

Monitoring and Evaluation Strategy

March 2023



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1. Executive Summary

TfN’s Monitoring and Evaluation Strategy is a key component of Transport for the North’s STP2 (Strategic Transport Plan 2), linked to the Annual Action Plan and Performance Measures elements of the STP2 hierarchy below.



The Strategic Transport Plan sets out a common vision and a set of objectives for the transformation of the North’s transport system. A robust, Green Book compliant approach to Monitoring and Evaluation ensures that the implementation of the STP remains evidence-based and outcome focussed.

The purpose of the strategy is to monitor the North’s progress towards the ambitions of the STP. In addition, it is intended to provide evidence on the progress TfN is making towards achieving its ambitions.

The approach set out in this strategy recognises that the delivery of these ambitions is a collective effort involving national government, local transport authorities, delivery agencies and the private sector.

Monitoring and Evaluation Framework

TfN’s Monitoring and Evaluation Framework consists of a series of headline, core, and supplementary metrics developed in collaboration with partners that can be used to monitor the STP. To ensure transparency and consistency TfN will publish a dashboard containing these metrics, allowing TfN to track progress over time.

The headline metrics are of the highest strategic importance and define the vision of the STP, with a strong theory of change linking to TfN-promoted

interventions and policies. Core and supplementary metrics provide additional intelligence on progress and challenges across the North's transport network.

TfN Annual Action Plan

The second pillar of the Monitoring and Evaluation Strategy is the TfN Annual Action Plan, which will be published annually. This will include three elements:

- A review of progress towards STP objectives based on headline, core, and supplementary metrics
- An overview of TfN's contribution over the previous year towards these objectives
- TfN's plans for the upcoming year as set out in the Business Plan, linked to KPIs

This will allow TfN to monitor progress of its own programme of work in a proportionate way, given the challenges of quantifying TfN's own contribution towards the objectives as a Strategic Transport Body.

Internal Review Processes

Robust and proportionate internal processes are being put in place at a project, directorate, and organisational level. These will ensure a flow of information between levels and a golden thread throughout what TfN does, in accordance with Green Book guidance. This will in turn feed into the TfN Annual Action Plan.

External collaboration

This strategy also sets out some of the challenges partner organisations have reported facing in effective Monitoring and Evaluation and proposes some ways in which TfN can help promote collaboration across the North to address these issues.

2. Monitoring and Evaluation in a TfN context

This aim of this strategy is to embed the ROAMEF (rationale, objectives, appraisal, monitoring, evaluation, and feedback) cycle of evidence-based policy making as set out in the HM Treasury Green Book. Taking this approach will ensure that monitoring data, and intelligence from the TfN Analytical Framework and wider research, is considered within policy design and implementation. This will help embed a culture of learning both at a strategic level and in project delivery.

It is also clear that many of the approaches applied elsewhere to Monitoring and Evaluation in transport need to be modified to suit a sub-national transport body such as TfN. This strategy therefore sets out a bespoke approach developed specifically for TfN.

2.1 Monitoring

“Monitoring seeks to check progress against planned targets and can be defined as the formal reporting and evidencing that spend and outputs are successfully delivered, and milestones met” (Department for Transport, 2013).

For TfN, monitoring relates to the assessment of progress towards the targets and milestones set out in the TfN Business Plan and the STP.

2.2 Evaluation

“Evaluation is a systematic assessment of the design, implementation, and outcomes of an intervention. It involves understanding how an intervention is being, or has been, implemented and what effects it has, for whom and why.” (HM Treasury, 2020: 15).

Evaluation at TfN is about embedding a culture of learning in the way that projects, strategies, and policies are designed and reviewed. In most cases this will not necessitate full evaluation plans given the scale at which TfN operates.

2.3 The challenges of monitoring and evaluation for TfN

TfN faces several challenges and constraints in rigorously monitoring and evaluating its activities and impacts, which have shaped the development of the approach set out in this document.

| Challenge | Response |
|--|--|
| TfN’s current remit: TfN has a unique status as a statutory sub-national transport body in the UK context with few comparators internationally. Consequently, much of the growing methodological literature and best practice on M&E in the transport sector is not directly transferable to TfN. | TfN has developed a bespoke approach to M&E which applies the spirit of existing national guidance, rather than applying approaches that have been developed within a very different context. |
| Scope of TfN’s work: TfN’s role covers areas around strategy, policy and research that are not conventionally subject to monitoring and evaluation in transport. | TfN’s proposed role in monitoring and evaluation is proportionate TfN strategic scope. TfN is not proposing to take a lead role in evaluating transport interventions led by delivery bodies and will instead focus on monitoring the delivery of the Strategic Transport Plan agreed collectively by the North’s leaders and activities undertaken to support its delivery. |

| | |
|---|---|
| <p>Potential future changes to TfN’s scope: There may be further changes to TfN scope and the strategic direction of transport in the North that affects that impacts that need to be measured.</p> | <p>The approach set out around the Annual Action Plan is flexible enough to respond to change.</p> |
| <p>Attribution: The attribution of change to the specific activities undertaken by an organisation is a key challenge of evaluation, and one which is particularly present in the case of TfN given its status as a sub-national transport body.</p> | <p>Rather than seeking to directly quantify the scale of TfN’s impacts on STP objectives, TfN has used logic mapping to identify impact pathways. This approach provides TfN with a more realistic assessment of how it contributes to its stated objectives.</p> |
| <p>Complex impact pathways: As well as improvements to the transport system, the four objectives set out in TfN’s Strategic Transport Plan span the economic, environmental and societal domains. The aspects of the STP objectives which occur in these domains have multiple and complex determinants.</p> | <p>TfN has sought to capture complex determinants even where change attribution is challenging. In areas such as social exclusion, Health and Wellbeing and decarbonisation, TfN has undertaken research and analysis to strengthen TfN’s understanding of these areas.</p> |

3. Development of the TfN Monitoring and Evaluation Strategy

TfN has undertaken several phases of work to inform the proposed approach to Monitoring and Evaluation presented in this Strategy. All phases of development were shaped by internal and external input from TfN’s partners.

