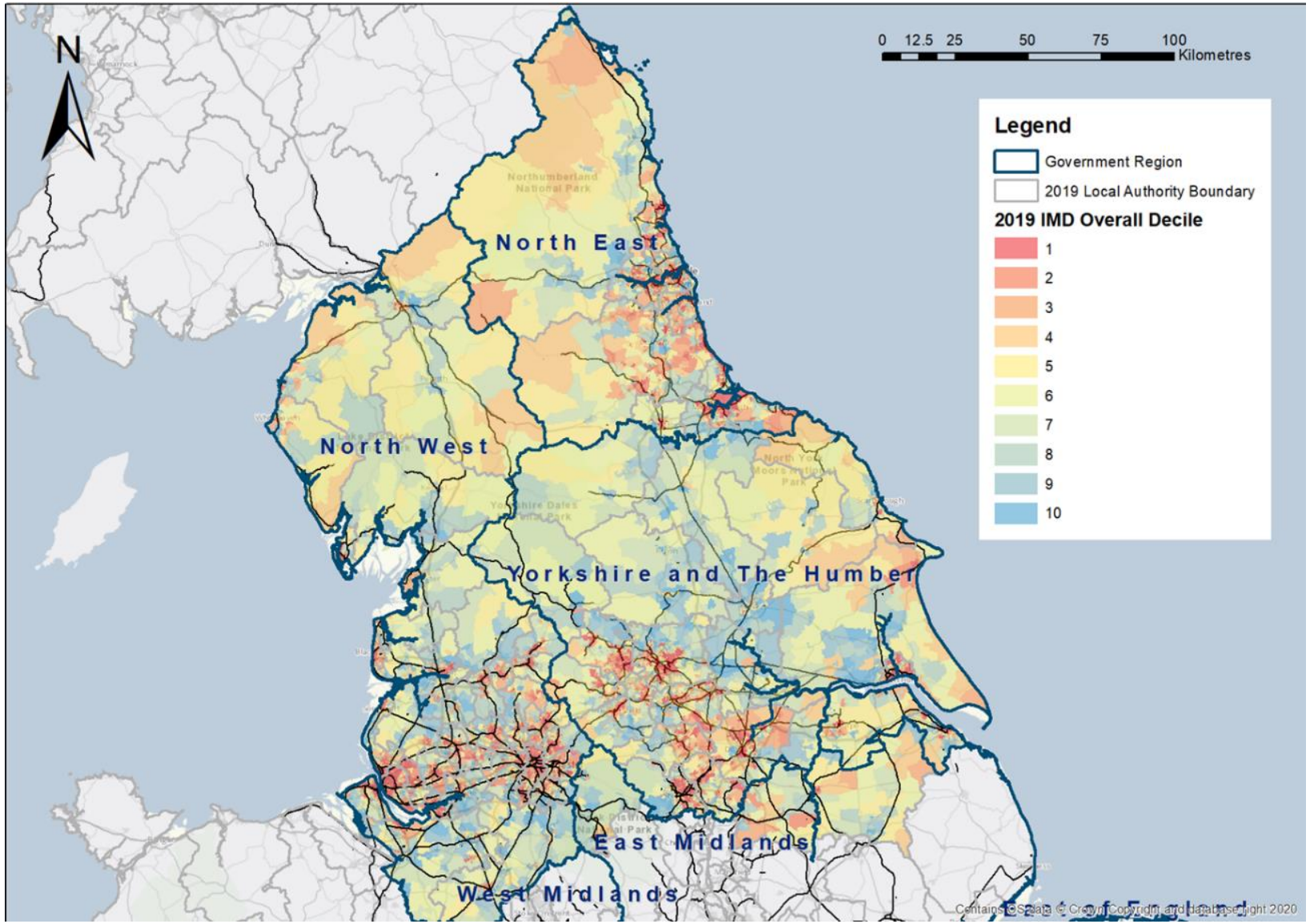
As shown by Chart 3.2, people in the North suffer from the shortest healthy life expectancy of any regions in England, and the North East region has the lowest life expectancy of any region in England or Wales. This is a product of poor health, caused by poverty and historic poor working conditions in heavy industry.

Chart 3.2: Healthy Life Expectancy by Government Region



Source: Office for National Statistics

Map 3-1: 2019 Index of Multiple Deprivation (1 = most deprived)



Source: Ministry for Housing, Communities and Local Government

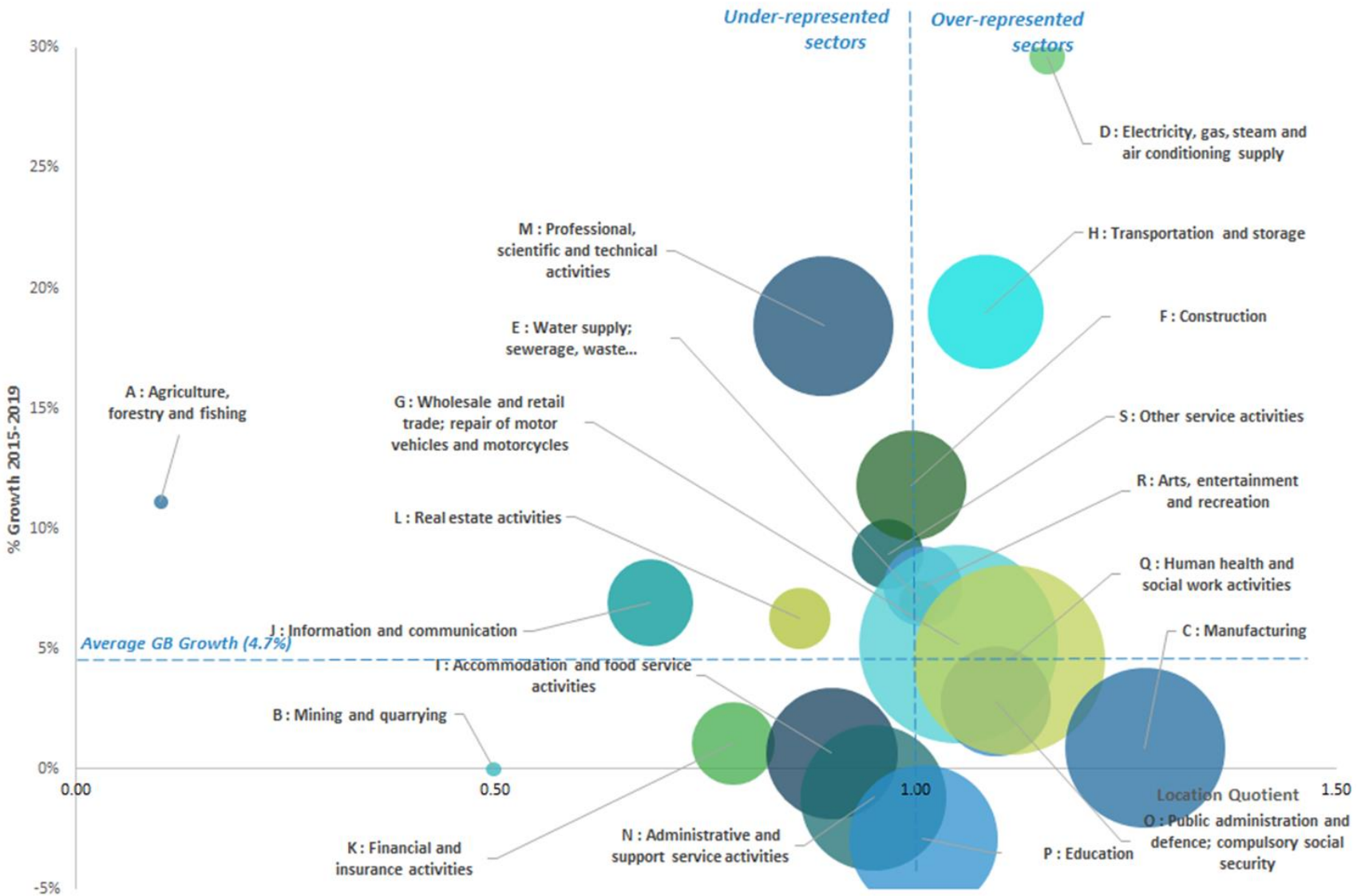
3.4 Economic Development

Location Quotient[29] (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region "unique". LQ analysis for the North of England (between 2015 and 2019) illustrates the challenges and opportunities facing the area, with respect to increasing productivity, levelling up, and reducing adverse outcomes such as deprivation and unemployment. Chart 3.3 (overleaf) demonstrates that within the North of England:

- **The five largest sectors by employee counts** (total employment share ranging from 16% to 8%), in rank order, are); Wholesale and retail + Motor (G); Human Health (Q); Manufacturing (C), Education (P), and Administrative & Support Services (N).
- **The most "overrepresented" sector** (with an LQ greater than 1.0) **-** relative to Great Britain weightings – is Manufacturing (C) with an LQ of 1.3. A large number of other sectors have LQs in the range 0.8 to 1.2.
- **The five fastest growing sectors 2015 - 2019**, in rank order (with % change ranging from 41%+ to 5%+) are: Electricity, gas, steam and AC, (D); Transportation & Storage (H); Professional, Technical & Scientific Activities (M); Construction (F); and Agriculture, Fishing & Forestry (A).
- While Wholesale and retail + Motor (G) and Human Health (Q) are clearly the most important sector in terms of initial employment base, contributing 30% of employees, they have only grown by ca 1% per annum since 2015.
- Education (P) is also a large sector in terms of employee counts and national weighting. This has declined by (-)3% between 2015 and 2019.
- Higher value activities such as Professional, scientific, and technical (M), Financial & Insurance Activities (K), and Information & Communication J) are under-represented, with LQs = 0.89, 0.78, and 0.68 respectively.

[29] In the context of geographical concentration, a location quotient of 1.0 indicates that the local share of total employee jobs in an industry is equal to the local share of total employee jobs relative to Great Britain.

Chart 3.3: North of England Industrial Structure



Source: ONS Business Register & Employment Survey

Between 2015 and 2019, the North of England has experienced slightly higher growth than the GB average, at 4.9% versus 4.7%, driven by 85,000 (+18%) jobs in 'Professional, Scientific, and Technical Activities (M), 35,000 (+19%) in Transportation & Storage (H), and 35,000 (+12%) in Construction (F). It is clear that there is still work to be done to support both:

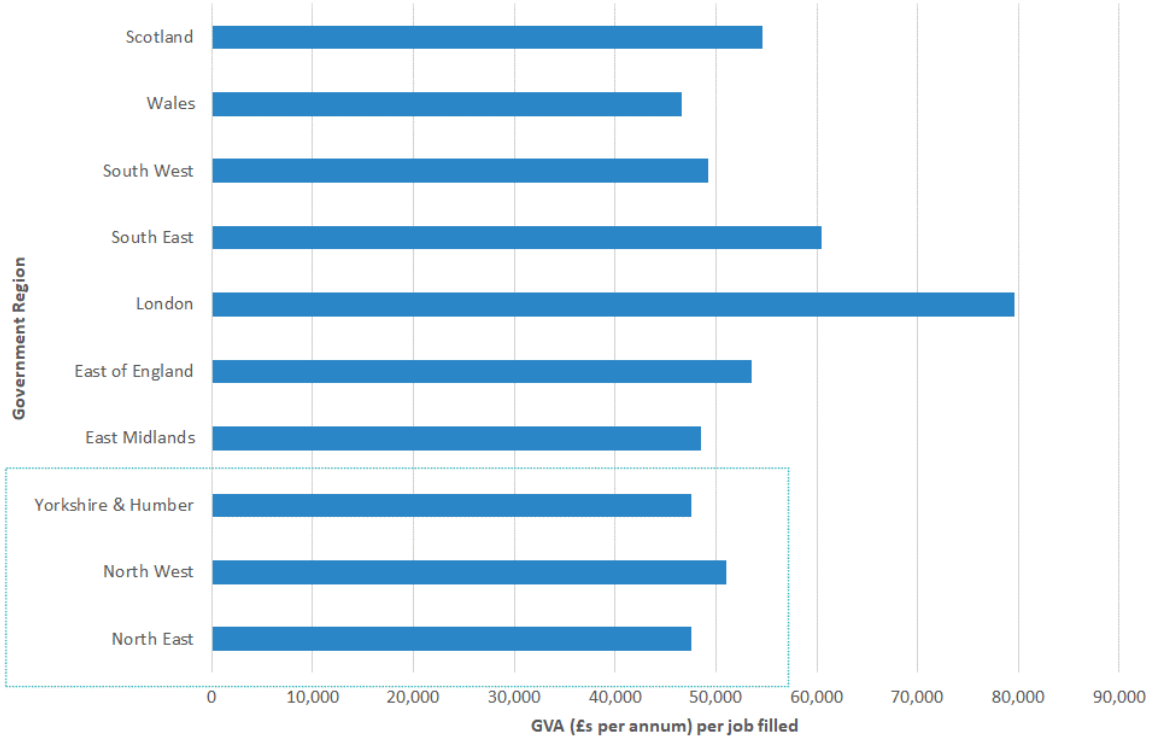
- Overall jobs growth; and
- Expansion of specific higher value sectors which will help to close the productivity gap between the North of England and other parts of Great Britain.

Helping to close both gaps is a critical component of ambitions to 'level up' economic and social outcomes across Great Britain.

3.5 Productivity

Approximately half of the 8.8 million jobs in the North of England are located within 2km of a railway station. These jobs tend to be much more clustered, with the associated density generating the potential for productivity gains through agglomeration economies. Chart 3.4 shows how the GVA per job statistics in the North of England lag behind those in London, the South East, and Eastern England.

Chart 3.4: GVA per job filled by Government Region



Source: Office for National Statistics

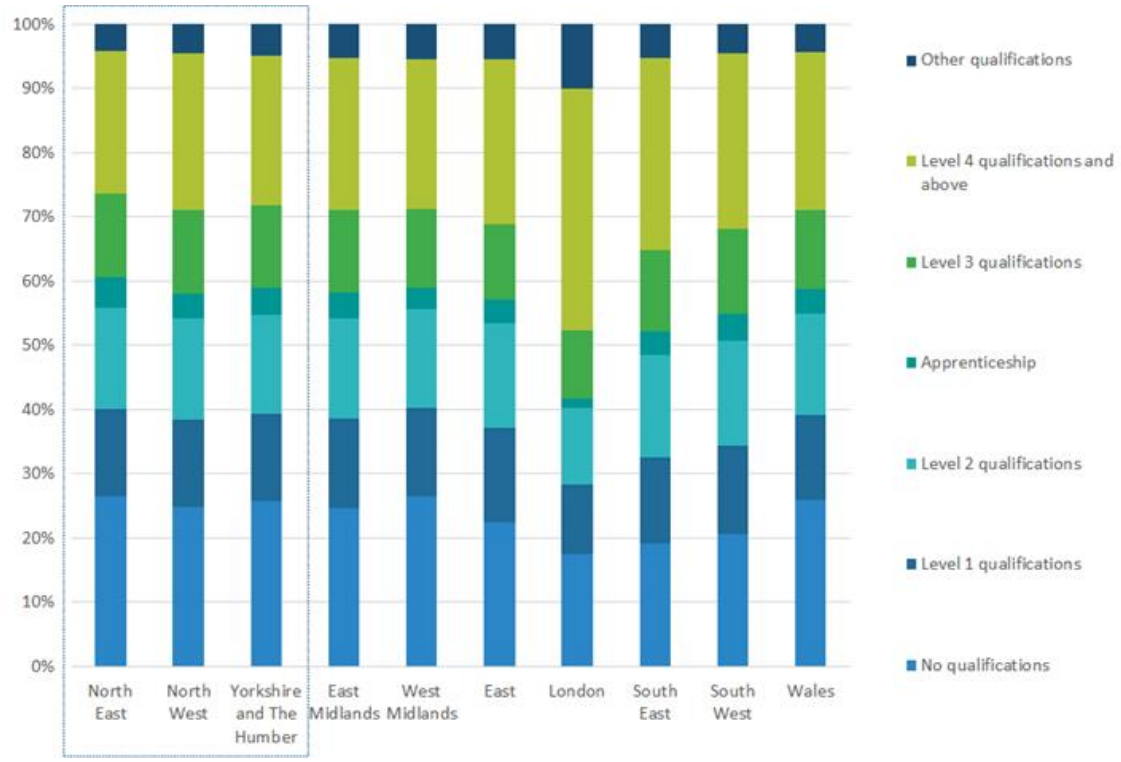
Stations in Northern England are well placed to serve at least 4.5m existing jobs, and many future development sites. Investment in stations will improve economic development of the areas around them by improving access to employment and other opportunities through reducing barriers to travel.

It will also increase inward investment in the areas around stations through making the areas served more accessible and attractive places for companies to do business.

3.6 Skills and qualifications

As Chart 3.5 shows, regions in the North of England have, with Wales and the West Midlands, the highest percentages of residents with either no qualifications or Level 1 only. This is strongly correlated to the productivity, economic activity, and deprivation issues highlighted previously.

Chart 3.5: Highest Level of Qualification

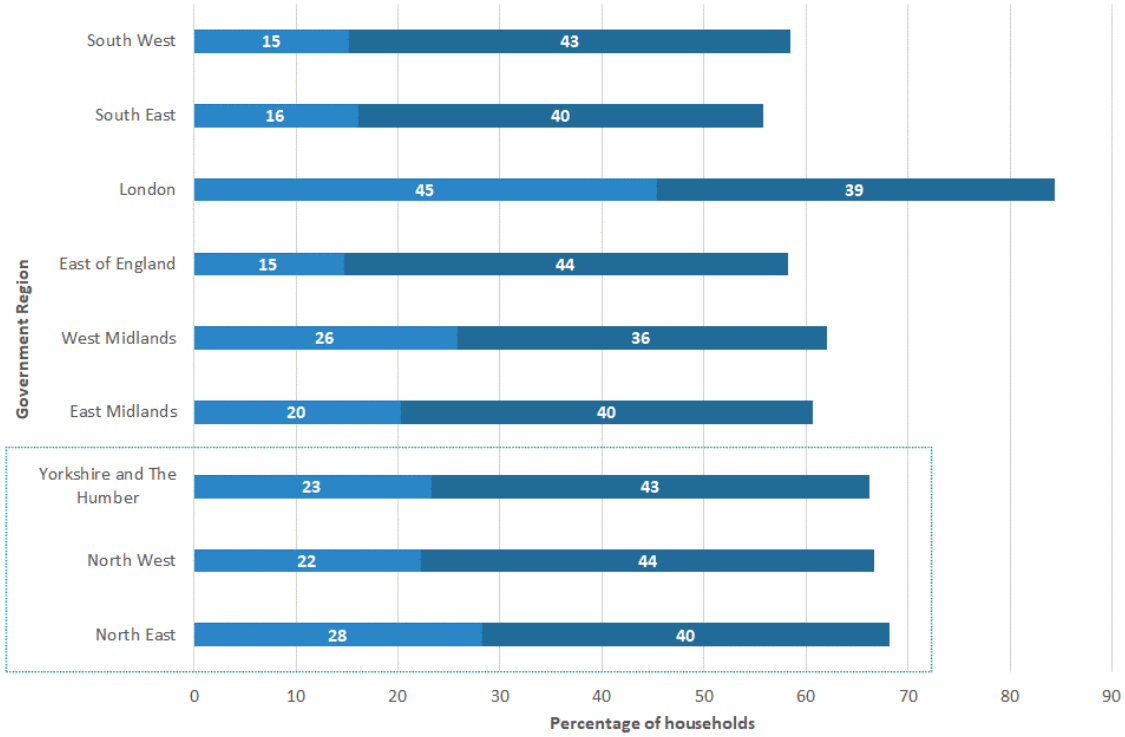


Source: 2011 Census, Office for National Statistics

3.7 Car availability

Chart 3.6 (overleaf) shows the percentage of households with access to either no or one car. Outside of London, where low availability is linked to the provision of alternatives, the three North of England regions have the lowest levels of car availability. This lower level of availability will, in part, be linked to availability of alternatives, but is also reflective of socio-economic conditions and affordability issues.

Chart 3.6: Zero and One-car Households by Government Region

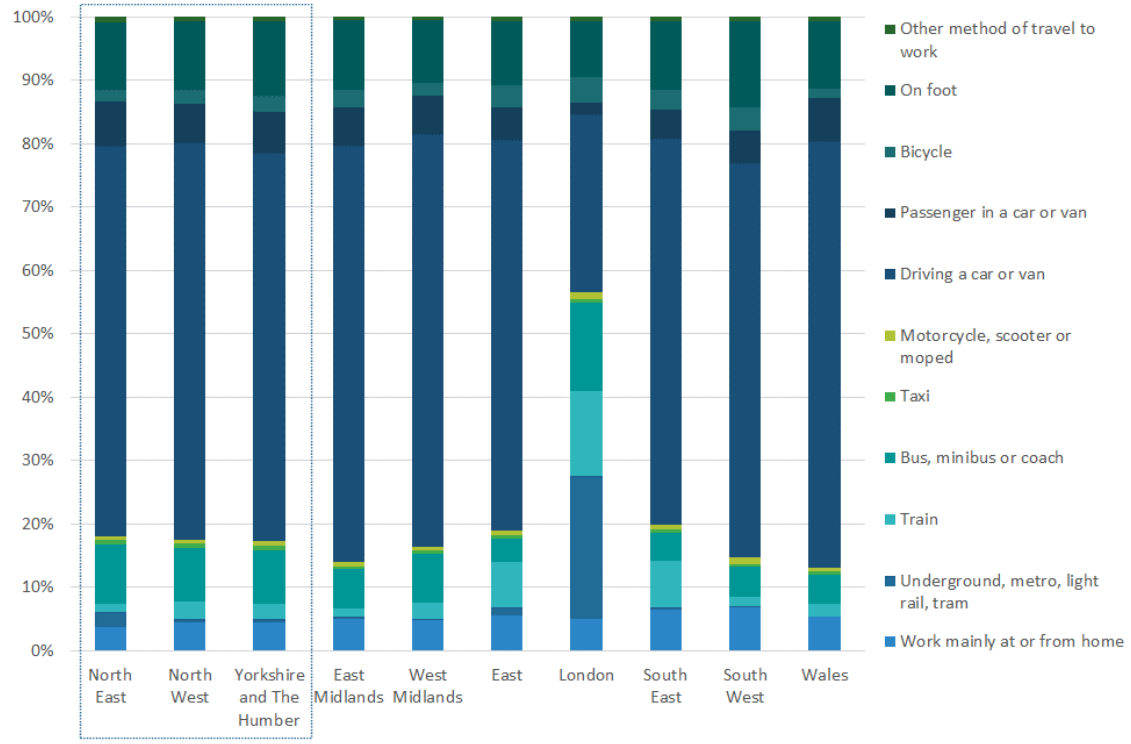


Source: 2019 National Travel Survey. Light blue = no cars, dark blue = one car

3.8 Car dependency

Chart 3.7 (overleaf) shows the significant disparity between travel-to-work (TtW) mode shares in London and the rest of England and Wales. Higher mode shares for rail, linked to the London commuter market, are also observed in Eastern England and the South East. Taken in tandem with the car availability statistics, this suggests that is it is likely to be socio-economic factors which are dominant in the car availability statistics, and that there is a significant degree of dependency on the car due to a real or perceived lack of alternatives.

Chart 3.7: 2011 Census Travel-to-Work Mode Shares



Source: 2011 Census, Office for National Statistics

The latest National Travel Survey (NTS) data for 2018/19 reinforces this car dependency, with between 62% and 64% of all trips, regardless of purpose, being made as either a car driver or passenger in the three the North of England regions. The comparable figure for London is 34%.

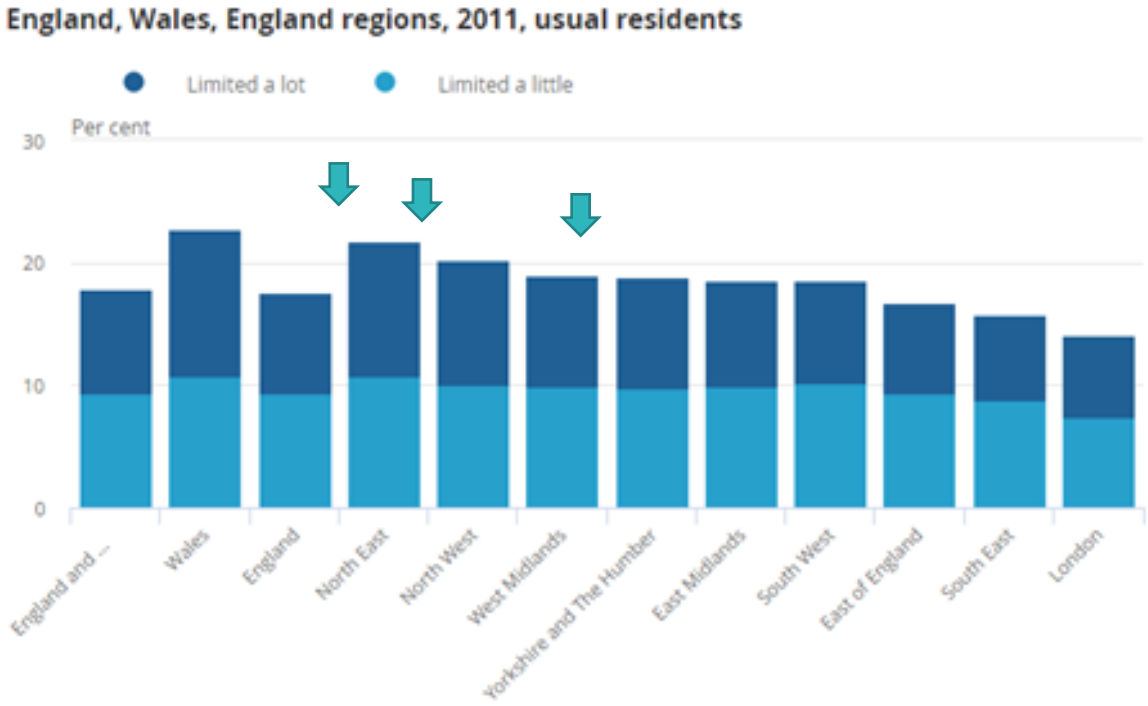
3.9 Inclusivity and Equality

At the 2011 Census, there were approximately 3 million people across the three North of England regions with a limiting long-term health problem or disability – approximately 20% of the population. Many other residents face other types of constraints which can limit their ability to access services and opportunities.

'Access for All' considerations are multi-faceted and effective social inclusion involves tacking physical issues, stress/cognitive issues, and other more hidden impairments – illiteracy is one example of a factor which can limit opportunities.

As shown in Chart 3.8, of the nine regions in England, the three regions which make up the North were in positions 1,2 and 4 for residents most likely to have a health problem or disability limiting their activity.

Chart 3.8: Regional distribution of health problems limiting activity



Source: 2011 Census, Office for National Statistics

There is a strong relationship between poverty and low life expectancy, poor health, limiting long term illness, and poor social outcomes.

	Stations are a vital part of the door-to-door journey by rail. Lack of inclusivity adds time and cost to many people's journeys, or makes them impractical, denying opportunities to intending passengers. Within England, the North has the largest proportion of people who have an illness or disability which restricts their activity levels, and therefore likely also restricts their mobility. Making a station accessible requires consideration of a wide range of issues; most of the assets at a station have features which make them more or less accessible.

3.10 Transport-related social exclusion (TRSE)

TfN has commissioned an (as-yet unpublished) report[30] into TRSE. Some of the relevant findings include:

- Whilst rural transport problems are well recorded, the study highlights the problems of TRSE in the more rural areas of conurbations, such as West Gateshead, one of the study areas. It also raises the problem of isolation for people who lose driving skills as they grow older, in rural areas with no alternative to the car. This is particularly worrying for dementia sufferers.
- Suburban areas are highlighted by the geosocial database as exhibiting TRSE and not getting the same level of policy attention as either rural or urban areas. TRSE was highest in Inner Urban and City Suburban neighbourhoods. This is contrary to many policy perceptions

[30] TRSE Main Findings, Social Research Associates, 2021 (unpublished study)

and supports the finding in the geosocial analysis which found TRSE a greater problem in suburban and the outer ring of inner-urban areas than in the core of cities.

- TRSE generally focuses on people from lower income groups, but older people in wealthy areas can be isolated, since the areas are not well served by bus and a fixed income pension makes taxis unaffordable.
- Car dependence is well covered in the literature, but the study found it had developed apace, caused by cuts in bus services and higher increases in public transport fares compared to motoring costs in recent years. Families at food banks were often found to be prioritising running a car over food, because without a car no access to jobs and services was possible. Similarly, many people relied on cars to get to work in the growing number of businesses such as warehousing located on sites without public transport services.

Investment in stations can help to address TRSE through improving interchange between modes, giving rural, suburban, and peri-urban locations better access to the railway network, for example as part of journeys involving bus and train.

The North suffers from a range of poor social outcomes as evidenced by, for example, IMD and life expectancy data.

Station improvements can help by improving access to opportunities through better user experience, better journeys, and a better environment.

3.11 Climate Change

Surface transport is the largest contributing sector to UK greenhouse gas emissions, accounting for 22% of all emissions in 2019[31]. 95% of these emissions are from road transport. While many other sectors have seen reductions (e.g. due to the closure of heavy industries), greenhouse gas emissions from surface transport have risen in the last decade.

The UK Government has now published a strategy to help achieve 'net zero' greenhouse gas emissions by 2050[32], while TfN has published their complementary '*Transport Decarbonisation Strategy*'[33], which advances this goal, at the regional level, to 2045.

Investment in stations can support modal shift, make better use of existing assets, reduce energy usage, improve climate resilience, and improve the appearance and heritage character of stations.

3.12 People, Places, and the Economy - Key takeaways

- The North is home to approximately 17 million people, resident across a diverse urban and rural geography.
- There are significant pockets of deprivation, most typically associated with urban areas in the North's cities and towns.
- Healthy life expectancies in the North are significantly lower than elsewhere in Great Britain. The difference is as great as six to seven years.
- Jobs' growth in the North of England has continued to lag behind the rest of Great Britain, and the area is still underrepresented in key higher-value sectors.

31 Excluding aviation and shipping.

32 See: Net Zero Strategy: Build Back Greener - GOV.UK (www.gov.uk)

33 See: TfN-Transport-Decarbonisation-Strategy-TfNDEC2021.pdf (transportforthenorth.com)

- As a result of its economic structure, productivity (as measured by GVA per job filled) is lower in the North of England than in London, the South East, Eastern England, and Scotland.
- Skills and qualifications are, on average, lower than other regions, contributing to the observed economic and social outcomes.
- There are also lower levels of car availability and higher dependency amongst those households who do have access to one.
- A significant proportion of the population (20%+) have a limiting long-term health problem or disability, and another proportion are likely to have other 'hidden' constraints which can limit their ability to access services and opportunities.
- Social exclusion, due to a lack of transport alternatives to access services and opportunities, is a significant problem and a direct cause of adverse social and economic outcomes.
- Car dependency is apparent, amongst those who can afford one, which is contributing to adverse environmental outcomes. Road transport is major contributor to greenhouse gas emissions and the source of some significant localised issues regarding air quality. Road traffic also generates other adverse social and environmental outcomes for places along those routes, including real and perceived safety issues and the impact of severance.

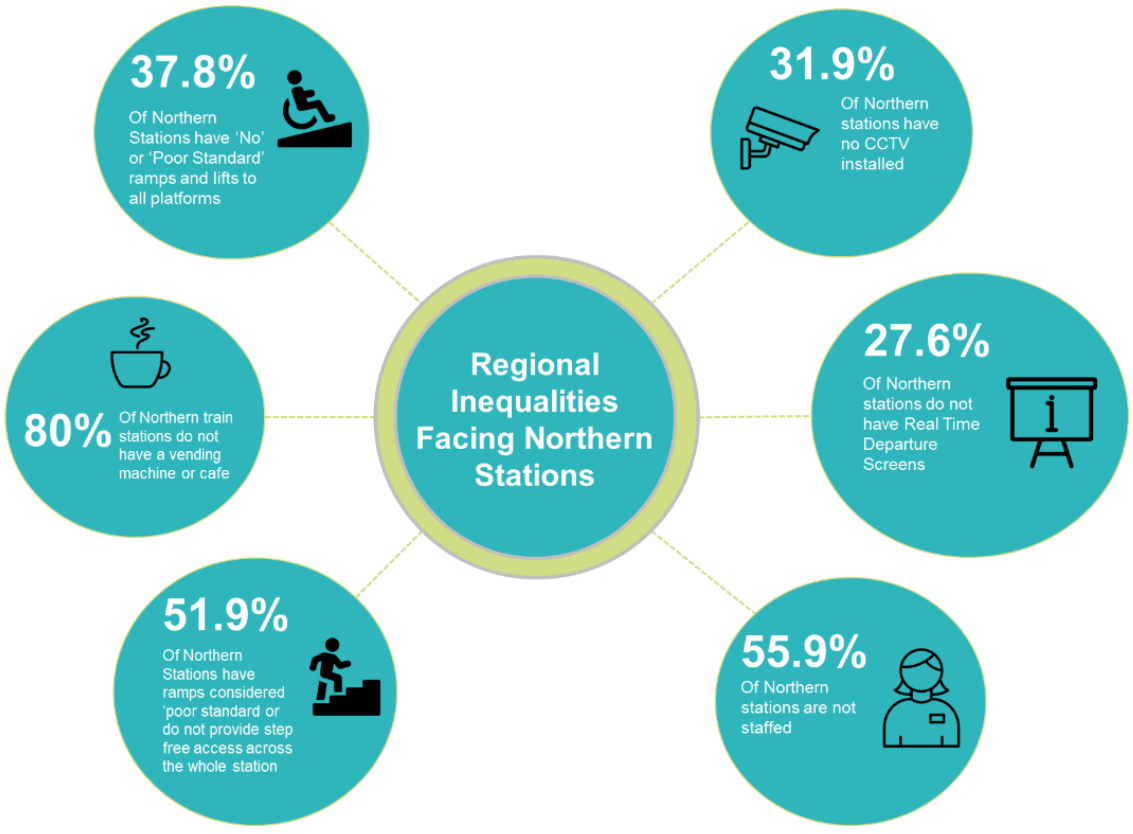
4 The Challenge Explored

This section explains and explores the current situation with respect to railway stations, their assets, quality, and condition of provision, and resulting passenger satisfaction. It makes comparisons within the North and across to other regions on station quality, condition, and facilities, exploring the current problem and possible opportunities. It also explores peoples' needs and their priorities for change.

4.1 Existing station facilities

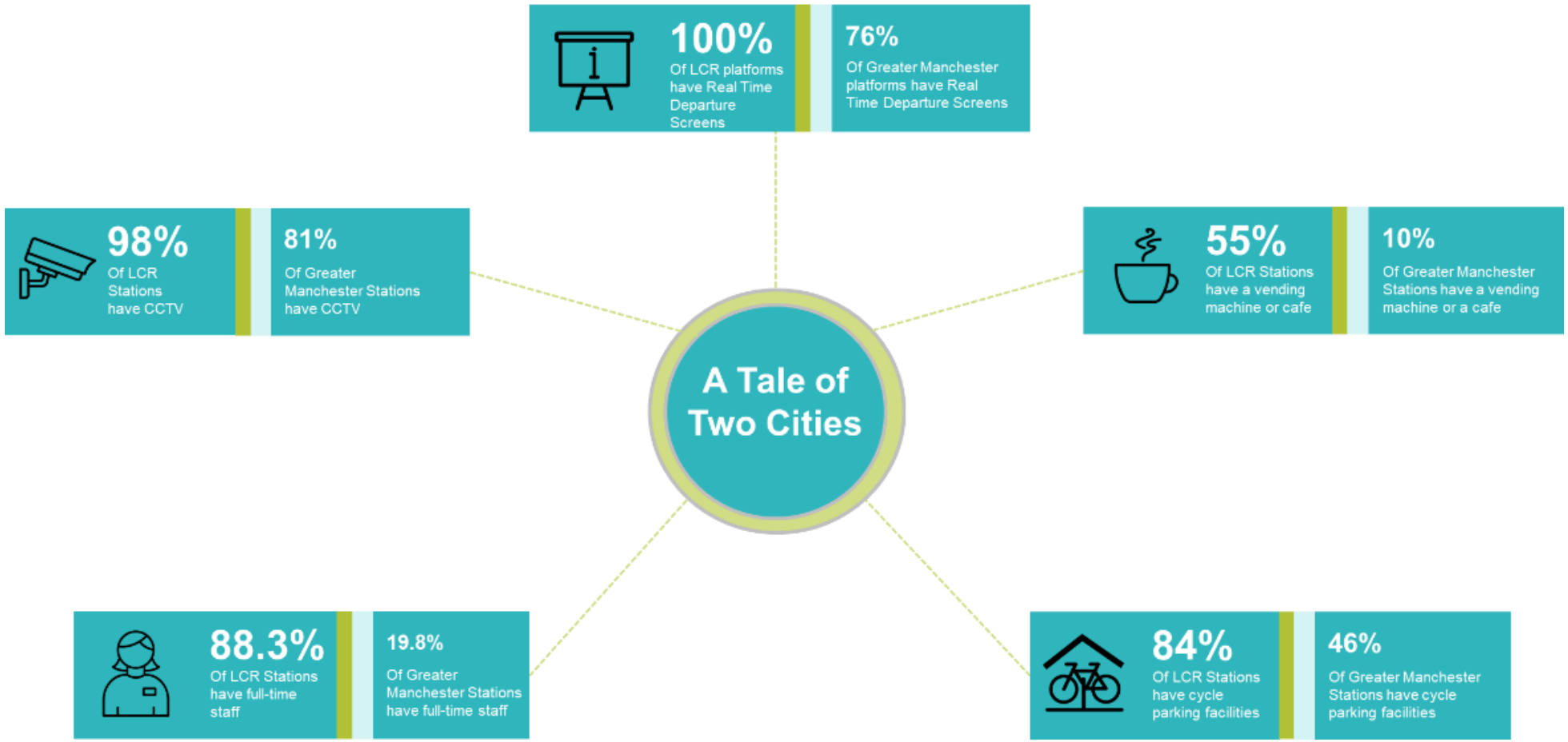
An asset register was compiled for Northern England's stations which showed the availability of station facilities, including provision of assets for individuals with physical or cognitive constraints. Figure 4.1 shows the low level of provision across the North of some quite basic facilities such as access to all platforms, CCTV, and real-time information for passengers. Figure 4.2 (overleaf) demonstrates some of the significant differences which exist within the North in comparable urban areas.

Figure 4.1: Northern England Station Facilities

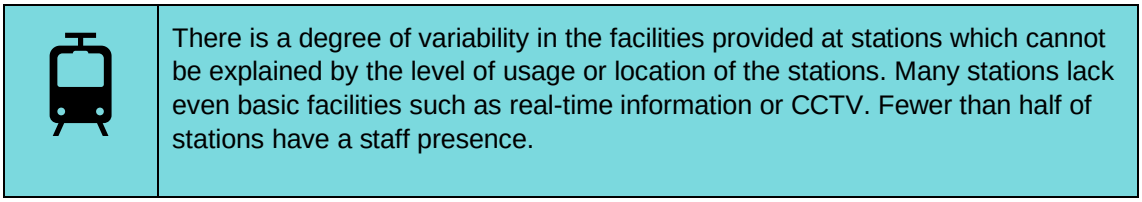


Source: Mott MacDonald

Figure 4.2: Comparison of facilities provided at stations in the Liverpool City Region and in Greater Manchester



Source: National Rail Enquiries and Local Partners



4.2 Asset condition

Considering the environment with stations themselves, the Station Stewardship Measure[34] (SSM) is an index which allows comparisons of Network Rail's asset stewardship for each station. A condition score is calculated by assessing, by visual and detailed inspection, the asset remaining life of elements within the station lease area. The percentage of remaining life for each element is then converted to a score according to this scale (1: >76%, 2: 46-75%, 3: 16-45%, 4: 1-15%, 5: 0%). So, a higher SSM implies shorter remaining asset life, and therefore a station likely to be in worse condition. The total score is a composite of all assets, i.e. to score 1 all assets would have to be 'as new', while five would imply all assets are life expired or defunct.

Chart 4.1 (overleaf) shows the average SSM by DfT station category A to F2. Note that the overall SSM varies between 1.0 and 3.0 in the dataset.

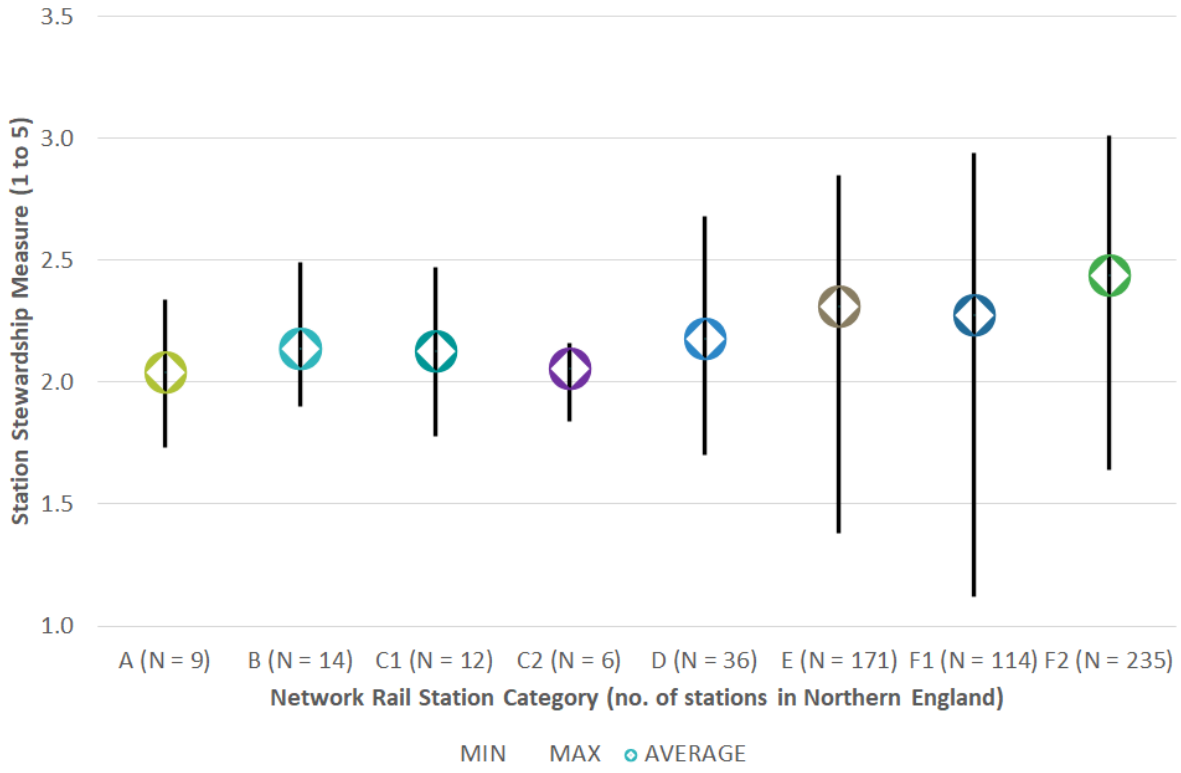
Stations in categories A to D have an SSM of around 2.1; stations in categories E to F2 have an SSM of 2.3-2.4. Therefore, the smaller stations have a shorter remaining asset life, on average approaching 50% remaining asset life (an SSM of 2.5 implies 45% asset life remaining).

This implies that the smaller stations are, on average, nearer the end of their asset lives.

As would be expected given the larger sample sizes, there is greater variability in the SSM score for category D, E, and F stations.

