

# Connectivity Infrastructure Plan



**A bold ambition  
for West Yorkshire**



**Draft for engagement,  
January 2021**

# Our vision of an ambitious new transport system

Ambition should be supported and rewarded by a transport system that works, from door to door, every time you need it. No dream should be quashed, nor any life compromised, by poor transport connections.

We want to make it easier for people to access good jobs and training opportunities, but we also believe that every single trip matters. Going to school or nursery, connecting with friends, shopping, exploring or just getting out and about – these journeys form the fabric of happy and productive lives.

From your doorstep, the world should open up. You should be able to take your pick from walking routes and cycleways to quick public transport connections that can take you as far as you want to go.

The climate emergency, which so many of us have felt directly through heat waves and flooding, must be tackled urgently.

We will make West Yorkshire’s future transport system central to achieving the region’s goal of net zero carbon emissions by 2038.

With the right support from our partners and the input of our communities we can do this. Our region will have a transport system that others look to for ideas and for inspiration. A system that enhances the lives of those who live right here in West Yorkshire. It will make us a magnet for talent.

We are not coming from a standing start. We have already made progress in addressing the legacy of years of underinvestment in our region. Our transport systems are improving – but people expect more, and they have every right to.

In our region there are places where we need transport to work a lot harder to bring people to jobs, education and training. We have towns and cities where we need to tackle congestion and deliver cleaner air.

This must be a green revolution. Our ambitious plans are shaped around a clean and connected region, one that puts walking and cycling at the heart, and start, of our everyday journeys. We want to make better transport choices inclusive and accessible to everyone, and use everyday journeys to give people more chances in life, to make our region a fairer place to be.

A new, rapid transit system for West Yorkshire will be a key element, linking all of our key places with an easy and reliable service. This will represent a bold investment; a transformational transport system that will benefit many generations to come.

There is lots happening right now – but it will take a good few years to deliver against our level of ambition. If we want to leave a lasting legacy of many more sustainable journeys made, then we have to be the generation that shows resolve, vision and, above all, good sense.

We’ve got a clear vision of where we want to get to. And we know we can get there. We’re working on a connectivity plan, which we want you to discuss, challenge and engage with.

**Cllr Susan Hinchcliffe**  
Leader, City of Bradford Metropolitan District Council  
Chair, West Yorkshire Combined Authority

**Cllr Shabir Pandor**  
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**Cllr Kim Groves**  
Chair, West Yorkshire Combined Authority  
Transport Committee



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# Investing in the future of West Yorkshire

**A modern, integrated transport system is essential for an economy to flourish and communities to thrive. West Yorkshire is a significant and growing economy. To fulfil its full potential as a major player in the Northern Powerhouse, our region needs a transformation in its transport system, to one that is fit for the 21st Century and for a decarbonising economy.**

This plan sets out a long-term transport infrastructure investment programme for the next 20 years, providing a spatial picture of where improvements are most needed to improve people's quality of life and stimulate inward investment.

Our cities and towns have outgrown our transport system. Our reliance on the car is damaging business, the environment and the health of residents. Our most disadvantaged communities, which have the lowest levels of car ownership, suffer most from its impact.

Our evidence is clear that a "business as usual" approach to transport will not enable economic opportunities to be fully realised, or effective action to be taken to decarbonise the economy.

## Our Connectivity Plan

In 2017, the West Yorkshire Combined Authority adopted the West Yorkshire Transport Strategy 2040 setting out our policy framework for improving transport. Our Connectivity Infrastructure Plan is an extension of this Strategy, setting out a proposed delivery pipeline of infrastructure improvements.

The Combined Authority, with our partner councils, is developing this Connectivity Infrastructure Plan. The aim is to better connect all of our places, communities and economic assets, within our region and beyond.

Our Plan seeks to make the most of investment in national transport infrastructure, to ensure that the planned investment in Trans-Pennine Route upgrades, Northern Powerhouse Rail (NPR) and High Speed Rail (HS2) works for all parts and communities of our region.

Our Plan deliberately focuses on a sustainable future, putting walking, cycling and green public transport infrastructure at the top of our investment priorities. By starting now, we can set our region on the right pathway for tackling the climate emergency and support a green recovery from COVID-19.

Our Plan makes the case to Government for longer-term local transport budgets to deliver these improvements, including unlocking the government's infrastructure fund linked to the West Yorkshire devolution deal.

This document is a starting point, not an end. It is the sum and summary of the process to-date, drawing on a range of studies, plans and case making reports. We will continue to develop our proposals with our communities and our partners.



# West Yorkshire – Key to the Northern Powerhouse

“” **The West Yorkshire economy generates £55.4 billion per year – bigger than 9 EU countries**



## About our area

-  2.3 million people
-  1.1 million workforce
-  95,000 businesses
-  7 universities, 91,000 students and 30,000 graduates
-  UK's largest regional finance centre
-  More manufacturing jobs than anywhere in the North
-  1.6% of the land area of England, and 4,600 hectares of national parks

West Yorkshire is one of the best places to live in the country and an essential part of the Northern Powerhouse. Our region is home to over 2.3 million people living and working across the local authority areas of Bradford, Calderdale, Kirklees, Leeds and Wakefield. With a mixture of vibrant towns and cities set amongst some of the most beautiful landscapes in the country and a thriving cultural life, the future is bright for West Yorkshire.

Getting the transport network right is essential not just for West Yorkshire, but for the North and the UK as a whole.

# Our Vision and Objectives:

“” **To be recognised globally as a place with a strong, successful economy where everyone can build great businesses, careers and lives supported by a superb environment and world-class infrastructure**



## Boosting productivity

Helping businesses to grow and invest in the region and their workforce, to drive economic growth, increase innovation and create jobs.



## Enabling inclusive growth

Enabling as many people as possible to contribute to, and benefit from, economic growth in our communities and towns.



## Tackling the climate emergency

The Combined Authority has set a target that commits the region to achieving net-zero carbon by 2038, with significant progress to be made by 2030.



## Delivering 21st century transport

Creating efficient transport infrastructure to connect our communities, making it easier to get to work, do business and connect with each other.

# The big issues facing our region

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## COVID-19 Recession and recovery

The COVID-19 pandemic is an unprecedented economic and health emergency. West Yorkshire has been hit hard. The Combined Authority is working to lessen the impact with an Economic Recovery Plan and Transport Recovery Plan, which target short-term actions. Our transport recovery actions focus on helping people travel safely and with confidence, and helping the economy recover through green and inclusive growth. Supporting the bus network through this difficult period is key.

The Connectivity Plan builds on the actions of our COVID plans, but looks further forward to the next five to 20 years. At this stage in the pandemic the future for travel and transport demand remains uncertain, but we assume that the accessibility of jobs will become even more significant in addressing unemployment and inequalities which have been worsened by COVID-19.

Before the COVID-19 pandemic, our vision for creating prosperity for all and tackling the climate emergency was already demanding more from our transport system. So, while work on our Connectivity Plan started life prior to the pandemic, it is more relevant than ever to ensure we have a fit for purpose plan to support recovery and growth.

## Connecting Everyone – Inclusive growth and the productivity gap

We believe that all of our residents can contribute to, and should benefit from, economic growth. The potential uplift in productivity from an inclusive economy is crucial to securing a prosperous future.

Our cities and large towns can offer a range of employment opportunities, and a wide pool of skilled workers. Unfortunately, not all our communities benefit from these opportunities. Our evidence shows that within West Yorkshire the levels and the spatial patterns of deprivation have not changed between 2004 and 2019. Areas of persistent deprivation have not improved.

Income has an important influence on deprivation levels. The availability and costs of transport can be a significant barrier to work for residents in low income neighbourhoods. We also know that travelling by public transport can be especially hard for those that have disabilities, yet is crucial to so many people's independence and ability to work. Tackling deprivation requires good jobs, accessible to all.

## Climate change and decarbonising the economy

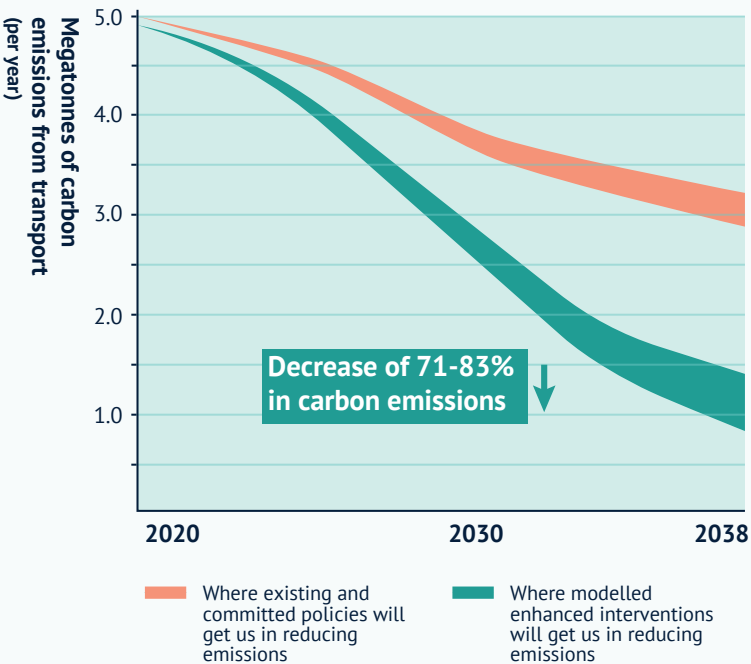
This will be a significant challenge. Climate change is a serious threat that requires significant, swift action in all sectors of the economy to mitigate the risks associated with a warming world. We've declared a climate emergency, and set a target to achieve net-zero carbon by 2038, with significant progress to be made by 2030

Transport is our highest emitting sector, contributing 44% of total regional CO2 emissions. These emissions are predominantly from road transport, particularly private vehicles. With this Plan we want to substantially accelerate the action and pace on decarbonising transport.

Our modelling suggests that major investment in sustainable transport supported by behaviour change programmes, technology and policy interventions can get us on the right trajectory and between 70% and 80% of the way towards a net zero carbon transport sector. But even then we will still need to increase our ambition around certain measures or rely on innovative technologies to meet our target. Delivering radical change will need the support of business, communities and government.

Information on our technical work to understand how the transport sector can decarbonise can be found in the West Yorkshire Carbon Emission Reduction Pathways study. Consultation on the actions and policies that need to be implemented will take place in early 2021.

## Transport's contribution to achieving net zero carbon by 2038



## Travel changes to meet carbon target

Changes to the distance travelled (million passenger Kms)

-27%



+2,125%



+79%



+58%



+52%

To bridge the gap between the modelled range and net-zero a combination of innovative technologies and increasing ambition around measures that have been modelled will be needed.

# Our Investment Priorities – Key Moves

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To deliver on our ambition we need substantial, long-term public investment in high quality, sustainable transport infrastructure, accompanied by robust behaviour change programmes.

We've identified our priorities for different forms of transport and how we'll integrate these better. We've included car travel, but emphasise delivering a significant shift to walking and cycling for shorter journeys; public transport, including – bus and rail; and a new form of urban mass transit through improved infrastructure and interchange.

Our vision is for easy, seamless, door to door journeys, where all of these forms of transport work together.

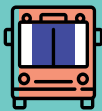
This plan's focus is on infrastructure, but we also highlight investment in the studies and services needed to deliver our priorities for transport.



# Our connectivity priorities



Walking and cycling will become major forms of transport – the first choice for short journeys and a safe and convenient way of integrating with public transport services.



The bus is at the heart of our plans. Networks will be revitalised. New infrastructure will give the bus a competitive advantage over the car.



Rail's role in serving trips to our main centres will be boosted by improvements to journey time, capacity, station facilities and accessibility.



A new form of Mass Transit will provide the missing link in our transport system, bringing much needed capacity, quality and connectivity.



Cars and vans will still be important but used less. We will help the transition to electric vehicles with an extensive network of charging points.



