# CRSTS IMPACT AND VALUE FOR MONEY EVALUATION: BASELINE

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# Contents

# Introduction

## Evaluation context

The City Region Sustainable Transport Settlements (CRSTS) programme provides capital funding for investment in local transport network infrastructure. The programme objectives are to support economic growth, tackle regional inequalities and decarbonise transport. The first phase of the programme initially confirmed £5.7 billion funding to eight Mayoral Strategic Authorities (MSAs): Greater Manchester Combined Authority (GMCA), Liverpool City Region Combined Authority (LCRCA), North East Combined Authority (NECA), South Yorkshire Combined Authority (SYMCA), Tees Valley Combined Authority (TVCA), West Yorkshire Combined Authority (WYCA), West of England Combined Authority (WECA) and West Midlands Combined Authority (WMCA). The CRSTS investment relates to the five-year period 2022/23 to 2026/27. Individual MSA funding amounts are covered in Annex A

DfT commissioned Frontier Economics and SYSTRA Ltd. to carry out a 5-year programme-level impact and value for money evaluation of CRSTS, which will conclude in 2029. The design of the national evaluation was agreed in the CRSTS Monitoring and Evaluation (M&E) Framework that was submitted to DfT in March 2025. The evaluation balances the aim of generating evidence on "what works" to inform future policy with the need to be proportionate and minimise the burden of data collection on local areas. It therefore will not cover all CRSTS interventions but will instead focus on specific "work packages" (WPs):

- **Three scheme-based work packages** explore how a specific type of CRSTS scheme contributes to outcomes linked to the CRSTS objectives.
- **Three place-based work packages** focus on local authority areas with specified characteristics, and explore how significant CRSTS investment delivers against outcomes linked to the CRSTS objectives in those places.
- A further work package will **synthesise wider evidence** from MSA's own evaluations and from other national evaluations.

The **M&E Framework report** describes the approach to scheme selection and the evaluation approach that will be applied to each work package (see Section 2 of the M&E Framework report). It sets out the specific metrics and data sources that will be examined, and how the evaluation methods will be applied. **The M&E Framework report has been published alongside this baseline report, and it should be consulted where more technical, detailed explanation of evaluation methods, indicators or data sources is required.**

A separate **scheme selection report** was also submitted to DfT in October 2024, and presented the results of a detailed process to select CRSTS schemes and places for inclusion in the evaluation under each work package. This can be made available on request. The key criteria used for scheme selection were:

- Schemes and places needed to be relevant to the work package definition.
- Selected schemes (including most schemes within places) needed to have target delivery date of June 2027 or earlier.
- The scale of intervention needs to be large for impacts expected to be observable and data available for the outcomes.
- Where possible, schemes and places were chosen to avoid overlap with other substantial funding programmes.

Whilst places and schemes were selected according to whether they overlapped with significant transport funding programmes, it was not possible to entirely avoid any overlap with these programmes for every selected scheme and place. Data on the scale of transport funding from other programmes has been captured for each work package, and the evaluation will take care in determining whether observed impacts are attributable to CRSTS investment, as opposed to other factors. In particular, MSA engagement will be used to understand the wider context and how it has influenced transport outcomes, stakeholder interviews will test the nature and scale of impacts specifically from CRSTS investments, and there will also be engagement with the evaluation findings for other funding programmes. There is however, an acceptance that the strength in which changes in outcomes can be attributed to CRSTS investment will vary across work packages depending on the evidence available and interaction with other investments.

This baseline report complements the M&E Framework report and the scheme selection report. It does not include description of the evaluation approach, methods, indicators or data sources, which are presented in detail in the M&E Framework. The remainder of this section describes the purpose of the baselining phase, and then the structure of this report.

## Purpose of the baselining phase

The first stage of implementing the evaluation is a baselining phase to capture data before the CRSTS interventions have been delivered. The baselining will continue through to 2026, and has two purposes:

- Describing the context for the CRSTS investments included in the evaluation and the state of the world prior to their delivery.

- Identifying challenges with data collection.

## Describing the context and "state of the world" prior to scheme delivery

Understanding the broader transport context in local authorities and MSAs (e.g. motivations for investment choices, current levels of public transport use, other public investment in local transport) ensures that other relevant contextual factors are accounted for in the evaluation, when assessing the impact of CRSTS schemes. This is an important baselining activity, in case it sheds light on information that needs to be collected that may not be available to the evaluation in future. A range of data, evidence and documents have been used to inform the baselining work, including business cases that have been produced relating to CRSTS schemes by MSAs.

Funding, business case stage and anticipated delivery dates were taken from Q3 2024/25 reporting figures reported by MSAs to the DfT and revised in May 2025 to present a snapshot at time of reporting. These funding values and delivery dates will be monitored across the evaluation for any changes.

Measuring key metrics for outcomes of interest prior to the delivery of CRSTS schemes is a pre-requisite to determining the impact of CRSTS schemes on those outcomes. An important baselining activity is collecting this data and retaining it for use in later analysis, in case for any reason this data should become harder to access over time. The baselining phase collected data on outcomes of interest for the evaluation from secondary sources and from a first data request made of MSAs. The exact frequency and timing of data collected varies by metric, and there are considerations made around the impact of the COVID-19 pandemic on appropriate baselining. As a minimum, data has been collected for 2023 and 2024. Some secondary data sources are available over a longer time period and in those cases a decade of data has been collected.

Key evaluation metrics are baselined in each of the following sections, separately for each work package. The M&E Framework presents the full list of evaluation metrics for each work package. There are three important points to note when reviewing the baselining of these key metrics.

Wider data collection for baselining purposes is taking place than is reported in each section. For WP3 this includes identifying and collecting data for "control corridors", i.e. bus corridors that are not subject to CRSTS investment, where that data will feed into difference-in-difference econometric analysis. Data collection methods are described in more detail in the M&E Framework report.

In place-based work packages 4-6, the schemes introduced in these areas can cover a wider range of aims and outcomes (compared to WP1-3) and therefore the set of outcomes of interest is wider. Metrics are collated to look at outcome changes at an area level whilst also collecting some scheme level metrics where more appropriate.

Delivery of CRSTS schemes sits within the wider context of local and national investment taking place. This is likely to influence and contribute to some of the outcome metrics being measured, particularly those reported at an area level. This is a constant consideration as part of the evaluation, which seeks to establish where changes in outcomes can be attributed to CRSTS investments, rather than wider trends or other investments. Wider local and national investments will be examined in more detail in future stages of the evaluation when these investments have been realised.

### Identifying challenges with data collection

The focus of the evaluation is on a specific set of key outcomes of interest (drawn from the work package logic model, Annex B ), to keep the evaluation manageable and the burden on MSAs proportionate.

The collection of data during the baselining phase ensures that any challenges are identified at an early point in the evaluation. Adjustments to data collection processes can then be made to mitigate these challenges. This will ensure that the richest possible data is collected throughout the evaluation, which in turn will generate a more robust set of evaluation findings.

Feasibility testing of the proposed data collection is particularly important in this evaluation given that a large proportion of the data required is being collected through a planned six-monthly data request from MSAs. Testing the feasibility of the request (confirming that expected data is indeed available), and the proportionality of the request (confirming that it is not unduly burdensome for MSAs to provide) is important for the successful delivery of the evaluation. The baselining phase includes the first data request made of MSAs.

## Contents and structure of this report

This report provides a summary of key takeaways from the baselining phase. For each WP the report describes the local context for the included schemes, and a description of the pre-delivery “state of the world” in terms of two or three key evaluation metrics. Any implications for how to define the evaluation baseline from this information are highlighted and explained. It also provides an update on the challenges, mitigations and caveats with data collection for the metrics in the WP.

The remainder of the report is therefore structured as follows.

- Section 2: WP1: CRSTS schemes which integrate different forms of public transport to improve connectivity and encourage modal shift.
- Section 3: WP2: Light rail fixed infrastructure, including new or expanded stations or capital renewal.

- Section 4: WP3: Bus priority infrastructure, including extended bus lanes, signalling upgrades or roundabout improvements.
- Section 5: WP4: Urban areas with high levels of deprivation.
- Section 6: WP5: Areas with lower levels of transport connectivity.
- Section 7: WP6: Encouraging active travel in areas with medium to high levels of private vehicle access.

## Observations on the baselining data

When interpreting the baselining data that has been collected to date, it is clear that the pandemic significantly affected public transport usage and active travel. The rates of recovery vary across modes and across locations, and this will affect some of the time trends presented in this baselining report.

Other factors will also affect trends in the baseline data. The fares passengers are charged is a substantial factor in travellers' decision-making process about public transport use. The national bus fare cap is in place to March 2027, and there are other local fare schemes – coinciding with when the CRSTS interventions are due for delivery – so baseline trends in bus patronage may adjust throughout 2027.

Additional years of baseline (pre-CRSTS scheme delivery) data will be added over time throughout the evaluation. Careful consideration will be given to any trends, including the likely drivers of those trends, and whether these might be expected to continue. Inferences from the baseline data about how transport outcomes could evolve through 2025-27 and beyond, in the absence of the CRSTS investments, need to be made very carefully.

## Next steps for the evaluation

The evaluation will proceed with regular data collection from MSAs and secondary sources over the next three years. Aside from this, the immediate next activity will be primary survey fieldwork (see Annex C for further detail).

An interim evaluation report will be produced in 2027. This will primarily focus on the outputs of CRSTS schemes, as opposed to impacts. This is necessary because most schemes will not be fully delivered until 2027 (or even later), many projects continue to be rescoped and some impacts take longer to materialise than others. There have been delays for some CRSTS schemes, as well as reprioritisation and re-programming. MSAs are taking a portfolio management approach to their CRSTS programmes, meaning they have flexibility to reprioritise and shape their programmes according to changing needs within a defined framework.

A final evaluation report will be produced in 2029. This will focus on evidence on the outcomes and shorter-term impacts of CRSTS schemes and implications for value for money.

# 1 Work package 1: Public transport modal integration

## 1.1 Introduction

Work package 1 (WP1) will evaluate CRSTS schemes that integrate different forms of public transport to improve connectivity and encourage modal shift. The majority of schemes in this work package focus on rail station improvements, with one scheme relating to a bus (to future light rail) interchange. As stated in Section 1, a separate scheme selection report presents the approach and outcomes from the process applied to select CRSTS schemes for work package 1. Section 1 also summarises the criteria used to select schemes.

Section 3.2 of the M&E Framework report presents all WP1 evaluation metrics. It also describes how the evaluation approach, methods and data sources will be applied to evaluate the impact of WP1 schemes.

The overarching evaluation question for this work package is:

EQ WP1: To what extent have public transport integration schemes improved transport connectivity and led to interchange between transport modes, and what have been the subsequent impacts of this?

### 1.1.1 Schemes within the work package

Six schemes from 5 MSAs (TVCA, WECA, WMCA, WYCA and NECA) are included in WP1. These schemes are summarised in Table 1. Together they account for a total of **£91.23m CRSTS funding**.

### Table 1: Schemes within Work Package 1

| Scheme | MSA | Budget CRSTS (£m) | Budget Total (£m) | Business Case Stage* | Exp. Delivery date |
|---|---|---|---|---|---|
| Eaglescliffe Station ***LINK*** | TVCA | 8.05 | 14.75 | FBC | Jan-26 |
| Charfield Station ***LINK*** | WECA | 37.74 | 41.30 | OBC | Mar-27 |
| Dudley Interchange ***LINK*** | WMCA | 20.39 | 23.99 | Post-FBC | Jan-26 |
| Dudley Port ITH - Phase 1 and Phase 2 Development ***LINK*** | WMCA | 2.40 | 2.45 | FBC | Mar-27 |
| Leeds Station - Sustainable Travel Gateway (Bishopgate) ***LINK*** | WYCA | 16.15 | 45.41 | Post-FBC | Feb-26 |
| North East Connected Stations | NECA | 6.50 | 11.27 | FBC | Q4-27 |
| **Total** | | **91.23** | **139.17** | | |

*Source: DfT CRSTS 2024/25 Q3 MSA Monitoring and Reporting and MSA updates in May 2025.*

**For further information on business cases, see Transport business case guidance - GOV.UK*

## 1.2 The case for intervention

This work package is focused on interchange investments at rail stations and one bus interchange; schemes include upgrades to existing stations and the creation of a new station (Charfield in WECA).

Each scheme description has been reviewed, initially for selection in the work package and then for identification of appropriate metrics to measure outcomes. From this review the following cases for intervention have been identified:

- improving access to stations and interchanges to increase use of sustainable modes
- improving access to stations to unlock employment and social opportunities

- provision of a new station to reduce car dependency
- improving waiting facilities and perception of safety to increase use of public transport

The case for intervention differs for each scheme and MSA but at least one of the list above will be relevant for each scheme and therefore all will in some way be covered within this work package. The sections below highlight the components of the case for intervention in each of the MSAs as identified through the scheme descriptions and business case reviews.

### 1.2.1 North East

#### Improving access to stations and interchanges to increase use of sustainable modes

North East Connected Stations is a package of access enhancements to 11 stations (see Annex C , 5 Tyne and Wear Metro stations (Fellgate, Hebburn, Jarrow, Palmersville and St. Peter's), 5 National Rail stations (Bebside, Manors, MetroCentre, Newsham and Seaton Delaval) and one National Rail & Metro interchange (Heworth Interchange). NECA have identified these stations as in need of walking and cycling link access improvements to the station as well as provision of step free access at some stations. There is an opportunity to unlock access and encourage mode shift to public transport in the North East, given existing proximity to stations via walking and cycling.

NECA have identified that whilst there have been recent improvements in the active travel network across the north east (such as through the Active Travel Fund and Transforming Cities Fund) there are still areas that do not meet current inclusive design standards which deters people from cycling. Some stations (as identified in the programme business case) do not currently have dedicated provisions for active travel access from certain directions. In others cycle parking is poor, such as Palmersville Metro station where there is no shelter and a lack of surveillance which discourages use due to concerns on the safety of leaving cycles.

#### Improving access to stations to unlock employment and social opportunities

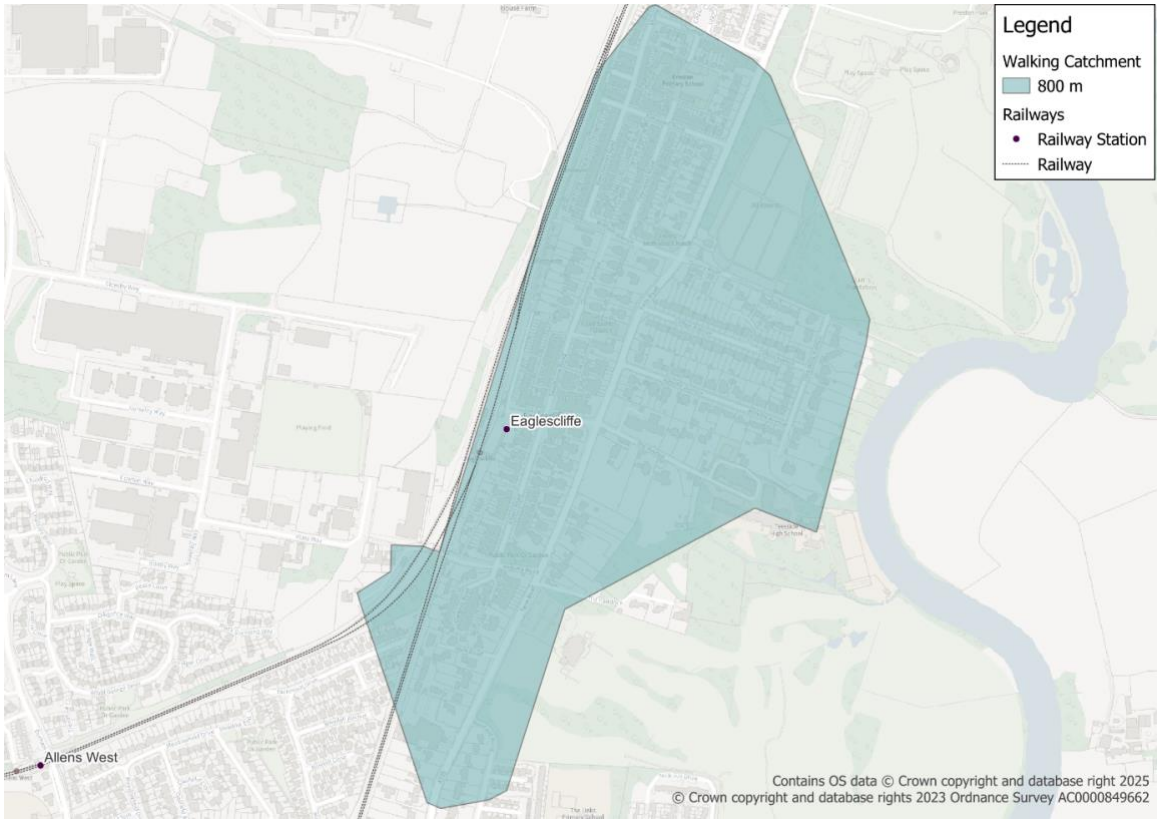
Limited access to stations within NECA is a driver of social exclusion and reduced access to employment opportunities (North East Connected Stations Programme Business Case, 2025). The business case identified that more employment centres can be reached within 30 minutes of public transport than the equivalent time by car for all local authorities within NECA. Whilst 100% of the working population has access to employment centres within 30 mins by public transport in Tyne and Wear (North East Evidence Hub, 2024) it is 65.5% in Northumberland. The station enhancements in Northumberland are in conjunction with the reopening of the Northumberland Line (not a CRSTS1 scheme) which will better connect people to those employment centres and improve access to employment and social opportunities by rail (North East Evidence Hub, 2024). Access to these opportunities is only possible once access to public transport stops/stations is feasible; improving access to the stations will unlock this access to employment centres.

### 1.2.2 Tees Valley

#### Improving access to stations and interchanges to increase use of sustainable modes

Access to Eaglescliffe station is currently only possible from the eastern side of the railway, with no direct link to the western side. This limits access to the station (Figure 1) and therefore also use of the station – it is expected that potential rail passenger demand could be unlocked by providing a western link.

**Figure 1: Current walking access to Eaglescliffe Station**




*Source: SYSTRA*

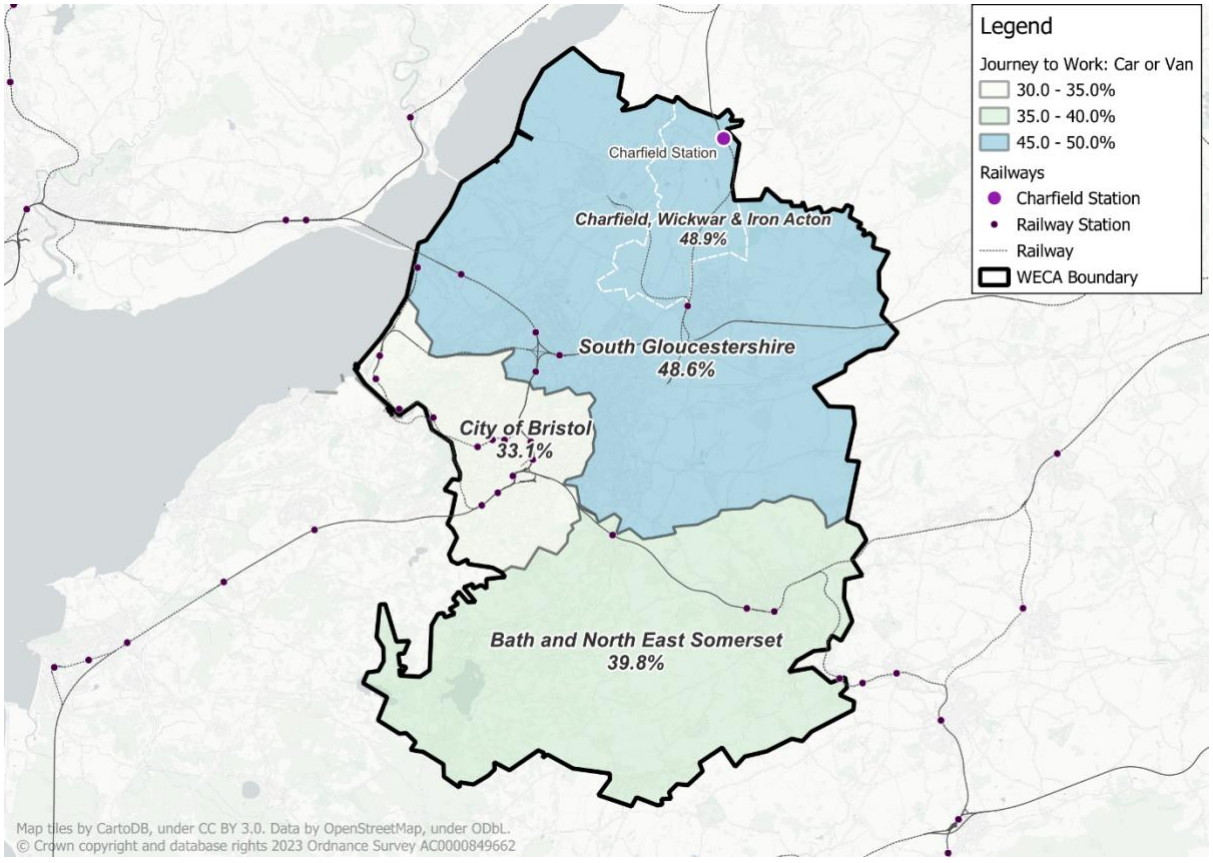
Residential and employment growth is expected within the area. Existing industries employ over 1,000 people with more potential in available land around the station. Access to the station will also provide wider access to growing employment opportunities, particularly at Teesworks Freeport which is expected to employ over 41,000 people (Eaglescliffe Business Case, 2024). The Local Plan has set out housing growth aspirations to the west of the station and within a radius of 6km which could exceed 2,100 dwellings. To accommodate this growth and encourage the use of rail for existing and future users in the area, TVCA has sought to improve highway, walking and cycling access to the station.

### 1.2.3 West of England

#### Provision of a new station to reduce car dependency

Charfield station will reinstate rail services for the village of Charfield which last had a passenger railway station in 1965. Limited public transport opportunities in the area have led to high car-dependency. Census 2021 data for Charfield, Wickwar & Iron Acton (MSOA) showed 48.9% of people using the car to travel to work which is in line with the South Gloucestershire average of 48.6% but above the constituent authorities of Bristol (33.1%) and Bath and North East Somerset (39.8%), see Figure 2 (Census 2021 data was impacted by pandemic behaviours, a known issue with this dataset identified by ONS which should be considered when interpreting results). Provision of the station will provide rail links, and therefore an alternative to the car, to nearby settlements and key employment and leisure opportunities in Bristol and Gloucester.

**Figure 2: Journey to work by car or van in WECA, 2021**




*Source: SYSTRA using Census 2021*

## West Midlands

### Improving modal interchange to promote use of sustainable modes

Dudley interchange was built in 1987 and is no longer fit for purpose in its current form. It will be a future site of the Midland Metro extension from Wednesbury to Brierley Hill, and rebuilding the station will offer interchange between bus and light rail. By improving the ease of interchange as well as creating a more attractive environment, the scheme is expected to encourage people to increase their use of public transport, therefore reducing congestion and improving air quality.

Upgrades to Dudley Port, which will also interchange with the metro extension, will provide higher quality walking and cycling links between rail, light rail and bus as well as connections to nearby residential areas. This is expected to encourage use of the 'hub' by making it easier to connect between modes and opening up access, creating a more inclusive transport environment for those with accessibility needs.

### Improving waiting facilities and perception of safety increase use of public transport

In their current form, both Dudley Port and Dudley Interchange have dated infrastructure and passenger provisions. These schemes will deliver improvements to the broader passenger environment, including CCTV, improved waiting areas, public realm enhancements and the provision of real time information boards. In turn, these enhancements are expected to deliver improved passenger safety, increase attractiveness and encourage their use.

## 1.2.4 West Yorkshire

### Improving modal interchange to promote use of sustainable modes

Leeds station is a large station on the East Coast Mainline, providing direct access to employment opportunities in the centre of Leeds from the WYCA conurbation, and access to the wider region in the North and Midlands.

Access to the station is along congested roads, and WYCA expect to reduce traffic and improve attractiveness by encouraging more sustainable access to the station. This includes pedestrianisation at the front of the station, improved public realm, cycling infrastructure and a cycle hub. This will allow direct access to the station for pedestrians as well as improving step-free access with the provision of new lifts. This scheme complements wider ongoing programme of investments at Leeds station, including the 'City Square' package which includes pedestrianisation and new cycle lanes. It is hoped this investment will encourage people to access the station sustainably and provide opportunities to those who struggled to access the station previously.

## 1.3 Other investment taking place

Table 2 outlines other investment already known to be taking place that may have an influence on the baseline and future outcomes.

### Table 2: Other relevant investment taking place

| Investment Programme | National/ Local | Date of funding and implementation of schemes | Areas Impacted | Considerations |
|---|---|---|---|---|
| Transforming Cities Fund (TCF) | National | 2018 – 2022 for TVCA, WECA & WMCA<br>2019 - 2024 for NECA | NECA<br>TVCA<br>WECA<br>WMCA | There may be TCF model integration schemes that will impact metrics measured for this evaluation including Tyane and Wear Metro park and ride enhancements, Charfield station, and Dudley Interchange. |
| City Square package of investments | Local | 2022 to 2024 | WYCA | Mostly funded by Transport Fund. Includes pedestrianisation and new cycle lanes outside City Square entrance, which may increase station use and access by sustainable modes. |
| Darlington station improvements | Local | 2023 to 2025 | TVCA | Improvements may lead to increased station use at Darlington and connecting stations. |
| Middlesborough station improvements | Local | Phase 1 complete 2021<br>Phase 2 in progress | TVCA | Improvements may lead to increased station use at Middlesbrough and connecting stations. |
| Access for All (AfA) Network Rail | National | 2006 to present | TVCA<br>WECA<br>WMCA | AfA is a national rolling programme of works across the railway network, there is likely to be some AfA funding support for station schemes and impacts accrued, such as patronage. |

## 1.4 Baseline data approach for Work Package 1

### 1.4.1 Metrics, data sources & baselining

Table 3 lists the metrics being collected for this work package along with the source(s), the level of detail (granularity), regularity and purpose for the evaluation. The key metric for the evaluation is the measure of station/interchange usage to understand if schemes have contributed to increased rail (for rail stations) and bus use (for Dudley Interchange). Baseline data on this prior to the CRSTS investment are summarised below.

**Table 3: Outcome metrics for WP1**

| Outcome metric | Source(s) (Granularity. Regularity) | Purpose |
|---|---|---|
| Rail station usage (entries, exits and interchanges) | Office of Rail and Road (ORR) statistics (Station. Annual) | Monitor if station use has changed following investment. |
| Frequency of rail services | Timetables (Station. Annual) | To understand if any changes to rail services may influence usage figures. |
| Bus interchange | MSA returns (Station. Quarterly requested) | Monitor the use of bus to interchange. |
| Rail user satisfaction | MSA returns (Station/Route. Annual) | Qualitative understanding of how passengers feel about the rail network following investment. |
| Journey to work %: Rail | MSA returns (MSA. Annual)<br><br>Census (LAD. Decade) | A measure of mode share using rail for commuting purposes as a wider consideration of sustainable mode use. |
| Station catchment | General Transit Feed Specification (GTFS), Ordnance Survey and OpenStreetMap (Station. Quarterly) | Measure distance travel time catchments for bus and active travel to stations before and after scheme delivery. |

### 1.4.2 Rail station usage

This outcome metric is a measure of people using the stations (entries and exits). For national rail stations it is taken from Office of Rail and Road (ORR) annual statistics and is reported for each station. For stations on the Tyne and Wear Metro data is taken from the North East evidence hub (an online data platform managed by NECA) and is a measure of passenger boardings per station. As Charfield station will be a new station, the evaluation

will include station use along the line between Bristol and Gloucester. The NECA scheme improves access to three new stations on the new Northumberland line (Bebside, Newsham and Seaton Delaval) which are opening in phases across 2025 and therefore data is not yet available.

### Challenges, mitigation and caveats

Data is collected through secondary sources and is published annually which limits the ability to monitor changes across a year.

The main challenges are covered in Table 4.

### Table 4: Rail station usage data challenges

| Challenge | Likelihood | Impact on evaluation | Mitigation & Caveats |
|---|---|---|---|
| Totals are only reported annually. | Medium | Medium | The national evaluator will work with MSA and train operating companies/Nexus for more granular data where it is required. Where this is not possible, the evaluation is designed to deal with annual figures. |
| Interchange data only includes 'within' station interchanges. | High | Medium | National evaluator will work with operators and MSAs to investigate the option to obtain bus to rail interchange from bus patronage. |

### Baseline data

Table 5 presents the annual station usage for existing stations in this work package. It will become clearer following the 2024/25 data release as to what is a more settled picture for station usage as there are elements of post-pandemic recovery reflected in this data. From then an appropriate baseline can be selected with the aim of identifying if additional future growth can be attributed to CRSTS investment.

### Table 5: Station use by financial year

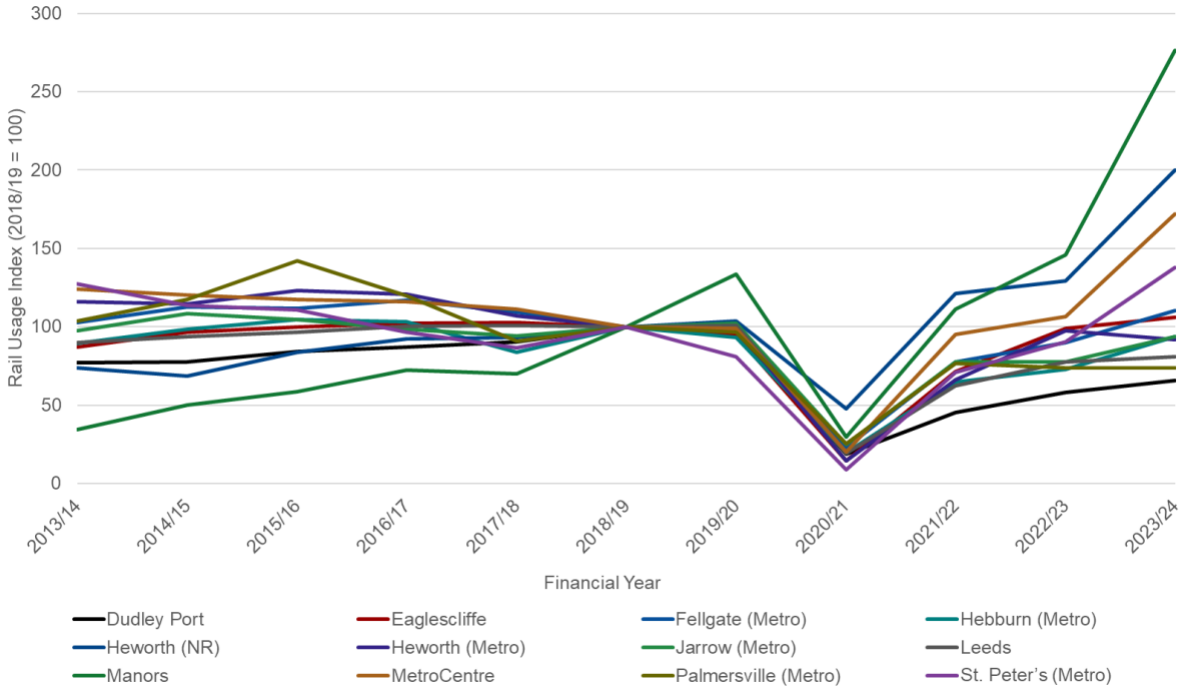
| Station | FY 2018/19 | FY 2022/23 | FY 2023/24 | Growth 2018/19 to 2023/24 | Growth 2022/23 to 2023/24 |
|---|---|---|---|---|---|
| Dudley Port | 544,410 | 315,854 | 357,760 | -34% | 13% |
| Eaglescliffe | 202,222 | 200,008 | 214,394 | 6% | 7% |
| Fellgate (Metro) | 348,269 | 312,501 | 384,384 | 10% | 23% |
| Hebburn (Metro) | 497,262 | 360,769 | 464,823 | -7% | 29% |
| Heworth (National Rail) | 22,588 | 29,148 | 45,120 | 100% | 55% |
| Heworth (Metro) | 948,464 | 922,147 | 870,148 | -8% | -6% |
| Jarrow (Metro) | 468,467 | 363,488 | 438,439 | -6% | 21% |
| Leeds | 30,838,554 | 23,064,156 | 24,891,386 | -19% | 8% |
| Manors | 12,980 | 18,940 | 35,892 | 177% | 90% |
| MetroCentre | 301,738 | 320,764 | 518,700 | 72% | 62% |
| Palmersville (Metro) | 244,389 | 180,224 | 179,843 | -26% | 0% |
| St. Peter's (Metro) | 124,581 | 112,611 | 171,390 | 38% | 52% |
| ***Great Britain*** | ***3,039,436,656*** | ***2,456,908,714*** | ***2,853,716,020*** | ***-6%*** | ***16%*** |

*Source: ORR Table 1415 – Time series of passenger entries and exits by station. Metro data from North East evidence hub.*
*Note: National rail use is a count of entries and exits. Metro use is a count of boarding.*

Six of the stations in this evaluation have usage in 2023/24 exceeding pre-pandemic levels (see Figure 3). All (apart from Palmersville and Heworth (Metro)) have seen usage grow year on year since 2022/23 and in most cases exceed the Great Britain total growth. There are two considerations when interpreting station usage within the evaluation. Firstly, there could be a continuing growth trend caused by other factors which will impact what can be attributed to CRSTS spend. Alternatively, there is also the possibility that these stations have reached a maximum usage based on their current population catchment and growth may flatten. Schemes funded by CRSTS with the aim of improving access to the stations may

facilitate increasing catchments and therefore promoting growth in station usage. It will become clearer when additional years of data are available which scenario best fits each station.

