Transport for the North Scrutiny Committee Agenda

Date of Meeting	**Wednesday 26 August 2020**
Time of Meeting	**11.00 am**
Venue	**Microsoft Teams**

Item No.	Agenda Item	Page
1.0	**Welcome & Apologies**	
2.0	**Declarations of Interest** Members are required to declare any personal, prejudicial or disclosable pecuniary interest they may have relating to items on the agenda and state the nature of such interest.	
3.0	**Minutes of the Previous Meeting** To approve as a correct record the minutes of the previous Scrutiny meeting.	3 - 10
4.0	**Appointment of Chair and Vice Chairs**	
5.0	**TfN Response to DfT's 'Decarbonising Transport: setting the challenge' publication** To consider the report of the Strategy and Programme Director	11 - 116
6.0	**Integrated Rail Plan** To consider the report of the Strategy & Programme Director.	117 - 126
7.0	**Any Business Which the Chair is Satisfied is Urgent** Any business which the Chair is satisfied is urgent by reason of special circumstances pursuant to section 100B 4 (b) of the Local Government Act 1972.	

8.0	**Exclusion of the Press and Public** To resolve that the public be excluded from the meeting during consideration of Item[s] [9 & 10] on the grounds that: (1) It is likely, in view of the nature of the business to be transacted or the nature of the proceedings, that if members of the public were present during such item(s), confidential information as defined in S100A(2) of the Local Government Act 1972 (as amended) would be disclosed to them in breach of the obligation of confidence; and/or (2) it / they involve(s) the likely disclosure of exempt information as set out in the Paragraphs [where necessary listed below] of Schedule 12A of the Local Government Act 1972 (as amended) and that the public interest in maintaining the exemption outweighs the public interest in disclosing the information	
9.0	**Part 2 Minutes of the Previous Meeting** To approve as a correct record the private minutes of the previous Scrutiny meeting.	127 - 130
10.0	**Northern Powerhouse Rail Update Phasing Strategy** To consider the report of the Northern Powerhouse Rail Director.	131 - 144

Scrutiny Committee Minutes

Wednesday 08 July 2020
MS Teams

Present:

Attendee	Local Authority
Cllr Paul Haslam	North Yorkshire;
Cllr Jim Shorrock	Blackburn with Darwen;
Cllr Martin Mitchell	Blackpool;
Cllr Laura Crane	Cheshire East;
Cllr Andrew Cooper	Cheshire West & Chester;
Cllr Neil Hughes	Cumbria;
Cllr Roger Jones	Greater Manchester Combined Authority;
Cllr Matthew Salter	Lancashire;
Cllr John Davison	North Lincolnshire;
Cllr Steve Parish	Warrington;
Cllr Kim Groves	West Yorkshire Combined Authority;

Officers in Attendance:

Name	Job Title
Gary Rich	Democratic Services Officer
Iain Craven	Finance Director
Julie Openshaw	Head of Legal
Rosemary Lyon	Legal and Democratic Services Officer
Peter Molyneux	Major Roads Director
Owen Wilson	Major Roads Strategy Manager
Simon McGlone	Senior Planning and Strategy Officer
Deborah Dimock	Solicitor

Item No: **Item**

1. Welcome & Apologies

1.1 The Chair welcomed all in attendance and informed Members that the meeting is being streamed live.

1.2 Apologies were received from Cllr Johnson and Cllr Packard

1.3 The Chair explained that Members had raised with him the issue of the size of the paper packs and whether it would be possible if paper copies could be circulated as it is difficult to see both the papers and the

meeting screen. The Chair recommended Members should speak to their Local Authorities to see if a solution can be found.

The Legal Officer explained that it was TfN policy not to print paper packs for Members.

1.4 The Chair further explained to Members that the papers pack for the next meeting on 26 August will be distributed through the Modern.Gov platform and more information will be circulated to Members as to how they will be able to access them.

1.5 Cllr Hughes raised the issue as to when meetings may return to being face to face.

The Legal Officer explained that this is under continuous review but there are currently no plans to open the TfN offices or return to formal face to face meetings any time soon.