National and international connectivity for business and the movement of goods will be enhanced by reducing traffic congestion. Rail will play a greater role in longer distance freight transport. Mobility and consolidation hubs will provide sustainable “last mile” solutions for deliveries in urban centres.



# Our policy context

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The West Yorkshire Transport Strategy 2040 sets out our policy framework for putting in place the right transport conditions to meet demand for travel, in an inclusive and sustainable way.

Since adopting the Strategy in 2017 the Combined Authority has invested £369 million in our transport network, with more interventions planned in the coming years. Investment has come from our West Yorkshire Transport Fund, Connecting Leeds and Transforming Cities Fund programmes. But there is still a lack of choice, capacity and resilience in our transport system. Travel to and from key employment centres is a particular problem.

Gaps in our connectivity will limit business and labour market catchments. They will also harm training and development of the next generation of skilled employees, by restricting access to colleges and universities.

New urban transport infrastructure to distribute the benefits of High Speed Rail (HS2) and Northern Powerhouse Rail (NPR) cannot drive inclusive, sustainable growth alone; a range of factors are essential to creating a coordinated programme of activity aiming to create more and better jobs, with a highly skilled workforce to sustain them.

The National Infrastructure Commission [NIC] has identified how aging and underfunded transport systems are affecting many urban centres across the North of England. Inefficient and unreliable transport will inhibit economic development, living standards and the rebalancing of the national economy. The NIC makes the case for substantial funding for additional urban transport capacity.

Our plan has been developed with the guidance of the National Commission Infrastructure Commission and follows the approach set out in their ‘Principles for effective urban infrastructure – Lessons learned’ from the Next Steps for Cities programme, published in October 2020. The Combined Authority participated in this programme.

For further information: <https://nic.org.uk/studies-reports/cities-programme/>

That is why we have developed a Strategic Economic Framework (SEF) to provide the context for investment and decision making. It ensures that all Combined Authority strategies are aligned with a clear focus on meeting our priorities. We are already seeing this in action. The places this connectivity plan focuses on, such as our most deprived neighbourhoods, are also the places where we are investing in skills.

The West Yorkshire economy is centralising around our growing city and town centres. New employment opportunities are focused around Knowledge Intensive Businesses in the professional services, retail, financial, health and creative sectors. This will create greater demand for travel into cities.

## Role of the Connectivity Infrastructure Plan

Economic and transport policies are established by our partner councils that together make-up West Yorkshire; at a strategic West Yorkshire level by the Combined Authority; at a sub-national level by Transport for the North (TfN); and at the national level by Government.

There are plans and policies at each of these levels relevant to urban transport. The role of this Connectivity Plan, is to recognise the importance of the wider priorities, but to focus on the needs of transport connectivity within the region.



	Policy	Plans	Projects & Programmes
District	<ul style="list-style-type: none"><li>Local Plans</li><li>Climate Emergency Declarations</li></ul>	<ul style="list-style-type: none"><li>Local Transport Strategy</li><li>Health and Wellbeing Strategy</li><li>Air Quality Management Areas</li></ul>	<ul style="list-style-type: none"><li>Local Investment Programmes</li></ul>
West Yorkshire	Strategic Economic Framework	<div>West Yorkshire Transport Strategy 2040</div> <ul style="list-style-type: none"><li>COVID-19 Economy &amp; Transport Recovery Plans</li><li>Housing Vision</li><li>Carbon Reduction Plan</li><li>Energy Strategy</li></ul>	<div>Connectivity Infrastructure Plan 2020 – 40</div> <ul style="list-style-type: none"><li>West Yorkshire Plus Transport Fund</li><li>Transforming Cities Fund</li><li>Local Transport Plan Programme</li><li>Active Travel Fund</li><li>West Yorkshire Mass Transit</li></ul>
Sub-national	<ul style="list-style-type: none"><li>Independent economic review</li></ul>	<ul style="list-style-type: none"><li>TfN Strategic Transport Plan</li><li>TfN Investment Programme 2020-50</li><li>TfN Freight and Logistics Analysis Report</li><li>NP11 Energy Strategy</li></ul>	<ul style="list-style-type: none"><li>Northern Powerhouse Rail (NPR)</li><li>Transpennine Route Upgrade</li><li>Integrated and Smart Travel</li><li>Major Road Network for the North</li></ul>
National	<ul style="list-style-type: none"><li>Rebalancing Britain</li><li>Climate Change Act</li></ul>	<ul style="list-style-type: none"><li>Integrated Rail Plan</li><li>Road Investment Strategy</li></ul>	<ul style="list-style-type: none"><li>High Speed 2 (HS2)</li><li>Northern Powerhouse Rail</li><li>Strategic Road Network</li><li>Major Road Network</li></ul>

# Our Pan Northern Connectivity priorities

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## Rail

The rail network performs a vital role in connecting our people and businesses to opportunities across the country and also in connecting within the region. However, it is a victim of its own success and of years of under investment.

Our rail network is overcrowded and current planned investment is insufficient to support the level of economic growth needed to close the gap with the rest of the UK, and to improve the life choices of the people who live here.

The Combined Authority is committed to working with industry partners to deliver these strategic priorities to transform transport connections, to make the North more competitive and cohesive, and to create a zero-carbon, electrified railway.

### Trans Pennine Route Upgrade (TRU)

Increasing capacity and reducing journey times by upgrading and electrifying the existing rail line between Manchester, Leeds, Huddersfield and York is essential. It needs to be delivered in the short term , without further delay. This must include provision for enhanced local services, and for freight, to remove lorries from the M62.

### High-Speed Rail

The arrival of HS2 in Leeds is central to our vision for the future rail network. The Leeds Integrated Station Masterplan brings together HS2 with the local and intercity network into a single integrated station.

But it needs to be complemented by local rail services which feed the HS2 system.

### East Coast Main line

We support optimising links to the North and South via the East Coast Mainline, before and after HS2 is delivered.

### Northern Powerhouse Rail (NPR)

We support Transport for the North’s vision for NPR - a Trans-Pennine new railway line which connects Manchester and Leeds via Bradford city centre. To achieve its objectives, NPR must:

- Radically improve journey times, frequencies and increase capacity;
- Support growth in regional passenger and freight trains on existing railway lines;
- Seamlessly integrate with HS2, TRU and local rail, and provide for an increase in local services;
- Provide a city-centre station in Bradford;
- Complement the West Yorkshire Mass Transit vision.

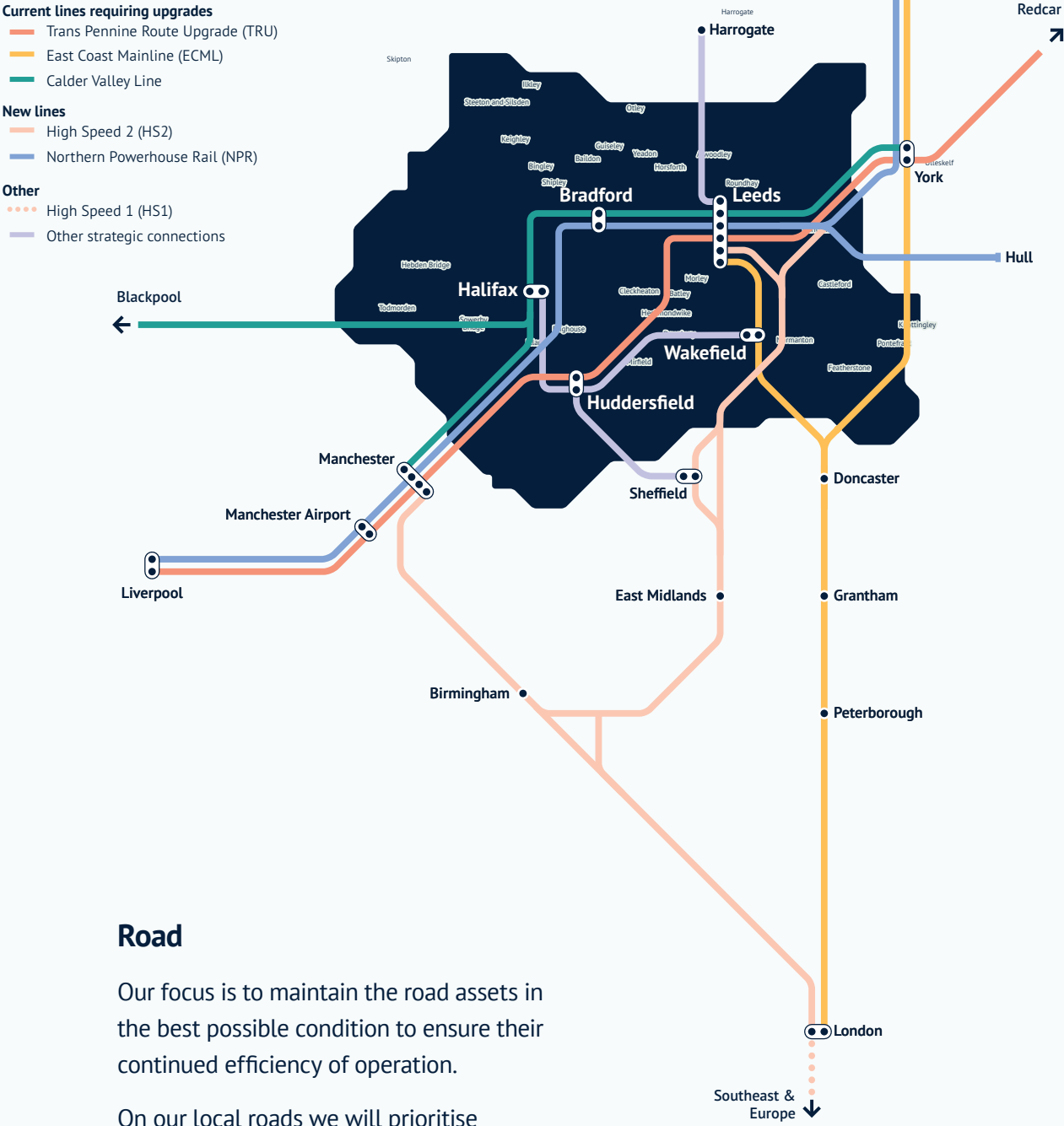
### West Yorkshire Capacity Enhancements

Urgent interventions are needed to unlock network capacity at critical locations like Leeds (but also beyond our region such as at Manchester). The right interventions will reduce delays, change behaviours and allow crowding to be eased now and in the future.

### Local Rail Services

A minimum service frequency standard of two trains per hour from all local stations.

Our Pan Northern Rail Connectivity priorities



## Road

Our focus is to maintain the road assets in the best possible condition to ensure their continued efficiency of operation.

On our local roads we will prioritise investments which relieve congestion, and support priority for bus, cycling and mass transit, assisted by the reallocation of road space where needed. There will be a pause on developing new road schemes, unless they bring equitable benefits for all road users and there is a plan to mitigate impacts on our carbon target.

Our efforts to take unnecessary trips off the road, through offering more sustainable options and also through considering options to reduce car demand, will contribute to a more efficient road network for those trips and services that need it.

Regional investment priorities for the Major Road Network are set by Transport for the North (TfN). We will work with TfN to ensure there is a clear route to mitigation of the carbon impacts of its programme, and to:

- Consider of how strategic schemes will work alongside local networks, to manage the demand for travel;
- Deliver its long-term Implementation Plan, including proposals to improve east-west road connectivity to relieve congestion on the M62.

# How we have developed the Plan

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## An evidence led approach to identifying our transport priorities.



Our plan focuses on how transforming connectivity in the communities of greatest economic need can help to raise productivity, living standards and environmental quality for all.

Our plan's scope covers the whole of West Yorkshire, but recognises travel beyond West Yorkshire and seeks to improve connectivity to neighbouring authorities of York, Harrogate, Selby, Craven and Barnsley.

Our plan builds on the existing policy and political landscape as well as reflecting local, pan-northern and national priorities, and sets objectives for improving connectivity in West Yorkshire.

