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3. Larger version of figures presented in Transport Committee report
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Appendix 1: Current Pipeline Illustrations and Future Connectivity Maps

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1. Vision, Strategy and Ambition

Our priorities

Leeds City Region Strategic Economic Plan sets the vision:

To move towards Leeds City Region being economically self sufficient

IDEAS

Keep the City Region and the UK at the forefront of scientific research, innovation and new technologies.

BUSINESS ENVIRONMENT

Enable businesses to start-up, innovate, trade and invest. Supporting private sector leadership to deliver a more productive City Region.

PEOPLE

Nurture future talent, address skills shortages and provide the technical skills that will drive our economy.

INFRASTRUCTURE

Invest in infrastructure to transform the places where people want to live and work and businesses invest.

PLACE

Support vibrant, people-friendly, regenerated places, no longer dominated by the car, with clean growth, high quality green infrastructure and a vibrant cultural offer.

Ambition & Vision

West Yorkshire adopted Transport Strategy vision and modal targets:

“A world class public transport system that connects different modes of transport seamlessly into one comprehensive, easy to use network.”



Leeds City Region HS2 Connectivity Strategy: ‘Inclusive Growth’

To establish the major local and regional connectivity priorities which are required to enable and maximise growth associated with HS2 coming to the Leeds City Region.

Regional Challenges and Opportunities

- Opportunities
 - Quality of Life / inclusive growth
 - Young populations
 - Diverse economy
 - Housing plans
 - Development potential
 - New and emerging technologies
- Challenges:
 - Peak congestion
 - Crowding and reliability
 - Ageing assets that are deteriorating and not accessible to all
 - Environmental and Air Quality
 - Life expectancy / health problems

Connecting Leeds City Region

Leeds city region sits at the crossroads of the UK's transport system, and is the heart of the Northern Powerhouse.

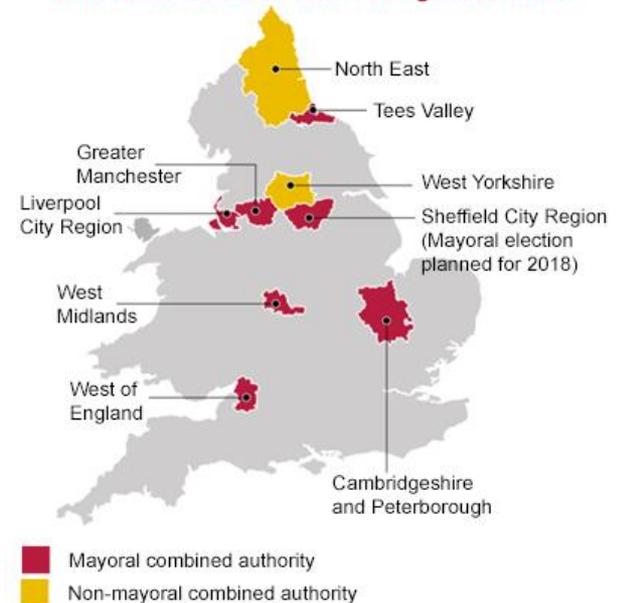
Getting the transport right here unlocks development right across the country - North/South and East/West.

It's vision is for transport connectivity that accelerates **inclusive, economic growth for the benefit of all.**

Promoting developments across the region are all local drivers of change as we cannot continue with the level of congestion, crowding and unreliability on our networks if this growth is going to happen.

Across the piece we are now getting in place the investment to begin to right a legacy of decades of underinvestment in the north. But there is much to do.