[34] See: Table 6920 - Station stewardship measure | ORR Data Portal

Chart 4.1: Station Stewardship Measure by Station Category



Source: ORR data and Mott MacDonald analysis

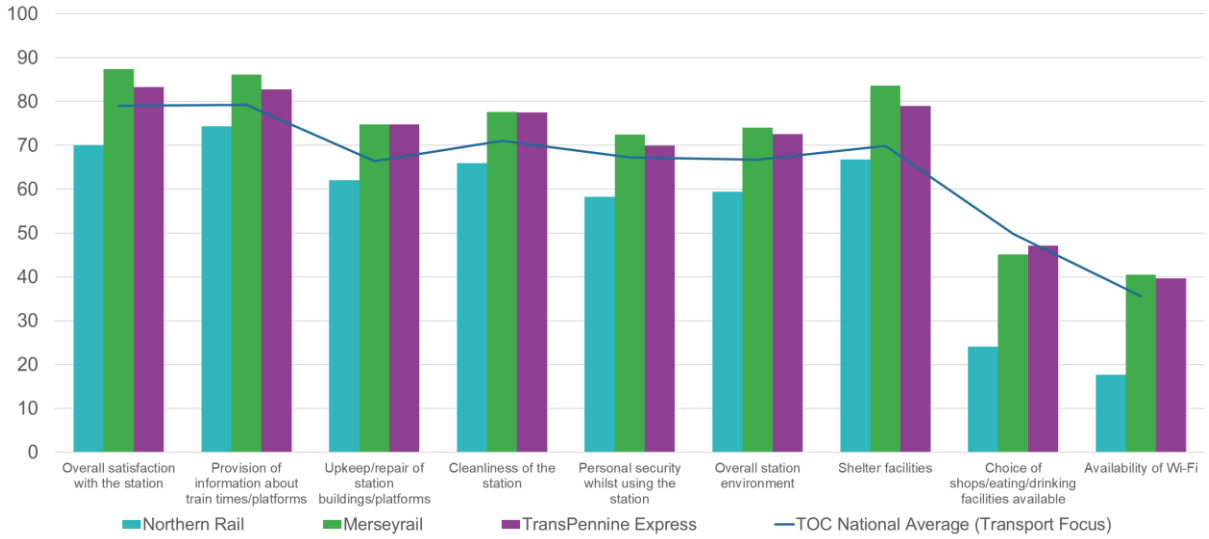
	The remaining asset life within stations is often short, particularly at the smaller stations in categories E, F1, and F2. There is an opportunity to invest in the smaller stations which are approaching the end of their asset lives.

4.3 User experience

The National Rail Passenger Survey (NRPS), run by Transport Focus, provides a network-wide picture of passenger satisfaction with all aspects of rail travel. It is the largest published rail passenger satisfaction survey of its kind. Therefore, when considering stations across Northern England, the NRPS provides the largest sample size to gain an understanding of passenger perception of train stations from an independent, reliable source.

566 of the stations in Northern England are managed by one of three Train Operating Companies (TOCs): 479 are operated by Northern Rail, 68 are by Merseyrail, and 19 are by TransPennine Express. Chart 4.2 highlights the striking underperformance of stations managed by Northern Rail when contrasted with TPE and Merseyrail.

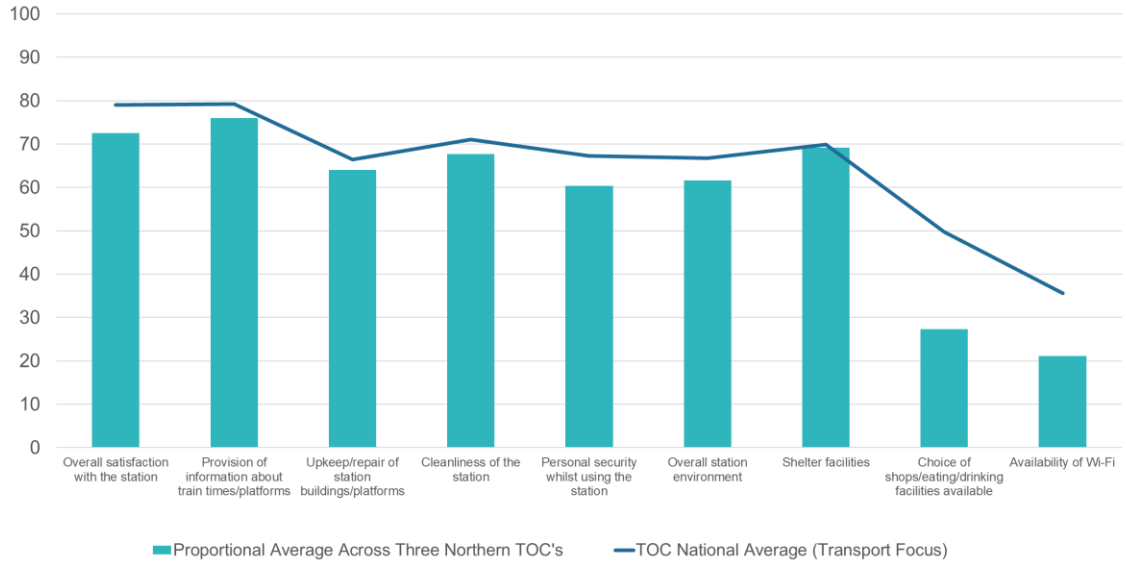
Chart 4.2: Comparison between satisfaction with station facilities by TOC operating the station



Source: Transport Focus with analysis by Mott MacDonald

Chart 4.3 further contextualises this by providing a weighted average across TOCs in the north, contrasting this with the TOC national average. This highlights the overriding, consistent underperformance of stations in Northern England when contrasted with national average passenger satisfaction; notably trailing national averages by almost 10% in areas such as overall satisfaction with stations, overall station environment and personal security while using stations. The North trails national satisfaction levels by over 10% when considering factors such as the provision of Wi-Fi and a choice of shops and other food and drink services.

Chart 4.3: Comparison between satisfaction with station facilities in the North against the National Average

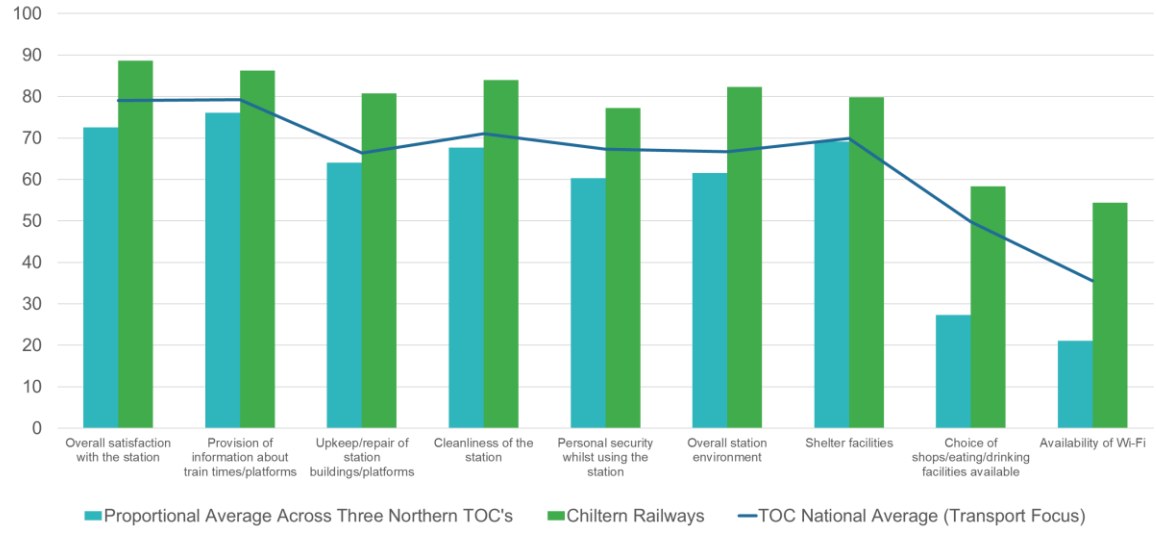


Source: Transport Focus with analysis by Mott MacDonald

When considering passenger satisfaction within the national context, the best performing TOC is Chiltern Railways[35]. Chiltern Railways is comparable in size and scale to Merseyrail; operating 66 train stations and facilitating over 24.5 million train journeys in 2018 (Merseyrail attracted 34 million as recently as 2016). Chiltern Railways provides a benchmark for comparison as a TOC providing commuter trains from rural and urban areas into London and Birmingham, thus serving a market comparable with the geography served by Merseyrail, Northern Rail, and TPE.

Chart 4.4 compares passenger satisfaction of the northern TOCs with both Chiltern Railways and the national average. This further illustrates the underperformance of northern train stations, as reflected in northern TOCs' stations trailing Chiltern Railways passenger satisfaction by close to 20% in general upkeep of stations, the overall station environment, and personal security whilst using stations. Furthermore, Chiltern Railways' passenger satisfaction is over 30% higher than the northern TOC weighted average for Wi-Fi availability and provision of a choice of shops and other food and drink services.

Chart 4.4: Comparison between satisfaction with station facilities in the North and those operated by Chiltern Railways



Source: Transport Focus with analysis by Mott MacDonald

Chiltern Railways serves as an exemplar of what can be achieved through commitment to establishing better rail services and the importance of establishing an understanding of customer needs when initiating a wider commitment to targeted investment. Since taking over the line in 1996, the annual number of journeys increased from 7.7 million to 24.5 million in 2018. Chiltern Railways has transformed its network through a mixture of interventions, of which the refurbishing of stations was a key element. Table 4.1 compares passenger satisfaction with the station environment for Chilterns Railways' routes with stations on railway routes in the north (by TOC route).

[35] Heathrow Express performs better – however only operates four stations

Table 4.1: Passenger Satisfaction with Station Environment by Route (for all Chiltern Railways, Merseyrail, TPE and Northern Rail Routes)

Rank	Route	Satisfaction with Station Environment
1	Chiltern Railways - Commuter	86%
2	Chiltern Railways - Oxford	85%
3	Chiltern Railways - West Midlands	85%
4	Chiltern Railways - South	83%
5	Chiltern Railways - Metro	82%
6	Merseyrail - Northern	81%
7	TransPennine Express - North	81%
8	TransPennine Express - South	80%
9	Chiltern Railways - North	79%
10	TransPennine Express - North West	78%
11	Merseyrail – Wirral	77%
12	Northern - North East	76%
13	Northern Rail - South & East Yorkshire	76%
14	Northern – East	76%
15	Northern – West	74%
16	Northern Rail - Tyne Tees & Wear	74%
17	Northern Rail - West & North Yorkshire	71%
18	Northern – Central	71%
19	Northern Rail - Lancashire & Cumbria	70%
20	Northern Rail - Manchester & Liverpool	67%

Note: colour coded by TOC.

The results shown in Table 4.1 are quite stark. Ranked by satisfaction, all three of the northern TOCs' routes perform worse on satisfaction than Chiltern Railways, except for the Chiltern North route.

TPE and Merseyrail also perform better than all of Northern's routes, likely due to the higher standard of facilities provided, reflecting the intercity nature of TPE's business, and the higher level of investment in Merseyrail (for example, the staffing of almost all stations).

Passengers in Northern England are much less satisfied with their stations than the national average or with a comparable TOC operating in the Midlands and South East.

Within the North, passengers are more satisfied with stations operated by Merseyrail and TPE than Northern.

4.4 Personal security

To effectively explore security and safety of stations across the TfN rail network, a comprehensive data set was secured from British Transport Police (BTP) detailing the quantity and severity of crime incidents annually at train stations operated by MEL, Northern, and TPE. The 2019/20 data set was used to ensure data reliability was not impacted by the COVID-19 pandemic. When assessing this data, crimes were split into two categories; crimes affecting

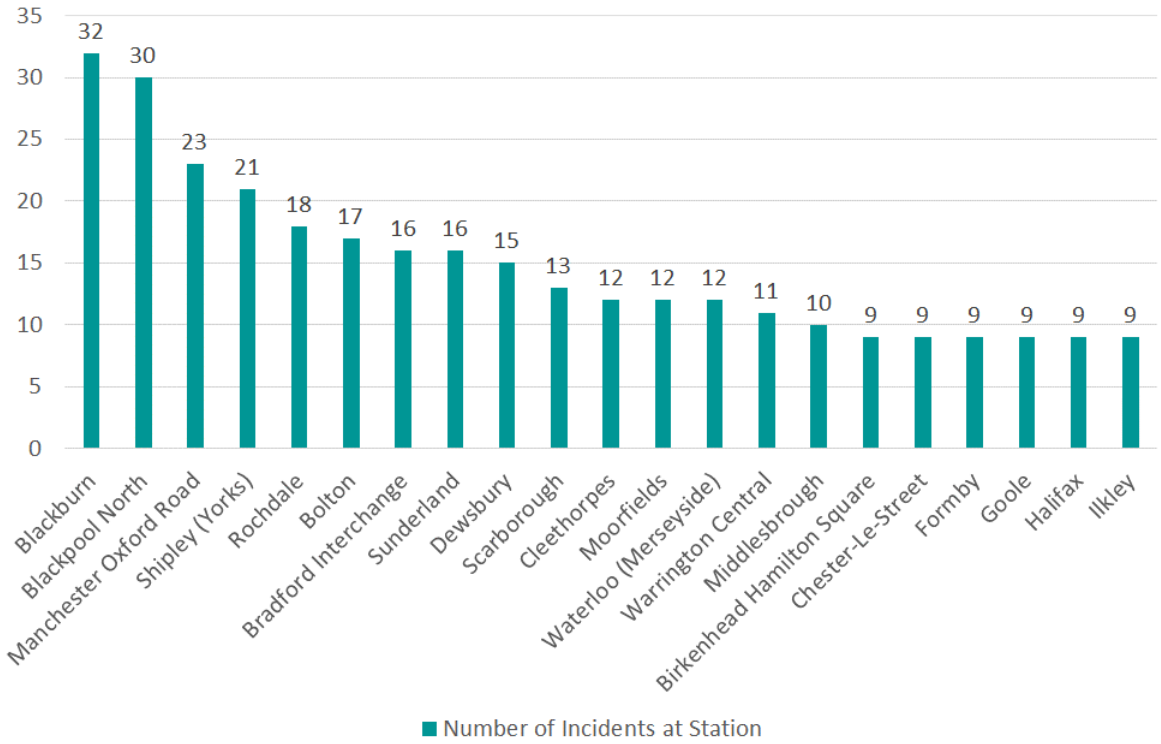
passengers and crimes not affecting passengers. Crimes considered to be affecting passengers and therefore further analysed were the following:

- 01A Violent Crime
- 01B Weapons
- 02A Sexual Crime
- 03A Criminal Damage
- 05A Theft of Passenger Property
- 07A Robbery
- 09A Public Order (Serious)
- 12A Other (Serious)

Analysis focuses on Category C1 to F2 stations, consistent with the remit of the enhancements programme. Chart 4.5 provides an overview of the 20 stations with the highest number of crime incidents affecting passengers. It can be seen there is a relatively even distribution of stations across the North West and Yorkshire and The Humber, while just three of the 20 stations are located within the North East. This is reflective of the geographic distribution of stations across the three regions and their relative usage.

Blackburn and Blackpool North – the two highest ranking stations – have 23.4% more incidents than the station with the next highest number of crime incidents (Manchester Oxford Road).

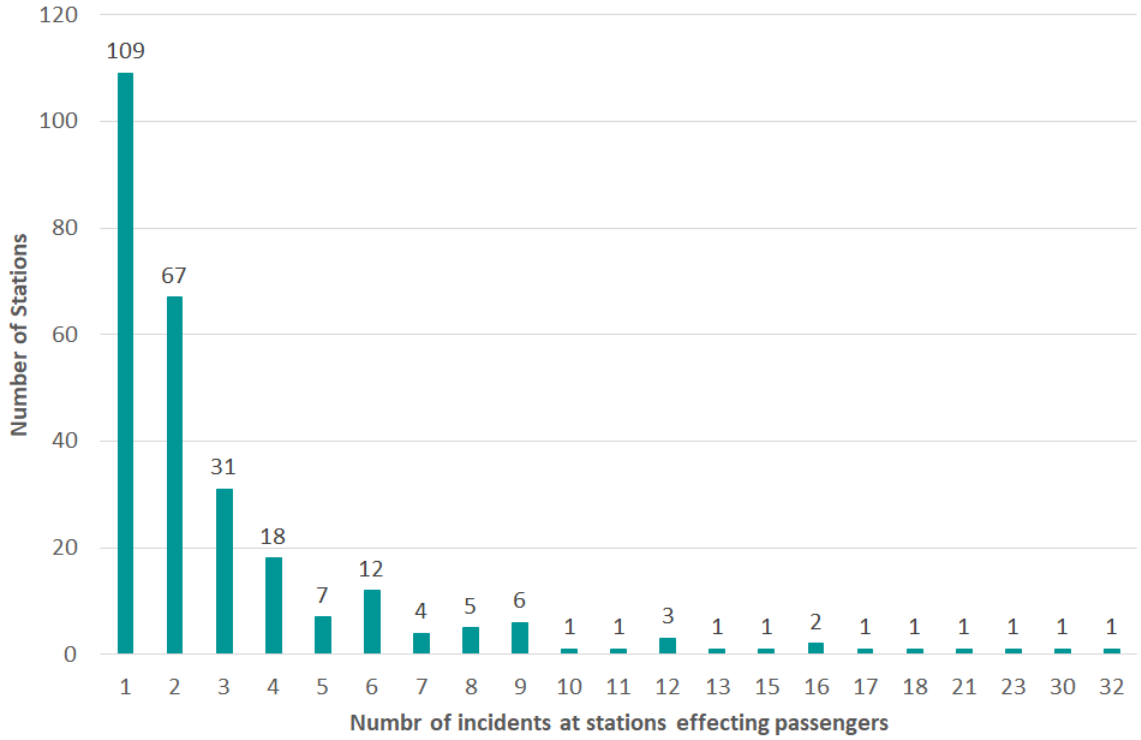
Chart 4.5: C1-F2 Number of Crime Incidents at Stations Affecting Passengers – 20 Stations with most incidents in TfN Boundary 2019/20



Source: British Transport Police

Chart 4.6 details the distribution of crime incidents by stations. It can be seen 274 (46%) stations reported at least one crime incident affecting a passenger in 2019/20 and 165 (27.5%) reported at least two crimes. 15 stations reported more than 10 crimes. Reported crime is likely to underrepresent the issue, with many incidents likely to be unreported.

Chart 4.6: C1-F2 Distribution of Crime Incidents Affecting Passengers by Stations in TfN Boundary 2019/20



Source: British Transport Police

Chart 4.7 displays the 20 local authorities with the highest number of crime incidents affecting passengers at Category C1-F2 stations. It can be seen the highest number of incidents took place in Bradford; with 41% more crimes than the local authority with the next highest number of incidents (Blackburn with Darwen). 16 of the 20 local authorities are located within Yorkshire and The Humber or the North West, reflective of the distribution of stations and population across the three regions.

Chart 4.7: C1-F2 Distribution Crime Incidents Affecting Passengers at Stations by Local Authority District – Top 20 in TfN Boundary 2019/20

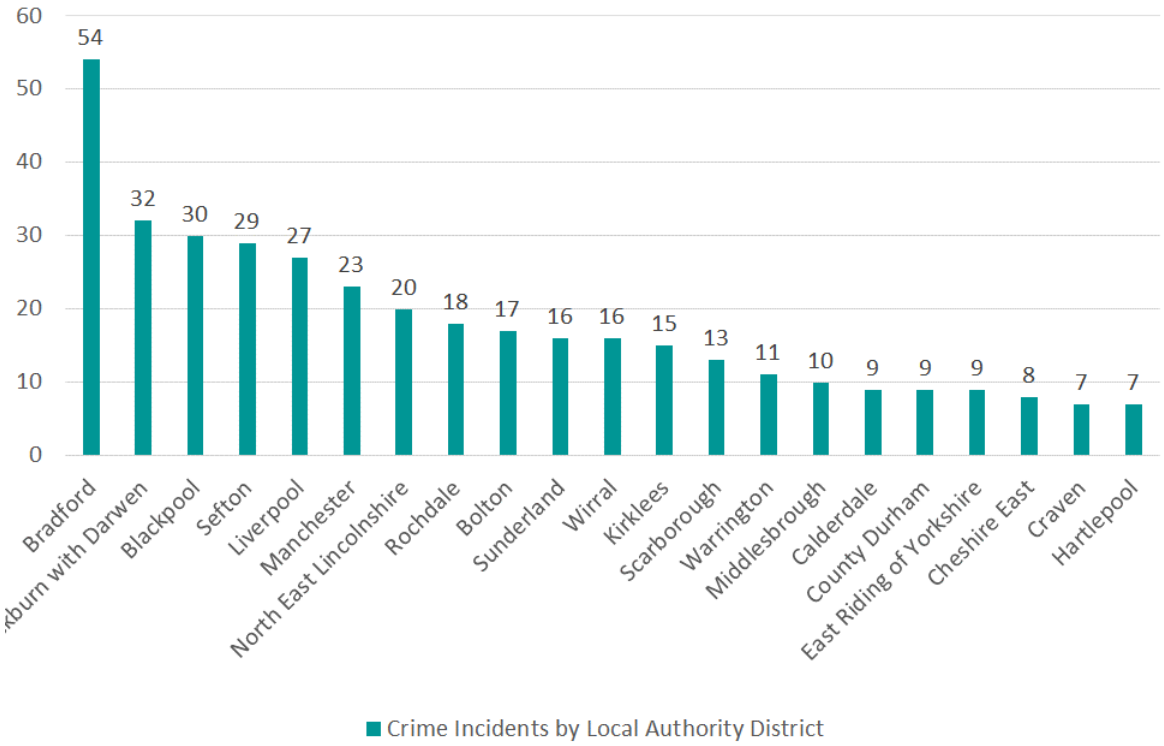
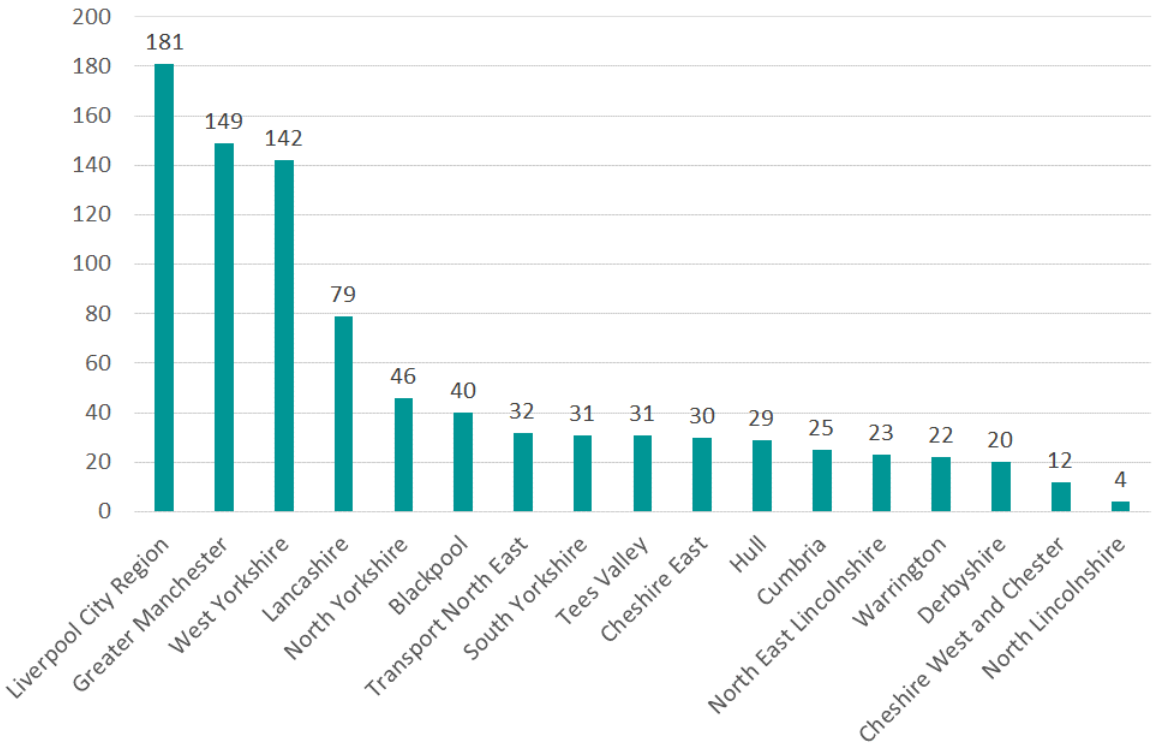


Chart 4.8 illustrates the distribution of crime incidents by area. It can be seen the North's three most populous City Regions have the highest number of crime incidents at Category C1-F2 stations affecting passengers reported. However, what is arguably more striking here is the number of incidents in areas such as Blackpool and Hull; each far smaller geographically and therefore containing far fewer stations (three in the Blackpool area, and ten in Hull). These areas still report 40 and 29 cases respectively, therefore indicating a much higher number of incidents per station or per head of population.

Chart 4.8: C1-F2 Distribution Crime Incidents Affecting Passengers at Stations by Area – Top 20 in TfN Boundary 2019/20



Source: British Transport Police

Finally, Table 4.2 shows the distribution of crime incidents affecting passengers by region. Upon calculating the number of incidents per station in each region the trend persists that the number crime incidents affecting passengers remains considerably higher in the North West (1.7) and Yorkshire and The Humber (1.5) than the North East (1.2) – likely to, in part, be linked to annual usage; however, it is clear that it is not a direct correlation between usage and security-related incidents.

Table 4.2: C1-F2 Distribution Crime Incidents Affecting Passengers at Stations by Region 2019/20

	Number of Incidents	Number of Stations (Total)	Incidents Per Station (Total)
East Midlands (Derbyshire Stations)	20	17	1.2
North East	63	53	1.2
North West	538	324	1.7
Yorkshire & The Humber	275	183	1.5
Total	896	577	1.6

There are clear regional disparities across the north with regard to personal security issues. Analysis of crime data identifies Blackburn, Blackpool, Bradford, and Hull as locations across the North West and Yorkshire and The Humber with the highest number of crime incidents affecting passengers.

4.5 Access for passengers with mobility issues

The proportion of stations with access for persons with reduced mobility (PRMs) is as follows:

Level of station accessibility	Proportion of stations
Full access to whole station	48.4% (N = 281)
Poor standard ramps	26.2% (N = 152)
Other (inc. no access or some platforms)	25.5% (N = 148)

Source: Mott MacDonald analysis of station asset register

Only half of stations have step-free access to all platforms. A further quarter are noted as having poor standard ramps which are not compliant with modern standards (e.g. they may have a steeper than 1:20 gradient which is too steep for a wheelchair user to use unassisted).

Other features which could benefit passengers with mobility issues or other disabilities are not measured consistently.

Only half of stations are fully accessible to passengers with mobility issues. Another quarter may be accessible to some but not all passengers.

A quarter of stations are not usable for passengers with mobility issues because they cannot reach some or all platforms.

4.6 Passenger priorities

Evidence on passenger priorities for stations is available from a number of sources:

- Transport Focus (TF);
- The Transport for West Midlands (TfWM) Facilities Valuation Model (FVM), which contains willingness-to-pay (WtP) values; and
- Passenger Demand Forecasting Handbook (PDFH).

This information has been used in developing options in Section 5. Based on these findings and the preceding analysis, a hierarchy of needs for railway stations has been developed.

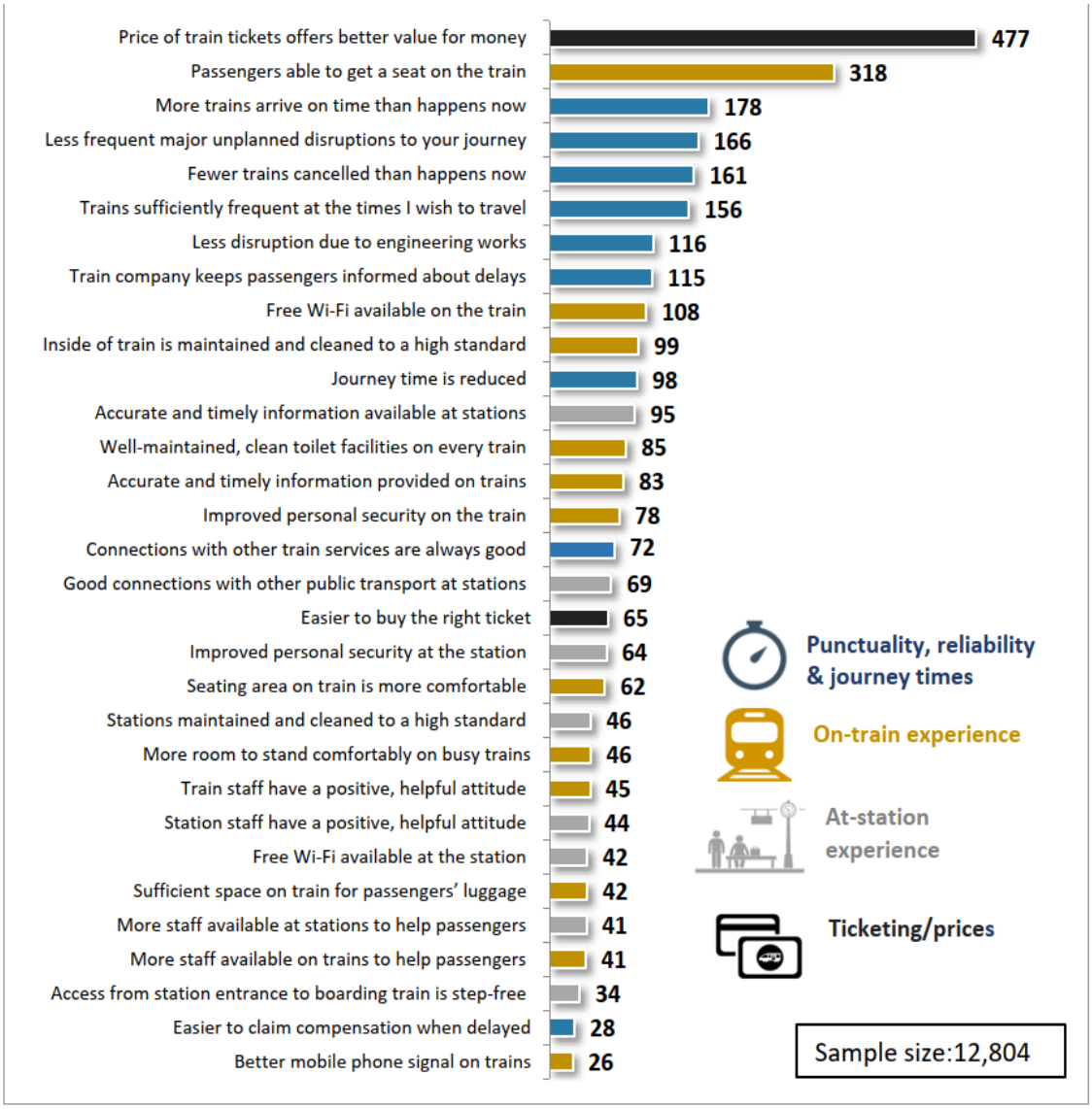
4.6.1 Transport Focus

TF undertook surveys in 2017 to determine passenger priorities for improvement of the railway system in Great Britain. The results are presented in Figure 4.3. From these results, the following passenger priorities for the at-station experience can be extracted; the number following shows the relative importance given by respondents (where 100 is an average score):

i. Accurate and timely information: 95
ii. Good connections with other public transport: 69
iii. Improved personal security: 64
iv. Stations maintained and cleaned to a high standard: 46
v. Station staff have a positive, helpful attitude: 44

vi. Free wi-fi available at the station: 42
vii. More staff available at stations to help passengers: 41
viii. Access from station entrance to boarding train is step free: 34.

Figure 4.3: 2017 passenger priorities for improvement



Source: Transport Focus, 2017. Index where 100 = average priority. Items in grey are relevant to stations.

4.6.2 Facilities Valuation Model

A model which uses willingness-to-pay (WtP) values, based on Stated Preference (SP) data to various station facility enhancements, has been used **Error! Not a valid bookmark self-reference.** shows an example for waiting facilities – condition and cleanliness were examined as part of the study. This is derived from work undertaken in 2016 on behalf of TfWM.

Figure 4.4: Example FVM values and illustration from SP research

Attribute	Attribute Level	Package	Impact	2016 Image	Value
Shelter	No shelter	Comfort	p/min		0.0
	Canopy shelter	Comfort	p/min		10.9
Accessibility	Must use stairs to/from platforms	Comfort	One-off		0.0
	Stairs and ramps	Comfort	One-off		11.2
	Stairs, ramps, and lifts	Comfort	One-off		12.6
Toilets	No toilets	Facilities	One-off		0.0
	Toilets	Facilities	One-off		32.7

Seats	No seats	Comfort	p/min		0.0
	Seats	*Comfort*	*p/min*		*4.2*

Source: Transport for West Midlands

Travel alternatives vary by their level of 'quality' (across multiple attributes), the fare to be paid to use them, and/or the time that must be spent waiting, onboard, or accessing/egressing. Statistical analysis of the SP data then provided the average w-t-p value and the level of confidence which can be placed upon it.

4.6.3 Passenger Demand Forecasting Handbook (PDFH)

The GB rail industry's Passenger Demand Forecasting Handbook (PDFH) is the industry standard source for forecasting passenger demand in response to endogenous changes in transport supply and exogenous factors. It contains a dedicated section on stations, and provides recommended demand uplifts for the following station quality enhancements:

- Ticket purchase facilities;
- CCTV;
- Ticket barriers;
- Information screens;
- Cleanliness;
- Retail facilities;
- Platform staff;
- Help points and
- Waiting facilities.

4.7 Hierarchy of needs

It is possible to construct a 'Hierarchy of Needs' for all users from 'essentials' to 'items' that create added value:

Table 4.3: Station Facilities – A Hierarchy of Needs

Hierarchy	Category	Examples of facilities for passengers
Least essential	Added value (comfort and quality)	Heated areas to wait, comfortable seats, spaces to work, access to power/USB sockets, shop/café/pub
^	Personal	Toilets
	Information / retail	Information and signage. Access to ticket purchase facilities
v	Security	Lighting and security
Most essential	Essential / physical	Access to, from and around the station and boarding/alighting trains. Seating. Shelter.

Source: Mott MacDonald

The importance of each item will naturally vary between individuals and locations. However, it is important to establish a broad set of guiding principles to inform subsequent option development.

To guide subsequent option development, six user needs have been identified:

- Information
- Personal security
- Comfort
- Inclusivity and accessibility
- First/Last Mile connectivity (including interchange and place-making)
- Amenities (quality attributes)

Within each user need are a set of station attributes which could be enhanced in order to deliver a better user experience, and other beneficial outcomes. The attributes are, in some cases, duplicative, i.e. by enhancing attribute X the effects of a concurrent enhancement to attribute Y are diminished.

4.8 Commercial potential

As an illustration of commercial potential, only 14% of stations have a café and only 20% of stations have either a shop or vending machine. There is potential to develop additional facilities where these can be supported from the revenue that they generate, and add value for passengers, or non-users in the locality.

Many stations have significant passenger usage (according to ORR station usage data, which is based on ticket sales), but there is very limited commercial use of the estate. This has the potential to both generate non-farebox revenue and increase footfall at stations by making the overall travel experience more enjoyable.

There appears to be untapped commercial potential at many stations.

This has the potential to generate revenue and increase footfall at stations.

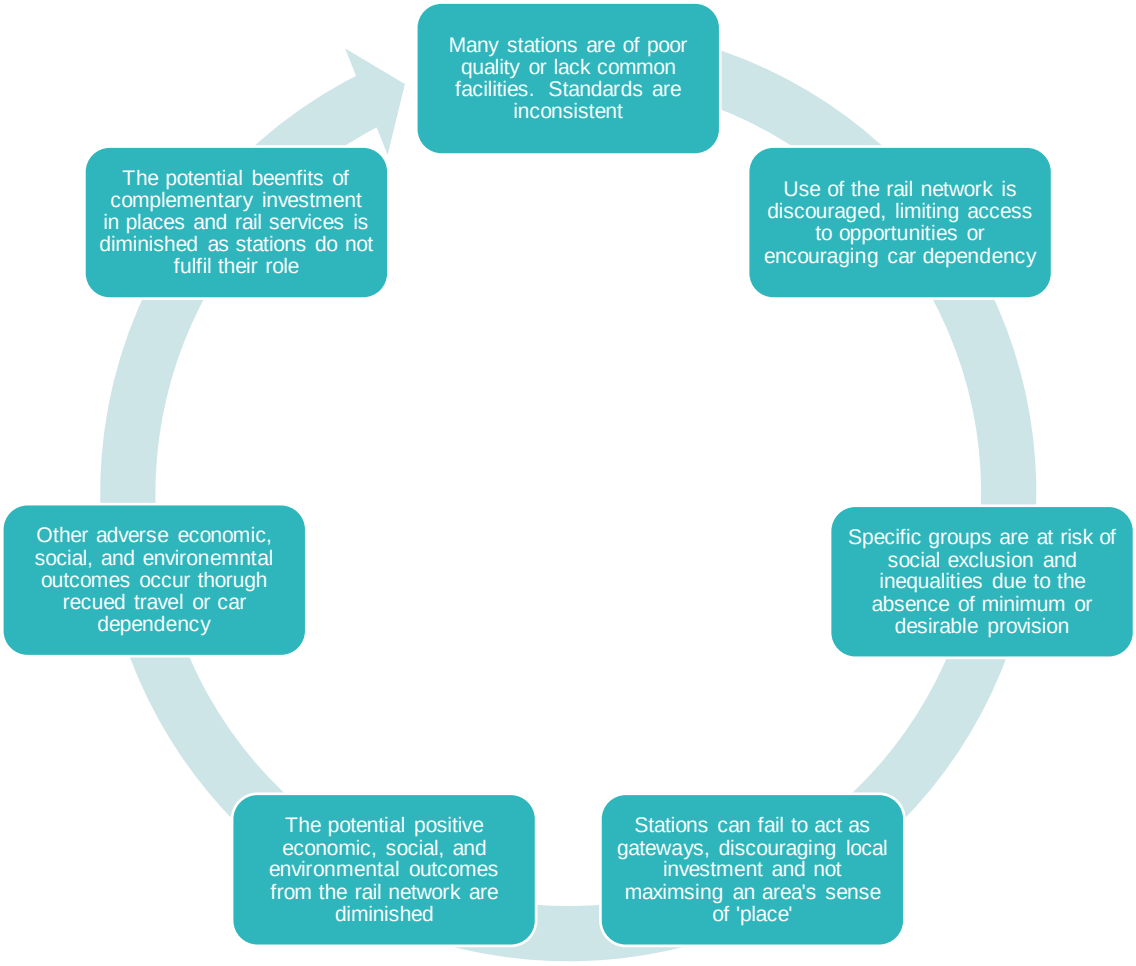
4.9 The cycle of challenges and issues

Where minimum or desirable standards are not being met, then the existing cycle created by the quality and condition of railway stations across Northern England is as shown overleaf in Figure 4.5.

4.10 The challenge explored - key takeaways

- There is a wide disparity in provision of station facilities, condition, and quality of the environment across Northern England. This is likely to lead to disparate economic, social, and environmental outcomes across the places and communities of Northern England.
- User experience of stations in Northern England is clearly less satisfactory than other regions, particularly across stations managed by Northern. Other geographies demonstrate examples of good practice and how provision of uniform (minimum, acceptable, or desirable) standards translate into improved outcomes for passengers and additional demand.
- Personal security issues are apparent from analysis of recorded incidents, which will only be a proportion of the actual security-related events across stations in Northern England.
- Approximately half of all stations across Northern England are not fully accessible for persons of reduced mobility. Physical accessibility is only one facet of providing an accessible and inclusive network, and it is likely that there will be a number of other station-related factors which limit potential use of the rail network, including information and security needs.
- Passenger priorities research indicates that information provision continues to be a top priority. Personal security and station condition are the next tier of concerns.
- To prioritise a programme of station enhancements it is necessary to establish a hierarchy of needs based on a combination of users' priorities and/or the value they place on changes. Any proposed improvements should be directly correlated with demand and thus the beneficial economic, social, and environmental outcomes that enhancements can deliver to people, places, and the economy.

Figure 4.5: Cycle of challenges and issues



5 The Options Available

In this section potential approaches to developing a programme of station enhancements across Northern England are explored. The option development is naturally uni-modal. Railway stations, and their surrounding environment, fill a unique role for the places they serve for which there is no other comparable alternatives. A broader multi-modal assessment has therefore not been undertaken. This is possible across different programmes by considering the Strategic Case merits in this SOBC in conjunction with the subsequent Value for Money (VfM) the investment provides, as explored in the Economic Case.

5.1 Project remit

TfN's remit is to provide an SOBC which includes all stations in the North, categorised (with rationale) as one of the following:

- Priority routes/stations which could provide the best value for money and a strong business case and therefore would be suitable and appropriate for TfN to develop a business case for submission to DfT's Rail Network Enhancements Pipeline (RNEP);
- Stations/line of route where local knowledge is required to develop a strong business case and where TfN's support to local partners would strengthen their project development process with a view to using their local funding; and
- For the remaining stations, at which the capital investment required will make generating a strong economic case difficult, it is proposed that TfN and its partners seek additional funding for the Access for All and Mid-Tier programmes, or their future successors.

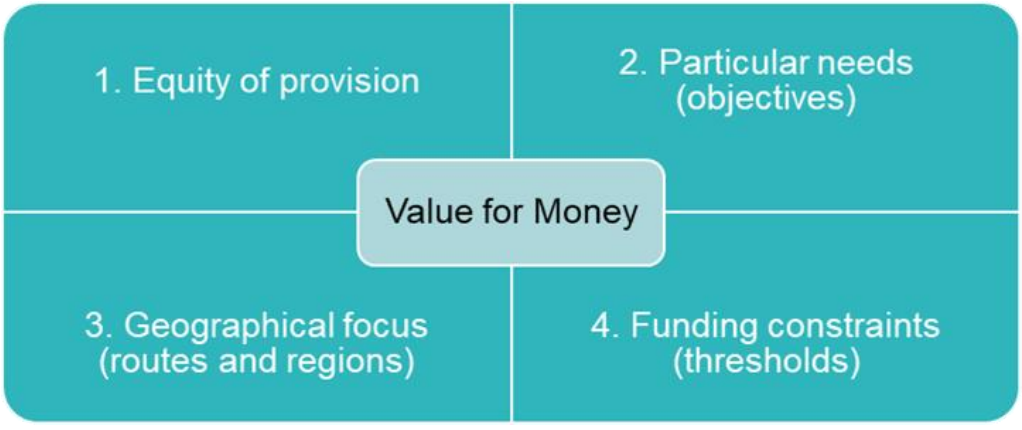
This remit was addressed by developing several approaches to packages of options to test.

5.2 Package development

Figure 5.1 shows a number of approaches which were considered in developing the options, namely:

- Equity of provision;
- Targeting particular needs (linked to a particular programme objectives);
- Geographical focus; and
- Funding constraints.

Figure 5.1: Possible approaches to package development



Source: Mott MacDonald

Value for money is a consideration in every case. Table 5.1 presents pros and cons of the different approaches.