Given the size and diversity of our region, we worked through a structured and analytical process to create this Plan:

- 1. Identifying communities of greatest economic need.
- 2. Creating a 'Single Evidence Base' - drawing on socio-economic demographics; anticipated land use changes including new employment growth zones and major housing opportunities; environmental and clean energy opportunities; known transport constraints and forecast changes to travel demand patterns and capacity.
- 3. Identifying those key communities to connect.
- 4. Identifying the transport modes most likely to meet the needs of local communities.
- 5. Identifying options for a proposed pipeline of future transport infrastructure improvements - sifted against criteria to consider their fit with the objectives.



## Objectives for connectivity



Reduce transport emissions in line with the target to become net zero-carbon by 2038, with significant progress being made by 2030



Address local Air Quality Management Areas



Enable access to further education and healthcare opportunities



Connect people in areas of socio-economic need with economic opportunities



Enable access from new developments to economic opportunities and labour markets



Address areas of congestion



Address discrepancies in public transport frequency and reliability

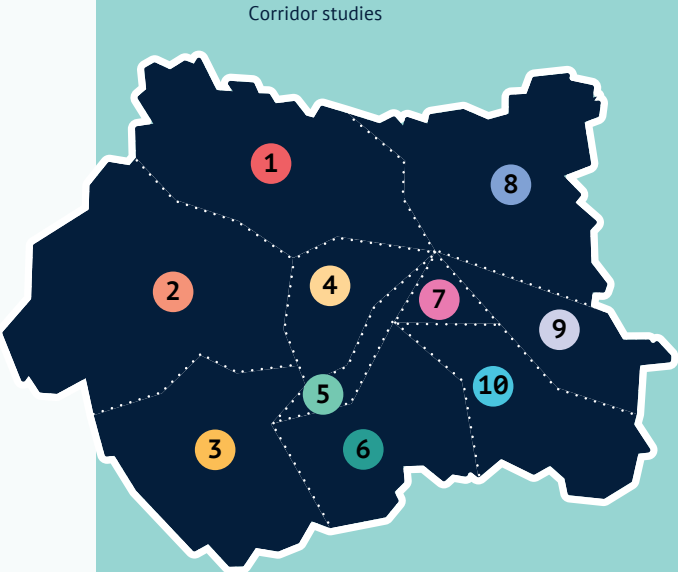


# Our evidence

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Our Plan is also informed by a range of research, plans and case making reports. This document is a summary of this process and analysis.

We undertook “corridor studies” across the whole of West Yorkshire. The analysis is presented in ten Case for Change reports published as part of the evidence base for this Plan. These reports, and an Appraisal Handbook explaining the approach, can be accessed at [westyorks-ca.gov.uk/connectivity-reports](https://westyorks-ca.gov.uk/connectivity-reports).



- Corridor studies
- 1 Airedale, Wharfedale & Airport
  - 2 Calder Valley
  - 3 West Kirklees to Calderdale
  - 4 Leeds, Bradford, South Bradford & North Kirklees
  - 5 Leeds to Huddersfield
  - 6 East Kirklees to Wakefield
  - 7 South Leeds & East Leeds
  - 8 North Leeds to North Yorkshire
  - 9 Five Towns to Leeds
  - 10 Leeds to Wakefield & Barnsley

Some of the key inputs to the Connectivity Infrastructure Plan

**West Yorkshire Bus Network Review**  
A strategic study of the core bus network published in 2020. This reviews present and future demand for the bus. It identifies existing and new locations that could generate patronage growth, and identifies supporting infrastructure requirements to make the bus competitive.

**West Yorkshire Carbon Reduction Emissions Pathways study**  
Providing the evidence for key sectors of the economy, and options for CO2 reduction pathways, setting timescales for action and policies needed to deliver net zero carbon by 2038. We will publish a consultation on our plans to decarbonise in 2021.

**West Yorkshire Rail Vision and Strategy**  
Identifies our ambition for the way in which the railway needs to serve the region. A Rail Vision, published in 2020, as the first product of a West Yorkshire Rail Strategy, sets out high-level objectives and required outcomes and outputs. The further work on our Rail Strategy will translate these into interventions.

**West Yorkshire Future Mobility Strategy**  
Identifies options to improve accessibility through new forms of transport and better integration using new technologies – from autonomous cars to e-scooters, digital on-demand buses services, shared transport and integrated apps for accessing services, plus innovative ways of getting goods into our town and city centres. We consulted on the Strategy in Autumn 2020.

**West Yorkshire Mass Transit Vision 2040**  
Identifies a bold new transport mode as a central component of the Connectivity Plan. Setting out the case for mass transit technologies and their application to corridors across West Yorkshire. The Combined Authority is publishing Mass Transit Vision 2040 in parallel to the publication of this Connectivity Infrastructure Plan

**Housing Affordability and Needs Study**  
Identifies a number of disconnected places and provides evidence to suggest that the centralisation of employment has not led to greater accessibility for low income households.

**Local Cycling and Walking Infrastructure Plans (LCWIPs)**  
Identifies prioritised investment in walking and cycling infrastructure to support everyday journeys. Our phase one LCWIPs successfully trialled new methodologies for community engagement. We are now rolling out the approach to the whole of West Yorkshire.

# Our plan for growth across the region


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## Understanding the function of places now and into the future is key to planning an effective and efficient transport system.

Our places and communities are all interconnected, but they play different roles. Understanding the contributions that these different places make is important in developing a transport system which meets the current and future needs of the region.

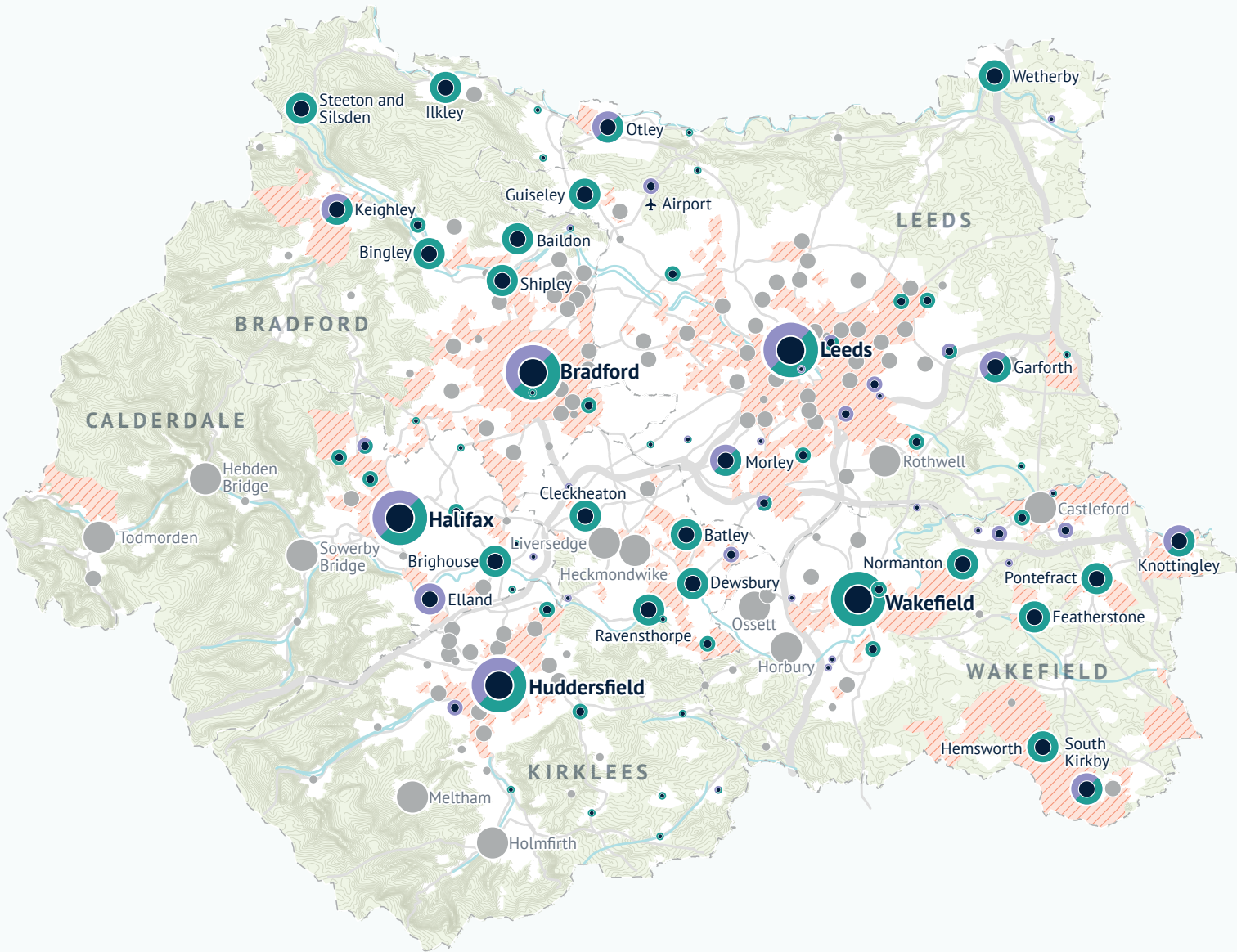
Our largest city of Leeds is at the heart of the region with an economy worth £26.2 billion that has grown by 28% in the last decade. West Yorkshire is also home to the cities of Bradford and Wakefield and the large towns of Huddersfield and Halifax. These are our district centres. All are great places to live and work. All are the focus for future planned growth. Our smaller towns, villages and rural areas are also integral to the success of our region. They are some of region’s most desirable places and they play a key role in supporting our visitor economy.

### Key characteristics

 **Population growth**  
Our population has consistently grown by around 10,000 people per year over the last 10 years, with this trend forecast to continue. Despite our strengths around one in five people in the region live in areas defined as the ten percent most deprived in the UK and the deprivation profile has remained unchanged over the last 20 years – highlighting that there are areas of persistent poverty which are not improving.

 **Population density**  
Our population density results in some unique characteristics, including low population density, with 11 people per hectare as compared to 22 people per hectare in Greater Manchester. This has its advantages as you are only ever a short journey away from fantastic open space. However low population density also brings with it connectivity challenges.





 **Environmental quality**  
Our places encompass the best of both urban and rural, offering a real diversity to residents and investors, from major cities to thriving towns and beautiful countryside locations. But our places also experience environmental challenges. Parts of urban West Yorkshire have some of the worst air quality in the country, with harmful pollutants from road traffic linked to illness and premature deaths. Climate change is a very serious threat, with severe flooding affecting large parts of our region in recent years at a considerable cost to communities and businesses.







This plan shows our core cities and towns including those which are a focus for new housing and jobs growth.

--- District boundary

**Places to Connect**

-  City
-  Town
-  Suburban area
-  Village/other

**Characteristic**

-  Areas experiencing deprivation and are a focus for inclusive growth
-  Housing growth (>100 units)
-  Employment growth (>10Ha employment growth)
-  Other place to connect

*For further information, please see Local Authority Local Plans and Connectivity Case for Change reports.*

# How we travel within our region

92% of those who live in the Region also work in the Region – demonstrating the importance of our economic geography.

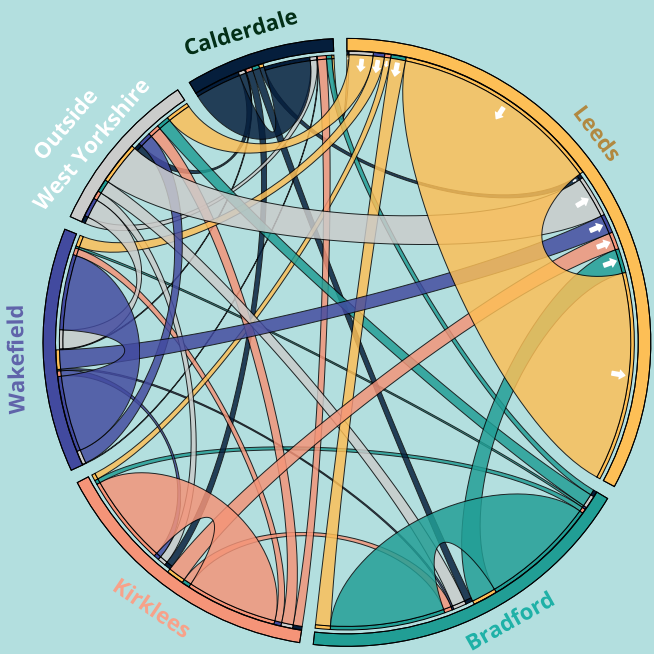
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65% of our trips for all purposes (and 70% of all of our travel for work trips) across West Yorkshire are made by van or car. This is having negative impacts. Traffic congestion on motorways and routes into our urban centres is affecting business, and traffic dominance in our urban centres is damaging the attractiveness and health of our places. Heavy traffic flows create barriers to the movement of people.