3.1. Phases 1, 2 and 3 focussed on the development of the TfN Monitoring and Evaluation Framework, which is a set of metrics for monitoring progress towards STP objectives. The impacts are areas that Transport for the North can expect to influence through the interventions and policies that it promotes.

This development was framed around the headline ambitions of the TfN’s Strategic Transport Plan (STP). For STP2 (2024) these ambitions were as follows:

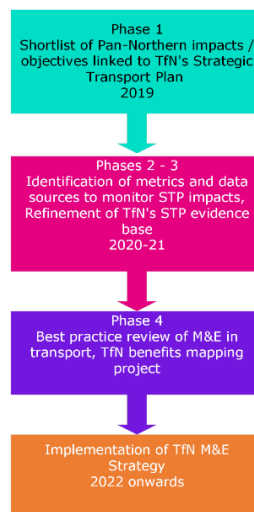
- Rapid decarbonisation of surface transport
- Reducing transport related social exclusion
- Transforming economic performance

These metrics have been split into three groups to provide an appropriate balance between strategic clarity on the North’s collective ambitions and more detailed monitoring.

3.3. Phase 4 consisted of:

- Benefits mapping workshops with officers from across TfN, identifying where TfN’s work contributes to the STP impacts identified in Phase 1.
- A review of best practice across monitoring and evaluation in transport, including initial discussions with other sub-national transport bodies.
- A set of recommendations on how to operationalise monitoring and evaluation across TfN, informing the approach proposed in this strategy.

The diagram below presents the development of TfN’s M&E work programme.



3.4. The implementation of the M&E Strategy will be an iterative process and informed by prior experience.

4. Objectives and Principles

These objectives and principles reflect the context and challenges set out in Section 2 and should inform the implementation of the processes set out in Section 5.

Objectives

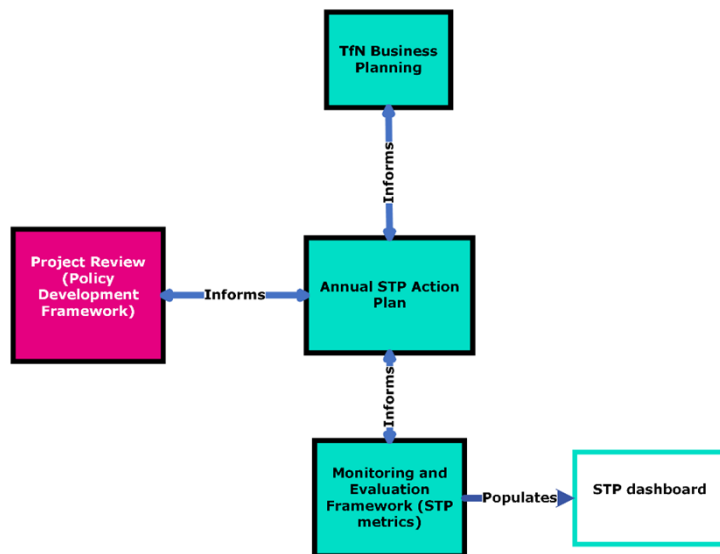
- Rigorously measure progress towards the objectives of the TfN’s Strategic Transport Plan, taking a multi-modal and cross-cutting approach.
- Enable outcome-focussed, evidence-based decision making at TfN across project, directorate, and organisational levels based on the ‘ROAMEF’ cycle with a high level of coherence between these three levels.

| Principle | Explanation |
|-----------|-------------|
|-----------|-------------|

| | |
|------------------------------|---|
| Adaptability | TfN’s approach to M&E should be driven by these principles and objectives rather than rigid processes. This will ensure TfN can identify new opportunities to collaborate, scale up and evolve along with TfN’s organisational evolution. |
| Transparency | Any findings should be transparent to TfN’s partners, to stakeholders, and to the public to the maximum extent possible given commercial and legal restrictions. |
| Collaboration | TfN’s M&E approach should draw on relevant expertise outside of the organisation and should be open to external input and review. |
| Methodological rigour | TfN’s approach to M&E should reflect best practice in evaluating transport interventions and comparable sub-national transport bodies and should evolve with developments in this evidence base in the UK and elsewhere. |
| Proportionality | TfN’s Monitoring and Evaluation activity should be proportionate to the resources available, seeking both to add value and demonstrate value by providing new insights. |

5. TfN’s approach to M&E

The diagram below provides a summary of how the processes described below fit together to constitute a single coherent approach.



5.1. Project Level Actions

Action 1: Project Review

At a project level, TfN will:

- Ensure that project objectives are SMART (Specific, Measurable, Achievable, Realistic and Time-bound) and that success can be reviewed.
- Ensure a clear theory of change linking project outputs and objectives.
- Establish alignment between STP objectives and Business Plan KPIs

All project objectives will be linked to one or more of TfN’s STP objectives, and one or more of the pillars of TfN’s Operating Model, as set out in TfN’s second Strategic Transport Plan, to strengthen links with TfN’s ‘golden thread’:

- A **centre of technical excellence** for the North – holding and collating information and analytical tools that are available to all partners
- A **source of trusted information** – one that is available to all our partners locally, regionally, and nationally as a foundation on which to develop solutions
- A **strategic thought leader** and champion of strategic transport planning – one that ensures the linkages between transport, digital and energy systems are reflected in decision making
- An **enabler of accelerated delivery** – applying our capability and capacity in support of our partners as they bring forward solutions for implementation
- A **trusted collaborator** – working with partners (nationally and across the North) in order to maximise the leverage of its own activity to the benefit of our communities and businesses.