2. Declarations of Interest

2.1 There were no declarations of interest.

3. Minutes of the Previous Meeting

3.1 The minutes of the meeting held on 14 May 2020 were considered and their accuracy as a correct record confirmed.

3.2 Cllr Hughes requested clarification on minute 4.2. He asked if it was the case that services had been suspended.

He also looked to clarify his point in minute 5.6 and requested that the minute should include the word 'their' and should now read "Cllr Hughes asked if there was any evidence that the RTA are looking at encouraging *their* members to change their vehicles to those that are more environmentally friendly.

3.3 Subject to the clarification being included the minutes were proposed by Cllr Jones and seconded by Cllr Salter.

Resolved:
That the minutes of the meeting held on 14 May be approved as a true and accurate record subject to the inclusion of the clarifications.

4. Annual Governance Statement

4.1 The Chair explained that this item has already been to discussed at the Audit and Governance Committee.

He emphasised the difference that the Scrutiny Committee can make and highlighted the fact that a Committee recommendation with regards to the Membership of the TfN Partnership Board had been undertaken.

4.2 Members received the annual Governance Statement from the Legal Services Officer who outlined the highlights of the report.

4.3 Cllr Hughes questioned when Transport for the North will begin to consider actions beyond 2050.

The Solicitor explained that Transport for the North's current strategy covers up to 2050. However, a rolling programme of improvements has been developed which is being built upon.

She explained that as the organisation moves beyond the current framework of 2020 to 2050, it is likely that there will be a rolling programme going forward, however, before this there needs to be a complete review of the current Strategic Transport Plan with a full consultation on the proposals in the plan.

The Finance Director added that the business planning process which commences in September will inform the next Strategic Transport Plan.

4.4 The Solicitor explained that Transport for the North's current strategy is, up to 2050. However, a rolling programme of improvements has been developed which is being built upon.

She explained that as the organization moves beyond the current framework of 2020 to 2050, it is likely that there will be a rolling programme going forward, however, before this there needs to be a complete review of the current Strategic Transport Plan with a full consultation on the proposals in the plan.

The Finance Director added that the business planning process which commences in September which will inform the next Strategic Transport Plan.

4.5 The Chair suggested that there should be reference to achieving the Government's carbon net zero policy by 2050.

The Legal Services Officer explained that as part of the Northern Charter a Decarbonisation Strategy is being developed which will assist in reaching this target.

Resolved:

1) That the report be noted

2) That the Scrutiny Committee recommends the Annual Statement to the Transport for the North Board.

5. Financial Outturn 2019/20

5.1 Members received the report from the Director of Finance which was taken as read. The Finance Director then highlighted the key areas of his report before inviting Members for comments and questions.

The Finance Director explained that the final outturn for 2019/20 was £47 million against the original budget, excluding programme contingencies, of £79 million. The main variance coming arose as a result of the cancellation of Phase 3 of the IST Programme.

5.2 Cllr Davison queried the use of the term 'vacancy management' and whether it was necessary due to the underspend.

The Finance Director explained that the term was used in relation to areas of the business where future funding is uncertain.

He also highlighted the fact that Transport for the North budget is resourced from a series of ring fenced funding allocations, meaning that underspends in one programme cannot be used to support expenditure in another.

The Finance Director said he would look into this question further and return to Cllr Davison.

Resolved:

That the report be noted.

6. Monthly Operating Report

6.1 Members received the Monthly Operating report who were then able to ask questions and make comments.

6.2 Cllr Jones raised the issue of rail congestion in and around Manchester. He highlighted that the Prime Minister announced a £10 million allocation for development work in trying to reduce the bottleneck on the rail in the Manchester area. He wondered if schemes dealing with this issue could be promoted.

6.3 Cllr Hughes asked a number of questions relating to NPR and the electrification of the Transpennine route.

On the issue of the Network Phasing Strategy the NPR Director explained that four strategies would be being put forward for consideration to build NPR with a preferred strategy being put forward as a recommendation from Transport for the North. This report will go to the Transport for the

North Board in September and will be discussed at Scrutiny prior to this. The report will look at how NPR is built as a network.