### Figure 3: Rail station usage indexed to 2018/19




*Source: ORR Table 1415 – Time series of passenger entries and exits by station. Metro data from North East evidence hub.*

### 1.4.3 Frequency of rail services

The frequency of rail services at a station is being collected for two purposes. First, changes to service frequency are likely to impact on station exits and entries. Therefore, it is useful to measure how service frequency is changing over time, in order to properly attribute any observed changes in station entries and exits to CRSTS station investments. Second, if passenger use of a station increases as a result of CRSTS investment, then additional rail services may be required to meet this demand. In this case, increased service frequency may be a follow-on outcome from changes in passenger demand.

If there are observed changes in rail frequency, then unpicking why these changes occurred will be important for the evaluation.

#### Challenges, mitigation and caveats

There are no significant challenges with this dataset, which is publicly available through timetables. Where stations have multiple services in a number of directions (such as Leeds) it is more difficult to get a sense of service provision from a single rail frequency. This

challenge will be addressed in the evaluation, should there be any changes to overall service frequency, with a look at the type of services that have changed (e.g. commuter versus intercity).

### Baseline data

Table 6 presents the number of services, on a weekday, using the May to December 2025 timetable (National Rail). All directions are covered in this metric; the evaluation will also include weekend frequencies which may be driven by increases in leisure trips and will depend on the journey purpose that the investments promote.

**Table 6: Weekday rail frequencies (trains per hour), all directions, May to December 2025**

| Station | AM Peak 0800-0900 (tph) | Inter-peak 1200-1300 (tph) | PM Peak 1700-1800 (tph) |
|---|---|---|---|
| Dudley Port | 4 | 4 | 4 |
| Eaglescliffe | 7 | 5 | 7 |
| Fellgate (Metro) | 10 | 10 | 10 |
| Hebburn (Metro) | 10 | 10 | 10 |
| Heworth (NR) | 3 | 2 | 3 |
| Heworth (Metro) | 20 | 20 | 20 |
| Jarrow (Metro) | 10 | 10 | 10 |
| Leeds | 38 | 36 | 44 |
| Manors | 5 | 4 | 5 |
| MetroCentre | 5 | 7 | 6 |
| Palmersville (Metro) | 10 | 10 | 10 |
| St. Peter's (Metro) | 10 | 10 | 10 |

*Source: Rail timetables and realtimetrains.co.uk*

# 2 Work package 2: Light rail infrastructure

## 2.1 Introduction

Work package 2 (WP2) is a scheme-based work package that will evaluate investment in light rail. The work package schemes focus on one extension and the remainder are renewal projects that will provide evidence on the importance of renewing and sustaining public transport infrastructure to maintain service levels. As stated in Section 1, a separate scheme selection report presents the approach and outcomes from the process applied to select CRSTS schemes for WP2. Section 1 also summarises the criteria used to select schemes.

Section 3.3 of the M&E Framework report presents all WP2 evaluation metrics. It also describes how the evaluation approach, methods and data sources will be applied to evaluate the impact of WP2 schemes.

The overarching evaluation question for this work package is:

- EQ WP2: To what extent have light rail infrastructure schemes improved the performance of light rail services and led to changes in patronage, and what have been the subsequent impacts of this?

## 2.2 Schemes within the work package

Eight schemes from 2 MSAs (SYMCA and WMCA) are included in WP2. In SYMCA the light rail system is referred to as South Yorkshire Supertram and in WMCA the system is known as West Midlands Metro. These schemes are summarised in **Table** 7. Together they account for a total of **£483.62 million in CRSTS funding.**

### Table 7: Schemes within Work Package 2

| Scheme | MSA | Budget CRSTS (£m) | Budget Total (£m) | Business Case Stage | Exp. Delivery date |
|---|---|---|---|---|---|
| Mass Transit – Depot ***LINK (Mass Transit)*** | SYMCA | | | | |
| Mass Transit - Network Infrastructure - Phases 1 & 2 | SYMCA | | | | |
| Mass Transit - Power - Phases 1 & 2 | SYMCA | 100.00 | 100.00* | OBC | Mar-27 |
| Mass Transit - Vehicles - Phases 1 & 2 | SYMCA | | | | |
| Mass Transit -Customer Improvements - Phases 1 & 2 | SYMCA | | | | |
| Metro Line 1 Renovation costs | WMCA | 27.68 | 29.55 | Post-FBC | Mar-27 |
| Metro Traction Power | WMCA | 20.03 | 20.37 | Post-FBC | Oct-26 |
| Wednesbury to Brierley Hill Metro Extension (Phase 1 & 2)^ ***LINK*** | WMCA | 335.92 | 659.13 | Delivery | Nov-25<br>Mar-28 |
| **Total** | | **483.62** | **809.05** | | |

*Source: DfT CRSTS 2024/25 Q3 MSA Monitoring and Reporting and updates in May 2025.*

*Notes: *SYMCA Mass Transit schemes financials and business case stage are reported as one*

*^WBHE Metro is in final year of TCF funding and has moved into CRSTS*

## 2.3 The case for intervention

The nature of the light rail investment, which largely focuses on renewing the existing light rail infrastructure, is different to CRSTS investment in the remaining work packages. In this work package, to a larger extent, the benefits of CRSTS light rail investment relate to avoiding the counterfactual decline and deterioration in light rail infrastructure. This is central to the case for intervention.

Both tram systems are over 25 years old, with South Yorkshire Supertram opening in 1994 and West Midlands Metro in 1999. Most infrastructure in both systems are original and

requires significant investment for renewal to maintain current levels of service, and to enable potential growth in use.

The trend for annual journeys differs between the two systems. In South Yorkshire the trend has been that of decline, whereas the West Midlands Metro has seen growth over the past decade (see section 2.5.2).

Each scheme description and business case (where available) has been reviewed, initially for selection in the work package and then for identification of appropriate metrics to measure outcomes. From this review the following cases for intervention have been identified:

- replacing life-expired infrastructure to improve reliability and punctuality
- reversing decline in investment from previous private operators
- retaining current use and increasing passenger journeys to maintain commercial viability
- improving public transport connectivity to employment opportunities

The sections below describe the local reasons for these renewals in each MSA.

### 2.3.1 South Yorkshire

#### Replacing life-expired infrastructure to improve reliability and punctuality and reversing decline in investment

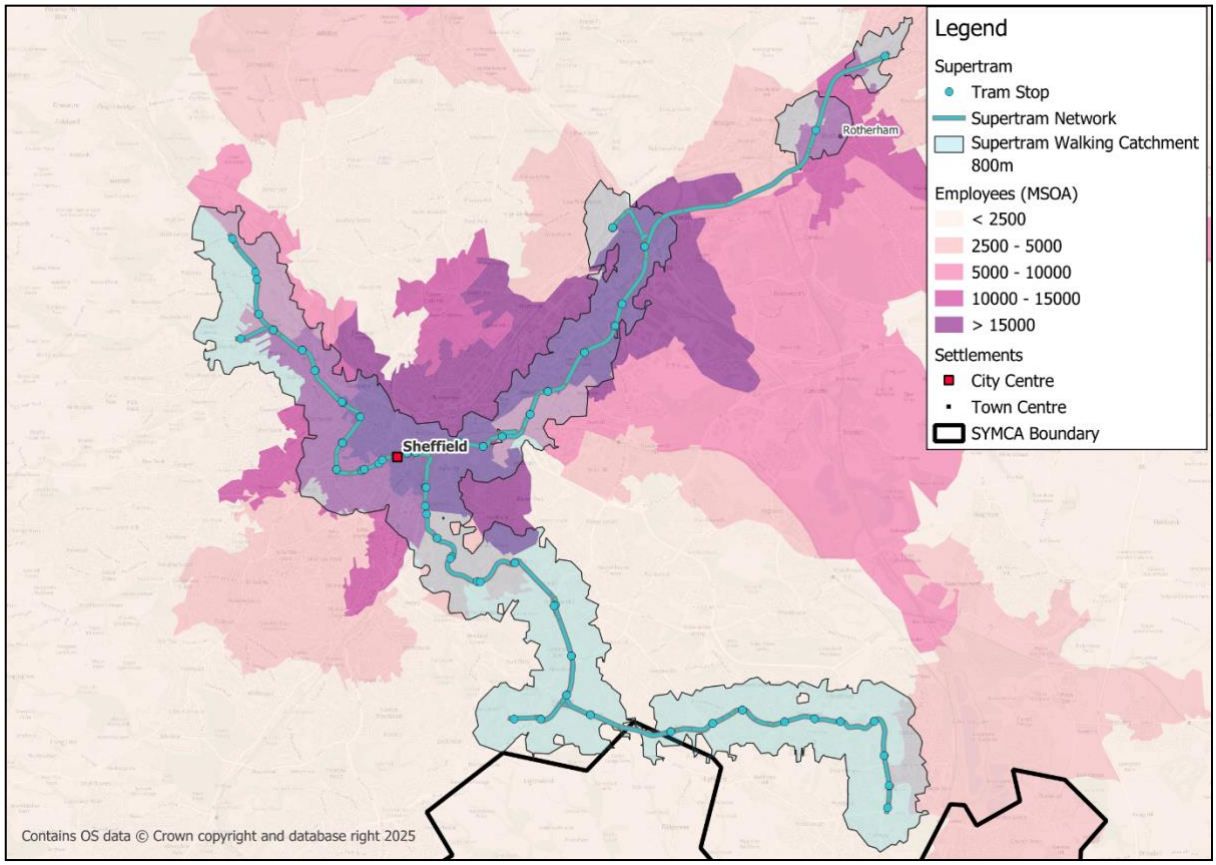
SYMCA have identified the need to replace rails, strengthen infrastructure and improve power distribution to continue running the system safely and to the current service level. Reliability and punctuality have been reducing across the system due to a lack of investment in infrastructure and renewals from the previous private sector operation (SYMCA Mass Transit OBC, 2024). The proportion of trams on time in 2024/25 was around 99% compared to 98% in 2011/12. Whilst this performance figure is positive, ageing infrastructure and trams has also led to a reduction in the distance that a tram travels before failing, known as the Mean Distance Between Failures (MDBF), in 2019/20 this was above the target of 9,000km. This results in trams being out of action more regularly, increasing cancellations and additional repair costs. The Mass Transit Renewals funded through CRSTS aim to target the various components (network infrastructure, power, vehicles) that have contributed to falling reliability and punctuality.

#### Retaining current use and increasing passenger journeys to maintain commercial reliability.

South Yorkshire Supertram is the third largest light rail system in the UK outside of London. The network covers 50 stops and 21 miles connecting the economic centres of Sheffield and Rotherham and other areas of employment as shown in Figure 4. It is therefore important to ensure reliability and safe operation of the network to allow people to continue to access employment and services they rely on. Fare revenues have not met operating costs due to

historic patronage decline and patronage has not recovered to pre-pandemic levels. Encouraging people back onto the tram is important for sustainable transport choices and financial sustainability of the system operations. The CRSTS investment in these renewals is expected to improve reliability and the financial sustainability of the light rail systems, by minimising operational and maintenance costs and increasing patronage revenue.

### Figure 4: South Yorkshire Supertram network map and employment catchment




*Source: SYSTRA*

## 2.3.2 West Midlands

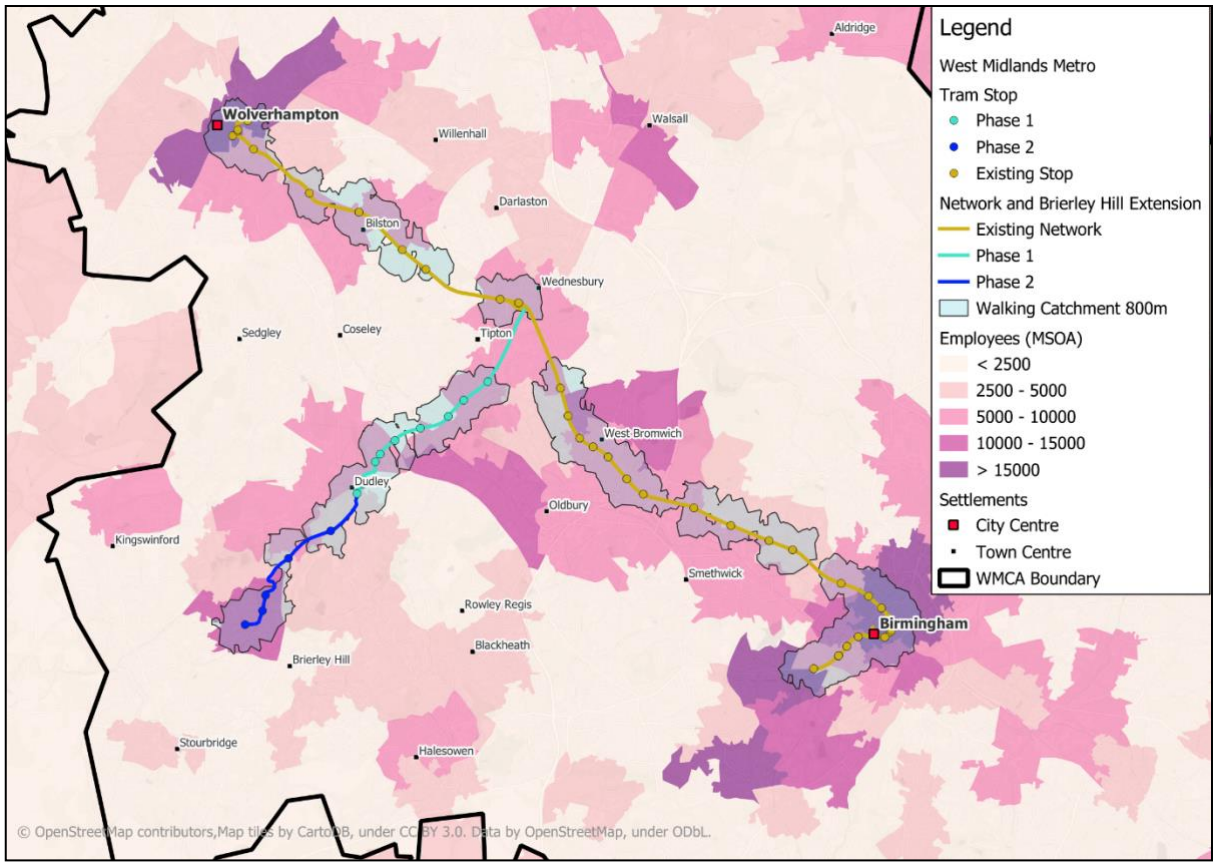
### Replacing life-expired infrastructure to improve reliability and punctuality

WMCA have identified that the key components of overhead line equipment (OLE) and track are nearing life expiry. This is resulting in repeated failures which can cause reliability issues and, in some cases, system suspensions. In May 2025 services were suspended between Wolverhampton and Birmingham due to power issues (BBC, 2025). This causes delays for passengers, impacting the attractiveness of the network and therefore patronage and revenues. It also incurs repair costs. The CRSTS investment in renovation and traction power aims to tackle these issues.

### Improving public transport connectivity to employment opportunities

West Midlands Metro currently consists of one line ('Line 1'). This could be constraining the opportunity for growth in patronage on the network, which in turn could hold back the broader shift to more sustainable transport modes for users in WMCA. The 11km extension of the metro line to Brierly will add 14 additional stops to the network. This is expected to improve the connectivity of public transport for areas that are currently less well-served by rail, for population centres such as Dudley, businesses and industrial parks to Birmingham and Wolverhampton, as well as onward connections to HS2.

## Figure 5: West Midlands Metro network and extension to Brierley Hill




*Source: SYSTRA*

## 2.4 Other investment taking place

Table 8 below outlines other investment already known to be taking place that may have an influence on the baseline and future outcomes.

### Table 8: Other relevant investment taking place

| Investment Programme | National/ Local | Date of funding and implementation of schemes | Areas Impacted | Considerations |
|---|---|---|---|---|
| Transforming Cities Fund (TCF) | National | 2018 – 2022 for WMCA<br>2019 - 2022 for SYMCA | WMCA<br>SYMCA | There may be TCF light rail schemes that will impact metrics measured for this evaluation including WBHE Metro extension and SYMCA mass transit network improvements |

## 2.5 Baseline data approach for Work Package 2

### 2.5.1 Metrics, data sources & baselining

Table 9 lists the metrics being collected for this work package along with the source(s), the level of detail (granularity), regularity of reporting and purpose for the evaluation. The first three metrics are summarised in this baseline report. These metrics are key to determining the impact of the interventions on light rail services, reliability and consequently patronage.

### Table 9: Outcome metrics for WP2

| Outcome metric | Source(s) (Granularity. Regularity) | Purpose |
|---|---|---|
| Light rail patronage (journeys, km and vehicle occupancy) | MSA returns (Stops/line. Quarterly requested)<br>DfT light rail statistics tables (Network. Annual) | Understand how the number of journeys taken on the network has changed following scheme delivery. |
| Light rail punctuality | MSA returns (Network. Quarterly requested) | Understand if renewal schemes have improved the proportion of services running on time. |
| Light rail frequency | Timetables (Line. Quarterly) | Monitor if investments in tram reliability and network improvements allow for increased in frequency. |
| Light rail user satisfaction | MSA returns (Network. Annual) | Qualitative understanding of how passengers feel about the tram network following investment. |
| Journey to work %: light rail | MSA returns (MSA. Annual)<br>Census (LAD. Decade) | A measure of mode share using light rail for commuting purposes as a wider consideration of sustainable mode use. |

### 2.5.2 Light rail patronage

This covers three outcome metrics:

- passenger journeys
- passenger kilometres (a measure of journeys multiplied by average journey length)
- vehicle occupancy

DfT light rail statistics tables (LRT01 series) are being used as the main data source for metrics (DfT, 2024).

#### Challenges, mitigations and caveats

DfT statistics tables are only reported annually and at the network level which can make monitoring specific parts of the network more difficult. As the renewal projects are mostly network wide this is unlikely to have a significant detrimental impact on the ability to conduct the evaluation.

The main challenges are covered in Table 10.

### Table 10: Light rail patronage data challenges

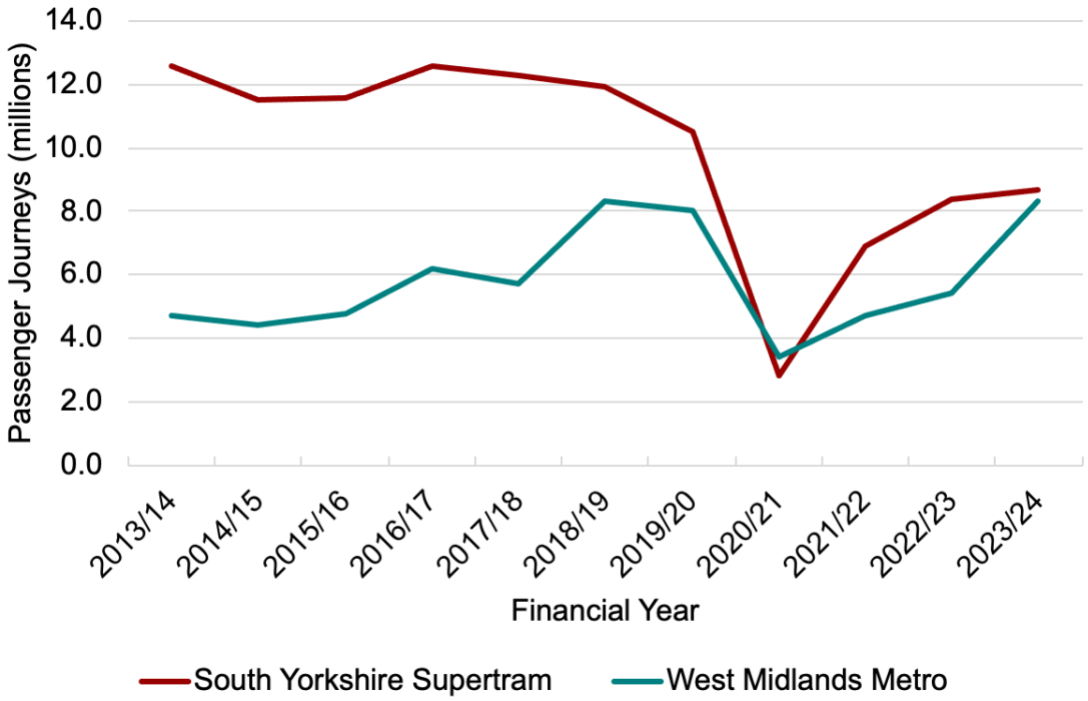
| Challenge | Likelihood | Impact on evaluation | Mitigation & Caveats |
|---|---|---|---|
| Data only available network wide. | Medium | High | For the baseline stage this means only network reporting is possible.<br><br>For the remainder of the evaluation where more detailed data is needed (such as the West Midlands Metro extension) we will work with MSA to obtain route level data. |
| Data only available annually. | Low | High | This may limit identifying, in more detail, a jump in patronage following the network extension in the West Midlands.<br><br>It will limit the final year of the evaluation where data may not be available unless another source is identified.<br><br>We will work with the MSA evaluation team to gain more regular insights through their own M&E activities. |

## Baseline data

**Light rail passenger journeys**

Light rail journeys since 2013/14 for the two systems are presented in Figure 6. The picture for annual journeys differs between the two systems. Annual passenger journeys on South Yorkshire Supertram were 8.7 million in 2023/24 compared to 12.6 million in 2013/14 (DfT, 2024). This is a decrease of 31%, continuing the decreasing trend even before the COVID-19 pandemic. This fall has occurred despite the increase in the network length with the introduction of the Tram-Train services in 2018. Passenger journeys on West Midlands Metro have increased from 4.7 million in 2013/14 to 8.3 million in 2023/24, a 77% increase, and are now back to pre-pandemic levels.

### Figure 6: Light rail passenger journeys by financial year




*Source: DfT light rail statistics table LRT0101*

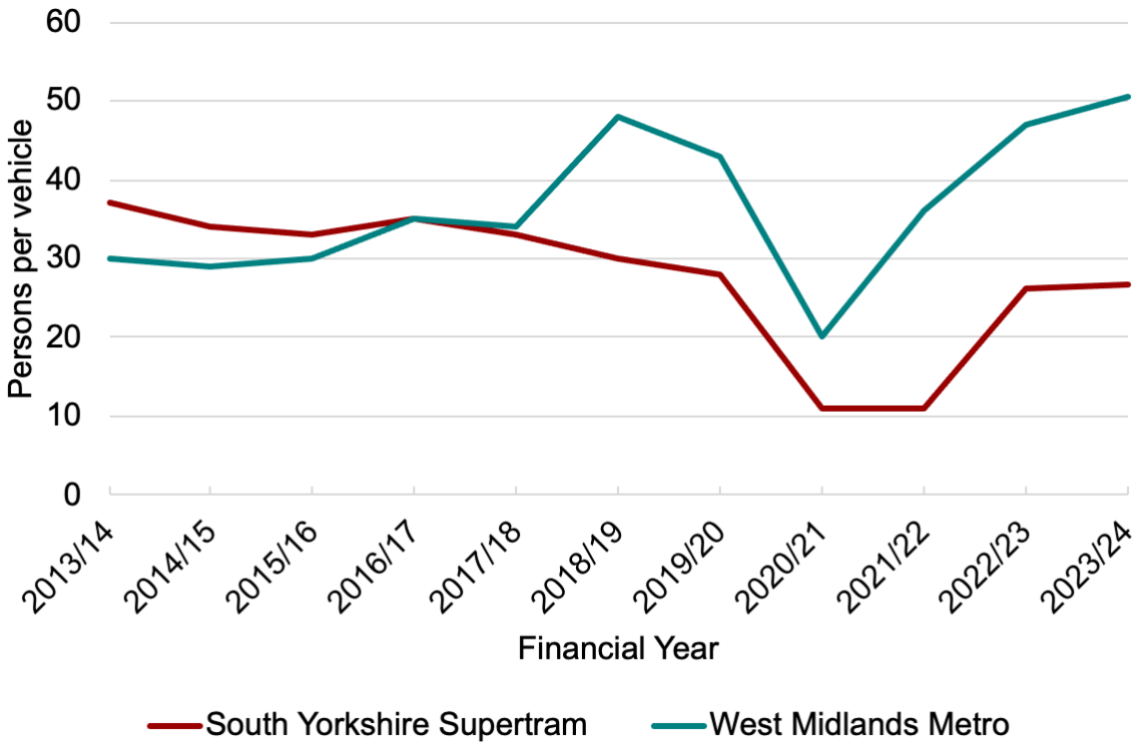
Measuring recent trends and determining whether they would be expected to have continued post-CRSTS investment is an important part of the evaluation. The additional data for 2024/25 will be helpful in this regard, further clarifying whether patronage in Sheffield has appeared to plateau more permanently, and whether West Midlands patronage is also on a more permanent upwards trend (as opposed to temporarily recovering post-COVID-19).

Passenger kilometres travelled will also be recorded as part of this evaluation. The pre-CRSTS investment trend in passenger kilometres follows that shown in the chart above, given that the length of the networks has been unchanged.

**Average vehicle occupancy**

The number of people per vehicle ("vehicle occupancy") is useful to understand the utilisation of the network. It is calculated by dividing the passenger miles by vehicle miles and is provided in LRT0108 of the DfT statistics tables. There are two main drivers that could increase this value; an increase in journeys by light rail which is a positive driver, or a reduction in vehicle availability and therefore a change in service frequency due to maintenance requirements which the CRSTS schemes aim to reduce.

Figure 7: Light rail occupancy per vehicle by financial year




*Source: DfT light rail statistics table LRT0108*

Occupancy trends (Figure 7) are similar to those observed for passenger journeys as there has not been a significant change to the number of vehicles operating. Occupancy on West Midlands Metro now exceeds pre-pandemic levels. The extension will come with additional trams (not CRSTS funded) which should help accommodate the anticipated increase in demand. This will help avoid over-occupancy becoming a problem which could ultimately discourage use and cause delays due to overcrowding.

### 2.5.3 Light rail punctuality

This metric measures the proportion of light rail services that run on time along the network. As identified in section 2.3, the schemes being evaluated here are mostly focused on renewals due to ageing infrastructure that causes issues with punctuality and reliability. Reliability is taken as a measure of the performance of the vehicles and is reported as the Mean Distance Between Failures (MDBF). This is not an accessible dataset for the evaluators at this reporting stage and is being sought for future stages of the evaluation.

### Challenges, mitigations and caveats

This metric is not published through secondary sources and is therefore reliant on MSA returns.

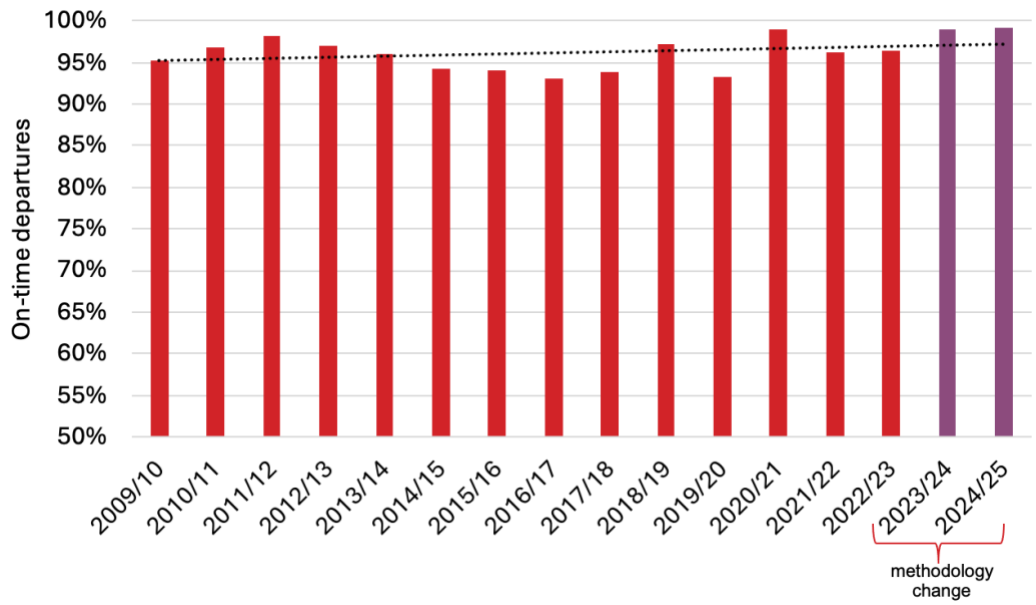
### Table 11: Light rail punctuality data challenges

| Challenge | Likelihood | Impact on evaluation | Mitigation & Caveats |
|---|---|---|---|
| Punctuality and reliability of light rail are not a published secondary data source | Low | High | The MSAs are asked to provide this data from their own insights and complete in the returns. This has been possible for the baseline report so should continue throughout the evaluation.<br><br>This may only be available for the whole network and would not identify pinch points. |

### Baseline data

South Yorkshire Supertram punctuality data has been obtained from the South Yorkshire Supertram OBC (2024) up to 2021/22 and then supplied by the MSA for 2022/23 to 2024/25. The proportion of trams departing on-time is shown in Figure 8. Since 2023/24 the methodology has changed to measure lost minutes where delays are 3 or more minutes, previously this was measured as lost trips. Whilst on-time performance had been gradually deteriorating since 2011/12 it has improved again in recent years. The pandemic period can be discounted here, as operated km and journeys decreased, which makes it easier to run a more punctual service.