5.2. Organisational Level Actions

Action 2: utilise evidence from Monitoring and Evaluation evidence to inform Business Planning

Each Winter, TfN will undertake a review of existing workstreams and projects to inform prioritisation in the following financial year. This should encompass a review of the links between TfN’s current work programme, and the golden thread set in the STP and Business Plan. This will inform internal planning activities and should be framed around the following questions:

| Key question | Explanation |
|---|---|
| How has the existing work plan progressed to date? What new activities need to be in scope? | Light touch review of KPIs in the Business Plan, plus any additional BAU (Business as Usual) activities |

| | |
|---|---|
| How do existing and emerging activities link to the TfN golden thread? | Ensuring robust links to the TfN golden thread and the STP and the Business Plan |
| What were the key barriers to progress on key outcomes and how can these be overcome? | This provides an opportunity to reflect on key lessons learnt |
| Were there any major unplanned successes over the past year? | An opportunity to highlight any unexpected successes and innovations that may not be captured elsewhere, focussing on the concrete, external impact of TfN's work |

Action 3: Monitoring and Evaluation Framework

The Monitoring and Evaluation Framework contains the key metrics required to monitor progress towards STP objectives. **Action 3** recognises the ongoing work required to keep the Monitoring and Evaluation Framework up to date and ensure it is actively utilised.

The M&E Officer will undertake a light-touch review of the M&E Framework every year to ensure it reflects the latest data available data to TfN and continues to reflect TfN's strategic priorities.

This will include:

- Ensuring the dashboard is populated with the latest available data.
- Resolving any issues with data availability and prioritise within TfN's analytical work programme. If resources prove to be a constraint, headline metrics should take the highest priority.
- Adapting any changes in the scope of TfN's work or user feedback.
- Responding to improvements in data quality and availability.

Any changes will need to meet the following criteria:

| | |
|-----------------------------|--|
| Forward consistency | Metrics can be monitored continuously, with a reliable (and ideally annual) data release schedule. |
| Backward consistency | Data points are available that are comparable to existing baselines for other metrics. |
| Transparency | If possible, metrics will be developed using data that can be shared externally. |
| Strategic alignment | Any new metrics are clearly aligned to TfN's STP objectives. |

| | |
|------------------------|--|
| Proportionality | New metrics increase the overall coherence of the M&E Framework. |
|------------------------|--|

TfN will also develop and publish a dashboard containing the agreed STP-related metrics as set out in the Monitoring and Evaluation Framework. This will provide a transparent view of progress against STP objectives.

This will initially be an internal tool, but external publication should also be explored.

TfN will continue to collaborate with Partners to strengthen alignment where this is appropriate and remains consistent with the level of ambition of the Strategic Transport Plan.

Action 4 - TfN Annual Action Plan

TfN will publish an TfN Action Plan annually to review progress towards the vision and objectives set out in the Strategic Transport Plan, allowing TfN and partners to respond and to adapt dynamically to changing circumstances. This will be published each year in Spring and will encompass the following elements:

- **A quantitative review of progress towards STP objectives.**
This will allow TfN to take a systems approach to monitoring the North's progress, recognising that there are complex synergies and trade-offs between them.
- **A review of TfN's work programme over the previous year and its contribution to achieving the STP objectives.**
This will be based on internal review processes set out above and will provide transparency to the North's partners and the wider public on TfN's own actions taken in support of the STP.
- **A set of commitments for the following year based on KPIs in the Business Plan.**
This will set out how TfN will work with partners to accelerate progress towards agreed STP objectives.

5.3. Wider Knowledge-sharing

During Monitoring and Evaluation Phase 4, TfN made links with other Sub-National Transport Bodies and Local Transport Authorities to discuss challenges and opportunities around Monitoring and Evaluation. DfT's Local Major Scheme Meta-Evaluation (June 2022) also highlights some of these challenges. Key examples are listed in this table.

| Local Transport Authority challenges | Sub-National Transport Body challenges |
|---|---|
| Limited internal resource, knowledge and capacity | |
| Challenges raising the profile of M&E and ensuring it is considered at an early stage in project and strategy development. | |
| Monitoring and Evaluation processes need be flexible and proportionate in response to organisational evolution but consistent enough to build understanding and capacity | |
| Challenges accessing data required to monitor and evaluate schemes, and timing data collection with scheme milestones | Novel approaches to M&E are required that correspond to remit and scope of work |
| Methodological challenges monitoring and evaluating schemes, particularly attribution of change, including: <ul style="list-style-type: none"> ➤ Using forecasts ➤ Counterfactuals and comparators ➤ Setting consistent scheme objectives ➤ Applying Theory of Change ➤ Capturing wider economic impacts and CO2 impacts | |

Where possible, TfN will seek opportunities to collaborate with partners to help overcome these challenges. Key areas of potential highlighted in the Monitoring and Evaluation Phase 4 report are:

| Opportunities for TfN to add value | |
|---|---|
| Applying the principles of DfT (Department for Transport) guidance on Theory of Change logic mapping | This is an area that continues to present practical and methodological challenges for partners. As TfN and partners both develop their own approaches to logic mapping, there may be further opportunities to share lessons learnt. |

| | |
|--|--|
| Resolving shared challenges around data collection and analysis | <p>The continued development of the M&E Framework is likely to highlight additional areas where:</p> <ul style="list-style-type: none"> i) TfN tools can be shared with Local Transport Authorities to support their own work monitoring local transport networks or in building business cases. ii) TfN can work with Local Transport Authorities to build the case for more data sharing or data collection at a national level. <p>Where these opportunities emerge, TfN will facilitate discussion through existing governance groups, particularly AAG (Analytical Advisory Group).</p> |
| Collaboration on future DfT guidance updates | <p>Where DfT undertakes future consultations on Monitoring and Evaluation guidance updates, Transport for the North could raise the profile of these among Local Transport Authorities and facilitate discussion to generate high quality feedback for consideration by DfT.</p> |
| Sharing best practice and lessons learned | <p>Prior engagement with partner officers involved in M&E highlighted interest in learning from successes in other authorities. So far this has been facilitated through existing channels, such as the TfN Rural Mobility Working Group and the Northern Evidence Academic Forum, but could be expanded.</p> |

6. Monitoring and Evaluation Framework metrics

The objectives and metrics in the Monitoring and Evaluation Framework are each associated with one of the strategic ambitions.