Addressing the of the Eastern leg the NPR Director stated that the Eastern leg of the NPR network is definitely going ahead. The Y is being built; the Western leg first followed by the Eastern leg.

Regarding the issue of partial electrification the NPR director stated that there is now a further option being discussed on Trans Pennine upgrade which will allow for full electrification of that route.

On NPR, we will be looking to carry on the electrification from East of Hull station out to Hull and on the other side in Manchester. Electrified to Manchester and the new line out to Liverpool would be fully electrified. The network will therefore be fully electrified from Liverpool to Hull and from Liverpool to Newcastle via Leeds. Manchester for Sheffield is also being considered for electrification and this is being develop.

In relation to the assessment of capacity and connectivity issues and the potential for future growth on all rail services across the North that Cllr Hughes asked about, the Finance Director explained that a report on this is going to the Rail North Committee on 14 July and stated that subject to the agreement of the Strategic Rail Director the report could be shared with the Scrutiny Committee.

6.4 Cllr Salter requested further information about the Transpennine Route Upgrade (TRU)

The Major Road Director explained that the work on the Strategic Outline Business Case for the Transpennine Tunnel has now been completed and will be considered by the Department of Transport's Investments Programmes and Delivery Committee on 20 July with an update on the matter anticipated before the end of the year.

In relation as to how this work relates to TRU the Major Roads Director explained that the projects are working towards different travel markets and don't impact on each other, although work is taking place to try and ensure that they complement each other.
The Finance Director stated that he would get someone from the Strategic Rail Team to provide an update Cllr Salter on the risks associated with TRU.

6.5 Cllr Davison raised the issue of shovel ready projects and if TfN had been able to put any forward.

The Major Roads Director explained that there would be more information on the shovel ready projects in the Economic Recovery report. He further explained that there is a report going to Board at the end of July which will have more detail and will identify which schemes

can be brought forward from the investment programme as well as identifying schemes that will be better devolved to Local Transport Authorities. He also emphasised that TfN will be supporting bids from partners for local investment.

Resolved:

That the report be noted.

7. Economic Recovery Plan

7.1 The report and presentation of the Major Roads Strategy Manager was received by Members. He pulled out key areas within his report and presentation.

Members were informed that a holding response has been received from the Secretary of State which will be discussed with Member at the TfN Board.

Members were informed that the plan had the support of Officers from across the North and that there input had been very helpful.

7.2 Cllr Hughes raised the issue of road dualling and explained that he would not want TfN as a body to be supportive of extensive road dualling which leads to increased traffic on the roads and doesn't help with decarbonization, when public transport is far more environmentally friendly.

7.3 Responding to Cllr Hughes the Major Roads Strategy Manager explained that major road upgrades can not be promoted without evidence showing that they are really needed.
He further explained that prior to the pandemic 77% of all miles travelled in the north were by highway and in excess of 90% of miles was by freight on the highways.

It was explained that TfN are aware of the need to promote more active travel for local journeys and encourage greater use of public transport. Referring to the upgrade of the A66 the Major Roads Strategy Manager stated that the project is supported by partners as well as TfN and is also a key freight route across the North.

Cllr Hughes also raised the issue of how TfN would support local funding bids following the government announcement on reopening certain rail routes.

In response to the rail reopenings, the Major Roads Strategy Manager explained that all proposal would be looked at.

7.4 The Chair stated that he believed that it is important that solutions are tailored that are appropriate for each area.

Resolved:

That the report be noted.

8. Exclusion of the Press and Public

RESOLVED: That the public be excluded from the meeting during consideration of the following items of business because it is likely that, in view of the nature of the business to be transacted or the nature of the proceedings, there will be disclosure of confidential information as defined in Section 100A of the Local Government Act 1972 (as amended) and/or exempt information as defined in paragraph 3 of Part 1 of Schedule 12A of the Local Government Act 1972 (as amended)

9. Strategic Development Corridors Phase 2 Qualitative Programme

9.1 The report and presentation of the Major Roads Strategy Manager was received by Members, who were invited to make comments and ask questions.

Resolved:
That the report and presentation of the Major Roads Strategy Manager be noted.