Combined authorities in England, 2017



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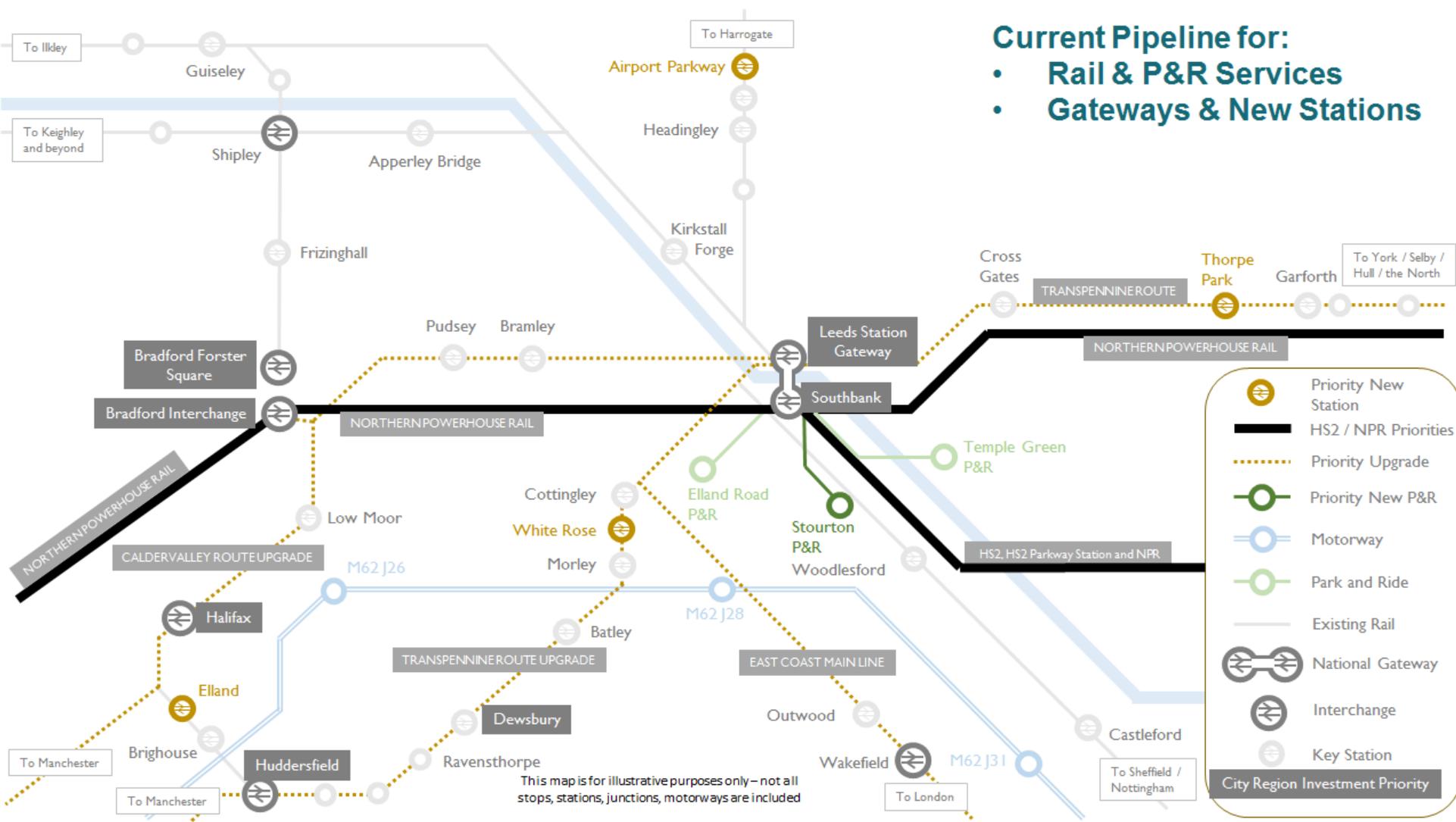
2. Current City Region Pipeline and Priorities

Making the most of national infrastructure

- **National motorways**
 - Existing problems on M1, M621, and M62
 - Interest in TfN proposals from East Lancashire to North/West Yorkshire
- **National Rail**
 - Significant growth
 - TRU and Transpennine fibre & 5G pilot (Manchester to Leeds and York)
 - HS2
 - Economic Growth across the region
 - Leeds Station
 - Touchpoints with NPR
 - Parkway station
 - Leeds EZ - Rolling Stock Depot and UoL Institute for High Speed Rail
 - NPR
 - New capacity from York to Leeds to Bradford City Centre to Manchester
 - Calder Valley
 - East Coast Mainline
 - Penistone Line
 - Leeds Question

Current Pipeline for:

