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**Meeting:** Transport for the North Board  
**Subject:** Decarbonisation Strategy – update on actions  
**Author:** Peter Cole, Head of Decarbonisation  
**Sponsor:** Katie Day, Strategy, Analysis and Communications Director  
**Meeting Date:** Thursday, 22 June 2023

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## **1.0 Purpose of the Report**

1.1 Provide an update on progress made against the priority actions identified within TfN’s Transport Decarbonisation Strategy, published in December 2021; and on proposed future decarbonisation related TfN activities 2023/24.

## **2.0 Recommendations**

2.1 The Board is asked to note the report, and provide feedback on future proposed TfN decarbonisation activities and priorities for TfN’s Decarbonisation Strategy update due for 2025.

## **3.0 Priority actions**

3.1 TfN’s Transport Decarbonisation Strategy contained over 30 potential activities that TfN could lead or support in the near term. Stakeholder engagement and the public consultation on the draft Strategy, helped us to identify which of those activities should be prioritised and led by TfN. This report provides an update on TfN’s progress against these priority activities and the benefits we expect them to provide for partners.

## **4.0 TfN’s Clean Mobility Visions and Regional Route Map for Decarbonisation**

4.1 Modal shift and the reduction in private road vehicle mileage were a key overriding theme emerging from TfN’s Transport Decarbonisation Strategy work, as well as the need for development of place specific transport decarbonisation guidance.

4.2 Recognising this, the refreshed Strategic Transport Plan (STP), which we are now consulting upon, includes a strategic ambition for achieving transport decarbonisation.

4.3 We have commenced work on Clean Mobility Visions (CMVs) in June 2022. The CMV workstream was developed to help evidence and visualise the carbon and also wider benefits that can be accrued through policies that reduce vehicle mileage, such as improvements to health and wellbeing, accessibility and local economies.

### **4.4 *Partner benefits***

- Intuitive online dashboard (CMV Visualiser Tool) allowing partners to access place-based policy package recommendations for reducing vehicle mileage.
- Helping partners to robustly evidence the benefits of reduced vehicle mileage and how best to achieve this.
- This work is being developed in liaison with the Department for Transport (DfT) and other Sub-national Transport Bodies (STBs), so that it can sit alongside and feed into DfT’s emerging Quantified Carbon Reduction (QCR) guidance and be used by partners when preparing their Local Transport Plans (LTPs). The QCR guidance is expected to be published for consultation imminently.

## **5.0 Inputs into QCR guidance**

- 5.1 DfT's QCR guidance is expected to require local transport authorities (LTAs) to establish an existing carbon baseline, along with future baseline projections for surface transport within their area, to inform their planning. Through TfN's Analytical Framework, we are able to provide partners with place-based baseline projections, which we expect will meet the requirements of the upcoming QCR guidance. We also intend to provide guidance alongside the data to ensure users understand how to get the most out of the tool, as well as any assumptions and limitations related to the data.
- 5.2 The TfN Executive Board (20 April) highlighted the need to assure the outputs from tools associated with the QCR process that local authorities may wish to use, to reduce any risk of associated challenge to local transport plans. The QCR baseline data to be provided to partners, utilises the existing models within TfN's Analytical Framework which have been subject to a high level of scrutiny and expert review for use in previous business case analysis. We are also utilising future projections in trips from NTEM (National Trip End Model), which are compliant with Transport Appraisal Guidance (TAG).
- 5.3 The TfN Scrutiny Committee on 1 June 2023 welcomed the new tools, and were keen to ensure as far as possible they were made available not just to LTAs, but the public more widely. We expect to make the appropriate tools available via the TfN website.
- 5.3 *Partner benefits*
- Use of online QCR Dashboard baseline tool, providing local authority level 2018 surface transport carbon emissions as well as future annualised baseline projections.
  - The baseline tool can be utilised alongside other STB tools, currently in development, to calculate carbon reductions of LTP policy and intervention options.
  - TfN will provide ongoing support for partners to ensure the dashboard remains up to date, and to assist partners with user queries.