Inadequate investment in our transport networks limits the appeal of public transport as a practical alternative to the car. The bus suffers from the same traffic congestion, making journeys slow or unreliable, and has been losing patronage. The train has been more successful, but services to our urban centres are now unable to cope with demand, with severe crowding on trains in the busiest periods. Services to and from Leeds have some of the worst crowding nationally.

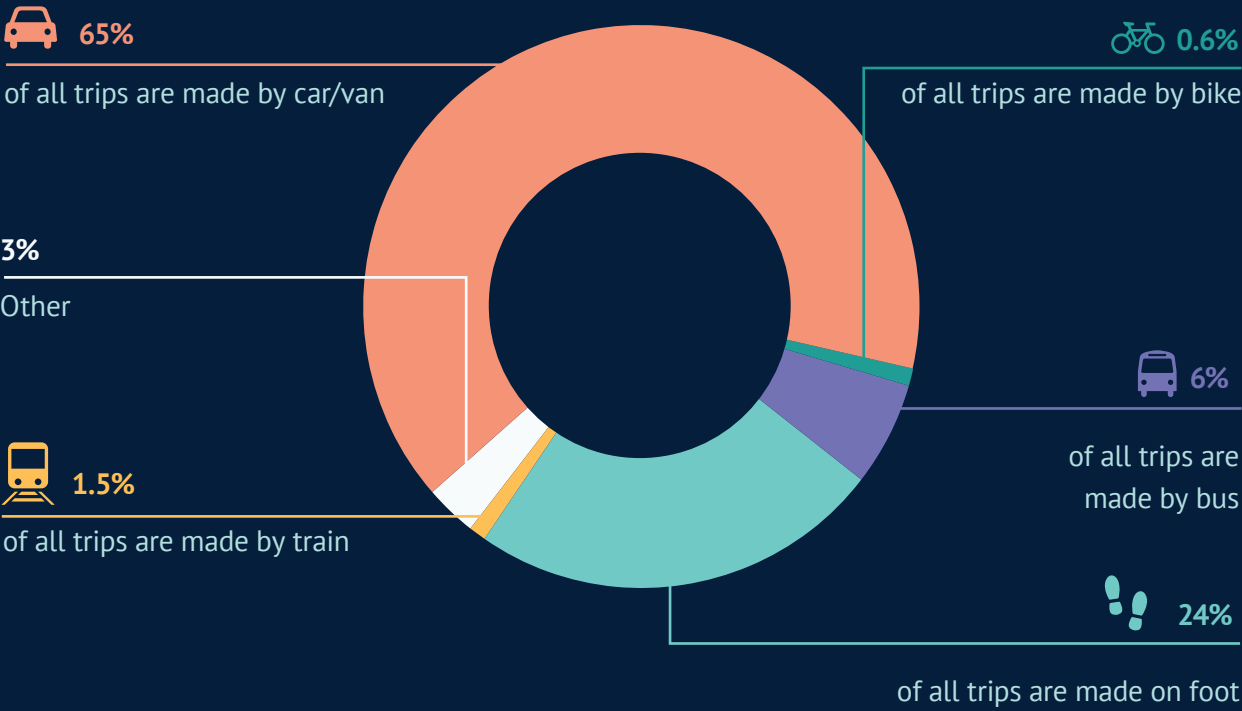
Looking forward, poor access to key development sites is holding back job creation and house building, and established communities associated with traditional industries are becoming increasingly cut off from new job opportunities in the region.

This illustration reveals the commuting patterns of West Yorkshire residents, the diversity of trips, and the region's poly-centric nature. The width of the lines represent the number of commuters and highlights some major commuter flows between our places.

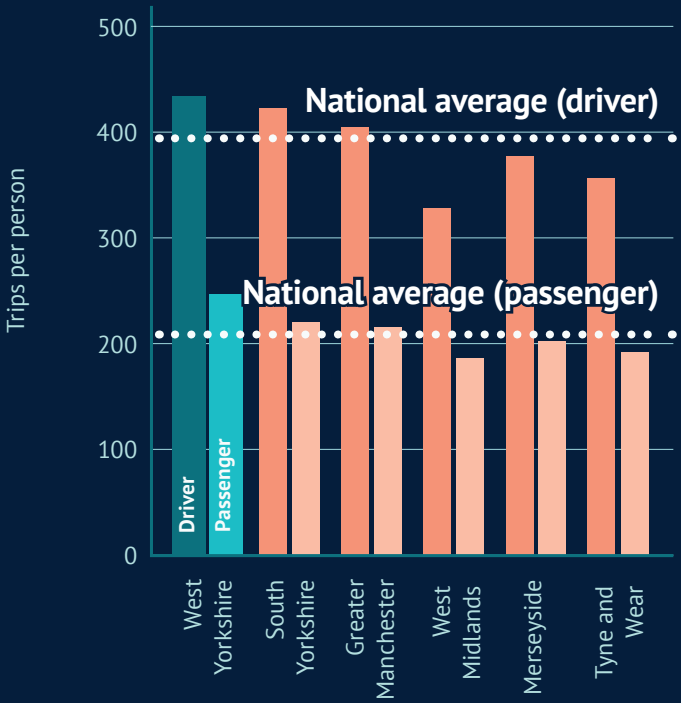


Commuting patterns  
Source: Census 2011 travel-to-work data

## Mode share for all journeys in West Yorkshire



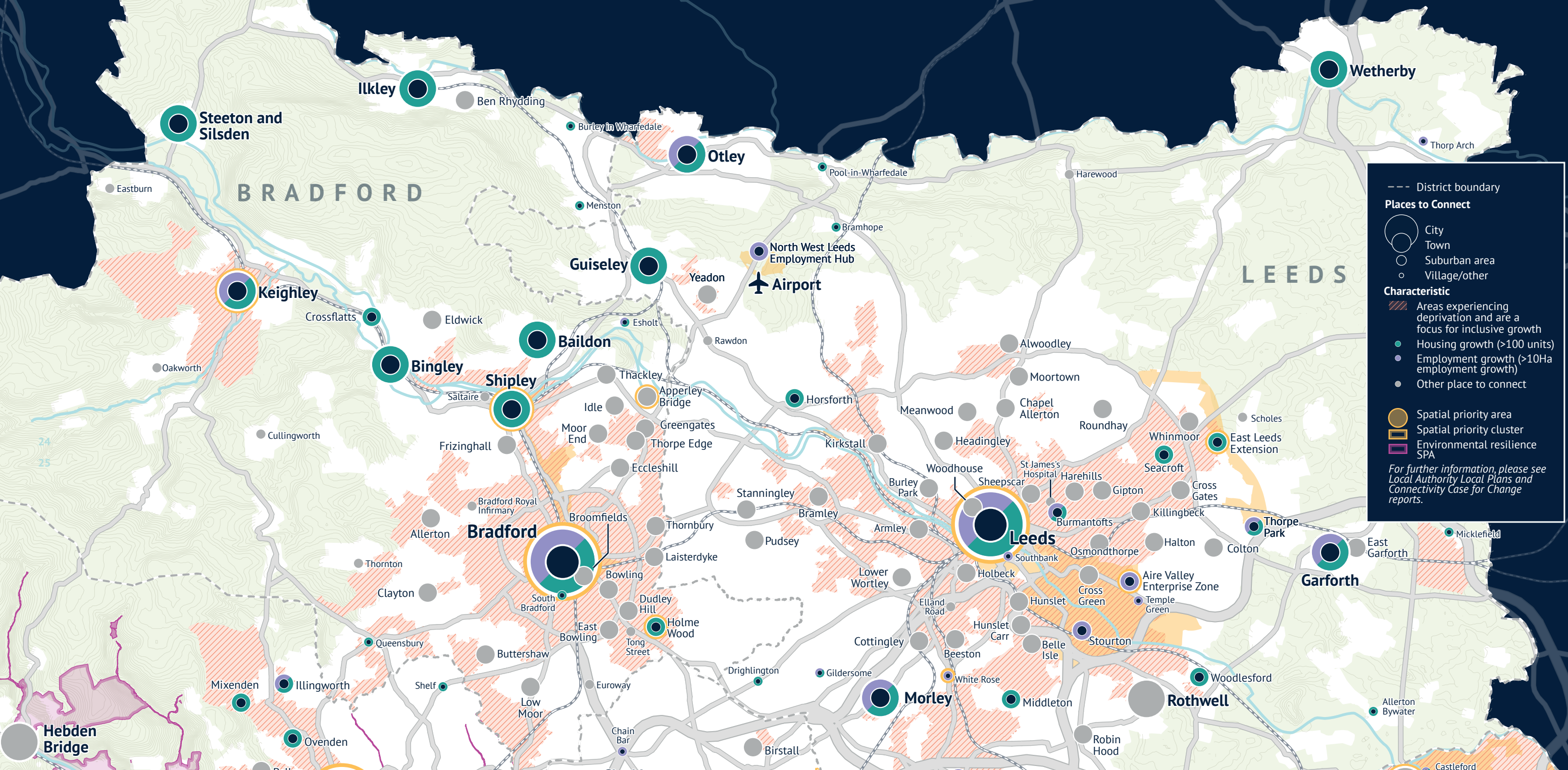
## Car trips per person



643 car trips per person are made in West Yorkshire per year, the highest of the metropolitan areas, and higher than the national average for both car drivers and car passengers.

Sources: National Travel Survey, Census 2011 travel-to-work data.





## Leeds Bradford Area

The cities of Leeds and Bradford sit at the heart of our region. These two city centres are 8 miles apart.

When the total populations of both districts are combined, their population is close to 1.3 million - bigger than the population of Birmingham (the UK's second largest city).

Leeds is one of the UK's fastest growing cities and is home to a quarter of the region's population and a third of jobs.

Four universities sit alongside a diverse business base. It is home to a major financial and professional services sector and has concentrations of globally significant manufacturing, healthcare and digital technology firms.

Bradford has the fastest growing working age population of any district outside London and Bradford has above average concentrations of production, manufacturing, energy and utility businesses and is home to a Digital Health Enterprise Zone and the technology led University of Bradford.

## Transport Challenges:

- High levels of peak-time traffic congestion on radial routes and on the motorway network.
- Poor air quality within Bradford's outer ring road, Leeds city centre and areas to the north.
- Poor bus services, even in peak hours, for some existing and future job and housing areas.
- 40% of the population have access to just one bus per hour outside of peak periods.

- Many parts of the area are not connected to the rail network.
- Rural villages such as as Thorp Arch are not connected by bus.
- Limited segregated cycle infrastructure on major corridors or outside of main city centres.
- Cycle routes outside urban centres are off highway with limited potential for all year travel.





# Calderdale, Kirklees and South Bradford

The south-west of our region offers a varied landscape of urban and rural areas within the districts of Calderdale, Kirklees and parts of Bradford.

Halifax is a centre for financial services and the location of the Lloyds Banking Group headquarters. It has a higher than UK average of employment in advanced engineering and manufacturing (AEM), specialising in complex components.