- Rapid decarbonisation of surface transport
- Reducing transport related social exclusion
- Transforming economic performance

Many of the metrics are complemented by sub-metrics. For example, “Mode shift of trips from car to public transport and active travel (trips)” is associated with a series of sub-metrics (number of trips for each transport mode and number of trips as a proportion of total trips).

These metrics are intended to compliment and inform KPIs of delivery bodies such as National Highways and Network Rail and Local Transport Plan objectives. For example, the National Highways KPI to “decrease The number of people killed or seriously injured on the SRN by at least 50% by the end of 2025” can support Vision Zero by 2050.

The metrics in the Monitoring and Evaluation Framework are divided into the following categories:

| | |
|------------------------------|---|
| Headline metrics | These are the high-level, long term strategic objectives linked to concrete targets and trajectories which define the vision of the STP, with strong theory of change linking to TfN-promoted interventions and policies |
| Core metrics | These metrics provide the key evidence required to monitor the North’s transport system in the short to medium term and will form a fundamental part of monitoring the STP. They must be methodologically robust, allowing TfN to track the data. However, a 'good is' target may be sufficient, targeting sustained improvement in all areas, rather than specific targets and trajectories. |
| Supplementary metrics | These metrics provide supporting evidence to understand the wider context of the transport system. The Theory of Change between TfN's own work and these metrics is not as robust and monitoring these is a lower strategic priority. |

Reporting

Reporting on these metrics at a high level will be undertaken as part of the Annual Action Plan. This will include a summary of data linked to the headline objectives, and a breakdown of which core metrics are moving in a positive or negative direction compared to the base year.

| | Headline objectives | Core metrics | Core sub-metrics |
|--|----------------------------|---------------------|-------------------------|
| Decarbonising the North's transport system | 7 | 18 | 66 |
| Transforming the North's economy | 5 | 15 | 24 |
| Reducing transport related social exclusion | 8 | 25 | 79 |
| Total | 20 | 58 | 169 |

Base years

Each of the metrics in the M&E Framework is associated with a base year, providing a baseline data point. This will provide a point of comparison for future TfN Annual Action Plans. The base year of choice depend on two considerations.

- **Data availability** often the most recently available data is used, but this is data is from up to 4-5 years ago. This applies to outputs that use TfN modelling and TfN’s Transport Related Social Exclusion analysis.
- **The impact of the COVID-19 pandemic.** In some cases, the impact of the pandemic on travel demand has meant that the most recently available data is misleading, so a pre-COVID-19 baseline has been selected. This includes travel modal share and air pollution.

In other cases, such as the roll-out of electric vehicles, electric vehicle charging points, or infrastructure related metrics, more recent data were used.

The table below provides a summary of which base years were used for each set of metrics.

| Base year | Headline | Core |
|------------|----------|------|
| 2017 | 0 | 1 |
| 2018,19,20 | 18 | 32 |
| 2021,22 | 2 | 23 |

7. Metrics - decarbonisation of surface transport

Headline Objectives

| Impact | Objective / Target | Baseline | Date of baseline |
|---|--|---------------------------------|-----------------------|
| Eliminate surface transport CO2 emissions | Near zero surface transport emissions in the North by 2045 | 25 million tonnes | 2018 |
| Modal shift to public transport and active travel | Share of trips made by public transport increases to 15% | Public transport: 7% | 2018 and 2019 average |
| | Bus and shared mobility: 12%, rail: 3% | Rail: 1.5%, bus and coach: 5.5% | |

| | | | |
|---|---|-------------------|------|
| | Share of trips made by active modes increases to 36% | Active modes: 29% | |
| | Share of trips made by active modes increases to 20% in rural areas and 50% in urban areas (based on Active Travel England target) | | |
| Modal shift to public transport and active travel | Zero overall regional increase in private car vehicle mileage on the North's road network to 2045 compared to 2018 | 78.2 billion km | 2019 |
| Freight modal shift to rail | Double rail's share of freight carried in terms of tonne kms to 17% by 2050 | 8.5% | 2018 |
| Accelerate the roll-out of EV charging points | Uptake of public EV charging points at scale and pace across the North to support TfN's regional decarbonisation trajectory to 2045, first increasing to 29,600 by 2025 and 123,500 by 2030 | >6,400 | 2022 |
| Improve biodiversity around the North's transport network | All new major transport infrastructure development to aid local nature recovery by achieving 10% biodiversity net gain, for projects gaining approval from 2025 (in line with the Environment Act 2021) | | |

Core metrics

| Metric | Metric details (if applicable) | Baseline | Date of baseline | Good is |
|---|--------------------------------|----------|------------------|----------|
| Increase the share of rail network that is electrified in the North | | 35.3% | 2022 | Increase |

| | | | | |
|---|--|-----------|---------|---------------------------|
| Reduced rail cancellations due to severe weather | TPE and Northern - percentage of cancellations | 10.3% | 2021/22 | Decrease |
| | TPE and Northern - total | 3,697 | | |
| Increased vehicle occupancy | Average | 1.53 | 2018/19 | Increase |
| | Commuter trips | 1.15 | | |
| Population in the North at a high risk of mortality due to pollutants linked to transport | NO2 | 5,880,000 | 2019 | Decrease |
| | PM2.5 | 5,640,000 | | |
| | PM10 | 5,858,000 | | |
| Proportion of paths on the Major Road network (SRN plus local major roads) exposed to pollutant levels above WHO recommended levels | NO2 | 75.4% | 2019 | Decrease |
| | PM2.5 | 97.8% | 2019 | |
| Accelerated uptake of electric vehicles | % of licensed cars and vans that are battery electric in the North | 1.5% | Q3 2022 | Increase |
| | Number of battery electric vehicles in the North | 125,720 | Q3 2022 | Neutral |
| | % of licensed cars and vans that are ultra-low emission in the North | 2.5% | Q3 2022 | Increase |
| Uptake of EV charging points | Number of en-route public rapid charge points | 1450 | 2022 | Increase to 26,00 by 2025 |