## **6.0 TfN's Electric Vehicle Charging Infrastructure (EVCi) Framework**

- 6.1 We commenced the preparation of the EVCi Framework workstream in 2021, developing an analytical model to understand prime locations for en-route charging infrastructure and overall charging demand, by charging type, across the North, down to Middle Layer Super Output Areas (MSOAs), both at present and in future five-year increments to 2050.
- 6.2 The online visualiser tool went 'live' in June 2022, with technical details published alongside. The publicly accessible tool can be used by local authorities, charge point operators and other stakeholders to understand their EVCi requirements. The work received excellent feedback from OZEV and also through an independent peer review by Institute of Transport Studies in Leeds University. The methodology is now being adopted by some other STBs to provide similar tools in other regions.
- 6.3 *Partner benefits*
- Use of online **EVCi Visualiser Tool**, which provides a temporal and spatial charging infrastructure route map to 2050 to aid planning.
  - Robust data which can be used to **inform funding bids**.

- Evidence of potential demand to **inform both public and private investment decisions.**
- Identification of suitable sites for 'en-route' charging on the Major Roads Network, using the **Rapid Charging Site Location Tool.**
- **Ongoing support** for LTAs to interpret and extract key data
- Continuous development of the tool, to ensure it remains relevant and a **source of objective information (non-Charge Point Operator supplied)** for partners.

Link to visualiser tool: <https://evcvisualiser.z33.web.core.windows.net/>

## **7.0 Hydrogen for heavy duty transport – refuelling station modelling**

- 7.1 Development of an analytical model and accompanying visualisation tool for understanding optimised locations for hydrogen refuelling stations (HRS) for heavy duty transport alongside emerging hydrogen gas pipeline plans.
- 7.2 The initial stages of the project involved close liaison with a number of northern port authorities, as well as Humber Freeport. Importantly, the workstream is well aligned with ongoing prioritisation work being carried out by NP11 group as part of their Net Zero North agenda.
- 7.3 Potential users, including transport authorities, will be engaged through a workshop to understand the specific functionality that they would most value from the visualisation tool. This work has now commenced, and is expected to complete by October 2023.
- 7.4 We will ensure our study draws upon existing work being done by some Northern LTAs already, and we also noted the need – expressed by TfN's Scrutiny Committee – to consider hydrogen for private car use too.
- 7.5 *Partner benefits*
- Informs decarbonisation/refuelling strategies for council fleets (e.g. buses and RCVs).
  - Reduces risk of refuelling infrastructure redundancy over time by testing and evidencing the viability of a piped hydrogen network for transport uses both in terms of the ability to service projected demand and in terms of fuel costs to users.
  - Helps support and potentially shape national policy in the area by advancing our understanding of the potential for hydrogen mobility in the North, and the supply and demand interventions required to achieve it.

## **8.0 Other priority actions**

- 8.1 **Improving regional public transport infrastructure** - TfN has continued its strong support of proposals to improve the regional public transport network, including NPR and HS2 in full. Through TfN's Strategic Rail and Rail North Partnership teams, TfN has also continued to play a role in efforts to improve rail services and increase patronage in the North alongside Network Rail and train operating companies.
- 8.2 **Digital solutions** – TfN's Connected Mobility Strategy and hub pilot are intended to add value for partners by supporting more efficient, economical and collaborative delivery of digital ticketing and information interventions. The aim is to increase accessibility of integrated public transport solutions and improving user experience.

- 8.3 **Low carbon urban freight** - As part of a DecarboN8 project team, TfN supported research seeking to further the understanding of urban freight operators and LTAs of the options for decarbonising urban freight. The report 'CoDe ZERO: Development of a Co-Designed ZERO-carbon urban freight system' was published earlier in 2022<sup>1</sup>.
- 8.4 **Embodied infrastructure carbon** – Gaining a better understanding of the embodied carbon within TfN's Investment Programme was a proposed activity identified by stakeholders during the development of TfN's Decarbonisation Strategy. In response to this, TfN provided data to a DecarboN8 research project focussed on better understanding whole life carbon within both rail and road projects. The report: 'Everything Counts: Why transport infrastructure emissions matter for decision makers'<sup>2</sup>, was published by DecarboN8 in early 2022. It has not yet been possible to carry out a strategic carbon footprint exercise associated with TfN's current Investment Programme, due to resourcing constraints and methodological challenges. But TfN will ensure whole life carbon is considered in a proportionate way in any future investment analysis and/or advice.
- 9.0 Next Steps**
- 9.1 During 2023-2024, there will be three main areas of decarbonisation related activity for TfN:
- 1) Completion of the actions from previous financial year:
    - Hydrogen refuelling location modelling and visualiser.
    - Roll out of QCR tools including baseline dashboard, CMV visualiser and other STB/DfT tools.
  - 2) Continued development of existing priority activities:
    - Implementation of the Connected Mobility Strategy, subject to Board agreement, and the Connected Mobility Hub pilot.
    - Further updates to EVCI model and visualiser to benefit Northern partners, along roll out of current model to some other STBs.
    - Ongoing support for partners to utilise available tools for QCR in the preparation of LTPs.
  - 3) Commencing the preparation of TfN's Decarbonisation Strategy 2025 update, with a focus on **inclusive decarbonisation**, including:
- 9.2 **(a) Update to regional carbon baseline from 2018 to 2023** - this work is essential to understand the regions progress against both TfN's decarbonisation trajectory, but also partners individual decarbonisation targets where these exist. By doing this, we can adjust and strengthen TfN's decarbonisation approach if required.
- Partner benefits:*
- Updated 'post-Covid restrictions' baseline data for use in future QCR/LTP updates and local decarbonisation planning.
- 9.3 **(b) Proportionate costs of different travel choices** – a programme of research to understand both the direct and indirect costs and benefits associated with travel by private car, train, bus, cycling and walking.