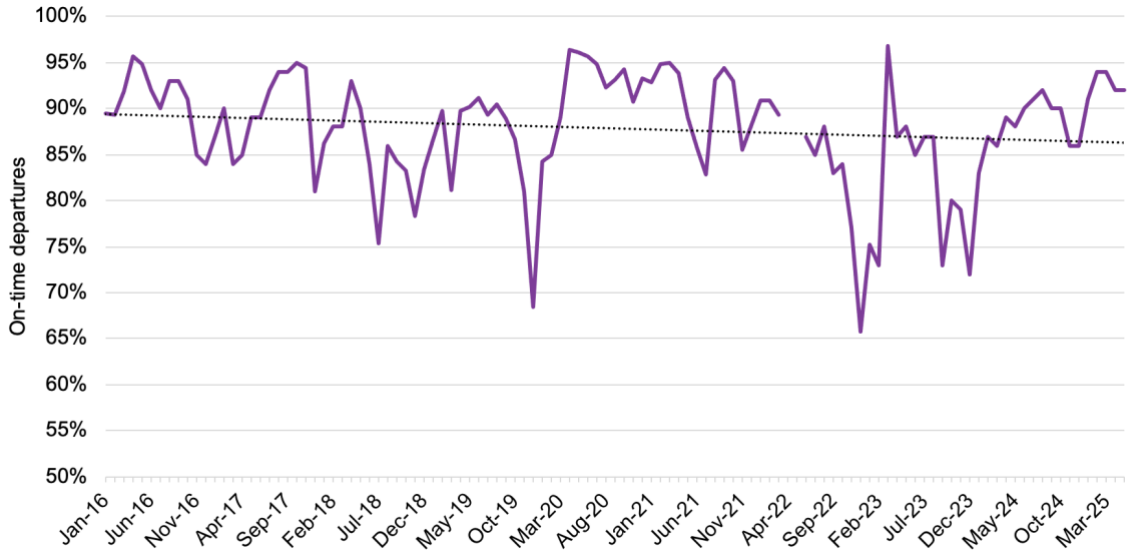
## Figure 8: South Yorkshire Supertram, on-time departures




*SYMCA Mass Transit OBC, 2024 and MSA data return 2025*

A slight downward trend in punctuality, from 2016, has been observed on West Midlands Metro, as shown by the trend line in Figure 9. This metric is variable month to month and can be impacted by weather, network disruptions and other events, therefore an overall trend will be considered as part of this evaluation. Maintenance focused CRSTS schemes aim to reduce disruption related to infrastructure failures and ensure on-time performance is more consistent.

## Figure 9: West Midlands Metro, on-time departures




*Source: Transport for West Midlands*

### 2.5.4 Light rail frequency

The frequency of services is determined by a number of factors. Two that can be influenced by the schemes in this work package are the ability of infrastructure (track and power) to deal with the load and the availability of trams to run a certain frequency. It has been outlined in the Sheffield Mass Transit business case that aspirations to increase frequency in the past have been cancelled due to issues with maintenance and vehicle availability. The information included in this section is sourced from the timetables for each network.

#### Challenges, mitigations and caveats

Light rail timetables are publicly available, and it has been possible to obtain frequency data from these. Where stops have multiple lines (on South Yorkshire Supertram) the frequencies for each line can be combined. There are no challenges anticipated in obtaining this metric.

#### Baseline data

As West Midlands Metro currently operates as one line, the network and line reporting are the same. For Sheffield these are reported individually across the four lines. Frequency is reported as the number of trams operating per hour, e.g. 4 trams per hour = a tram every 15 minutes. For the purposes of the evaluation, this data is collected for weekday peak, off peak, Saturday and Sunday services. The weekday peak services are shown in Table 12. Frequencies have remained consistent for the South Yorkshire Supertram, with an increase (only in peak times) on the West Midlands network from Q2 2024/25. Any future increases will be monitored and consulted on with the operator as to whether CRSTS schemes contributed to the change.

**Table 12: Light rail frequency, (weekday peak) by line**

| | FY 2023/24 (trams per hour) | | | | FY2024/25 (trams per hour) | | | |
|---|---|---|---|---|---|---|---|---|
| **Route** | ***Q1*** | ***Q2*** | ***Q3*** | ***Q4*** | ***Q1*** | ***Q2*** | ***Q3*** | ***Q4*** |
| South Yorkshire Supertram: Blue | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| South Yorkshire Supertram: Yellow | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| South Yorkshire Supertram: Purple | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| South Yorkshire Supertram: Tram-Train | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| West Midlands Metro: Line 1 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |

*Source: Published timetables*

# 3 Work package 3: Bus priority infrastructure

## 3.1 Introduction

Work package 3 (WP3) is a scheme-based work package that will evaluate bus priority infrastructure. The work package schemes focus on bus priority lanes and bus priority signalling upgrades that aim to reduce journey times on defined bus corridors and improve on-time bus performance. As stated in Section 1, a separate scheme selection report presents the approach and outcomes from the process applied to select CRSTS schemes for WP3. Section 1 also summarises the criteria used to select schemes.

Section 3.4 of the M&E Framework report presents all WP3 evaluation metrics. It also describes how the evaluation approach, methods and data sources will be applied to evaluate the impact of WP3 schemes.

The overarching evaluation question for this work package is:

- EQ WP3: To what extent have bus priority infrastructure schemes improved bus service performance on defined corridors and led to changes in patronage, and what have been the subsequent impacts of this?

## 3.2 Schemes within the work package

Nine schemes from 3 MSAs (GMCA, WMCA and WYCA) are included in WP3. These schemes are summarised in Table 13. Together they account for a total of **£230.13m in CRSTS funding**.

While these schemes all involve investment in bus infrastructure in line with the focus of the work package, it is acknowledged that they may not focus solely on buses. An integrated corridor approach is being taken by some MSAs to deliver bus corridor improvements alongside other modes such as walking and cycling.

### Table 13: Schemes within Work Package 3

| Scheme | MSA | Budget Total (£m) | Budget CRSTS (£m) | Business Case Stage | Exp. Delivery date |
|---|---|---|---|---|---|
| Quality Bus Transit (QBT) Corridor: Bury-Rochdale ***LINK*** (including Rochdale: Heywood Streets for All ***LINK***), | GMCA | 14.80 | 14.80 | OBC | Aug-27 |
| Quality Bus Transit (QBT) Corridor: Ashton-Stockport ***LINK*** | GMCA | 3.70 | 3.70 | FBC | Mar-27 |
| Quality Bus Transit (QBT) Corridor: Wigan-Leigh and Wigan-Bolton ***LINK*** | GMCA | 9.10 | 9.10 | FBC | Mar-27 |
| Initial phased delivery of Rochdale-Oldham-Ashton Corridor ***LINK*** | GMCA | 50.00 | 50.00 | OBC | Aug-27 |
| BSIP Bus Priority X-city Routes* ***LINK*** | WMCA | 59.00 | 59.00 | OBC | Oct-27 |
| East Birmingham to Solihull Corridor* | WMCA | 29.00 | 29.00 | OBC | Jul-27 |
| Sprint A45 Phase 2 ***LINK*** | WMCA | 29.53 | 29.53 | Delivery | Dec-25 |
| Wakefield Road, Bradford transformational bus priority and cycle corridor ***LINK*** | WYCA | 20.00 | 20.00 | SOBC | Mar-27 |
| Beckett Street, Leeds – transformational bus priority scheme ***LINK*** | WYCA | 15.00 | 15.00 | FBC | Oct-26 |
| **Total** | | **230.13** | **230.13** | | |

*Source: DfT CRSTS 2024/25 Q3 MSA Monitoring and Reporting and updates in May 2025.*

*Notes: *BSIP Bus Priority X-City Routes and the East Birmingham Solihull Corridor are split into sub schemes for the purpose of delivery and reporting. They are combined in this table as funding, OBC stage and delivery is currently only available at this aggregated level.*

## 3.3 The case for intervention

This work package is focused on bus priority schemes that aim to improve performance and in turn attractiveness of the bus network and therefore increase patronage.

Bus patronage has been falling across England since 2014. 4.6 billion journeys were taken in year to end March 2014 compared to 3.6 billion in 2024 (DfT, 2025a). Several funding support programmes (Transforming Cities Fund, Bus Service Improvement Plans etc.) have been issued by central government to try to reverse this decline and support the bus network following the pandemic. CRSTS is one such programme funded by central and local government (see section 3.4).

Each scheme description has been reviewed, initially for selection in the work package and then for identification of appropriate metrics to measure outcomes. From this review, the following cases for intervention have been identified:

- reversing the decline in bus patronage
- improving orbital connectivity
- encouraging mode shift
- reliability improvements
- journey time savings
- improving customer environment, such as at bus stops and interchanges
- connecting people to employment opportunities
- promoting wider investment in town centres and along bus corridors
- combining active travel improvements (such as segregated cycle infrastructure) with bus improvements to encourage sustainable travel

The case for intervention differs for each scheme and MSA but they will include a number of those listed above and therefore all will in some way be covered within this work package. The sections below highlight the key cases for intervention in each of the MSAs, as identified through the scheme descriptions and business case reviews.

### 3.3.1 Greater Manchester

#### Improve orbital connectivity

Historically, transport provision in Greater Manchester has a focus on access to Manchester city centre, which is where the majority of employment opportunities exist at present. Each of the ten local authority within GMCA comprises of one or more large towns, and public transport connectivity between them is poor.

All GMCA schemes within this work package are focused on improving orbital connectivity between some of the major town centres within the combined authority. These bus schemes are along corridors lacking any heavy or light rail connectivity, and avoid the need for passengers to enter and exit Manchester city centre as part of their journey.

### Connecting people to employment opportunities

Towns in the north and east of the combined authority comprise some of the most deprived areas in the country (Annex E These areas have suffered from post-industrial decline since the latter parts of the 20th century whilst economic activity has centralised in Manchester.

Schemes connecting Wigan, Leigh, Bolton, Bury, Rochdale, Oldham, Ashton and Stockport will create an arc of high-quality public transport infrastructure to unlock employment opportunities, negating the need to own a car to access employment.

### Combining active travel improvement with bus improvements

All schemes in Greater Manchester include integration with active travel schemes to promote sustainable end to end journeys, wherever possible. Integration of active and bus modes are part of Greater Manchester's 'Streets for All' design approach and are integral to the delivery of an integrated and seamless transport network.

Wherever possible segregated cycle infrastructure is being created along the orbital bus corridors to create a connected network of routes. Where segregated on-corridor infrastructure is not deliverable alternative parallel routes are being developed on quiet streets to ensure enhanced connectivity between towns and within communities and neighbourhoods more widely. Enhancements to pedestrian facilities including new and improved crossings and better connectivity to bus stops on each of the corridors are also key investment priorities with a view to delivering support to end to end journeys in a sustainable way.

## 3.3.2 West Midlands

### Journey time savings and connecting people to employment

The public transport network (bus, rail and tram), like Greater Manchester, is radial and focused on the main employment centre of Birmingham. To traverse the MSA by public transport, it is likely a change in Birmingham would be necessary.

The 'X-city Routes' aim to reduce the number of changes people have to make when crossing the MSA. The current bus network is a 'hub and spoke' model with buses starting from specific interchanges in town centres which then connect to the suburbs. There are no cross-city routes at present. The new routes will bypass congested centres such as Birmingham city centre, reducing journey times as well as making them more convenient by reducing the number of interchanges people have to make. This could unlock additional employment opportunities to those who are reliant on the bus by making more of the MSA accessible within a reasonable journey time. It is noted, that a reduction in the number of interchanges may negatively impact the number of bus boardings as fewer are required to complete one trip. This will be considered in the evaluation.

### Encouraging mode shift

The eastern part of the MSA contains more rural and less deprived areas (Annex F ) with higher car use compared to the rest of the MSA. This includes areas such as Solihull and Coventry. In the 2021 Census, journey to work mode share for Coventry (LAD) was 3.8% compared to 9.7% in Birmingham (LAD) (ONS, 2021).

The East Birmingham to Solihull Corridor and Sprint A45 Phase 2 schemes will connect the relatively affluent area of Solihull to Birmingham, which is the centre of employment and entertainment activities within the MSA. Connecting Solihull with more reliable and higher quality bus infrastructure could encourage car users to shift to more sustainable modes of travel.

## 3.3.3 West Yorkshire

### Reliability and journey time improvements

The corridors in WYCA are smaller than those in GMCA and WMCA, which are generally focused along whole bus routes. WYCA are deploying targeted interventions where specific problems with current bus performance have been identified; analysis undertaken by WYCA has found delays over the 1km stretch along the Beckett Street scheme of up to 10 minutes southbound and 5 minutes northbound. The proximity to the hospital means these delays can occur throughout the day (not just during peaks) as travel patterns are not consistent. Widening of the carriageway to allow the provision of bus lanes aims to improve the delay issues experienced along this corridor. This will improve journey times and the reliability for those heading to the hospital but also into Leeds city centre (southbound direction).

The Wakefield Road corridor connects the inner and outer ring road to the south east of Bradford and is a key corridor into the city. WYCA have reported that congestion has reduced the reliability of public transport along the corridor and there is a lack of suitable walking, wheeling and cycling infrastructure which exacerbates isolation for those living along the corridor. Investment in road widening and bus lanes along this corridor aims to improve reliability issues currently observed and make bus use more attractive to those accessing Bradford.

### Combining active travel improvement with bus improvements

Both schemes in WYCA include integration with active travel schemes to promote sustainable end to end journeys. Integration of active and bus modes are part of the ‘Good Growth’ initiative reducing car dominance across the MSA.

Cycle infrastructure such as segregated lanes does not currently exist along the scheme routes. The Beckett St scheme will integrate with the City Connect 2 cycle scheme. Wakefield

Road is a six lane A road that is not currently attractive to cyclists. Changes should promote the use of active and sustainable modes by providing safer and more direct routes.

## 3.4 Other investment taking place

Table 14 below outlines other investment already known to be taking place that may have an influence on the baseline and future outcomes.

### Table 14: Other relevant investment taking place

| Investment Programme | National/ Local | Date of funding and implementation of schemes | Areas Impacted | Considerations |
|---|---|---|---|---|
| National Bus Strategy: Bus Service Improvement Plan (BSIP) | National | 2022 to present | GMCA<br>WMCA | There may be bus priority measures that will impact metrics measured for this evaluation. |
| National bus fare cap | National | January 2023 to December 2024 (£2)<br>January to March 2027 (£3) | WMCA | Likely to impact bus patronage, recent evaluation found increases in patronage associated with the fares scheme. |
| West Yorkshire fare cap | Local | September 2022 to March 2025 (£2)<br>April 2025 to present (£2.50) | WYCA | As for national fare cap. |
| Greater Manchester fare cap | Local | September 2022 to committed to end of 2025 (£2) | GMCA | As for national fares cap. |
| Transforming Cities Fund (TCF) | National | | GMCA<br>WMCA<br>WYCA | There may be bus priority measures that will impact metrics measured. |
| Levelling Up Fund | National | 2021 to 2025 | GMCA<br>WMCA<br>WYCA | Areas may have used funding towards bus priority interventions that provide some impact on metrics. |
| Bus Services Operators Grant (BSOG) | National | 2023 to 2027 (CRSTS period) | GMCA<br>WMCA<br>WYCA | Though generally revenue (RDEL) funding, BSOG can be utilised to support infrastructure elements deriving some benefits. |

## 3.5 Baseline data approach for Work Package 3

### 3.5.1 Metrics, data sources and baselining

Table 15 lists the metrics being collected for this work package along with the source(s), the level of detail (granularity), regularity and purpose for the evaluation. In this baselining report, data for the first three metrics are summarised (bus patronage, bus performance and bus customer satisfaction). These metrics are key to determining the impact of the interventions on bus services and consequently patronage.

**Table 15: Outcome metrics for WP3**

| Outcome metric | Source(s) (Granularity. Regularity) | Purpose |
|---|---|---|
| Bus patronage | Bus operators via MSA returns (Corridor. Quarterly requested)<br>DfT bus statistics tables (MSA. Annual) | Understand the impact on bus use following scheme delivery. |
| Bus performance (punctuality, speed and journey times) | Bus Open Data Service (Corridor/route. Daily)<br>MSA returns (Corridor/route, quarterly requested) | Understand if scheme delivery improves bus performance and whether any change in patronage can be attributed to performance improvements. |
| Bus customer satisfaction | Transport Focus (MSA. Annual)<br>MSA commissioned surveys (MSA, corridor or route. Ad-hoc) | Qualitative understanding of how passengers feel about the bus network and whether satisfaction has improved following investment. |
| Bus frequency along corridors | GTFS (Route. Daily) | Monitor if improvements have allowed operators to increase frequency along routes to improve the level of service. |
| Proportion of population within 60min of employment/town centre | GTFS (Route. Daily) | Understand if bus improvements have unlocked access to employment opportunities. |
| General traffic (flows, speeds and delays) | DfT Annual Average Daily Traffic (Road link. Annual)<br>MSA counts (Specific sites. Ad-hoc)<br>INRIX, from DfT Congestion Stats (Road link. Annual) | Allowing the evaluation to contextualise how busy roads are within the MSA and along the corridors. Assess the trends in speed and delay for general traffic compared to bus. |

### 3.5.2 Bus patronage

Bus patronage measures the number of journeys taken on buses. Quarterly bus patronage data is being collected for the evaluation at MSA and corridor/bus route level. A corridor refers to a stretch of road that may have multiple routes traversing it but does not necessarily include the entire route. A route refers to an entire bus route from start to end stop. This is reliant on operator-submitted data, which is currently pending bus operator agreements with MSAs. The exception to this is GMCA, where ticket machine data is now available post franchising. This baseline report therefore contains only annual MSA level data from published DfT statistics for consistency across MSAs. Future reports will contain route level analysis of bus patronage.

#### Challenges, mitigation and caveats

The greatest challenge for this metric is the reliance on operator-submitted data. For the MSA with franchising (GMCA) this data is more readily available, whilst other MSAs have multiple operators to engage with and request data from. The main challenges are covered in Table 16.

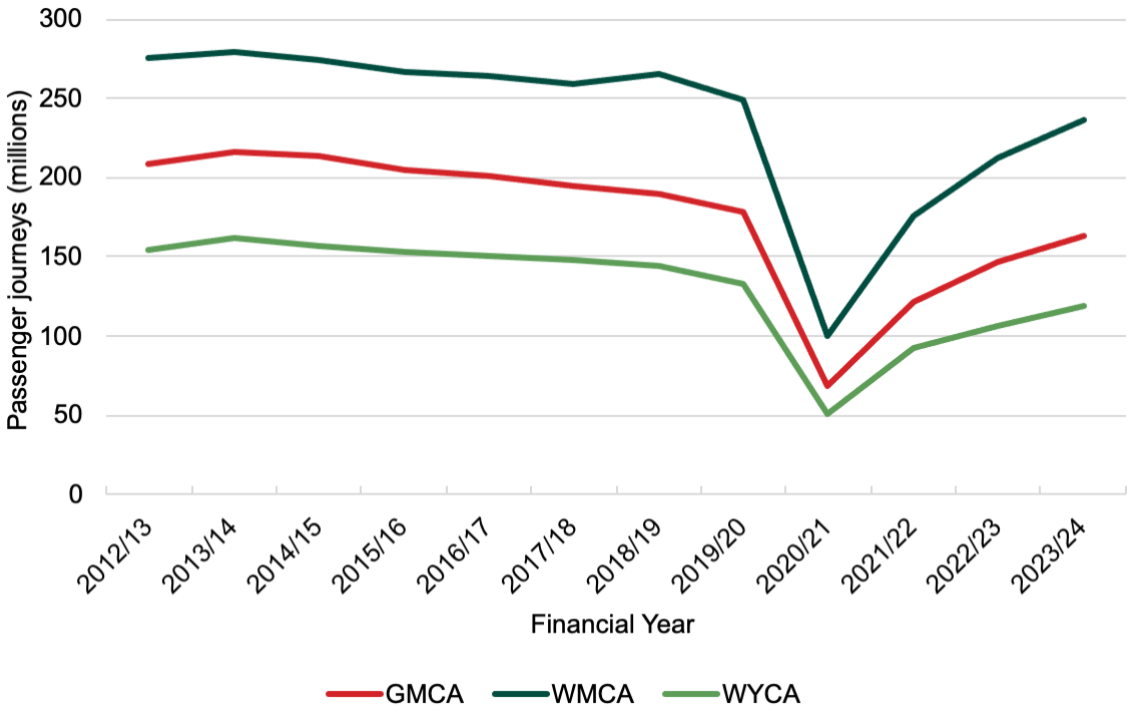
**Table 16: Bus patronage data challenges**

| Challenge | Likelihood | Impact on evaluation | Mitigation & Caveats |
|---|---|---|---|
| Operator reluctance to share data. | Medium | High | Data sharing agreements has been shared with MSAs and operators that explain the data use for reporting and using indexing. Some agreements are still outstanding at this baselining stage but are being actively worked on to unlock. |
| Level of granularity too low e.g. only available at MSA level or regularity low e.g. annual. | Low | Medium | Consider bus metrics where corridor and local authority data is available to measure the success of a scheme such as delay and journey time. |
| Differences in DfT annual bus patronage statistics and MSA reported totals due to differing methodologies and engagement from operators. | Low | Low | Share data with DfT bus statistics team to identify scale of variance and agree acceptable differences in values due to differing methodologies. |

## Baseline data

General historic trends are available at the MSA level from DfT bus statistics tables within BUS01 (DfT, 2025a). Bus journeys for financial years are present in the statistics tables and the values for the three MSAs in this work package are shown in Figure 10. Bus journeys were in decline across all three MSAs from 2013/14 (apart from a slight increase in 2018/19 in WMCA).

### Figure 10: Passenger journeys (millions) on local bus services by financial year




*Source: DfT bus statistics table BUS01*

The COVID-19 pandemic had a significant impact, sharply reducing bus patronage. Since 2021/22 the number of bus journeys has been increasing, although the levels in 2023/24 were still below those seen in 2019/20. In 2024/25 local bus journeys reported in bus statistics table BUS01 were 86% in GMCA, 89% in WMCA and 83% in WYCA, as percentages of 2019/20 levels.

The recent upward trend in patronage will be an important consideration for the evaluation. Differences between levels of patronage in future and patronage in 2023/24 would need to be interpreted carefully and not necessarily attributed to CRSTS investments. The evaluation approach will need to carefully examine patronage trends at the scheme level in the context of wider trends and local comparisons where these can be drawn.

### 3.5.3 Bus performance

#### Bus performance covers three outcome metrics:

- punctuality (measured at the MSA level, with the intention for corridor level in the future)
- journey time (measured at corridor level)
- speed (measured at corridor level)

The Bus Open Data Service (BODS) is being used as the main data source for these metrics. Whilst a DfT bus statistics table exists on bus reliability and punctuality, BUS09 (DfT, 2025b), it is only reported annually whereas monthly and therefore quarterly data can be obtained from Analyse Bus Open Data Service (ABODS) for the purpose of this evaluation.

#### Challenges, mitigation and caveats

Data is collected through MSAs and ABODS and whilst the reliance is on ABODS there are some concerns from operators on the accuracy of this data.

The main challenges are covered in Table 17.

**Table 17: Bus performance data challenges**

| Challenge | Likelihood | Impact on evaluation | Mitigation & Caveats |
|---|---|---|---|
| Discrepancies between operator reported and BODS recorded statistics. | Low | Low | BODS will be the consistent source, as trends are the focus of the evaluation there is less importance on raw figures matching exactly. Where there are significant differences, coordination with operator data sources may be required. |
| Data unavailable in BODS. | Medium | Medium | Work with MSAs to collect data for specific corridors/routes where the data is lacking in BODS. |
| Differences in DfT annual performance statistics and BODS results. | High | Low | Share data with DfT bus statistics team to identify scale of variance and agree acceptable differences due to methodological differences. |

## Baseline data

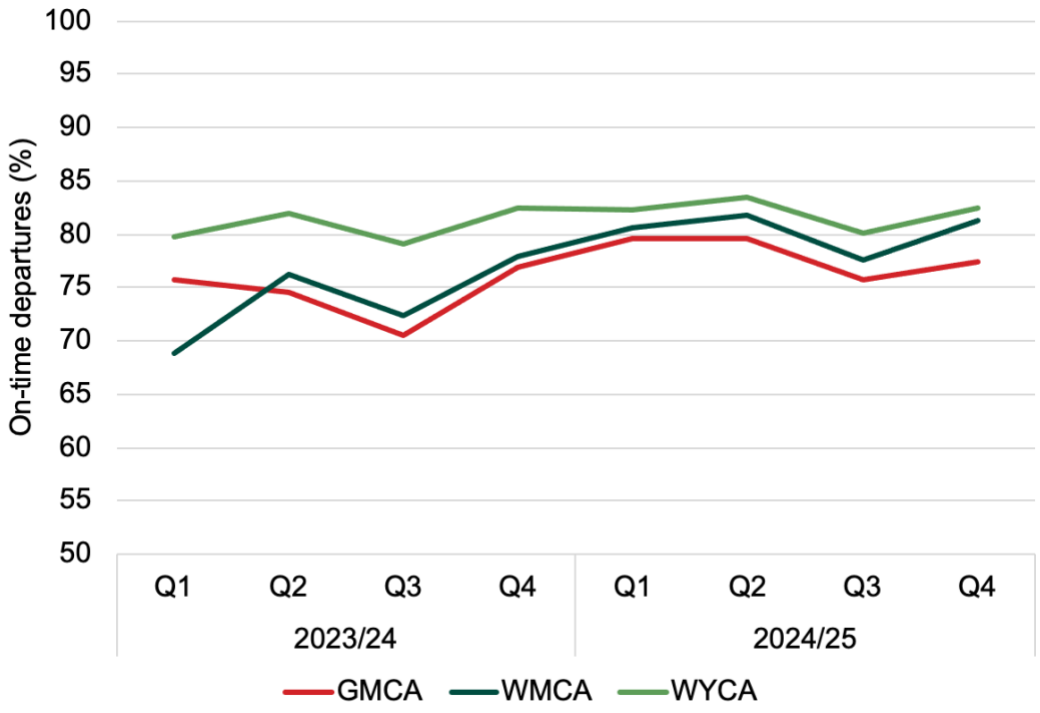
### Bus punctuality

Punctuality is a measure of the proportion of buses recorded as on-time. The definitions of on-time, late and early follow those set out by the Traffic Commissioner:

- **Late:** Anything over 5 minutes 59 seconds counts as late.
- **Early:** Any bus that departs more than 1 minute early.
- **On-time:** Any departure within the ranges above.

Punctuality for the three MSAs, as extracted from BODS, is presented in Figure 11. The annual average for each MSA and England and Wales is shown in Table 18. Since 2023, on-time performance has improved across the three MSAs: WYCA by 1 percentage point (p.p), GMCA by 4 p.p. and WMCA by 6 p.p. Some of these improvements may be due to additional investment (as identified in Section 1.3), which highlights the importance awareness and considerations being made for these other investments when carrying out this evaluation.

**Figure 11: Percentage of bus on-time departures by financial quarter**




*Source: BODS*

Average on-time departures across all local authorities in England and Wales (as available through BODS) was 79% in both 2023/24 and 2024/25 (Table 18). In 2023/24 GMCA and WMCA on-time departures were below that of the England and Wales average, but by 2024/25 only GMCA remains marginally below this average.

### Table 18: Proportion of bus on-time departures by financial year

| MSA | On-time 2023/24 | On-time 2024/25 |
|---|---|---|
| GMCA | 74% | 78% |
| WMCA | 74% | 80% |
| WYCA | 81% | 82% |
| *England and Wales* | *79%* | *79%* |

*Source: BODS*

**Bus speeds and journey times**

Bus speeds and journey times are measured at a corridor level and therefore information on the specific corridors is required to extract this from BODS. Information on the exact location of the corridors included in the evaluation is limited at present (pending certain business case decisions) and may be subject to variations as the evaluation progresses.

An example of journey time and speed measurements from a sample of corridors (pending agreement of scope for other corridors) is presented in Table 19. These will continue to be monitored throughout the evaluation using BODS.

### Table 19: Average corridor speeds and journey times in 2024/25

| Scheme | MSA | Direction | Average Journey Time (mm:ss) | Average Speed (mph) | Number of stops included |
|---|---|---|---|---|---|
| Wakefield Road, Bradford | WYCA | Northbound | 04:28 | 18.3 | 7 |
| | | Southbound | 05:12 | 13.3 | 7 |
| Beckett Street, Leeds | WYCA | Northbound | 04:58 | 9.0 | 5 |
| | | Southbound | 05:11 | 8.3 | 4 |
| Bury to Rochdale | GMCA | Eastbound | 25:03 | 13.0 | 28 |
| | | Westbound | 28:04 | 12.0 | 30 |
| Wigan to Leigh | GMCA | Eastbound | 40:02 | 11.5 | 40 |
| | | Westbound | 39:44 | 11.3 | 39 |

*Source: BODS*

It is important to note that bus corridors vary in length. The corridors included in the evaluation that are receiving CRSTS investment are shortest in WYCA, whilst the GMCA and WMCA schemes are investing in longer corridors (and in the case of GMCA, entire bus routes). This is an important consideration for the evaluation, as a longer corridor may have

greater potential to make journey time savings in absolute terms yet is also subject to greater influence from wider highway network behaviours.

### 3.5.4 Bus customer satisfaction

Whilst some areas may undertake their own bus customer satisfaction surveys, particularly for scheme level satisfaction, the underlying source for this outcome metric is the Transport Focus Your Bus Journey Survey (Transport Focus, 2025).

#### Challenges, mitigations and caveats

Whilst authorities continue to participate in the Transport Focus survey, there is a consistent source (at MSA level) to monitor changes in satisfaction over the course of the evaluation. This is reliant on MSAs continuing to participate in the Transport Focus survey and does not apply to scheme level surveys.

The main challenges are covered in Table 20.

**Table 20: Bus customer satisfaction data challenges**

| Challenge | Likelihood | Impact on evaluation | Mitigation & Caveats |
|---|---|---|---|
| Lack of scheme level surveys in Transport Focus survey. | High | Medium | Use MSA conducted surveys as part of their own M&E activities. This is likely to only be for larger schemes, MSAs have not committed to doing this for all schemes. |
| Lack of recommitment to Transport Focus survey. | Low | High | It is anticipated that MSAs will continue to be involved in the Transport Focus survey through this evaluation. If this changes, dialogue with the MSA is necessary to understand what other approach may be taken, such as MSA commissioned surveys. |
| Methodological differences across surveys. | High | Low | Results between MSAs are not being compared and therefore the impact of differences is minimised. Results at an MSA and scheme level may be compared and any methodological differences will be identified in the final reporting. |

### Baseline data

Overall bus satisfaction at the MSA level from the Transport Focus survey (2019, 2023 and 2024) is shown inTable 21. The 2019 methodology was different to the 2023 and 2024 survey but this is the most recent data prior to 2023 (due to the COVID-19 pandemic) and therefore has been included to understand pre-pandemic levels of satisfaction. Satisfaction for all three authorities is still below the levels recorded in the 2019 survey.

#### Table 21: Overall satisfaction, Transport Focus

| MSA | Satisfaction 2019* | Satisfaction 2023 | Satisfaction 2024 |
|---|---|---|---|
| GMCA | 87% | 79% | 79% |
| WMCA | 85% | 76% | 79% |
| WYCA | 85% | 73% | 77% |

*Notes: *Different methodology employed.*
*Source: Transport Focus Your Bus Journey Survey (Transport Focus, 2025).*

Some MSAs have undertaken baseline satisfaction surveys at a scheme level. Table 22 contains results and information on the surveys that have been undertaken by MSAs so far. If any further MSAs collect data at a scheme level in future, this will be shared with the evaluation.

#### Table 22: Overall satisfaction at scheme level

| Scheme | MSA | Overall satisfaction | Date of survey | Notes |
|---|---|---|---|---|
| Initial phased delivery of Rochdale-Oldham-Ashton Corridor | GMCA | 81% | June 2023 | 1,000 users of the 409 bus route. |
| Wakefield Road, Bradford transformational bus priority and cycle corridor | WYCA | 66% | June 2024 to February 2025 | MSA conducted CRSTS baseline survey. |
| Beckett Street, Leeds – transformational bus priority scheme | WYCA | 87% | June 2024 to February 2025 | MSA conducted CRSTS baseline survey. |

*Source: MSA supplied survey results through data returns.*

# 4 Work package 4: Urban areas with high levels of deprivation

## 4.1 Introduction

Work package 4 (WP4) is a place-based work package focusing on the cumulative impact of CRSTS-funded interventions in areas with high levels of deprivation and low rurality. As stated in Section 1, a separate scheme selection report presents the approach and outcomes from the process applied to select CRSTS places for WP4.