| | | | | | |
|--|--|-------|------------------------------|----------------------------|----------|
| | Number of public non-rapid charge points | 4950 | 2022 | Increase to 48,000 by 2025 | |
| Mode shift of trips from car to public transport and active travel | Ratio of car trips to trips of any other modes | 1.7 | average across 2018 and 2019 | Decrease | |
| | Average number of annual trips per person by car: driver | 424 | | Decrease | |
| | Average proportion of annual trips taken by car: driver | 41.6% | | | |
| | Average number of annual trips per person by car: passenger | 224 | | | |
| | Average proportion of annual trips taken by car: passenger | 22.0% | | | |
| | Average number of annual trips per person by rail | 16 | | | Increase |
| | Average proportion of trips per person by rail | 1.5% | | | |
| | Average number of annual trips per person by bus & coach | 56 | | | |
| | Average proportion of annual trips per person by bus & coach | 5.5% | | | |
| | Average number of annual trips per person: walking | 284 | | | |

| | | | | |
|---|--|-------|------------------------------|----------|
| | Average proportion of annual trips per person: walking | 27.9% | | |
| | Average number of annual trips per person by cycle | 15 | | |
| | Average proportion of annual trips per person by cycle | 1.5% | | |
| Mode shift of commuting trip from car to public transport and active travel | Proportion of commuters who use the car as their main mode of commuting | 75.7% | average across 2018 and 2019 | Decrease |
| | Proportion of commuters who use rail (trains and light rail) as their main mode of commuting | 3.8% | | Increase |
| | Proportion of commuters who use buses and coaches as their main mode of commuting | 7.0% | | |
| | Proportion of commuters who use walking as their main mode of commuting | 9.4% | | |
| | Proportion of commuters who use cycling (including e-bikes) as their main mode of commuting | 2.5% | | |
| Mode shift of travel miles from car to public | Ratio of car miles to miles of all other modes | 5.2 | average across 2018 and 2019 | Decrease |

| | | | | | | | |
|-----------------------------|---|--------|--|----------|----------|----------|----------|
| transport and active travel | Average number of annual miles per person by car: driver | 3131 | | Decrease | | | |
| | Average proportion of annual miles per person by car: driver | 54.9% | | | Decrease | | |
| | Average number of annual miles per person by car: passenger | 1659.2 | | | | Decrease | |
| | Average proportion of annual miles per person by car: passenger | 29.1% | | | | | Decrease |
| | Average number of miles per person by rail | 456.0 | | | | | |
| | Average proportion of annual miles per person by rail | 8.0% | | Increase | | | |
| | Average number of annual miles per person by bus & coach | 239.2 | | | Increase | | |
| | Average proportion of annual miles per person by bus & coach | 4.2% | | | | Increase | |
| | Average number of annual miles per person by walk | 173.5 | | | | | Increase |
| | Average proportion of annual miles per person by walk | 3% | | | | | |

| | | | | |
|---|--|--------------|-----------|----------|
| | Average number of annual miles per person by cycle | 45.4 | | |
| | Average proportion of annual miles per person by cycle | 0.8% | | |
| Reduced vehicle kms on minor roads | Total vehicle kms on minor roads | 26.5 billion | 2019 | Decrease |
| | % of vehicle kms on minor roads | 33.9% | | |
| Modal shift from road to rail | Total HGV tonnage carried within the North | 301 Mt | 2019 | Neutral |
| | total HGV tonnage carried within and through the North | 488 Mt | | Neutral |
| | Percentage of GB HGV tonnage carried at least partially within the North | 32.0% | | Neutral |
| Proportion of adults using active modes for travel at least three days per week | Walking for travel | 19.7% | 2018/2019 | Increase |
| | Cycling for travel | 2.1% | 2018/2019 | Increase |
| Reduced greenhouse gas emissions by mode | Cars | 14.46 Mt | 2018 | Decrease |
| | HGVs | 7.21 Mt | | |
| | LGVs | 2.71 Mt | | |
| | Bus | 0.63 Mt | | |
| | Rail | 0.77 Mt | | |
| Reduced greenhouse gas emissions by vehicle segment | Large, SUVs, executive | 4.91Mt | 2018 | Decrease |
| | Medium | 5.01 Mt | | |
| | Small and mini | 4.54 Mt | | |
| Reduced greenhouse gas | Rural | 6.86 Mt | 2018 | Decrease |
| | Suburban | 14.26 Mt | | |

| | | | | |
|---|-------|----------------------|------|----------|
| emissions by area type | Urban | 3.26 Mt | | |
| Reduced transport greenhouse gas emissions per capita | | 1.62 tonnes / year | 2018 | Decrease |
| Reduced greenhouse gas emissions per km | Cars | 141.70 g/km | 2018 | Decrease |
| | HGV | 662.48 g/km | | |
| | LGV | LGV: 212.92 g /km | | |

8. Metrics - Transforming the North's economy

Headline objectives

| Impact | Objective / Target | Baseline | Date of baseline |
|---------------------------------------|---|----------|------------------|
| Improved economic productivity | Close the productivity gap between the North and the average for the rest of England excluding London by 2050 | 11% | 2019 |
| Integrating the North's labour market | 37% of the North's population can access 500,000 jobs by rail within 60 minutes by 2050 | 27% | 2018 |

| | | | |
|---|---|--|------|
| Integrating the North's labour market | 75% of the North's population can access an employment centre with at least 5,000 jobs by public transport within 30 minutes by 2050 | 63.4% (95.3% by car) | 2019 |
| Improved journey time reliability of the road network | Reduce the proportion of the Major Road Network (including the Strategic Road Network and locally maintained major roads) experiencing excessively unreliable journey times during weekday peak times to 2050 | 34.8% morning peak, 33.8% evening peak (annual average) | 2019 |
| Improved journey time reliability of the road network | Reduce the proportion of the Major Road Network (including the Strategic Road Network and locally maintained major roads) experiencing excessively unreliable journey times during the weekend to 2050 | 83% of paths experienced at least an hour of highly poor journey time reliability (annual average) | 2019 |