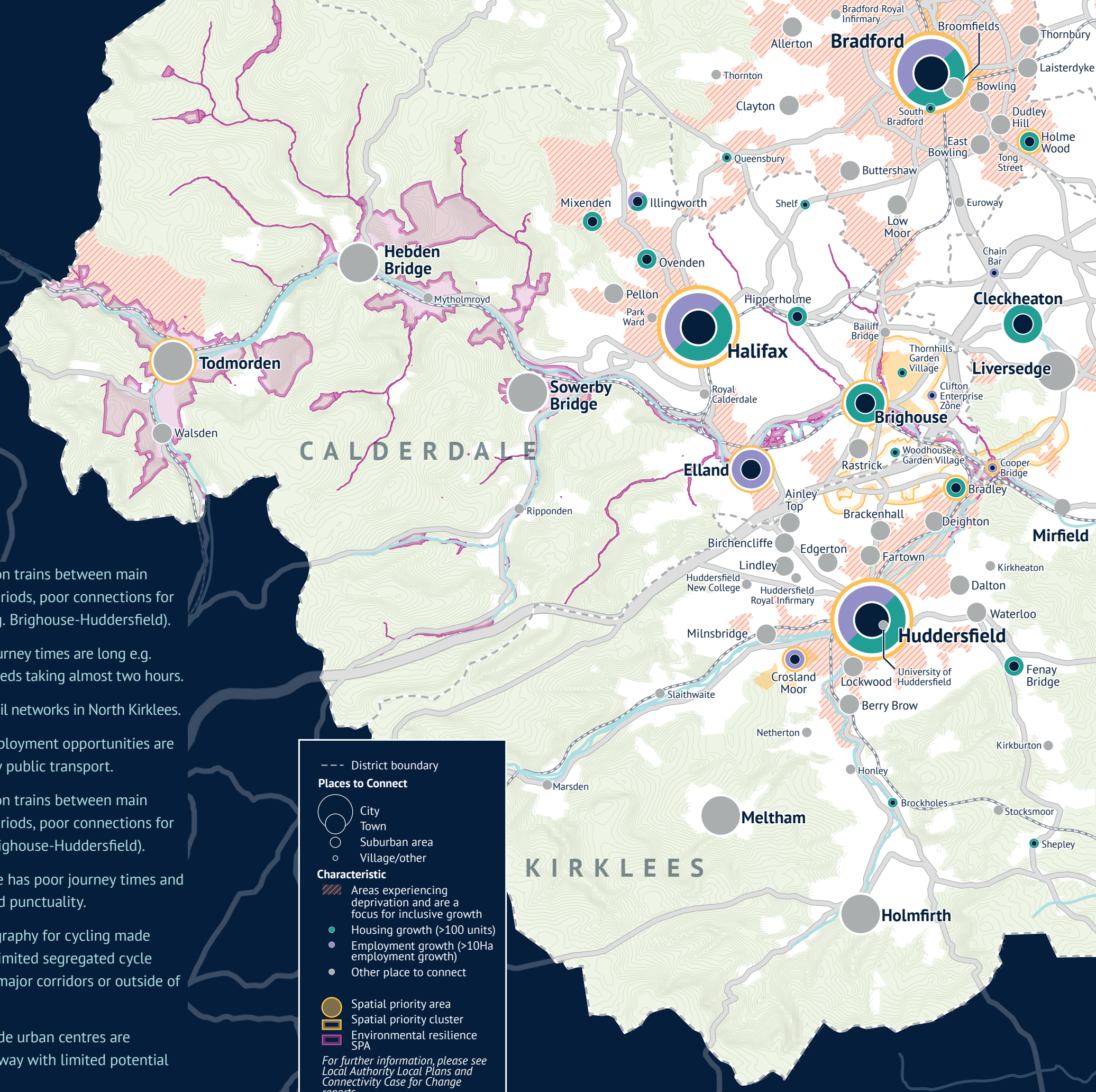
Huddersfield has a strong asset base provided by the University of Huddersfield, Huddersfield New College, several advanced manufacturing companies, growing creative industries and a relatively robust retail offer.

Between Halifax and Huddersfield there are smaller settlements including Elland and Brighouse, and to the north east of Huddersfield are the built-up areas of Heckmondwike, Batley, Cleckheaton, Dewsbury, Ravensthorpe and Mirfield.

## Transport Challenges:

- High levels of traffic congestion on the M62 and on the A62, A636, A638 and routes into Huddersfield (Kirklees) and the A646, A644, Stump Cross, Hipperholme crossroads and routes in to Halifax (Calderdale).
- Low car ownership in Ravensthorpe and north of Huddersfield, Dewsbury, Halifax (Ovenden, Mixenden, Park Ward) and parts of South Bradford.
- 55% of the population have access to only one bus service or less per hour, outside of peak periods.
- The quality of bus offer is poor in many areas with limited services and/or unreliable bus journey times.

- Severe crowding on trains between main centres in peak periods, poor connections for smaller places (e.g. Brighouse-Huddersfield).
- End-to-end bus journey times are long e.g. Huddersfield to Leeds taking almost two hours.
- Poor links to the rail networks in North Kirklees.
- Many existing employment opportunities are not well served by public transport.
- Severe crowding on trains between main centres in peak periods, poor connections for smaller places (Brighouse-Huddersfield).
- The Penistone line has poor journey times and poor reliability and punctuality.
- Challenging topography for cycling made more difficult by limited segregated cycle infrastructure on major corridors or outside of main city centres.
- Cycle routes outside urban centres are generally off highway with limited potential for all year travel.



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District boundary

**Places to Connect**

City

Town

Suburban area

Village/other

**Characteristic**

Areas experiencing deprivation and are a focus for inclusive growth

Housing growth (>100 units)

Employment growth (>10Ha employment growth)

Other place to connect

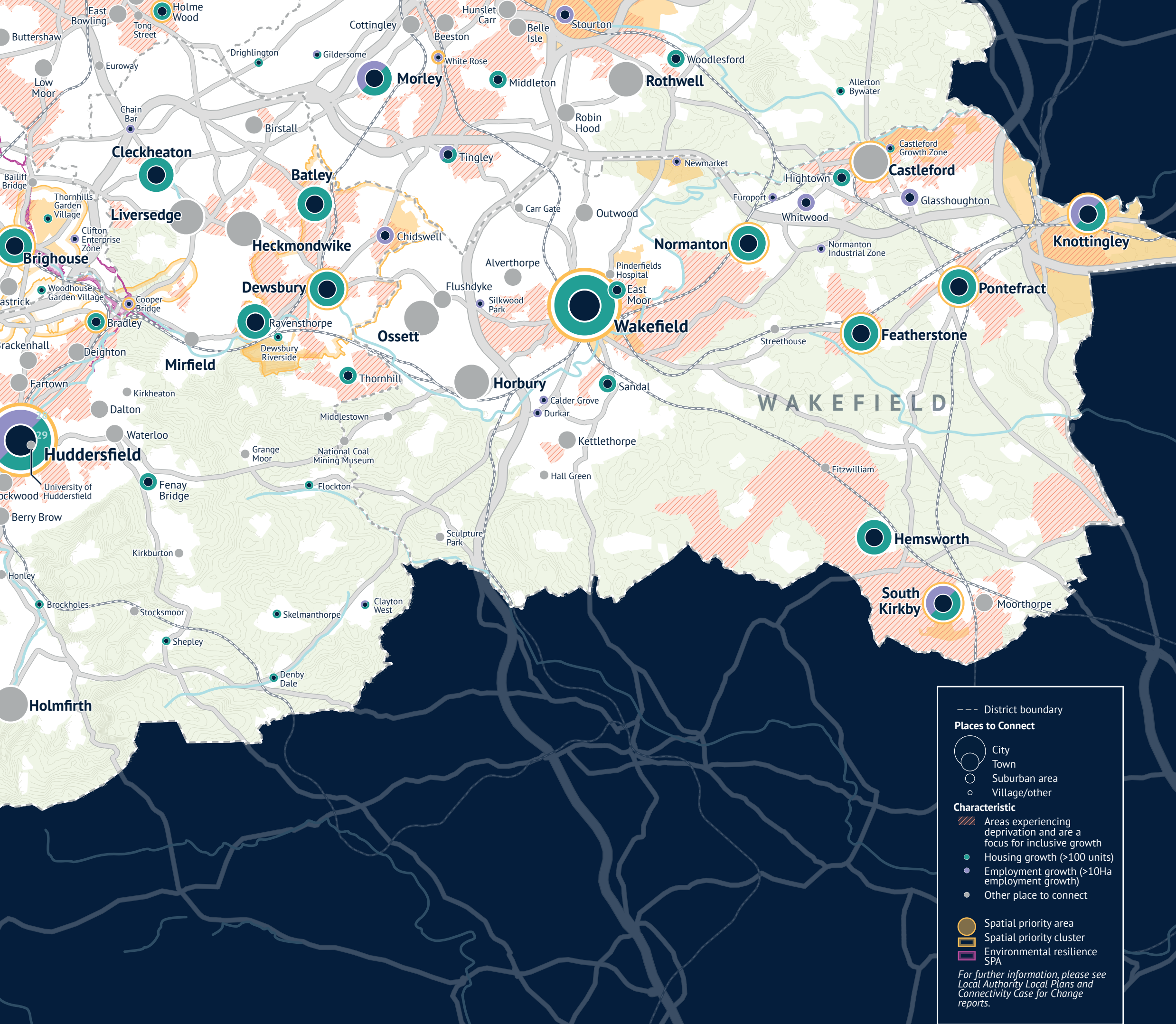
Spatial priority area

Spatial priority cluster

Environmental resilience SPA

For further information, please see Local Authority Local Plans and Connectivity Case for Change reports.





## Wakefield and the Five Towns area

The south east of our region is home to the city of Wakefield which has a population of 127,000. The city has a diverse and wide range of services, which have enabled it to exert a greater influence and attraction than its size would suggest. The current principal economic sectors are motor trades, retail and wholesale, manufacturing and transport and storage, as well as public services.

To the north-east of Wakefield are the Five Towns, comprising Castleford, Pontefract, Normanton, Knottingley and Featherstone - these towns can be perceived to be isolated from the wider region due to a range of factors including their poor connectivity.

## Transport Challenges

- High levels of peak-time traffic congestion on M621, M62, A655 and A645 and through Wakefield City Centre.
- Several rail stations remotely located from centres of population and jobs.
- Limited bus services - with existing jobs adjacent the M62 particularly poorly served by bus with shift patterns falling outside public transport operating hours.
- End-to-end bus journey times are long - Huddersfield to Leeds takes almost two hours.
- Poor public transport connectivity within the Five Towns.
- Limited bus service provision, even in peak hours for some areas.
- A good topography for cycling but limited segregated cycle infrastructure on major corridors or outside of main city centres.
- Cycle routes outside urban centres are off highway with limited potential for all year travel.

--- District boundary

**Places to Connect**

- City
- Town
- Suburban area
- Village/other

**Characteristic**

- Areas experiencing deprivation and are a focus for inclusive growth
- Housing growth (>100 units)
- Employment growth (>10Ha employment growth)
- Other place to connect

Spatial priority area

Spatial priority cluster

Environmental resilience SPA

*For further information, please see Local Authority Local Plans and Connectivity Case for Change reports.*

# The Plan

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# Our concept for connectivity

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We are planning for the right mode of transport, in the right place, at the right time.