- Rail & P&R Services
- Gateways & New Stations



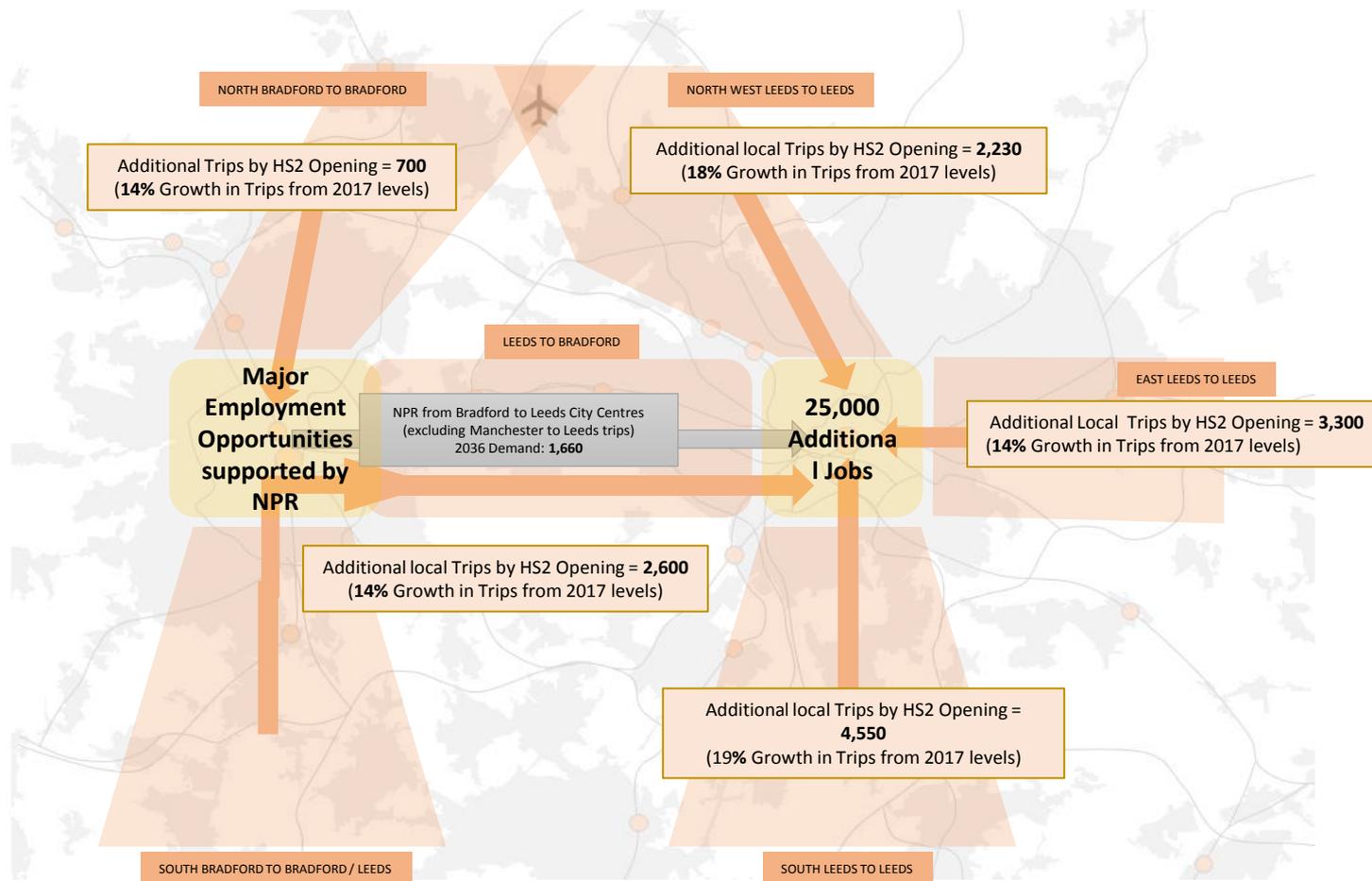
This map is for illustrative purposes only - not all stops, stations, junctions, motorways are included