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Transport for the North
Scrutiny Committee Meeting

Subject:	TfN Response to DfT's 'Decarbonising Transport: setting the challenge' publication
Author:	Lucy Jacques, Principal Policy & Strategy Development Officer Peter Cole, Principal Environmental and Sustainability Officer
Sponsor:	David Hughes, Strategy and Programme Director
Meeting Date:	Wednesday 26th August 2020

1.0 Purpose of the Report:

1.1 For Scrutiny Members to consider this report, which presents the executive summary of TfN's response to DfT in relation to their policy paper 'Decarbonising transport: setting the challenge', a pre-cursor to the Government's Transport Decarbonisation Plan, expected later in 2020. No formal consultation has been launched by DfT, although views from relevant organisations were invited. The full response document has been appended to this brief.

2.0 Executive Summary:

2.1 In March 2020, the Department for Transport (DfT) published their policy paper 'Decarbonising transport: setting the challenge'. The document set out a brief review of existing climate related transport policy and also existing forecasts of future emissions by mode, before suggesting six priority areas around which a national transport decarbonisation plan could be focussed and how government intended to work with others to develop that plan.

2.2 Although no formal consultation was launched, views from businesses, organisations and the public have been invited and a series of workshops, engaging specialists, innovators, researchers, businesses and NGO's, were held over the summer of 2020. Transport for the North (TfN) provided appropriate representation

and engagement on each of the workshops aligned to all six of the strategic priorities.

2.3 Through the Northern Transport Charter, TfN board have been clear that reducing greenhouse gas emissions from the transport network, at a pan-Northern and a local level, is a key priority and as the Strategic Transport Body for the North, TfN is well placed to provide a regional evidence base as well as decision making tools to develop and prioritise a pipeline of investments that are consistent with the net-zero vision.

This paper provides TfN's response to the 'Decarbonising transport: setting the challenge' policy paper.

2.4 The North's net-zero ambition is more stretching than currently committed to at the national level and will prove challenging to deliver. We are therefore highly supportive of the government in its development of a Transport Decarbonisation Plan (TDP).

2.5 The Covid 19 crisis has demonstrated the rate and scale of behavioural change possible as a result of strong national leadership. As government considers the steps required to recover from the pandemic, it will be crucial that it makes choices that will help the country at national and local levels lay the solid foundations needed for rapid decarbonisation.

2.6 A significant part of the challenge is not only to decarbonise our transport system, but to do this inclusively and equitably. To this end, we welcome the inclusion of 'Place Based Solutions' as a strategic priority and it will be imperative that government utilises the knowledge within, and evidence bases built up by, sub-regional transport bodies and local authorities. TfN are well placed to provide a regional evidence base; support local partners and government in identifying a place based approach by sharing intelligence from our data and models, and work with the NP11 to promote the North as a test bed for trialling innovative solutions at a micro and macro level.

2.7 Key themes in our response include:

- The need for clarify over government's approach to demand management and its role in accelerating modal shift.
- The need to tackle the decarbonisation challenge in rural and dispersed communities, head on.
- The role spatial planning could and should play in revising the traditional mobility framework.
- The need to focus on transactional, physical and data interoperability in the development of EV networks.

- Support of the recognition of the importance of decarbonising 'last-mile' deliveries.
- The need for certainty around future policies on fuel for the freight sector and increased focus on the potential of hydrogen for the sector.
- Support for place-based solutions.
- Emphasising the unique position of the North as a location for testing emerging technologies.

2.8 We conclude by suggesting areas in which TfN can best support our local authority partners and the Government in the planning and successful delivery of future transport decarbonisation measures, including:

- The provision of enhanced place-based evidence to inform placed based strategies.
- Supporting the development of a pan-northern data platform with open data capabilities.
- Supporting trials and implementation of Future Transport measures, and effective transition to implementation and mass role out.
- Articulating the ambition of the North, supporting and informing the local and national agenda.

We would also welcome the opportunity to set out the North's expectations, to government, on what a pan northern charging infrastructure plan should include and why it is needed, so that it is inclusive, and effective for the way the North works now and is resilient across our Future Travel Scenarios (for which insights are planned for publication around October 2020).