<sup>1</sup> <https://decarbon8.org.uk/developing-a-co-designed-zero-carbon-urban-freight-system/>

<sup>2</sup> <https://decarbon8.org.uk/wp-content/uploads/sites/59/2022/02/Everything-Counts-Why-transport-infrastructure-emissions-matter-for-decision-makers.pdf>

*Partner benefits:*

- Strategic evidence of economic impacts of high car dependency to help underpin the rationale for partners' visions for cleaner mobility systems, including vehicle mileage reduction interventions and policies.
- Objective evidence for pricing and ticketing interventions for different modes at a local level to inform planning.

9.4 **(C) Distributional impacts of decarbonisation policy** – Research and analysis to understand how different socio-economic groups, living in different place typologies may be affected by different key transport decarbonisation policy levers.

*Partner benefits:*

- Objective evidence for understanding wider benefits and unintended consequences of place-based decarbonisation policy to support preparation of LTPs.

9.5 TfN is also currently considering research collaborations for addressing **climate adaptation and resilience**, with a view to increasing understanding of local and strategic infrastructure vulnerability for LTAs, National Highways and potentially Network Rail.

9.6 TfN's Scrutiny Committee was supportive of proposals above, especially the focus on integration, modal shift (especially for freight) and wider benefits for inclusion and health (for example by tackling air quality). They were keen to ensure TfN, working with partners, through appropriate campaigns, communicate with the general public about why decarbonisation of transport matters and the actions we can take, as users and communities, to contribute to our targets for 'right share' across modes.

## **10.0 Corporate Considerations:**

### ***Financial and Resource Implications***

10.1 There are no direct finance and resource implications as a result of this report.

### ***Legal Implications***

10.2 There are no apparent legal implications as a result of this report.

### ***Risk Management and Key Issues***

10.3 A risk assessment is not required for this stage, however, a risk relating to decarbonisation can be found in TfN's Corporate Risk Register.

### ***Environmental Implications***

10.4 The Decarbonisation Strategy was committed to within TfN's existing STP, which was subject to a full ISA.

10.5 Subsequently, the Strategy, the data that underpins it and certain activities that stem from it, forms an important part of the evidence base for the updated STP, which is also subject to full ISA.

### ***Equality and Diversity***

10.6 Transport decarbonisation policy measures can lead to uneven distributional impacts. As part of the proposed Decarbonisation Strategy update in 2025, TfN intends to consider the potential distributional impacts of key transport decarbonisation policies.

10.7 The ISA that has been prepared for the revised STP includes an Equality Impact Assessment too.

**Consultations**

10.8 The actions on which this paper reports were refined during a public consultation in summer 2021. A further consultation is not required at this time.

**11.0 Background Papers**

11.1 No background paper.

**12.0 Appendices**

12.1 No appendices.

**Glossary of terms, abbreviations and acronyms used (*if applicable*)**

a) OZEV	Office for Zero Emission Vehicles
b) EV	Electric Vehicle
c) EVCI	Electric Vehicle Charging Infrastructure
d) HGV	Heavy Goods Vehicle
e) QCR	Quantified Carbon Reduction
f) SME	Small to Medium-sized Enterprise
g) SEA	Strategic Environmental Assessment
h) EIA	Environmental Impact Assessment
i) TRSE	Transport Related Social Exclusion
j) ISA	Integrated Sustainability Appraisal
k) CMV	Clean Mobility Visions
l) NP11	Northern Powerhouse 11
m) STP	Strategic Transport Plan