Table 5.1: Comparison of different approaches to package development

Approach	Advantages	Disadvantages
1. Equity of standards	• Consistent with 'levelling up' and equity	• Need to agree standards by category • May not produce 'acceptable' VfM as enhancements delivered at station with low footfall
2. Focus on a particular need	• Show VfM of security or comfort or access for all measures	• In reality the industry would want to do 'packages' of work across multiple needs, which would generate synergy between separate enhancements • May show low VfM of specific needs where the industry wants to 'do something' about a single problem
3. Geographic	• Could enable a spread of a funding pot equally or based on "need" • Ease and efficiency of delivery	• Needs defined standards (at least regionally) and/or indicative funding pots
4. Funding thresholds	• Tailoring packages to the funding available is how things will probably end up in practice • Can prioritise places and interventions which maximise VfM	• May not align with Strategic Case need • Working to arbitrary thresholds may result in certain 'valuable or strategic' enhancements being lost

Source: Mott MacDonald

5.3 Discussion and approach adopted

To maximise Value for Money (VfM) one approach would be to target the busiest stations, likely focussed on the 'added value' factors in Section 4.7. However, this would exacerbate the current imbalance in quality between better and lesser used stations, and would not improve equity across the North of England, or between regions.

The packages need to deliver 'acceptable' VfM, while also delivering on the equity goals, i.e. by not excluding stations with lower demand or attributes which are more costly but 'essential' e.g. Access for All. Therefore, the approach taken is more balanced with investment in a range of station categories, seeking to achieve 'acceptable' VfM rather than maximising VfM. This then achieves a 'levelling up' of standards while also permitting enhancements linked to accessibility and inclusivity for certain groups.

Geographic focus will follow as an outcome of defined standards and/or funding thresholds, i.e. the level of and type of work which has been identified through standard definition and/or the availability of match funding or alignment with local priorities, but it is not used directly as a means of defining packages.

Consequently, an iterative approach has been taken which:

- Sought to raise standards at all stations to a set of standards by category, with packages defined around a 'minimum', 'acceptable' or 'desired' level of investment. At this stage an agnostic approach was taken. See Table 5.2;
- Assessed the VfM and geographic distribution of benefits for each package; and
- Iterated to adjust the option specification and recalculate VfM based on passenger priorities and relative contribution of different attributes to VfM.

In delivery, a phased/rolling programme is likely, cognisant of geographic efficiencies and funding constraints.

5.4 Alternative options

The brief for this SOBC is to improve station standards. Therefore, it was not appropriate to consider alternatives such as improving train services, or making improvements to other, non-rail modes.

Three option packages for different levels of investment in stations – Minimum, Acceptable, and Desired were developed.

The three option packages have been developed with reference to:

- Existing facilities at stations taken from the station asset register
- Passenger priorities from Transport Focus research
- Values in the Passenger Demand Forecasting Handbook
- Values in the Facilities Valuation Model
- Costs for making improvements.

Three distinct packages have each been developed with a different overall budget of investment in order to test the value for money provided by each.

The following provides a description of each package:

- Minimum standards. The lowest level of investment of the three packages. This package seeks to bring all stations in each category up to the standard which the majority of stations in that category already achieve. This package prioritises the investments which passengers place the highest value on.
- Acceptable standards. The medium-cost package of the three. Delivers more investment than the 'Minimum' and seeks to deliver passengers' medium priorities, typically providing facilities in each station category which are only present in a higher station category today. Includes all the facilities in the Minimum package, or replaces them with a better alternative.
- Desired standards. The highest level of investment of the three packages. This package seeks to deliver a transformational improvement in the facilities at stations. It delivers more investment than the Acceptable package and seeks to deliver all passenger priorities where these are likely to provide value for money. Includes all the facilities in the Acceptable package or replaces them with a better alternative.

Table 5.2 provides a detailed description of the facilities provided at each station in each station category in each Option package.

For the purposes of testing VFM, a category of very-low demand stations was identified where a very low level of investment seems appropriate given the train service provided and current/likely potential station patronage.

Table 5.2: Proposed 'Levelling Up' Package of Facility Enhancements

		Example stations in each category	*Barnsley, Bradford Int'chng, Halifax, Manchester Oxford Rd, Runcorn, Sunderland*	*Chorley, Deansgate, Grimsby Town, Penrith*	*Bebington, Congleton, New Pudsey, Swinton*	*Bamber Bridge, Bishop Auckland, Drigg, Helsby, Stockton, Wavertree TP*	*Brigg, Chathill, Salwick, Stanlow & Thornton*
			C: Important feeder	**D: Medium staffed**	**E: Small staffed**	**F: Small unstaffed**	**Very low service stations (see note 4)**
User need	**Sub-category**	**Minimum standard for all stations inc. very low demand stations**	**0.5-2m trips pa**	**0.25-0.5m trips pa**	**<0.25m trips pa**	**<0.25m trips pa**	**<0.005m trips pa**
Information	CIS	Printed timetables	CIS across the station	CIS across the station	CIS on the platform, and elsewhere in the Acceptable/Desired scenarios	CIS on the platform	No
	PA		Yes	Yes	Yes	Yes	No
	TVMs		Yes	Yes	Yes	Acceptable/Desired scenarios	No
	Booking office		Yes	Yes	Yes	No	No
	Staff on platform		Yes	Acceptable/Desired scenarios	Desired scenario	No	No
	Community notice board		No	Yes	Yes	Yes	Yes
Security	CCTV	Full security lighting coverage within station. (Note: Ticket gates not seen as providing a passenger benefit and not specified)	CCTV within the station	CCTV within the station	CCTV within the station	CCTV within the station	Lighting but not CCTV
Comfort	Waiting rooms and seats	Enclosed shelter as minimum standard (where space permits). Minimum standard seats	Waiting rooms and a higher standard of seat provided in addition to shelter/station canopy on the platform	Waiting rooms provided in addition to shelter/station canopy on the platform. A higher standard of seat in the Acceptable/Desired scenarios	A higher standard of seat in the Desired scenario		
	Toilets		Toilets with baby change etc.	Toilets with baby change etc.	Toilets with baby change etc. in the Desired scenario	No	No
Inclusivity & Accessibility	Step-free access	Train ramps and accessible shelter provided wherever there is step-free access to the platform	Step-free access and train ramps in all scenarios	Step-free access and train ramps in all scenarios	Step-free access and train ramps in Acceptable/Desired scenarios	Step-free access and train ramps in Desired scenario	No
	Help points		No (not required as platforms are staffed)	Yes in Minimum scenario (as platforms not staffed)	Yes in Minimum/Acceptable scenarios (as platforms not staffed)	Yes	No
First / Last Mile	Building		Landmark building	Landmark building	Functional building	No	No
	Interchange with walking, cycling and public transport	Covered cycle parking. CCTV to include cycle parking areas (except very low demand stations). Pedestrian signage and street maps. Low clutter, and high quality environment. Information on Bus/Tram/Metro routes and services					
	Designated and signed taxi rank and Kiss & Ride areas		Yes	Yes	Acceptable/Desired scenarios	Acceptable/Desired scenarios	No
Amenities	Retail / café		Shop/café, and vending machine or coffee stall	Vending machine or coffee stall in the Minimum scenario. Shop/café in the Acceptable/Desired scenarios	Vending machine or coffee stall in the Acceptable scenario. Shop in the Desired scenario	Vending machine or coffee stall in the Desired scenario	No additional amenities to be provided in this section
	Other		Public wi-fi. Phone charging. Redundant building space brought into use for community use	Public wi-fi. Phone charging. Redundant building space brought into use for community use	Public wi-fi. Phone charging. Redundant building space brought into use for community use	Public wi-fi. Phone charging. Redundant building space brought into use for community use in Acceptable/Desired scenarios	No

Notes:

1. Yes = present in all three option packages.
2. No = not present in any of the three option packages.
3. It is not proposed to disinvest in any facilities which already exist at stations.
4. Fewer than 12 trains per day, except on the Middlesbrough to Whitby line where this threshold was lowered.

6 The Opportunity Available

In this section how enhancements to stations can deliver beneficial outcomes across the programme's objectives, which are nested with national, regional, and local priorities, is explored. This includes case studies of where investment has made a tangible difference to places and communities.

6.1 User experience

Stations exist to provide an entry point to the railway network, to allow journeys to be made to other places, enabling access to services and other opportunities, and for inward journeys for the same purposes, i.e. as an exit point from the network. Such opportunities include access to education, jobs, health, retail, and leisure activities (including for tourism, and visiting friends and relatives).

Some stations also have a role as an interchange between train services (i.e. in this case the passenger is a user of the station and does not need to enter or leave the station).

For passengers to be able to access train services they need to be able to reach the station by an access mode. This is impacted by the modes available to the passenger and the facilities at the station such as car parking, cycle parking, taxi rank, bus interchange, etc. but also information, lighting, and the sense of security provided by CCTV.

Improvements to facilities will create more options for passengers and enable journeys which are otherwise impractical to make, for example due to passengers' concerns about security for their bike or their own personal safety.

Improvements in access by active travel modes and bus/tram/metro can benefit those without access to a car. As shown in Section 3.7, the regions which make up the North of England have the lowest rates of car availability of any in England outside London, which has a much more comprehensive public transport network and lower car dependency.

6.2 Place-making

Because railway stations are located in many of the areas with poor social outcomes (other than rail accessibility deprivation), then improving stations can contribute directly to improving economic development and the environment in these areas.

Better transport improves social outcomes by providing access to opportunities and allowing wealth to be distributed more evenly. Transport costs (including the overall inconvenience of journeys as encapsulated in the concept of generalised journey time) are often seen as a form of transaction cost which hampers other economic activity. Reducing the generalised cost of transport by improving accessibility, reducing journey times, increasing frequency, improving security, and making the journey more pleasant (by improving facilities) can therefore lower the perceived transaction cost of travelling for a variety of reasons (to either earn or spend money) and thereby unlock economic activity.

Improving stations can therefore contribute to addressing adverse social outcomes by:

- Enabling economic development and local regeneration;
- Contributing to individual health and wellbeing;
- Improving the environment (directly and through mode shift);
- Enabling access to services and opportunities; and

- Contributing to a reduction in transport related social exclusion, e.g. where transport forms a large proportion of household expenditure.

The Government's 'Levelling Up' agenda recognises the regional disparities that exist within the UK, and the impact this has on individuals' life chances. These disparities can be illustrated by reference to deprivation and life expectancy data, where the North of England exhibits a series of adverse outcomes in comparison to other British regions.

Stations can contribute to quality of life by creating pleasant environments, aiding wellbeing, and contributing to the overall user experience of the journey. Stations are part of the sense of place, alongside urban realm, streets, buildings, and other public facilities. Stations can be part of and contribute to wider regeneration of their environments and should be of a similar or better standard than other parts of the urban realm, so as not to contribute negatively to it.

Stations contribute to the overall feel of a location and its attractiveness or otherwise. Many stations, however, do not currently contribute positively to a sense of place, being in poor condition or with limited facilities, and with no sense of real community ownership.

In such a situation, station investment would both improve the user experience and contribute to the uplift of land values in their area.

> "There is significant evidence suggesting that station improvements which improve the public realm have a positive upwards impact on property prices. According to the Value of Station Investment report, the redevelopment of the public realm at Manchester Piccadilly station was associated with a land value uplift of 33%, while at Sheffield station, the report suggests that a similarly public realm-focused upgrade resulted in an increase in local property rateable values of 67%."
> Source: Local Economic Benefits of Station Investment, Steer Davies Gleave, 2018

> "Investment in stations will contribute to meeting other objectives:
>
> - acting as a landmark, contributing to civic identity and pride or a symbol of regeneration, change, innovation and development;
> - operating as a civic amenity with useful functionality for the local community such as for art exhibitions or hiring out space for educational purposes;
> - delivering a space for economic and enterprising activity (including the immediate surroundings);
> - reducing crime, anti-social behaviour, and deprivation in the area; and,
> - supporting current and planned residential and economic growth."
>
> Source: The Value of Station Investment, Steer, 2020

6.2.1 Community development

Stations can have a greater value to the community than merely their function in the transport system.

They are a place for people to meet informally. Many stations in Northern England have been adopted by individuals or groups on a voluntary basis (see Table 6.1 for relevant CRPs), who spend time and money on improving their appearance through, for example, adding planters/hanging baskets or artwork to stations. This makes the stations more attractive places to wait, and increases the links with the community through the individual volunteers and through station users who appreciate the work of the volunteers.

There is a further opportunity where there is redundant space within station buildings, to make this space available for community use. Such space can be difficult to let commercially, but

could be used as meeting or administrative space for local community organisations, providing lower cost accommodation which allows such organisations to better meet their objectives. Having premises also often allows organisations to bid for charitable funding which they would otherwise be ineligible to receive.

The community also benefits from a central, accessible location for these community facilities, which do not necessarily require a car to access them, and can be linked to other journeys by public transport.

Approximately half of the 601 stations in the North are covered by Community Rail Partnerships (CRPs), as shown in Table 6.1. Not all stations are necessarily suitable for inclusion in a CRP, especially the larger ones in categories A and B, however, there appears to be scope to further expand CRPs to more stations, subject to the necessary resources being available.

The railway would benefit from station buildings being occupied, through extra footfall and 'natural surveillance', often at times in the evening or at the weekend when there are fewer passengers using the station. The organisations concerned may also take on maintenance of the buildings. There is also an opportunity for organisations to provide certain facilities for passengers such as space to wait inside, information, refreshments etc.

Table 6.1: CRPs within TfN Rail Network

CRP	Region	Number of stations
Barton Line	East Midlands	13
Bentham Line	North West and Yorkshire & Humber	6
Bishop Line	North East	5
Borderlands Line	North West and Wales	15
Clitheroe	North West	12
Crewe – Manchester	North West	16
Cumbrian Coast Line	North West	24
Derwent Valley Line	East Midlands	5
East Lancashire Line	North West	17
Esk Valley Line	North East and Yorkshire & Humber	16
Furness	North West	10
Hope Valley Line	North West and Yorkshire & Humber	17
Lakes Line	North West	5
Mid Cheshire Line	North West	14
North Cheshire Line	North West	9
North Nottinghamshire & Lincolnshire	East Midlands	8
Penistone	Yorkshire & Humber	11
Settle & Carlisle	Yorkshire & Humber and North West	14
South East Manchester	North West	29
South Fylde Line	North West	8
Tyne Valley	North East and North West	14
West Lancashire	North West	13
Yorkshire Coast	Yorkshire & Humber	11

Source: Community Rail Network (Meet Our Community Rail Members | Community Rail Network)

Case Study: Gobowen Station, Oswestry

Re-establishing a local sense of place and producing multi-faceted community benefits:

- Gobowen Station reopened its station café in May 2021, bringing the railway station back to the heart of the local community.
- The ticket office is operated by Severn Dee Travel rather than by a TOC or another Station Facility Operator (SFO).
- The café is operated by students from nearby Derwen College and offering work experience to students with Special Education Needs or Disabilities (SEND), providing them the opportunity to develop skills in hospitality and gain invaluable work experience before leaving college.

"Generating a meaningful partnership between the rail operators, the station and community"

- This unique partnership demonstrates the effectiveness of a low cost yet highly impactful initiative which has increased activity, surveillance and animation around the station building whilst improving the prospects of local students with SEND. This grassroots regenerative initiative could potentially act as a catalyst for attracting other businesses to the station building lead to wider station improvements in the future.

Source: Derwen College, May 2021

Investment in stations contributes to place-making and community social value, improving quality of life and wellbeing for both users and non-users of the railway passenger services.

6.3 Economic development

Rail is important in the North and to the 'Levelling Up' agenda. Rail is the backbone of the public transport network in Northern England providing rural, urban, and interurban links, and connecting into longer distance trains and local public transport at the major hub stations. This section considers the current context and the role of stations, and evidence on passenger priorities.

Rail is critical to enabling cities to function, for inward tourism, and for social inclusion, thereby contributing to (Transport for) the North's economic, environmental, and social objectives.

Its role can be enhanced by improving stations, providing more efficient options for commuters and business travellers, more attractive options for tourists, and more inclusive options for all users.

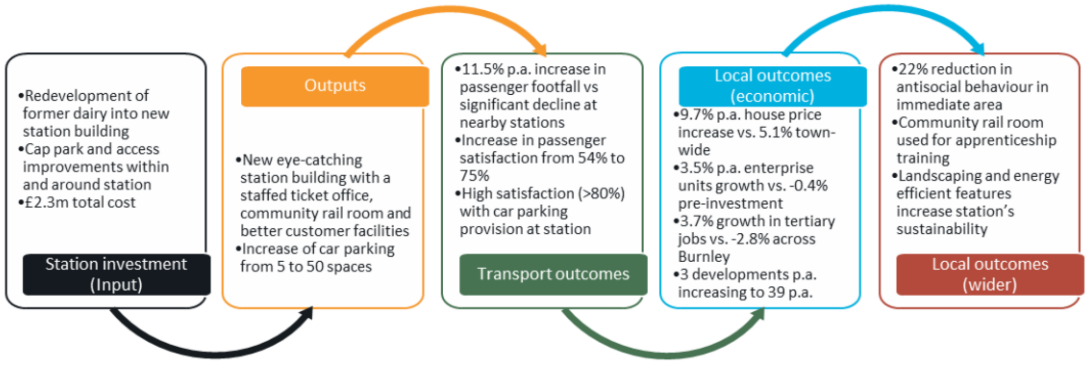
In this way, stations and rail can contribute significantly to improving the standard of living in the North, and to the national 'Levelling Up' agenda.

"Stations are a vital component of the passenger railway network. A well located and designed station provides for demand for rail travel by allowing passengers safe and easy access to the services they require. Stations offer facilities for finding up-to-the minute information, buying tickets, sheltering from the elements, and interchanging to the next leg of a passenger journey. Successful stations add to the passenger experience and support the economic, social and environmental benefits of rail."

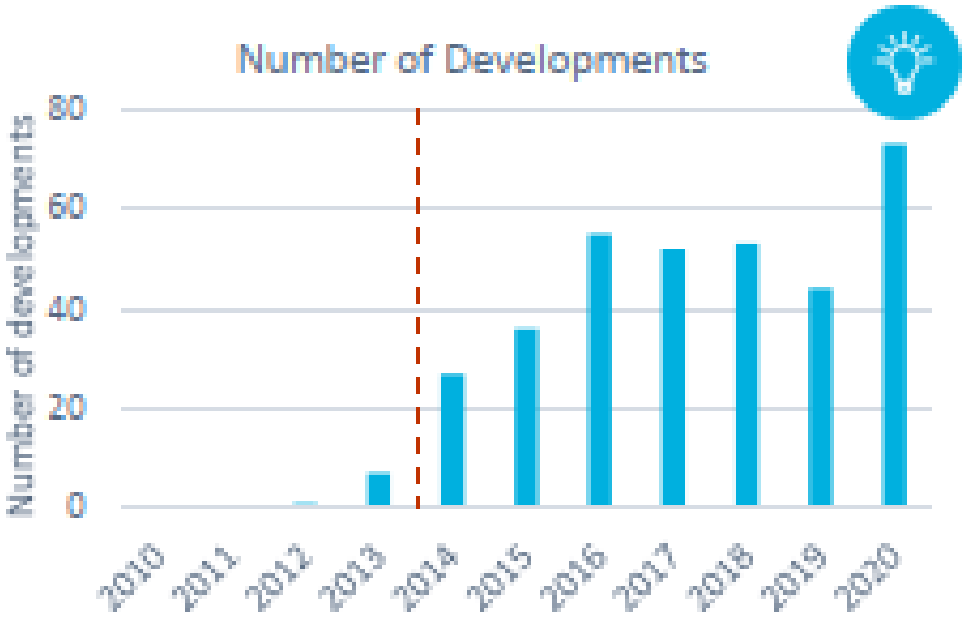
Source: Investment in Stations, Network Rail, 2017

The railway supports economic development by providing the ability for people to reach employment and other opportunities, and by easing access constraints so enabling new residential and commercial developments which otherwise could not be built. Analysis of BRES data shows there are 4.5 million jobs located within 2km of the 601 stations in the North, and 1.96 million jobs within 800m.

Case Study: Investment at Burnley Manchester Road Station



Source: *The Value of Station Investment*, Steer, 2020



Source: The Value of Station Investment, Steer, 2020

The completion of works to enhance Burnley Manchester Road Station in 2014, in preparation for the introduction of a direct Manchester service in 2015, shows how the station investment has supported a transformation in local development within 1 mile of the site.

Rail reduces road traffic (decongestion) and hence improves journey times for non-users, increasing the attractiveness of the areas it serves as places to live, work, and do business.

Economic development is constrained where stations do not have the appropriate facilities for users at each location, thereby limiting rail's usage.

Investing in stations will aid economic development by reducing barriers to rail travel. For example, for commuters and business users this could be reducing the time taken to transfer from other modes, to buy a ticket, etc. For leisure users this could be improving waiting areas, the feeling of security, and the ability to buy a drink or snack.

Case Study: Irlam Station, Greater Manchester

Very little attention had been paid to Irlam Station for many years, with its buildings boarded up and derelict. In 2015 the station was completely renovated, restoring original features of the building to retain its character. The new station has become a community hub, with facilities including:

- enhanced lighting and security cameras to create a safe environment;
- improved waiting facilities;
- the café bistro '1923', serving food and drinks;
- new toilets;
- free Wi-Fi;
- meeting spaces;
- improved landscaping and planting around the station;
- car parking;
- a cycle hub; and
- a child-friendly area.

Stations also have a gateway effect, acting as a focal point for a place, and having a strong impact on rail users' view of the place as the first impression on arrival. Investment in the appearance and basic facilities at a station could aid local inward investment by positively impacting on the decisions of companies to locate or expand in the area.

"Railway stations are an important part of the nation's infrastructure. They are the gateway to the journey opportunities and connectivity that the train service of the rail network can provide. However, they can also represent civic amenities which offer benefits to the wider community beyond the rail passenger."
Source: *Local Economic Benefits of Station Investment*, Steer Davies Gleave, 2018

Case Study: St Helens Central Station, Merseyside

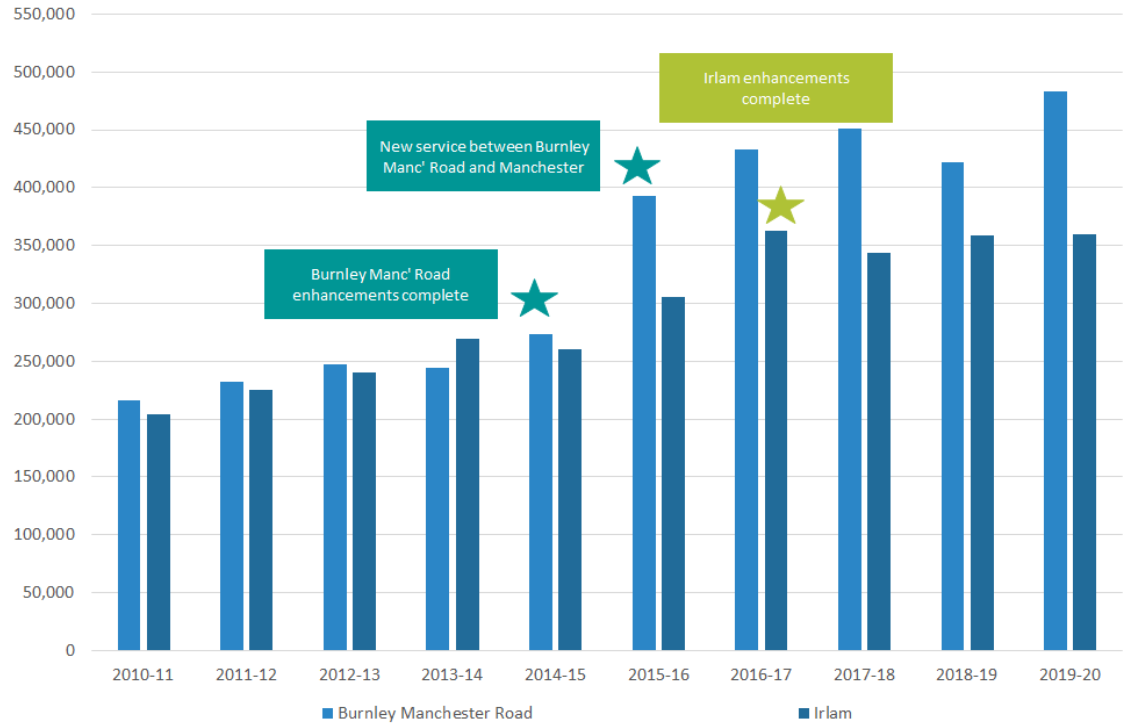
Investments to smaller stations outside of major city centres can have important localised economic impacts. The report suggests that the £6.2m redevelopment of St. Helens Central station has been followed by several new office developments in the local area.

Source: *The Value of Station Investment*, Steer, 2020

Chart 6.1 shows the demand impacts from the enhancement work at Burnley Manchester Road and Irlam. The compound effects of station enhancements and the service change can be seen

at the former from 2015-16. Passenger demand more than doubled in the seven years from 2010-11, supported by background changes in the economy.

Chart 6.1: Demand impacts of Northern England station enhancements



Source: Office for Rail & Road Station Usage Statistics

Table 6.2 shows the substantial percentage changes in demand after the enhancements works has completed. Those at Burnley Manchester Road and Irlam added between 8% and 12% to the prior growth rate, while the rebuild of St Helens Central resulted in year-on-year growth of over 60%.

Table 6.2: Demand impacts of Northern England station enhancements

Station	Before	After
Burnley Manchester Road	+4% (3 yrs)	+12% (1 yr)
Irlam	+6% (4 yrs)	+18% (2 yrs)
St Helens Central	-1% (3 yrs)	+64% (1 yr)

Source: Mott MacDonald from Office for Rail & Road Station Usage Statistics

6.3.1 Economic growth

Investment in stations has the potential to be a catalyst for development in the surrounding areas. This spans multiple uses, including:

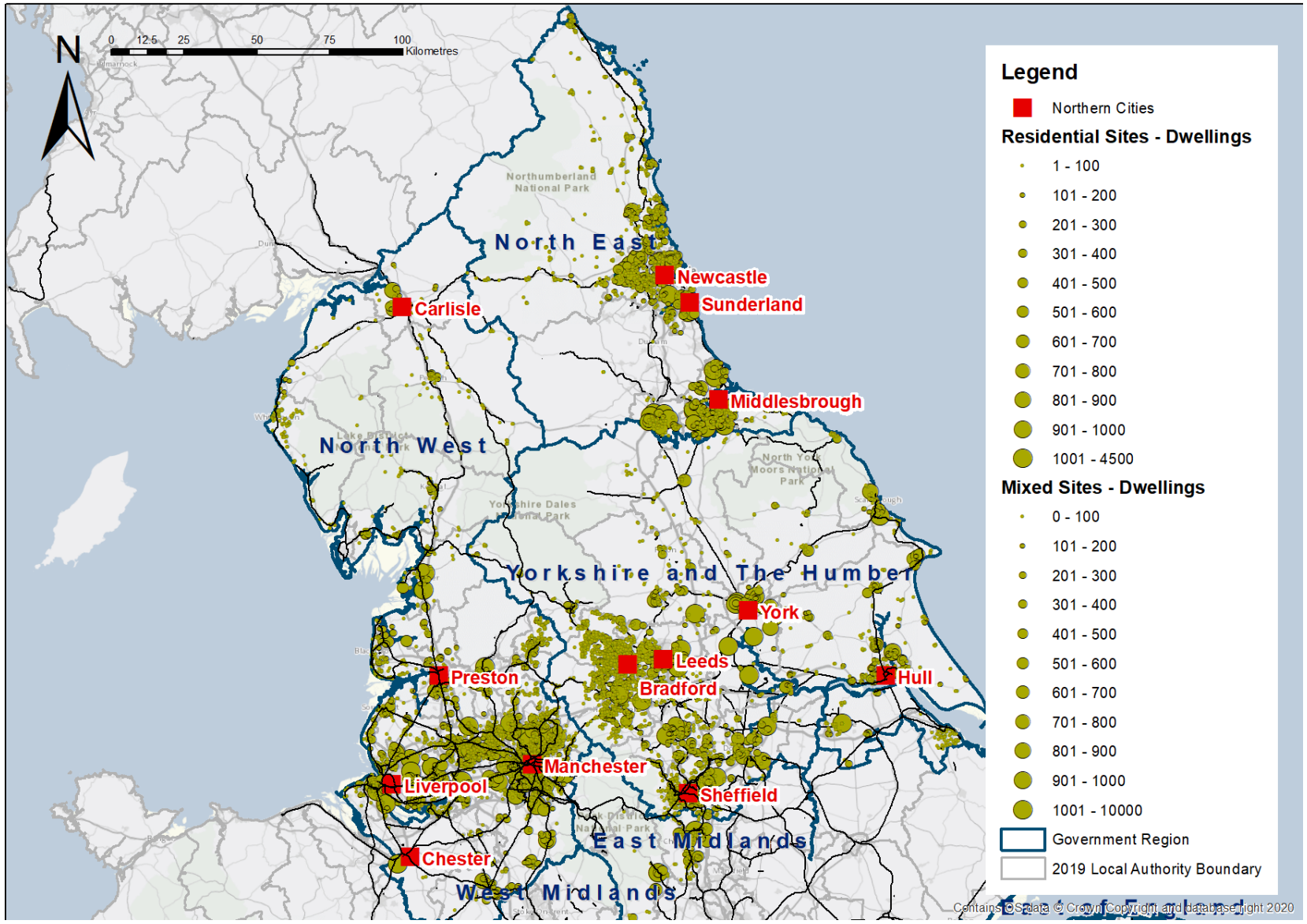
- Housing delivery, by raising perceptions of the area as an attractive and accessible location to develop (and live);
- Employment uses, where businesses can demonstrably perceive a higher quality location and means of attracting workers; and
- Retail, leisure, and community uses, particularly within the station curtilage itself where many locations have scope for diversification and more efficient use of existing buildings or vacant plots.

Map 6-1 and Map 6-2 show data from the TfN Development Log (D-Log) as of March 2022 for residential development (total dwellings) and employment related uses (floorspace) respectively. This contains collated planning data across all local authorities in Northern England, with phased build out and the level of certainty (see TAG Unit M4) for each site. In totality, across all levels of certainty, the log shows a pipeline of circa:

- 725,000 dwellings across 6,300 sites; and
- 27,600,000 square metres of employment floorspace across 1,000 sites.

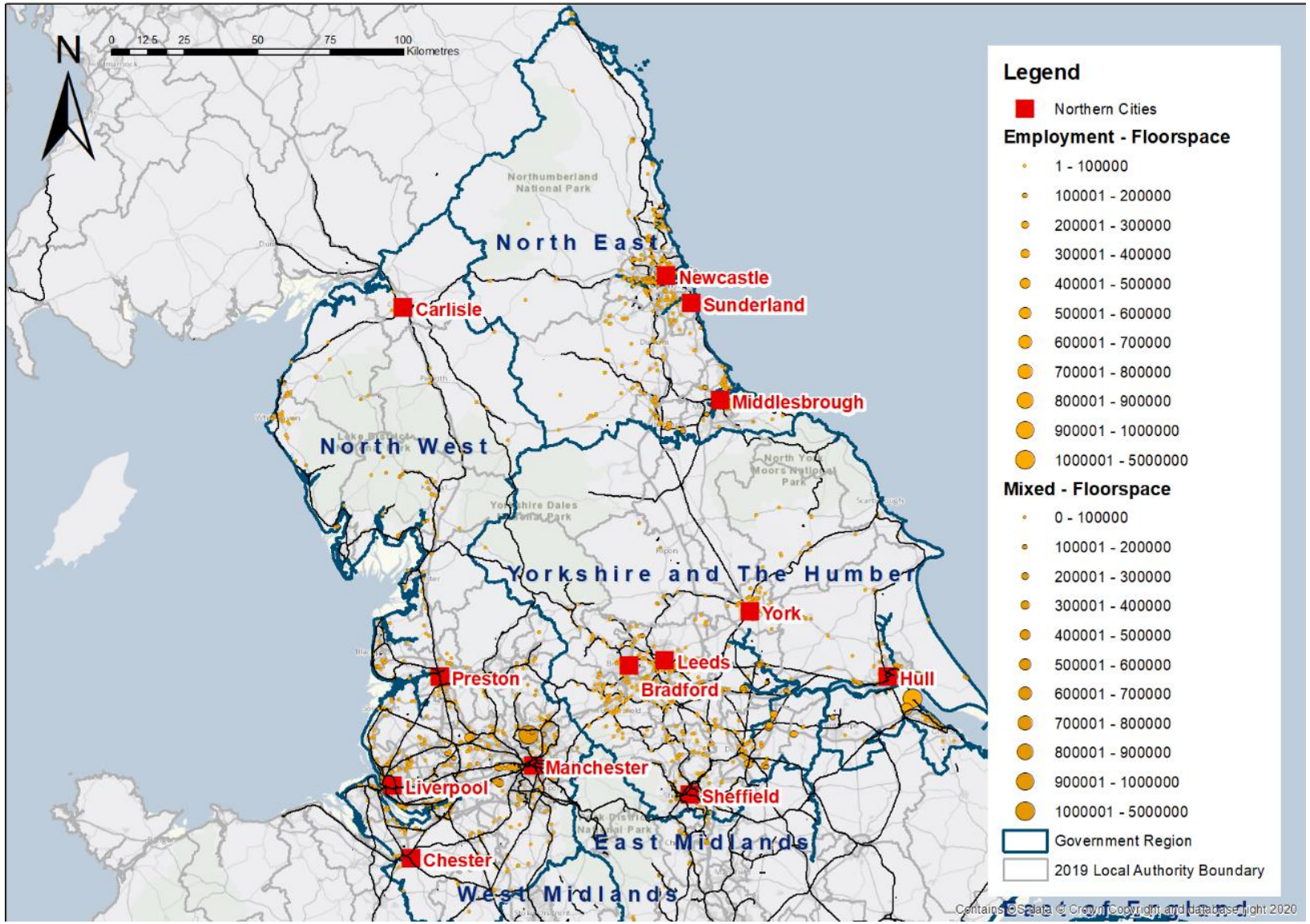
As shown in the maps planned development follows the existing urban form of Northern England and is closely clustered to the area's rail network and the 600 stations.

Map 6-1: Northern England Residential Development Proposals



Source: Transport for North Development Log (v4)

Map 6-2: Northern England Employment Development Proposals



Source: Transport for North Development Log (v4)

Economic growth in Northern England will require the delivery of new housing, particular in locations which are well connected to opportunities and services by a variety of alternatives, i.e. are not just car dependent. Sites in and around stations can fulfil this goal and help deliver on desired wider social and environmental outcomes for the area by generating and supporting inward investment and land use change.

6.4 The Environment

Investing in stations will have several distinct and positive impacts on the environment:

- Firstly, improving stations will increase the usage of train services and support modal shift to rail from other, more polluting, modes, supporting the climate change agenda and improving local air quality. 22% of CO_2 emissions are from surface transport, of which 95% are due to road transport[36].
- Secondly, increasing usage of stations makes better use of existing assets, rather than building new transport infrastructure elsewhere, with the associated embedded and operational carbon emissions. Investment will respect heritage designations and the facilities provided may be adapted to complement the heritage character of certain stations.
- Thirdly, the facilities improved will comply with the latest standards such as on energy usage and climate resilience, reducing carbon emissions and the vulnerability of infrastructure to weather events caused by climate change (e.g. flooding or high temperatures). Providing facilities to meet latest standards will mean they are provided in a way which minimises energy consumption and therefore the cost of operating stations.
- Fourthly, the appearance of stations and surrounding areas will be improved, making a positive contribution to the urban realm and built environment (townscape).

6.5 Security & Safety

Investment in physical safety and security measures will make passengers and potential passengers feel more safe and secure, improving satisfaction and increasing journeys, particularly at quiet times of the day and week.

Providing staff, and increased levels of commercial and community activity, and increased station usage, will all contribute towards making passengers feel more secure, thereby further reducing barriers to use of the station and rail services.

6.6 Equality - an accessible and inclusive network

An important attribute of inclusivity therefore (but not the only one) is physical accessibility. In the absence of Access for All (AfA) quality facilities, some passengers may have to use a station which is less convenient for their origin or destination, or need to use an additional means of transport, such as a taxi, to circumvent a physical accessibility issue. It is possible that the intending passenger will be unable to make their desired journey by train and need to use a more expensive mode (in terms of cost or time) or will not be able to travel, losing the opportunity to access the desired service/destination.

[36] See Draft Decarbonisation Strategy for Consultation | June 2021 | Transport for the North - Transport for the North

> "Merseytravel has a long history of taking a strategic approach to ensuring stations on the local Merseyrail Electric network are welcoming, safe and well maintained. Merseyside has kept nearly every station on the network staffed from first train to last [train]. In addition, all of Merseyrail's 66 stations have Secure Station Status, and all 36 Merseyrail-controlled car parks are affiliated to the secure parking scheme. As well as setting higher base standards for stations, Merseytravel has invested heavily in upgrades as well as supporting innovation like cycle hubs and station shops that double as ticket offices."
>
> Source: How Devolution Is Transforming Rail Stations for The Better, Urban Transport Group, 2020

Physical accessibility refers to more than just mobility-related issues such as providing lifts. It includes sensory impairments such as loss of sight or hearing, where this has an impact on passengers' access to the station or to critical information such as platforming or train running information. Lighting can also be relevant for making passengers feel sufficiently confident to use a station during the hours of darkness. Therefore, AfA has a wider scope than just the provision of lifts or ramps at stations. Almost all the assets at stations are relevant:

- Vertical movement, where necessary (lifts, ramps, steps)
- Boarding/alighting trains (e.g. raised sections of platform)
- Seating and waiting areas
- Information and signage
- Lighting and security
- Ticket offices and machines, where provided
- Shelter
- Car parking and interchange with other modes
- Access routes to/from the station
- Toilets, where provided.

Access to toilets, for example, is of particular benefit to certain groups with health conditions, or those travelling with young children.

6.7 Commercial potential

Increasing Great Britain rail industry revenue, while not substantially increasing operating expenditure, aligns with WISP priorities while having the potential to deliver on a number of regional and local priorities around 'sense of place', land use planning, and the creation of strong and resilient communities.

6.7.1 Farebox revenue and operating expenditure

Station enhancements have a proven impact on passenger demand (see Section 4.6 and 6.3) and thus farebox revenue. They usually do not bring with them the same operating expenditure requirements as the train services themselves, and, in many cases, the additional revenue seems likely to more than offset such expenditure. This would lead to a corresponding fall in the net public subsidy requirement for GB railways. Separately, the replacement or renewal of aged or redundant assets offers the opportunity for more efficient assets to be installed with lower (ongoing) costs. Station enhancements are thus a good opportunity to implement Whole Life Cost (WLC) thinking

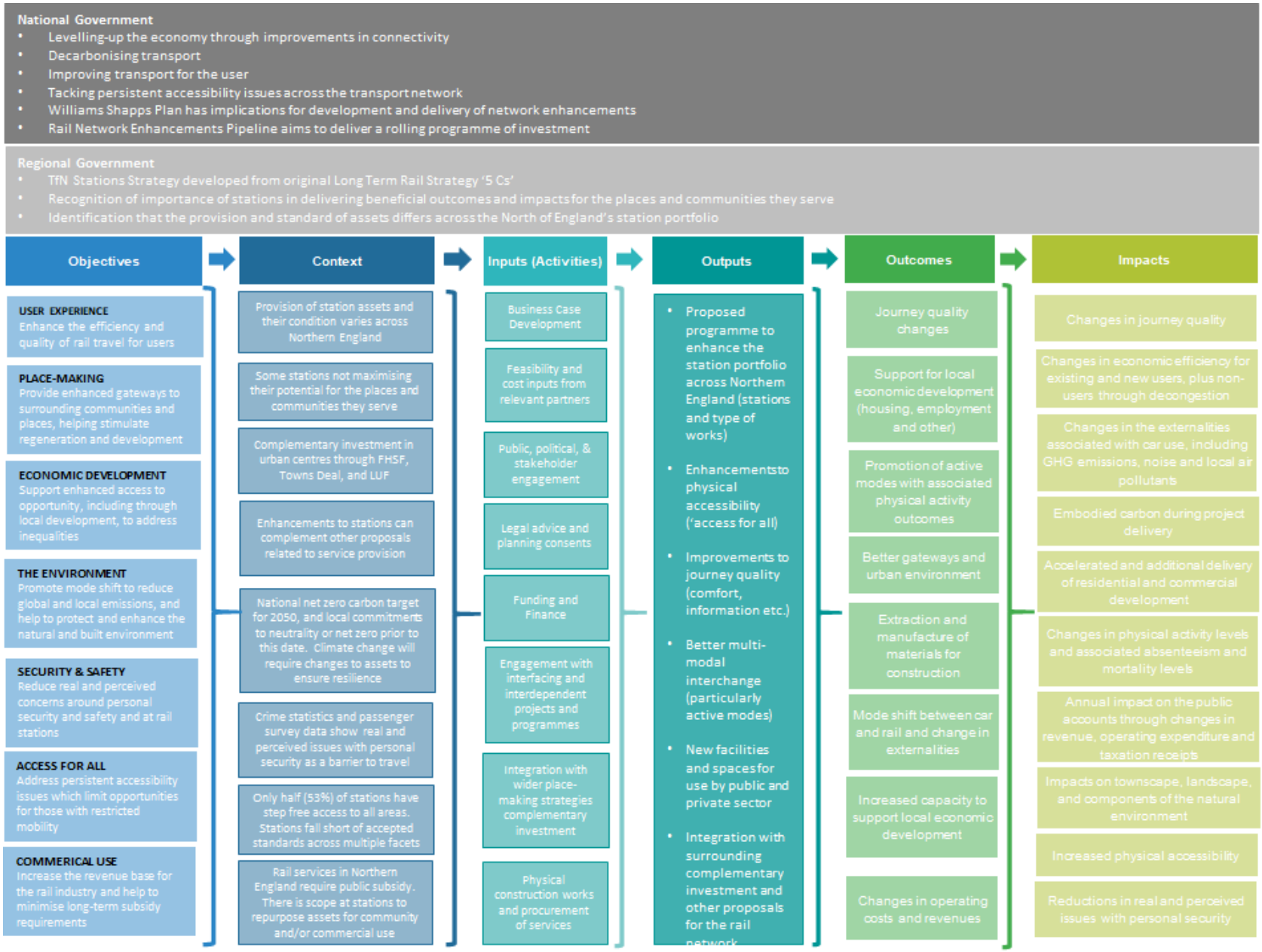
6.7.2 Ancillary uses

Another specific contribution to economic development is where there is redundant space at a station which can be used by a small business. Whether the business is related to the users of the railway or not, there are mutual benefits such as:

- the availability of low cost premises for new businesses;
- providing footfall and potential custom for the business;
- bringing buildings into use and improving their appearance and condition; and
- a human presence at small stations which otherwise can be quiet and make passengers feel that they are not safe.

6.8 Logic map

The means by which the station enhancements programme, and its inputs and outputs, will translate into beneficial economic, social, and environmental outcomes and impacts is shown in the logic map overleaf.