Section 4.1 of the M&E Framework report presents all WP4 evaluation metrics. It also describes how the evaluation approach, methods and data sources will be applied to evaluate the impact of CRSTS schemes in WP4 places.

The overarching evaluation question for this work package is:

- EQ WP4: To what extent have CRSTS schemes collectively contributed to improving transport, economic, social and environmental outcomes in urban areas characterised by high levels of deprivation and low rurality?

## 4.2 Areas within the work package

There are 5 local authority districts, across 5 MSAs, included in this work package. Table 23 lists the local authorities alongside the total budget of CRSTS supported schemes in those local authorities. Together the schemes in the included local authorities account for a total of almost **£1 billion in CRSTS funding.**

### Table 23: Schemes within Work Package 4

| Local Authority | MSA | Number of schemes | Budget CRSTS (£m) | Budget Total (£m) |
|---|---|---|---|---|
| Birmingham | WMCA | 16 | 244.44 | 245.82 |
| Bradford | SYMCA | 8 | 74.04 | 144.86 |
| Liverpool* | LCRCA | 7 | 469.97 | 489.77 |
| Middlesbrough | TVCA | 12 | 98.37 | 124.26 |
| Sheffield | WYCA | 9 | 83.82 | 89.82 |
| **Total** | | **53** | **970.64** | **1,094.52** |

*Source: DfT CRSTS 2024/25 Q3 MSA Monitoring and Reporting updates in May 2025.*
*Final funding allocations are subject to change over the course of the evaluation.*
*Note: Each MSA/LAD define a single scheme differently and may be split into sub schemes either now or in the future. *Represents some LCRCA wide funding and actual spend within Liverpool will be available in later reporting.*

## 4.3 The case for intervention

These areas are some of the most deprived across the MSAs and England and Wales as defined by the index of multiple deprivation 2019 (Ministry of Housing, Communities & Local Government, 2019). Schemes assessed as part of this work package aim to improve public transport connectivity within these areas. In these deprived areas, car ownership is often also lower and therefore there is a greater reliance on public transport to access employment, social opportunities, friends and family.

The sections below summarise the case for intervention for the selection of schemes within each area, highlighting some of the key schemes within an area that contribute to this work package.

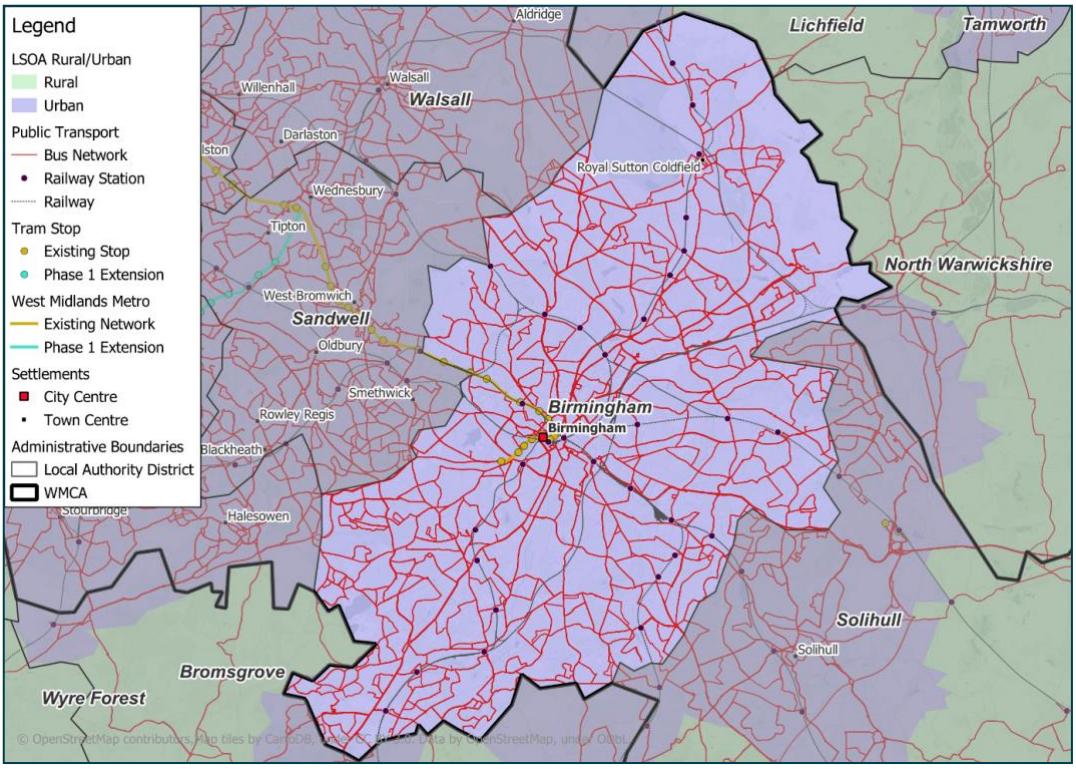
### 4.3.1 Birmingham (WMCA)

This local authority has the largest population of any local authority in the country; this comes with significant challenges for the transport network ensuring it runs smoothly and serves the population as much as possible. The city of Birmingham is the main employment centre for the wider region and is served by bus, rail and light rail. Whilst car ownership for the local authority is below the national average, the road network in and around Birmingham is congested. This causes problems for the bus network and those who rely on having a reliable service to get to work. There are 7schemes focused on improving bus travel in the LAD including X-City routes to bypass areas of congestion (as noted in the X-City business cases) and enable journeys that cross the authority without the need for a time-consuming change in Birmingham.

Birmingham is expected to see High Speed 2 (HS2) rail services connecting to London in the 2030s which is leading to significant regeneration around New Street station and the potential for population and employment growth. It is therefore important for the authority to develop sustainable transport options in preparation for this. There are 7 active travel schemes that aim to make walking and cycling within Birmingham more attractive and accessible through road space reallocation and pedestrianisation. These focus on integrating with public transport and connecting key transport hubs such as New Street and Snow Hill national rail stations as well as Colmore Row Bus Interchange.

The light rail network is currently limited to one line (Figure 12), and whilst patronage has been increasing in recent years (see section 2.5.2) this does limit the catchment and opportunities for the rest of the population. Whilst the extension is being undertaken in adjacent boroughs, renewals of the network are also being undertaken, and these are outlined in section 2.3.2.

### Figure 12: Birmingham public transport network and rural/urban split



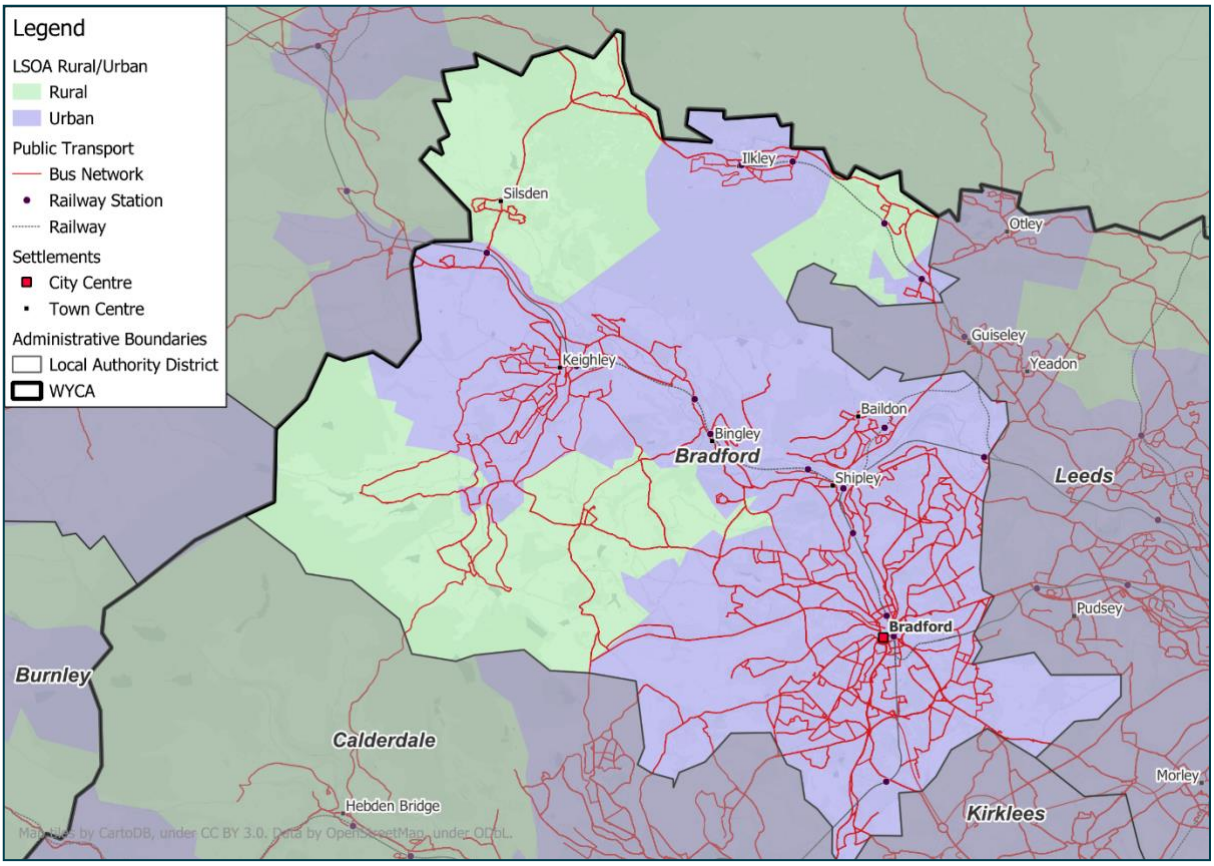

*Source: SYSTRA*

### 4.3.2 Bradford (WYCA)

The majority (over 60%) of the population lives within the city of Bradford urban area (Figure 13) and this is where the most deprived areas of the authority are situated. Transport movements are focused on radial corridors, particularly the A641 which connects Bradford to Brighouse and on to Huddersfield as well as connections to the wider motorway network via the M606. These routes are congested causing problems for general traffic movement, delaying buses and limiting the potential for safe active travel (South Bradford Park & Ride business case). This impacts the ability for people to access employment and leisure opportunities in Bradford, which has the second largest economy within WYCA. It is particularly limiting for those in areas identified as within the top 20% of deprived areas in the country, where car ownership is less than 50% (Census 2021) and they rely on public transport and active modes.

A mixture of interventions including 3 featuring bus priority, 1 Park & Ride and 5 improving walking and cycling are being delivered in Bradford. These are focused on improving access into the city of Bradford along key corridors such as Kings Road as well as improving walking and cycling access into Bradford Interchange station. Away from the city centre, active travel connections to rural communities of Steeton and Silden are being improved by reducing severance across the A629. These schemes aim to improve reliability of the bus network, make active travel more attractive, encourage sustainable trip stages and open employment and leisure opportunities to those dependent on the public transport network.

### Figure 13: Bradford public transport network and rural/urban split



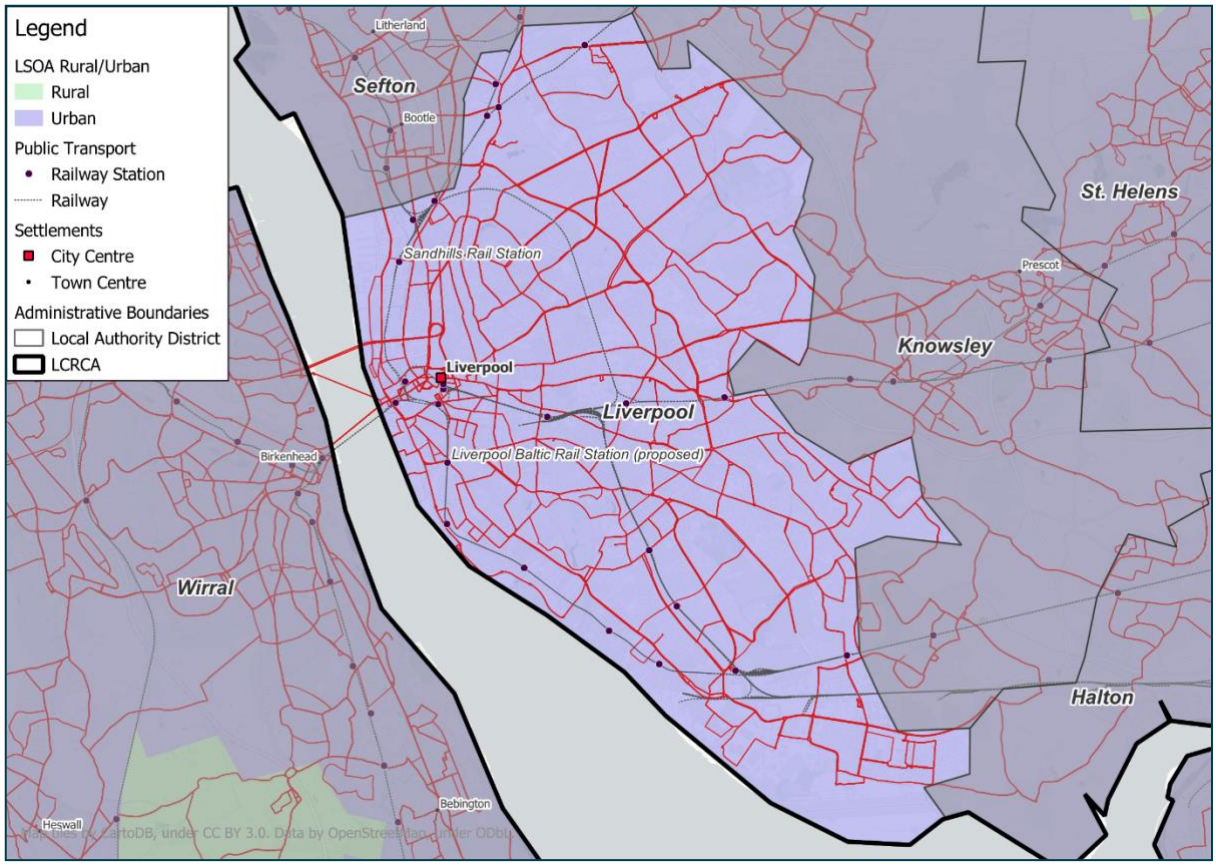

*Source: SYSTRA*

## 4.3.3 Liverpool (LCRCA)

Liverpool is a completely urban authority (Figure 14), the most populous local authority in LCRCA and is the economic and social centre. There exists an extensive public transport network consisting of Merseyrail (and national rail mainline services) commuter rail network, ferries and buses. Three schemes in Liverpool are focused on the importance of maintaining assets and infrastructure to keep providing public transport options. Without these, the network infrastructure quality could decline potentially resulting in reduced frequencies and closures, limiting growth and opportunities for the region.

Regeneration and growth in the Baltic Triangle area of the city has resulted in a need to review the public transport network. This area is becoming an important creative, digital and leisure hub with over 500 businesses providing over 3,000 jobs (Liverpool City Council, 2020) along an active rail line. Delivery of a new rail station at Liverpool Baltic is one of the schemes that will provide frequent services to the centre of Liverpool, further opening redevelopment opportunities in the area. Access to Sandhills station is also being improved to facilitate a new stadium for Everton football club, encouraging visitors to the stadium to use rail rather than drive.

### Figure 14: Liverpool public transport network and rural/urban split



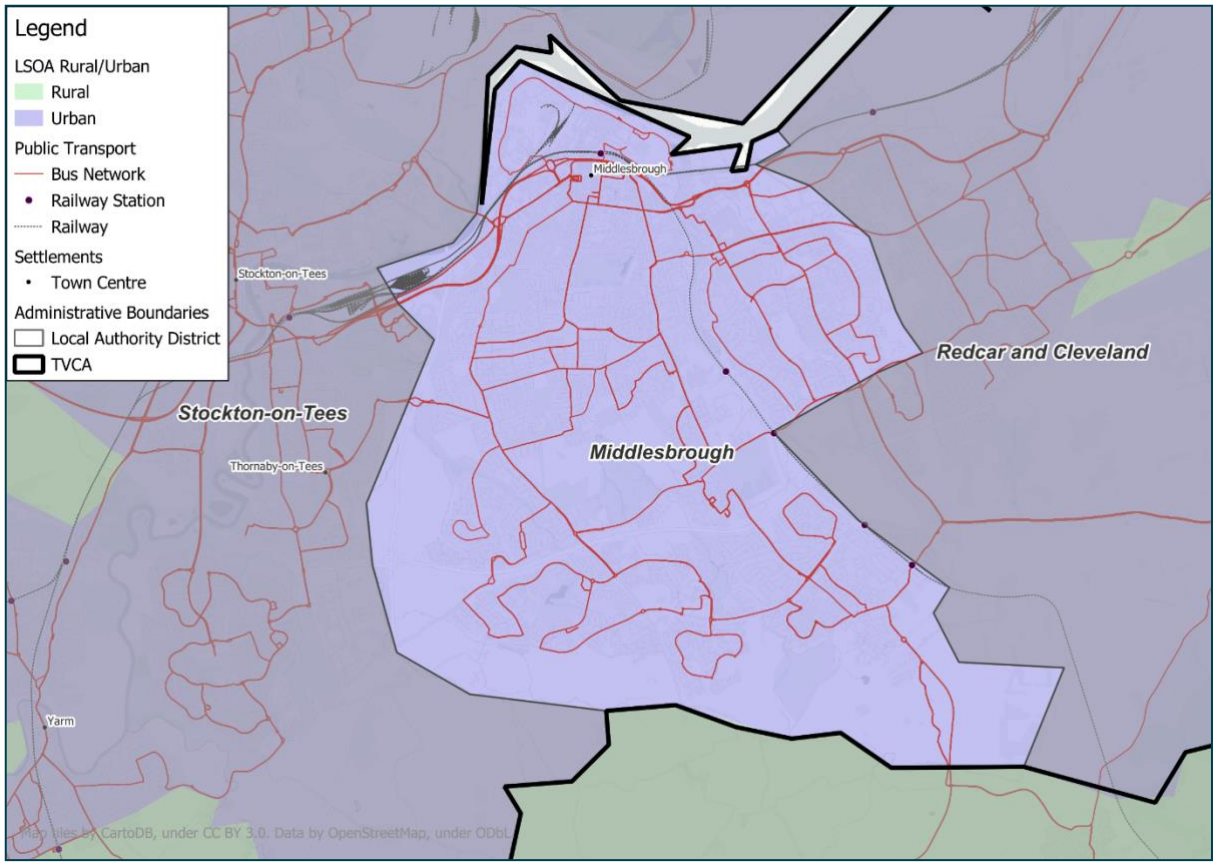

*Source: SYSTRA*

## 4.3.4 Middlesbrough (TVCA)

This is a relatively small and predominantly urban local authority (Figure 15). The population density is within the top 20% of the England and Wales. The compact nature should lend itself to easy access to employment and services, yet deprivation indices are high and over 50% of the population travel to work by car (Census 2021). De-industrialisation in the region, particularly the closure of Teesside Steelworks in 2015, has contributed to higher levels of unemployment, 6.1% in 2024 compared to 3.8% in Great Britain (Office for National Statistics, 2021).

There are only 2 rail stations in the borough so buses play an important role in public transport connections. There are 5 schemes focused on improving bus corridor connections to Middlesbrough as the main centre for employment opportunities as well as onward connections from Middlesbrough station benefiting from another CRSTS scheme to improve capacity to the wider region. Creation of the Teesside Freeport is anticipated to generate 18,000 jobs (Tees Valley Combined Authority, 2025) and will become a major employer in the area. Connections are possible from Middlesbrough, so it is important to connect people through Middlesbrough to then continue onto the port via sustainable modes.

### Figure 15: Middlesbrough public transport network and rural/urban split



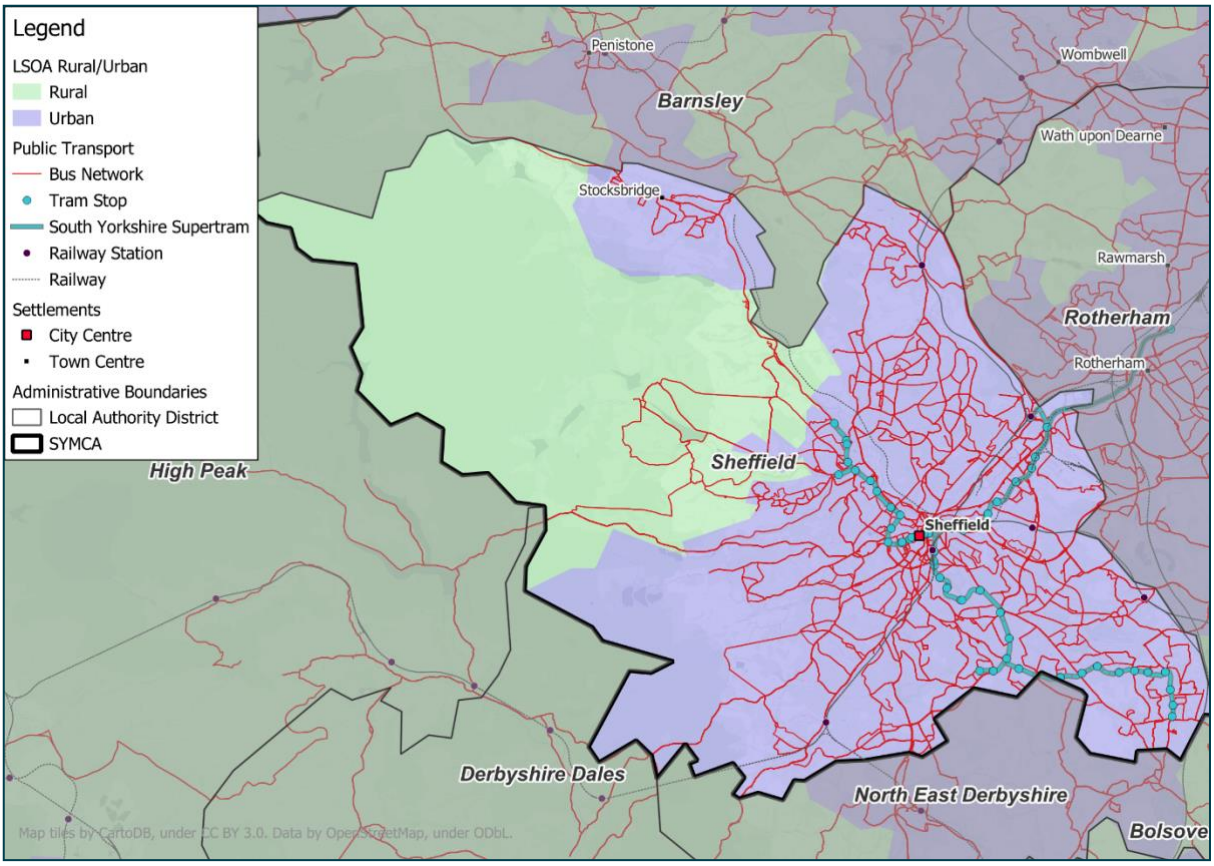

*Source: SYSTRA*

## 4.3.5 Sheffield (SYMCA)

Sheffield is the most populous local authority in SYMCA and the main economic centre. The majority of the population is located in the east of the authority, the north and west is rural and sparsely populated. Investment is therefore focused in and around Sheffield city centre and is a mixture of maintenance, active travel and some bus infrastructure investment. There is already an extensive bus and light rail network within Sheffield (see section 2.3.1 about South Yorkshire Supertram).

Schemes are focused on improving access to existing public transport and Sheffield town centre through multi-modal integration of active travel. Implementation of bus lane changes aim to improve bus performance, making them more attractive to potential users and reverse the decline in patronage. Five active travel schemes will 'plug the gaps' in existing cycling infrastructure to create a more cohesive and attractive network. Active travel is accessible to more people, particularly those where using a car is not possible and access to the wider public transport network is important to access jobs and services.

## Figure 16: Sheffield public transport network and rural/urban split




*Source: SYSTRA*

## 4.4 Other investment taking place

Table 24 below outlines other investment already known to be taking place that may have an influence on the baseline and future outcomes.

### Table 24: Other relevant investment taking place

| Investment Programme | National /Local | Date of funding and implementation of schemes | Areas Impacted | Considerations |
|---|---|---|---|---|
| Transforming Cities Fund (TCF) | National | 2018 – 2022 for Birmingham (WMCA), Liverpool (LCR) & Middlesbrough (TVCA)<br>2019 - 2022 for Bradford (WYCA) & Sheffield (SYMCA) | Birmingham<br>Bradford<br>Liverpool<br>Middlesbrough<br>Sheffield | There may be TCF schemes that will have impacted metrics measured for this evaluation on urban areas with high levels of deprivation. |
| Active Travel Fund | National | 2020 to 2023 | Liverpool | Support for permanent measures to encourage active travel may impact active travel mode share beyond CRSTS investments. |
| Levelling Up Fund | National | 2021 to 2025 | All | Areas may have utilised funding towards transport and wider interventions that provide some impact on metrics measured. |
| Towns Fund | National | 2021 to 2026 | All | Areas may have utilised funding towards transport and wider interventions that provide some impact on metrics measured. |
| UK Shared Prosperity Fund (UKSPF) | National | 2021 to 2026 | All | Areas may have utilised funding towards transport and wider interventions that provide some impact on metrics measured. |
| Local Electric Vehicle Infrastructure (LEVI) | National | 2023 to 2025 | (paid via MSAs)<br>SYMCA<br>WYCA | LEVI funding may contribute to elements of schemes such as public charging points in car parks, which may have limited impact metrics. |

## 4.5 Baseline data approach for Work Package 4

### 4.5.1 Metrics, data sources & baselining

Table 25 lists the metrics being collected for this work package along with the source(s), the level of detail (granularity), regularity of collection and purpose for the evaluation. For this work package the metrics being collected will particularly inform how levels of public transport use have changed and whether connectivity improvements have provided employment and social opportunities for those in relatively more deprived areas. Key metrics for the evaluation include bus and rail patronage and general traffic flows, these have been summarised here. All other metrics will continue to be collected as part of the evaluation.

**Table 25: Outcome metrics for WP4**

| Outcome metric | Source(s) (Granularity. Regularity) | Purpose |
|---|---|---|
| Bus patronage | Bus operators via MSA returns (LAD. Quarterly requested) | Understand the impact on bus use following scheme delivery. |
| Bus punctuality | Bus Open Data Service (LAD. Daily) | Understand if scheme delivery improves bus performance and whether any change in patronage can be attributed to performance improvements. |
| General traffic (speeds, delays and flows) | DfT Annual Average Daily Traffic (Road link. Annual)<br>MSA counts (Specific sites. Ad-hoc)<br>Floating Car Data, INRIX provided by DfT Congestion Stats (Road link. Annual) | Allowing the evaluation to contextualise how busy roads are within the MSA and along the corridors. Assess the trends in speed and delay for general traffic compared to bus. |
| Journey to work mode share % | MSA returns (MSA. Annual)<br>Census (LAD. Decade) | A measure of mode share across various modes to help assess if investments have resulted in a shift to sustainable modes. |
| Rail & light rail patronage (station usage, journeys and occupancy) | MSA returns (Stops/line. Quarterly requested)<br>ORR (LAD. Annual)<br>DfT light rail statistics tables (Network. Annual) | Understand how the number of journeys taken on the network has changed following scheme delivery. |
| Passenger satisfaction (bus, rail and light rail) | MSA returns (MSA/LAD. Annual) | Qualitative understanding of how passengers feel about using buses/trams/trains following investment. |
| Access to employment and services (connectivity measure) | GTFS (MSA/LAD. Quarterly) | Catchment analysis to understand employment and leisure opportunities within defined public transport catchment times. |

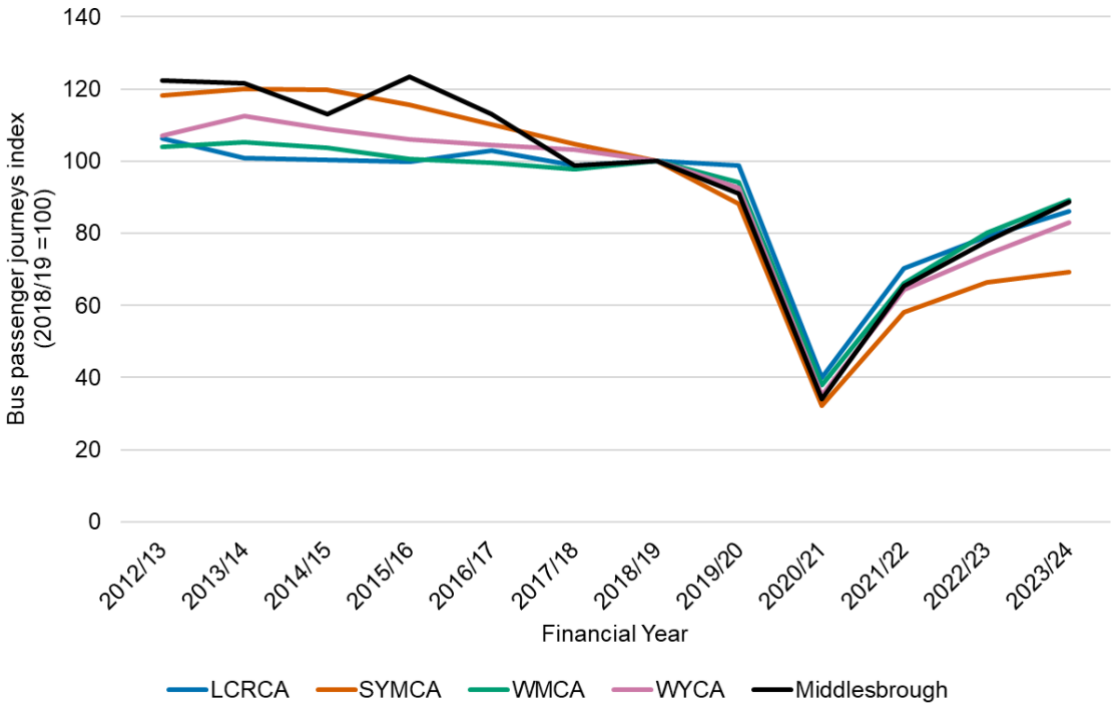
### 4.5.2 Bus patronage

Bus patronage is being collected for other work packages. See section 3.5.2 for more information on the importance and the data collection challenges.

#### Baseline data

As noted in section 3.5.2, bus patronage is not available for some local authority districts as they are reported at the MSA/Integrated Transport Authority (ITA) level. Bus patronage for LADs is being requested from MSAs for use in the evaluation but is currently unavailable for this report as it is not available through secondary sources. Due to the cross-boundary operating nature of the bus networks within there may be some difficulty in obtaining LAD patronage from operators as the data is not usually made available at LAD level from operators. The evaluators will work with MSAs and operators to try to overcome this. Indexed bus passenger journeys, as reported through BUS01 statistics from the DfT are presented in Figure 17. Middlesbrough data is available whilst the remainder are reported at MSA/ITA level. This graph has been included to capture recent trends which will be factored into the evaluation when attributing future trends to CRSTS spend.

**Figure 17: Bus passenger journeys indexed to 2018/19**




*Source: DfT bus statistics table BUS01*

*Note: LCRCA is a combination of Merseyside ITA and Halton journeys data*

All areas covered in Figure 17 experienced a decrease in bus patronage prior to the pandemic, consistent with the national trend. All fell to a similar level (around 35 to 40% of 2018/19) during 2020/21 and all, apart from SYMCA, have a similar recovery to between 83% (WYCA) to 89% (WMCA and Middlesbrough). SYMCA has recovered the least, to around 69%. As Sheffield is the major population and transport hub of the authority it can be expected that this is reflective of bus patronage in that authority but will become clearer when more data is available at LAD level.