Core metrics

| Metric | Metric details (if applicable) | Baseline | Date of baseline | Good is |
|--|--|--|-------------------------|----------|
| Increased resilience of the road network | total full or partial road closure events on the SRN | 18,496 | 2019 | Decrease |
| | total events leading to full closure of at least one carriageway or slipway on the SRN | 707 | | |
| Increased resilience of the road network | reasons for full road / carriageway closure on the SRN | road closure: 52.5%, suicide / attempted suicide: 15%, breakdown 14.6% | 2019 | Neutral |
| Increased overall reported road user satisfaction (on the SRN) | Overall Satisfaction | 70% | April 2021 – April 2022 | Increase |
| | Journey time | 67% | | |
| | Management of roadworks | 45% | | |
| | Surface quality | 71% | | |
| | Feeling safe | 79% | | |
| | Information (Permanent signs) | 80% | | |

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| | Information (Electronic signs) | 70% | | |
| Proportion of residents able to access at least 2 or more airports within 90 minutes by rail | | 14.5% | 2018 | Increase |
| Proportion of residents able to access 16+ key visitor attractions by rail | | 29.8% | 2018 | Increase |
| Proportion of residents within 90 minutes of a National Park by rail | | 46.5% | 2018 | Increase |
| Proportion of businesses able to access 10,000 other businesses within 60 minutes travel time by rail | | 51.2% | 2018 | Increase |
| Increased proportion of the North's eligible rail network (by track length) served by at least 2tph in | | 71.6% | May 2022 timetable | Increase |

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| each direction | | | | |
| Increased proportion of stations on eligible lines in the North served by a minimum of 2tph in each direction | | 41.2% | | Increase |
| Increased proportion of stations on eligible lines in the North served by at least 1tph in each direction | | 76.7% | | Increase |
| Increase rail passenger numbers | rail journeys within the North | 170.7 million journeys | 2019/20 | Increase above pre-COVID 19 levels and continue to increase. Range of 287 million - 472 million depending on Future Travel Scenario by 2050. |
| | rail journeys between North and other regions | 49.9 million journeys | 2019/20 | Increase |

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| Increase rail passenger at the busiest rail hubs | top 10 stations for entries and exits: all operators | 148.0 million | 2019/20 | Increase above pre-COVID 19 levels and continue to increase |
| Increase rail passenger numbers across the network | Entries and exits at least busy half of northern stations (289 stations) | 16.2 million | 2019/20 | Increase above pre-COVID 19 levels and continue to increase |
| The five major ports (Grimsby and Immingham, Hull, Port of Tyne, Teesport, Port of Liverpool) to be served by rail with W12 gauge clearance | | Immingham, Grimsby and Teesport are already served by W12 clearance (NR Freight Network Study) | 2022 | Increase - upgrades to include Port of Tyne and Port of Liverpool |
| Increased line speeds | Proportion of long-distance services achieving average journey speeds of at least 80mph | 26% | May 2022 timetable | Increase towards desirable minimum standards |
| | Proportion of inter-urban services achieving journey times of at least 60 mph | 22% | | |
| | Proportion of local services achieving journey times of at least 40mph | 9% | | |

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| Increase bus passenger numbers | total journeys | 805 million | 2019/20 | Increase |
| | total concessionary journeys | 297 million | 2019/20 | Increase |
| Improved digital connectivity | % of premises able to receive gigabit-capable broadband | 66% | Mar-22 | Increase to 100% |
| | % outdoor 4G coverage to all operators | 92.60% | | Increase, and level up rural areas |

9. Metrics - Reducing Transport Related Social Exclusion and Health

Headline objectives

| Impact | Objective / Target | Baseline | Date of baseline |
|---|--|----------|---|
| Improve the performance of the rail network | Public Performance Measure (PPM) of at least 91.2% for both Transpennine Express and Northern by 2028, returning to levels last seen prior to 2018: Transpennine Express | 87.2% | July - September 2022 (annual moving average) |
| | Public Performance Measure (PPM) of at least 91.2% for both Transpennine Express and Northern by 2028, returning to levels last seen prior to 2018: Northern | 84.0% | July - September 2022 (annual moving average) |

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| Reduce the number of people at risk of transport related social exclusion | Reduce the number of people in the North living in areas with a high risk of TRSE by 1,000,000 by 2050 | 3.31 million | 2019 |
| | Reduce the number of people in the North living in areas with a highest risk of TRSE by 370,000 by 2050 | 0.81 million | |
| Improved safety of the transport network | Vision zero: reduce the number of people killed and seriously injured in traffic incidents across the North's road network to zero by 2050 | 6,429 | 2018-19 average |
| Improved physical accessibility of the transport network | All stations in the North to meet TfN's desired accessibility standards by 2050 | 54% | 2021 |
| Reduce population exposure to air pollution | Eliminate the need for Air Quality Management Areas in the North announced due to NO2 or PM10 to zero by 2045 by bringing air quality within legal limits | 132 | 2022 |
| Reduction in Nitrogen Dioxide exposure across the MRN network in the North. | Reduce to zero the proportion of the North's Major Road Network by length that exceed WHO Nitrogen Dioxide exposure limits by 2045 | 57% | 2019 |