6.9 Complementary investment

6.9.1 Towns Deal

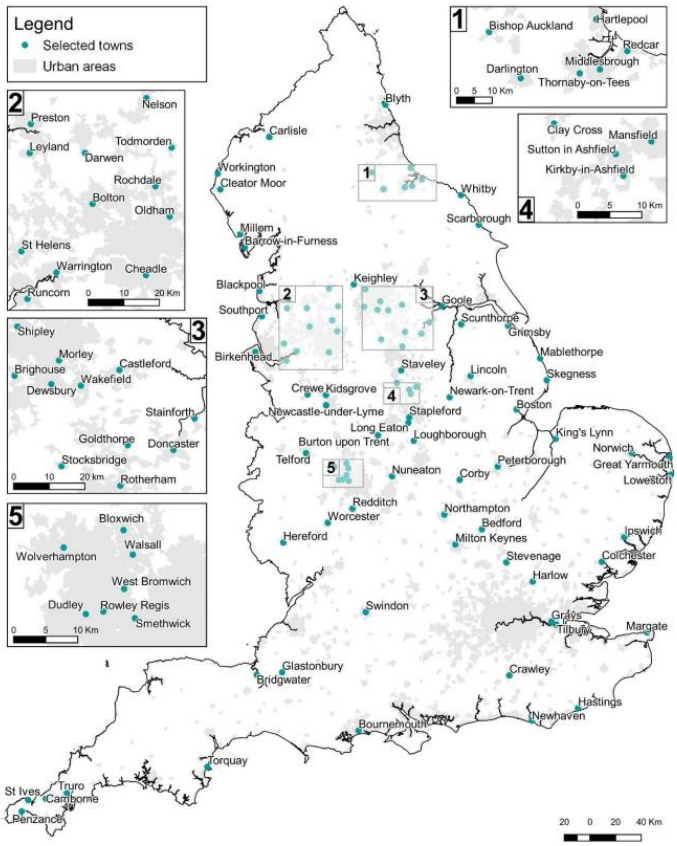
Governments over the past few decades have seen cities as the engines of economic growth; reflected in initiatives such as the Urban Development Corporations of the 1980s and 1990s, City Deals of the 2010s and the creation of Metro Mayors. Although cities thrived due to these initiatives, prosperity in towns across the nation has faltered. This is reflected in populations decreasing, retail and business closures, and social mobility declining which has resulted in reduced connectivity to education and employment opportunities. Collectively, these trends have left towns feeling 'left-behind'. The Towns Deal seeks to address these growth constraints by administering £3.6bn in funding across 101 towns nationwide as illustrated in Figure 6.1.

Town Deals seek to give investors the confidence to back projects, ensuring all communities can prosper. The announcement of this funding should instil greater confidence in overseas investors to invest in towns, as they are often attracted to projects with strong local alignment and support of government. The following two-stage process will be applied in allocating funding:

Stage 1: Putting the structures and vision in place in order to move to the next stage of agreeing a deal

Stage 2: Towns use their locally owned Town Investment Plan to put together a business case to apply for funding for interventions

Figure 6.1: Towns Fund Recipients



Source: Towns Fund Prospectus, GOV.UK

In amalgam, the Town Deal seeks to deliver economic growth in towns through the fulfilment of the following objectives:

1. Urban regeneration, planning and land use
2. Skill and enterprise infrastructure
3. Connectivity

The SOBC would assist in fulfilling objectives 1 and 3 directly and has scope to indirectly fulfil objective 2. Objective 1 seeks to explore strategies for bringing forward town centre regeneration, including making best use of brownfield sites or surplus land owned by central or local government. The Towns Deal has capacity to facilitate delivery of a strategy for towns which will allow places to acquire strategic sites when opportunities arise and make use of them as part of long-term regeneration plans.

With this in mind, it is acknowledged an abundance of brownfield land surrounds stations across the north. Improving the facilities at these stations and the quality of the public realm surrounding them could, as per the objectives of this SOBC, provide the step-change needed to instil investor confidence in the adjacent brownfield sites thereby encouraging sustainable, high-density, TOD.

Objective 3 seeks to deliver higher quality, well-designed infrastructure to support local economies and sustainably improve living standards. Whilst the SOBC does not propose delivering transport infrastructure per se; improving the quality, accessibility and inclusivity of existing services and infrastructure is equally as important to improve the living standards and access to opportunities for potential rail users, whether this be enhancing security and surveillance at station or installing ramps. Improving the quality of the existing network across the north is increasingly important given the November 2021 announcement that HS2 will no longer serve Yorkshire directly.

A brief overview of the highest sums of funding received by Northern Towns from the July 2021 Towns Deal offering is provided in Figure 6.4.

Figure 6.2: Highest Towns Deal Funding Received from July 2021 Offering

Highest Sums of Money Received by Northern Towns From the Towns Deal, 2021	Amount (£m)
Blackpool	£39.5m
Southport	£37.5m
Keighley	£33.6m
Bishop Auckland	£33.2m
Rotherham	£31.6m

Source: Department for Levelling Up, Housing & Communities[37]

6.9.2 Future High Streets Fund

It has become increasingly apparent over the last decade that consumer trends are evolving. This is reflected in the 6-fold increase in the number of online shopping sales between 2007 and 2018. Whereas in 2000, online retailing accounted for less than 1% of retail sales, in August 2018 almost a fifth of all retail sales took place online (ONS). Future High Streets Fund (FHSF)

[37] See: Town Deals: full list of 101 offers - GOV.UK (www.gov.uk)

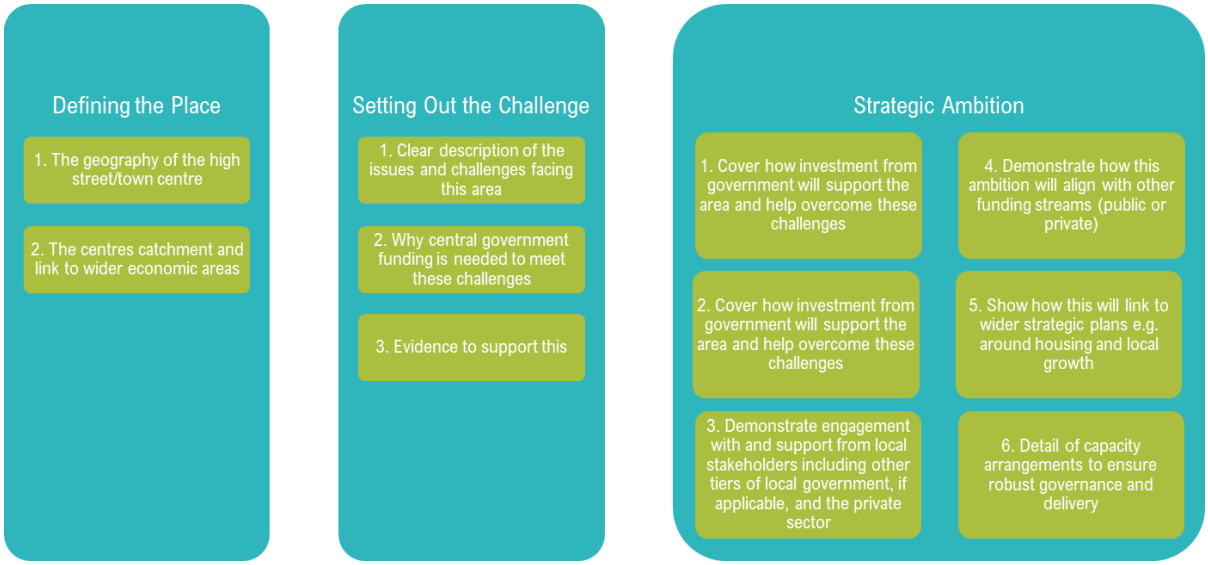
has been set up in direct response to this major shift in consumer trends. The fund recognises the importance of high street diversifying and placing an increased focus on the overall 'experience' of the high street, providing convenience and a sense of community, thereby adding value through services not offered online. The fund seeks to renew and reshape town centres and high streets in a way that drives growth, improves experience, and ensures future sustainability.

The Fund's call for proposals prospectus highlights how it expects any identified need for investment to fall under the following themes:

- Investment in physical infrastructure
- Acquisition and assembly of land including to support new housing, workspaces, and public realm
- Improvements to transport access, traffic flow and circulation in the area
- Supporting change of use including (where appropriate) housing delivery and densification
- Supporting adaptation of the high street in response to changing technology

The FHSF bid is split into two phases. Phase one is a 'light touch' expression of interest exercise which requires applicants to fill out a form covering the topics and subcategories covered in Figure 6.3:

Figure 6.3: FHSF Phase One Expression of Interest Topics



Source: Future High Streets Fund, Call for Proposals, MHCLG, 2018

This step allows for DLUHC (formerly MHCLG) to identify the shortlist of places to compile their Final Vision and Full Business Case for receiving funding. When viewing the FHSF's main themes in tandem with how Network Rail seeks to deliver its 'Living Stations' concept detailed in Section 2.1.5, it becomes apparent that the objectives of the FHSF and Network Rail align. This presents a highly tangible case that utilising railway stations as the growth pole of town and district centres would be the most efficient use of the FHSF in addressing its five aforementioned themes. Much of the FHSF rests on the business case and as town centre train stations are public transport nodes – there are significant economic and environmental benefits in concentrating key services and amenities in immediate proximity to stations. This increases the accessibility of services, thereby increasing the movement of people, all whilst improving the sustainability of transport. As a result, the FHSF could prove to be a key facilitator in delivering TfN's station quality enhancements vision.

In December 2021 it was announced that 72 places would receive a share of over £830 million from the FHSF. A brief overview of the northern FHSF distribution in 2021 is provided in Figure 6.4.

Figure 6.4: Recent Successful and Unsuccessful FHSF Bids

Northern Recipients of the Greatest Sums of Future High Street Funding, 2021	Amount (£m)
Sunderland	£25m
Birkenhead	£24.6m
Bishop Auckland	£19.9m
Stretford	£17.6m
Grimsby Town Centre	£17.3m

Northern Locations Recently Unsuccessful at FBC Stage of FHSF Application
Bolton
Chorley
Darlington
Huddersfield
Scarborough

Source: Department for Levelling Up, Housing & Communities [38]

6.9.3 Levelling Up Fund

As referenced at 1.5.2, the Levelling-Up Fund (LUF) focuses investment on projects that require up to £20m of funding. Yet, there is also scope for investing in larger high value projects, provided they are transport related. Transport-related bids above £20m and below £50m are also accepted. In the first round (of 2021), Liverpool City Region was the only northern CA or LAD to receive above £20 million in funding for their bid titled *'Levelling Up for Recovery (Transport Infrastructure Improvements)'*. The first round of funding in 2021-22, focus is placed upon three transport-related themes:

- Transport investments
- Regeneration and town centre investment
- Cultural investments.

The SOBC has potential to assist some northern funding bids by delivering upon broader objectives. Several bids are related to Town Centres and regeneration (e.g.. Rotherham, Stockton-on-Tees, Doncaster). However, Liverpool City Region, Burnley and Wirral's bids more explicitly focus upon improving the accessibility of rail stations and the station enhancements and the development of station gateways, therefore drawing more direct links to the objectives of this SOBC:

- Liverpool City Region, Levelling Up for Recovery (Transport Infrastructure Improvements)[39] - £37.52 million[40] secured:
  - Runcorn Station Quarter, St. George's Gateway, and Birkenhead Central Gateway all secured funding within this bid and all focus upon improving the public realm and active travel links around key rail stations.
- Wirral, Woodside (Woodside Waterfront Visitor and Gyratory Reconfiguration)[41] - £19,65 million secured:
  - LUF bid seeks to create flagship public spaces at Hamilton Square Station. The bid also includes the relocation of a nearby bus interchange so it's in better proximity to Hamilton

[38] See: Future High Streets Fund: successful and unsuccessful bids - GOV.UK (www.gov.uk)

[39] LCR LUF Application see: https://www.liverpoolcityregion-ca.gov.uk/wp-content/uploads/LCRCA_Levelling-Up-for-Recovery_Submission-27Oct-min.pdf

[40] For Full LUF Successful Bidders List see: https://www.gov.uk/government/publications/levelling-up-fund-first-round-successful-bidders

[41] Details on Woodside Gyratory Scheme Objectives sourced from: Birkenhead Catalyst Projects

Square Station, and delivery of improved pedestrian and cycle infrastructure along desire lines thereby enhancing accessibility to the rail station.

- Burnley, Burnley Campus Expansion; Turf Public Realm Transformation; Railway Station Accessibility Improvements[42] (package) - £19.0 million secured:
  - LUF bid included proposals to develop a new footbridge and passenger lifts, create better connections between both platforms and the main station building therefore increasing accessibility to a wider range of destinations for a wider range of passengers.

Figure 6.5: Examples of Successful First Round Levelling Up Fund Bids Involving Station Quality Enhancements

Clockwise Top Left to Bottom Right: Burnley Manchester Road, Runcorn Station Quarter Vision, Hamilton Square Station (Birkenhead) and *St. George's Gateway (adjacent to Lime Street Station)*

6.9.4 Interfacing transport programmes and projects

The following related programmes and projects will have some level of interaction with this programme.

6.9.5 High Speed Rail

The Integrated Rail Plan[43] (IRP) confirms (subject to business case in some parts) the Government's intention to deliver a defined programme of high-speed rail with components known as HS2 East, HS2 West, and Northern Powerhouse Rail (NPR), plus some complementary investment.

Although largely separate from the conventional network (and thus this project) there will be interactions where the two programmes meet. Examples include Liverpool South Parkway and

[42] Details on Burnley LUF Bid sourced from: https://www.burnley.gov.uk/news/multi-million-pound-levelling-boost-burnley

[43] See: Integrated Rail Plan: biggest ever public investment in Britain's rail network will deliver faster, more frequent and more reliable journeys across North and Midlands - GOV.UK (www.gov.uk)

Warrington Bank Quay stations. In totality, the demand for HSR services would be expected to generate corresponding uplifts in demand on the local network, either as feeder services or through the development they are expected to stimulate around the HSR stations.

6.9.6 Trans-Pennine Route Upgrade (TRU)

TRU[44] is the largest conventional (i.e. not high speed) project to be started by Network Rail in Control Period 6. The current scope of works is between Manchester Victoria and York via Stalybridge, Huddersfield, and Leeds, including some changes (e.g. more platforms) and improvements to stations. Therefore, there will be an interface at the stations on this section of route.

6.9.7 New rolling stock

Both the Northern and TransPennine Express TOCs have been receiving new rolling stock on services which call at stations in the North. New rolling stock is also being introduced on LNER ECML services. There is a possible additional benefit where the quality of stations and rolling stock are improved at the same time. Known examples include:

- Merseyrail: complete replacement of fleet with new trains with level boarding between trains and platforms.
- Avanti West Coast: replacement of Voyagers by new bi-mode stock on routes between London and Chester/North Wales, Blackpool North, and Scotland via Birmingham.
- Transport for Wales: refurbished rolling stock on the service between Wrexham and Bidston.
- TransPennine Express: remainder of programme to introduce new loco-hauled rolling stock.
- Tyne & Wear Metro: complete replacement of fleet with new trains (calling at National Rail stations between Heworth and Sunderland).

6.9.8 Local interchange projects

The policy review undertaken in Section 2 of this report unveiled the transport related projects listed in Figure 6.6 are envisioned to take place during the respective Combined or Local Authority plans duration.

Figure 6.6: Proposed Transport **and Interchange Related Projects**

Station Gateways proposed include:

Liverpool City Region (St. Georges Gateway, Birkenhead Central Gateway, Runcorn)

Manchester Piccadilly Hub, Oxford Road, Victoria, Salford Crescent, Salford Central

Sheffield City Region (Sheffield, Barnsley, Rotherham)

Cheshire East (Crewe)

York Station

Authorities proposing **better integration** of stations with the wider transport network include:

Cycle facilities and park and ride – West Yorkshire, Cheshire West and Chester, Warrington

Bus interchanges – Cheshire East, Greater Manchester, East Riding, York and Sheffield

Walking facility improvements – York, Warrington, Tees Valley, Liverpool City Region

[44] See: Transpennine Route Upgrade - Network Rail

6.10 Stakeholder mapping

Several stakeholders have been identified who will have an interest in the delivery of this programme. Potential roles and interest in the stations enhancement programme are subsequently described.

6.10.1 Department for Transport (DfT)

The national body responsible for transport policy and allocating national funding. As a likely part funder of this project and many of the interfacing projects mentioned, DfT will have a keen interest.

6.10.2 Great British Railways (GBR)

GBR is a new organisation which is expected to take over some responsibilities from DfT, Network Rail and the Rail Delivery Group.

It is expected that GBR will take over responsibility for operating station ticket offices from TOCs.

6.10.3 Train Operating Companies (TOCs)

Responsible for operating trains and lease most railway stations, acting as station facility operator.

TOCs will be keenly interested in the stations which they operate and the implications of construction and ongoing operation and maintenance of any new/amended facilities.

6.10.4 Transport for the North (TfN)

Sub-national transport body responsible for planning and prioritising long-term infrastructure investment in the North. TfN is the client for the programme level SOBC.

6.10.5 Combined Authorities (CAs), Local Enterprise Partnerships (LEPs), and Local Authority Districts (LADs)

CAs, LEPs, and LADs, or a combination thereof, are responsible for compiling the local and regional plans and transport strategies (including Rail Strategies, Bus Service Improvement Plans (BSIPs) and Local Cycle and Walking Investment Plans (LCWIPs)) which are ultimately responsible for shaping the short- and long-term local and regional development vision both more broadly and as it pertains to transport. Additionally, LADs are responsible for activities involving public highways and Public Rights of Way.

These statutory and non-statutory documents in conjunction with the powers Combined Authority Mayors have over the transport network makes engagement with CAs, LEPs, and LADs integral to the success of this programme.

6.10.6 Passenger groups and Community Rail Partnerships (CRPs)

Passengers and their representatives will be interested in improvement at their stations and in influencing the amount and type of investment at stations.

Community Rail Partnerships (CRPs), active at so many station in Northern England (see Section 6.2), will have an important role in shaping any enhancements project at a particular station and complementing this with other work to enhance the attractiveness and condition of the station to help maximise beneficial impacts.

6.10.7 British Transport Police (BTP)

BTP is the national police force responsible for policing on railway property and certain other systems.

It can advise on improvements relevant to security and provided the crime data in this SOBC. Measures which help reduce incidents will mean that greater resource can be focussed on the remaining incidents – a multiplier effect.

6.10.8 Railway Heritage Trust (RHT)

RHT's objectives are assisting the operational railway companies in the preservation and upkeep of listed buildings and structures, and in the transfer of non-operational premises and structures to outside bodies willing to undertake their preservation. The Trust achieves its objectives by giving both advice and grants.

RHT will be interested in any improvements which have an impact on heritage features of stations, and may be able to offer grants to top up funding for changes which preserve or enhance heritage features of stations.

6.10.9 Office of Rail and Road (ORR)

ORR is the economic regulator for railway infrastructure (i.e. Network Rail), the health and safety regulator for the rail industry, and the industry's consumer and competition authority.

ORR interest is likely to be more limited so long as existing processes are followed.

7 The Economic Case

In the economic appraisal likely quantified impacts of the shortlisted options are considered, combining these with estimates of project costs and other non-monetised impacts to inform a Value for Money (VfM) assessment.

7.1 The approach

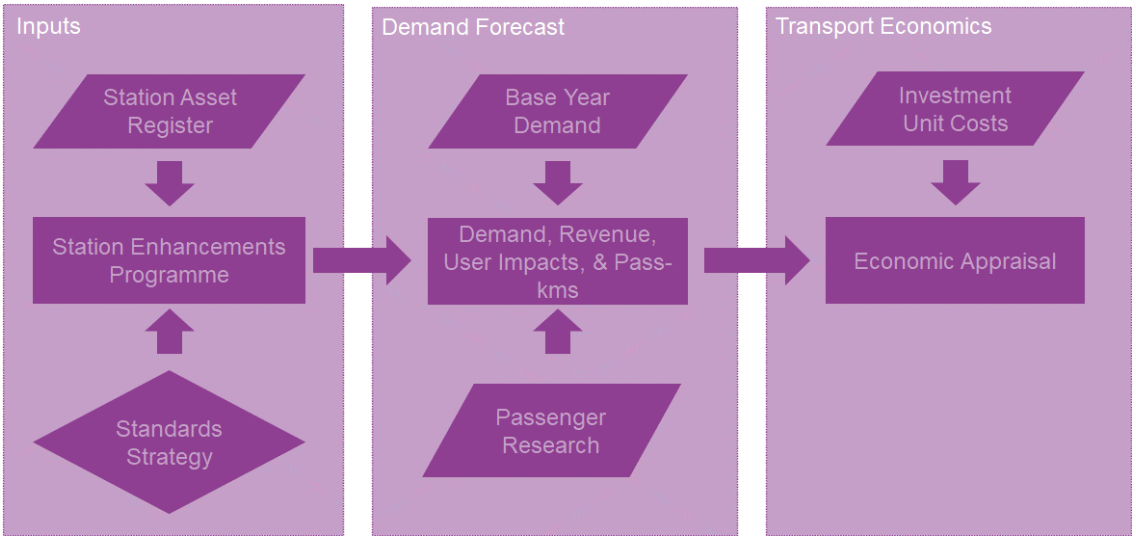
The economic appraisal of the station enhancements programme is founded on the modelling of outcomes for passengers between the Do Minimum (DM) and Do Something (DS) scenarios. The DS adds the enhancements programme to all other changes in exogenous and endogenous factors captured in the DM. The approach taken to quantifying these outcomes is based on recommendations in Transport Analysis Guidance (TAG) Unit M4[45] and the GB rail industry's Passenger Demand Forecasting Handbook (PDFH).

Figure 7.1 provides an overview of the approach, showing:

- Inputs – these include the baseline station asset register, previously explored in Section 4**Error! Reference source not found.**, and the selected option ('strategy') for the enhancements programme. This defines the DM and DS outputs;
- Demand forecasting – drawing on evidence from passenger research to establish the 'value' passengers place on enhancements and the likely demand response; and
- Transport economics – combining investment and operating costs inputs with selected outputs from the demand forecasts to inform an economic appraisal, including the standard suite of DfT TAG summary tables.

These outputs are then combined with other non-monetised considerations to inform a VfM Statement

Figure 7.1: Economic Appraisal Approach



Source: Mott MacDonald

[45] See: TAG unit M4 forecasting and uncertainty - GOV.UK (www.gov.uk)

Details of the overall approach to demand forecasting and economic appraisal are summarised in the Appraisal Specification Report (ASR). A synopsis of the demand forecasting approach is provided here:

- Baseline demand is taken from the 2019 version of MOIRA (TA1), reconciled with ORR Station Usage Data for 2019/20[46]. This provides a summary of all demand to/from all station in Northern England. Demand is considered in terms of productions and attractions[47], as enhancements are likely to impact on these two groups in different ways;
- Demand is segmented to reflect the available evidence regarding sensitivities to changes in station quality and environment. This includes:
  - Geography, e.g. trips in a primarily urban, rural, or interurban context; and
  - Journey purpose, derived from the ticket type data within MOIRA and standard assumptions around mapping to the three main purposes of commute, employer's business, and other trips from the PDFH;
- Evidence on sensitivities to station enhancements has been taken from the PDFH and supplemented by other sources as appropriate. The principal supplementary source is the Transport for West Midlands (TfWM) Facility Valuation Model (FVM). All evidence is converted into an equivalent time based impact for users;
- These time-equivalent changes for each enhancement are combined with the average Generalised Journey Time[48] (GJT) analysed from MOIRA for each station, combined with an estimate of access/egress time analysed from the National Rail Travel Survey (NRTS) to provide a Generalised Travel Time (GTT). The latter component is added as some of the enhancements relate to specific access/egress modes, and first/last mile connectivity, or works outside the station building itself;
- Enhancements which impact on similar user needs, e.g. comfort (see Section 4.7), are subject to 'packaging' where two or more changes which impact on the same need result in a net impact which is lower than the sum of the individual parts. Across all user needs, a second packaging effect is applied (e.g. across comfort and information if both enhanced), again implying that there are maximum impacts from station enhancements and a continuous cumulative effect is not appropriate;
- DM and DS GTTs are compared and the ratio of the latter to the former is combined with a demand elasticity to estimate changes in demand, revenue, and passenger-kms; and
- User impacts (see Section 7.5) are estimated by comparing the absolute change in the GTT between the DM and DS scenarios. This provides a total change in the generalised minutes for each enhanced station – a journey quality impact which is subject to the standard 'rule of half' calculation for new users[49].

7.2 Options appraised

As described in Section 5.4, three programme-level options for DS station enhancements across Northern England have been considered:

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46 See: Estimates of station usage | ORR Data Portal

47 Productions are the start station of a return 'tour' by rail involving an outbound and inbound (return) journey. An attraction station is the opposite end of the outbound trip.

48 Generalised Journey Time is the standard GB rail industry means of combining all timetable-related aspects of a rail journey into a single measure. It includes time onboard (in-vehicle) train services, time spent waiting for services as a 'service interval penalty', and any additional time from having to interchange, plus a 'pure' interchange penalty for the inconvenience of interchange over and above the time itself. Components are weighted to reflect passengers' preferences for time spent in different situations

49 See: TAG unit A1-3 user and provider impacts - GOV.UK (www.gov.uk)

1. Minimum Standards. The lowest level of investment of the three packages. This package seeks to bring all stations in each category up to the standard which the majority of stations in that category already achieve. The package prioritises the investments which passengers place the highest value on.
2. Acceptable Standards. The medium-cost package of the three. Delivers more investment than the 'Minimum' and seeks to deliver passengers' medium priorities, typically providing facilities in each station category which are only present in a higher station category today. Includes all the facilities in the Minimum package, or replaces them with a better alternative.
3. Desired Standards. The highest level of investment of the three packages. This package seeks to deliver a transformational improvement in the facilities at stations. Delivers more investment than the Acceptable package and seeks to deliver all passenger priorities where these are likely to provide Value for Money. Includes all the facilities in the Acceptable package, or replaces them with a better alternative.

A count of the enhancements, grouped across user needs, is provided in Table 7.1 and shown by station category and then geographical area in Chart 7.1 and Chart 7.2 respectively, for the 'Acceptable Standards' option. Total enhancements are shown relative to the baseline estimate from the asset register. This shows that the number of enhancements, relative to the baseline, is circa:

- 10% for 'Security' and 'Comfort' attributes;
- 30% for 'Information' attributes;
- 50% for 'Inclusivity & Accessibility' attributes; and
- 100%+ for 'First/Last Mile' and 'Amenities' attributes.

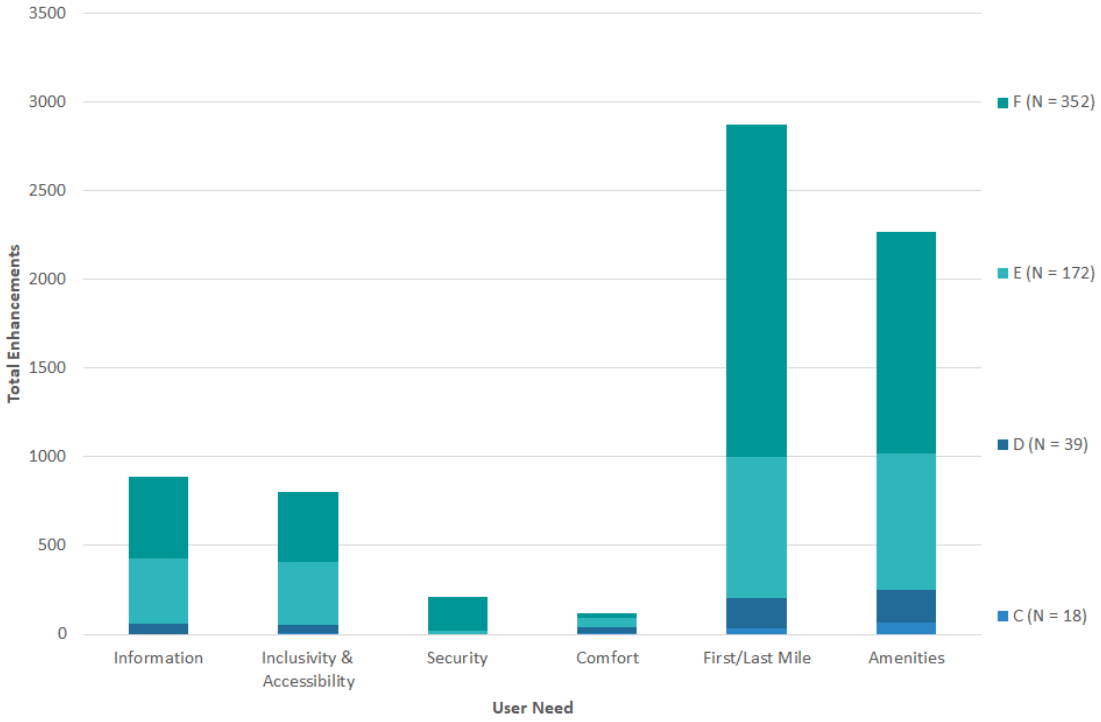
Table 7.1: Station Enhancements by Programme-Level Option

Options	Information	Inclusivity & Accessibility	Security	Comfort	First/Last Mile	Amenities	TOTAL
Baseline Provision	**2,979**	**1,672**	**2,072**	**1,416**	**1,561**	**707**	**10,407**
Enhancement Options							
Minimum Standards	674	643	209	118	1,948	1,507	5,099
Acceptable Standards	888	804	209	119	2,869	2,266	7,155
Desired Standards	970	1,137	209	311	2,869	2,622	8,118

Source: Mott MacDonald

Chart 7.1 shows the number of enhancements in each 'user need' and the category of station they apply to (C to F, by colour), in this case for the Acceptable Standards programme-level option. N is the number of stations in each category.

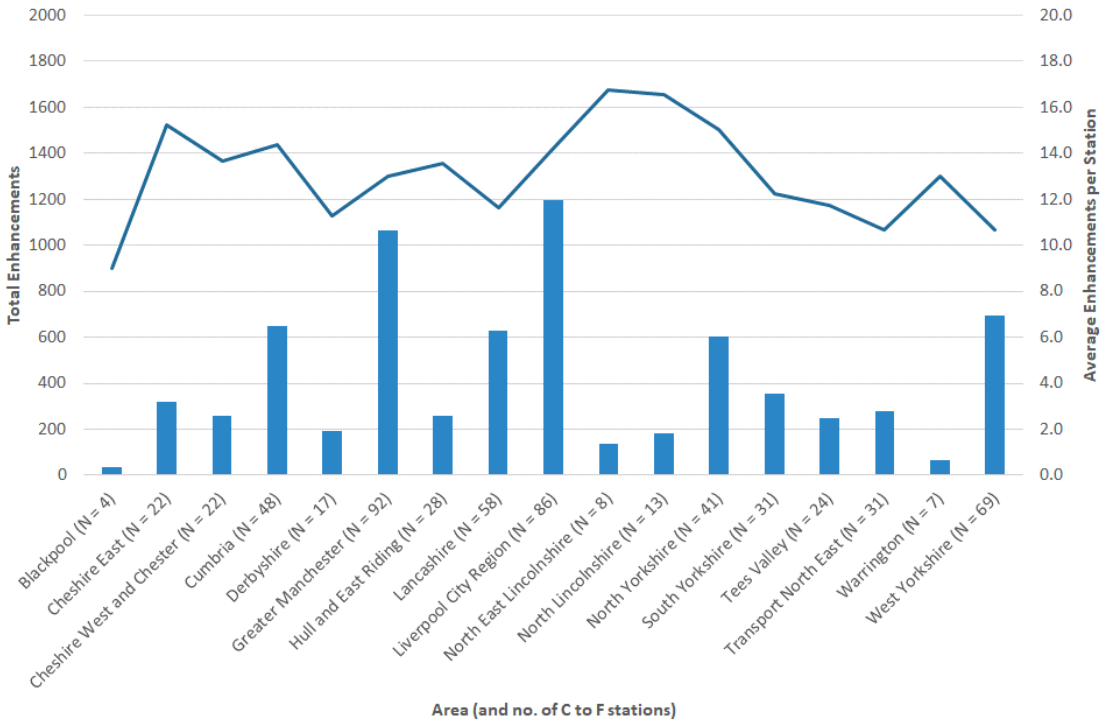
Chart 7.1: Acceptable Standards: Summary of Enhancements



Source: Mott MacDonald

Chart 7.2 (overleaf) shows the number of stations in each geographical area (height of the bars) and the number of enhancements per station (line), in this case for the Acceptable Standards programme-level option. Chart 7.2 shows that while total enhancements by area is naturally correlated to the number of stations and their existing asset provision, the average number of enhancements at a station in a given area is relatively consistent, varying between 10 and 16. The higher values are observed in North and North East Lincolnshire, and the lower values in the Blackpool (N = 4 stations), Transport North East, and West Yorkshire areas.

Chart 7.2: Acceptable Standards: Enhancements by Geographical Area



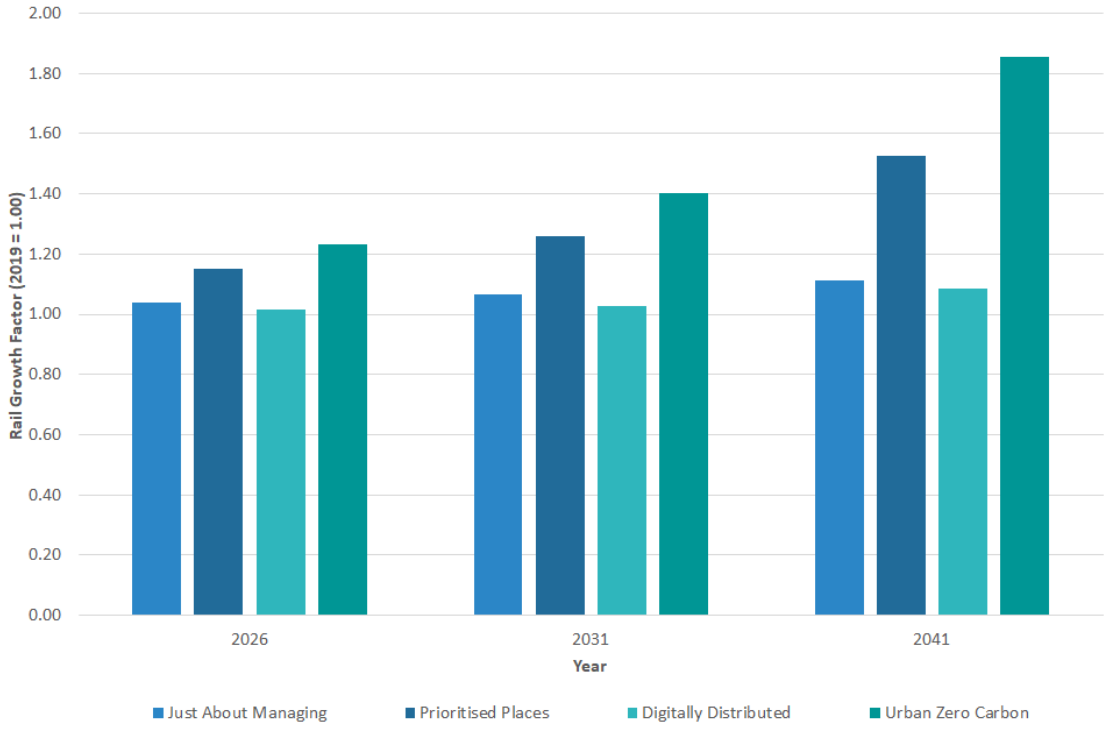
Source: Mott MacDonald

7.3 Appraisal scenarios

The impacts of each option against alternative DM rail demand forecasts from TfN's work on future travel scenarios50 has been considered (shown overleaf in Figure 7.2). These provide a background change in DM rail demand, against which the DS demand can be forecast, shown in aggregate in Chart 7.3.

50 See: Future Travel Scenarios | FTS | Transport for the North - Transport for the North

Chart 7.3: Rail Demand Change by Scenario



Source: Transport for the North

To supplement these, sensitivity tests around these related to the potential impacts of the Covid-19 pandemic have also been undertaken (see Section 7.10).

Figure 7.2: Transport for the North Future Travel Scenarios

Source: Transport for the North

7.4 The potential market

In 2019 there were approximately 217 million rail trips to and from the 601 stations in Northern England, of which approximately 55 million started and ended outside of the region. The remaining 160 million were 'internal' to the region.

The programme of enhancements is focussed on provision and standard of assets at NR station category C to F (see Table 1.2), of which there are 578 across the Northern England. A number of these stations receive a very low Level of Service (LoS), e.g. less than 12 trains per day (tpd) across both directions, and have correspondingly low demand[51]. These were excluded from the enhancements programme. This may be subject to change should significant change occur, e.g. demand from local development, and/or improvements to the LoS provided. For example, there are proposals for Redcar British Steel and Teesside Airport linked to local development proposals in the Tees Valley.

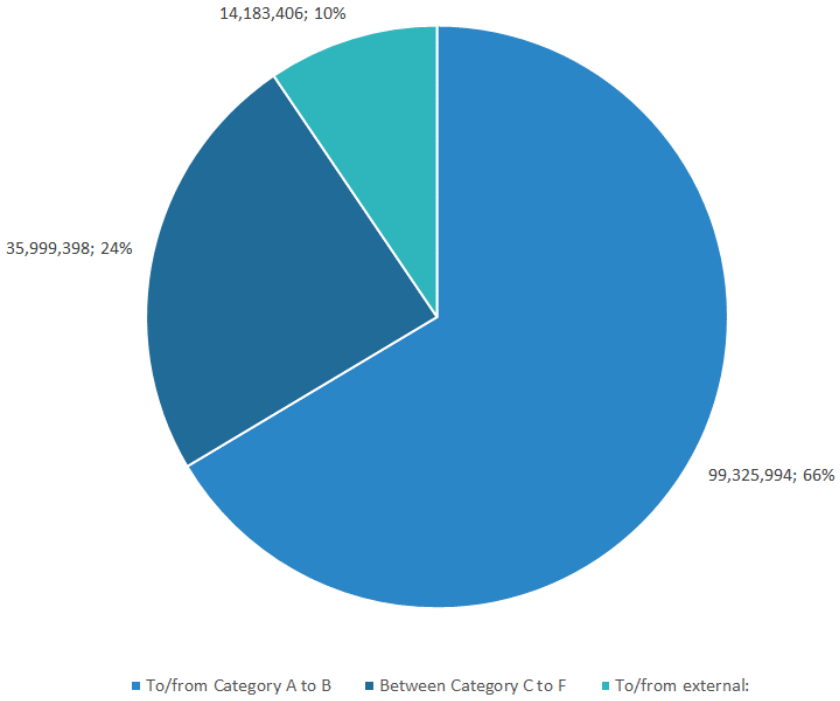
Chart 7.4 shows the split of the circa 150 million rail trips which start or end at a category C to F railway stations in the North of England[52]. The majority (66% or circa 100 million) are to/from one of the larger category A or B stations. A sizeable number both start or end at a category C to F station, and users making such trips would, under the full programme, potentially experience DS enhancements at both ends of their trip. Those users travelling to/from a category A or B station or one 'external' to the North of England would naturally only experience DS enhancements at one end of the trip.

For the purposes of simplicity, trips which may involve an interchange as part of the appraisal have not been included. If the interchange station is enhanced, then it is likely that such travellers would also experience a similar gain in the quality of their journey.

[51] Acklington, Ardwick, Arram, Braystones, Brigg, Broomfleet, Chathill, Clifton, Denton, Eastrington, Hensall, Heysham, Ince & Elton, Kirton Lindsey, Manchester United Halt, Nethertown, Pegswood, Pontefract Baghill, Rawcliffe, Redcar British Steel, Reddish South, Salwick, Sankey for Penketh, Snaith, Stanlow & Thornton, Teesside Airport, Whitley Bridge, Widdrington, and Wressle.

[52] There were approximately 220 million trips to and from stations in Northern England when category A and B stations are added.

Chart 7.4: North of England Rail Demand at Category C to F Stations



Source: MOIRA TA23, year to end September 2019

Changes in demand within the DS are driven by the journey quality enhancements through an equivalent GTT change. Table 7.2 shows the incremental demand changes for each of the three DS options.

Table 7.2: Do Something Demand Changes by Option (000,000s) – 'Just about managing' scenario

Scenario	2026	2031	2041
Do Minimum	155	160	166
Minimum Standards	+7 (4.4%)	+8 (5.0%)	+8 (5.0%)
Acceptable Standards	+8 (5.3%)	+9 (5.9%)	+10 (5.9%)
Desired Standards	+11 (6.8%)	+12 (7.7%)	+13 (7.7%)

Source: Mott MacDonald

Demand changes across the three options are in the range of 4.4% to 7.7%, or the equivalent of an extra 7 to 13 million rail passenger journeys per annum. These percentage uplifts are conservative when compared to some of the observed growth seen at previously enhanced stations in Section 6.

Base demand includes all rail trips in Northern England, including those to/from/between category A and B stations which aren't part of the enhancement programme. This will add associated farebox revenue, and, while the additional assets will add to ongoing operating expenditure, it is expected that this will lead to an ongoing financial surplus from the investment.

7.5 What impacts?

The changes in demand seen in the preceding section are linked to the beneficial outcomes which the option delivers for passengers through enhancements to journey quality. These

outcomes, in turn (as shown in Section 6.8), manifest themselves as tangible, monetised impacts which can be compared against the indicative cost. These outcomes and (direct and indirect) impacts are summarised in Table 7.3.

Table 7.3: Northern England Station Enhancements – Expected Outcomes and Impacts

Outcome	Journey quality	MECCs (accidents et al)	Physical activity	Wider Economic Impacts	Personal security	Townscape / Landscape / Historic Environment	Access to services
Journey quality enhancements	●	○	○	○	●	●	●
Stimulus for local economic development				●		○	○
Enhanced gateways to places and communities				●	○	●	

Notes: ● = direct impact ○ = indirect impact (e.g. via demand change)

Source: Mott MacDonald

The three direct outcomes are:

- Journey quality enhancements, which stimulate a number of indirect outcomes and impacts through mode shift and/or the promotion of additional walking and cycling to/from stations with the associated physical activity benefits this provides. A number of the journey quality enhancements directly promote enhanced real and perceived personal security, while the works will impact on the townscape, and in many cases the historic environment and/or landscape, and/or support improved access to services;
- Acting as a direct stimulus for local wider economic development, principally at the sub-national or place-based level. These will, in turn, deliver further indirect impacts; and
- Providing enhanced gateways to the places and communities they serve, with the potential to raise perceptions of place, wellbeing, quality of life etc.

These outcomes and impacts have been considered in line with the DfT's VfM framework[53] with an initial focus on quantifying and monetising the 'established' impacts of the investment which are journey quality and mode shift impacts and the associated reduction in car-kms. These are commonly known as the Marginal External Costs of Car (MECC) impacts, and include:

- Decongestion of the highway network;
- Local air quality;
- Greenhouse gas emissions;
- Road traffic noise;
- Road traffic accidents; and
- Changes in indirect taxation to HM Treasury from reductions in fuel duty and VAT receipts.

[53] See: DfT value for money framework - GOV.UK (www.gov.uk)

Monetised impacts have been estimated over a 20-year appraisal period, based on an expected lifespan of the assets before full replacement – ongoing regular maintenance will be required over this period. For the economic appraisal:

- Ramp-ups in demand and benefits have been assumed in line with Great Britain rail industry PDFH guidance;
- A single opening year of 2026 has been assumed, with all expenditure between 2023 and 2025. In practice, for such a large-scale rolling programme of investment, this would likely occur over a longer period. The approach taken is therefore a proportionate simplification for appraisal which avoids specifying a rollout across stations (and routes and areas);
- All values are in 2010 market prices; and
- Standard HMT discount rates of 3.5% for the next 30 years have been applied, and benefits discounted back to the DfT base year of 2010.

All inputs are taken from the November 2021 version of the TAG Databook.

Table 7.4 shows the breakdown of the Present Value of Benefits (PVB) estimate for each of the options. As would be expected, the estimate scales with the number of enhancements being delivered, but these are not linear as:

- Enhancements added in the 'acceptable' and 'desired' options may be higher 'value' to passengers, and therefore provide more benefit (but potentially at a higher unit cost); and
- 'Packaging' effects will diminish the return across a particular user need and in totality (as additional enhancements are added).