### 4.5.3 Rail station usage

Rail station usage is being collected for other work packages; see section 1.4.2 for more information on the importance and the data collection challenges.

#### Baseline data

Most recent station usage across all stations in each of the authorities is shown in Table 26. Rail station usage in all authorities apart from Middlesborough is below pre-pandemic levels. However, all authorities have experienced year on year growth (Figure 18), continuing post pandemic recovery. These rates of recovery vary and in Bradford patronage appears to be levelling off.

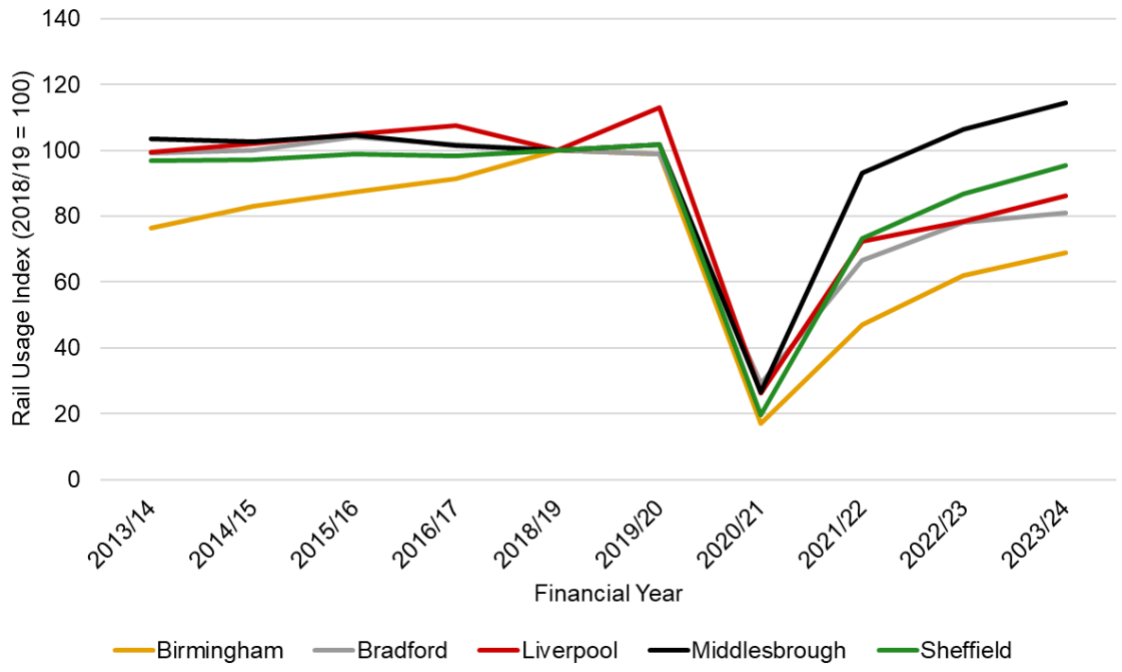
**Table 26: Rail entries and exits for all stations within the authority, by financial year**

| Local Authority | 2018/19 | 2022/23 | 2023/24 | Growth 2018/19 to 2023/24 | Growth 2022/23 to 2023/24 |
|---|---|---|---|---|---|
| Birmingham | 88,349,046 | 54,785,400 | 60,849,100 | -31.1% | 11.1% |
| Bradford | 15,331,962 | 11,982,538 | 12,435,466 | -18.9% | 3.8% |
| Liverpool | 53,260,634 | 41,820,700 | 45,968,696 | -13.7% | 9.9% |
| Middlesbrough | 1,326,946 | 1,413,530 | 1,519,254 | 14.5% | 7.5% |
| Sheffield | 12,252,734 | 10,624,170 | 11,711,902 | -4.4% | 10.2% |

*Source: ORR Table 1415 – Time series of passengers entries and exits and interchanges by station.*

Prior to the pandemic rail station usage was relatively flat for all authorities (Figure 18) although Liverpool did grow in 2019/20 before the effects of the pandemic hit. Birmingham had experienced steady growth from 2013 to 2019 but has since struggled to recover to pre-pandemic levels, yet is still within the top 10 of busiest stations within the UK. When 2024/25 data becomes available this will assist in defining an appropriate baseline as it should give a clearer understanding of current trends prior to delivery. This will then inform how the evaluation may attribute CRSTS funding to any further changes in patronage.

### Figure 18: Rail station usage at local authority indexed to 2018/19




*Source: ORR Table 1415 – Time series of passenger entries and exits by station.*

### 4.5.4 General traffic

This metric consists of the following:

- General traffic speed
- General traffic delay
- General traffic flows

This metric is being collected to monitor how general traffic road conditions have changed following the implementation of CRSTS schemes. It is a metric that provides context on the wider behaviour of the transport network but also may be useful in identifying if car use has changed in any way.

#### Challenges, mitigations and caveats

Measuring traffic behaviour often requires sensors along the road or manual counting to take place. It cannot be expected that authorities have these in place along all roads and therefore numerous sources are used to get a picture of highways within an area.

### Table 27: General traffic data challenges

| Challenge | Likelihood | Impact on evaluation | Mitigation & Caveats |
|---|---|---|---|
| Flow measurements require sensors and manual counts which most authorities do not have or conduct on an ad-hoc basis. | High | Medium | Use of DfT Annual Average Daily Traffic (AADT), a measure used to represent the average vehicles passing a point on a road in a day, as a consistent dataset for areas which can be bolstered with local counts as and when they become available. AADT is partially modelled, not all areas are counted every year which will be highlighted in final reporting. |
| Speed and delays may be impacted by other events such as long-term road works. | High | Low | This data is being collected across an area and is available daily from DfT Congestion Stats. Should a data sample appear to be an outlier it will be investigated with the authority and removed if necessary. |
| Floating car data from INRIX is only from a sample of connected vehicles and not all vehicles. | High | Low | Whilst not every vehicle is included in the data, the sampling occurs across various parts of the network and it is an approved data source used by the DfT. |

## Baseline data

**General traffic delay**

This metric is measured from the floating car dataset (representing the timestamped geolocation of a vehicle that is continuously collected) provided through INRIX. The delay in Table 28 measures the deviation from expected time to traverse the road network in seconds per vehicle per mile. Congestion on roads is the most regular cause of delay and therefore if schemes do encourage mode shift and resulting reductions in traffic, this metric may improve as traffic can flow more smoothly. There is also the potential that schemes prioritising active modes or buses can result in reallocation of road space and therefore localised increases in delay. Quarterly data for 2023/24 is presented in Table 28 and it will continue to be collected across the evaluation to investigate any trends in delays.

### Table 28: Quarterly average delay (seconds per vehicle per mile) on local and A roads by local authority, 2023/24

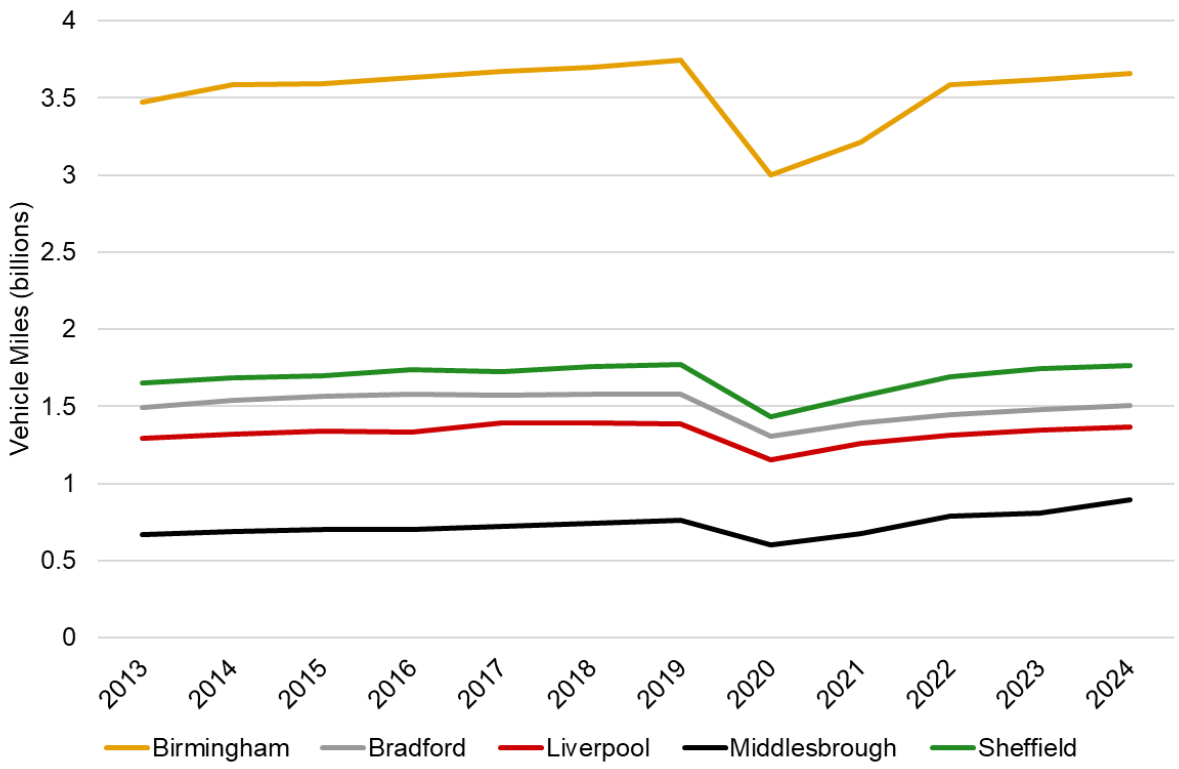
| Local Authority | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| Birmingham | 76.51 | 76.35 | 78.065 | 70.68 | 74.95 |
| Bradford | 74.65 | 74.71 | 76.12 | 70.45 | 75.16 |
| Liverpool | 80.92 | 80.98 | 82.41 | 76.46 | 79.73 |
| Middlesbrough | 64.66 | 65.32 | 65.85 | 62.46 | 65.28 |
| Sheffield | 72.87 | 72.6 | 74.019 | 65.49 | 73.14 |

*Source: Floating car data, INRIX, DfT Road Statistics*

**General traffic flows**

General traffic flow from DfT Statistics (2024) is measured as the number of vehicle miles traversed on local and A-roads within a local authority. Figure 19 shows vehicle mileage is back to pre-pandemic levels and for the majority it has begun to level off. However, vehicle miles in Middlesbrough are now 17% higher than 2019 and this is growing faster than the years prior to the pandemic. This is important to consider for the evaluation, as it could indicate a greater challenge in this area to reducing car use and reversing mileage growth. Another datapoint for 2025 will give a clearer picture of recent trends prior to investment. CRSTS schemes are focused on improving public transport and active travel connectivity, therefore this metric is being monitored to infer if mode shift is taking place in the absence of any qualitative surveys. It will be monitored for any levelling-off of growth and subsequent decline whilst comparing against any changes in public transport use and active travel.

## Figure 19: Vehicle miles (billions) on local and A-roads per annum




*Source: DfT AADT Local Authority Vehicle Miles*

# 5 Work package 5: Areas with low transport connectivity

## 5.1 Introduction

Work package 5 (WP5) is a place-based work package focused on the impact of investment in transport infrastructure in areas currently with low to medium levels of transport connectivity. As stated in Section 1, a separate scheme selection report presents the approach and outcomes from the process applied to select CRSTS places for WP5.

Section 4.1 of the M&E Framework report presents all WP5 evaluation metrics. It also describes how the evaluation approach, methods and data sources will be applied to evaluate the impact of CRSTS schemes in WP5 places.

The overarching evaluation question for this work package is:

- EQ WP5: To what extent have CRSTS schemes enhanced transport connectivity and contributed to economic, social, and environmental improvements in areas with low to medium levels of transport connectivity?

## 5.2 Areas within the work package

There are 4 local authority districts, across 3 MSAs, included in this work package. Table 29 lists the local authorities alongside the funding allocation which account for a total of **£218.68 million in CRSTS funding.**

### Table 29: Areas within Work Package 5

| Local Authority | MSA | Number of schemes | Budget CRSTS (£m) | Budget Total (£m) |
|---|---|---|---|---|
| Barnsley | SYMCA | 13 | 48.16 | 48.52 |
| Calderdale | WYCA | 8 | 17.79 | 53.55 |
| Kirklees | WYCA | 12 | 41.43 | 100.34 |
| Rotherham | SYMCA | 6 | 111.31 | 111.31 |
| **Total** | | **39** | **218.68** | **313.72** |

*Source: DfT CRSTS 2024/25 Q3 MSA Monitoring and Reporting updates in May 2025.*

*Final funding allocations are subject to change over the course of the evaluation.*

*Note: Each MSA/LAD define a single scheme differently and may be split into sub schemes either now or in the future.*

## 5.3 The case for intervention

This work package focuses on how effective transport investments are at improving transport connectivity and achieving wider economic, social and environmental improvements. These areas have been identified as having low to medium levels of transport connectivity, measured as follows: (a) using DfT journey time statistics, which feed into a transport connectivity metric, (b) using the Transport Performance Dataset, and (c) confirmation from MSAs that shortlisted areas were the main areas facing connectivity challenges. A range of outcomes are expected, such as:

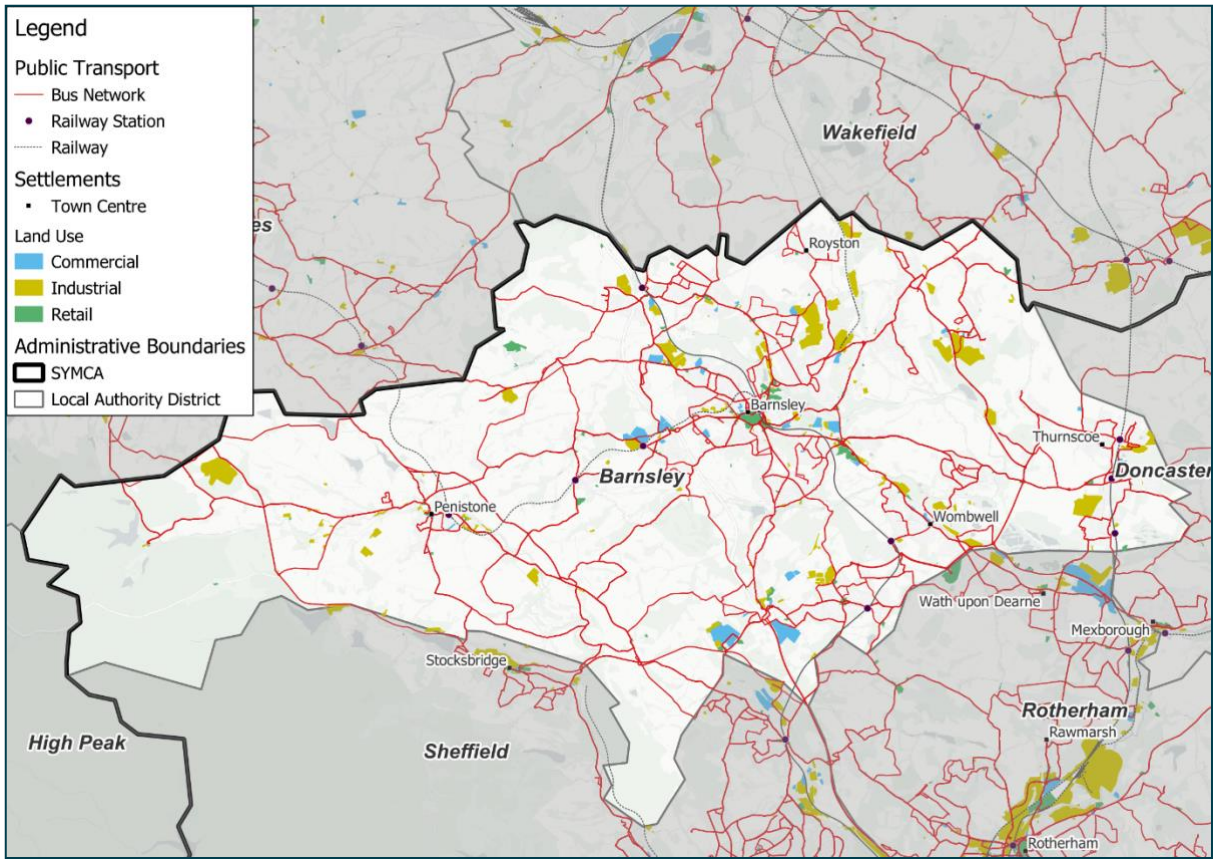
- encouraging mode shift to public transport (and reducing car use)
- encouraging mode shift to walking and cycling
- improving bus journey times
- connecting people to employment opportunities

As this work package is interested in the wider area impacts, a summary of the case for intervention across the area within this work package is presented for each below.

### 5.3.1 Barnsley (SYMCA)

Barnsley is an authority split into two; the west is more rural; the east is more urbanised and contains the main town of Barnsley (Figure 20). It is the least populated of the authority districts in SYMCA. Barnsley and Penistone are connected by rail, offering connections to employment destinations such as Huddersfield, Leeds and Sheffield. Rail and bus connections are limited in the east and west of the LAD which has encouraged higher car ownership. Barnsley has the highest level of car ownership in SYMCA, 77.3% (Census 2021). To improve public transport connectivity and encourage mode shift from cars, 4 schemes are focused on improving the quality of bus provision such as bus lane implementation and quality services connecting the rural part of the borough as well as 10 schemes improving active travel links and hubs providing secure parking to facilitate interchange onto bus and rail.

### Figure 20: Barnsley public transport network and land use

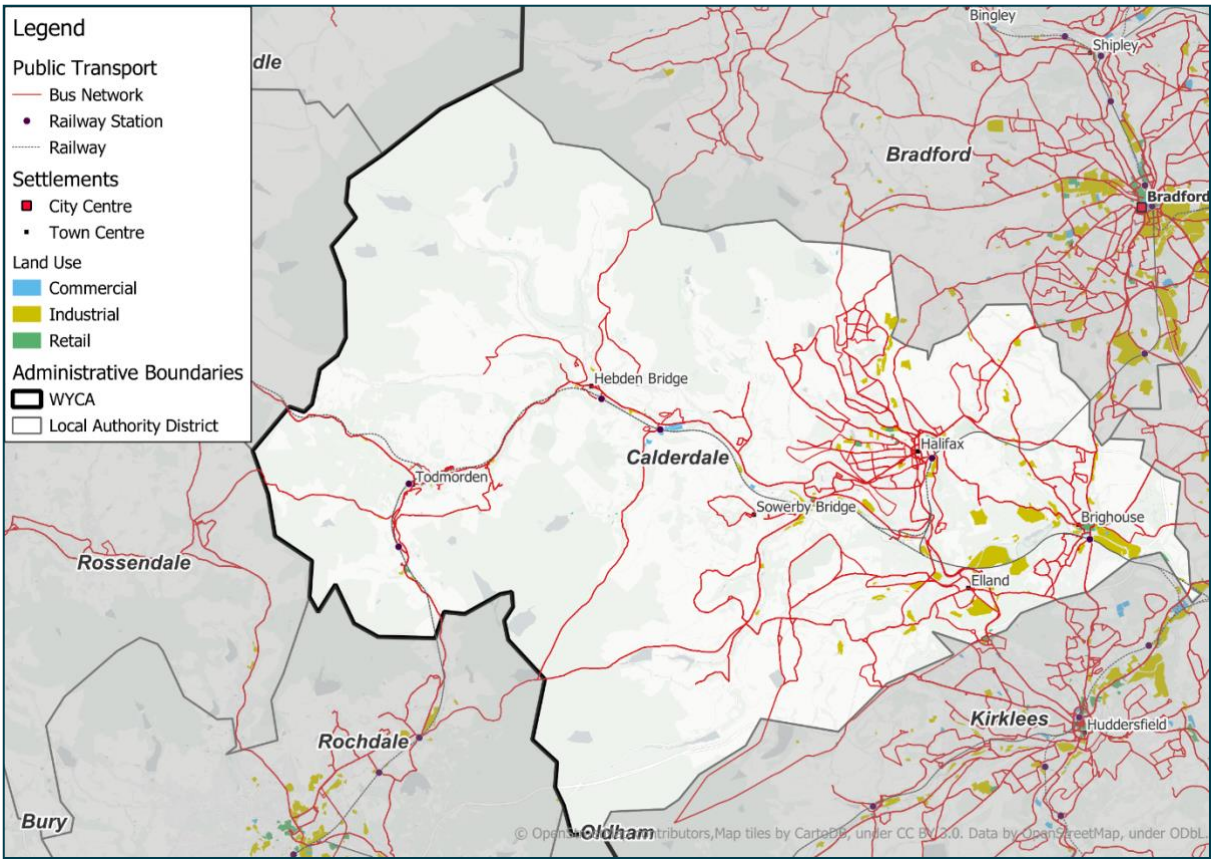



*Source: SYSTRA*

## 5.3.2 Calderdale (WYCA)

Calderdale is the least populous and least densely populated LAD within WYCA which presents transport connectivity challenges. Halifax is the main town; the west of the borough is more rural, the bus network here is sparse (Figure 21) but it is connected by rail to Manchester in the west and Halifax and Leeds to the east. Schemes are focused on improving public transport and active travel access to Halifax as the main employment centre for the LAD. WYCA have identified the importance of providing sustainable access to Halifax, particularly from deprived neighbourhoods where car ownership is lower (less than 50% in some output areas in and around Halifax) but so too is public transport connectivity. Two 'streets for people' schemes in Halifax aim to combat this by providing safer walking and cycling links from the relatively more deprived areas of Halifax into the centre. Two schemes are focused on access to the bus station (a new bus station was funded by TCF) and rail station in Halifax which opens up wider connection opportunities. Two schemes are focused on bus priority to ensure the existing bus network operates efficiently and is a viable option for those with access to it.

### Figure 21: Calderdale public transport network and land use

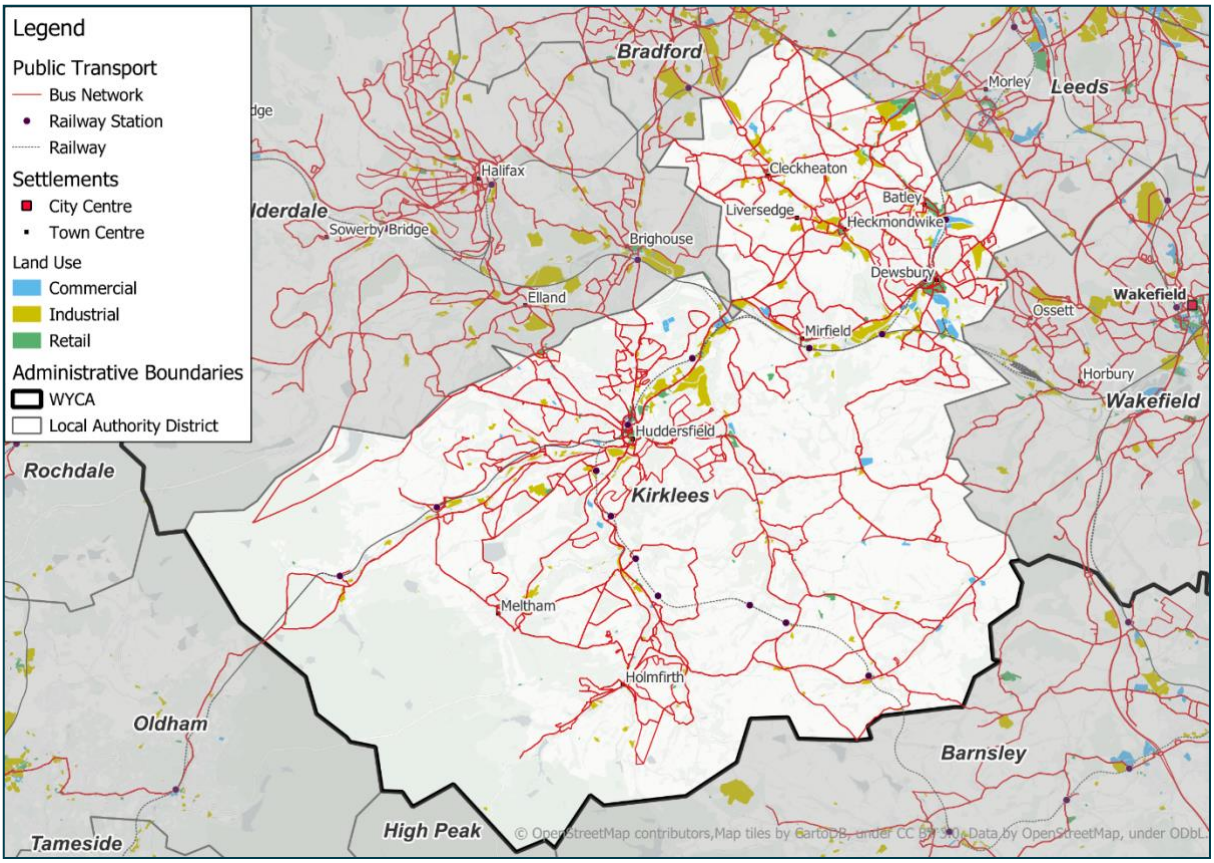



*Source: SYSTRA*

## 5.3.3 Kirklees (WYCA)

Kirklees has a similar rural/urban split to Barnsley. The north of the LAD is dominated by Huddersfield in the centre and Dewsbury to the east whereas the south is more rural (bordering the rural areas of Barnsley). The major towns are connected by regular rail services however connectivity from the suburbs and rural areas is poor (Figure 22). This limits the use of public transport to access employment and leisure activities and encourages car ownership; around 90% of households own a car in the southern part of the LAD, around Holmfirth, compared to 60 – 70% in Huddersfield and Dewsbury (Census 2021). Six schemes are focused on improving public transport and active transport connectivity to Dewsbury along various corridors into the centre. Two schemes seek to improve the opportunities people have to use active travel to Huddersfield bus station and railway station by providing better access and cycle parking provision. There are also wider (non-CRSTS funded) investments taking place. Transpennine Route Upgrade (TRU) investments throughout the district are likely to contribute to making rail journeys more attractive. Investment through TRU includes the regeneration of Huddersfield station.

### Figure 22: Kirklees public transport network and land use

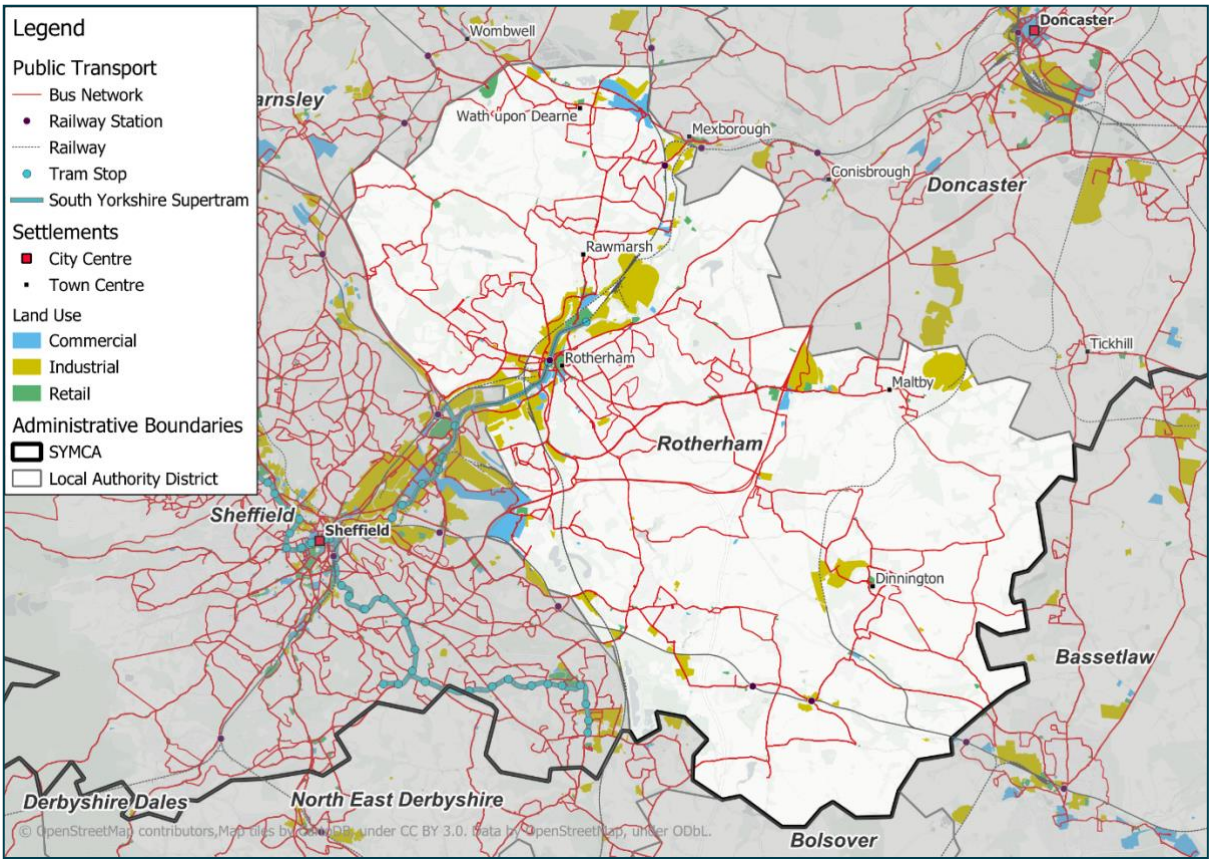



*Source: SYSTRA*

### 5.3.4 Rotherham (SYMCA)

The town of Rotherham benefits from both rail and light rail (tram-train) links, however the rest of the LAD has limited rail in the south and no rail in the more rural east of the LAD (Figure 23). Car ownership is the second highest in SYMCA at 77% (Census 2021) and the proportion using the bus to get to work is equal lowest with Barnsley at 4.2%. Schemes in the LAD are focused on improving access to Rotherham station, for onward connections to the wider region, as well as a package of bus lane review implementations to improve performance of the existing bus network connecting population centres. The Rotherham East Cycle and Bus Priority Package seeks to integrate walking and cycling between Rotherham and Maltby, providing better multi-modal sustainable travel options for more people and encouraging a shift from cars.

### Figure 23: Rotherham public transport network and land use




*Source: SYSTRA*

## 5.4 Other investment taking place

Table 30 below outlines other investment already known to be taking place that may have an influence on the baseline and future outcomes.

## Table 30: Other relevant investment taking place

| Investment Programme | National /Local | Date of funding and implementation of schemes | Areas Impacted | Considerations |
|---|---|---|---|---|
| Transforming Cities Fund (TCF) | National | 2019 - 2022 for Barnsley & Rotherham (SYMCA); Calderdale & Kirklees (WYCA) | Barnsley<br>Rotherham<br>Calderdale<br>Kirklees | There may be TCF schemes that will have impacted metrics measured for this evaluation on areas with low transport connectivity. |
| Rural Mobility Fund | National | 2020 to 2022 | Rotherham<br>Kirklees | Rural Mobility funding may have some limited impact on transport services. |
| Future Mobility Zones Fund (FMZ) | National | 2019 | (paid via MSAs)<br>SYMCA | FMZ may have contributed to elements of schemes providing some limited impact. |
| Transpennine Route Upgrade (TRU) | National | 2022 to present | WYCA | Upgrades to track, stations and services along the corridor between Manchester and York via Huddersfield and Leeds may negatively impact patronage (during works) and then positively following completion. |
| Levelling Up Fund | National | 2021 to 2025 | All | Areas may have utilised funding towards transport and wider interventions that provide some impact on metrics measured. |
| Towns Fund | National | 2021 to 2026 | All | Areas may have utilised funding towards transport and wider interventions that provide some impact on metrics measured. |
| UK Shared Prosperity Fund (UKSPF) | National | 2021 to 2026 | All | Areas may have utilised funding towards transport and wider interventions that provide some impact on metrics measured. |

## 5.5 Baseline data approach for Work Package 5

### 5.5.1 Metrics, data sources & baselining

Table 31 lists the metrics being collected for this work package along with the source(s), the level of detail (granularity), regularity of detail of time and purpose for the evaluation. For this work package the metrics being collected will inform how the level of public transport use has changed within these areas where connectivity is currently low. Bus and rail patronage as well as general traffic statistics are summarised in this chapter and are key to this work package. All additional metrics are also being collected and will be reported.