2.9 Please see our full response document, appended to this brief, for further information.

3.0 Next Steps

3.1 DfT have requested receipt of any responses by Friday 28th August with a view to developing the Transport Decarbonisation Plan through the latter stages of 2020.

4. Recommendations:

4.1 That Committee considers this response and makes appropriate recommendations ahead of the response return date on Friday 28th August.

5.0 Appendices:

5.1 Appendix A1 – Temple Interim Findings Note produced for TfN, August 2019

Appendix A2 – Temple Policy Stocktake on behalf of TfN, August 2019

Appendix B – TfN Decarbonisation Pathways and Future Travel Scenarios

Appendix C – TfN Carbon Analysis Initial Findings and Next Steps

Appendix D – TfN DecarboN8 Embodied Emissions Sub Corridor Pilot

Appendix E – Decarbonisation Policy Levers

Appendix F – TfN reponse to Future of Transport call for Evidence, July 2020

Required Considerations

Equalities:

Age	No
Disability	No
Gender Reassignment	No
Pregnancy and Maternity	No
Race	No
Religion or Belief	No
Sex	No
Sexual Orientation	No

Consideration	Comment	Responsible Officer	Director
Equalities	A full Impact assessment has not been carried out at this stage.	Head of Economic Advice	Strategy and Programme Director

Environment and Sustainability

Yes

Consideration	Comment	Responsible Officer	Director
Sustainability / Environment – including considerations regarding Active Travel and Wellbeing	A full impact assessment has not been carried out at this stage of development	Head of Economic Advice	Strategy and Programme Director

Legal

No

Consideration	Comment	Responsible Officer	Director
Legal	There are no immediately apparent legal implications on the content of this report	Julie Openshaw Head of Legal	Julie Openshaw Head of Legal

Finance

No

Consideration	Comment	Responsible Officer	Director
Finance	There are no financial implications at this stage.	Paul Kelly	Iain Craven

Resource

No

Consideration	Comment	Responsible Officer	Director

Resource	There are no resource implications at this stage.	Stephen Hipwell Head of Human Resources	Dawn Madin Director of Human Resources

Risk

No

Consideration	Comment	Responsible Officer	Director
Risk	A separate risk assessment has not been carried out at this stage.	Risk Portfolio Manager	Iain Craven

Consultation

Yes

Consideration	Comment	Responsible Officer	Director
Consultation	With Executive Board. With Strategic Oversight Group.	Principal Policy officer	Strategy and Programme Director.

TfN Response to DfT Decarbonising Transport: Setting the Challenge

1.0	Executive Summary
1.1	In March 2020, the Department for Transport (DfT) published their policy paper 'Decarbonising transport: setting the challenge'. The document set out a brief review of existing climate related transport policy and also existing forecasts of future emissions by mode, before suggesting six priority areas around which a national transport decarbonisation plan could be focussed and how government intended to work with others to develop that plan.
1.2	Although no formal consultation was launched, views from businesses, organisations and the public have been invited and a series of workshops, engaging specialists, innovators, researchers, businesses and NGO's, were held over the summer of 2020. Transport for the North (TfN) provided appropriate representation and engagement on each of the workshops aligned to all six of the strategic priorities.
1.3	Through the Northern Transport Charter, TfN board have been clear that reducing greenhouse gas emissions from the transport network, at a pan-Northern and a local level, is a key priority and as the Strategic Transport Body for the North, TfN is well placed to provide a regional evidence base as well as decision making tools to develop and prioritise a pipeline of investments that are consistent with the net-zero vision. This paper provides TfN's response to the 'Decarbonising transport: setting the challenge' policy paper.
1.4	The North's net-zero ambition is more stretching than currently committed to at the national level and will prove challenging to deliver. We are therefore highly supportive of the government in its development of a Transport Decarbonisation Plan (TDP).
1.5	The Covid 19 crisis has demonstrated the rate and scale of behavioural change possible as a result of strong national leadership. As government considers the steps required to recover from the pandemic, it will be crucial that it makes choices that will help the country at national and local levels lay the solid foundations needed for rapid decarbonisation.
1.6	A significant part of the challenge is not only to decarbonise our transport system, but to do this inclusively and equitably. To this end, we welcome the inclusion of 'Place Based Solutions' as a strategic priority and it will be imperative that government utilises the knowledge within, and evidence bases built up by, sub-regional transport bodies and local authorities. TfN are well placed to provide a regional evidence base; support local partners and government in identifying a place based approach by sharing intelligence from our