Core metrics

| Metric | Metric details | Baseline | Date of baseline | Good is |
|--|--|--------------|------------------|----------|
| Percentage of postcodes within 700m of a public transport access point | | 90.40% | 2022 | Increase |
| Percentage of postcodes within 2km of a railway station | | 43.50% | 2022 | Increase |
| Improved accessibility to employment by public transport | Average travel time to nearest employment centre | 29.3 minutes | 2019 | Increase |
| | Proportion of users within 45 minutes of at least 7 medium employment centres | 34.4% | | |
| | Proportion of the population that can access an employment centre with at least 5,000 jobs by public transport within 30 minutes | 63.4% | | |
| Improved connectivity to hospitals by public transport / walk | Proportion within 30 minutes of a hospital by public transport | 37.5% | 2019 | Increase |

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| | Average journey time to the nearest hospital by public transport | 36.9 minutes | | |
| Improved connectivity to education facilities by public transport | Proportion within 30 minutes of an FE college by public transport | 84.90% | 2019 | Increase |
| | Proportion within 15 minutes of a secondary school by public transport | 41.80% | | |
| | Average journey time to an FE college by public transport | 21.7 minutes | | |
| Improved connectivity to basic services by public transport | Average travel time to nearest town centre by public transport | 20.6 minutes | 2019 | Increase |
| Lower proportion of the population affected by transport related social exclusion | Eliminate the gap of population at high risk of TRSE for the North's sub-regions compared to the rest of the North by 2050: North East | 10.2% (272,000 people) | 2019 | Decrease |
| | Eliminate the gap of population at high risk of TRSE for the North's sub-regions compared to the rest of the North by 2050: Yorkshire and Humber | 0.5% (26,500 people) | 2019 | Decrease |
| Affordable transport | Bus and coach fares - RPI change over 12 months, ONS (whole of UK) | 8.6% | 2021 | Neutral |

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| | Rail fares - RPI change over 12 month, ONS (whole of UK) | 2.7% | 2021 | Neutral |
| Affordable transport | Petrol and diesel - RPI change over 12 months, ONS (whole of UK) | 14.5% | 2021 | Neutral |
| | Electricity - RPI change over 12 months, ONS (whole of UK) | 6.6% | 2021 | Neutral |
| Reduced noise pollution from transport | % of population in urban areas exposed to day time road noise of 65dB or more | 6.6% | 2017 | Decrease |
| | % of population in urban areas exposed to night time road noise of 55dB or more: | 7.9% | | |
| | The % of population in urban areas exposed to daytime rail noise of 65dB or more | 0.4% | | |
| | The % of population in urban areas exposed to night-time rail noise of 55dB or more | 0.6% | | |
| Overall satisfaction | Northern | 85% | April-Sept 2022 | Increase |
| | TPE | 86% | | |
| Satisfaction with punctuality / reliability | Northern | 82% | July - Dec 2022 | |
| | TPE | 76% | | |
| Satisfaction with value for money | Northern | 76% | July - Dec 2022 | |
| | TPE | 65% | | |

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| Satisfaction with cleanliness | Northern | 61% | July - Dec 2022 | | |
| | TPE | 60% | | | |
| Satisfaction with frequency of services | Northern | 76% | July - Dec 2022 | | |
| | TPE | 77% | | | |
| Satisfaction with information during the journey | Northern | 61% | July - Dec 2022 | | |
| | TPE | 64% | | | |
| Satisfaction with level of crowding | Northern | 72% | July - Dec 2022 | | |
| | TPE | 67% | | | |
| Reduced overcrowding on the rail network | Proportion of passengers standing at key northern rail hubs (Leeds, Liverpool, Manchester, Newcastle, Sheffield): AM peak hour | 16% | 2019 | | Minimise compared to pre-COVID baseline |
| | Proportion of passengers standing at key northern rail hubs, PM peak hour | 11.8% | | | |
| | Passengers in excess of capacity (PiXC) at key northern rail hubs - AM peak hour | 2.4% | | | |
| | Passengers in excess of capacity (PiXC) at key northern rail hubs - PM peak hour | 1.4% | | | |
| Improved rail punctuality (within 59 seconds) - passenger | Northern | 76.2% | 2019/20 | Increase | |
| | TPE | 62.2% | | | |

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| | Avanti West Coast | 39.6% | 2019/20 | Increase |
| | Cross Country | 47.0% | | |
| | LNER | 45.2% | | |
| | Hull Trains | 41.6% | | |
| Improved rail punctuality (time to 3 minutes) - passenger | Northern | 76.2% | 2019/20 | Increase |
| | TPE | 62.2% | | |
| | Avanti West Coast | 60.7% | | |
| | Cross Country | 69.0% | | |
| | LNER | 63.4% | | |
| | Hull Trains | 65.1% | | |
| Reduced rail reduced cancellations (cancellation score) | Northern | 4.1% | 2019/20 | Decrease |
| | TPE | 7.8% | | |
| | Avanti West Coast | 2.9% | | |
| | Cross Country | 3.6% | | |
| | LNER | 3.1% | | |
| | Hull Trains | 2.1% | | |
| Proportion of services arriving in economic centres prior to 7am on weekdays and 9 am on Sundays | before 7am on weekdays | 78.5% | May 2022 timetable | Increase |
| | before 9am on Sundays | 53.9% | | |
| Improved station facilities | Progress towards TfN acceptable standards | 54.0% | 2021 | Increase |

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| | Progress towards TfN minimum standards | 64.0% | | |
| | Progress towards desirable standards on step free access | 72.0% | | |
| Reduction in population affected by transport related social exclusion | Proportion of the North's population at high risk of TRSE | 21.3% | 2019 | Decrease |
| | Proportion of the North's population at very high risk of TRSE | 5.2% | | |
| | Proportion of the North's population at high risk of health TRSE | 19.7% | | |
| | Excess population at high risk of health TRSE, accounting for different area types | 614,734 | | |
| | Proportion of the North's population at high risk of employment TRSE | 22.4% | | |
| | Excess population vulnerable to employment TRSE, accounting for different area types | 616,103 | | |
| | Proportion of the North's population at high risk of education TRSE | 22.1% | | |