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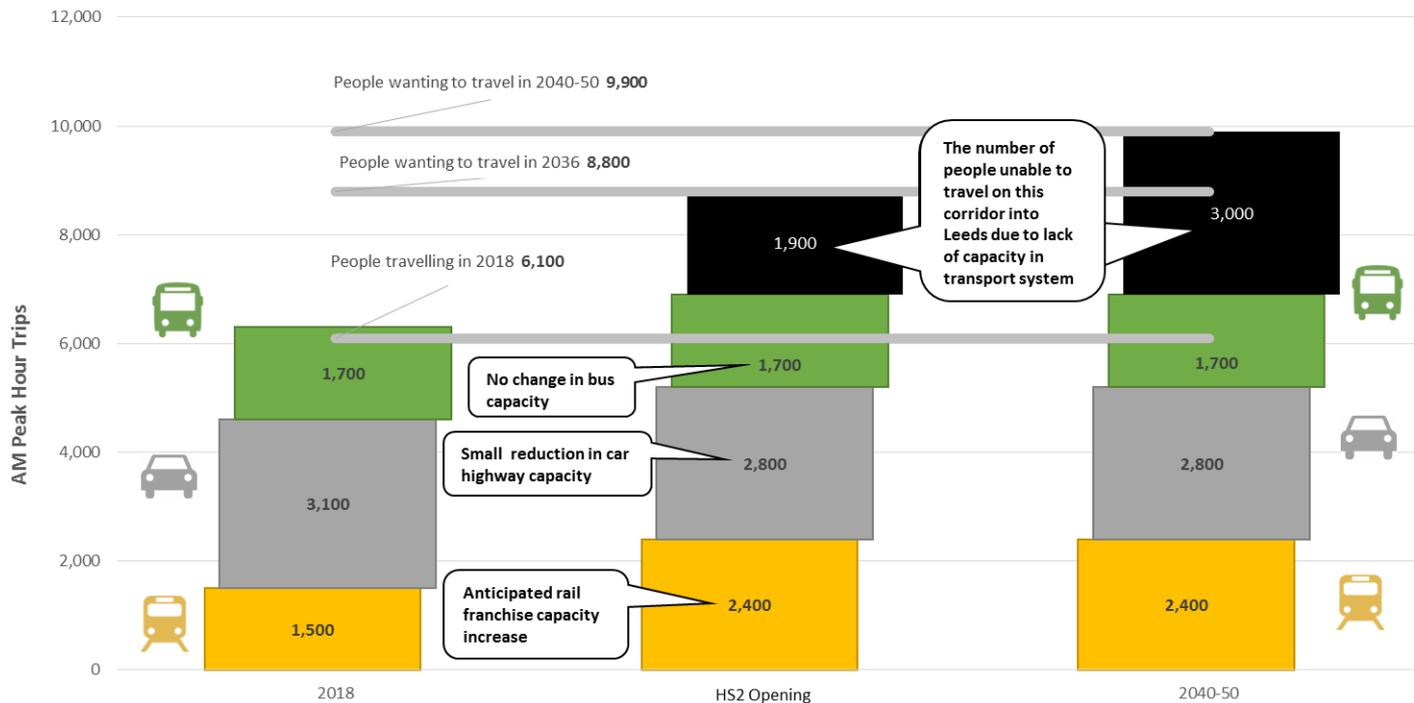
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Growth in Peak Hour Trips from Employment Growth



Leeds Bradford: Demand / Capacity Analysis



The best available Walking and Cycling information will be included in future iterations
 Chart is based on:

Demand data from the central case REM/UDM HS2 Growth Strategy scenario
 Highway count information from LCC
 Bus information from Metro bus services information
 Rail information based on existing timetables and anticipated franchise commitments
 Demand does not include any induced trips as a result of increasing frequencies or reducing journey times for example

Implications

- Even with the current committed and planned investments, there is substantial capacity gap to enable the local communities within the City Region to access the future employment opportunities.
- Rail capacity would need to more than double from current levels