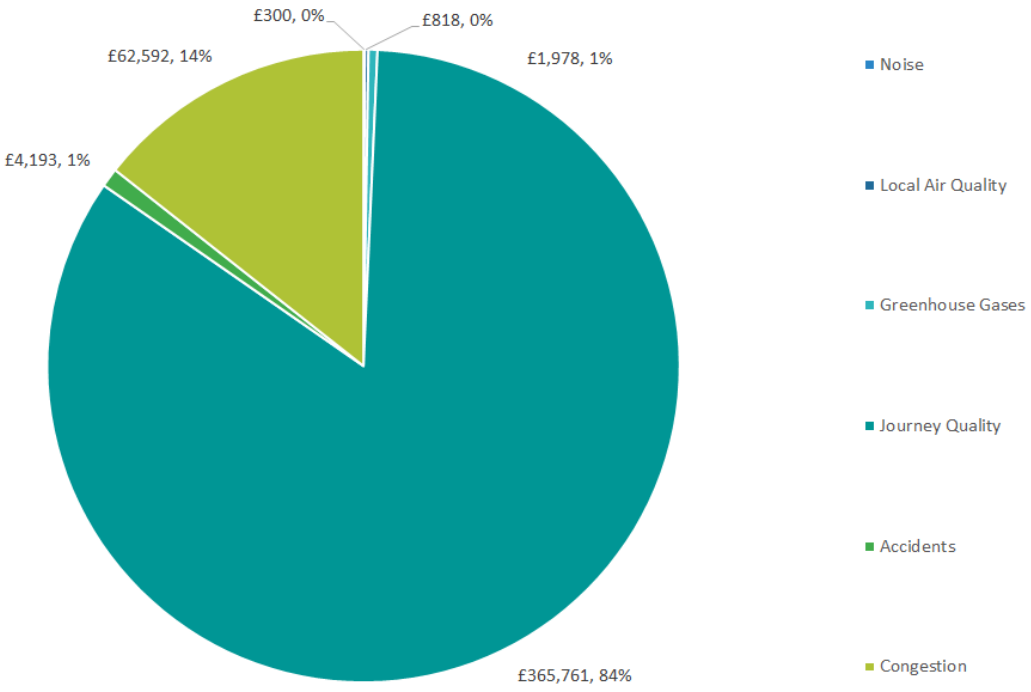
Table 7.4: Present Value of Benefits - 'Just about managing' scenario (£000s in 2010 present values and prices)

ID	Item	Minimum Standards	Acceptable Standards	Desired Standards
1	Noise	250	300	400
2	Local air quality	700	800	1,100
3	Greenhouse gases	1,700	2,000	3,000
4	Journey quality	315,000	365,000	470,000
5	Road traffic accidents	3,500	4,000	5,500
6	Economic efficiency: road traffic congestion	55,000	65,000	80,000
7	Indirect taxation	-35,000	-45,000	-55,000
TOTAL		**340,000**	**390,000**	**505,000**

Source: Mott MacDonald

Chart 7.5 shows the split by impact for the 'acceptable standards' option.

Chart 7.5: Acceptable Standards Present Value of Benefits (£000s in 2010 present values and prices)



Notes: 20-year impact in 2010 values and prices, discounted to 2010 present values. This estimate is inclusive of 'established' impacts[54], with only Level 1 economic impacts considered at this stage
Source: Mott MacDonald

The majority of the benefits arise from the direct journey quality impacts for users which, in the same manner as journey time savings, are a proxy for wider economic and social benefits for individuals. All other monetised benefits stem from the mode shift effects (from car to rail), with the largest arising from decongestion and the associated economic efficiency gains.

7.6 Indicative costs

Project costs include:

- Direct capital investment in the stations and their surrounds;
- Whole Life Costs (WLC) linked to the additional assets, including wholesale renewals; and
- Operating Expenditure (OpEx) linked to the provision of the additional assets themselves, including day-to-day maintenance of assets.

For the purposes of this economic appraisal a 20-year appraisal has been assumed, and WLC estimates are therefore excluded.

Increased rail demand generates corresponding additional farebox revenue. This is captured as a reduction in Government subsidy and therefore a negative cost in the monetised appraisal. Farebox revenue change is inclusive of all additional rail revenue across GB.

The total impact to the public accounts also includes changes in indirect taxation receipts from the purchase of (zero-rated for VAT purposes) public transport fares and reductions in fuel consumption due to mode shift (reducing fuel duty and VAT receipts from this source).

54 See: https://www.gov.uk/government/publications/dft-value-for-money-framework

These aspects are combined with the direct project-related expenditure to produce the corresponding Present Value of Costs (PVC) estimate in £000s shown below. In line with latest TAG recommendations[55], initial investment costs are inclusive of a single Optimism Bias (OB) allowance of 56%. More detail on the project costs and revenue is provided in Section 8 (Financial Case).

The Present Value of Costs (PVC) estimate in Table 7.5 includes the following adjustments to base cost estimates:

- Conversion of all costs to the DfT base year of 2010 using the GDP Deflator series;
- Discounting of all costs to 2010 using the standard HMT rates;
- Application of OB at 70%;
- Application of real terms construction inflation using the latest BCIS series; and
- Application of the market price adjuster (1.19).

Table 7.5: Present Value of Costs (£000s in 2010 present values and market prices)

Item	Minimum Standards	Acceptable Standards	Desired Standards
Investment Costs (A)	350,000	450,000	685,000
Operating Costs (B)	20,000	40,000	95,000
Additional Rail Farebox Revenue (C)	-230,000	-275,000	-350,000
Indirect Taxation (loss of receipts to HM Treasury), (E)	35,000	45,000	55,000
Present Value of Costs (PVC), (A) + (B) + (C), excluding (E)	**140,000**	**215,000**	**425,000**

Notes: 20-year impact in 2010 market prices, discounted to 2010 present values, inclusive of contingency, optimism bias and construction inflation allowances. Reductions in indirect taxation are treated as a disbenefit in the appraisal, i.e. deducted from the PVB.

Source: Mott MacDonald

All capital and operating costs estimates are initial Stage 1 values using benchmark rates from comparable locations. No site-specific investigations have been made. Adjustments have been added to account for likely difficulties associated with sites on embankments or in cuttings, which is assumed to occur at 60% of locations. Standard industry rates for preliminaries et al have been added as part of the base costs estimate.

7.7 Analysis of Monetised costs and benefits

The PVB and PVC estimates combine to produce the Net Present Value (NPV) and Benefit Cost Ratio (BCR) estimates shown in the Analysis of Monetised Costs and Benefits (AMCB) below. It can be seen that, exclusive of a range of additional non-monetised impacts, at the UK level that each option achieves parity between benefits and costs. Outputs show diminishing returns as additional enhancements and their costs are added as:

- Packaging means that each incremental enhancement is likely to add lower value as another enhancement is likely to have addressed a similar user need, while there is a maximum upper value for all potential station enhancements; and
- Many of the ‘desired’ enhancements are higher incremental costs (and step changes in quality).

[55] See: TAG unit A1-2 scheme costs - GOV.UK (www.gov.uk)

Table 7.6: Monetised Costs and Benefits Estimate (£000s in 2010 present values and market prices)

Item	Minimum Standards	Acceptable Standards	Desired Standards
Present Value of Benefits (PVB)	375,000	435,000	560,000
Indirect Taxation (PVB)	-35,000	-45,000	-55,000
Present Value of Costs (PVC)	140,000	215,000	425,000
Net Present Value (NPV)	**200,000**	**180,000**	**75,000**
Benefit Cost Ratio (BCR)	**2.46**	**1.84**	**1.18**

Source: Mott MacDonald

Across the options there will be enhancements which are included to address a particular need, e.g. 'inclusivity', which are likely to have low individual VfM, as they are targeted at a particular social group at risk of social exclusion and/or have a higher unit cost, but deliver strongly against Government priorities and programme objectives.

7.8 Wider impacts of investment

As described in Section 7.5, only 'established impacts' (from the DfT VfM framework) have been monetised at this SOBC stage. This excludes potential impacts associated with physical activity, an 'established impact' under VfM, e.g. reduced absenteeism and mortality, from more people walking and cycling to and from rail stations. This is one of a number of additional impacts which could be explored at the next stage of programme development, alongside those impacts termed 'evolving' or 'indicative' in the VfM framework.

Table 7.7: Northern England Station Enhancements Programme – Wider Impacts of Investment

Impact	Summary
Physical Activity	● Increased rail use will generate additional walking and cycling trips to and from stations, particularly at category C to F station where access/egress mode shares for these modes are highest. ● Some of these trips will be diversion from existing end-to-end walking and cycling trips, e.g. due to simultaneous shift in mode and destination. ● Increased walking and cycling leads to reductions in absenteeism and excess mortality. ● **Moderate Beneficial**
Dynamic clustering	● The creation of enhanced gateways to and from places and communities is expected to act as a stimulus to local development, including residential, employment, retail, leisure, and culture based uses. ● This dynamic land use (clustering) effect is expected to have productivity gains by encouraging additional development in well-connected places. ● **Moderate Beneficial**
Induced Investment	● As detailed previously, investment in stations would be expected to lead to induced investment in the places and communities they serve, which is likely to be directly beneficial to the 'levelling up' agenda. ● **Moderate Beneficial**
Personal security	● The enhanced station(s) will offer benefits relative to existing provision. ● **Large Beneficial**
Accessibility	● The options tested as part of this programme-level SOBC have sought to directly face the needs of those who may have difficulties in accessing and using the rail network, delivering against the aims of the UK Government's Inclusivity Strategy ● **Large Beneficial**

Impact	Summary
Townscape	● The enhanced stops will aim to provide a more attractive gateway and focal point to their local place and communities, including any complementary surrounding development. ● Consideration will need to be given to reflecting the local sense of place and the integration of enhancements with the surrounding townscape. ● **Moderate Beneficial**
Historic environment	● Many of the stations across Northern England are in historic buildings, a number of which are listed. These will need to be respected in any enhancements programme, ensuring the programme delivers against place-making priorities for each area. ● **Slight Beneficial**
Landscape	● A number of Northern England's station assets serve areas with significant landscape 'value'. As with townscape impacts, due care will need to be taken in designing and delivering local enhancements to make sure they reflect, respect, and enhance the sense of places in these locations. ● **Neutral**
Access to services	● By making the rail network more attractive, easier to use, and more secure, access to services should be improved across the population. ● **Moderate Beneficial**
Option and non-use values	● While the programme does not deliver a new alternative per se, it aims to raise standards so that existing assets are perceived as a genuine alternative by a greater proportion of the population. This would generate greater option and non-use values. ● **Slight Beneficial**

Source: Mott MacDonald

7.9 Area and Route Specific Enhancements

In practice, a full programme of enhancements across 500+ stations in Northern England would most efficiently be delivered on an area or route basis targeted at those with:

- Most need, i.e. lowest existing provision;
- Highest VfM; and/or
- Where works could be delivered efficiently alongside other rail programmes and projects or in conjunction with complementary investment programmes and projects, e.g. as part of wider place-making, levelling up, and regeneration initiatives.

7.9.1 Government Region Level Results

To gain an initial understanding of how VfM differs by area and route, a series of tests have been undertaken filtering enhancements to a specific area (see Chart 7.2) and route (using individual districts to proxy specific routes or groups thereof). Table 7.8 shows the result for the three Government regions – stations in the East Midlands region have been included within the North West and Yorkshire & Humber regions for this analysis. Results are reflective of:

- Current provision, influencing the cost of works, base demand, and the future change in demand post the enhancements;
- Existing demand levels, with increased levels of current use providing more beneficiaries for the enhancements and a higher absolute change in future beneficiaries all else being equal; and
- The nature of the enhancements required by station category and defined standards.

Table 7.8: Government Region Level Economic Appraisal (£000s in 2010 present values and market prices)

Area	PVB	PVC	NPV	BCR
Minimum Standards				
North East	10,000	15,000	-2,000	0.8
North West	240,000	60,000	180,000	4.1
Yorkshire & Humber	85,000	50,000	30,000	1.6
Acceptable Standards				
North East	10,000	15,000	-5,000	0.8
North West	295,000	135,000	160,000	2.2
Yorkshire & Humber	85,000	65,000	25,000	1.4
Desired Standards				
North East	15,000	35,000	-20,000	0.4
North West	375,000	275,000	100,000	1.4
Yorkshire & Humber	120,000	130,000	-10,000	0.9

Source: Mott MacDonald

7.9.2 Area Level Results

Table 7.9 (overleaf) shows the same 'Acceptable Standards' results for a more detailed set of 'areas', which are combined authority areas or aggregations of local authorities. Appendix B contains the corresponding results for the other two options. In West Yorkshire revenue growth over the 20-year appraisal period is forecast to be greater than the investment cost and increase in operating costs, resulting in a negative PVC. In this case the BCR is not presented and the VfM is 'financially positive' under the DfT's supplementary guidance.

Table 7.9: Area Level 'Acceptable Standards' Economic Appraisal (£000s in 2010 present values and market prices)

Area	PVB	PVC	NPV	BCR
Acceptable Standards				
Cheshire & Warrington	23,000	22,000	1,000	1.0
Greater Manchester & Derbyshire	76,000	25,000	51,000	3.0
Hull & Lincolnshire	7,000	26,000	-19,000	0.3
Lancashire & Cumbria	25,000	60,000	-35,000	0.4
Liverpool City Region	169,000	27,000	142,000	6.2
North Yorkshire	8,000	29,000	-21,000	0.3
South Yorkshire	12,000	10,000	2,000	1.2
Tees Valley	7,000	7,000	0	1.0
Transport North East	5,000	9,000	-3,000	0.6
West Yorkshire	59,000	-2,000	61,000	N/A

Source: Mott MacDonald

The following observations are made:

- Enhancements at stations with high base demand (such as the Liverpool City Region) generate, in turn, higher demand and revenue growth to offset costs over the appraisal period (even after discounting).
- The range of demand growth is largely similar across the areas – being between 0% and 10% depending on the existing assets, enhancements required in the strategy, and the w-t-p values for each asset. This is lower than the observed examples given in Section 6.
- Results are affected by station type mix and assumed strategy by station type. For example, the LCR has a lot of category E stations, whereas category F dominate in Lancashire & Cumbria – different enhancements result depending on the defined standards. In the LCR the focus is on 'Information' and 'Inclusivity/Accessibility', while in Lancashire & Cumbria it is 'First/Last Mile'.
- The lower starting provision in certain areas will always be a factor – there are 'high' start up costs to get basics already delivered elsewhere (and 'level up'), fewer beneficiaries (partly due to base levels of service and quality), and also lower revenue growth due to the lower starting demand. An equitable strategy and programme of enhancements must strike a balance between these aspects.

7.9.3 Route Level Results

A series of tests have also been undertaken for 'Acceptable Standards' at the 'route' level, using local authorities as a proxy. By default, this will include works at other stations in that authority but off the named route. For example, the MEL Northern Line to Southport uses Sefton district, but that also includes the stations at Aintree and Maghull. The Durham Coast Line estimate uses Newcastle, Sunderland, and Hartlepool local authority boundaries (and stations). In that case Newcastle Station is excluded from the analysis as it is a Category A station. Table 7.10 summarises these results.

As with the area level results, in a number of cases incremental revenue more than offsets the costs, meaning a BCR is no longer applicable and the VfM is noted as 'financially positive'.

Table 7.10: Route Level 'Acceptable Standards' Economic Appraisal (£000s in 2010 present values and market prices)

Area	Local Authorities	Also including stations	PVB	PVC	NPV	BCR
Acceptable Standards						
Cumbrian Coast	Allerdale, Copeland		2,000	12,000	-11,000	0.1
Furness & Lakes Line	Barrow-in-Furness, South Lakeland	Oxenholme	3,000	9,000	-6,000	0.3
Settle & Carlisle	Eden, Craven	Penrith	3,000	14,000	-11,000	0.2
Tyne Valley / Morpeth	Northumberland, Gateshead	Berwick, Morpeth etc	3,000	6,000	-4,000	0.4
Durham Coast Line	Newcastle upon Tyne, Sunderland, Hartlepool	(Newcastle stn *excluded*, as it is Category A)	2,000	0	2,000	N/A
Tees Valley	Stockton-on-Tees, Redcar and Cleveland		4,000	6,000	-2,000	0.6
Scarborough/ Whitby lines	Scarborough, Ryedale		2,000	12,000	-10,000	0.2
Clitheroe line	Ribble Valley		0	2,000	-2,000	0.2
Harrogate line	Harrogate District		2,000	2,000	0	0.8
Southport (MEL Northern Line)	Sefton	Aintree, Maghull	41,000	3,000	39,000	15.7
Wirral (MEL)	Wirral		43,000	16,000	27,000	2.7
Bolton	Bolton	Bromley Cross, Westhoughton, Daisy Hill	6,000	6,000	-1,000	0.9
Calder Valley	Calderdale		10,000	-2,000	11,000	N/A
Wharfdale	Bradford	Bradford Interchange, Low Moor, Ilkley	33,000	-10,000	43,000	N/A
Goole & Bridlington lines	East Riding of Yorkshire	Bridlington, Goole	4,000	7,000	-3,000	0.5

Source: Mott MacDonald

7.10 Uncertainties and sensitivity testing

7.10.1 Investment Cost Estimates

As described in Section 7.6, there is considerable uncertainty associated with the investment cost estimates as no site-specific investigations have been possible (or proportionate) as part of this SOBC. As an initial set of sensitivity tests, low, medium (used in preceding AMCB estimates), and high benchmark unit costs have been developed for each enhancement to sensitivity test the impact of different costs. The results are especially sensitive to the lower and

higher costs associated with working in difficult conditions, i.e. in a cutting or on an embankment.

Table 7.11 shows that the combination of option and low to high unit cost rates generates BCRs between 1.00, the threshold of 'low' VfM using monetised impacts only, and 3.00, with anything greater than 2.00 indicative of 'high' VfM (at the most optimistic end of the cost inputs and assumptions). Appendix B contains corresponding sensitivity tests for Government regions

Table 7.11: Investment Cost Sensitivity Tests – Benefit Cost Ratios

Option	Low Unit Costs	Mid Unit Costs	High Unit Costs
Minimum Standards	2.97	2.46	2.05
Acceptable Standards	2.25	1.84	1.58
Desired Standards	1.32	1.18	1.02

Source: Mott MacDonald

7.10.2 Appraisal Scenarios

Prior results have all been under the 'Just About Managing' (JAM) TfN scenario, akin to the estimates from a TAG compliant DfT 'central case'. As previously described in Section 7.3, TfN has developed alternatives which reflect alternative versions of the future. These scenarios aim to combine mutually consistent inputs and assumptions across economic, social, and environmental factors, coupled with policy decisions and investment which both respond to, and influence, them. Table 7.12 shows the 'Acceptable Standards' results for the four separate scenarios. The BCRs range between 1.8 and 6.0, or 'medium' to 'high' VfM, with the programme sensitive to background demand and revenue, and, from there, the incremental farebox revenue impacts on the PVC (revenue as negative cost for the programme).

Table 7.12: Appraisal Scenario Sensitivity Tests – Economic Appraisal (£000s in 2010 present values and market prices)

Appraisal Scenario	PVB	PVC	NPV	BCR
Just About Managing	392,000	212,500	180,000	1.84
Prioritised Places	490,500	143,500	347,000	3.42
Digitally Distributed	382,500	219,500	163,000	1.74
Urban Zero Carbon	565,000	93,500	473,500	6.07

Source: Mott MacDonald

7.10.3 Long Run Covid-19 Pandemic Effects

Table 7.13 shows the impacts of an assumed long-term effect on rail demand from the Covid-19 pandemic. These effects are applied incrementally to the Just About Managing (JAM) scenario used as the 'central case'. The three tests assume, compared to the background forecast, a:

- 25% reduction in demand – 'Low recovery';
- 15% reduction in demand - 'Medium recovery'; and
- 5% reduction in demand – 'High recovery'.

Table 7.13: Just About Managing Covid-19 Pandemic Sensitivity Tests – Economic Appraisal (£000s in 2010 present values and market prices)

Covid-19 Long Run Effect	PVB	PVC	NPV	BCR
None – full recovery	392,000	212,500	180,000	1.84
Low recovery (-25%)	294,000	281,000	13,000	1.05
Medium recovery (-15%)	333,000	253,500	79,500	1.31
High recovery (-5%)	372,500	226,500	146,000	1.65

Source: Mott MacDonald

7.11 Appraisal summary table

The Appraisal Summary Table (AST) for the 'Acceptable Standards' option is provided overleaf.

Appraisal Summary Table

Date produced:	31 May 2022

Contact:	
Name	Jon Crockett
Organisation	Mott MacDonald
Role	Programme Consulta

Name of scheme:	Northern England Station Enhancements Programme
Description of scheme:	Programme of enhancements to category C to F stations across Northern England (500+) in order to raise them to a common 'acceptable' standard on key user needs, including (i) information, (ii) inc

Impacts		Summary of key impacts	Assessment			
			Quantitative	Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	See 'Social' for decongestion impacts due to mode shift	Value of journey time changes(£) Net journey time changes (£) 0 to 2min / 2 to 5min / > 5min			
	Reliability impact on Business users	N/A				
	Regeneration	•As detailed previously, investment in stations would be expected to lead to induced investment in the places and communities they serve, which is likely to be directly beneficial to the 'levelling up' agenda.		Moderate Beneficial		
	Wider Impacts	•The creation of enhanced gateways to and from places and communities is expected to act as a stimulus to local development, including residential, employment, retail, leisure, and culture based uses. •This dynamic land use (clustering) effect is expected to have productivity gains by encouraging additional development in well connected places.		Moderate Beneficial		
Environmental	Noise	Reduction of road traffic noise from mode shift.			£ 300,285	
	Air Quality	Reduction in road traffic emissions.			£ 817,554	
	Greenhouse gases	Reduction in emissions from road traffic due to mode shift.	Change in non-traded carbon over 60y (CO2e) Change in traded carbon over 60y (CO2e)		£ 1,977,781	
	Landscape	•A number of Northern England's station assets serve areas with significant landscape 'value'. As with townscape impacts, due care will ned to be taken in designing and delivering local enhancements to make sure they reflect, respect, and enhance the sense of places in these locations.		Neutral		
	Townscape	•The enhanced stops will aim to provide a more attractive gateway and focal point to their local place and communities, including any complementary surrounding development. •Consideration will need to be given to reflecting local sense of place and the integration of enhancements with the surrounding townscape.		Moderate Beneficial		
	Historic Environment	•Many of the stations across Northern England are in historic buildings, a number of which are listed. These will ned to be respected in any enhancements programme, ensuring the programme delivers against place-making priorities for each area.		Slight Beneficial		
	Biodiversity	Potential for station works to incorporate biodiveristy enhancing components.		Neutral		
	Water Environment	Potential for adverse impacts from station works.		Neutral		
Social	Commuting and Other users	Contribution to decongestion through mode shift.	Value of journey time changes(£) Net journey time changes (£) 0 to 2min / 2 to 5min / > 5min		£ 62,592,134	
	Reliability impact on Commuting and Other users	N/A				
	Physical activity	•Increased rail use will generate additional walking and cycling trips to and from stations, particularly at category C to F station where access/egress mode shares for these modes are highest. •Some of these trips will be diversion from existing end-to-end walking and cycling trips, e.g. due to simultaneous shift in mode and destination. •Increased walking and cycling leads to reductions in absenteeism and excess mortality.		Moderate Beneficial		
	Journey quality	Monetised enhancements to journey quality for selected user needs. Additional non-monetised benefits for selected enhancements where evidence is not yet available.			£ 365,760,754	
	Accidents	Reduction in road traffic accidents due to mode shift			£ 4,193,067	
	Security	•The enhanced station(s) will offer benefits relative to existing provision.		Large Beneficial		
	Access to services	•By making the rail network more attractive, easier to use, and more secure, access to services should be improved across the population.		Moderate Beneficial		
	Affordability			Neutral		
	Severance			Neutral		
	Option and non-use values	•While the programme does not deliver a new alternative per se, it aims to raise standards so that existing assets are perceived as a genuine alternative by a greater proportion of the population. This would generate greater option and non-use values.		Slight Beneficial		
Public Accounts	Cost to Broad Transport Budget				£ 212,647,053	
	Indirect Tax Revenues				-£ 43,715,478	

7.12 Value for money statement

Rail stations act as gateways to the places and communities they serve, helping to stimulate investment and provide access to opportunities and services. Provision and quality of basic assets differs markedly across the circa 600 stations in Northern England, resulting in many core user needs of the travelling public not being met, inequalities between areas which are not consistent with 'levelling up', and leaving certain groups at risk of social exclusion due to real and perceived issues around needs such as personal security and physical accessibility. This programme level SOBC has considered the case for investing in phased enhancements across all Category C to F stations (this excludes the major stations such as Leeds and Manchester Piccadilly) to deliver a common set of standards in:

- Information;
- Inclusivity and accessibility;
- Security;
- Comfort;
- First/Last mile provision for onward travel; and
- Amenities.

An assessment of the scheme's costs and benefits has been undertaken in line with the DfT's TAG suite and accompanying GB rail industry guidance. Investment costs have been freshly derived and operating expenditure estimates produced from benchmark rates. Considering only 'established' transport (inclusive of 'Level 1' economic) impacts, the BCR of the 'acceptable standards' option is 1.84, and that for the 'minimum standards' is 2.46. Both exclude additional impacts which are either non-monetised at this stage or primarily of qualitative nature. These are greater under the 'acceptable' package, and a factor greater again under the 'desired standards' option. Benefits are achieved across the desired economic, social, and environmental objectives of the programme, including the levelling up agenda, inclusivity and equalities, place-making, user experience, and pathways to enhanced physical activity and carbon neutrality.

This initial assessment is exclusive of Wider Economic Impacts (WEIs). It is likely that inclusion of these would ensure the 'acceptable standards' option represents 'high' VfM, considerate of net UK impacts only. Regional and local impacts would be a factor higher again, and link heavily to place-based objectives for Northern England. A programme of complementary investment, including both transport and non-transport interventions, is currently ongoing. The potential for additional induced investment and generating dynamic land use change, including Transit Orientated Development (TOD), has been identified, with a (further) potential step change in the VfM

8 The Financial Case

The Financial Case considers the project's costs, revenue streams and the potential funding and finance mix which could enable delivery.

8.1 Investment Costs

Reflecting the programme level nature of the SOBC, investment costs for different enhancement items are at a nascent stage and use benchmark rates.

As the programme develops, on the likely route or area basis, these costs will need to be developed on a site-by-site basis, reflective of any constraints (or opportunities). These could include, for example:

- Issues around delivery of sufficient power supply;
- Works in a cutting;
- Works on an embankment (which may require widening); and
- Removal of existing structures.

Conservative estimates have been taken for each of these inputs, with additional Stage 1 OB added in the Economic Case and a comparable contingency /risk adjustment included in the Financial Case.

Table 8.1 summaries the low, medium, and high unit costs used in the development of programme costs. Enhancements which occur on the platform need to be counted multiple times based on the data held in the station assets register. These base cost estimates are inclusive of the following industry standard rates:

- Preliminaries at 40%;
- Overheads and profit at 12%;
- Design at 10%;
- Project management at 7%; and
- Other project costs at 11%.

Risk Allowance

At this early stage, without a dedicated risk register concerning known risks and opportunities, a risk allowance of 70% has been added to the estimates in Table 8.1, consistent with the OB applied in the Economic Case.

Table 8.1: Station Enhancements Programme – Base Cost Estimates per Unit (2021 Q1 prices)

Ref	Item	Location	User Need	Attribute	Low	Medium	High
1	RTI Screen : Column Mounted : On Platforms	Platform	Information	CIS	30,000	37,000	76,000
2	RTI Screens : Wall Mounted : Entrances And Waiting Areas	Station building	Information	CIS	12,000	23,000	24,000
3	Pa System : Column Mounted : On Platforms	Platform	Information	PA system	55,000	60,000	66,000
4	Ticket Vending Machines : In Station Concourse	Station building	Information	Ticketing	92,000	92,000	92,000
5	Booking Office	Station building	Information	Ticketing	158,000	237,000	316,000

Ref	Item	Location	User Need	Attribute	Low	Medium	High
6	Help Points : On Platform	Platform	Inclusivity & Accessibility	Help points	6,000	6,000	6,000
7	Ticket Gates	Station building	Security	Ticket gates	155,000	212,000	270,000
8	CCTV : Wall Mounted : Surface Mounted Cabling : In Station Buildings	Station building	Security	Station CCTV	13,000	19,000	24,000
9	CCTV : Column Mounted : In Public Realm Areas	External	Security	Surrounding Area CCTV	34,000	52,000	70,000
10	Platform Lighting : Column Mounted	Platform	Security	Lighting	25,000	38,000	50,000
11	Public Realm Lighting : On Columns	External	Security	Lighting	26,000	52,000	79,000
12	Platform Canopy Shelter : 4 Bay Open Fronted	Platform	Comfort	Shelters	34,000	34,000	34,000
13	Platform Canopy Shelter : 4 Bay Enclosed	Platform	Comfort	Shelters	39,000	39,000	39,000
14	Platform Waiting Room : Fully Enclosed Structure	Platform	Comfort	Shelters	148,000	148,000	148,000
15	Seating (Benches)	Platform	Comfort	Seats	2,000	3,000	5,000
16	Seating (Desired)	Platform	Comfort	Seats	3,000	5,000	8,000
17	Toilets : Off Platform	Station building	Comfort	Toilets	156,000	174,000	192,000
18	Baby Changing Facilities : Off Platform	Station building	Comfort	Toilets	114,000	131,000	149,000
19	Access To Platforms : Stairs	Platform	Inclusivity & Accessibility	Access to platforms	291,000	291,000	291,000
20	Access To Platforms : Footbridge Lifts	Platform	Inclusivity & Accessibility	Access to platforms	585,000	631,000	648,000
21	Access To Platforms : Ramps	Platform	Inclusivity & Accessibility	Access to platforms	1,191,000	1,191,000	1,191,000
22	Not Used	0	0		0	0	0
23	Cycle Parking (Uncovered)	External	First/Last mile	Cycle parking	2,000	5,000	7,000
24	Cycle Parking (Covered)	External	First/Last mile	Cycle parking	22,000	44,000	66,000
25	Cycle Parking Hub	External	First/Last mile	Cycle parking	138,000	156,000	173,000
26	Removal Of Steel Platform Structures	Platform			25,000	25,000	25,000
27	Civil Engineering Works : Allowance To Form Level Formation In A Cutting	External			712,000	889,000	1,333,000
28	Civil Engineering Works : Allowance To Form Level Formation In A Widened Embankment	External			106,000	135,000	211,000
29a	Siss Head End Equipment : CCTV Cabinet	External			62,000	62,000	62,000
29b	Siss Head End Equipment : Public Address Cabinet	External			34,000	34,000	34,000
29c	Siss Head End Equipment : Cis Cabinet	External			55,000	55,000	55,000

Source: Mott MacDonald from benchmark GB rail industry rates

For simplicity, a single programme of three years has been assumed in this SOBC (with all benefits starting after the completion of this). In practice, a longer rolling programme is more likely on a route or area basis, with construction works starting in 2025 and rolling on for a minimum of 8 years to 2032.

Investment cost profiles for the three appraised options are shown in Table 8.2 and Chart 8.1. These costs are:

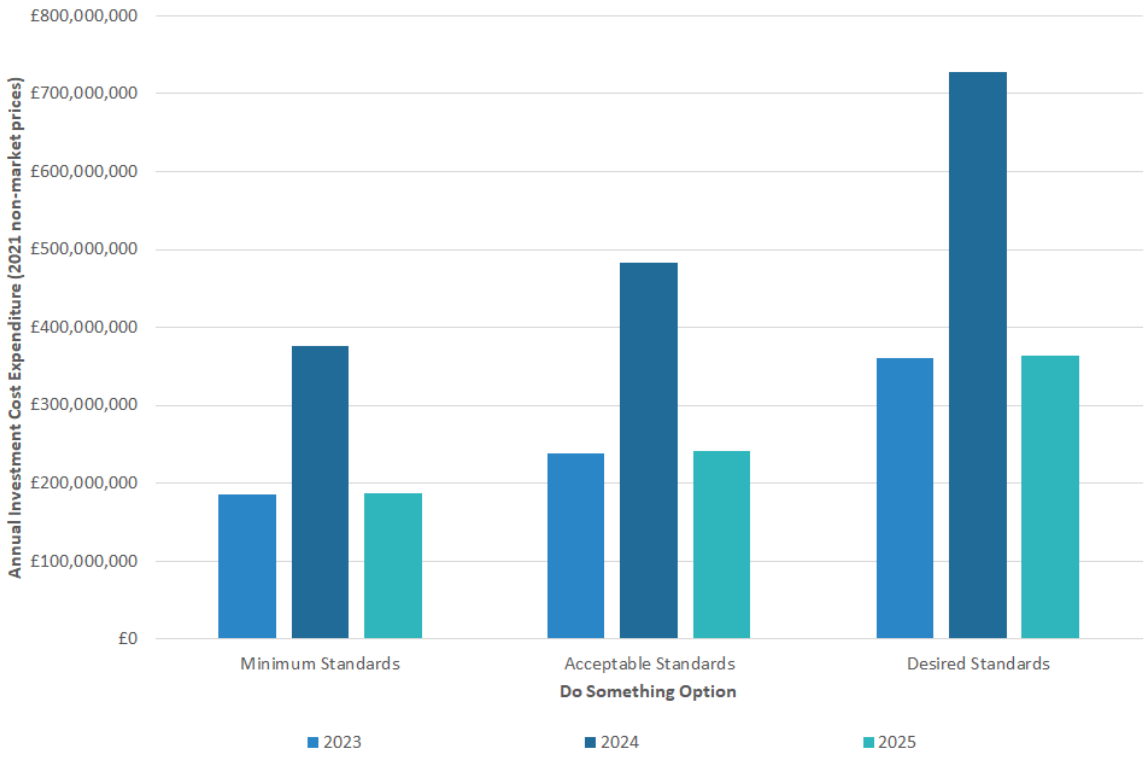
- In a 2021 price base;
- Non-market prices;
- Undiscounted;
- Inclusive of a risk allowance of 70%;
- Inclusive of real terms construction inflation using the BCIS series relative to the HMT GDP Deflator; and
- Exclusive of general background inflation, i.e. they are presented in real terms.

Table 8.2: Total Investment Cost Estimate (£ millions in 2021 undiscounted non-market prices)

ID	Option	Total Investment Costs
1	Minimum Standards	750
2	Acceptable Standards	960
3	Desired Standards	1,450

Source: Mott MacDonald from benchmark GB rail industry rates

Chart 8.1: Investment Cost Expenditure Profile (3-Year Programme)



Source: Mott MacDonald from benchmark GB rail industry rates

8.2 Major renewals

The appraisal period has been limited to 20 years, so Whole Life Costs (WLCs) associated with major renewals are excluded from this analysis.

8.3 Operating Expenditure and Revenue Streams

Additional or enhanced station assets are likely to add Operating Expenditure (OpEx) to the GB rail industry, albeit in some cases there may be efficiencies from the replacement of inefficient or life expired existing assets. It is assumed that the additional assets will add an incremental annual operating expenditure equivalent to 1% of the initial investment cost. Total OpEx is shown in Table 8.3 for the same 20-year appraisal period as the Economic Case.

Table 8.3: Total 20-Year Operating Expenditure Estimate (£ millions in 2021 undiscounted non-market prices)

ID	Option	Total Operating Expenditure
1	Minimum Standards	60
2	Acceptable Standards	120
3	Desired Standards	310

Source: Mott MacDonald from benchmark GB rail industry rates

As shown in Section 7.4, the journey quality enhancements are expected to lead to a total demand increase of circa 3.5% to 5.5%. This would, all else being equal, generate similar gains in farebox revenue. Table 8.4 shows the undiscounted farebox revenue over a 20-year appraisal period.

Table 8.4: Total 20-Year Farebox Revenue Estimate (£ millions in 2021 undiscounted non-market prices)

ID	Option	Total Farebox Revenue
1	Minimum Standards	610
2	Acceptable Standards	680
3	Desired Standards	850

Source: Mott MacDonald

Comparing the OpEx and farebox revenue it can be seen that while the programme is significant in terms of investment costs, it then generates an ongoing surplus which would reduce the net subsidy requirement for the rail industry as a whole. Across the three options, the net surplus is relatively constant at £500 million, or £25 million per annum averaged over 20 years.

This analysis excludes any ancillary revenue streams, e.g. from the potential for increased retail activity within the station curtilage, advertising due to increased footfall and better facilities, or the greater use of station buildings for greater commercial use.

8.4 Financial Summary

Table 8.6 (overleaf) summarises the investment costs, operating expenditure, and farebox revenue across the programme. Table 8.7 shows the same values but discounted to the appraisal year of 2021 using standard HMT discount rates (3.5% per annum for the next 30 years), i.e. present values and prices. Table 8.5 summarises the totals.

Table 8.5: Northern England Station Enhancements Programme – Cost and Revenue Summary

Option	Investment Cost	Operating Expenditure	Farebox Revenue	Total Net Cost
£ millions in 2021 undiscounted non-market prices				
Minimum Standards	750	61	-611	200
Acceptable Standards	963	120	-680	402
Desired Standards	1,451	308	-852	907
£ millions in 2021 discounted non-market prices				
Minimum Standards	677	37	-373	341
Acceptable Standards	869	73	-416	526
Desired Standards	1,309	188	-520	976

Source: Mott MacDonald

Table 8.6: Northern England Station Enhancements Programme – Cost and Revenue Summary (£ millions in 2021 undiscounted non-market prices)

Item	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Minimum Standards																							
Investment costs	£186	£376	£188	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Operating expenditure	£0	£0	£0	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3	£3
Farebox revenue	£0	£0	£0	-£25	-£27	-£28	-£29	-£29	-£29	-£30	-£30	-£30	-£31	-£31	-£31	-£31	-£32	-£32	-£32	-£33	-£33	-£33	-£34
Acceptable Standards																							
Investment costs	£239	£483	£241	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Operating expenditure	£0	£0	£0	£5	£5	£5	£5	£6	£6	£6	£6	£6	£6	£6	£6	£6	£6	£6	£6	£7	£7	£7	£7
Farebox revenue	£0	£0	£0	-£28	-£30	-£31	-£32	-£32	-£33	-£33	-£33	-£34	-£34	-£34	-£35	-£35	-£35	-£36	-£36	-£37	-£37	-£37	-£37
Desired Standards																							
Investment costs	£360	£728	£363	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Operating expenditure	£0	£0	£0	£13	£14	£14	£14	£14	£14	£15	£15	£15	£15	£15	£16	£16	£16	£16	£17	£17	£17	£17	£18
Farebox revenue	£0	£0	£0	-£35	-£38	-£39	-£40	-£41	-£41	-£41	-£42	-£42	-£43	-£43	-£43	-£44	-£44	-£45	-£45	-£46	-£46	-£46	-£47

Source: Mott MacDonald

Table 8.7: Northern England Station Enhancements Programme – Cost and Revenue Summary (£ millions in 2021 discounted non-market prices)

Item	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Minimum Standards																							
Investment costs	£174	£339	£164	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Operating expenditure	£0	£0	£0	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2	£2
Farebox revenue	£0	£0	£0	-£21	-£22	-£22	-£22	-£21	-£21	-£20	-£20	-£19	-£19	-£18	-£18	-£18	-£17	-£17	-£16	-£16	-£16	-£15	-£15
Acceptable Standards																							
Investment costs	£223	£436	£210	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Operating expenditure	£0	£0	£0	£4	£4	£4	£4	£4	£4	£4	£4	£4	£4	£4	£4	£3	£3	£3	£3	£3	£3	£3	£3
Farebox revenue	£0	£0	£0	-£24	-£25	-£24	-£24	-£24	-£23	-£23	-£22	-£22	-£21	-£21	-£20	-£20	-£19	-£19	-£18	-£18	-£17	-£17	-£16
Desired Standards																							
Investment costs	£336	£656	£316	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Operating expenditure	£0	£0	£0	£11	£11	£11	£11	£10	£10	£10	£10	£10	£9	£9	£9	£9	£9	£9	£8	£8	£8	£8	£8
Farebox revenue	£0	£0	£0	-£30	-£31	-£31	-£30	-£30	-£29	-£28	-£28	-£27	-£26	-£26	-£25	-£24	-£24	-£23	-£23	-£22	-£22	-£21	-£20

Source: Mott MacDonald

8.5 Funding and Finance Alternatives

Financial modelling will be required at later stages of programme development to determine the affordability through grants, operational and revenue funding, loans, income, and other means. Opportunities for funding and finance include:

Capital Funding – there are, as of early 2022, multiple potential grant sources for station enhancement works. A number of regional and local partners are already developing individual station enhancements, or areawide programmes, through devolved funding allocations. The potential funding sources include the:

- Rail Network Enhancements Pipeline[56] (RNEP);
- Levelling Up Fund[57];
- Shared Prosperity Fund[58];
- City Regional Sustainable Transport Settlements[59];
- DfT Secure Stations[60]; and
- DfT Access for All[61].

A mixed approach involving, principally, Central Government funding, coupled with local capital allocations, from other available funding streams, for the accessibility measures is considered most viable.

Third Party Funding – there is the opportunity to deliver Transit Orientated Development (TOD) which can unlock additional housing and commercial development focussed around the enhanced stations. When there is more certainty around the nature of the programme, and proposals for individual stations, then there exists the possibility to identify the potential for adjacent development. This gives rise to third party funding opportunities through measures such as the Community Infrastructure Levy (CIL) or Land Value Capture (LVC) contribution agreements, with TfN as programme lead and other regional/local partners needing to agree the preferred mechanism (if any).

Operational and Revenue Funding – Farebox revenues will provide an ongoing income to offset operational costs, and likely generate an ongoing surplus. The gap, if any, between incremental farebox revenue and operating expenditure will need to be assessed again at the next stage in the context of the relative impact across future Great British Railways (GBR) operations and accounting structures. Other commercial income may also be available, e.g. from additional retail, commercial uses, advertising etc. Developer contributions from impacted developments are also a potential funding source.

Project Development Funding – Funding (albeit of a small scale) will be required to progress this programme through its development and business case stages, assuming it is successful with programme entry. The DfT's RNEP is the most likely source for this early funding at the programme level. The next stages of this are Outline Business Case (OBC) and PACE stages 1 to 2 (likely focussed on some priority areas or routes to provide greater certainty over costs and associated funding requirement).

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56 See: Rail network enhancements pipeline - GOV.UK (www.gov.uk)

57 See: Levelling Up Fund: prospectus - GOV.UK (www.gov.uk)

58 See: UK Shared Prosperity Fund: pre-launch guidance - GOV.UK (www.gov.uk)

59 See: City Region Sustainable Transport Settlements: guidance for mayoral combined authorities - GOV.UK (www.gov.uk)

60 See: Apply for the Secure Stations Scheme - GOV.UK (www.gov.uk)

61 See: Access for All: funding to improve accessibility at rail stations - GOV.UK (www.gov.uk)

9 The Management Case

The Management Case demonstrates whether a proposal is deliverable. It outlines the governance structure, risk management, communications, and stakeholder management.

9.1 Purpose

The purpose of the management dimension of the business case is to demonstrate that robust arrangements are in place for the delivery, monitoring and evaluation of the scheme, including feedback into the organisation's strategic planning cycle.

Demonstrating that the preferred option can be successfully delivered requires evidencing that the scheme is being managed in accordance with best practice, subjected to independent assurance and that the necessary arrangements are in place for change and contract management, benefits realisation, and risk management.

The challenges are to:

- Manage the risks in the design, build, funding and operational phases of the scheme and put in place contingency plans;
- Deal with inevitable business and service change in a controlled environment; and
- Ensure that objectives are met, anticipated outcomes delivered, and benefits evaluated.