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| | Excess population vulnerable to education TRSE, accounting for different area types | 1,469,374 | | |
| | Proportion of the North's population at high risk of services TRSE | 28.9% | | |
| | Excess population vulnerable to services TRSE, accounting for different area types | 1,578,220 | | |
| Reduction in road collisions and casualties | Fatal and serious incidents, North (unadjusted) | 5,791 | 2018-19 average | Decrease |
| | Total 'minor' road incidents, North | 20,252 | | |
| | Number of car occupants killed and seriously injured, North | 2,483 | | |
| | Number of cyclists killed and seriously injured, North | 868 | | |
| | Number of pedestrians killed and seriously injured, North | 1,622 | | |
| | Number of minor road casualties in the North | 28,366 | | |

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| Reduce population exposure to air pollution from transport | Reduce to zero the number of paths on the North's Major Road Network that exceed WHO Nitrogen Dioxide exposure limits by 2045 | 76% | 2019 | Decrease |
|--|---|-----|------|----------|

10 - Supplementary Metrics

| Metric | Metric details | Baseline | Date of baseline | Good is |
|--|---|--------------|------------------|----------|
| Increased GVA per capita in the North of England | GVA per capita | £24,441 | 2019 | Increase |
| | Total GVA in the North | £379 billion | 2019 | Increase |
| | Ratio to GVA per capita in England | 0.735 | 2019 | Increase |
| | Ratio to GVA per capita in England excluding London | 0.89 | | Increase |
| Population of the North | Total population | 15.5 million | 2021 | Neutral |
| | 10-year change in population | 4.10% | 2021 | Neutral |
| | Working age population | 62.3% | 2020 | Neutral |
| Business population in the North | All registered businesses | 1,096,025 | 2021 | Increase |
| | Registered businesses per 1000 people | 33 | | Increase |
| | Turnover per Employee - registered businesses | 150,310 | | Increase |
| | Proportion of population with at | 37.4% | 2021 | Increase |

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| | least Level 4 qualifications | | | |
| | Gap between proportion with level 4 qualifications in the North compared to England average | 5.2% | 2021 | Decrease |
| Proportion of graduates born in the North living in their region of birth 10 years after graduation | | 68.8% | 2018/19 | Increase |
| Reduced deprivation | Proportion of LSOAs in the north of England in the most deprived IMD decile | 20.4% | 2019 | Decrease |
| | Proportion of LSOAs in the north of England in the most deprived IMD Income decile | 18.9% | | Decrease |
| | Proportion of LSOAs in the North of England in the most deprived IMD Income Affecting Children decile | 17.2% | | Decrease |
| Increased household income | GDHI per capita in the North of England | £18,232.24 | 2019 | Increase |
| | GDHI per capita in the North as a ratio of GDHI per capita in England | 0.828 | | Increase |

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|--|--|---------------|---------|----------|
| Public spending | Public sector expenditure per capita | £16,225 | 2021 | Neutral |
| | Public sector revenue per capita | £9,547 | | Neutral |
| Increased employment | Unemployment rate in the North of England | 4.5% | Q2 2022 | Decrease |
| | Employment rate in the North of England | 73.6% | | Increase |
| | Economic inactivity rate in the North of England | 22.9% | | Increase |
| | Total jobs in the North | 7.84 million | Jun-22 | Increase |
| Business investment in R&D | Business investment in R&D per capita as % of England average | 53.60% | 2019 | Increase |
| | Total business investment in R&D in the North | £3.47 billion | | Increase |
| | Business investment in R&D per capita in the North | £224 | | Increase |
| Gross fixed capital formation (experimental) | Total gross fixed capital formation in the North | £73.4 billion | 2019 | Increase |
| | Gross fixed capital formation in the North per capita | £4,734 | | Increase |
| | Gross fixed capital formation in the North per capita as a percentage of England average | 76.5% | | Increase |
| Goods exports from northern sea ports | Good tonne exports from northern seaports (tonnes) | 50,330,000 | 2021 | Increase |

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| | good tonne exports from northern seaports as proportion of England total | 56.30% | | Neutral |
| Increase in new housing availability | Total annual housing starts | 42,190 | 2021/22 | Increase |
| | Total annual housing completions | 44,480 | 2021/22 | Increase |
| Increased Foreign Direct Investment in the North | FDI projects in the North as a proportion of England total | 24% | 2021-22 | Neutral |
| | Number of inward FDI projects in the North | 320 | | Increase |
| | Number of jobs created by FDI projects in the North as proportion of England total | 27.0% | | Increase |
| | Number of jobs created by FDI projects in the North | 15,061 | | Increase |
| Improved visitor economy in the North | Number of visits to the North by domestic visitors | 27.7 million | 2019 | Increase |
| | Total spend in the North by domestic visitors | £5.2 billion | | Increase |
| | Number of visits to the North by international visitors | 5.0 million | 2019 | Increase |
| | Total spend in the North by international visitors | £2.6 billion | | Increase |

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|--|--|---------------|-------------------|----------|
| Increased use of public transport to access visitor destinations | The proportion of tourism day visits over three hours taken by bus & coach | 8.7% | 2018-2019 average | Increase |
| | The proportion of tourism day visits over three hours taken by train | 9.98% | 2018-2019 average | Increase |
| Increase in goods exports | Total goods exports | £56.5 billion | 2021 | Increase |
| | Total goods exports as proportion of England total | 25% | 2021 | Increase |
| | Total goods imports | £88.1 billion | 2021 | Neutral |
| Increase in service exports | Total service exports | £39.9 billion | 2019 | Increase |
| | Total service exports as proportion of England total | 14.9% | 2019 | Neutral |
| Property prices: North | North East | £164,395 | Aug-22 | Neutral |
| | North West | £219,030 | Aug-22 | Neutral |
| | Yorkshire and Humber | £212,313 | Aug-22 | Neutral |
| Median private rents | North East | £525 pcm | 2021/22 | Neutral |
| | North West | £635 pcm | 2021/22 | Neutral |
| | Yorkshire and Humber | £610 pcm | 2021/22 | Neutral |