	data and models, and work with the NP11 to promote the North as a test bed for trialling innovative solutions at a micro and macro level.
1.7	Key themes in our response include: - The need for clarify over government's approach to demand management and its role in accelerating modal shift. - The need to tackle the decarbonisation challenge in rural and dispersed communities, head on. - The role spatial planning could and should play in revising the traditional mobility framework. - The need to focus on transactional, physical and data interoperability in the development of EV networks. - Support of the recognition of the importance of decarbonising 'last-mile' deliveries. - The need for certainty around future policies on fuel for the freight sector and increased focus on the potential of hydrogen for the sector. - Support for place-based solutions. - Emphasising the unique position of the North as a location for testing emerging technologies.
1.8	We conclude by suggesting areas in which TfN can best support our local authority partners and the Government in the planning and successful delivery of future transport decarbonisation measures, including: - The provision of enhanced place-based evidence to inform placed based strategies. - Supporting the development of a pan-northern data platform with open data capabilities. - Supporting trials and implementation of Future Transport measures, and effective transition to implementation and mass role out. - Articulating the ambition of the North, supporting and informing the local and national agenda. We would also welcome the opportunity to set out the North's expectations, to government, on what a pan northern charging infrastructure plan should include and why it is needed, so that it is inclusive, and effective for the way the North works now and is resilient across our Future Travel Scenarios (for which insights are planned for publication around October 2020).
2.0	**Introduction**
2.1	Through the Northern Transport Charter, TfN board have been clear that reducing greenhouse gas emissions from the transport network, at a pan-Northern and a local level, is a key priority. As things stand, decarbonisation of strategic road and rail will rely to a large extent on national decision making and strategy and does not sit within TfN's current powers. That said, as the Strategic Transport Body for the

	North, TfN is well placed to provide a regional evidence base as well as decision making tools to develop and prioritise a pipeline of investments that are consistent with the net-zero vision. With that in mind Transport for the North welcomes the opportunity to comment on the Department for Transport's (DfT) Transport Decarbonisation: Setting the Challenge.
2.2	We have taken this opportunity to provide some general points for consideration and then have provided a more detailed response in turn to each of the six strategic priorities the Transport Decarbonisation Plan will focus on. For each strategic priority we have provided an outline of the policy levers available, current constraints, initial recommendations to government for consideration through the drafting of the TDP. As an appendix to this submission we also share the TfN decarbonisation evidence base which we hope you find useful both for context on what TfN as a sub national body has been doing to support the net zero agenda as well as in providing additional evidence for consideration as you draft the Transport Decarbonisation Plan. In addition to this written response, TfN has also provided appropriate representation and engagement on each of the workshops aligned to all six of the strategic priorities scheduled to take place late July to early August.
2.3	While we recognise this is not a formal consultation, we wanted to take this opportunity to publicly support the development of the Transport Decarbonisation Plan. It is encouraging that the challenge document (and other transport and environmental related pieces) recognise the importance of an integrated approach to delivering net zero by 2050. Collaboration is key to understanding and informing further consideration of suitable intervention measures, scale and speed required across the UK.
2.4	Northern leaders have been clear that collectively we can no longer ignore the climate emergency and the role transport must play in reducing emissions, as such they have ambitions to achieve net zero at an accelerated rate, far exceeding the government's 2050 target. Approximately two thirds of TfN partners have declared climate emergencies, with timescales ranging from 2025 to 2050. Northern authorities are now developing action plans for delivery and are keen to understand the functional policy framework to deliver net zero at the local, regional and national scale. In this context it is worth noting that the North's net zero ambition is more stretching than currently committed to at the national level and