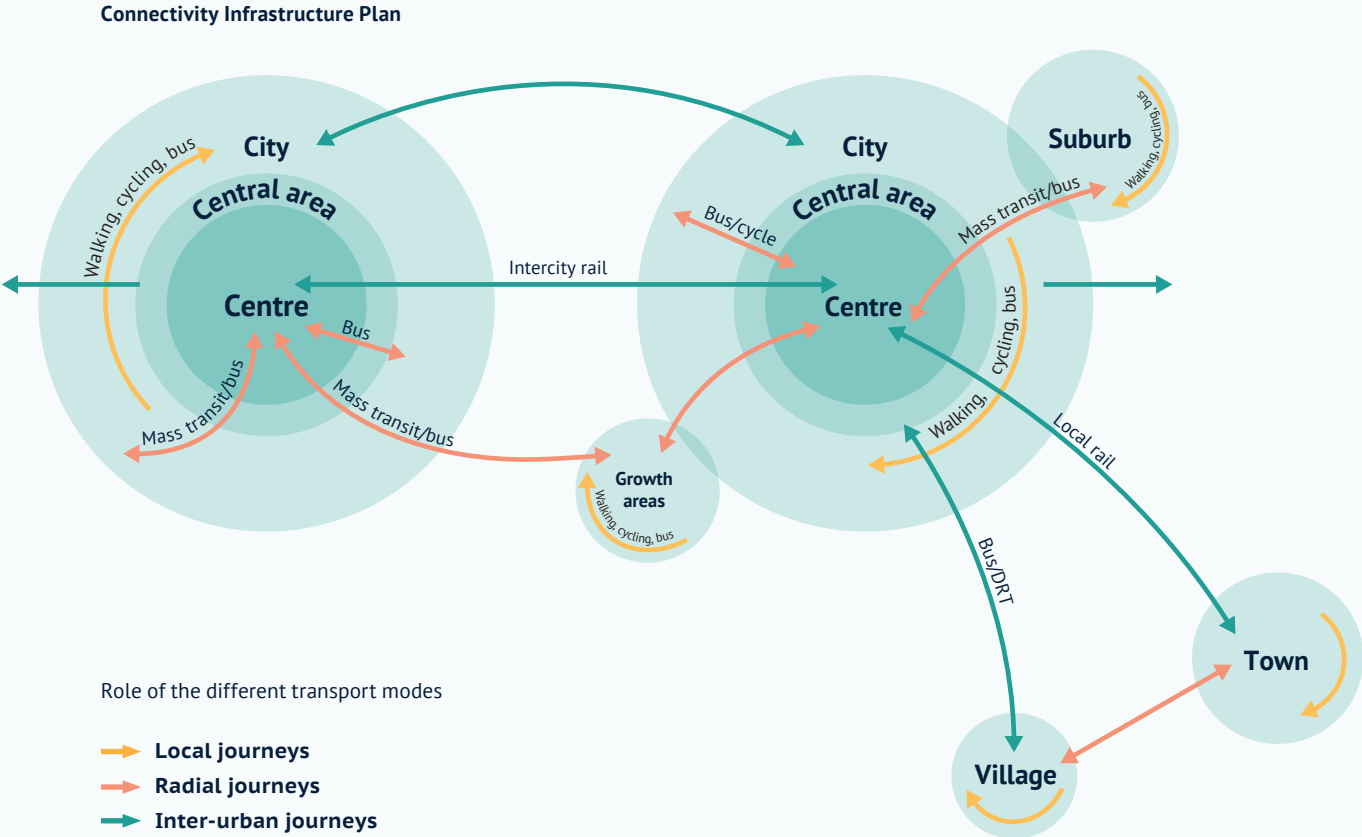
Different modes of transport meet different needs, helping address the capacity challenge in different ways.

Efficient transport systems in other regions and countries integrate different modes, enabling the best mode to be used for a particular type of trip, or part of a trip. In this way transport systems can meet demand and address local needs and local economic challenges.

In developing our plan for future investment priorities, we're considering the opportunities and challenges for different types of journey.

Our aim is to join all of our solutions up to create one integrated and seamless transport system, which meets the needs of all of these journey types.

We describe the role of the different transport modes in the diagrams over the page.



Journey	Strategic Highway	Local Highway	Intercity Rail	Local Rail	Mass Transit	Bus	Walking	Cycling	Future Mobility/Digital	Priorities	West Yorkshire Connectivity Plan
Pan Northern, National & international journeys	●	●	●							Transpennine Route Upgrade Northern Powerhouse Rail High Speed 2 Road Investment Strategy 2 schemes Leeds Station Capacity Rail Freight	Work with Industry partners to secure delivery of key priorities
Inter-urban journeys	●	●		●	●					Increase in capacity of local rail Introducing Mass Transit to infill the gaps Pinch points in highway network	West Yorkshire Connectivity Plan to set out the key Investment priorities
Radial Journeys		●		●	●	●	●	●	●	Bus priority corridors Mass Transit on higher demand corridors Strategic Cycle Routes	West Yorkshire Connectivity Plan to set out the key Investment priorities
Local journeys						●	●	●	●	Streets for People' Cycling, Walking, public realm First and last mile freight	Work with district partners to deliver local priorities
Virtual journeys									●		West Yorkshire Connectivity Plan to set out the key Investment priorities

### Our Design Principles

In transforming our transport system we will learn from past experiences and bring together the best elements of systems found elsewhere in the UK and beyond.

But our infrastructure design will follow these overarching principles:

Our transport places will be designed for, and with, people. We will create spaces that are safe, easy to use and enjoyable.

Infrastructure will be inclusive and accessible for all ages and abilities, and will reflect our diverse communities.

We will build in green and blue infrastructure. Our schemes will support bio-diversity, whilst minimising transport's contribution to carbon emissions.

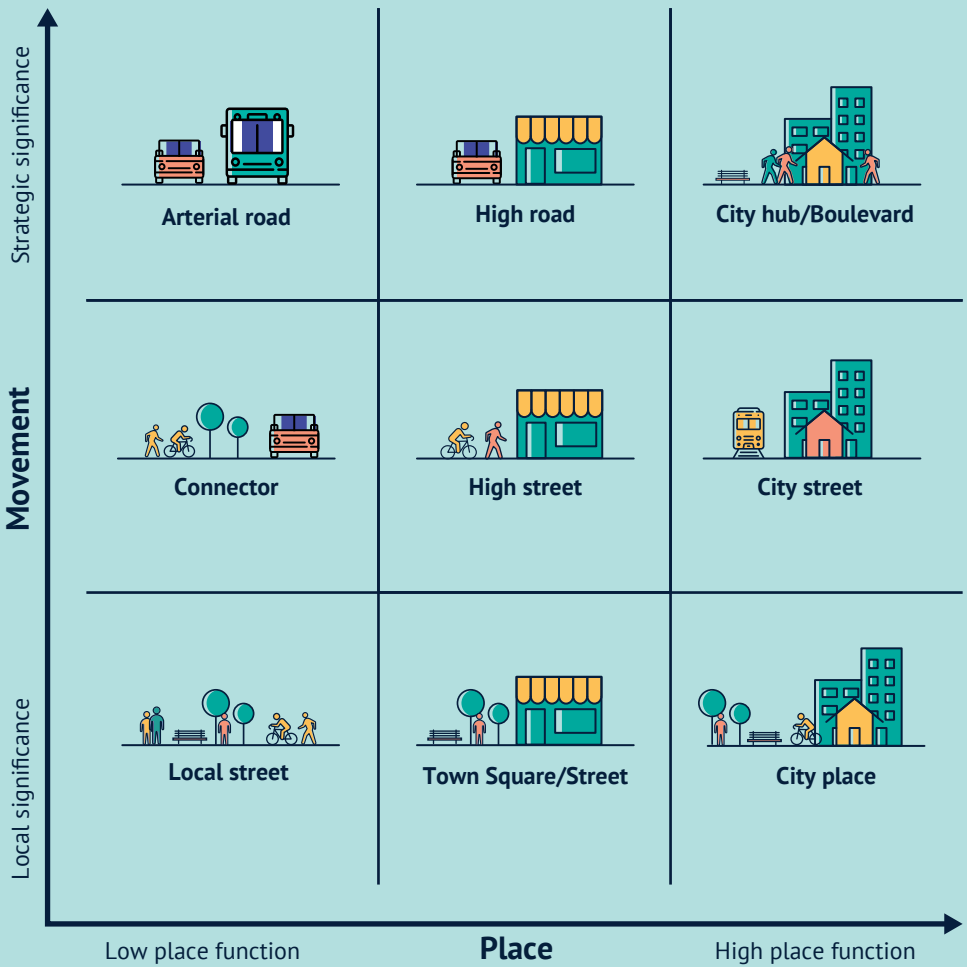
We will apply new and emerging technologies which are not yet commonplace in UK. We want to be a world leader.

### Our proposed movement hierarchy

Our design principles will be supported by a hierarchy of movement. In this hierarchy streets are understood by the importance of their place and movement functions, and the mix and balance of different transport modes.

Any well-functioning and successful place will have a variety of street types that serve different roles and functions.

We propose a straightforward categorisation of street types. This approach helps define the roles played by different street types and the priorities and 'service standards' associated with them. This will provide a framework for making decisions that balance competing demands for limited road space, and guide proposals. City planners and engineers, community groups and stakeholders will all play a part in developing infrastructure proposals within this framework.



### Our investment programme

This Plan sets out our initial proposals for a forward pipeline of transport infrastructure improvements to 2040.

We identify where investment is most required, providing a spatial picture of our transport investment priorities. We identify proposals for walking and cycling, for public transport – bus, rail, urban mass transit, demand responsive transport – and the private car.

Our proposals are shown in three programmes:

**A. Schemes for delivery by 2025**

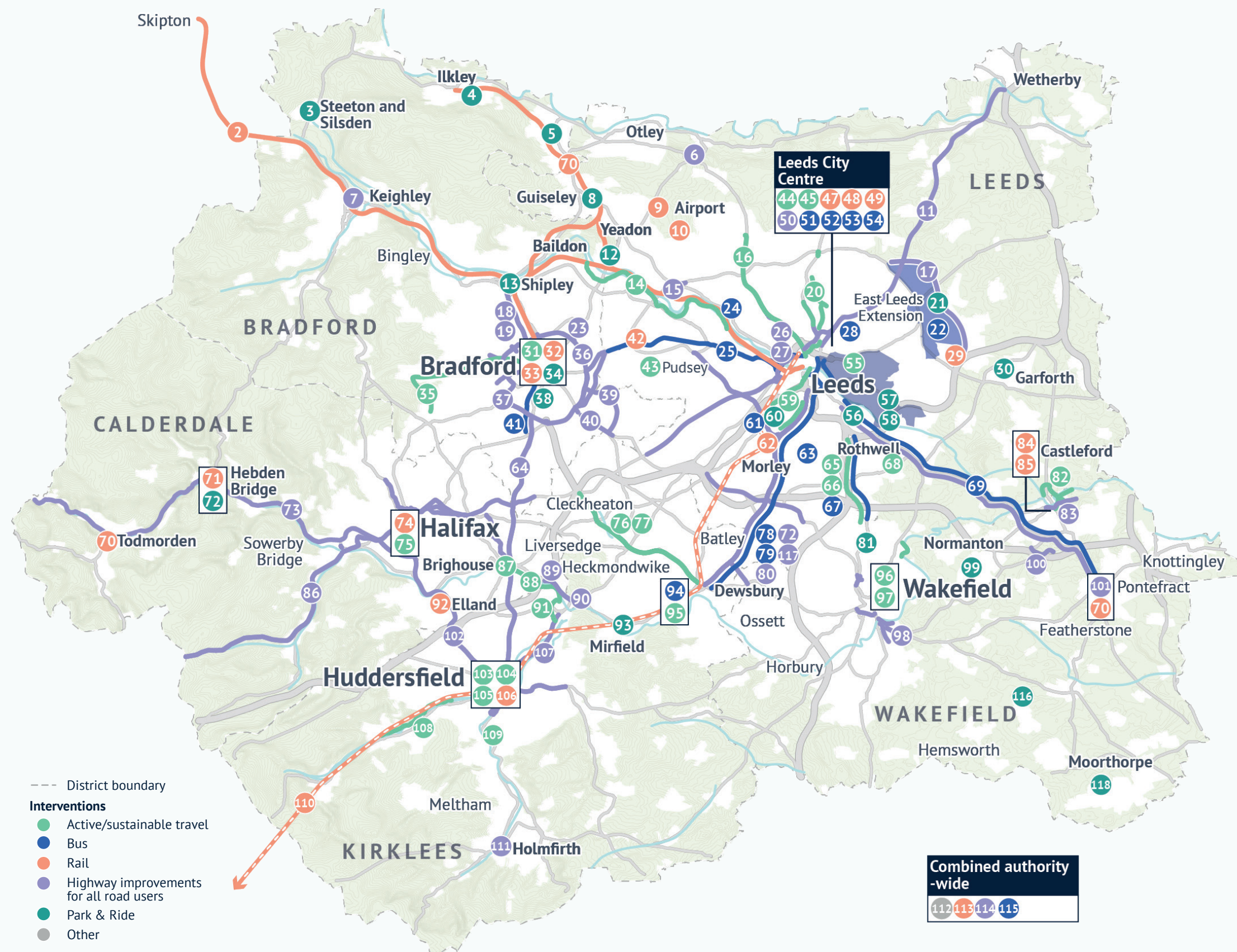
**B. Strategic Priorities, for development and/or delivery by 2025**

**C. Options for delivery between 2026 - 2040**



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There are other schemes already in industry processes for larger scale rail interventions with their development being assisted by the Combined Authority and partner councils and to be taken forward by our delivery partners including Network Rail, HS2 Ltd and the Train Operating Companies. The Combined Authority expects a start to be made on their delivery before 2025.