9.2 Governance

The key roles and responsibilities of groups that will work to manage and deliver the project are summarised in the table below:

Table 9.1: Key roles and responsibilities

Group/ role	Responsibilities	Attendees
Programme / Project Steering Group	• Liaise with the DfT and potential funders • Monitor project progress • Owners of project budget • Ultimate owners of risk • High level stakeholder management	• TfN Senior Officers • Network Rail Project Sponsor • Relevant Contractors • TfN Project Manager
Stakeholder Group	• Review risks with relevant stakeholders • Review programme and monitor progress. • Coordination and resolution of inputs from various stakeholders	• TfN Officers • Network Rail Project Sponsor • Stakeholders • TfN Project Manager
Programme / Project Delivery Group	• Plan individual and collective tasks • Identify evolving risks to the programme • Monitor delivery progress • Coordination of interface between Network Rail and TfN	• TfN Officers • Network Rail • Contractors • TfN Project Manager • Local/Regional authority partners

Coordination and management of the project will lie with the designated TfN Project Manager, the design and development of the project will also be coordinated by TfN, it will be overseen by the relevant persons from the Network Rail Project Team.

9.3 Risk Management Strategy

The production of a risk register forms an integral task associated with standard project management procedures that are followed by TfN. The risk register for the proposed project will

be reviewed regularly throughout the detailed design, procurement, construction, and post construction phases of the project as a standard item to be addressed by the Project Delivery Group. A summary of the top risks that have been identified for the proposed project at this stage are set out below:

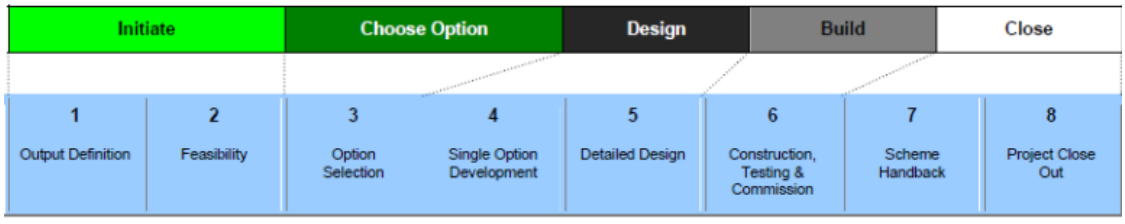
Table 9.2: Key project risks

Risk	Consequence	Mitigation	Likelihood	Impact
Delays during GRIP / PACE Process	Completion delayed. Possible cost increases / reduction in value delivered.	Programme acceleration opportunities to be reviewed throughout GRIP / PACE process	Medium	Medium
Long-term impacts of COVID-19 or Brexit lead to a de-prioritisation of infrastructure projects	BCR does not support continuation of the project in its present form.	Review DfT's latest guidance around COVID-19 planning	Low	Medium
Planning applications not approved	Failure to achieve approval at planning committees for proposals causes projects to be delayed or terminated	Thorough preparation of planning applications in dialogue with relevant officers and stakeholders	Low	High
Site specific feasibility and design work may reveal challenges and issues	Additional programme and project costs	Existing cost estimates have allowed for potential issues around difficult sites through additional costs and have included the highest levels of recommended risk / contingency	Medium	High
Lack of coordination of programme leads to inefficiencies and incoherency in delivery	Benefits are not delivered in the envisaged manner, and/or in an inefficient manner	Confirm regional priorities with partners through the Stations Strategy and develop overarching programme delivery team with all relevant partners	Low	Medium
Disparate funding sources with emphasis on different priorities	Enhancements not delivered in a consistent and coherent manner and/or delays in programme delivery	Development of proposed governance structure once indicative funding mechanisms and delivery routes have been agreed with partners	Medium	Medium

9.4 Assurance, approvals, and key milestones

In order to minimise and mitigate the risks associated with delivering projects that enhance or renew the operational railway, projects are subject to formal stage gate reviews that are held at varying points within the GRIP/PACE lifecycle. The stage gate review process examines a project at critical stages in order to provide assurance that it can successfully progress to the next stage.

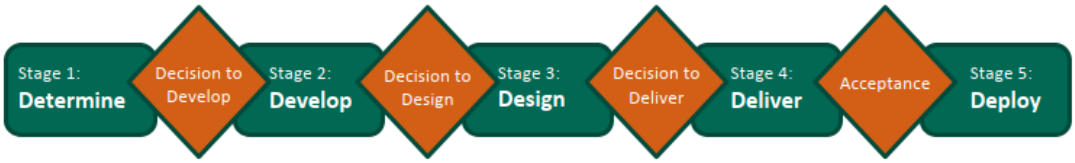
Figure 9.1: GRIP/PACE Process



Source: Network Rail

The Rail Network Enhancements Pipeline[62] (RNEP) promotes a complementary decision-making process to integrate the business case and GRIP / PACE processes. The SOBC is an expected input to the 'Decision to Develop' alongside GRIP / PACE (Stage 2) feasibility.

Figure 9.2: Rail Network Enhancements Pipeline Process



Source: Department for Transport

The DfT has recently issued the 'Better Value Rail Toolkit'[63] which has a pause or proceed plan embedded within it. This provides a checklist for consideration of whether to advance the project beyond 'Decision to Develop'. Key factors include:

- Confirmation that the need or rationale for the intervention remains, e.g. the reversal of adverse social and economic outcomes are still present;
- Other projects or programmes have not been advanced which would delivery this project's objectives;
- A material change means that the VfM as currently indicated is likely to be (very) adversely affected and mitigating actions cannot reverse this;
- Affordability constraints mean that funding is highly unlikely;
- The identification of constraints or issues which mean the project outputs could not be delivered; and
- A lack of political and/or stakeholder support.

The indicative milestones for the full, Northern England wide, programme are:

Table 9.3: North England Station Enhancements Programme - Key Project Milestones

Milestone	Timescales
Completion of SOBC	Q1 2022
Approval of SOBC	Q2 2022
Development of Programme OBC	Q3 2022-Q1 2023
Completion of PACE 1 to 2 studies (rolling)	Q2 2023-Q4 2028
Completion of PACE 3 to 4 studies (rolling)	Q1 2024-Q4 2030
Development of Programme FBC	Q3 2023-Q4-2024
PACE Stage 5-8 stages (rolling)	2025-2031
Construction works complete	2032
Programme Complete and full handover	2033

9.5 Communications and Stakeholder Management

TfN has actively engaged with regional and local authority stakeholders throughout the development of this SOBC and will continue to do so more widely as the programme, and

62 See: Rail network enhancements pipeline - GOV.UK (www.gov.uk)

63 See: Home - Better Value Rail Toolkit

individual projects therein, develop(s). The following table summarises the key stakeholders which have been identified and their role in relation to the proposed project:

Table 9.4: Key Stakeholders

Organisation	Role
Combined Authorities	Co-ordinating transport, strategy, planning and delivery services across the city regions, and sponsors of rail network enhancements
Department for Transport (DfT)	Dept. responsible for transport network- potential part funder through RNEP
Ministry for Housing, Communities and Local Government (MHCLG)	Dept. responsible for multiple funding streams which may be applicable for the investment costs
Network Rail	Authority for rail infrastructure, and delivery partner
Train operating companies	Station facility operators. Employ station staff (under current model)
Bus operators	Service stations with bus routes
Transport for the North	Client and planning authority
Local highway authorities	Consultee
Local planning authorities	Consultee
Public & Residents	Consultee

A communications strategy will be developed by TfN to identify stakeholders and ensure continued engagement with them throughout the life of the project. This communications strategy will provide details on how engagement will take place internally and how external organisations should be kept informed about progress with the project.

TfN will develop an effective multi-media communication campaign for the duration of the latter phases of the proposed project notably during design, construction and beyond. The objective will be to advise local stakeholders of what is happening and to help reinforce the collaborative nature of the emerging project.

This communications campaign will be supplemented by a marketing strategy to publicise the new rail station enhancements, describing the travel opportunities, both for commuting purposes to work as well as education, leisure, healthcare, and shopping purposes.

10 The Commercial Case

The Commercial Case determines whether the programme is commercially viable, presenting evidence on risk allocations and transfer, contract timescales, and implementation timescales. At SOBC stage, the Commercial Case is presented as a high-level outline, which will be further developed as the programme becomes more defined, and the decision-making process reaches the Outline Business Case (OBC) Stage.

10.1 Purpose

The purpose of the commercial dimension of the business case is to demonstrate that the preferred option will result in a viable procurement and a well-structured deal between the public sector and its service providers.

Demonstrating a viable procurement requires an understanding of the market place, knowledge of what is realistically achievable by the supply side, and research into the procurement routes that will deliver best value to both parties.

Putting in place a well-structured deal requires a clear understanding of the services, outputs, and milestones required to be achieved and of how the potential risks in the Design, Build, Funding and Operational (DBFO) phases of the programme and its projects can best be allocated between the public and private sectors and reflected in the charging mechanism and contractual arrangements.

The challenge for the public sector is to be an ‘intelligent customer’ and to anticipate from the outset how best public value can continue to be secured during the contract phase in the face of inevitable changes to business, organisational and operational requirements.

10.2 Outline Procurement Strategy and Options

The development and delivery approach will depend on who the ‘client’ is (who is paying) and the specific station enhancements. There are several options for developing and delivering the station enhancements. For the purposes of the SOBC three alternative options for development and delivery have been identified, as described below:

1. Stations/routes assessed with the strongest value for money: The SOBC is submitted to RNEP for funding.
2. Stations where local knowledge will be required in order to develop a strong business case: developed by Partners with TfN support.
3. Remaining stations: to be developed locally and seek additional funding from sources identified in the Financial Case (Section 8.5).

Considering each option in more detail:

1. A station/route/area-specific SOBC will be required to be used to seek funding for the OBC/FBC etc. via RNEP. The ‘funder’ of the SOBC (assumed to be TfN but could be a Local Authority or number of authorities for a line of route) would commission a multi-disciplinary consultant to both develop the physical station enhancements e.g. new foot bridge and lifts and to develop (civils, cost estimates etc) the 5-case SOBC. If funding for the OBC/FBC and delivery were to come via RNEP the client (funder) would become DfT and it’s the usual route that DfT commissions Network Rail for the development and delivery of the scheme.
2. This option could be led by a local authority, as per option 1, commissioning a multi-disciplinary consultant for the SOBC, however improvements outside the station boundary

could be developed separately by the local authority and fed into the SOBC, e.g. highway improvements, moving bus stops, new bus waiting shelters, dropped kerbs etc.
The OBC/FBC/delivery funding could be via RNEP or another funding source. If via RNEP, then development and delivery would be as per option 1, however the local improvements not on railway land could be directly contracted and paid for by the local authority and counted as the 'local contribution'. If the delivery funding is not via RNEP the local authority could decide to either commission Network Rail for development and delivery, or directly commission the work itself and 'manage' the range of contracts that will be required e.g. with consultants for the development, with contractors for the delivery, and with Network Rail for Asset Protection.

3. Local development would be led by the local authority or TOC developing the scheme proposal and submitting to funding sources such as Access for All, where a high-level/light touch approach SOBC/application form would be required. If funded via Access for All (e.g. lifts) then it is usual for DfT to commission Network Rail to develop and deliver. Access for All mid-tier funding is awarded directly to the Local Authority or TOC who can then either commission Network Rail (unlikely as Mid-Tier funding is less than £1m) or, more likely, ask the SFO to deliver works within the station lease area under a grant/funding agreement and the Local Authority to directly commission/deliver works outside the station lease area.

10.3 Service requirements and outputs

The principal aim of the programme is to provide a programme of station enhancements across Northern England which raises standards to a more consistent and equitable level. It doing so it seeks to directly address a range of national, regional, and local priorities for the economy, society, and the environment, and, while doing so, address the needs of the user while generating a financial surplus to the rail industry which can be used to reduce net public subsidy.

The outputs proposed are multi-faceted, reflecting that enhancements at an individual station, or in a specific area or on a specific route, are best considered holistically in order to maximise VfM and beneficial impact. The user needs addressed are:

- Information;
- Inclusivity and accessibility;
- Security;
- Comfort;
- First/Last Mile connectivity; and
- Amenities.

The individual enhancements within these needs would see provision of, or upgrade to the following assets:

- Customer Information Screens (CISs) on platforms and in entrance/exit areas;
- Community noticeboards;
- Public Address (PA) systems;
- Staff;
- Ticketing facilities, e.g. vending machines or a booking office;
- Help points with induction loops et al;
- CCTV within the station and surrounding area;
- Lighting;
- Shelters;

- Seats;
- Toilets;
- Step free access;
- Cycle parking;
- Signage;
- Urban realm treatment in the station curtilage and adjacent areas;
- Provision of buildings and structures, including gateway treatment for surrounding places and communities;
- Information on onward connections;
- Taxi rank provision;
- Kiss & Ride provision;
- Wi-fi;
- Retail facilities, including food and drink;
- Phone charging; and
- Community spaces.

Individual outputs for a particular station are naturally dependent on current asset provision (as summarised from a new asset register for the region in Section 4).

10.4 Risk allocation

Risk allocation will depend on the procurement method chosen. Standard construction contracts will be used. The intent is to reduce risks as far as possible, and to allocate risks to the party best able to manage them.

10.5 Charging mechanism

Other than the capital costs of the works, there will also be an impact on the following:

- Additional operating costs such as electrical power
- Costs of additional station staff
- Maintenance and renewal costs for additional station infrastructure
- Maintenance and renewal costs for additional off-station infrastructure.

These costs are capitalised in this SOBC, but the funding will need to be passed to the relevant organisations such as station facility operators and highway authorities.

10.6 Key contractual arrangements

Key contracts are foreseen as follows:

- Between funding organisations and TfN;
- Between TfN and/or local/regional partners and delivery organisations;
- Between TfN and SFOs;
- Between TfN and local authorities (as highway authorities)

Contractual frameworks will need to be created where these do not exist already.

10.7 Personnel implications

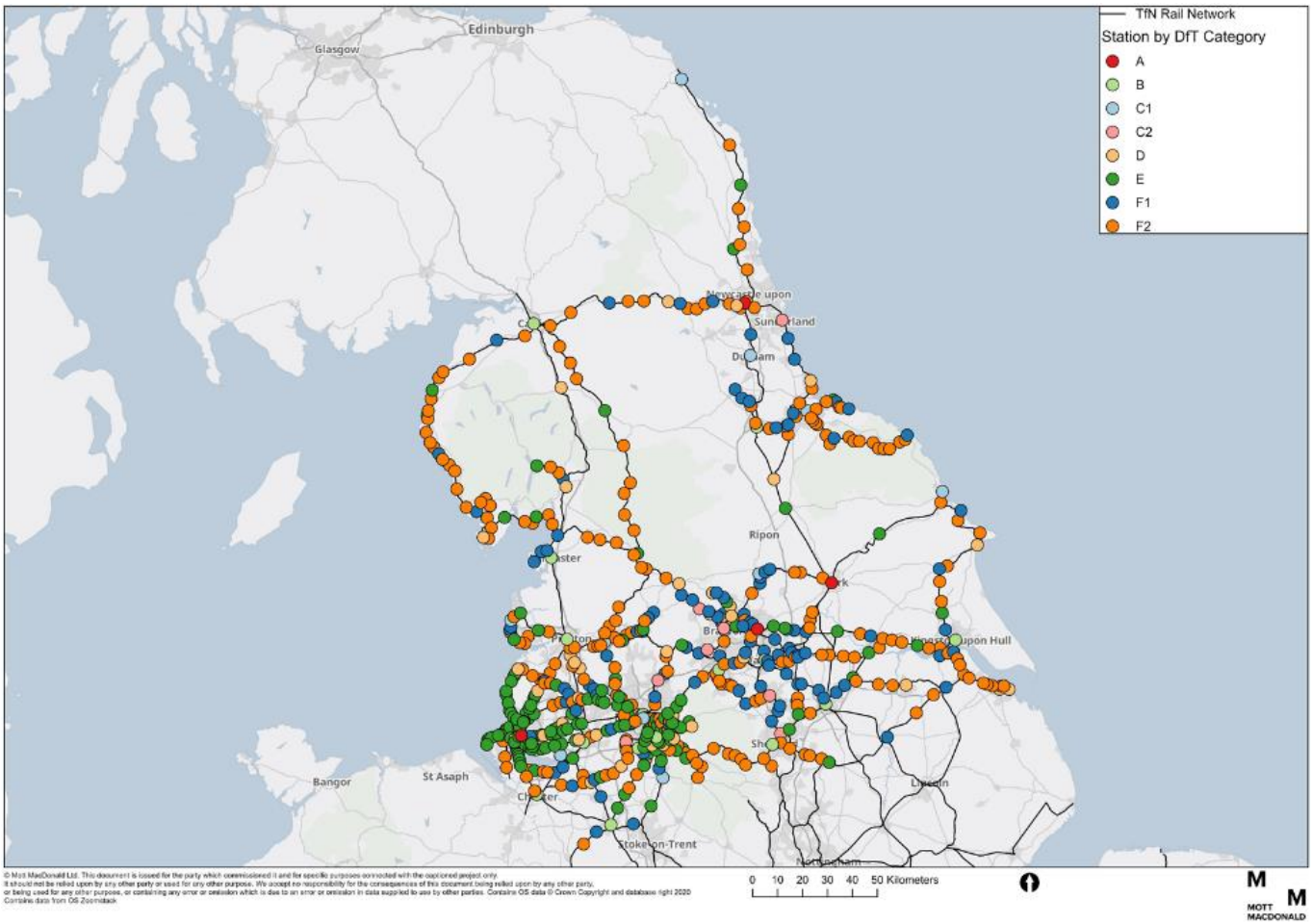
Additional personnel will be needed as follows:

- Temporary project management staff.

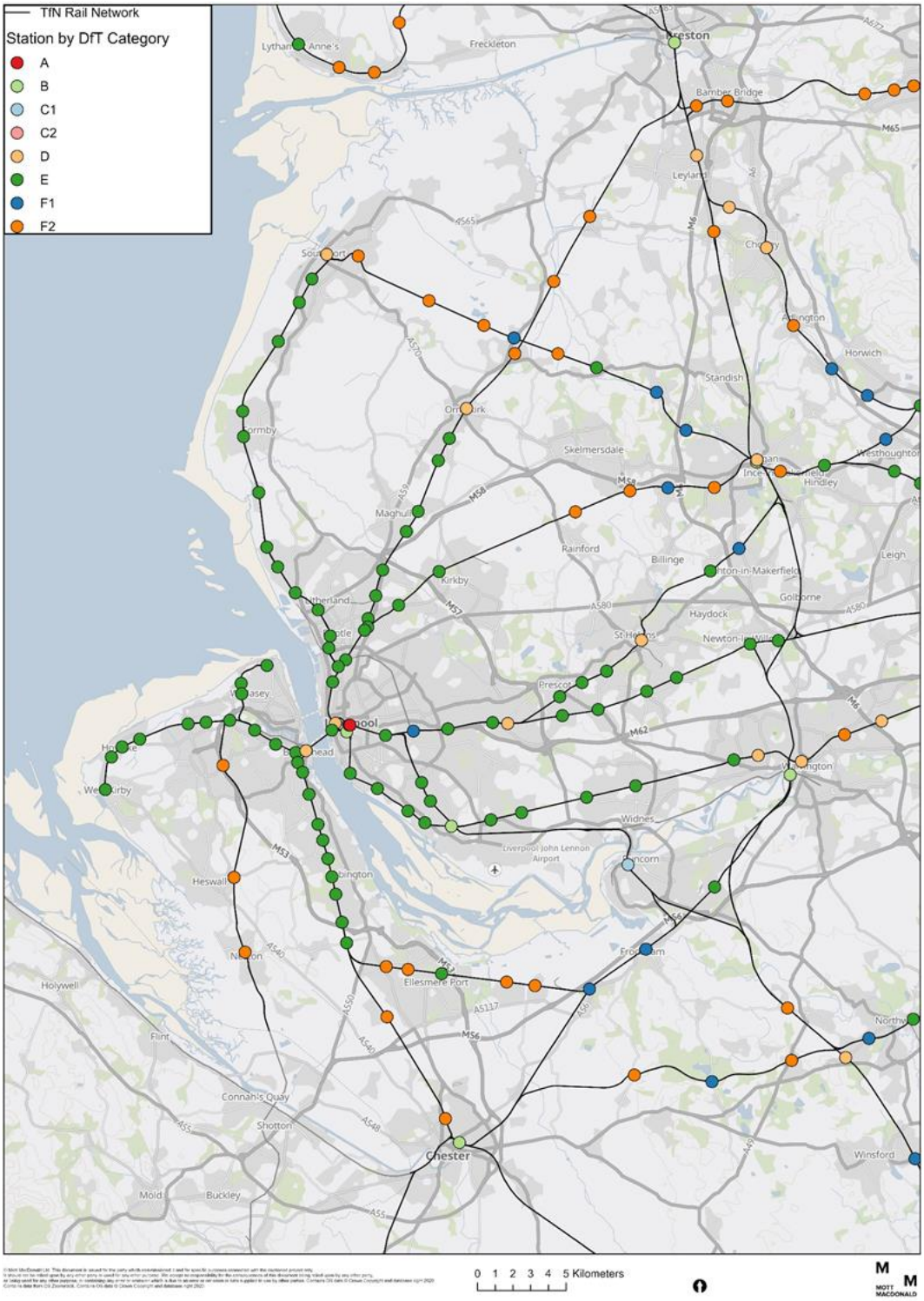
11 Appendices

A. Maps

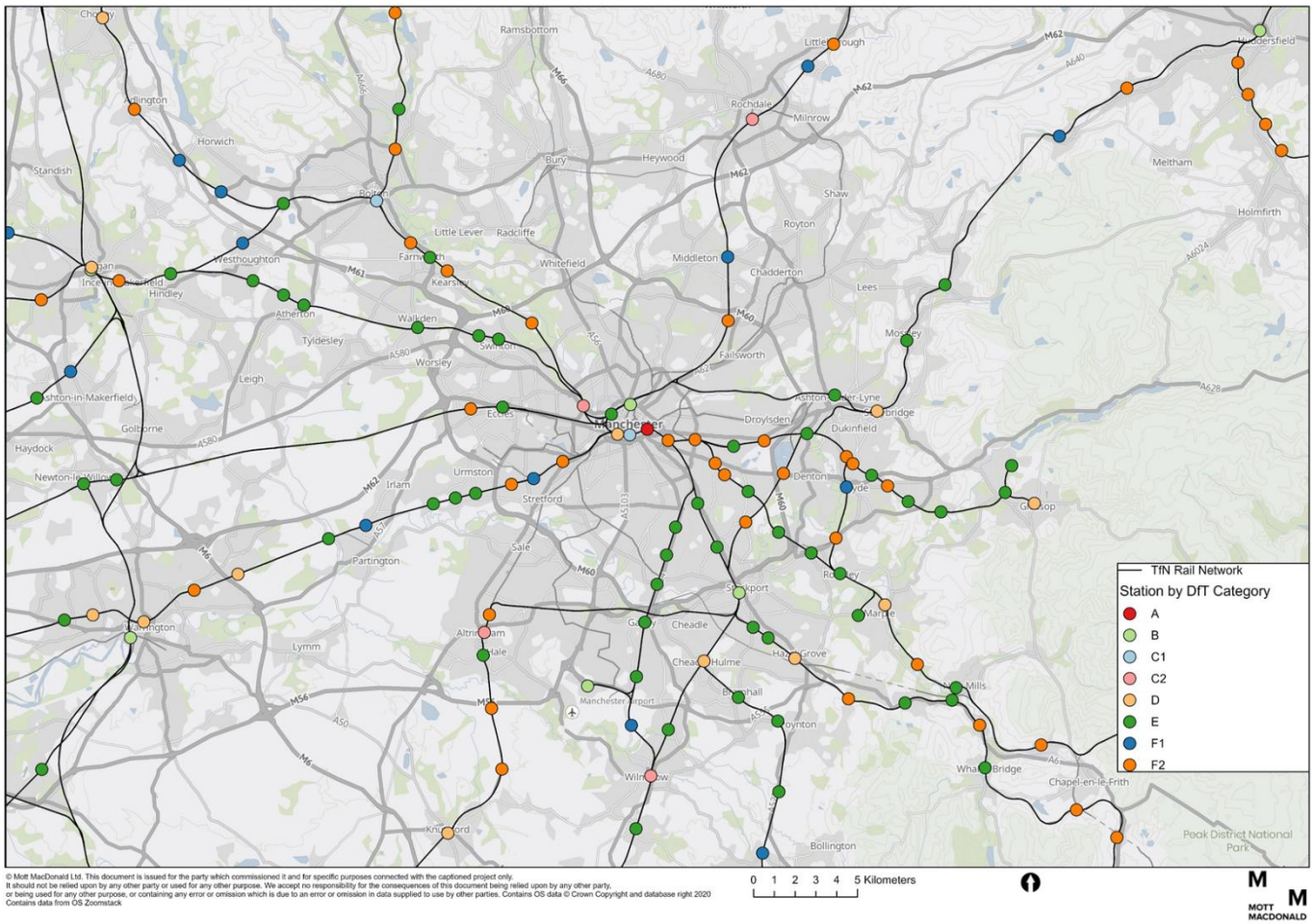
Stations by DfT Category – Northern England



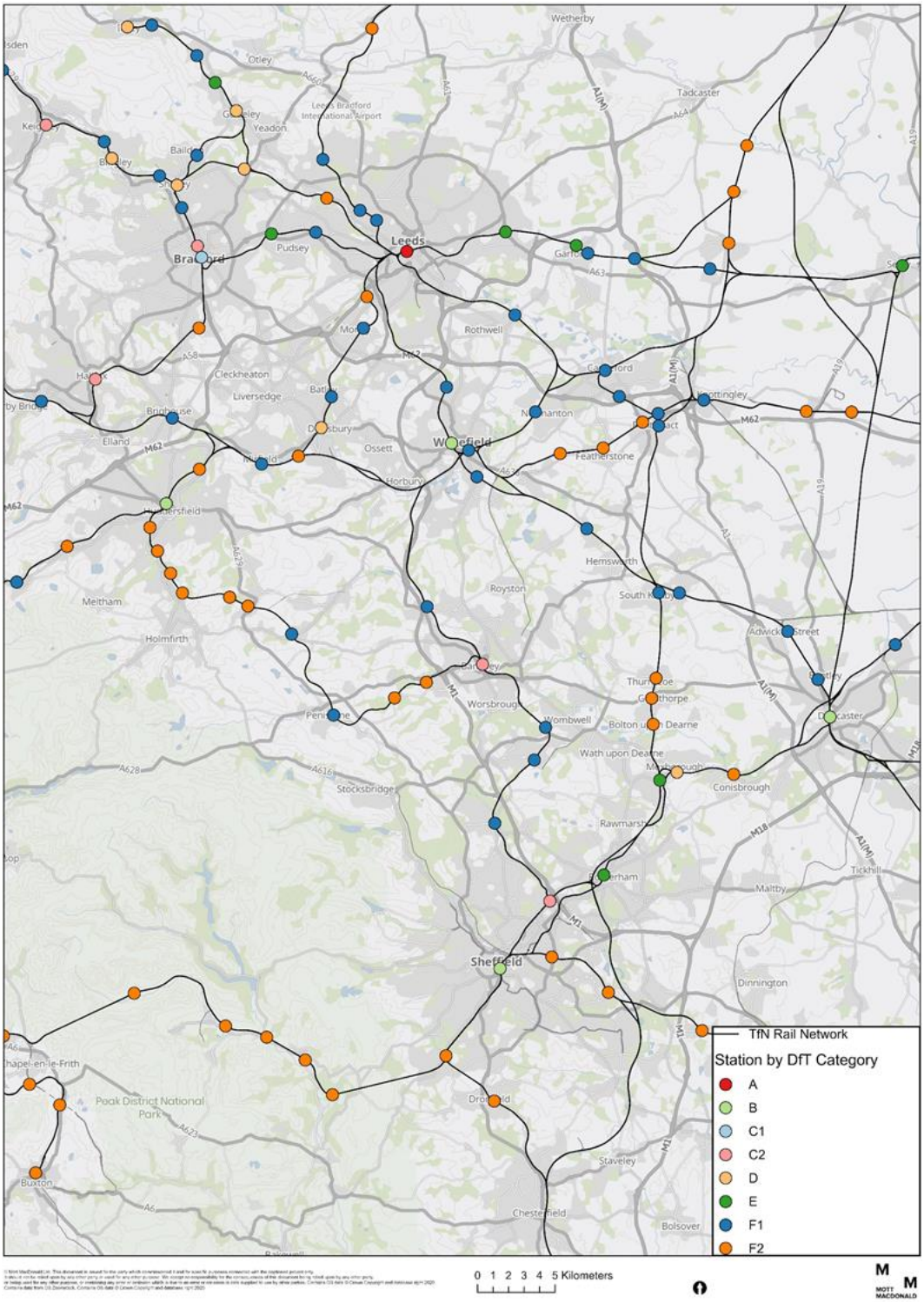
Stations by DfT Category – Merseyside



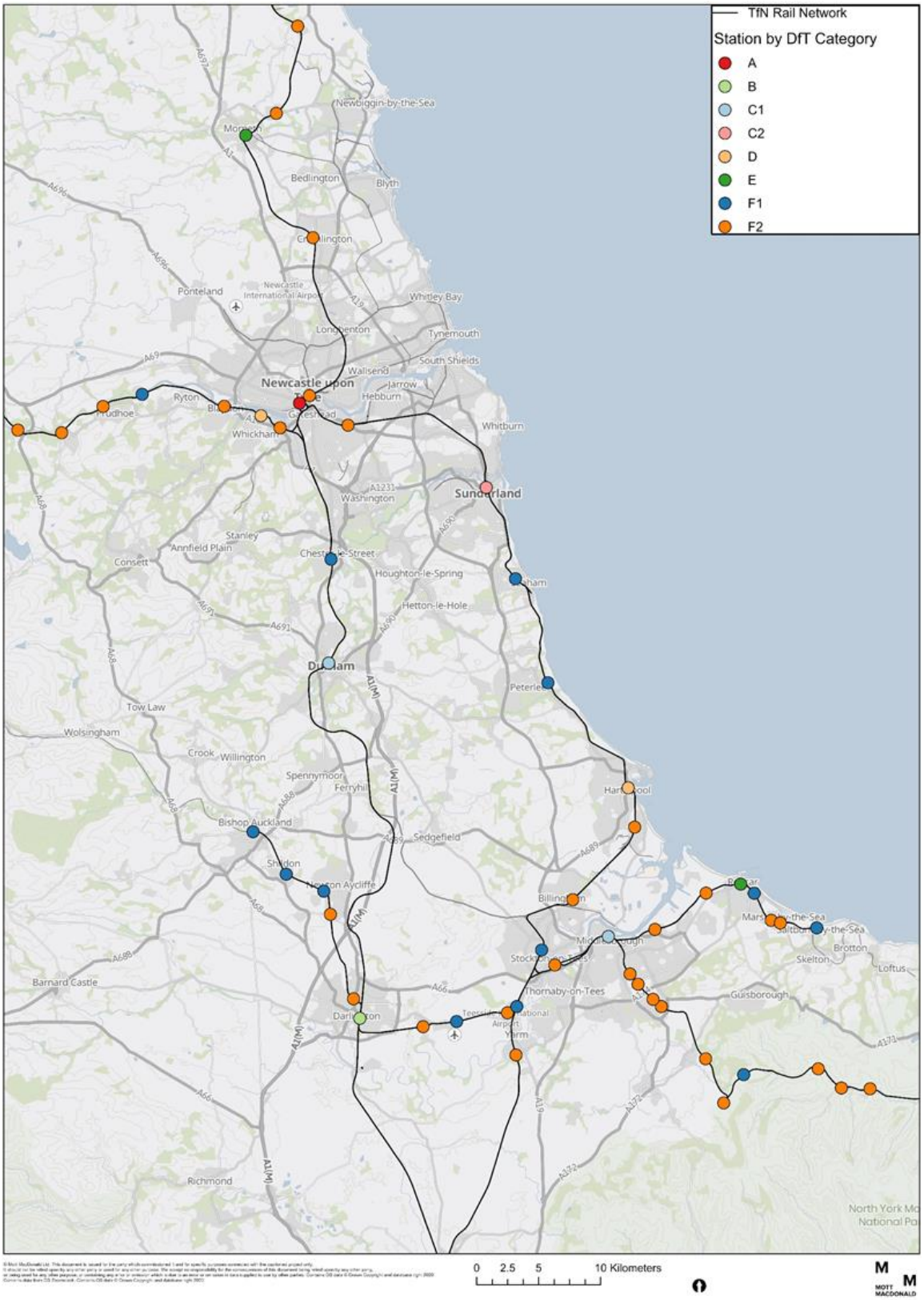
Stations by DfT Category – Greater Manchester



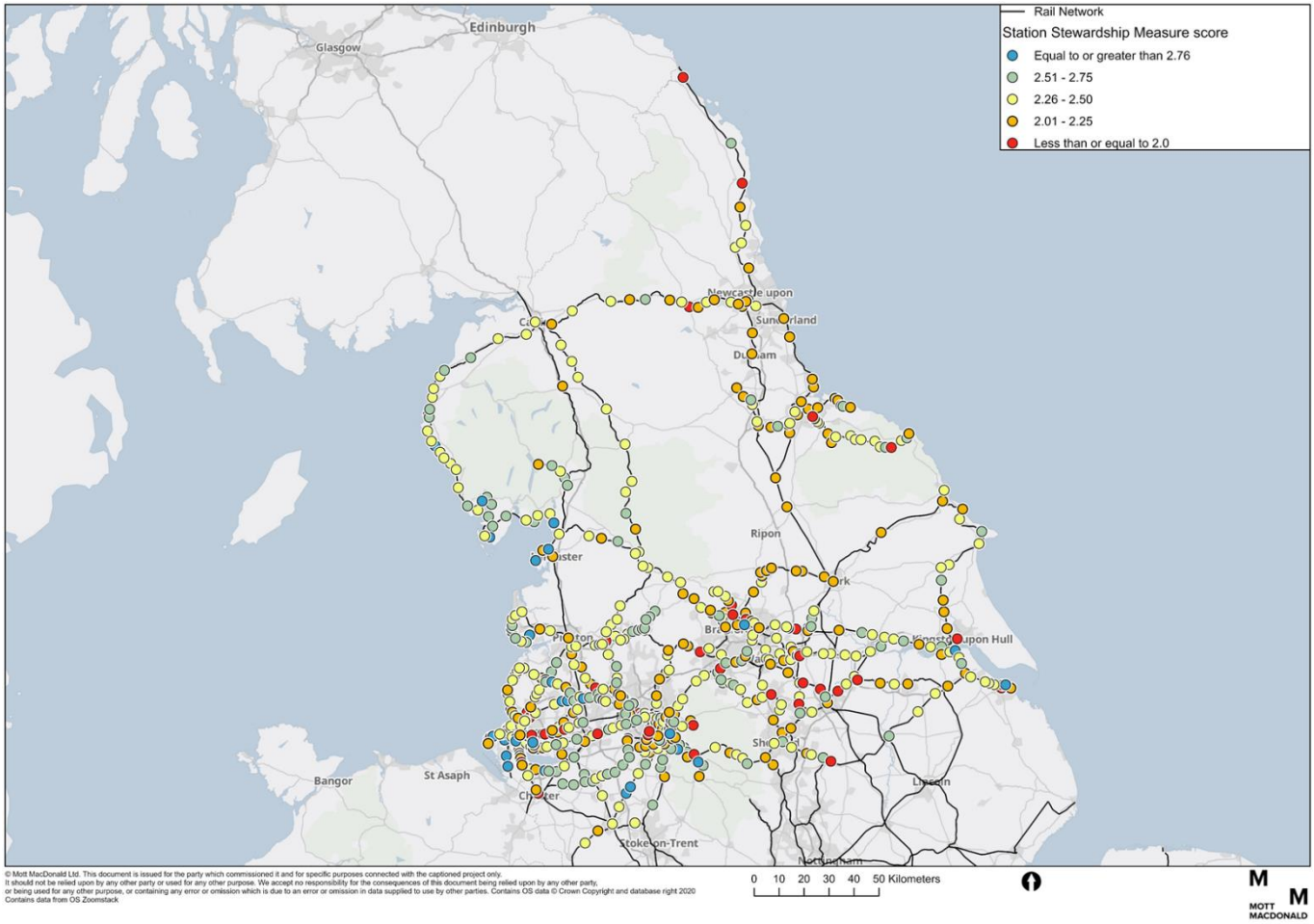
Stations by DfT Category – Leeds, Bradford, Sheffield



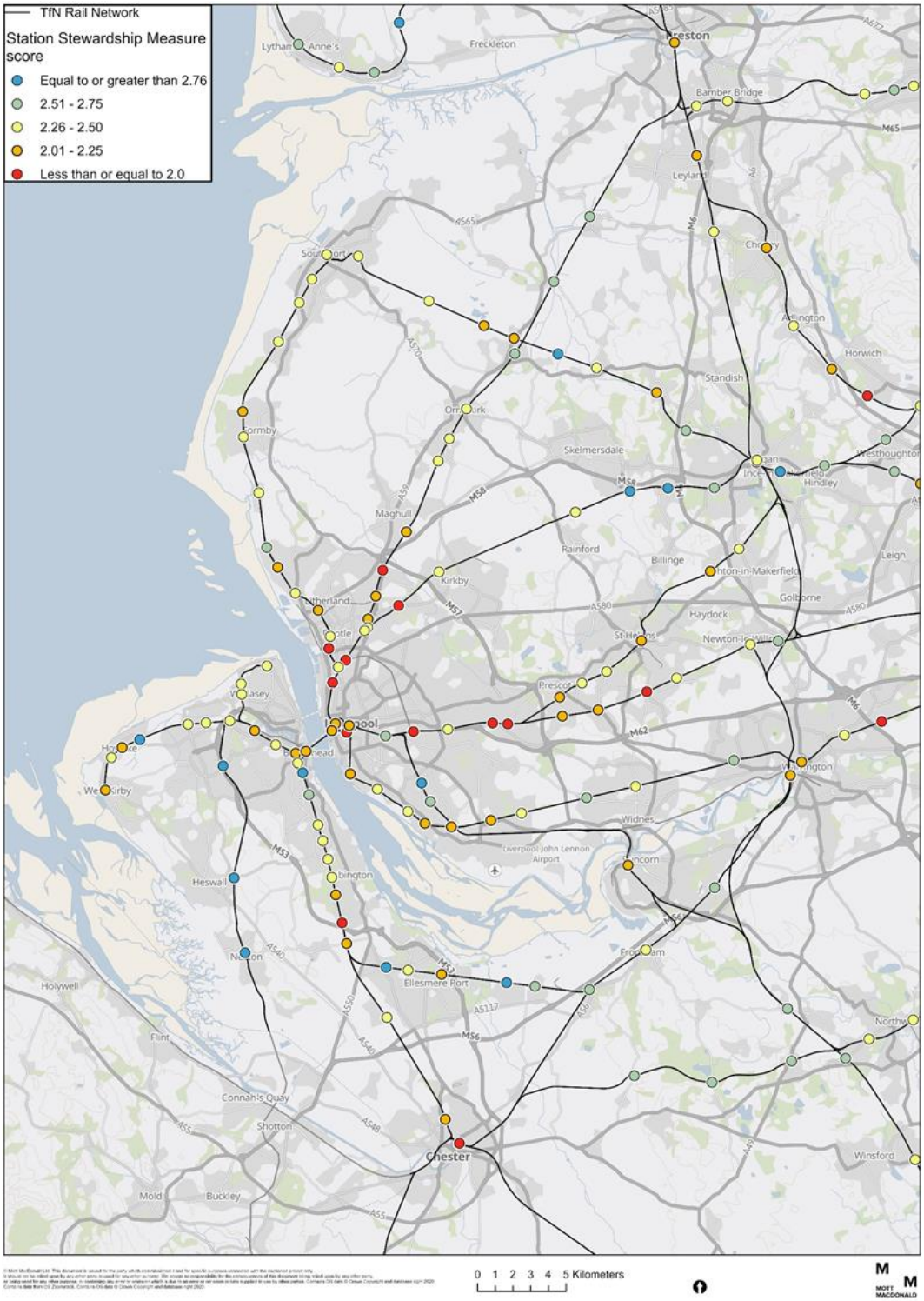
Stations by DfT Category – Tyne Tees & Tees Valley



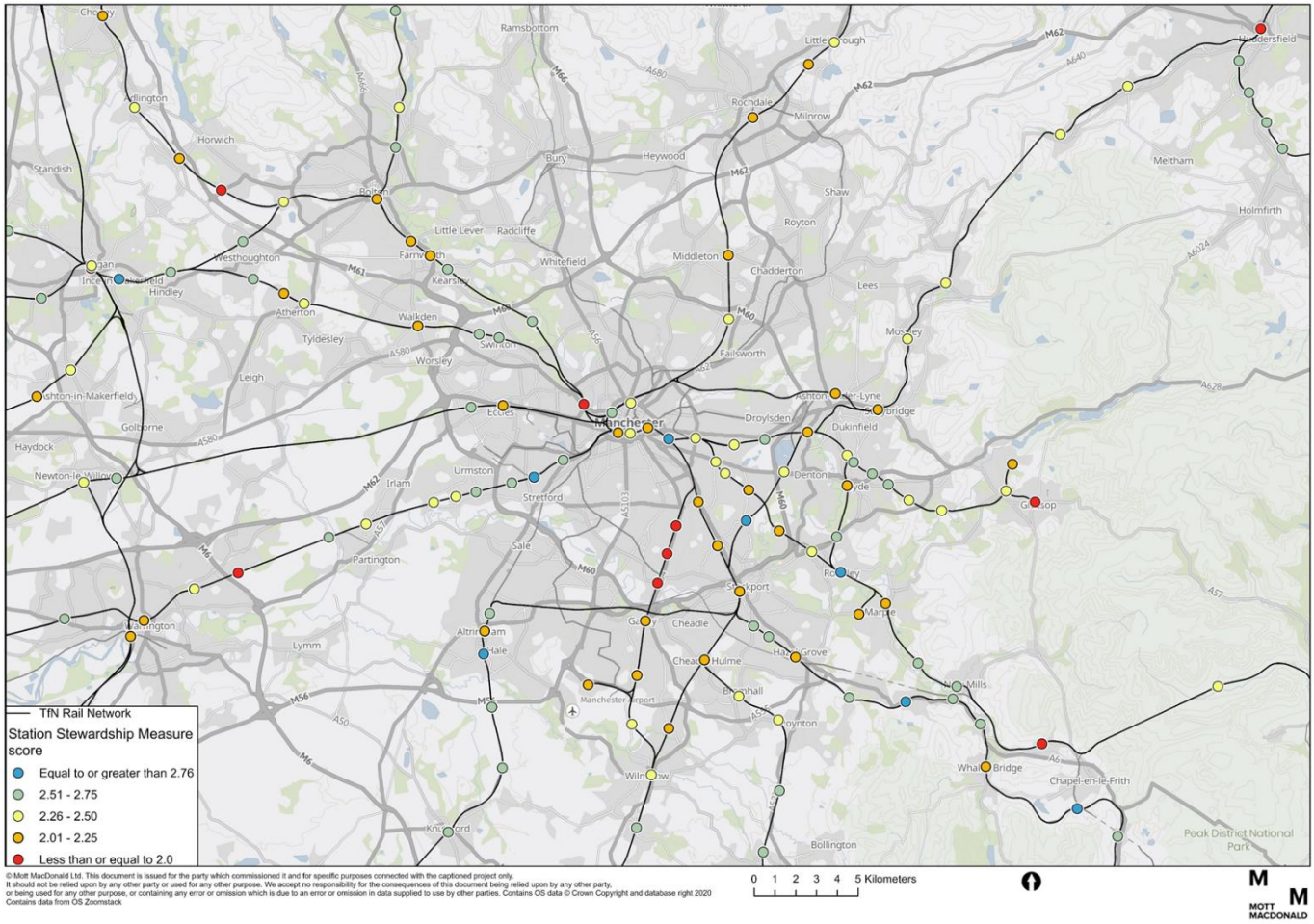
Station Stewardship Measure Score – Northern England