**Table 31: Outcome metrics for WP5**

| Outcome metric | Source(s) (Granularity. Regularity) | Purpose |
|---|---|---|
| Bus patronage | Bus operators via MSA returns (LAD. Quarterly requested) | Understand the impact on bus use following scheme delivery. |
| Bus punctuality | Bus Open Data Service (LAD. Daily) | Understand if scheme delivery improves bus performance and whether any change in patronage can be attributed to performance improvements. |
| General traffic (speeds, delays and flows) | DfT Annual Average Daily Traffic (Road link. Annual)<br>MSA counts (Specific sites. Ad-hoc)<br>Floating Car Data, INRIX provided by DfT Congestion Stats (Road link. Annual) | Allowing the evaluation to contextualise how busy roads are within the MSA and along the corridors. Assess the trends in speed and delay for general traffic compared to bus. |
| Rail station usage | ORR (LAD. Annual) | Understand how the number of journeys taken by train has changed following scheme delivery. |
| Journey to work mode share % | MSA returns (MSA. Annual)<br>Census (LAD. Decade) | A measure of mode share across various modes to help assess if investments have resulted in a shift to sustainable modes. |
| Rail & light rail patronage (station usage, journeys and occupancy) | MSA returns (Stops/line. Quarterly requested)<br>ORR (LAD. Annual)<br>DfT light rail statistics tables (Network. Annual) | Understand how the number of journeys taken on the network has changed following scheme delivery. |
| Passenger satisfaction (bus, rail and light rail) | MSA returns (MSA/LAD. Annual) | Qualitative understanding of how passengers feel about using buses/trams/trains following investment. |
| Access to employment and services (connectivity measure) | GTFS (MSA/LAD. Quarterly) | Catchment analysis to understand employment and leisure opportunities within defined public transport catchment times. |

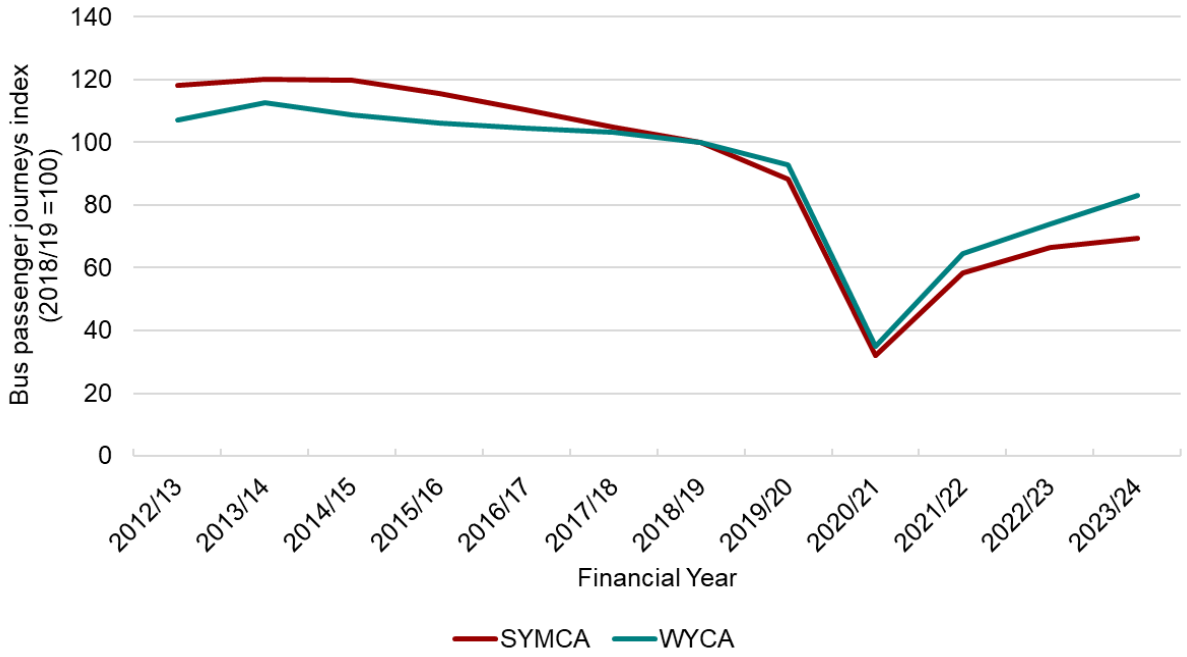
### 5.5.2 Bus patronage

Bus patronage is being collected for other work packages, see section 3.5.2 for more information on the importance and the data collection challenges.

#### Baseline data

As noted in 3.5.2, bus patronage is not available for some LADs as they are reported at the MSA level. Bus patronage for LADs is being requested from MSAs for use in the evaluation. Indexed MSA patronage for WYCA and SYMCA are shown in Figure 24 for reference and to capture recent trends which will be factored into the evaluation when attributing future trends to CRSTS spend.

**Figure 24: Bus passenger journeys indexed to 2018/19**




*Source: DfT bus statistics table BUS01*

The figure shows that recovery in patronage is still below pre-pandemic levels, 69% for SYMCA and 89% for WYCA. Boths areas had experienced a decline in patronage even before the pandemic. More detail on individual authorities will be used to contextualise and focus on patronage within an area which will be used in the evaluation to carefully unpick background growth and what might be attributed to CRSTS spend.

## 5.6 Rail station usage

Rail patronage is being collected for other work packages, see section 1.4.2 for more information on the importance and the data collection challenges.

### Baseline data

Most recent station usage across all stations in each of the authorities is shown in Table 32. Barnsley is the only authority in this work package to recover from the pandemic. Year on year growth for three of the authorities has been strong (for the most recent years available) but it has fallen in Kirklees and is still less than two thirds of pre-pandemic levels. These figures are important for the evaluation as schemes aim to improve access to rail in each of the LADs.

**Table 32: Rail entries and exits for all stations within the authority, by financial year**

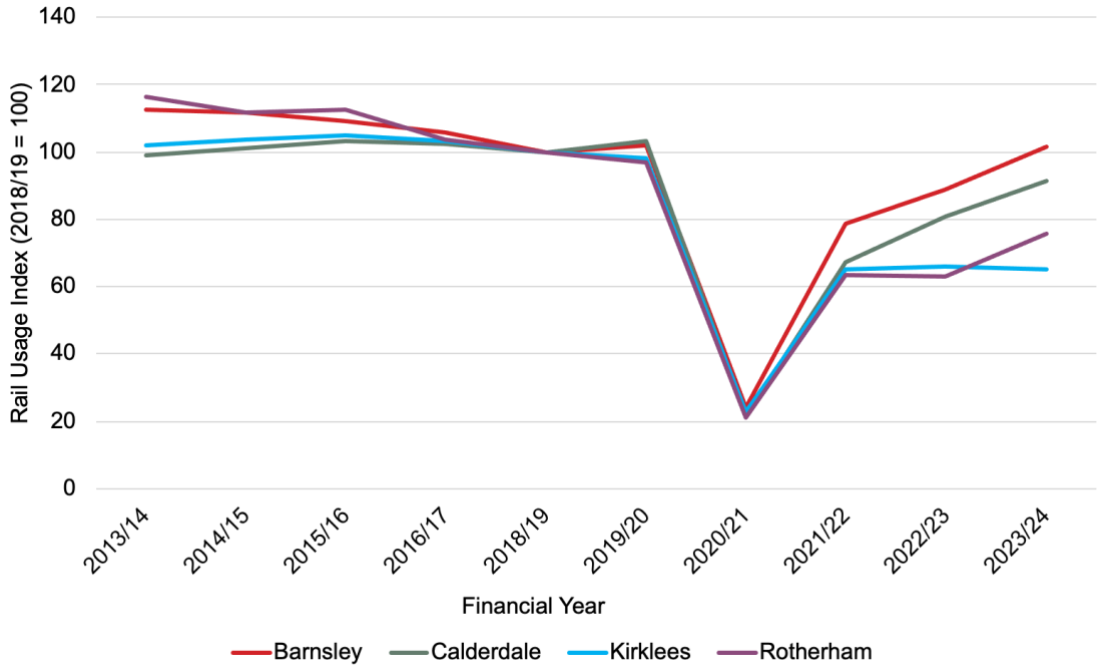
| Local Authority | 2018/19 | 2022/23 | 2023/24 | Growth 2018/19 to 2023/24 | Growth 2022/23 to 2023/24 |
|---|---|---|---|---|---|
| Barnsley | 2,292,702 | 2,037,798 | 2,332,822 | 1.7% | 14.5% |
| Calderdale | 4,346,282 | 3,506,432 | 3,968,392 | -8.7% | 13.2% |
| Kirklees | 8,281,172 | 5,478,798 | 5,397,264 | -34.8% | -1.5% |
| Rotherham | 1,064,676 | 672,386 | 805,620 | -24.3% | 19.8% |

*Source: ORR Table 1415 – Time series of passengers entries and exits and interchanges by station.*

The pre-pandemic trend in station entries and exits is presented in Figure 25. Barnsley and Rotherham had experienced a declining trend in rail station usage since 2013 whilst Calderdale and Kirklees remained relatively flat.

Since 2021/22 rail station usage has been increasing for all but Kirklees. The Transpennine Route Upgrade (TRU) project and severe problems with cancellations on Transpennine Express services has led to significant disruption to the key rail corridor through Kirklees which can go some way to explaining the slower recovery rates. When 2024/25 data is available, the post-pandemic usage levels may become clearer. This will help interpretation of any further changes in usage over the course of the evaluation, and what may be attributable to CRSTS spend.

**Figure 25: Rail station usage at local authority indexed to 2018/19**




*Source: ORR Table 1415 – Time series of passenger entries and exits by station.*

### 5.6.1 General traffic

This metric consists of the following:

- general traffic speed
- general traffic delay
- general traffic flows

This metric is being collected to monitor how general traffic road conditions have changed following the implementation of CRSTS schemes. It is a metric that provides context on the wider behaviour of the transport network but also may be useful in identifying if car use has changed in any way.

Challenges with this data have already been covered in section 4.5.4.

#### Baseline data

**General traffic delay**

This metric is measured from the floating car dataset provided through INRIX. The delay in Table 33 measures the deviation from expected time to traverse the road network. Congestion on roads is the most regular cause of delay and therefore if schemes do encourage mode shift and resulting reductions in traffic this metric may improve as traffic

can flow more smoothly. Quarterly data for 2023/24 is presented in Table 33 and it will continue to be collected across the evaluation to investigate any trends in delays.

### Table 33: Quarterly average delay (seconds per vehicle per mile) on local and A roads by local authority, 2023/24

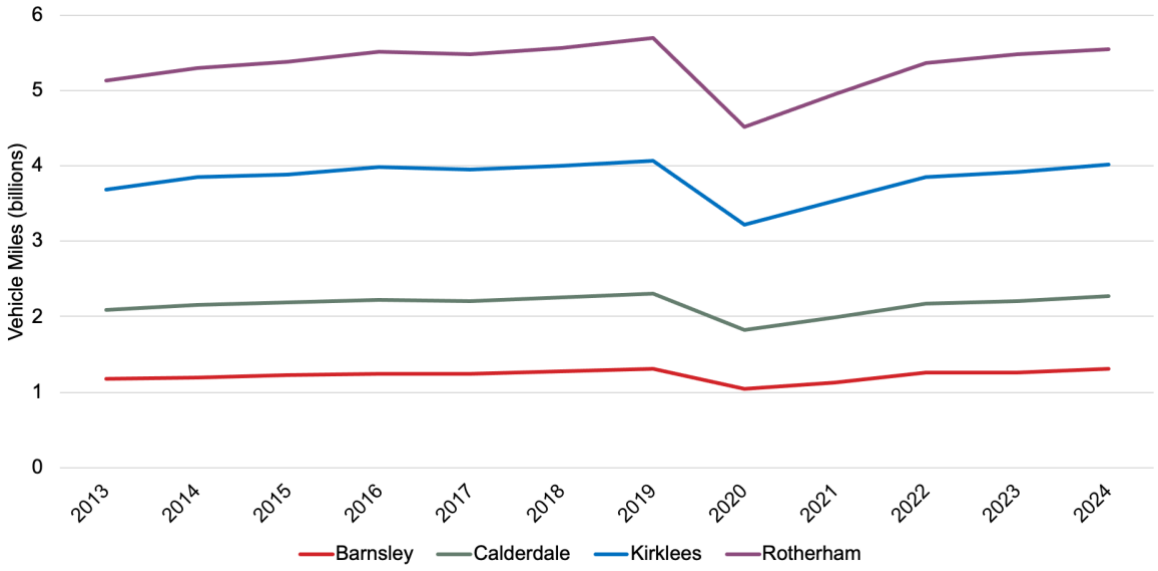
| Local Authority | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|
| Barnsley | 54.58 | 54.34 | 56.24 | 45.86 | 52.40 |
| Calderdale | 66.77 | 66.55 | 70.09 | 60.97 | 65.04 |
| Kirklees | 67.33 | 67.55 | 70.29 | 60.70 | 66.06 |
| Rotherham | 60.95 | 60.32 | 63.97 | 53.53 | 59.07 |

*Source: Floating car data, INRIX, DfT Road Statistics*

**General traffic flows**

General traffic flow from DfT Statistics (DfT 2024b) is measured as the number of vehicle miles traversed on local and A-roads within an authority. Figure 26 shows traffic flows are back to pre-pandemic levels. CRSTS schemes are focused on improving public transport and active travel connectivity, this metric is being monitored to infer if mode shift is taking place in the absence of any qualitative surveys. It will be monitored for any levelling off of growth and subsequent decline whilst comparing against any changes in public transport use and active travel.

### Figure 26: Vehicle miles (billions) on local and A-roads




*Source: DfT Annual Average Daily Traffic*

# 6 Work package 6: Encouraging active travel in areas with medium to high levels of private vehicle access

## 6.1 Introduction

Work package 6 (WP6) is a place-based work package focused on areas with medium to high levels of car ownership. It aims to understand how combinations of CRSTS investment designed to encourage active travel can encourage mode shift and contribute to socioeconomic and environmental outcomes in these types of areas. As stated in Section 1, a separate scheme selection report presents the approach and outcomes from the process applied to select CRSTS places for WP6.

Section 4.1 of the M&E Framework report presents all WP6 evaluation metrics. It also describes how the evaluation approach, methods and data sources will be applied to evaluate the impact of CRSTS schemes in WP6 places.

**The overarching evaluation question for this work package is:**

- EQ WP6: To what extent have CRSTS schemes promoted transport, economic, social, and environmental benefits in areas with medium to high levels of private vehicle access, particularly in relation to active travel?

## 6.2 Areas within the work package

There are 4 local authority districts included in this work package, spread across 3 MSAs. Together they account for **£278.23 million in CRSTS funding**.

### Table 34: Areas within Work Package 6

| Area | MSA | Number of schemes | Budget CRSTS (£m) | Budget Total (£m) |
|---|---|---|---|---|
| Bath and North East Somerset | WECA | 9 | 95.58 | 125.47 |
| Dudley | WMCA | 6 | 64.93 | 68.53 |
| Solihull | WMCA | 7 | 88.13 | 88.13 |
| Stockton-on-Tees | TVCA | 5 | 29.59 | 37.49 |
| **Total** | | **27** | **278.23** | **319.62** |

*Source: DfT CRSTS 2024/25 Q3 MSA Monitoring and Reporting and updates in May 2025. Final funding allocations are subject to change over the course of the evaluation.*
*Note: Each MSA/LAD define a single scheme differently and may be split into sub schemes either now or in the future.*

## 6.3 The case for intervention

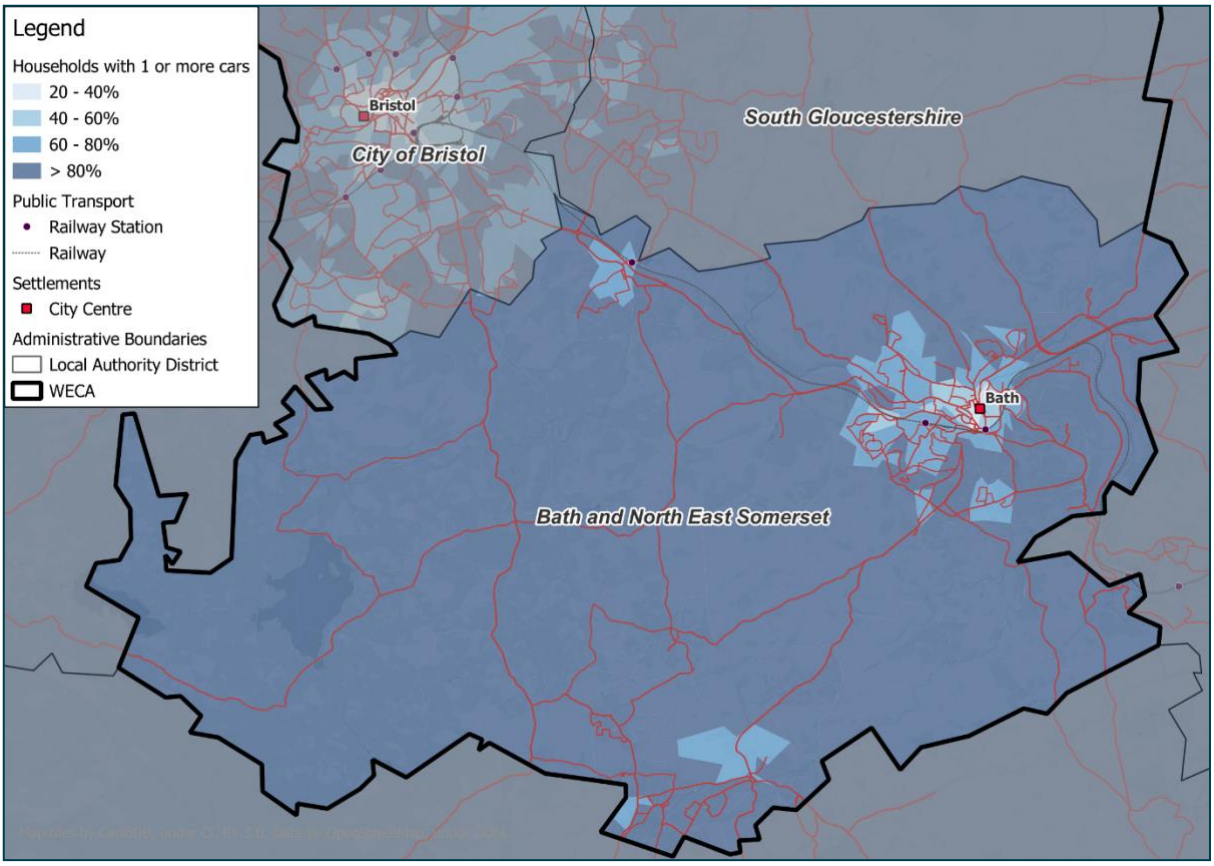
This work package focuses on how effective transport investments are at encouraging active travel in areas with medium to high private vehicle access. The scope of CRSTS schemes being delivered in places included in this WP are broad and include a range of outcomes. The sections below summarise the case for intervention for schemes within each area, highlighting some of the key schemes within an area that contribute to this work package.

### 6.3.1 Bath and North East Somerset (WECA)

Bath and North East Somerset (BANES) is predominantly rural, with three main population centres of Bath, Keynsham and Midsomer Norton. Census 2021 data showed that 81% of households have access to at least one car (Figure 27) which is higher than the England and Wales average of 78%. The authority benefits from a number of cycling and walking paths, along waterways (River Avon and Kennet and Avon Canal) and a former railway (Two Tunnels Greenway). Walking and cycling rates (proportion of adults choosing to walk or cycle for leisure or commuting) in the authority are above the national average, 16% compared to 10% for cycling, and 82% compared to 69% for walking (see 6.5.2). Despite this, over a third of car trips across BANES are less than 5km (Bath & North East Somerset Council).

All schemes within BANES have elements of improving active travel provision in the local authority. Schemes such as Bristol to Bath and Somer Valley to Bath corridors are focused on longer distance connections. Others seek to enhance the opportunities for cycling and walking shorter trips, both with leisure and commuting in mind. These include Bath City Sustainable Transport Corridor which will create more direct routes across the city for walking and cycling as well as providing segregated cycling lanes and upgrading walking links in Bath Quays which is within the Bath City Enterprise zone.

### Figure 27: BANES public transport network and car ownership levels



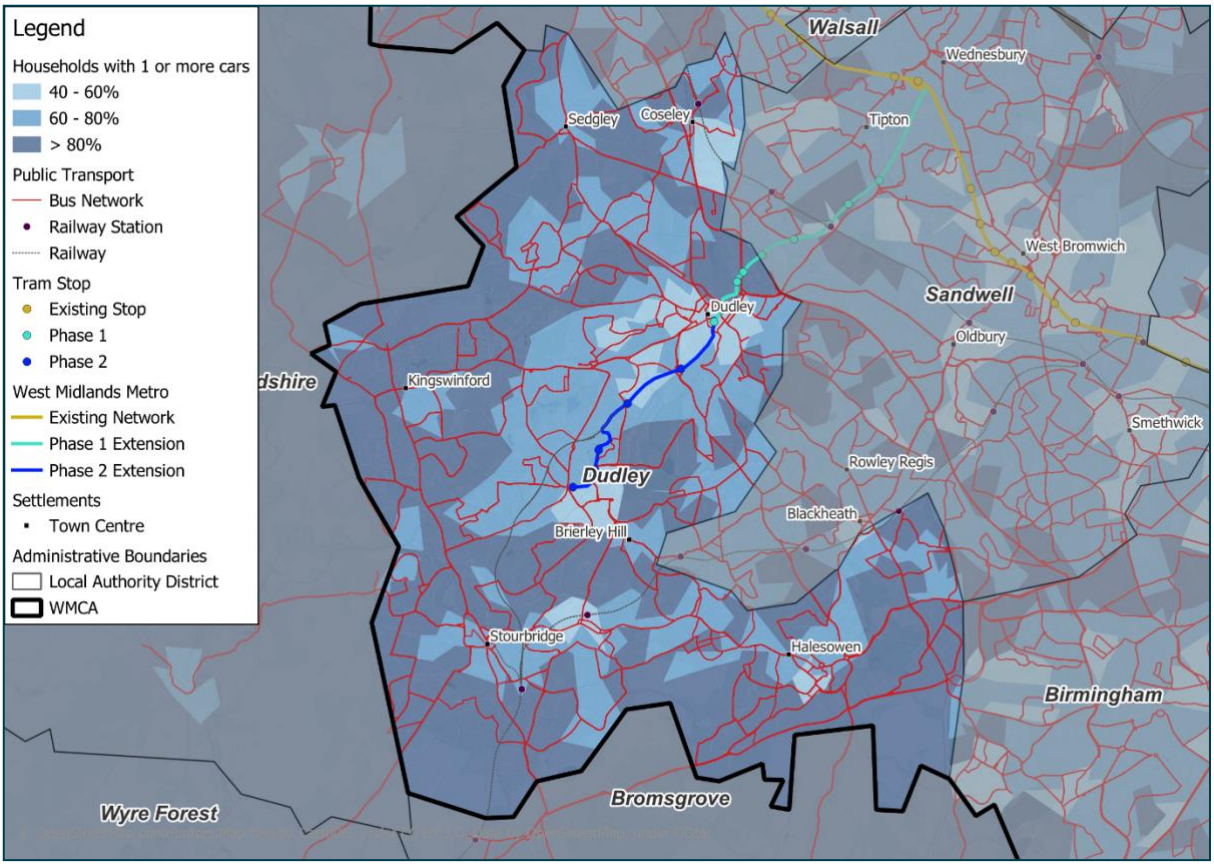

*Source: SYSTRA*

## 6.3.2 Dudley (WMCA)

Around 80% of households in Dudley had access to at least one car in the 2021 census, above the England and Wales average of 78%. Within the authority, this ranges from between 60% and 89% of households who have access to a car (at MSOA level, Figure 28). The area is expected to benefit from the metro extension to Brierley Hill and improvements to Dudley Interchange. Improvements to walking and cycling access to public transport is expected to influence travel behaviours by providing convenient public transport options that are accessible and therefore shift people from their cars. Cycling propensity is low in Dudley, those choosing to cycle at least once a week is 4.3%, well below the England average of 10.1% (Department for Transport, 2024c), suggesting there is potential to unlock more cycling.

There are 5 schemes aimed at improving active travel provision, 2 schemes are part of the Sustainable Connectivity Package, each individually improving connections to the key towns of Dudley and Stourbridge. Two schemes include integration of bus and cycling infrastructure which creates a complete multi-modal offering for people, knowing they can interchange modes without the need for the car either for the whole trip or the 'last mile' connections.

### Figure 28: Dudley public transport network and car ownership levels



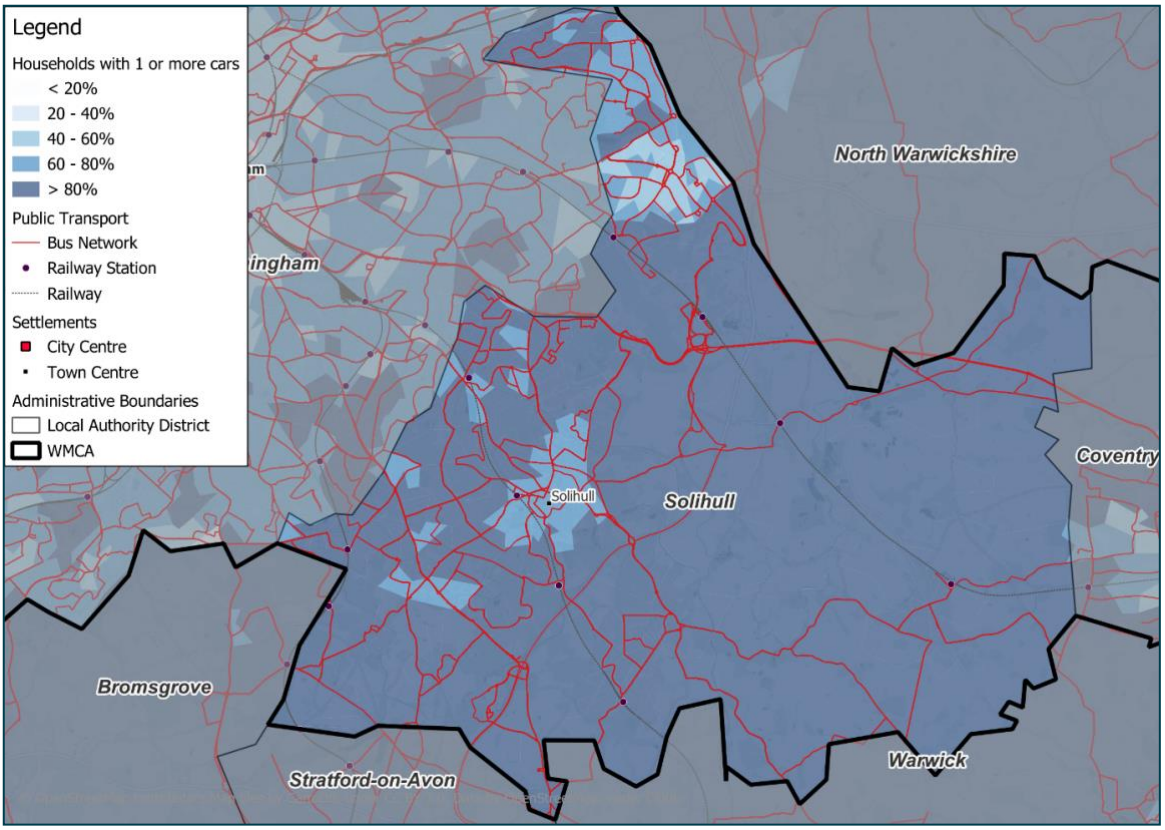

*Source: SYSTRA*

### 6.3.3 Solihull (WMCA)

Solihull is the least deprived authority within WMCA (IMD 2019) and in 2021, 83% of households had access to a car (Figure 29). Cycling rates are just below the national average, 9.6%, and the authority has identified potential to encourage more people to cycle, particularly into the main population centre of Solihull.

Five CRSTS funded schemes are focused on improving connectivity to Solihull and between Solihull and Birmingham. These include a combination of bus improvements, combined with active travel through the East Birmingham to Solihull corridor as well as segregated cycleways and LCWIP schemes connecting Dickens Heath and Knowle to Solihull. The Knowle to Solihull scheme connects an area with some of the highest car ownership (90%) to Solihull. It will enhance temporary cycle lanes implemented during the pandemic, with the aim to enable more walking and cycling trips into Solihull through improved safety and attractiveness of the route. As in Dudley, integrated bus and cycling infrastructure investment aims to promote sustainable travel and give people more options to access Birmingham and Solihull without using a car.

### Figure 29: Solihull public transport network and car ownership levels



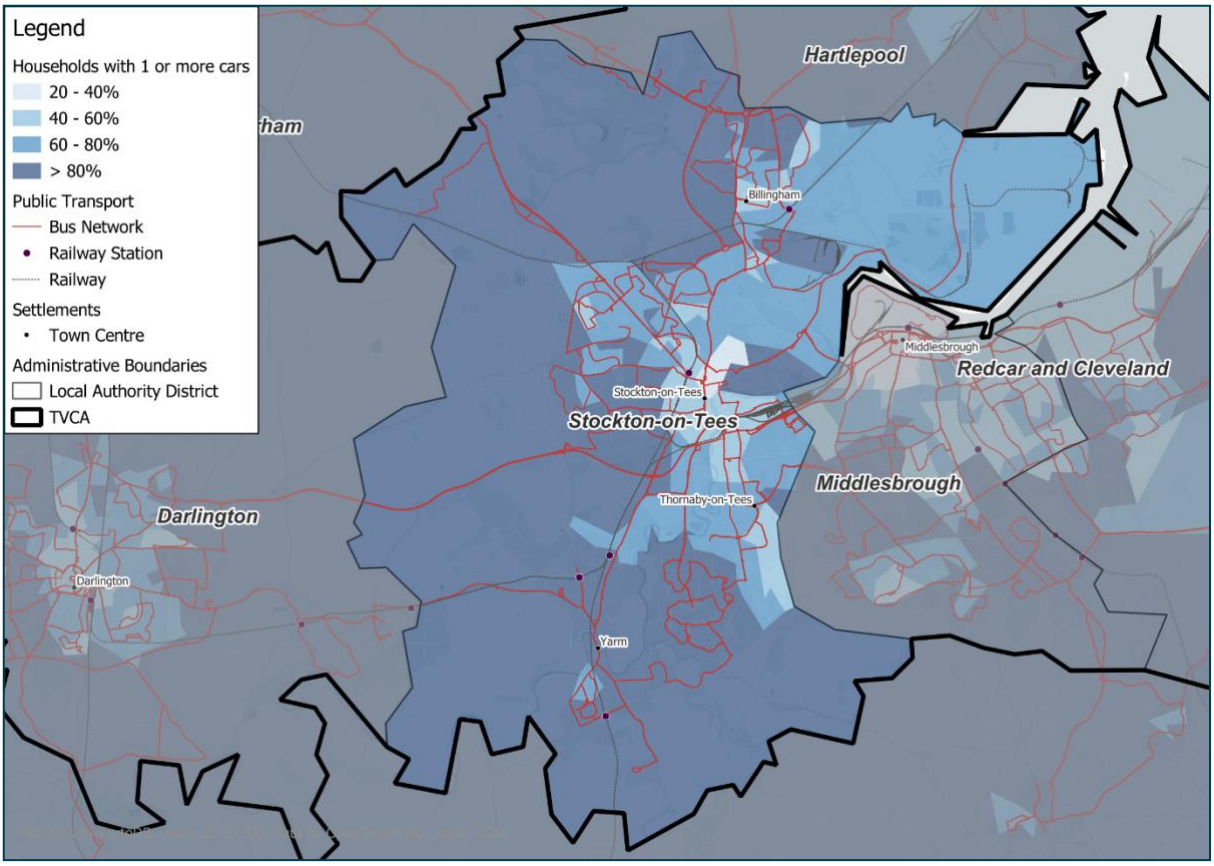

*Source: SYSTRA*

## 6.3.4 Stockton-on-Tees (TVCA)

Stockton-on-Tees car ownership levels are at the England and Wales average of 78% but there are significant discrepancies between areas within the authority (Figure 30). In some areas towards Middlesborough (the east of the authority) fewer than half of households have access to a car whereas in the west, which is more rural, the figure is closer to 92% (MSOA level). Levels of cycling are slightly above the national average at 10.6%. Schemes in this work package are focused on improving walking and cycling access to stations including cycle parking and step-free access.