Details of the schemes shown and numbered on the map above are provided in Appendix 1 to this Connectivity Infrastructure Plan.



Table 1: Programme A. Schemes for delivery by 2025

Funding Programme	Mode	Committed Funding	Funding to:	Headline Schemes	Delivery Partner
West Yorkshire plus Transport Fund	<div><div></div><div></div><div></div><div></div></div>	£1,000,000,000	31 March 2021 (Local Growth Deal) - with additional funding to allow completion of programme beyond 2021	Actions supporting growth across the Region. Includes City Connect walking and cycling schemes, rail improvements including park and ride, improved station facilities and new stations, and targeted road improvements and new road schemes.	All West Yorkshire districts, Combined Authority and York
Leeds Public Transport Investment Programme	<div><div></div><div></div><div></div></div>	£270,000,000	31 March 2021	Actions aimed at doubling bus patronage and improving public transport across Leeds. Includes improvements to rail, road and bus infrastructure.	Combined Authority, Leeds and Bus Operators
Transforming Cities Fund	<div><div></div><div></div></div>	£317,000,000 plus higher TCF scenario for West Yorkshire to be supported	31 March 2023	Actions to improve people's access to public transport, cycling and walking. Includes bus priority measures and walking and cycling infrastructure.	All West Yorkshire districts, Combined Authority, Harrogate, Selby, Craven, York
Active Travel Fund	<div><div></div></div>	12,565,000	31 March 2021/ 2022	Temporary interventions include: Pop up schemes to provide safe environments for walking and cycling. Permanent interventions will provide segregated cycling routes, ebike charging, cycle parking, pedestrian crossings and improvements, behavioural change programmes.	All West Yorkshire districts and Combined Authority
Getting Building Fund	<div><div></div></div>	£52,600,000	31 March 2022	Actions supporting economic recovery. Includes some cycling and walking projects	All West Yorkshire districts and Combined Authority
Clean Bus Technology Fund	<div><div></div><div></div></div>	£2,975,875	31 March 2021	Actions supporting Air Quality improvements Includes upgrade of buses to clean technology	Combined Authority, Bus Operators

Funding Programme	Mode	Committed Funding	Funding to:	Headline Schemes	Delivery Partner
Ultra Low Emissions Buses	<div><div></div><div></div></div>	£617,000	31 March 2021	Actions supporting Air Quality improvements. Includes upgrade of buses to clean technology.	Combined Authority, Bus Operators
Local Transport Plan - Integrated Transport Block	<div><div></div><div></div><div></div><div></div></div>	£13,100,000	Annual allocation	Actions supporting small scale transport improvement schemes.	All West Yorkshire districts and Combined Authority
Highways Maintenance / Pothole Action	<div><div></div></div>	£29,997,000	Annual allocation	Highways Maintenance / Pothole Action Fund.	All West Yorkshire districts
Access for All	<div><div></div></div>	£700,000	2023	Schemes to make rail stations accessible.	Combined Authority, Network Rail, Train Operators

- Active/sustainable travel
- Bus
- Rail
- Highway improvements for all road users
- Park & Ride
- Other

# B. Strategic Priorities for development and/or delivery by 2025

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These are our strategic priorities for development and potential delivery over the next 5 years.

Across all these programmes we will consider the needs of all users and develop interventions to ensure equality of access.



Connectivity Infrastructure Plan

Table 2: Programme B Strategic Priorities for development and/or delivery by 2025

Outcome	Mode	Intervention	Programme	Description
More people walking and cycling	●	Walking and cycling	Local Cycle and Walking Infrastructure Plans (LCWIP)	Develop further phases of CityConnect cycling and walking networks Develop and deliver LCWIP Phase1 schemes Identify the next tranche of LCWIP Phase 2 areas to prioritise investment in walking and cycling networks. Develop and deliver Streets for People proposals for local centre and neighbourhood improvements for walking and cycling Schemes to be developed and delivered to DfT Cycle infrastructure design guidance (LTN 1/20).
	●	Rail	Trans Pennine Route Upgrade (TRU)	Make the case for delivery of TRU, including full electrification and provision for freight, as soon as possible.
	●	Rail	Northern Powerhouse Rail (NPR)	Develop and deliver an NPR solution which includes a new line through the centres of Manchester, Bradford and Leeds.
	●	Rail	Leeds Station capacity	Make the case for the masterplan to relieve pedestrian capacity constraints at the station and for the business cases for track improvements to reduce the capacity constraints.
	●	Rail	HS2	Develop and deliver High Speed Rail Phase 2B to Leeds.
More people using public transport	●	Rail	Electrification	Develop and deliver a rolling programme of electrification following on from Transpennine Route Upgrades (TRU).

Outcome	Mode	Intervention	Programme	Description
More people using public transport	<div></div>	Rail	Upgrades to East Coast Mainline	Support the development for a clear plan for the route against which a pipeline of short, medium and long-term investment can be developed and implemented.
	<div></div>	Rail	West Yorkshire Rail Strategy	Develop and deliver the West Yorkshire Rail Strategy to address rail network gaps within our region.
	<div></div>	Bus	Bus Partnership	Develop ambitious proposals to strengthen our partnership with bus operators to stabilise the network in the short-term and create an attractive offer for customers to incentivise patronage growth.
	<div></div>	Bus	Bus Options	Continue to review the case, post-COVID, for introducing bus franchising and press the Government to give local areas the freedom and funding to pursue the options we believe are appropriate to meet local needs, including through public ownership of the bus system.  In the short term work towards an Enhanced Partnership with bus operators
	<div></div>	Mass Transit	Mass Transit Phase 1 & 2	Develop a Low Carbon West Yorkshire Mass Transit System proposal. Deliver a first phase during the mid-2020s. Safeguard route options for future extensions.
	<div></div>	Future Mobility	Information, Services, Technology	Develop and deliver future mobility services to increase sustainable travel options through the better integration of transport services maximising use of new future mobility and demand responsive technologies.

Outcome	Mode	Intervention	Programme	Description
More people using public transport	<div></div>	Decarbonisation of transport fleet	Alternative Fuels	Develop and deliver a strategy to support the move to alternative fuels for vehicles.
	<div></div>	Road	Highways Maintenance - highways, bridges and lighting columns	Continue to make the case for sustained and sufficient investment for maintaining the road network for all road users.
	<div></div>	Road	Demand Management	Examine the evidence and blend of policy options required to introduce Highways Demand Management to help address the climate emergency by reducing car trips.
	<div></div>	All Modes	Park and Ride	Develop a West Yorkshire Park and Ride strategy which identifies areas for park and ride prioritisation and expansion. Delivery coordinated with Rail, Bus and Mass Transit proposals
<div><div></div> Active/sustainable travel</div> <div><div></div> Bus</div> <div><div></div> Rail</div> <div><div></div> Highway improvements for all road users</div> <div><div></div> Park &amp; Ride</div> <div><div></div> Mass transit</div> <div><div></div> Future mobility</div> <div><div></div> Other</div>				

# C. Options for delivery between 2026 – 2040

Our vision is of an integrated, coherent transport network that offers easy, seamless, door to door journeys. This part of the investment programme sets out our plan for creating comprehensive and joined-up networks for each of the main modes of transport.

We have identified a range of options, informed by our evidence, that provides a starting point for the identification of spatial and scheme priorities.

Active travel improvements will build on our partner councils' existing cycle strategies with the roll out of our approach for community led Local Cycling and Walking Infrastructure Plans.

Bus improvements will build on the Strategic Bus Networks Review identification of infrastructure requirements needed to strengthen our core bus network and grow patronage.

Mass Transit routes, set out in our Mass Transit Vision 2040, will be delivered with the support of our partner councils, the business community and the Government.

Our Rail options will be developed through our Rail Strategy work in consultation with industry partners and the Government .

Our options are summarised in Table 3, Programme C, with fuller details provided in Appendix 2.