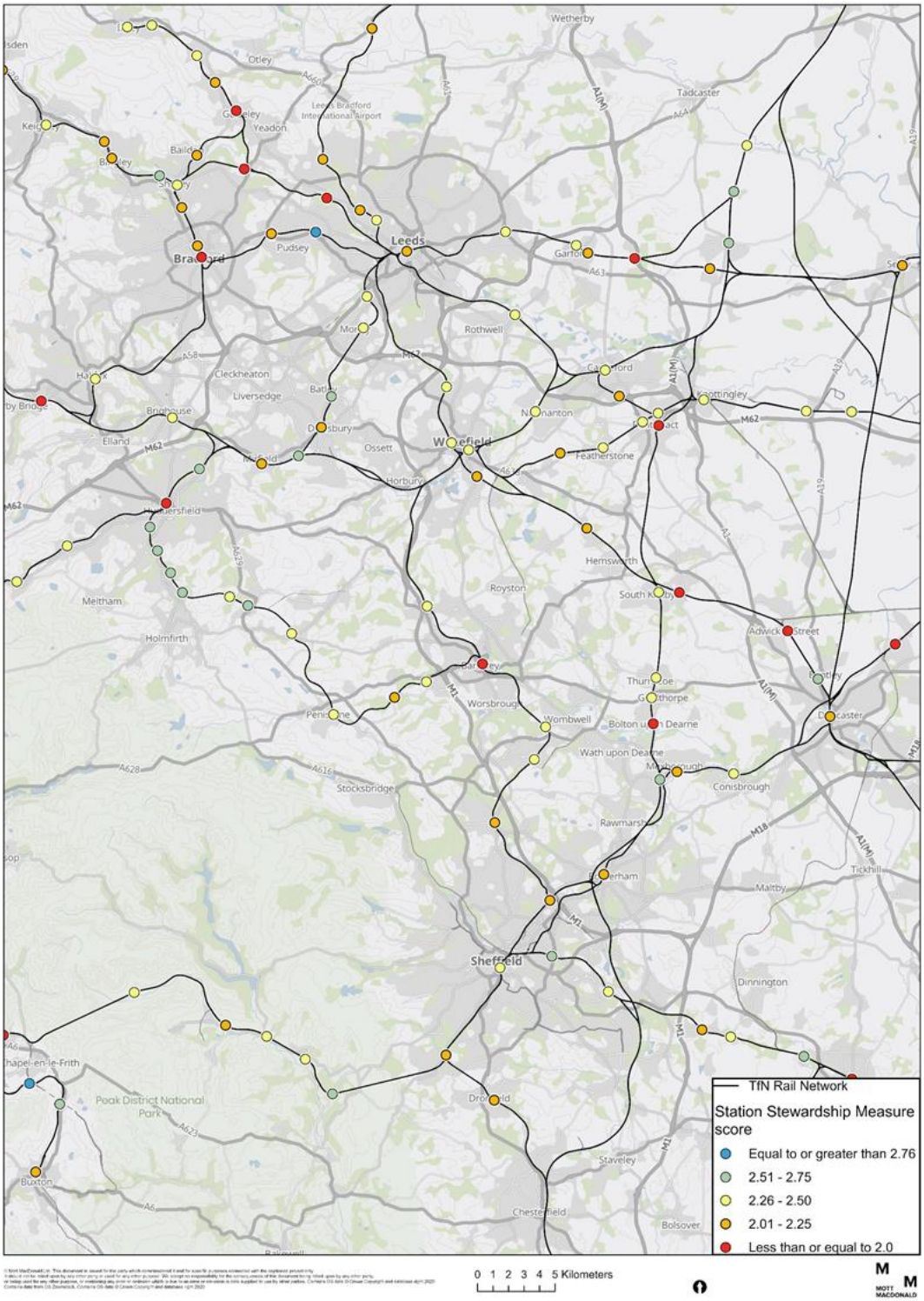
Station Stewardship Measure Score – Merseyside



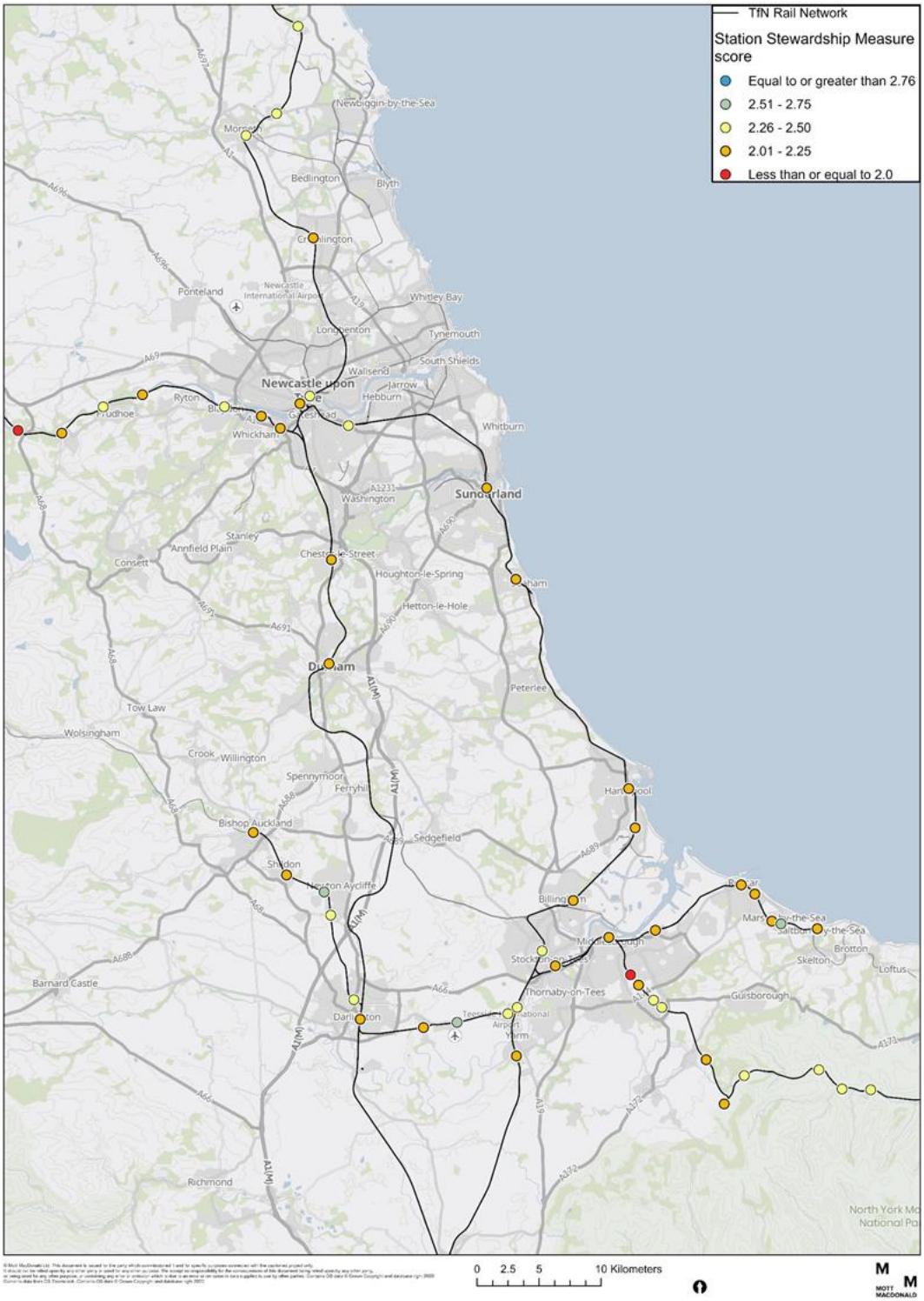
Station Stewardship Measure Score – Greater Manchester



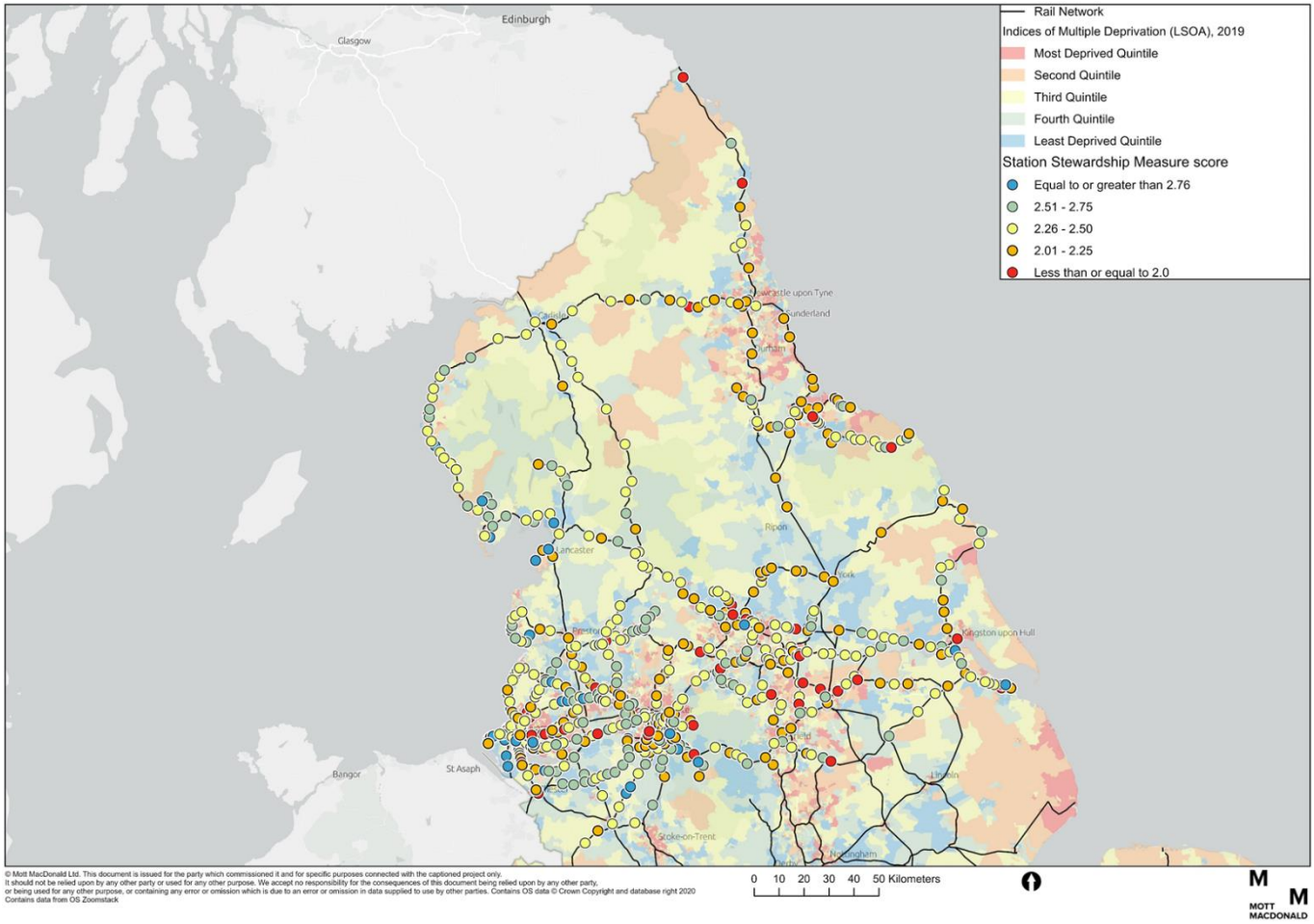
Station Stewardship Measure Score – Leeds, Bradford, Sheffield



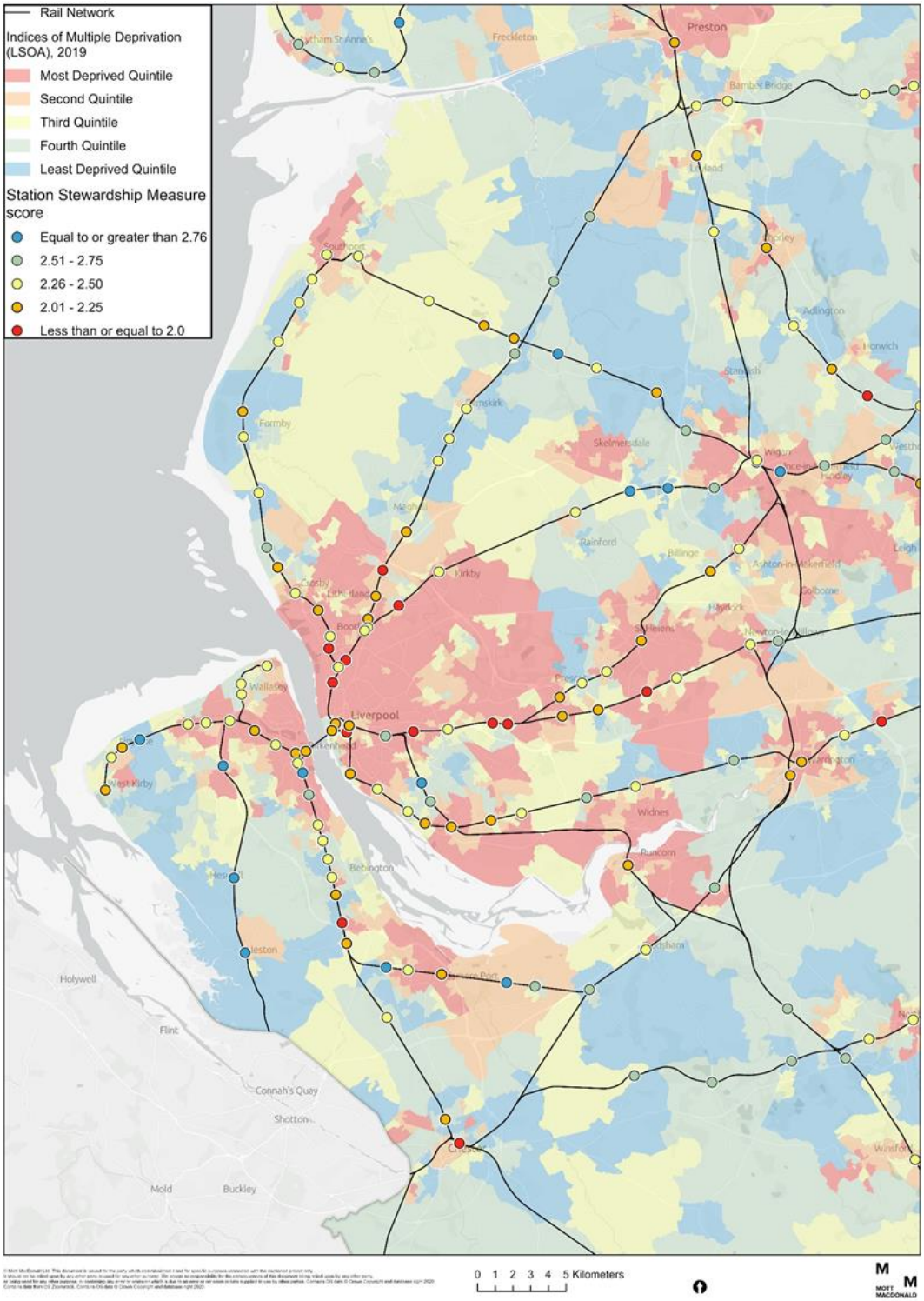
Station Stewardship Measure Score – Tyne Tees & Tees Valley



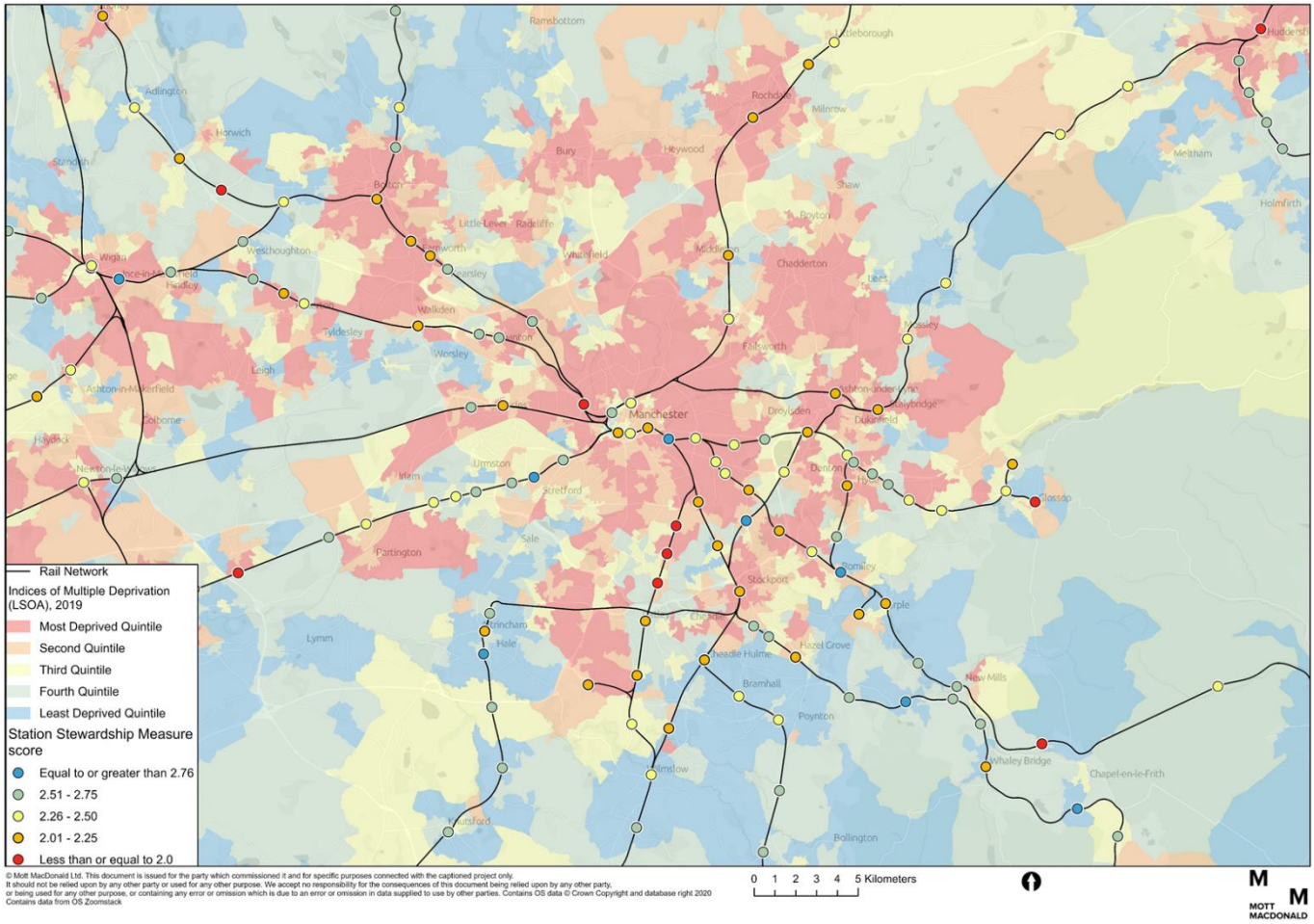
IMD Overlayed with Station Stewardship Measure– Northern England



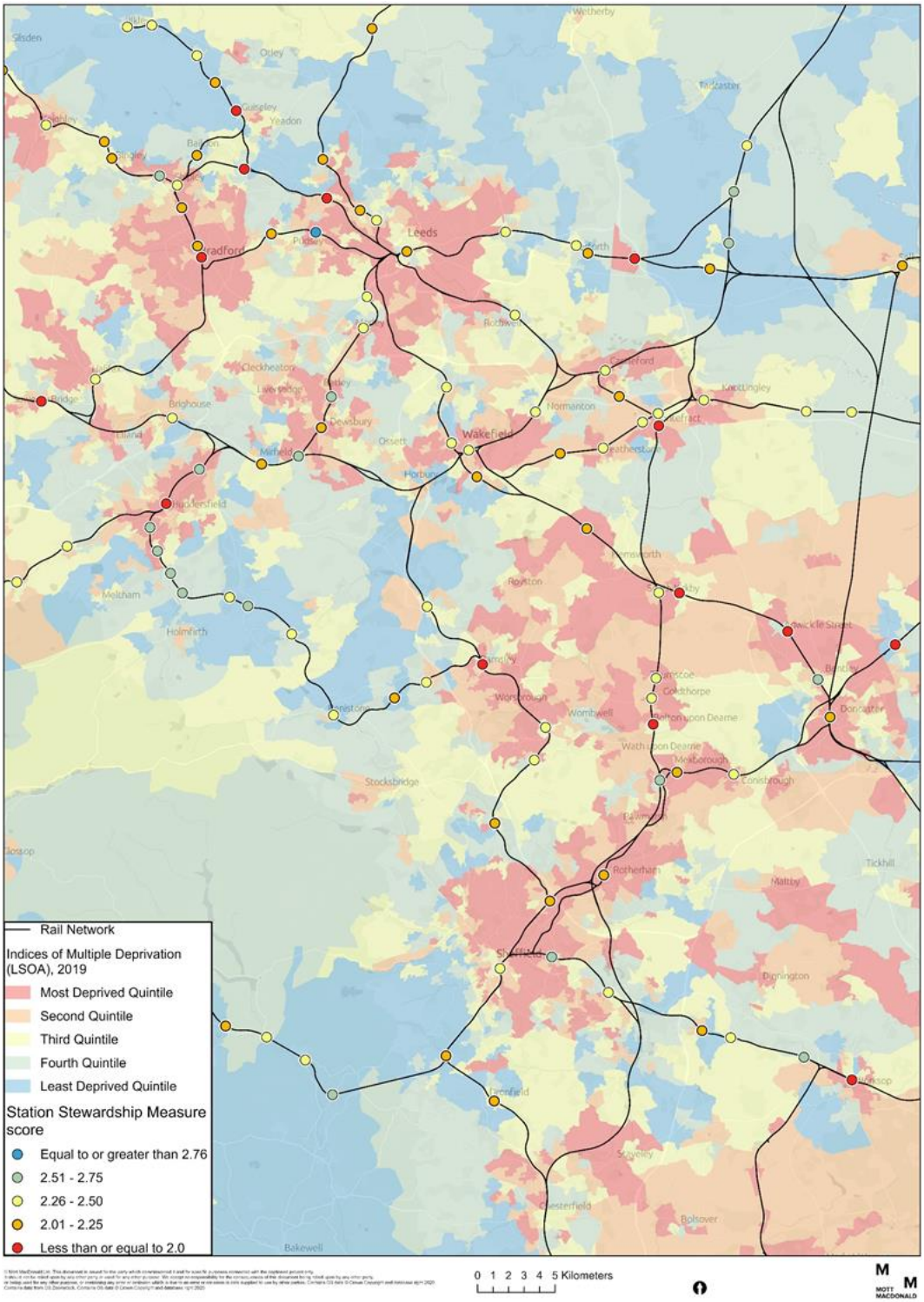
IMD Overlayed with Station Stewardship Measure – Merseyside



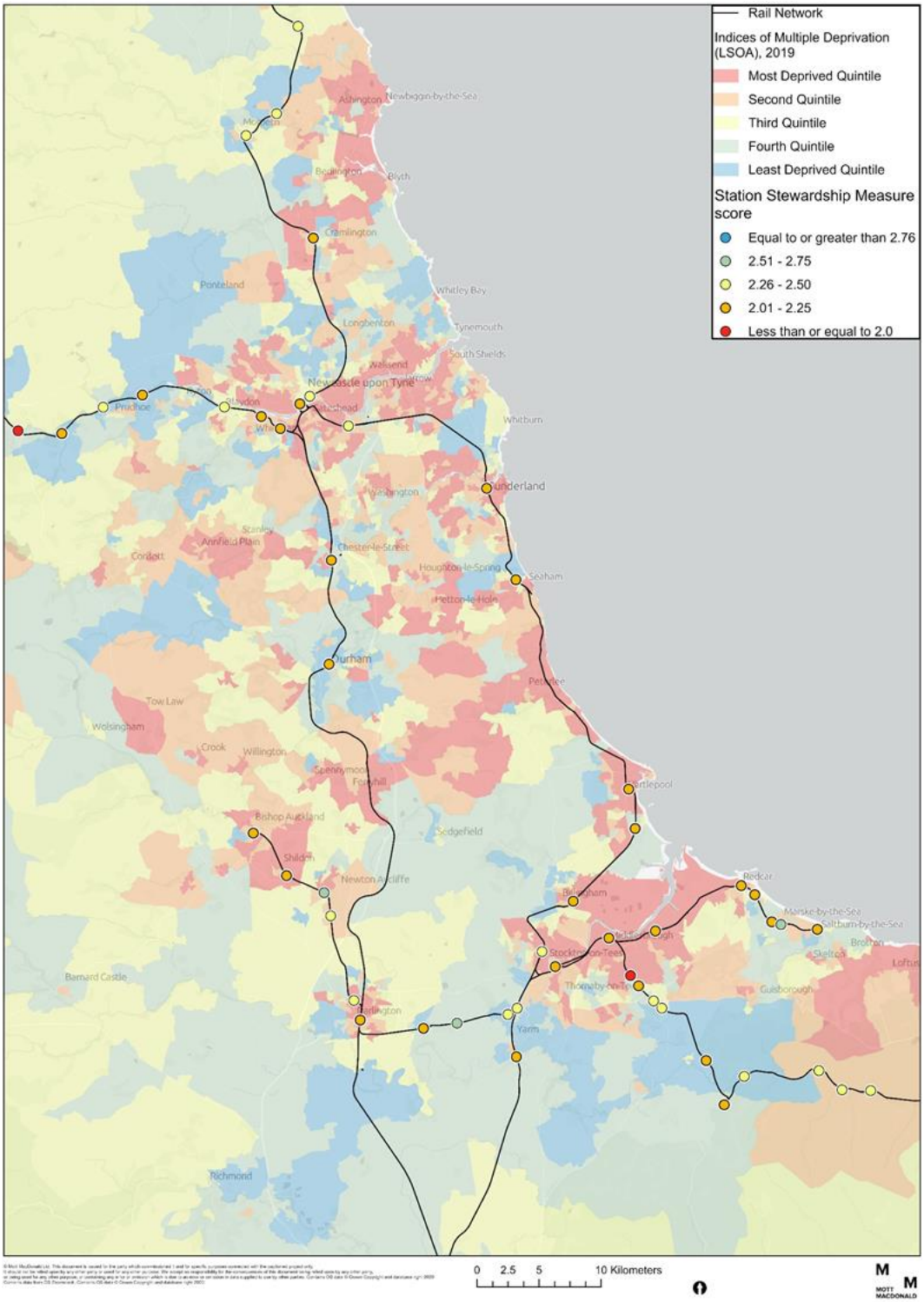
IMD Overlayed with Station Stewardship Measure – Greater Manchester



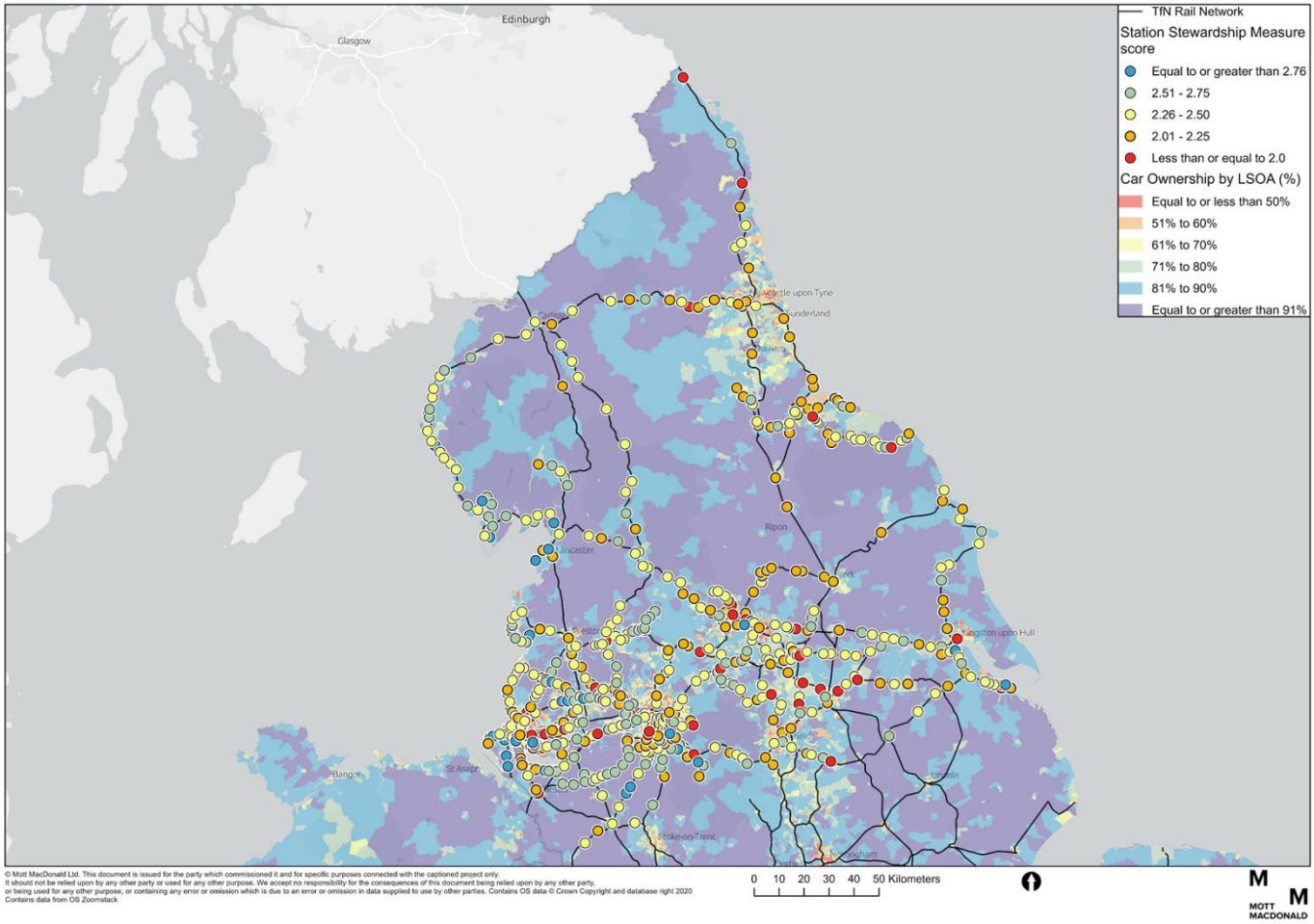
IMD Overlayed with Station Stewardship Measure – Leeds, Bradford, Sheffield



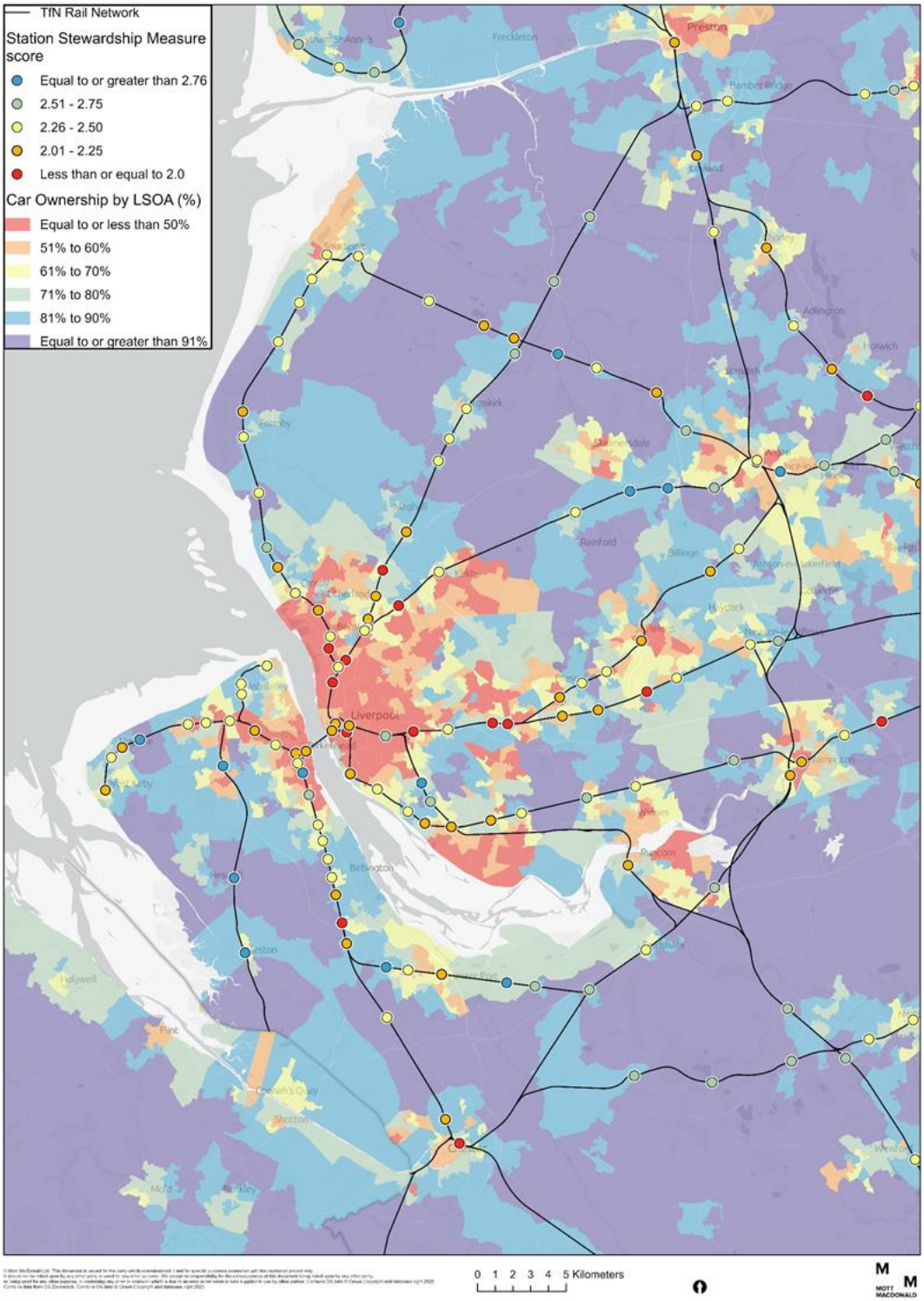
IMD Overlayed with Station Stewardship Measure – Tyne Tees & Tees Valley



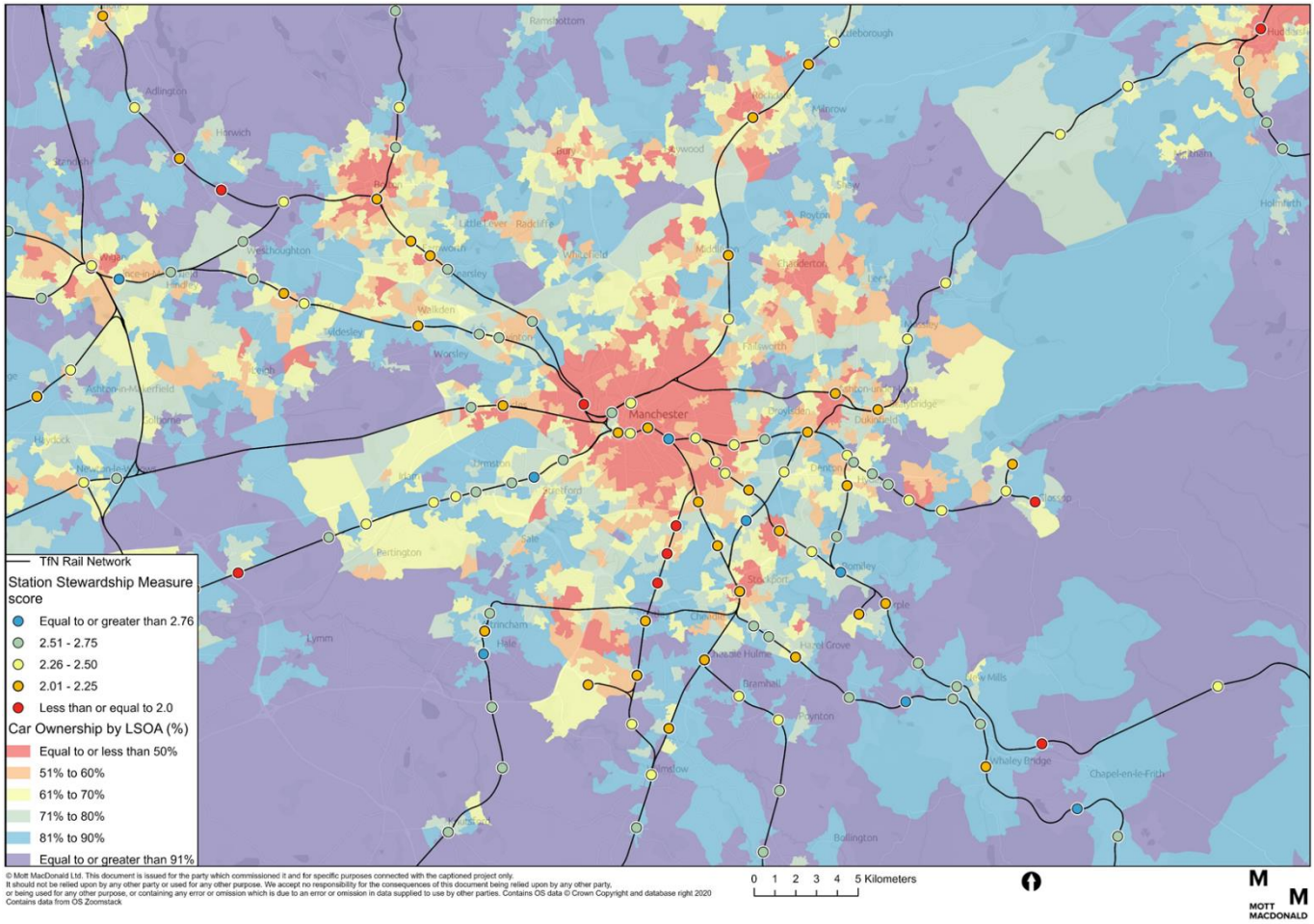
Car Ownership Overlayed with Station Stewardship Measure – Northern England



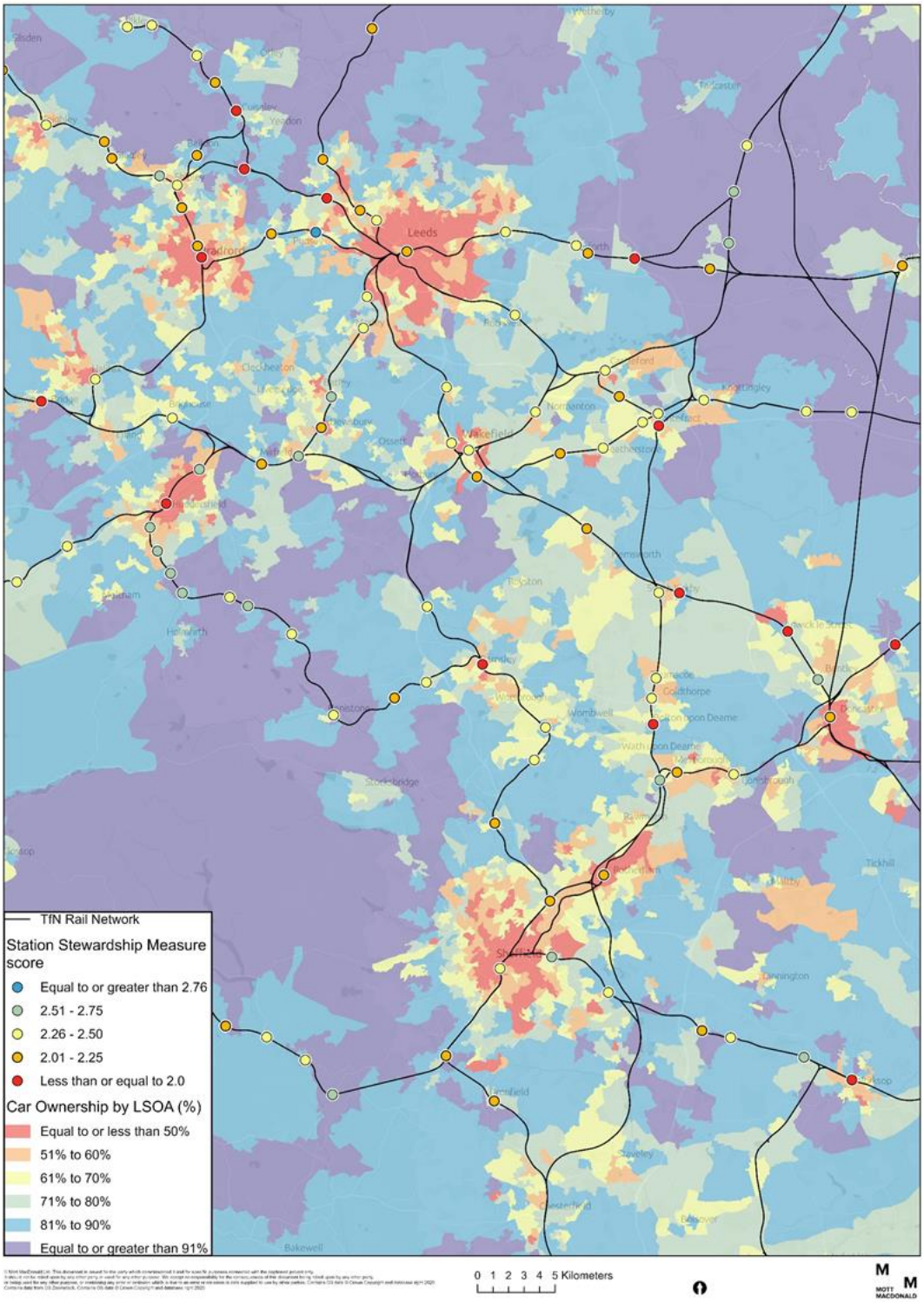
Car Ownership Overlayed with Station Stewardship Measure – Merseyside