The provision of new station links at Eaglescliffe (section 1.2.1) and step-free access at Billingham is hoped to encourage active travel to the station, unlocking opportunities for those employed and living in the area. Two active travel schemes focused on connecting Stockton town centre from Norton and Thornaby aim to reduce congestion to improve bus journeys and road safety including dedicated walking, wheeling and cycling routes away from traffic. Stockton is the main employment, education and leisure destination within the local authority and, according to the business case, there is a high potential for journeys to be made by cycling and walking into the town, particularly along the A139. The remaining active travel schemes are focused on providing hubs and secure parking to complete the picture of active travel provision, ensuring people feel safe parking their bike.

### Figure 30: Stockton-on-Tees public transport network and car ownership levels




*Source: SYSTRA*

## 6.4 Other investment taking place

Table 35 below outlines other investment already known to be taking place that may have an influence on the baseline and future outcomes.

## Table 35: Other relevant investment taking place

| Investment Programme | National /Local | Date of funding and implementation of schemes | Areas Impacted | Considerations |
|---|---|---|---|---|
| Transforming Cities Fund (TCF) | National | 2018 – 2022 for Stockton-on-Tees (TVCA); Solihull & Dudley (WMCA); Bath and North East Somerset (WECA) | Stockton-on-Tess<br>Solihull<br>Dudley<br>Bath and North East Somerset | There may be TCF active travel schemes that will have impacted metrics measured for this evaluation. |
| Consolidated Active Travel Fund (CATF)<br>Active Travel England | National | 2025 to present | TVCA<br>WMCA<br>WECA | There may be schemes funded through the CATF that impacted metrics measured for this evaluation. |
| Active Travel Capability Fund (ATCF)<br>Active Travel England | National | 2021 to 2025 | TVCA<br>WMCA<br>WECA | There may be schemes funded through the ATCF that impacted metrics measured for this evaluation. |
| Active Travel Social Prescribing (ATSP)<br>Active Travel England | National (pilot) | 2023 to 2026 | Bath and North East Somerset | There may be limited impacts on increasing active travel uptake. |
| Future Mobility Zones Fund (FMZ) | National | 2019 | WECA | FMZ may have contributed to elements of schemes providing some limited impact. |
| Levelling-up Fund | National | 2021 to 2025 | All | Areas may have utilised funding towards transport and wider interventions that provide some impact on metrics measured. |
| Towns Fund | National | 2021 to 2026 | All | Areas may have utilised funding towards transport and wider interventions that provide some impact on metrics measured. |
| UK Shared Prosperity Fund (UKSPF) | National | 2021 to 2026 | All | Areas may have utilised funding towards transport and wider interventions that provide some impact on metrics measured. |

## 6.5 Baseline data approach for Work Package 6

### 6.5.1 Metrics, data sources & baselining

Table 36 lists the metrics being collected for this work package along with the source(s), the level of detail (granularity), regularity of detail of time and purpose for the evaluation. For this work package, the metrics being collected will inform how active travel levels have changed within these areas, where access to a private vehicle is high. Levels of cycling and highway collisions are key metrics that are summarised here. All other metrics are being collected as part of the evaluation.

**Table 36: Outcome metrics for WP6**

| Outcome metric | Source(s) (Granularity. Regularity) | Purpose |
|---|---|---|
| Levels of cycling (activity levels, flows and journey times) | Surveys (LAD. Annual)<br>STRAVA (LAD and link level. Daily)<br>LAD counts (Specific sites. Ad-hoc or daily) | Monitor how propensity to cycle changes based on CRSTS investment. To understand if people are choosing to cycle for more trips. |
| Levels of walking (activity levels, flows and journey times) | Surveys (LAD. Annual)<br>LAD counts (Specific sites. Ad-hoc or daily) | Monitor walking activity within an area and whether there is an indication that people are choosing to walk more often and for more journey purposes. |
| Highway collisions | STATS19 (LAD. Annual) | Monitor collisions on the road network, a safer environment will encourage active travel but could also see increases in pedestrian or cycling collisions. Reductions in collisions may also reflect reduced traffic levels. |
| General traffic (speeds, delays and flows) | DfT Annual Average Daily Traffic (Road link. Annual)<br>MSA counts (Specific sites. Ad-hoc or daily)<br>Floating Car Data, INRIX provided by DfT Congestion Stats (Road link. Annual) | Allowing the evaluation to contextualise how busy roads are within the MSA and along the corridors. Assess the trends in speed and delay for general traffic and if improvements can be attributed to a shift from car. |
| Journey to work mode share % | MSA returns (MSA. Annual)<br><br>Census (LAD. Decade) | A measure of mode share across various modes to help assess if investments have resulted in a shift to active modes. |

### 6.5.2 Levels of cycling

This is measured by several metrics depending on the measurement approach taken by local authorities and that available through secondary sources. This evaluation will consider a combination of sources to understand how cycling levels have changed following investment, these include:

- counts of cyclists at LAD defined count points
- STRAVA cycling activities
- surveys on how much people cycle, and for what purpose

#### Challenges, mitigation and caveats

Whilst DfT survey data is provided for all LADs (Active Lives Survey and National Travel Survey), sample sizes can be a limiting factor which can result in incomplete datasets for some authorities. Some LADs and MSAs have access to more regular and detailed counting programmes than others. This limits the ability to have a rolling measure of cycling activity which would be preferred for the purpose of the evaluation.

The main challenges are covered in Table 37.

#### Table 37: Levels of cycling data challenges

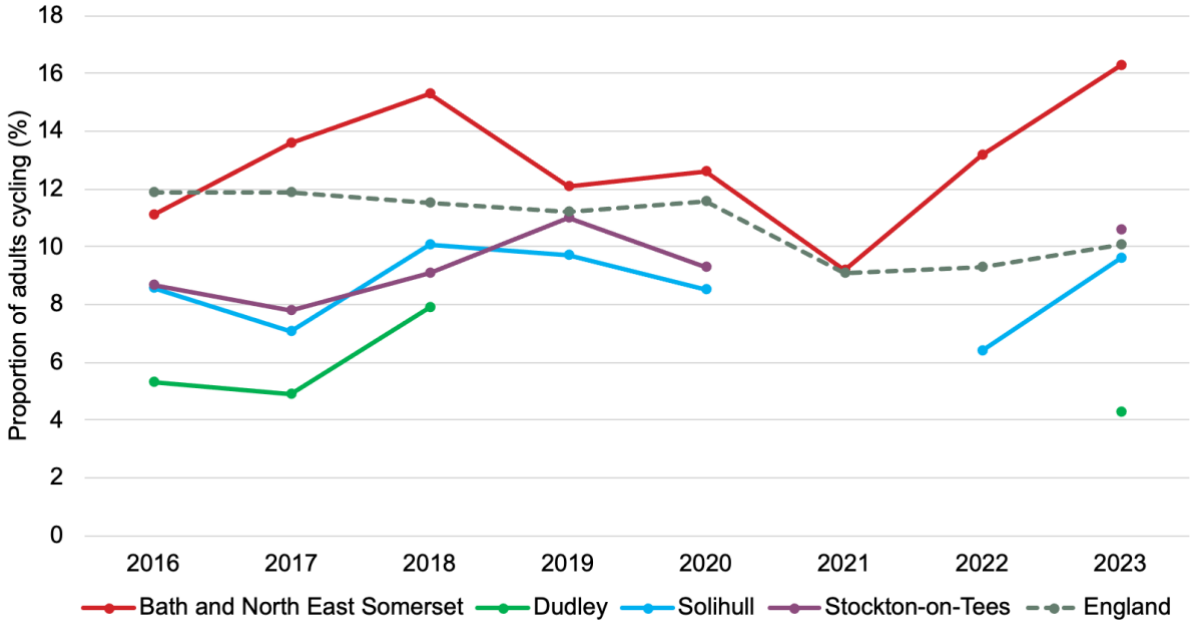
| Challenge | Likelihood | Impact on evaluation | Mitigation & Caveats |
|---|---|---|---|
| Lack of permanent counters for cycling flows. | High | High | Data from non-permanent counts will be collected and additional data sources such as STRAVA investigated as A potential substitute. |
| STRAVA does not cover all trips and is not a representative sample. | High | Medium | It is a consistent dataset available across the country and is used to supplement gaps in other documents. Trend will be monitored across the evaluation rather than actual flows. |
| DfT cycling statistics (proportion of adults cycling) can be impacted by sample size issues. | High | Medium | This is a consistent data source reported over all local authorities. Where data is missing this will be identified, however a large enough number of datapoints is expected over the course of the evaluation. |

## Baseline data

Data is being collected from MSA returns (specific counts), STRAVA and surveys for the baselining exercise. Specific count data from MSAs is dependent on their own plans for data collection. The national evaluation is working with authorities to ensure sufficient data is collected to inform the national evaluation. At this baseline report stage, LAD data is available for all areas in this work package through the DfT published statistics table CW0302 – Proportion of adults that cycle, which is derived from the Active Lives Survey. This data is available back to 2016. The table provides information on purpose (travel, leisure, all) and frequency (at least: once per month, week, 3 times per week and 5 times per week).

Figure 31 shows the proportion of adults who cycle at least once per week for any purpose. Any purpose and at least once per week has been chosen to limit the impact of missing data due to survey sample size limitations, some data is still incomplete. Bath and North East Somerset has seen growth in cycling activity since the pandemic. Adults cycling at least once a week for any purpose is now 16% in BANES which is the highest since 2016. This is also higher than the England average of 10.1%. Solihull and Stockton-on-Tees are around the England average, having increased since 2016, but Dudley is less than half the England average proportion of those who cycle and is the only area within this work package that has not increased this proportion since 2016.

### Figure 31: Proportion of adults who cycle (any purpose) at least once a week by local authority




*Source: DfT walking and cycling statistics table CW0302 – Proportion of adults that cycle*

### 6.5.3 Levels of walking

Count data and surveys will be used to measure levels of walking; these will produce differing metrics that will come together in reporting to understand levels of walking within an area.

#### Challenges, mitigations and caveats

Where people walk and how often they do so is reliant on surveys and to an extent counting. The inherent ability and freedom to walk almost anywhere makes it difficult to accurately measure levels of walking in a purely quantitative way.

The main challenges are covered in Table 38.

**Table 38: Levels of walking data challenges**

| Challenge | Likelihood | Impact on evaluation | Mitigation & Caveats |
|---|---|---|---|
| Lack of permanent counters for walking flows. | High | Medium | Data from non-permanent counts will be collected from MSA M&E activities where available and will likely form the basis of the evaluation. Additional information from surveys will be collected. |
| Walking flows at a local area level cannot be easily measured. | High | Medium | Walking flows at local authority will not be reported. Instead survey data on walking regularity which is already available and flows at certain points as recorded by counts will be used. |

#### Baseline data

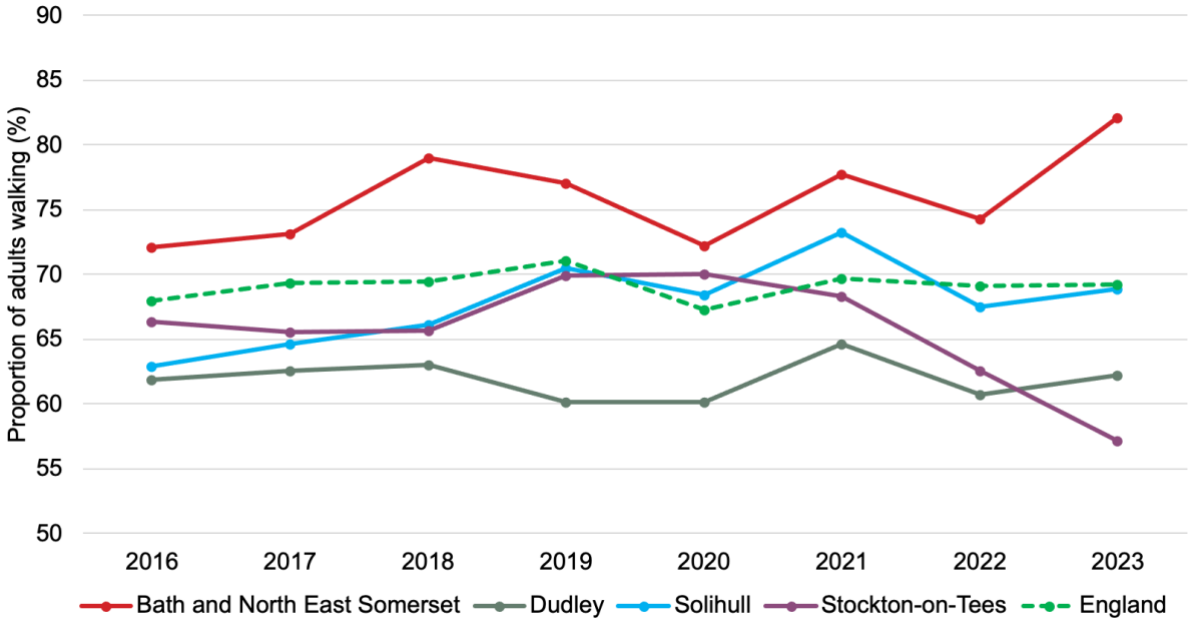
As with cycling, walking data is reliant on counts provided by local authorities and/or MSAs and survey data. Various sources are being collected for the evaluation, the most complete is from DfT walking and cycling statics table CW0303 - Proportion of adults that walk. This uses the same source as CW0302 used above and uses the same trip purpose and frequency and is available from 2016.

Sample sizes are larger for the walking dataset, the data is complete for all authorities in this work package, as shown in Figure 32. Bath and North East Somerset, as with cycling, has exceeded pre-pandemic levels of the proportion of adults walking at least once a week

(82%) and is 13 percentage points (p.p.) above the England average of 63%. Solihull and Stockton-on-Tees had seen increasing proportions of adults walking at least once a week, but whilst Solihull remains at the England average, Stockton-on-Tees has declined markedly by over 12 p.p since 2020. The proportion of adults walking in Dudley has remained relatively flat since 2016 and around 7 p.p. below the England average.

These trends are important for the evaluation to understand pre-intervention behaviour and assist with unpicking how investment may have helped reverse declining or flat trends, or to what extent it has contributed to continued growth, such as in BANES.

### Figure 32: Proportion of adults who walk (any purpose) at least once a week by local authority




*Source: DfT walking and cycling statistics table CW0303 – Proportion of adults that walk*

## 6.5.4 Highway collisions

STATS-19 is the national reporting process for police forces across the country and captures information on highway collisions' severity, number of casualties and vehicles involved. Collisions are being monitored in this work package to understand if investments have led to safer roads, particularly for vulnerable road users, which can have the effect of encouraging more people to walk and cycle. There are four metrics captured for the purpose of this evaluation:

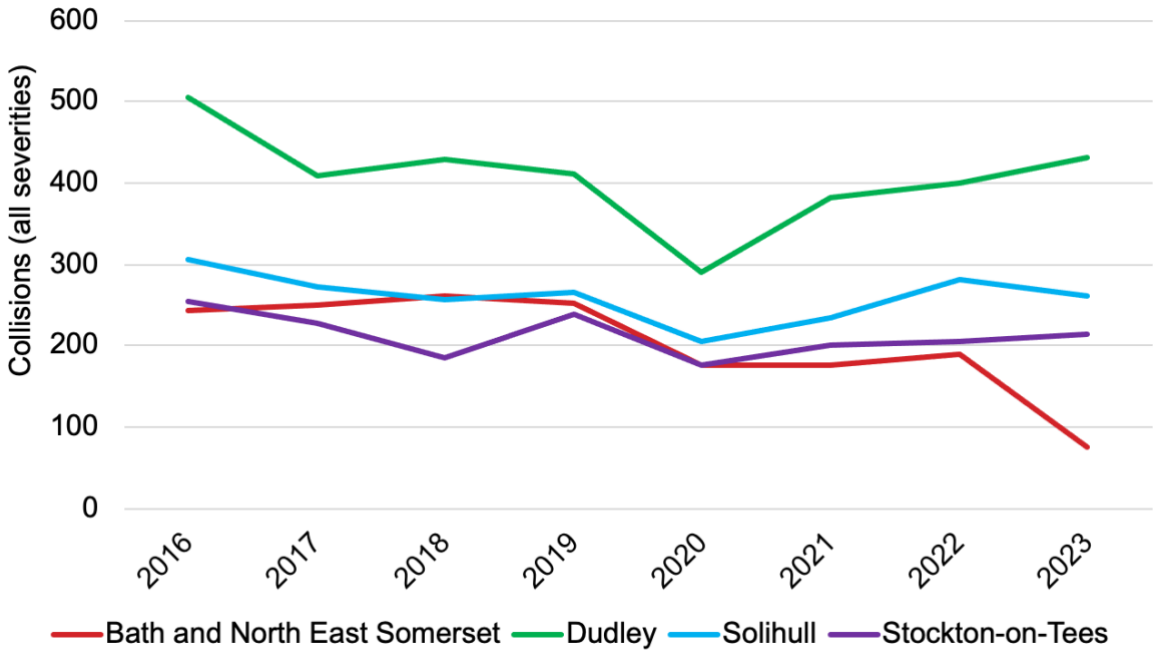
- **Killed and Seriously Injured (KSI):** a measure of the number of people killed or seriously injured in a collision. Possible for a many-to-one relationship between KSI and the collision incident.
- **Fatal and Serious Collisions (FSC):** a measure of the severity of a collision, one-to-one relationship between this value and the collision.

- **Total collisions:** a measure of the number of all collisions, including slight.
- **Collision rate:** the number of collisions per miles driven, a way to normalise collision numbers across years and different areas.

This data is published annually and can be reported at road level or summarised at an area level (as for the purpose of this work package). It is possible to break down total collisions by mode and collisions involving walking or cycling have been extracted alongside total collisions. Total collisions in each authority are shown in Figure 33 to understand overall trends. All authorities in this work package have seen the number of collisions reduce since 2016 but recent trends will need to be considered when attributing any changes to CRSTS schemes that may influence this figure through improving safety.

Collisions in BANES have dropped sharply, -69% since 2016 (this may be a data error which will be monitored when 2024 data is available). Collision numbers in 2023 are below 2016 by a similar proportion for the remaining authorities (Dudley -14%, Solihull -14% and Stockton-on-Tees -15%) but collisions in Dudley have been increasing since 2021.

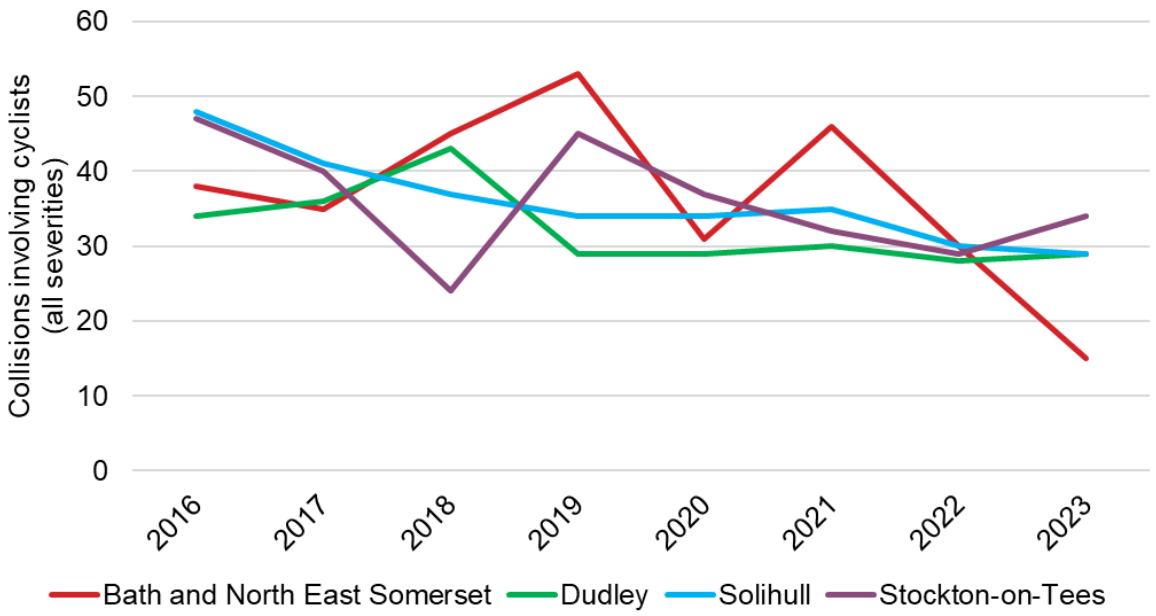
### Figure 33: Annual road collisions (all severities) by local authority




*Source: STATS19 table RAS043 – Collisions*

Several schemes in this work package mention improving cyclist safety as a way to encourage more people to choose to cycle; to achieve this the number of collisions, particularly serious, will need to fall. Figure 34 shows the trends in collisions involving a cyclist have tracked overall collisions, particularly in BANES which are down 61%. A slight increase in collisions between 2022 and 2023 in Stockton-on-Tees (17%) is above the increase in overall collisions (5%). Cyclist collisions in Dudley have been relatively flat since 2019 but are -16% compared to 2016 which is similar to overall collisions in Figure 33. Numbers have been declining in Solihull (-40% since 2016). It is important to continue to monitor these as a measure of success in promoting cycling safety but this data will also be considered against any significant increases in cycling which could lead to increases in collisions. The severity of collisions will be extracted and considered as part of the evaluation to contextualise any increase experienced with increased cycling rates.

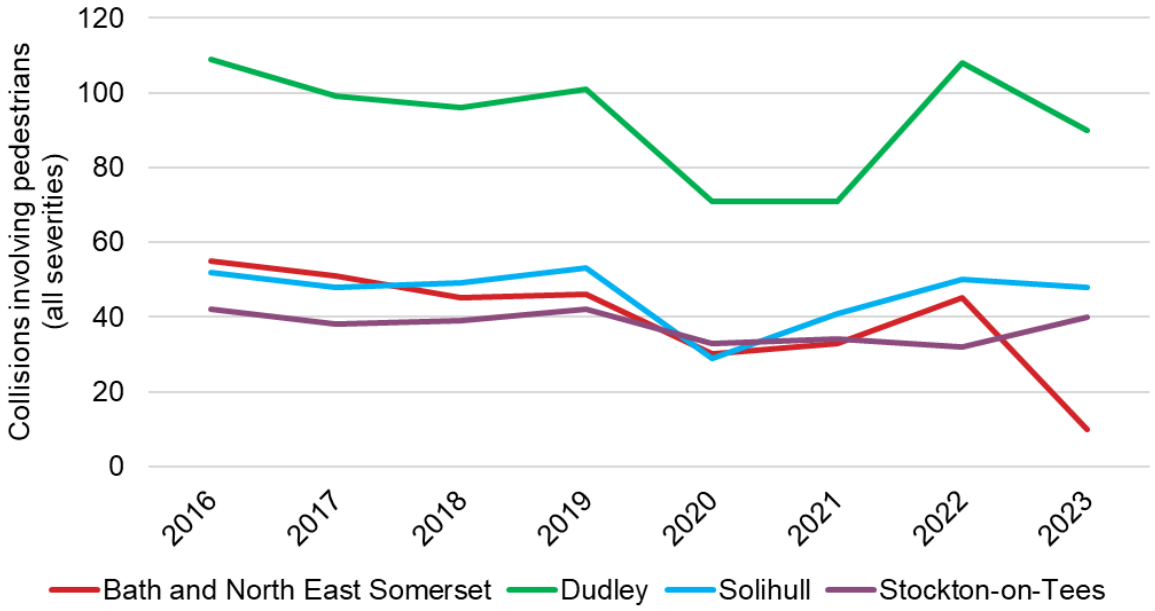
### Figure 34: Annual road collisions involving an injured cyclist (all severities) by local authority




*Source: STATS19*

Collisions involving at least one pedestrian can be observed in Figure 35. For Solihull and Stockton-on-Tees, collision trends were relatively flat between 2016 and 2019 whereas Dudley and BANES trends had been decreasing. During the pandemic this fell further and is likely due to reduced travel at that time, since then levels returned but are still below 2016 from all authorities. BANES continues to display significant reductions (-82% on 2016) which will be checked when more data becomes available for 2024 and 2025. Stockton-on-Tees is the only authority to increase between 2022 and 2023 (by 25%) as has been the case for cycling and all collisions.

### Figure 35: Annual road collisions involving a pedestrian (all severities) by local authority

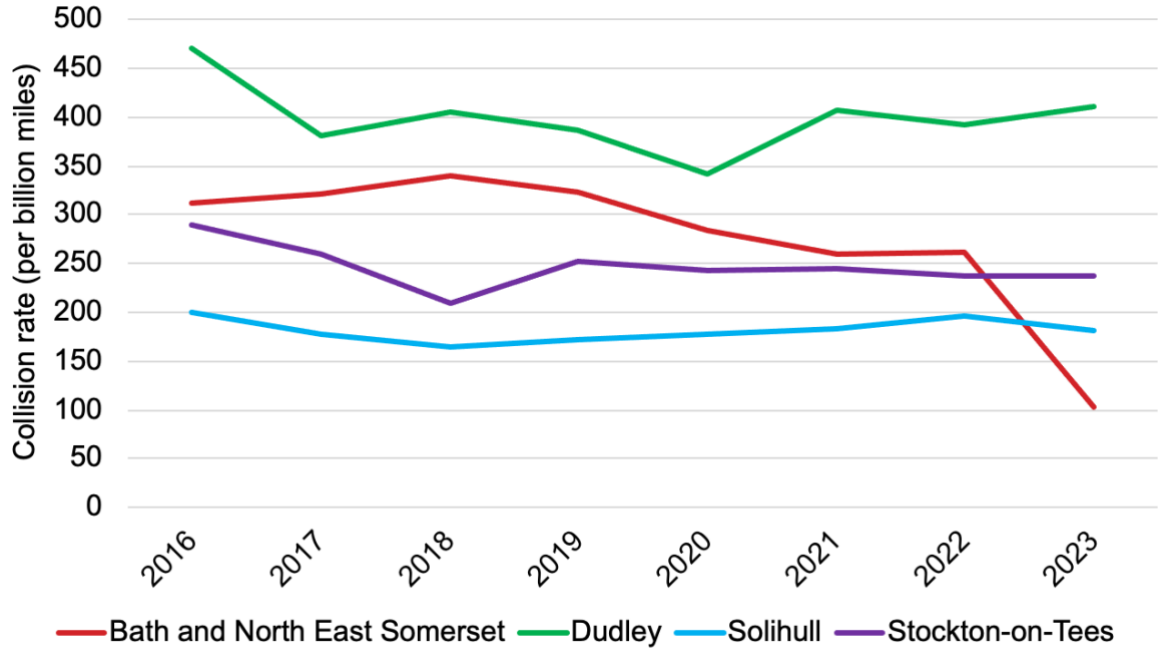



*Source: STATS19*

Given the fluctuations in collisions data, it will be important to track trends, particularly allowing for a few years post-pandemic. It is too early to understand if there is a continuing increasing trend since 2022. When 2024 and 2025 data is available, an appropriate baseline will be clearer and used in the evaluation.

The collision rate accounts for the number of miles driven and, as shown in Figure 36, smooths the pandemic dip observed in total collisions in 2020 for most authorities. It is only available as an aggregated figure and cannot be split by mode. It is a normalising factor across years and authorities as it accounts for how many miles were driven on local authority roads. Collision rate shows similar trends to that of the number of collisions, yet the ranking of the authorities differs. For example, whilst more collisions occurred in Solihull than Stockton-on-Tees in all years reported, the rate in Stockton-on-Tees is higher. An increasing rate in Dudley is still present but is a 5% increase in collision rate from 2022 to 2023 compared to 8% in number of collisions.