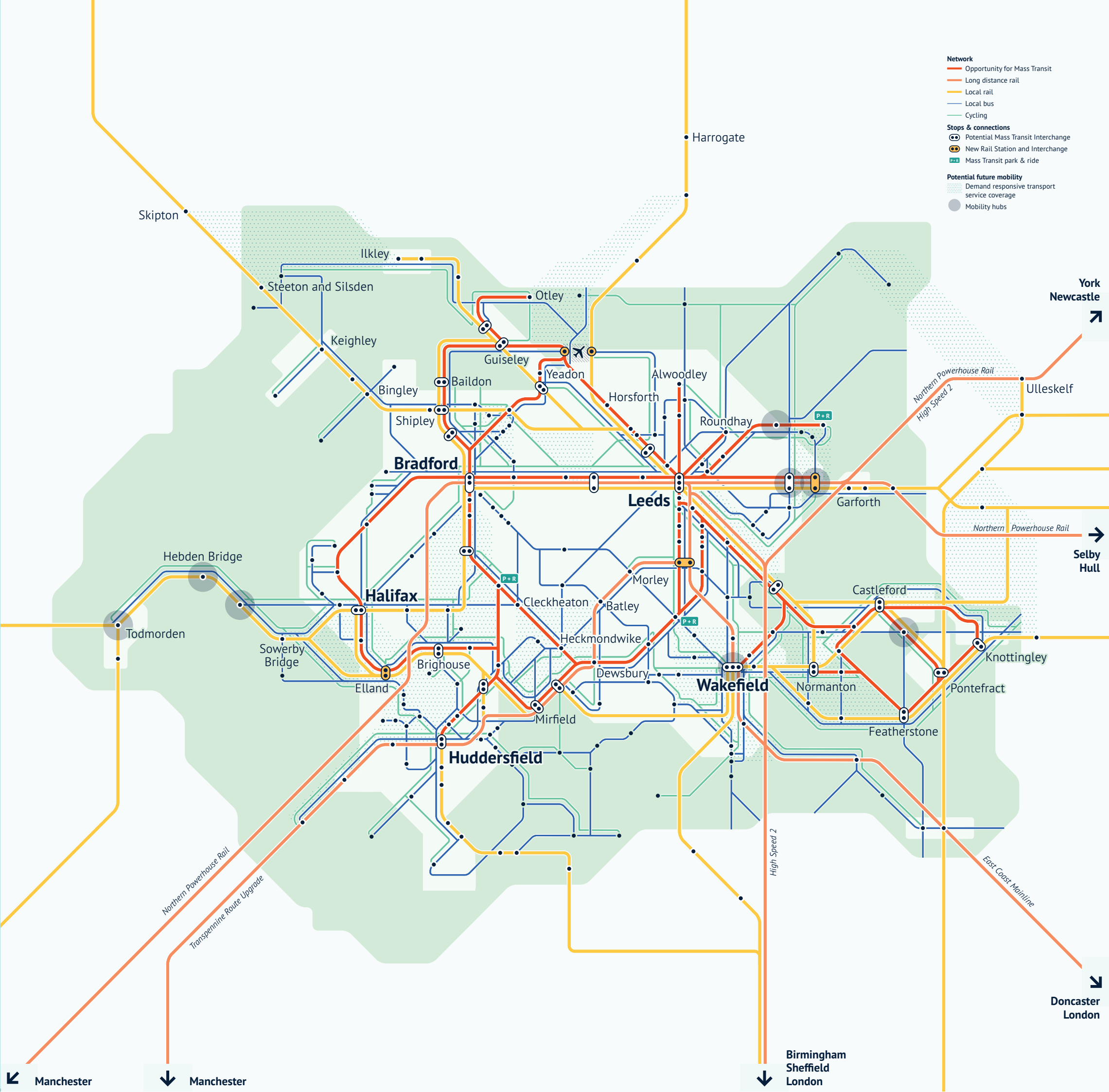




Table 3: Programme C. Options for delivery between 2026 – 2040

Outcome	Mode	Intervention	Programme	Description	Details
More people walking and cycling	<div><div></div><div></div></div>	Active Travel	Streets for People	Low traffic town and city centres and neighbourhoods - delivering local walking, cycling, traffic management, placemaking and urban realm improvements.	Local Cycling and Walking Infrastructure Plans
	<div><div></div></div>	Active Travel	Strategic cycle networks	Comprehensive network of cycle routes – delivering segregated, high quality strategic cycle routes.	Local Cycling and Walking Infrastructure Plans
	<div><div></div></div>	Bus	Bus priority	Quality bus corridors - delivering bus priority including re-allocation of road space to improve bus performance.	West Yorkshire Strategic Bus Network Review
	<div><div></div></div>	Bus	Park and Ride	Strategic network of bus park and ride sites serving main centres .	West Yorkshire Strategic Bus Network Review
	<div><div></div></div>	Bus	Bus interchange	Improved bus waiting and station facilities, local access improvements, and interchange including new bus hubs.	West Yorkshire Strategic Bus Network Review
	<div><div></div></div>	Rail	Rail station improvements	Improved rail station access and interchange – delivering entrance and accessibility improvements, new or extended platforms, cycle parking provision.	West Yorkshire Rail Strategy
	<div><div></div></div>	Rail	Access to rail stations	Improve rail interchange, particularly with bus, walking and cycling.	West Yorkshire Rail Strategy
	<div><div></div></div>	Rail	Rail infrastructure	Heavy Rail Upgrades – delivering increased capacity and reliability for rail passenger and freight services, including to the local network as well as the completion of TRU, HS2 and NPR.	West Yorkshire Rail Strategy
	<div><div></div></div>	Rail	New Rail stations	New Rail stations.	West Yorkshire Rail Strategy
	<div><div></div></div>	Mass Transit	New Mass Transit network	Low Carbon West Yorkshire Mass Transit System - delivering extensions to the first phase.	Mass Transit Case Making
More people using public transport	<div><div></div></div>	Future Mobility	Demand responsive transport	Flexibly routed bus services booked through apps – delivering convenient and flexible smart services that respond to customer needs and complement the existing transport network.	Future Mobility Strategy
	<div><div></div></div>	Future Mobility	Mobility Hubs	Network of hubs offering a range of transport modes and services - delivering interchange opportunities between modes to support sustainable travel choices.	Future Mobility Strategy
	<div><div></div></div>	Future Mobility	Mobility as a Service (Ticketing and Transport Information)	Integrated ticketing, information, and journey planning service across multiple transport modes - delivering a convenient solution for customers to plan and pay for journeys.	Future Mobility Strategy
	<div><div></div></div>	Future Mobility	Shared Transport	Networks of shared transport options - such as car and bike share.	Future Mobility Strategy

Outcome	Mode	Intervention	Programme	Description	Details
Improve traffic flow, better provision for buses, motorcycles, cyclists, pedestrians	<div><div></div></div>	Road	Targeted road improvements	Road network improvements - delivering junction and roundabout improvements.	TfN Major Roads Report and Implementation Plan  West Yorkshire District Local Plans
	<div><div></div></div>		Electric Vehicle charge points	Public and residential electric vehicle charging network to support the transition to electric vehicles - delivering the infrastructure to support electric vehicle uptake.	Future Mobility Strategy
	<div><div></div></div>		First and last mile freight	Localised consolidation and distribution opportunities for personal collection, micro-delivery (e.g. e-cargo bike delivery) and low emission vehicles – to create opportunities for more sustainable logistic practices towns, cities and residential areas.	Future Mobility Strategy
	<div><div></div></div>		Asset maintenance and renewal New Roads	Comprehensive programme of renewals and maintenance of the transport assets, including: <ul style="list-style-type: none"><li>– Highways, bridges, structures,</li><li>– Lighting and drainage renewal</li><li>– Pothole repairs</li><li>– Flood resilience improvements</li><li>– Bus shelter and station maintenance</li></ul>	West Yorkshire District Highways Asset Management Plans  Combined Authority Asset Development Plan for Public Transport assets
Reduced need for travel; Improve network efficiency and passenger experience	<div><div></div><div></div></div>	Digital	Digitally enabled transport network	Using digital technology to enhance the management and operation of transport infrastructure, including digital signalling and real-time monitoring of infrastructure and climatic conditions.	Digital Framework West Yorkshire Rail Strategy West Yorkshire Mass Transit Vision 2040
			Digital passenger experience	Using digital infrastructure to provide a fully connected passenger experience for the all journeys and modes using 5G mobile connectivity along transport routes and station Wi-Fi.	Digital Framework West Yorkshire Rail Strategy West Yorkshire Mass Transit Vision 2040
Reduce the need for travel	<div><div></div></div>	Digital	Broadband Build Programme(s)	Deliver a range of digital infrastructure programmes to provide 100% coverage of gigabit capable broadband infrastructure to all premises by 2025.	Digital Framework
			Transport infrastructure enabling digital connectivity	Utilising a 'dig once' principle to embed digital infrastructure rollout (fibre broadband and 4/5G mobile) into capital programmes to address known gaps in digital connectivity	Digital Framework West Yorkshire Rail Strategy West Yorkshire Mass Transit Vision 2040

- Active/sustainable travel
- Bus
- Rail
- Highway improvements for all road users
- Park & Ride
- Mass transit
- Future mobility
- Other



# Policy

Delivering a high quality, integrated transport infrastructure is an essential element of our plan for achieving our economic, social and environmental objectives. But encouraging people to change how they travel calls for range of policy measures and supporting programmes. Delivering Mass Transit or bus priorities alone is unlikely to deliver a reduction in congestion, without complementary measures to reduce car demand.

Our West Yorkshire Transport Strategy 2040 states:

**“We will explore the options for raising new funding locally, including through fiscal demand management measures that support this strategy at a time when conditions are right locally**

Facing the climate emergency we must begin the technical work of exploring how we manage the demand for the road network in our region. This would include how we use generated revenue to realise the interventions contained within the Connectivity Infrastructure Plan. The direction taken over the next few years will decide whether or not we meet our carbon reduction target.

We are also looking to the Government to play its part with action on demand management at the national level to assist our decarbonisation plans.

We also need a long-term, comprehensive behaviour change programme for the region, that dismantles the barriers to cycling, walking and public transport use. We know from our experience with the award-winning City Connect programme that achieving more journeys by bike requires a network of hubs, products and services that offer people access to cycle skills training to ride a bike confidently, or simply to have access to a bike.

We are looking to the Government to provide long-term revenue funding to help deliver our behaviour change programmes.

The strengthening of communications, integrated into the development and delivery of our infrastructure is essential. Good communications will engage communities and stakeholders with our plans, programmes and projects.





# Funding the infrastructure plan

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**The current system of funding and planning for urban transport lacks long-term planning. This holds back vital improvements to public transport.**

**Our plan seeks to put in place an ambitious, yet realistic strategy that sets the trajectory for changing transport for our growing places.**

**The plan will support economic recovery post COVID-19 and allow West Yorkshire to make the most of its devolved powers. Finally, the plan will contribute to national objectives, ensuring balanced growth across every region of the country.**



## Short term funding

The proposals in section A would be funded from existing committed funding programmes, including:

- £1 billion West Yorkshire Plus Transport Fund
- £317 million Transforming Cities Fund
- £173 million Connecting Leeds programme
- £13.1 million Local Transport Plan Integrated Transport Block grant
- £12.5 million Active Travel Fund

## Longer term funding

In March 2020 the West Yorkshire Devolution Deal announced that Government was committing to a five-year, integrated transport settlement with the Combined Authority. This starts in 2022/23 and is drawn from a wider £4.2bn envelope for the whole of the UK.

At this early stage we cannot identify detailed costs, but the scale of the investment would be in line with the National Infrastructure Commission's case for a significant uplift in spend for transport within towns and cities. It will also be consistent with the scale proposed by TfN for investment in pan-northern connectivity of £60-70 billion (in current prices) over 30 years.

A Funding Framework will set out how the Combined Authority and partner councils will work with Government to design, develop, and deliver the plan over the coming decades. This will examine opportunities for private sector investment, such as market-led bus and rail proposals and a number of combined transport and energy proposals, targeting net zero carbon.

# Next steps

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**This plan is an important early stage in the identification of options for our future investment priorities.**

We are consulting on these initial proposals now. Responding to consultation feedback we will review and re-shape our plan in Spring 2021. We will also consider government spending announcements and any further developments for transport investment.

We will then start to define scheme details and estimate costs. This will include further rounds of appraisal, with increasing technical rigour, to distil our long list of options to a shorter list of preferred options and to inform sequencing for delivery.



## Assessing Carbon impacts

As part of our response to the Climate Emergency the Combined Authority is developing a carbon impact assessment toolkit which will be used to assess schemes as they progress through our assurance process. Our programme will be subject to this toolkit to ensure schemes are supporting delivery of our zero carbon targets. Our proposals are for three stage assessment:

### Stage 1 – Early Development

Check for alignment with the carbon pathways and a qualitative assessment undertaken against a range of sustainability and environmental indicators.

### Stage 2 – Developed Scheme

Quantitative assessment of the carbon emissions associated with the construction and use of the intervention undertaken.

### Stage 3 - Post Delivery

Carbon impact reassessed as part of the monitoring and evaluation and used to inform future proposals.

This plan will play its full part in developing programmes and projects that do not negatively affect the region's ability to meet the Region's net-zero carbon target. In addition to all projects undergoing a range of qualitative and quantitative carbon impact assessments as they develop (as above), our medium and longer term plans will also undergo some early, high-level assessment of their likely carbon emissions. This is to determine the combined carbon impacts of the plan. Where plans are found to be misaligned with our zero carbon ambitions, mitigations will be developed to reduce the impact. The methodology for this will be determined as part of the next stages of this work

Our intention is that the strategy and pipeline is adaptable to uncertainties and risk. Options will be stress tested to understand whether they are likely to cope with a range of future outcomes – this will include testing against different scenarios as we learn more about the full impacts of the COVID-19 pandemic and the changing working and travel patterns that COVID-19 has created.

As interventions are delivered we will evaluate their impacts to inform our evidence base - which can be fed back into the process to justify further investment. Our communities and stakeholders will continue to be involved in the process of developing the programme through the next steps.

## Using our transport investment programme to develop skills.

We will need to gear up to deliver an expanding capital programme of transport infrastructure schemes. Our transport investment is a challenge, but also a huge opportunity for the region.

There will be demand for a highly-skilled construction workforce. This demand will be in areas where there are known skills shortages civil engineers, labourers, plant operatives and logistics. But this delivery of infrastructure schemes will also provide significant opportunities for creating jobs, skills, apprenticeships and addressing social inclusion and increasing the diversity of the workforce.

The Combined Authority has an Employment and Skills Plan which sets out how we will help the construction industry to meet its long-term skills and labour needs, and maximise the jobs, skills and poverty reduction opportunities that this connectivity plan and pipeline presents.



**We want your views on this initial plan as soon as possible.**

**Have we understood the challenges and issues faced? Is our approach to spatial priorities right? Do you agree with the interventions we are proposing?**

**Our engagement on this plan begins on the 27th January 2021 and runs to 11th April 2021.**