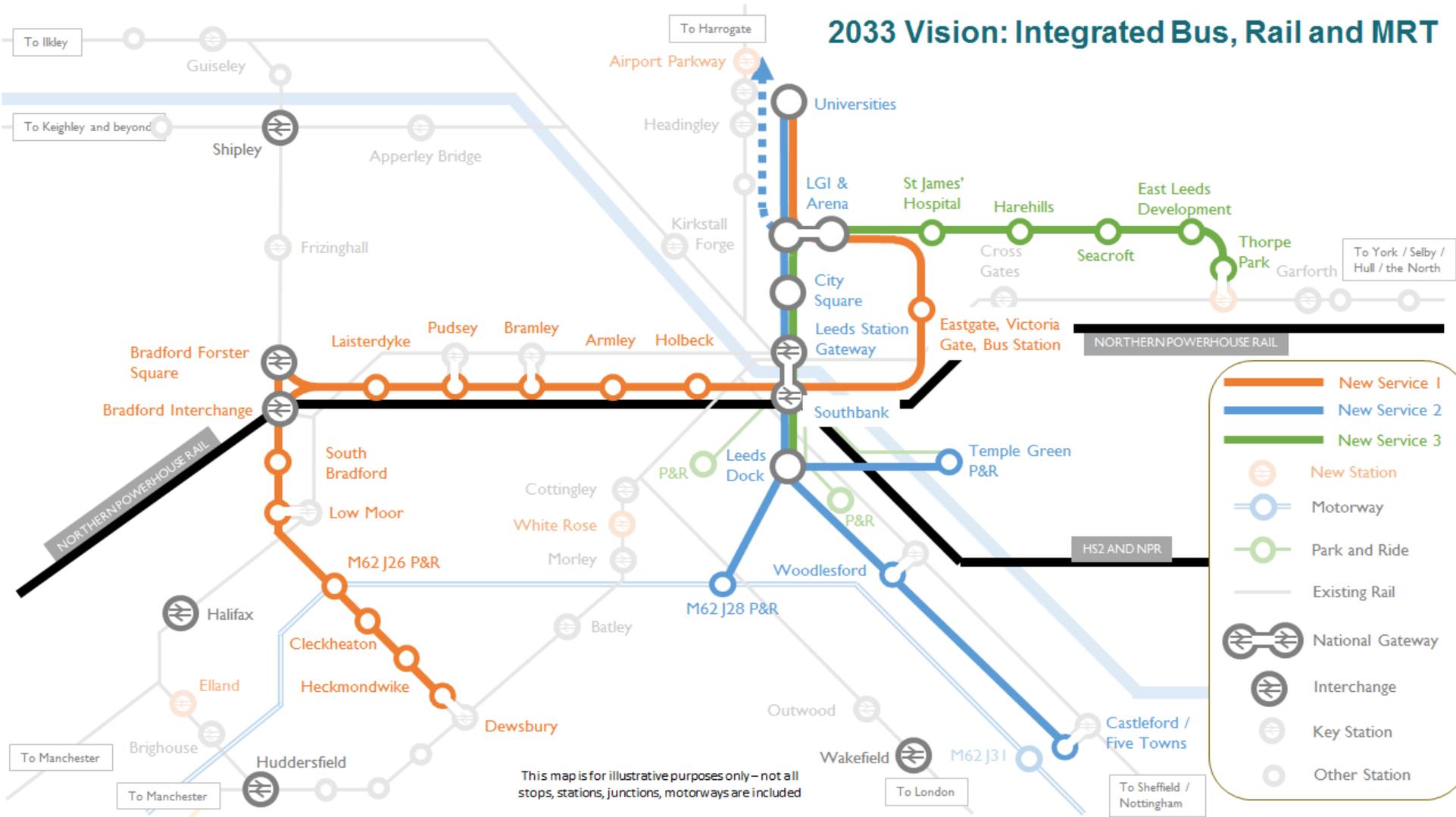
Delivering the Capacity Required

Mode	Capacity per service
 Walking and Cycling	1
 Car / Mobility as a Service (MaaS) / Demand Responsive Transport	5-10
 Standard Double Decker Bus	70-80
 Bus Rapid Transit (BRT)	70-80
 Light Rail / Tram / Mass Transit	200-300
 Suburban Heavy Rail	500-700
 Inter urban / national Heavy Rail	500-1000

- Different modes and technologies serve different purposes
- Modes need to be integrated and planned together to create an integrated, 21st Century Network
- Demand analysis suggests a vehicle which can carry 200-250 is most likely to be required ie:
 - A Mass Transit Vehicle is likely to be required in operation by 2033 (by HS2 Opening)
- There are many technological innovations which can help delivers this

Note – this will all be tested in future development stages and subject is to Business Case and detailed options analysis

2033 Vision: Integrated Bus, Rail and MRT



2033 Vision: Integrated Bus, Rail and MRT



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Key Messages

- We have developed the first tranche of Inclusive Growth Corridors (those areas with greatest economic need/opportunity), as identified in the HS2 Connectivity Strategy.
- Transforming connectivity in the communities of greatest economic need will help raise productivity, living standards and improve air quality, thereby helping to deliver Inclusive Growth
- The proposals set out here build on the current investment in transport improvements across York, Wakefield, Leeds, Bradford, Calderdale and Kirklees.
- Significant improvements are already being made through programmes including Connecting Leeds and the West Yorkshire-plus Transport Fund across Walking, Cycling, Bus and Rail.
- The report seeks to ‘opening a conversation’ on future solutions to future capacity requirements and delivering inclusive growth - including maximising the positive impact of strategic transport investments (HS2/NPR).
- Subject to feedback received through the conversation, the proposed City Region Transit Network has the potential to form a key priority for delivery in the timeframe up to HS2 opening in 2033.
- Different modes of transport serve different needs and provide different levels of capacity. Technologies have moved forwards significantly in last decade. For example, new battery technologies, hydrogen propulsion and autonomous innovations are changing advance mass transit vehicle technologies.
- This is the logical and evidenced based next step in the City Region’s plans for transport investment.
- Significant further development work is required on the City Region Transit Network and would be informed by the conclusions of the forthcoming engagement.