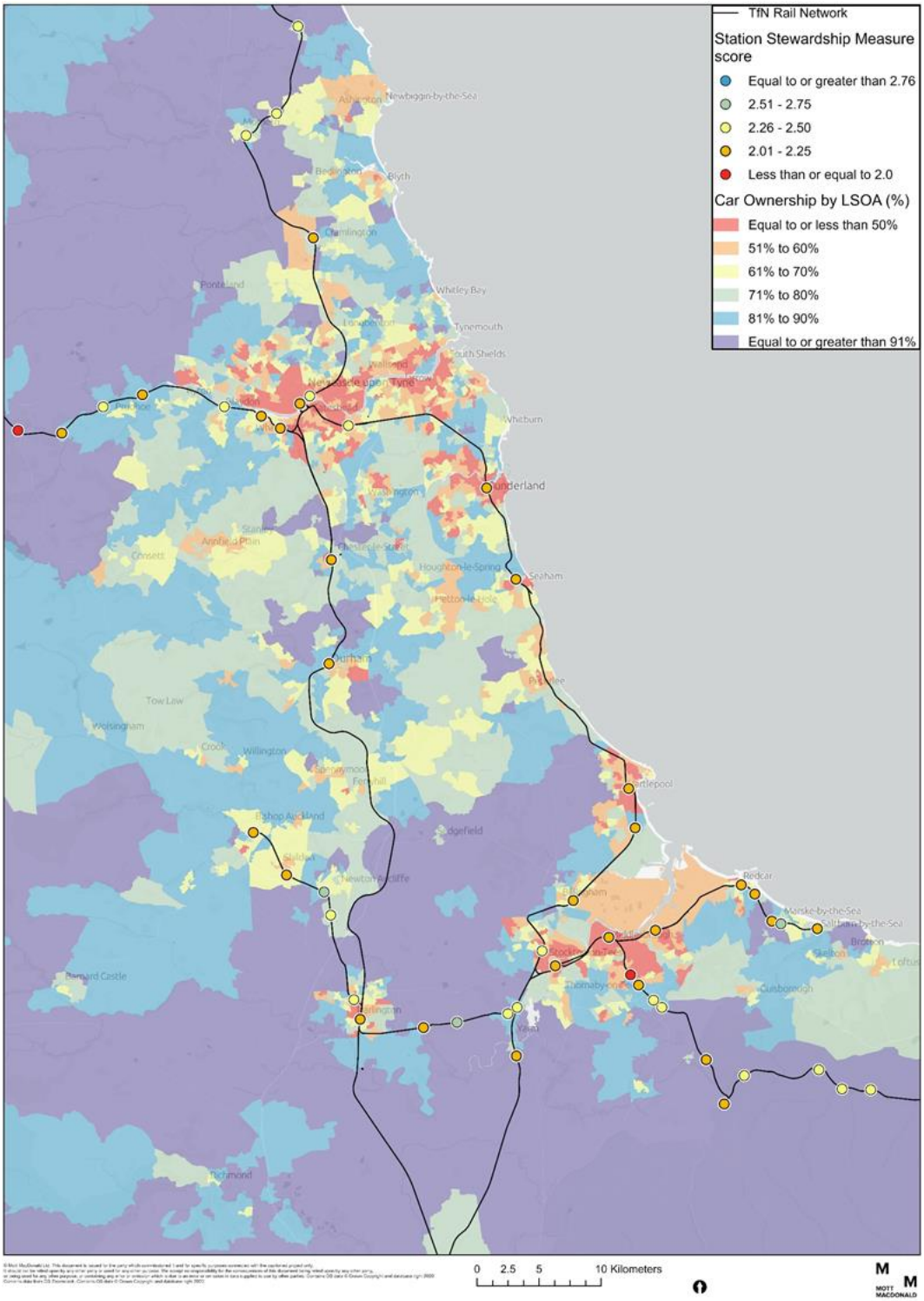
Car Ownership Overlayed with Station Stewardship Measure – Greater Manchester



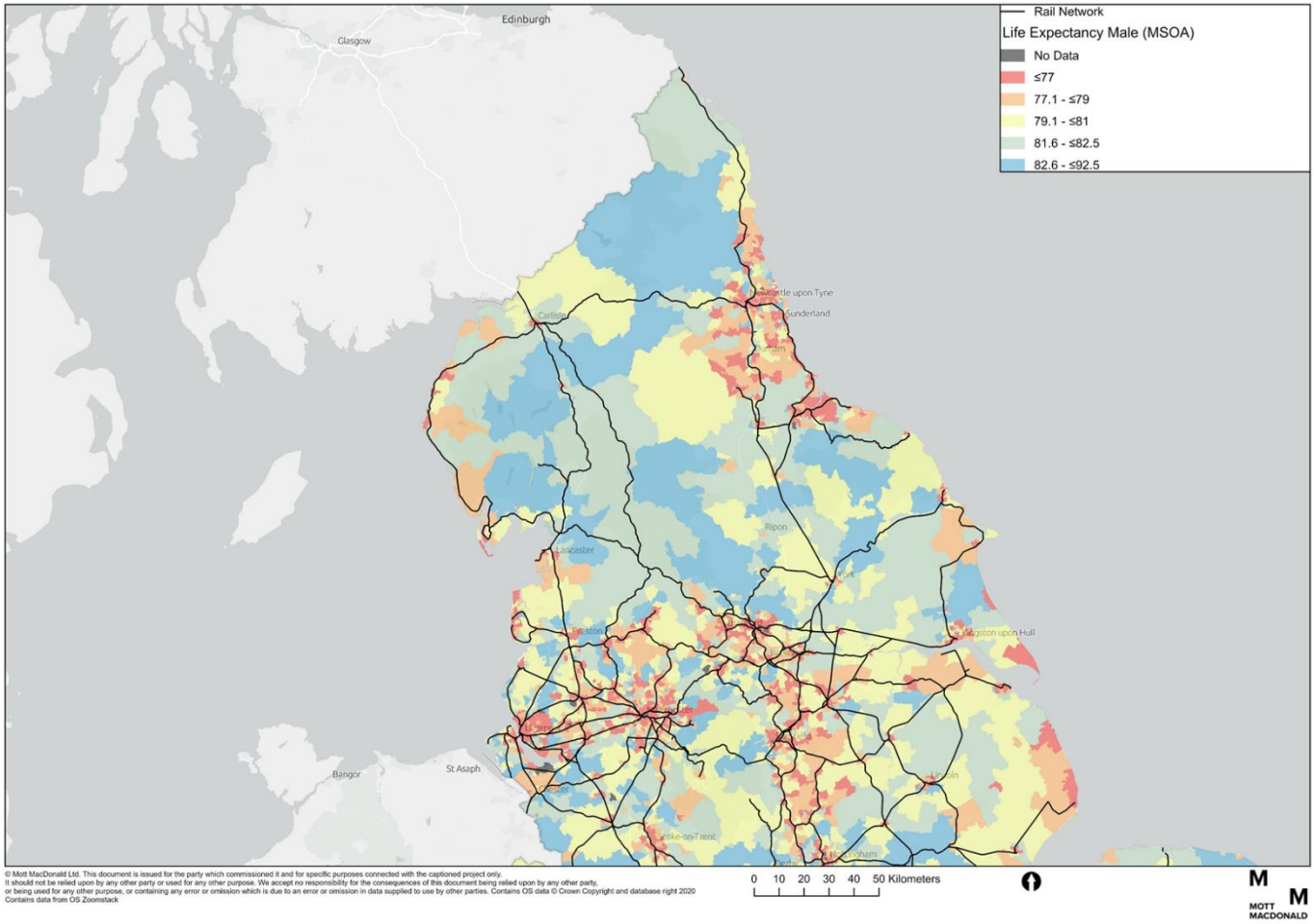
Car Ownership Overlayed with Station Stewardship Measure – Leeds, Bradford, Sheffield



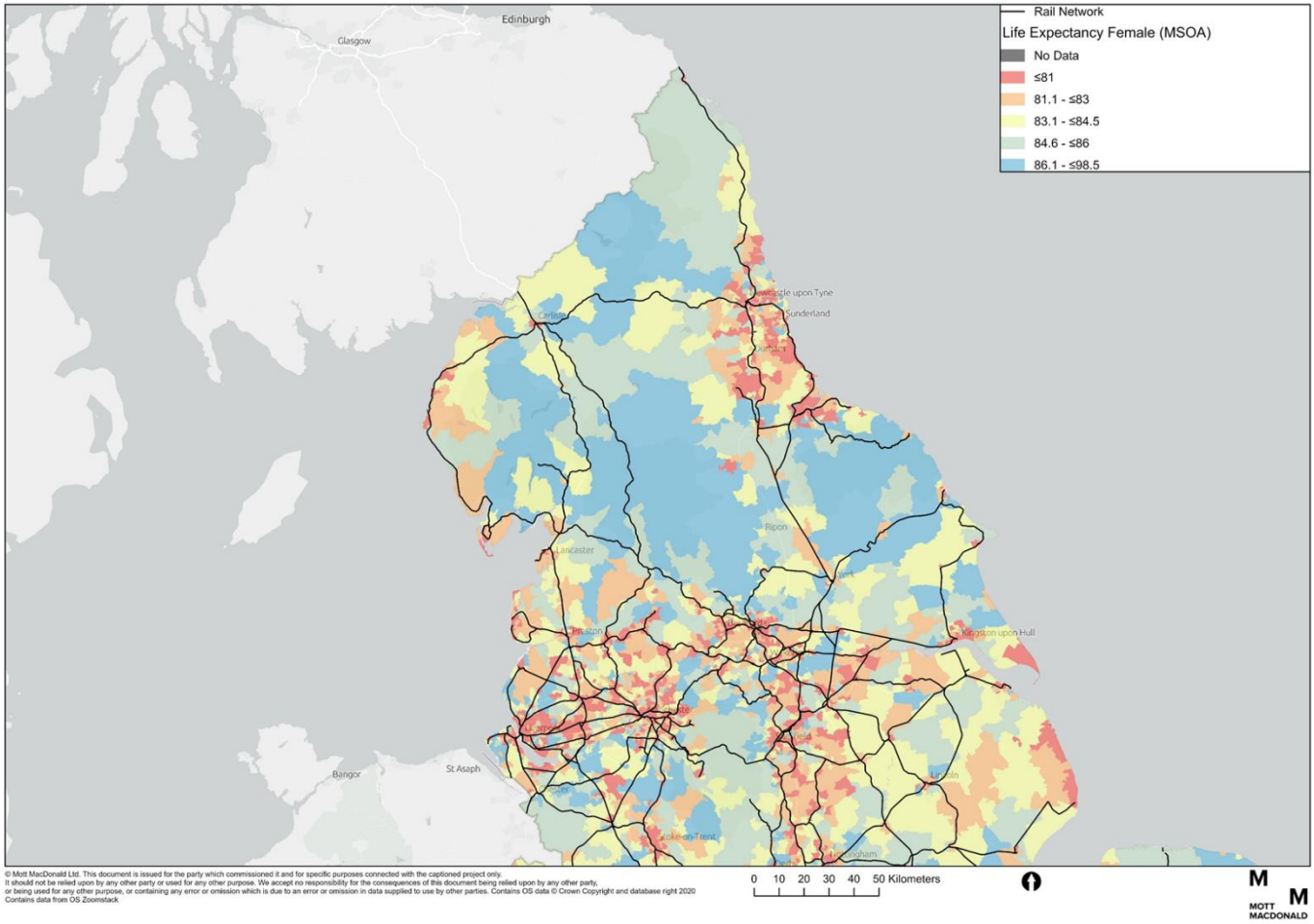
Car Ownership Overlayed with Station Stewardship Measure – Tyne Tees & Tees Valley



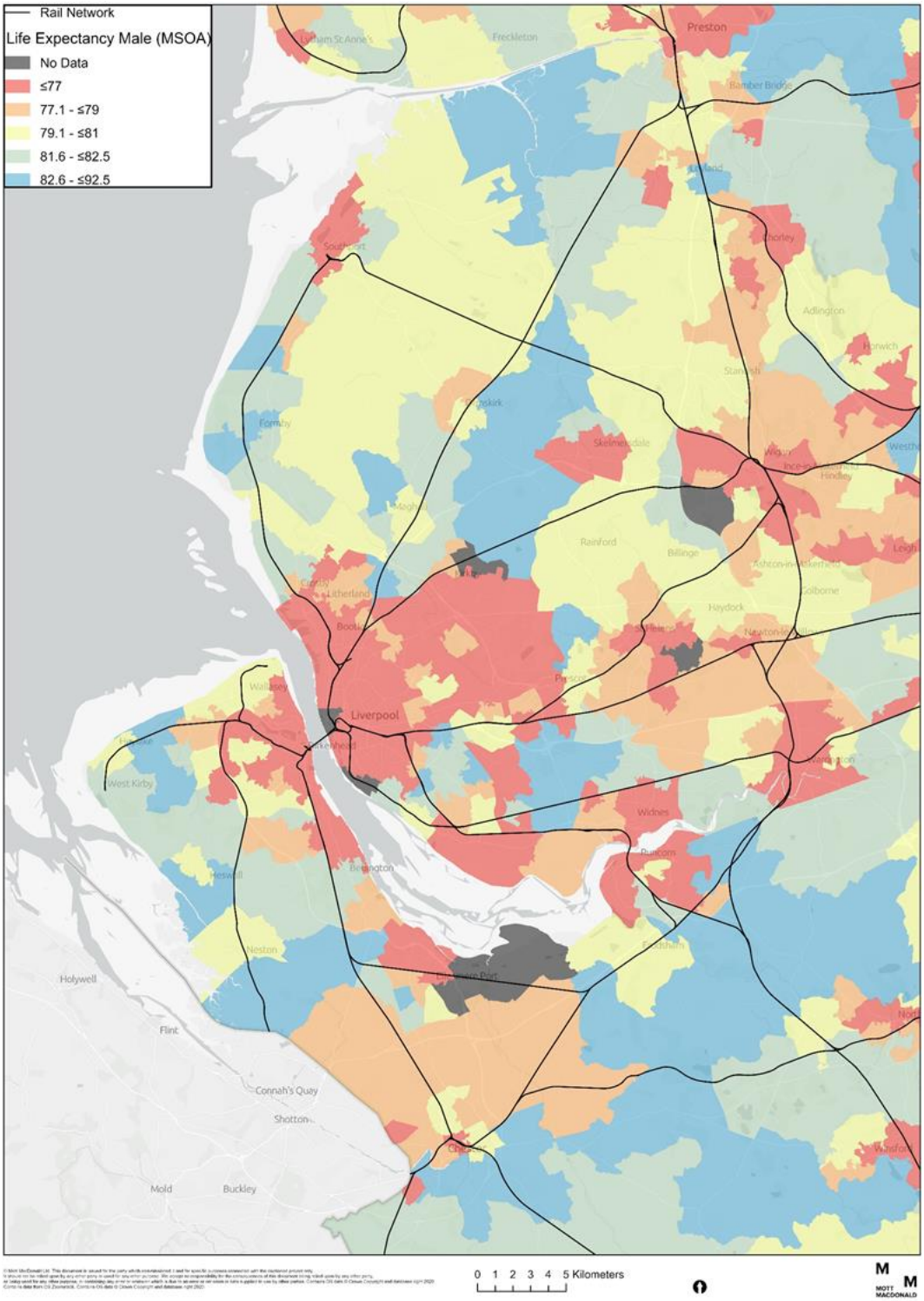
Male Life Expectancy by MSOA – Northern England



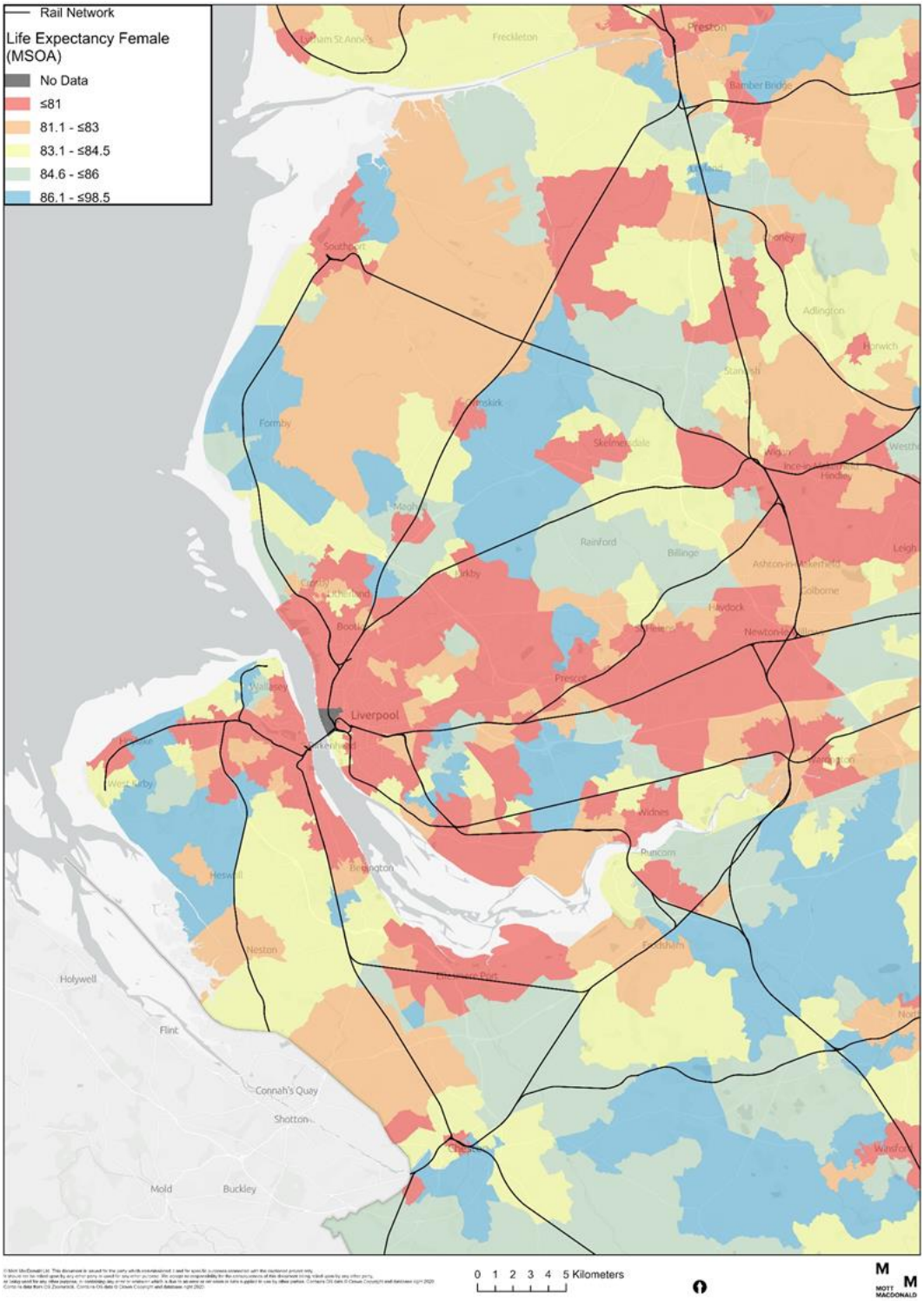
Female Life Expectancy by MSOA – Northern England



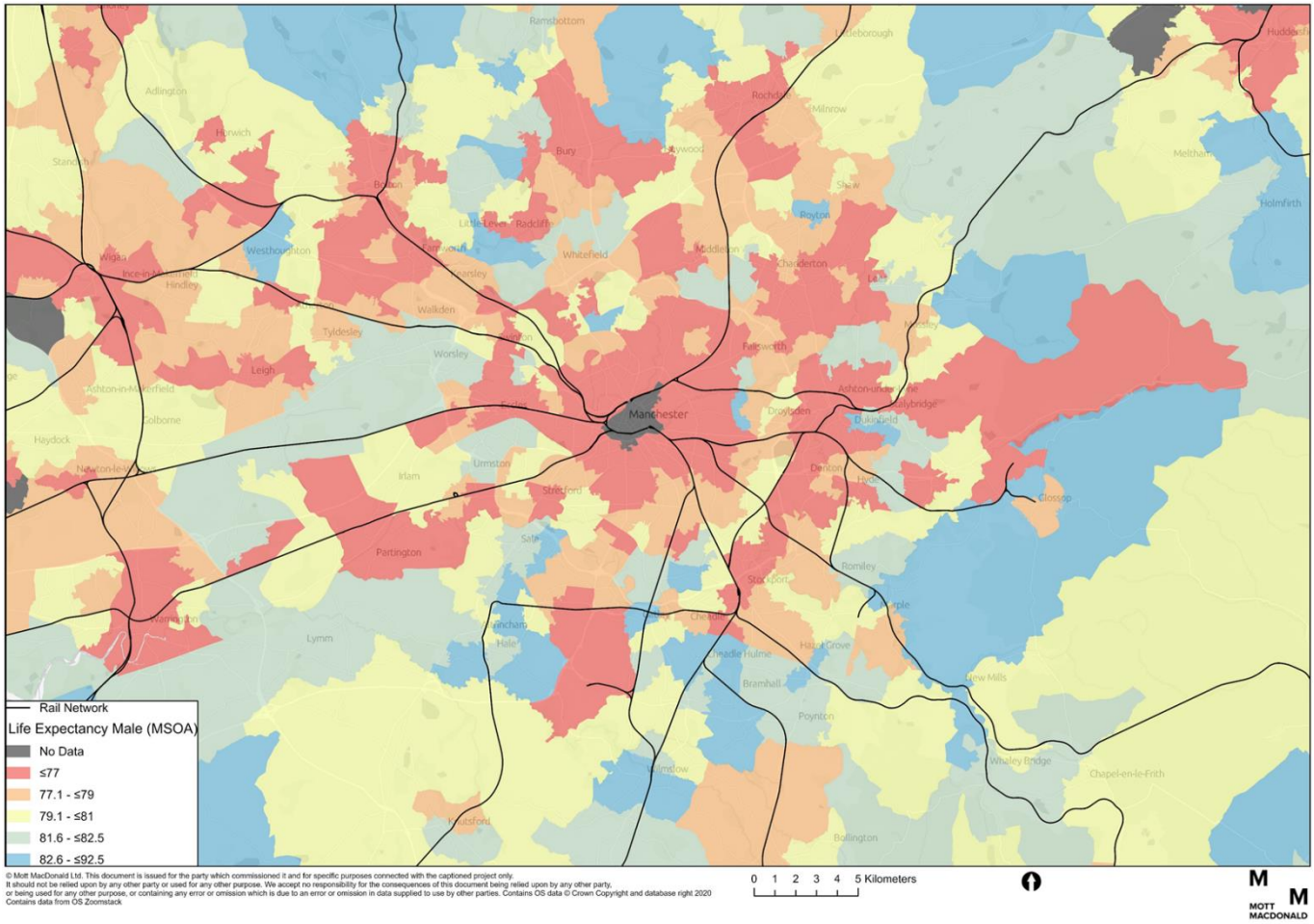
Male Life Expectancy by MSOA – Merseyside



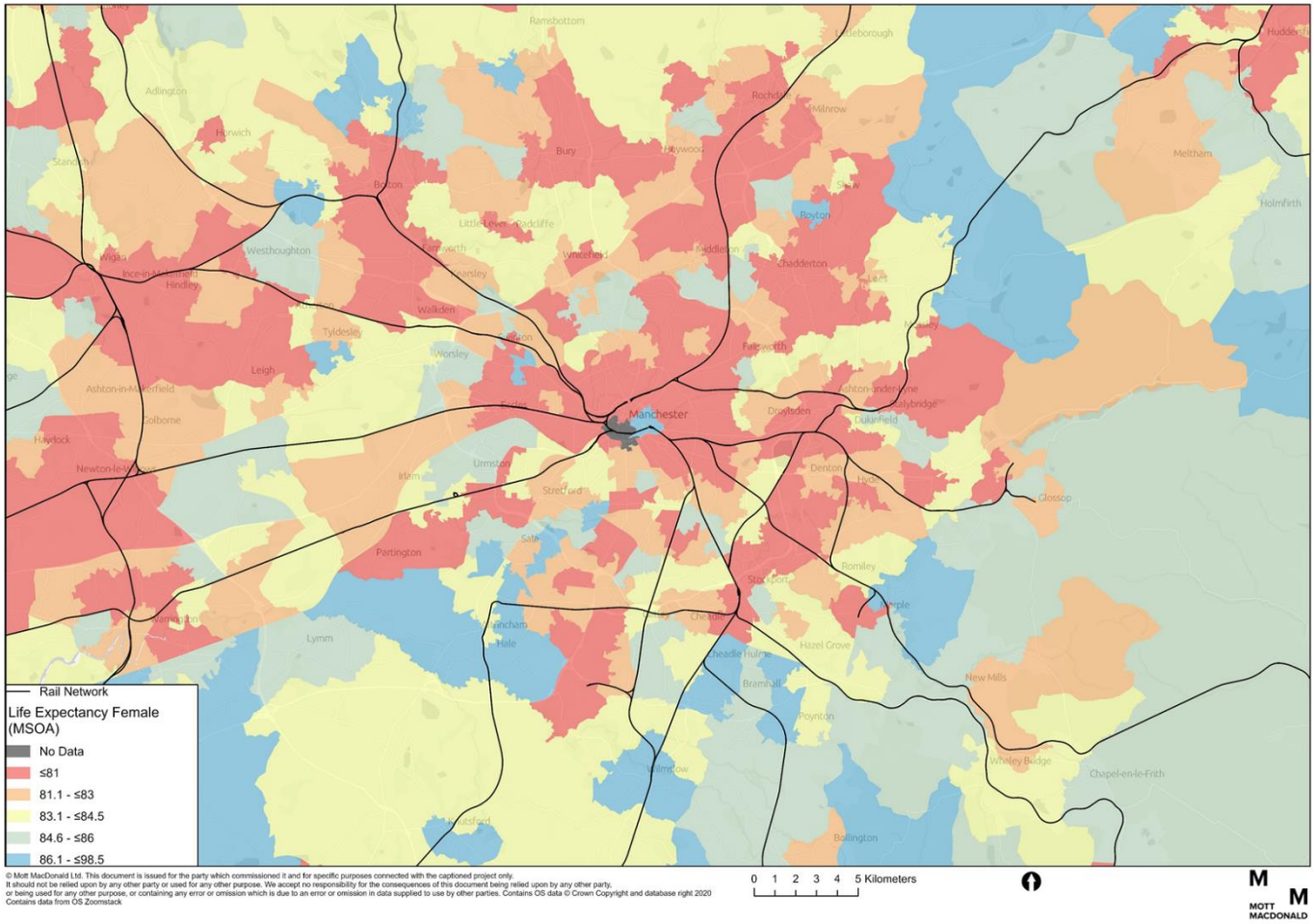
Female Life Expectancy by MSOA – Merseyside



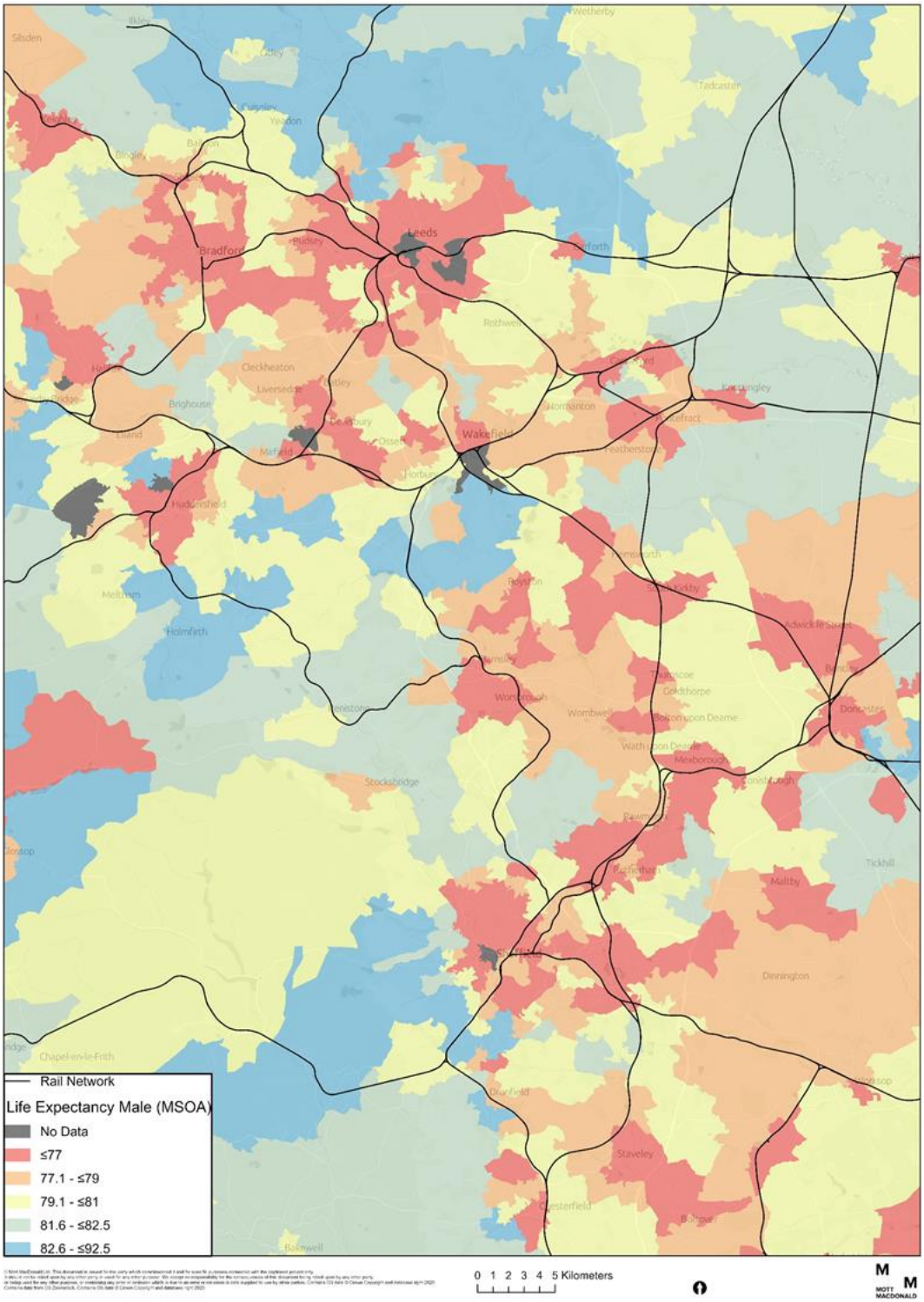
Male Life Expectancy by MSOA – Greater Manchester



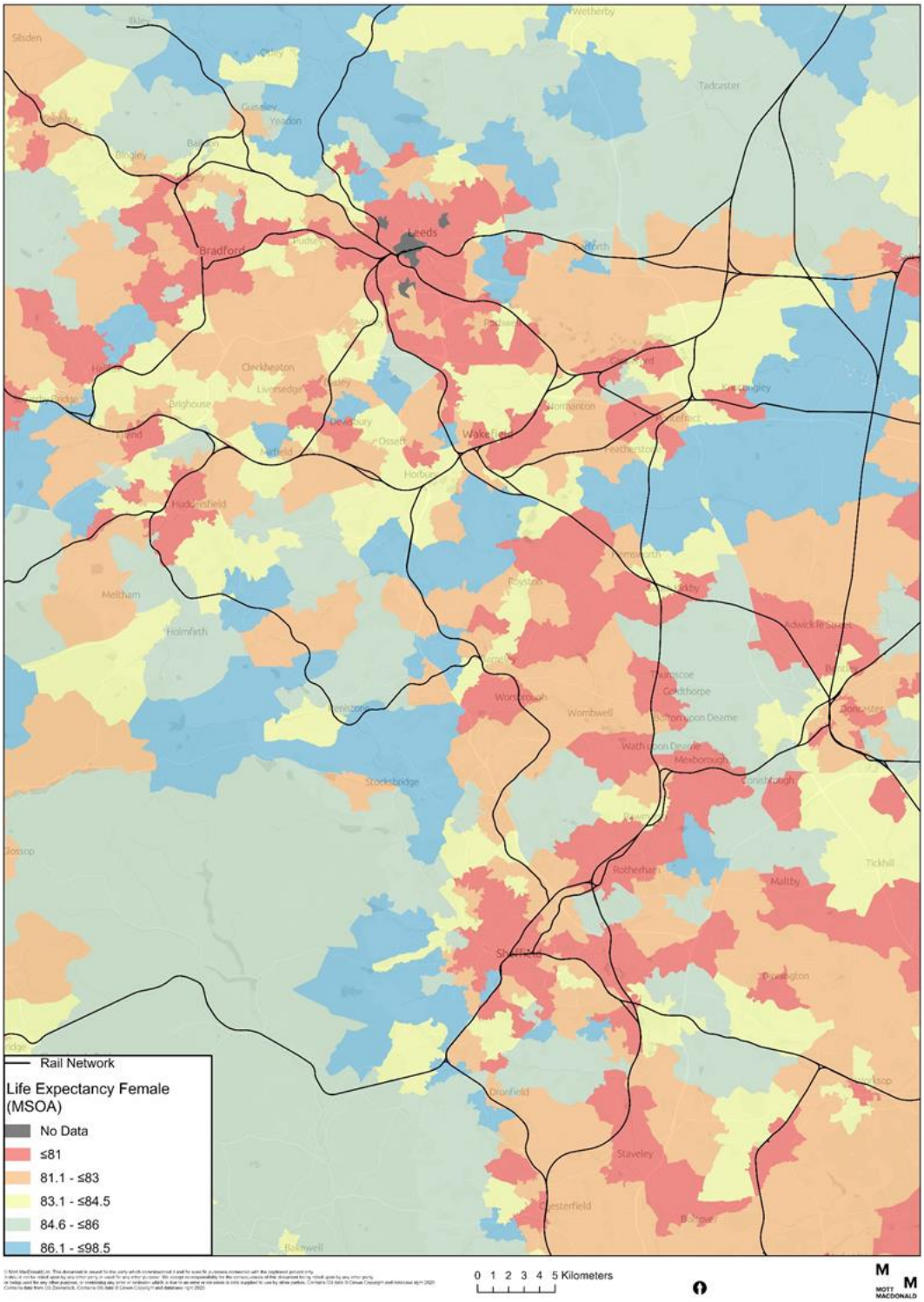
Female Life Expectancy by MSOA – Greater Manchester



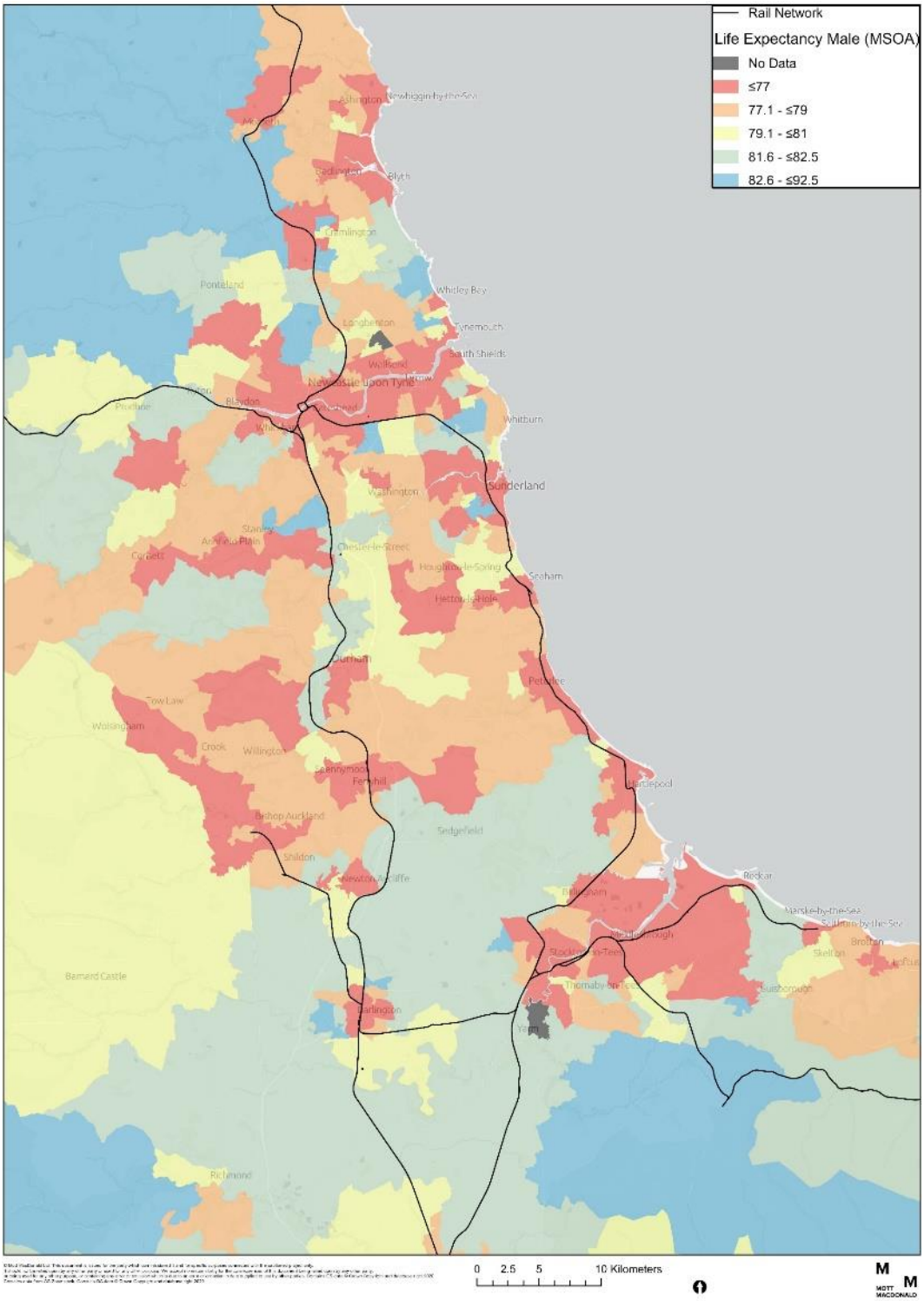
Male Life Expectancy by MSOA – Leeds, Bradford, Sheffield



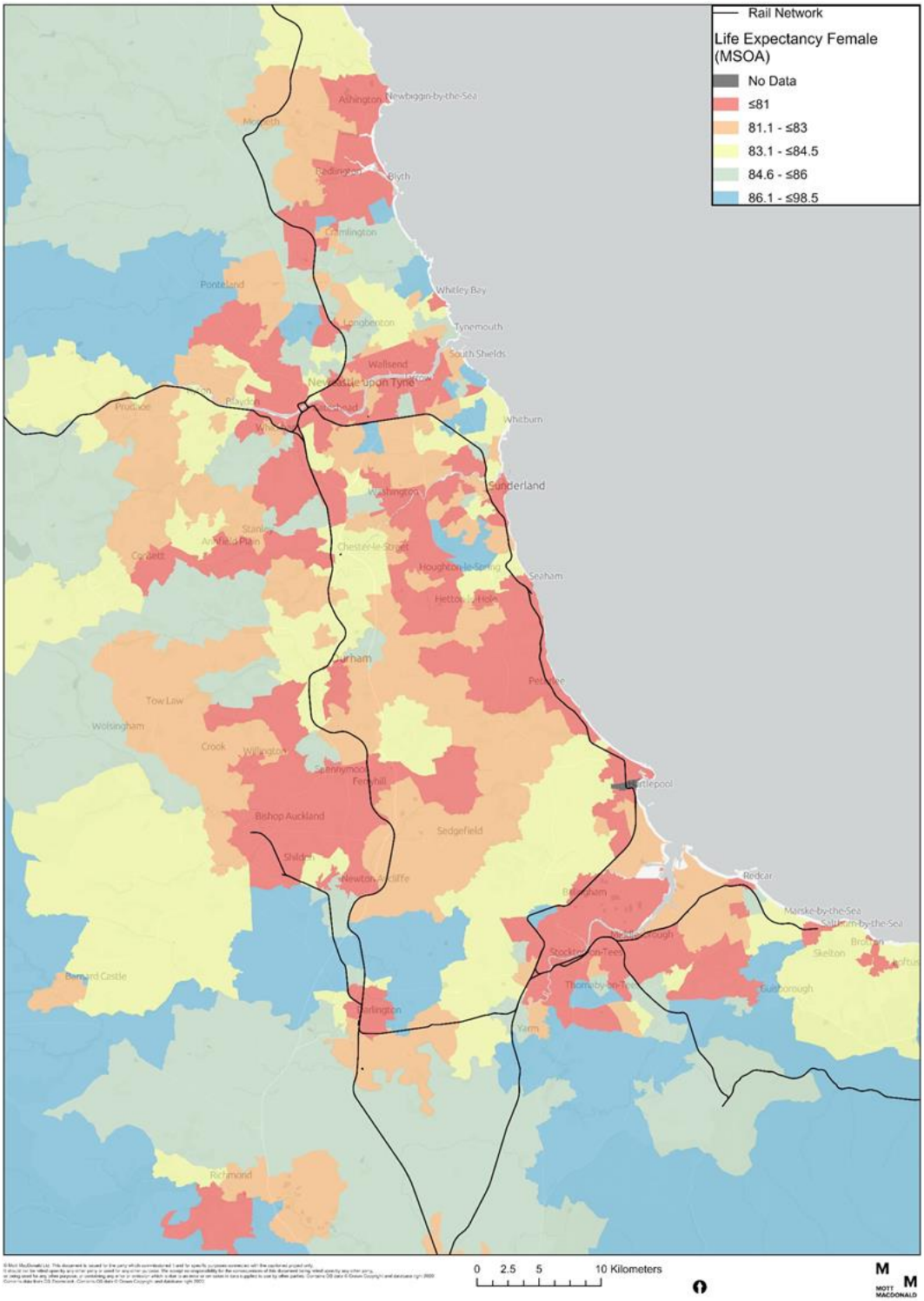
Female Life Expectancy by MSOA – Leeds, Bradford, Sheffield



Male Life Expectancy by MSOA – Tyne Tees and Tees Valley



Female Life Expectancy by MSOA – Tyne Tees and Tees Valley



B. Economic Appraisal – Additional Tests

B.1 Government Region - Low Investment Costs

Table A.1: Government Region Level Economic Appraisal (£000s in 2010 present values and market prices)

Area	PVB	PVC	NPV	BCR
Minimum Standards				
North East	12,000	12,000	0	1.0
North West	240,000	45,000	195,000	5.6
Yorkshire & Humber	85,000	45,000	40,000	1.9
Acceptable Standards				
North East	12,000	13,000	-1,000	0.9
North West	295,000	105,000	185,000	2.8
Yorkshire & Humber	85,000	55,000	30,000	1.6
Desired Standards				
North East	15,000	35,000	-20,000	0.4
North West	375,000	240,000	135,000	1.6
Yorkshire & Humber	120,000	115,000	1,000	1.0

Source: Mott MacDonald

B.2 Government Region - High Investment Costs

Table A.2: Government Region Level Economic Appraisal (£000s in 2010 present values and market prices)

Area	PVB	PVC	NPV	BCR
Minimum Standards				
North East	12,000	17,000	-5,000	0.7
North West	240,000	75,000	165,000	3.2
Yorkshire & Humber	85,000	60,000	25,000	1.4
Acceptable Standards				
North East	12,000	18,000	-6,000	0.7
North West	295,000	160,000	135,000	1.8
Yorkshire & Humber	85,000	70,000	15,000	1.2
Desired Standards				
North East	15,000	40,000	-25,000	0.4
North West	375,000	320,000	55,000	1.2
Yorkshire & Humber	120,000	145,000	-25,000	1.0

Source: Mott MacDonald

B.3 Area Level – Minimum Standards

Area	PVB	PVC	NPV	BCR
Minimum Standards				
Cheshire & Warrington	19,000	13,000	7,000	1.5
Greater Manchester & Derbyshire	62,000	0	62,000	N/A
Hull & Lincolnshire	6,000	23,000	-17,000	0.3
Lancashire & Cumbria	22,000	51,000	-29,000	0.4
Liverpool City Region	137,000	-5,000	143,000	N/A
North Yorkshire	7,000	24,000	-17,000	0.3
South Yorkshire	12,000	9,000	3,000	1.3
Tees Valley	6,000	5,000	1,000	1.2
Transport North East	5,000	9,000	-3,000	0.6
West Yorkshire	58,000	-5,000	63,000	N/A

Source: Mott MacDonald

N/A = financially positive.

B.4 Area Level – Desired Standards

Area	PVB	PVC	NPV	BCR
Minimum Standards				
Cheshire & Warrington	30,000	50,000	-20,000	0.6
Greater Manchester & Derbyshire	114,000	70,000	44,000	1.6
Hull & Lincolnshire	9,000	46,000	-38,000	0.2
Lancashire & Cumbria	29,000	101,000	-72,000	0.3
Liverpool City Region	201,000	53,000	148,000	3.8
North Yorkshire	9,000	46,000	-37,000	0.2
South Yorkshire	14,000	20,000	-6,000	0.7
Tees Valley	8,000	15,000	-8,000	0.5
Transport North East	6,000	20,000	-13,000	0.3
West Yorkshire	87,000	18,000	69,000	4.8

Source: Mott MacDonald