## Figure 36: Annual road collision rates (all severities) by local authority



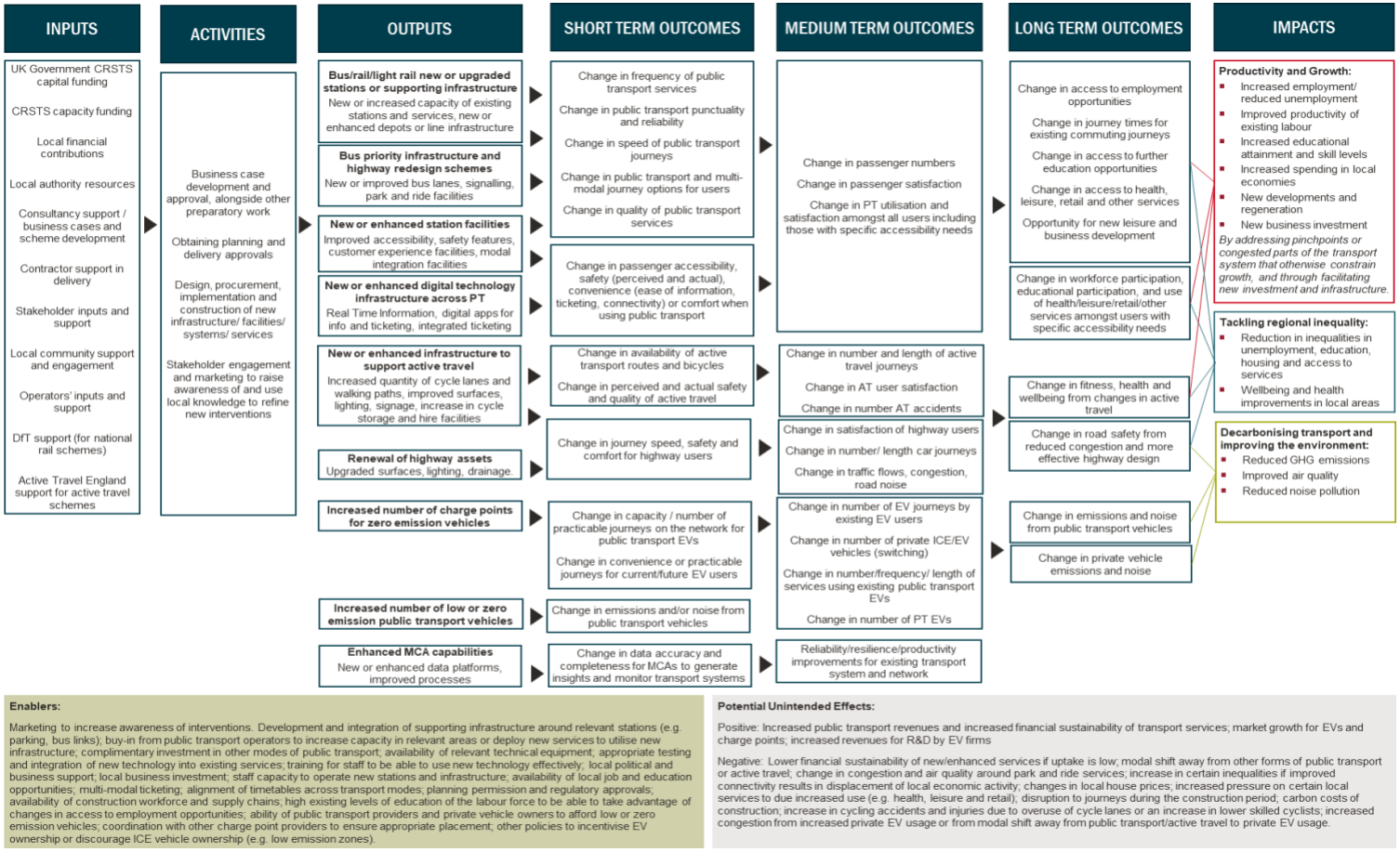

*Source: STATS19 table RAS043 – Collisions*

# Annex A CRSTS Funding Allocations 2022/23 to 2026/27

| MSA | Funding amount |
|---|---|
| Greater Manchester | £1.07 billion |
| Liverpool City Region | £710 million |
| North East | £563 million |
| South Yorkshire | £570 million |
| Tees Valley | £310 million |
| West of England | £540 million |
| West Midlands | £1.05 billion |
| West Yorkshire | £830 million |

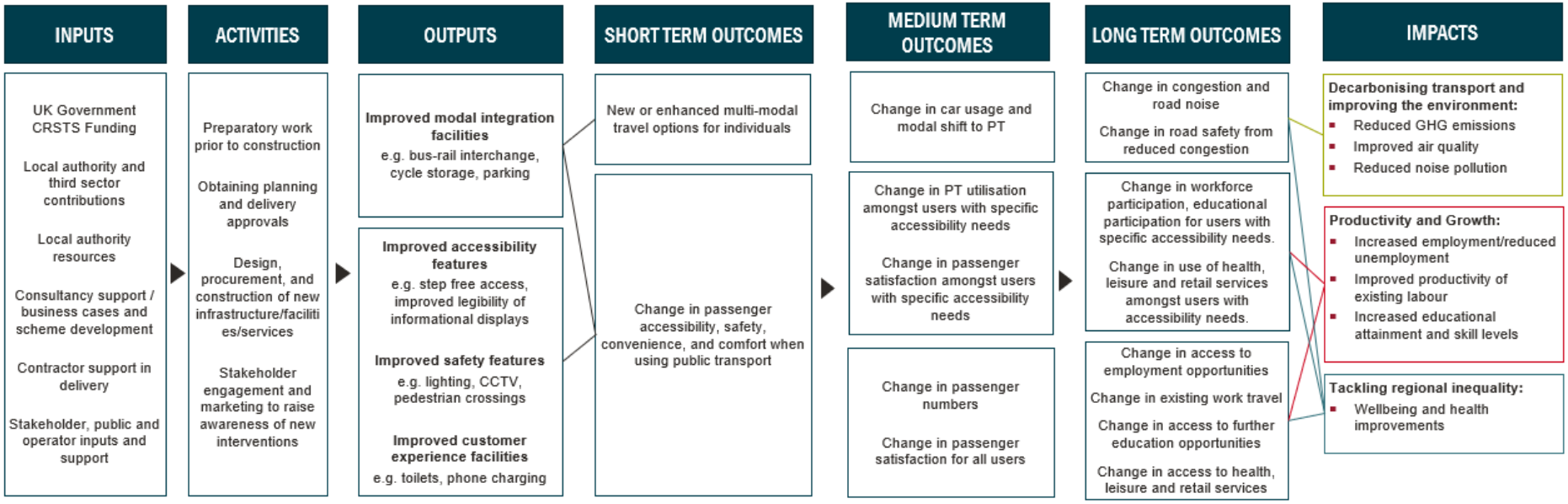
# Annex B Logic models

## Figure 37 CRSTS programme-level logic model



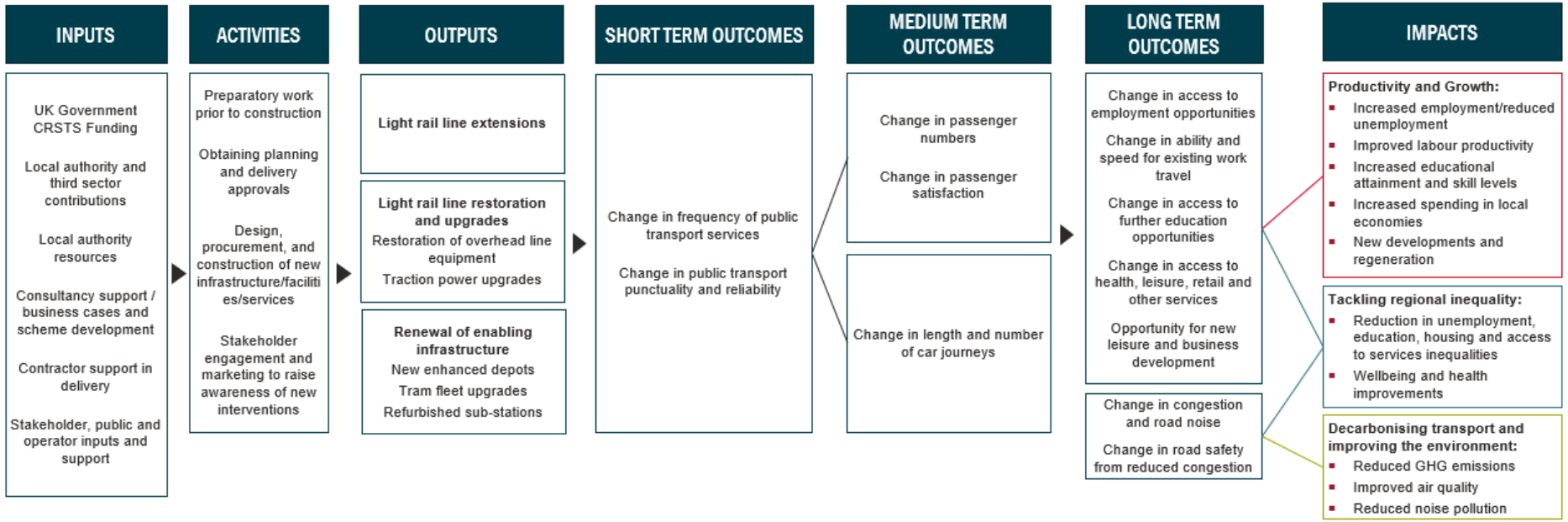

*Source:* Frontier Economics

## Figure 38 WP1 (modal integration schemes) logic model



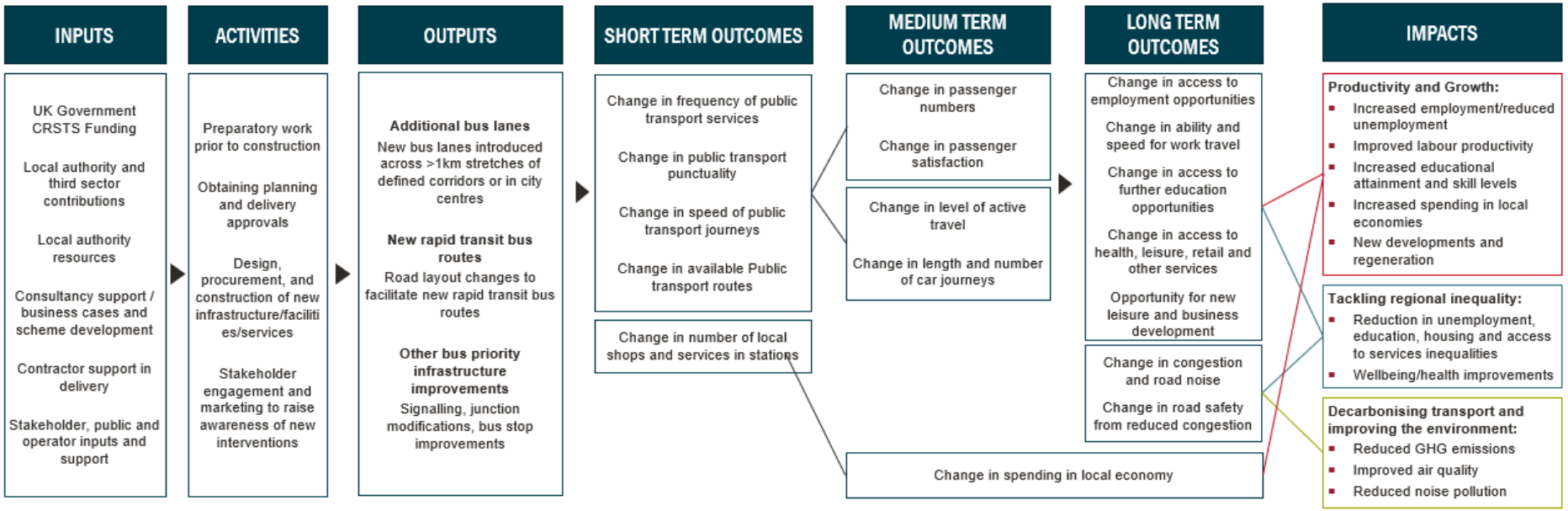

*Source: Frontier Economics*

## Figure 39 WP2 (light rail) logic model



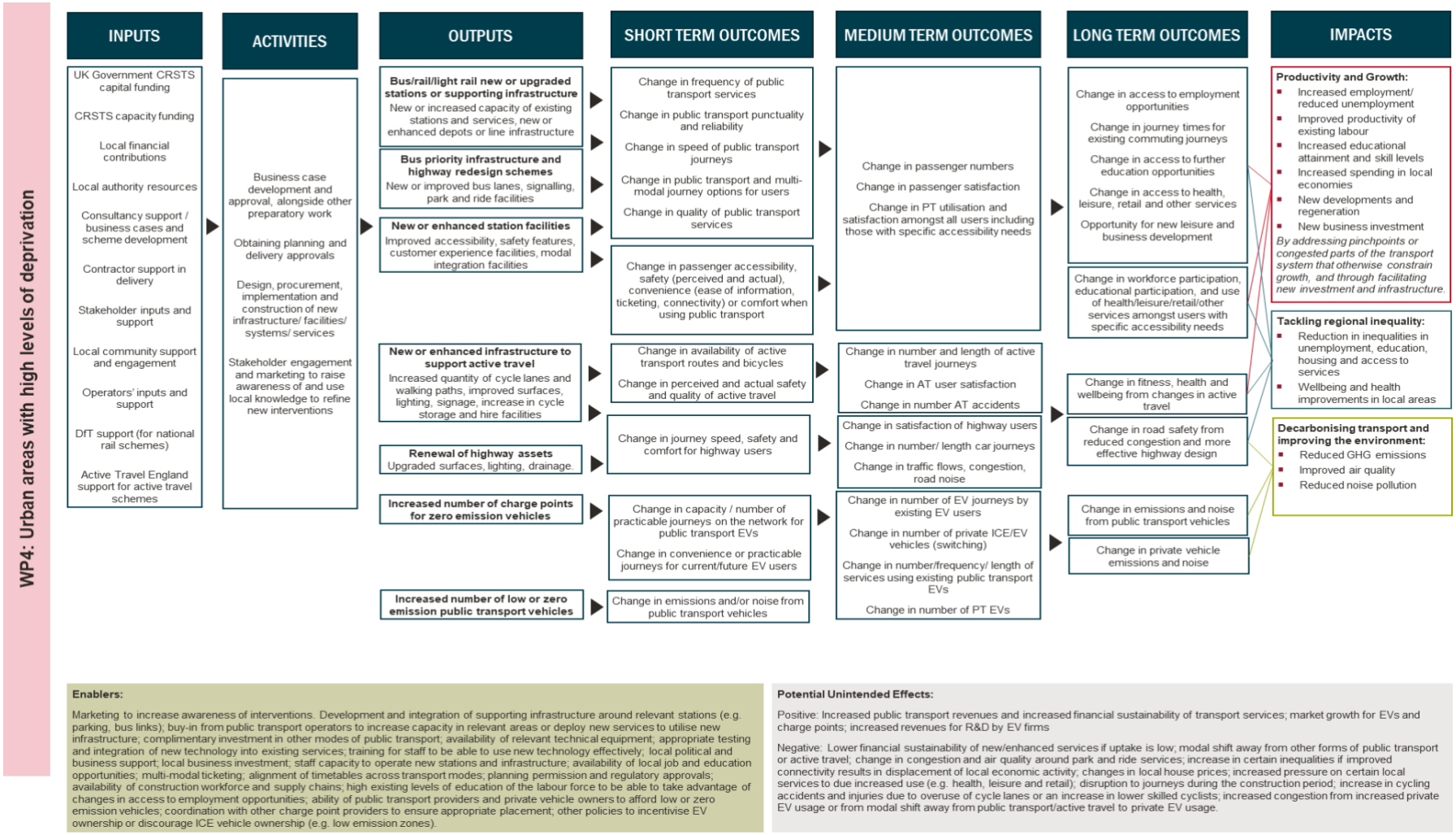

*Source: Frontier Economics*

## Figure 40 WP3 (bus priority infrastructure) logic model



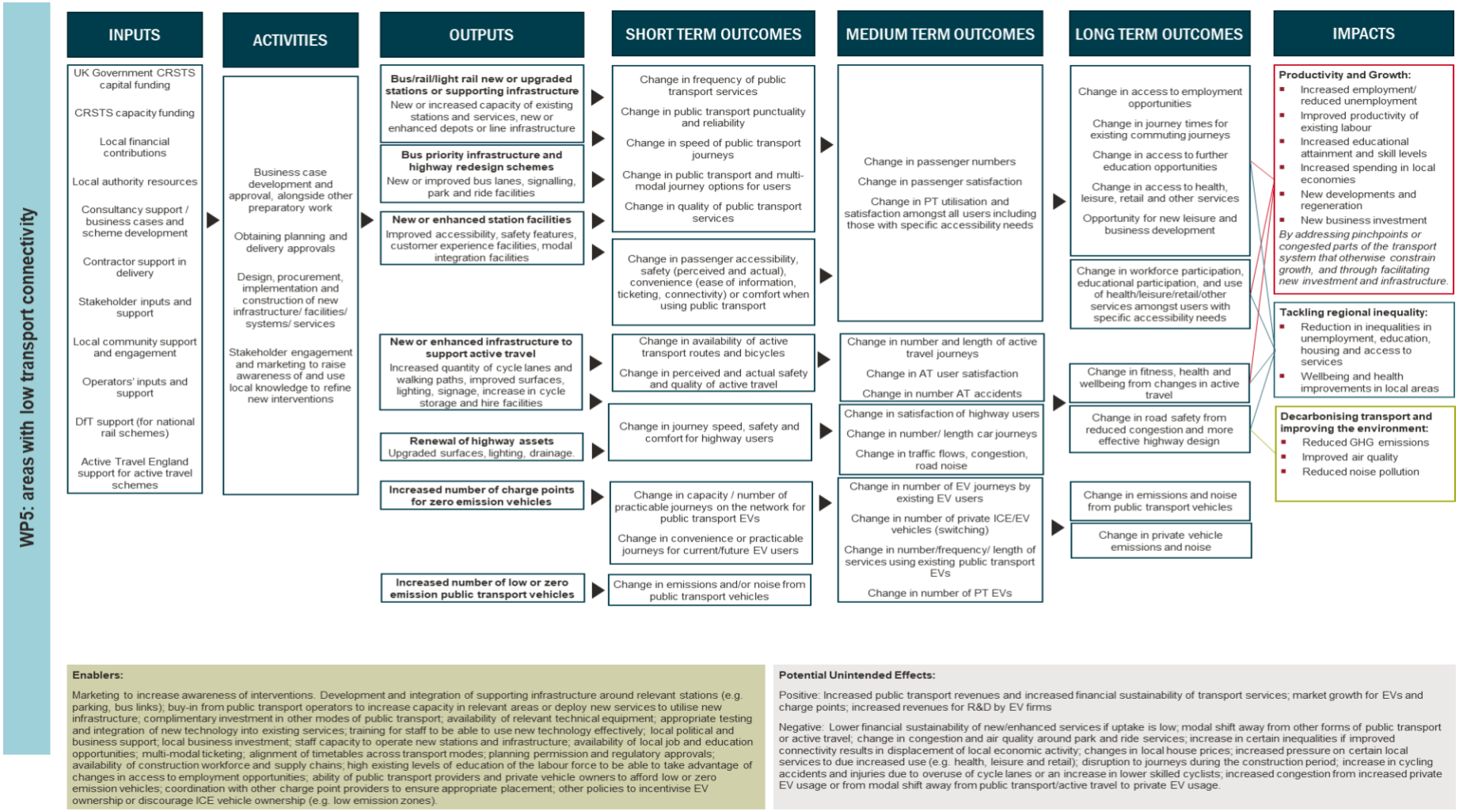

*Source: Frontier Economics*

## Figure 41 WP4 (areas with high deprivation) logic model



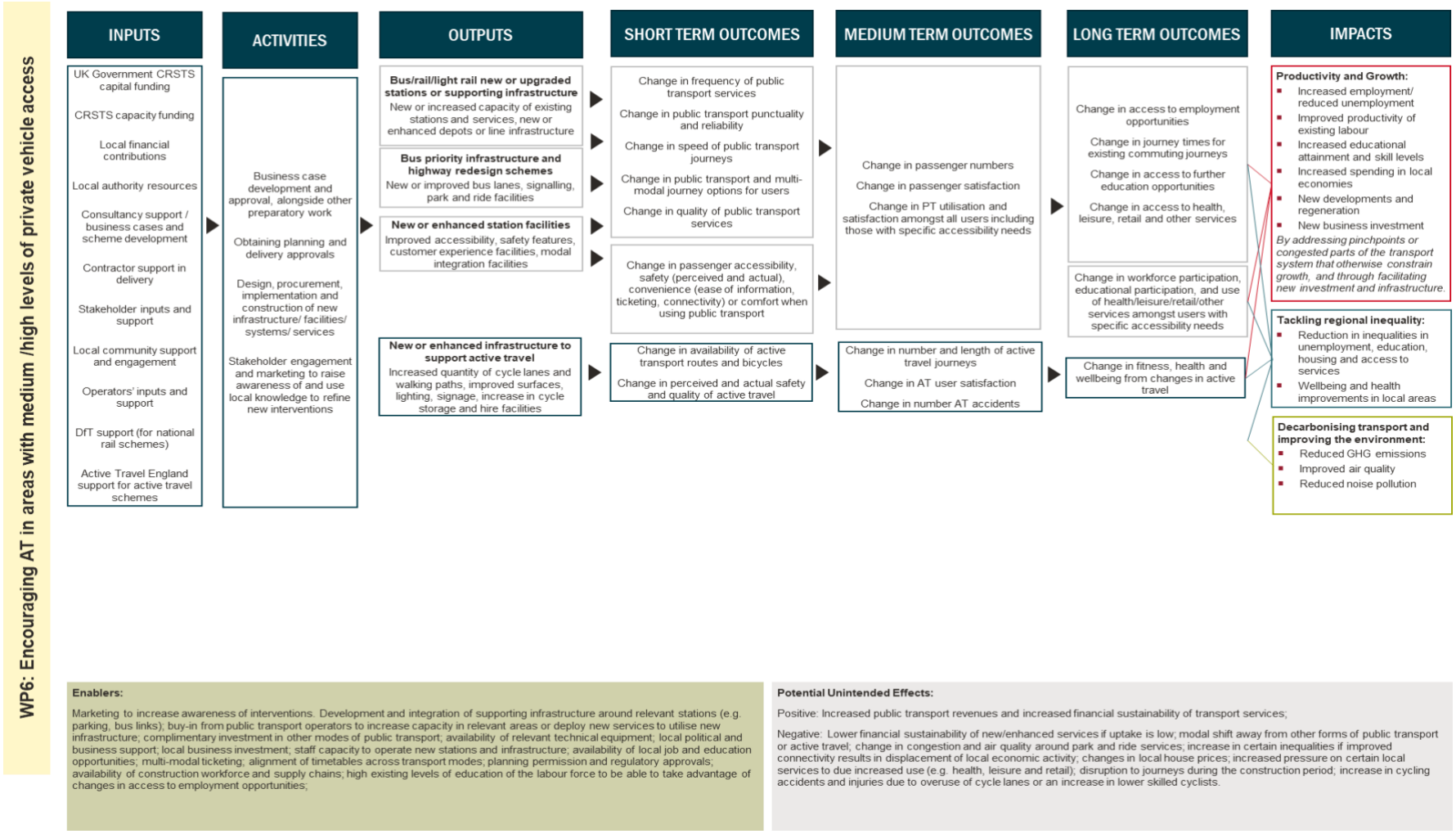

*Source: Frontier Economics*

## Figure 42 WP5 (areas with low transport connectivity) logic model




*Source: Frontier Economics*

## Figure 43 WP6 (areas with medium/high private vehicle access) logic model




*Source: Frontier Economics*

# Annex C Primary Research Approach for CRSTS Evaluation

To ensure a robust evaluation of the City Region Sustainable Travel Settlements (CRSTS), primary research is required to address key data gaps not filled by secondary sources, as identified during the development of the evaluation framework.

Specifically, extra information is needed on the additionality of CRSTS schemes (i.e., impacts that would not otherwise have occurred), the mechanisms behind observed impacts, and hyper-local changes in travel behaviour, journey purpose, and perceptions of transport.

Sufficiently granular data is not available elsewhere, and collecting it will enable more precise, meaningful evaluation at the scheme and place level.

A scoping exercise was undertaken to determine an appropriate and proportionate approach to collect this information.

## Method and Approach

Our approach has been designed to capture this data from the following activities:

- Depth Interviews:
  - Up to 32 online, one-hour interviews (across two phases) with a range of stakeholders: MSAs, LTAs, local operators, user groups, delivery partners, and relevant external organisations.
  - Discussions will capture on the impact of local schemes, contextual factors, and unintended outcomes to inform qualitative contribution analysis.
- Resident Surveys:
  - 10-15-minute surveys with approximately 500 residents in each of three selected areas.
  - Three locations will be selected to represent a range of work packages and geographic types and validated with the relevant MSAs.
  - The survey will explore travel choices, frequency, journey purpose, use and perceptions of local transport.
  - A mixed-method approach will be used: online panels and telephone interviews (CATI), with post-weighting considered if appropriate.

## Timings

Key activities by year:

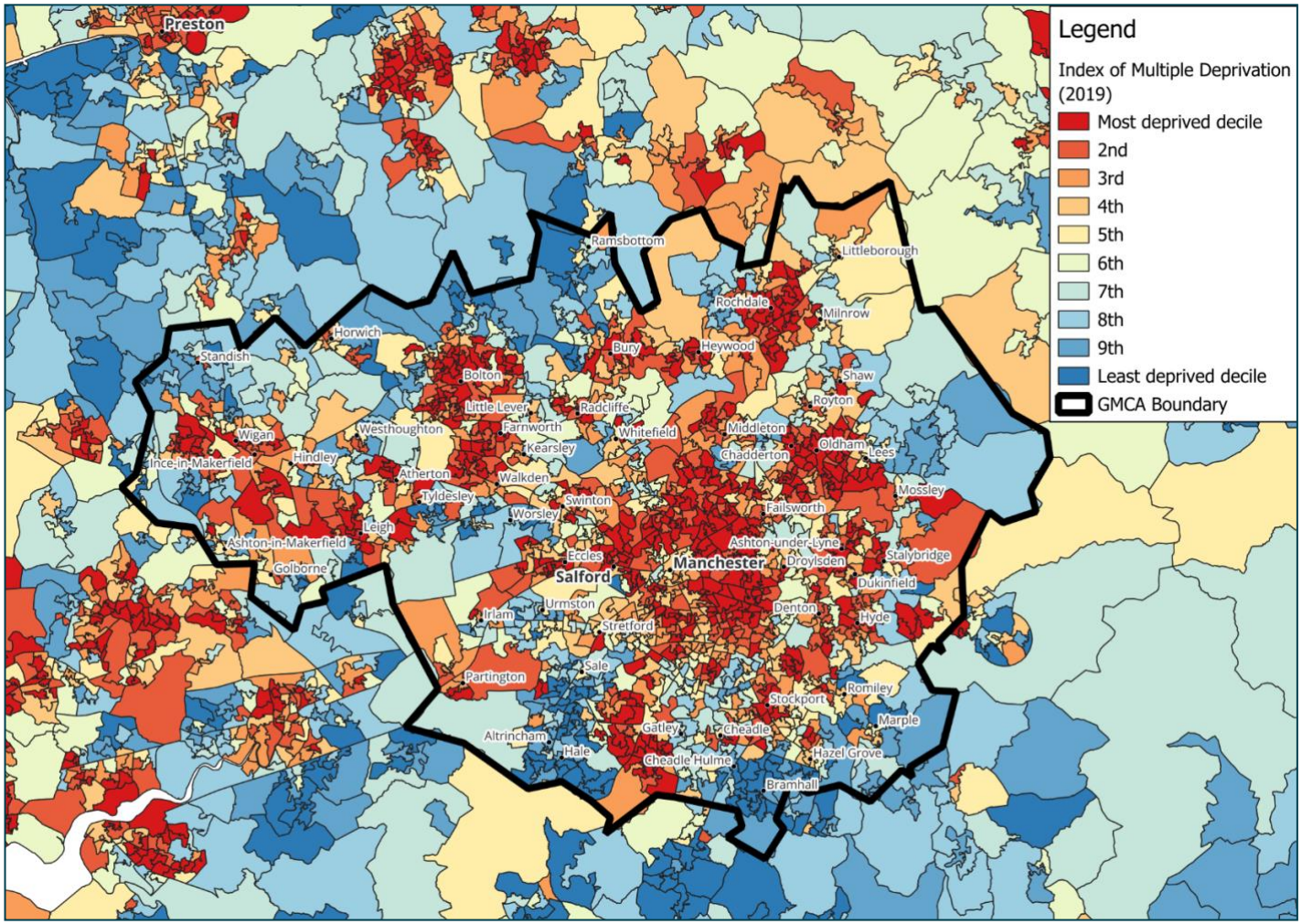
| | |
|---|---|
| **2025/26** | Baseline Survey (to feed into interim report) |
| **2026/27** | Depth interviews (to feed into interim report) |
| **2028/29** | Follow-up survey and depth interviews (to feed into final report) |

This targeted primary research will provide crucial evidence on local outcomes, travel behaviour, and perceptions, supplementing secondary data for a thorough and meaningful evaluation of CRSTS

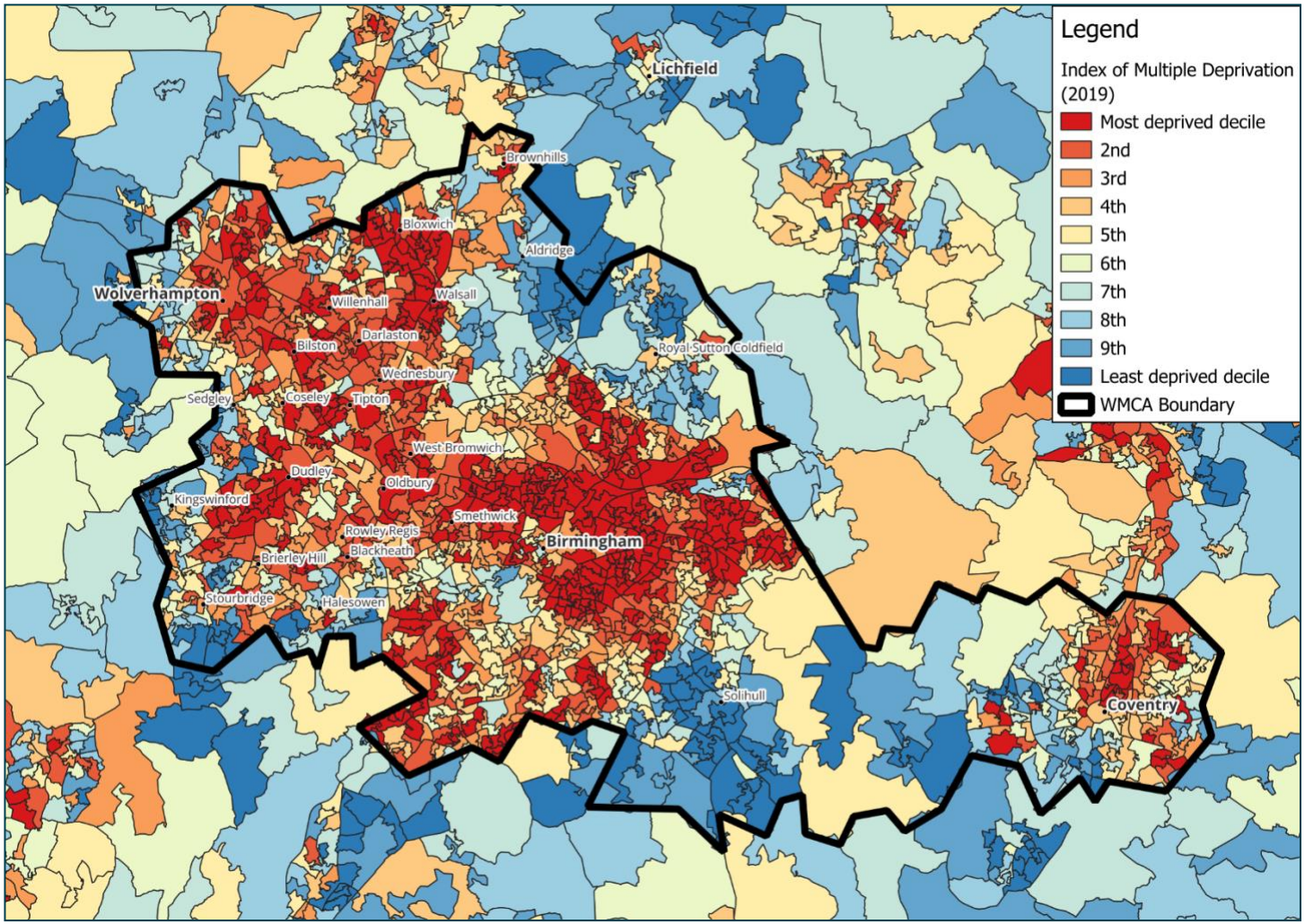
# Annex D North East Connected Stations List

| Station | Station Type | Local Authority |
|---|---|---|
| Bebside | National Rail | Northumberland |
| Fellgate | Metro | South Tyneside |
| Hebburn | Metro | South Tyneside |
| Heworth Interchange | National Rail & Metro | Gateshead |
| Jarrow | Metro | South Tyneside |
| Manors | National Rail | Newcastle |
| MetroCentre | National Rail | Gateshead |
| Newsham | National Rail | Northumberland |
| Palmersville | Metro | North Tyneside |
| Seaton Delaval | National Rail | Northumberland |
| St. Peter's | Metro | Sunderland |

# Annex E Index of multiple deprivation, Greater Manchester



# Annex F Index of Multiple Deprivation West Midlands



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# Annex H Glossary of Terms

**AADT:** Annual Average Daily Traffic

**BSIP**: Bus Service Improvement Plan

**CBA:** Cost-Benefit Analysis

**DfT:** Department for Transport

**FBC:** Final Business Case

**GMCA:** Greater Manchester Combined Authority

**GTFS:** General Transit Feed Specification

**IMD:** Index of Multiple Deprivation

**KPI:** Key Performance Indicator

**LAD:** Local Authority District

**LCRCA:** Liverpool City Region Combined Authority

**LCWIP:** Local Cycling and Walking Infrastructure Plan

**LEP:** Local Enterprise Partnership

**NECA:** North East Combined Authority

**MSA**: Mayoral Strategic Authority

**OBC:** Outline Business Case

**ORR:** Office of Rail and Road

**SOBC:** Strategic Outline Business Case

**SYMCA:** South Yorkshire Mayoral Combined Authority

**TAG:** Transport Analysis Guidance

**TCF:** Transforming Cities Fund

**WECA:** West of England Combined Authority

**WMCA:** West Midlands Combined Authority

**WYCA:** West Yorkshire Combined Authority