	will prove challenging to deliver. That said, Northern leaders are resolute that an aspirational target before 2050 demonstrates the political commitment for the North to lead the UK's clean growth agenda.
2.5	In terms of TfN's role in tackling the climate emergency, the Strategic Transport Plan commits to the scoping and development of a 'Decarbonisation Pathway to 2050'. An acceleration towards a zero-carbon transport network must therefore be at the heart of TfN's investment programme planning and appraisal processes. The primary objective of the 'Pathway to 2050' will be set out how this can be achieved under a series of different scenarios. Once the initial pathway work has been completed, TfN will then work with our partners to set a clear (and Member endorsed) framework of Pan Northern targets, parameters and policies, which aligns with policy and planning frameworks at both the national and local levels, and can be embedded across TfN programmes. In addition to this and as outlined in this response, we believe we are well placed to provide a regional evidence base; support local partners and government in identifying a place based approach by sharing intelligence from our data and models, and work with the NP11 to promote the North as a test bed for trialling innovative solutions at a micro and macro level.

3.0	**General feedback**
3.1	Climate change is not a new challenge, since the early 1990's scientists and academics have outlined the need for dramatic reductions in emissions to combat global warming. A fundamental barrier to achieving real change has been ambiguity over who needs to do what and when. In publishing the TDP, government need to take this opportunity to clearly articulate the functional policy framework that will be required to achieve decarbonisation of transport. This will include providing clarity on the role of national and local government as well as STB's and the private sector.
3.2	The TDP also needs to clarify and acknowledge how individual policies may have both beneficial and adverse effects on the ability of each of the strategic priority areas to contribute to achieving the net zero target. For example, we know Electric Vehicles (Strategic Priority 'Decarbonisation of Road Transport') provide a more sustainable mode than petrol or diesel, however they still account for emissions in terms of electricity generation and indeed in their manufacture. Therefore, whilst EVs will undoubtably play a key part in achieving the decarbonisation transport, care must be taken not to push their uptake to the detriment of accelerating modal shift (Strategic Priority 'Accelerating modal shift to public and

	active transport'). Demand management will also be critical if not more important to deliver net zero.
3.3	The TDP also needs to draw out 'what needs to be true' against each of the six strategic priorities, for them to deliver. Central to this will be for DfT to build scenario planning into the TDP. The Setting the Challenge document didn't express what, if any work, DfT are already doing in this space, but we know that scenario planning is valuable to consider impacts of different policy drivers, regulations and behavioural change to make different futures plausible.
3.4	'Setting the Challenge' is understandably focussed on actions to reduce transport emissions, but the TDP should also take a fresh look at decision-making more broadly through the appraisal process. Transport policy influences emissions in a variety of ways through changes in demand, mode choice, vehicle choice and changes in embodied carbon associated with transport's impact on the built and natural environment. The appraisal of transport policy needs to take a more systemic view on carbon and consider carefully how changes in policy fit with the ambitions of the TDP. Areas to consider for improvements to the DfT's Transport Analysis Guidance (TAG) are covered below. • **Exploring programme interactions through scenario analysis.** One limitation of the current approach is that the reference case used as a backdrop for the appraisal of new policies and infrastructure only considers 'committed policies', which tend to have a cautious definition and are not aligned to the Government's ambitions to reduce emissions. It would be helpful if the TDP could define a new scenario or set of scenarios within TAG that includes 'planned policies' required to meet decarbonisation commitments. This would allow more explicit and transparent exploration of the interaction between the TDP and all other transport policies. For example, this would allow a greater understanding of the interaction between emissions caused by highway schemes and uptake of electric vehicles. This is an area TfN has been developing through its Future Travel Scenarios and insights from this work will be available through a publication planned for October 2020. • **Carbon valuation sensitivity testing.** We welcome the Government's work to re-value carbon emissions in light of the Paris Agreement and the latest evidence on the costs of decarbonisation. It is critical that, in the interim, TAG strongly recommends sensitivity testing using higher carbon prices. Moreover, it is important that carbon value sensitivity testing continues with increased importance after the new values have been finalised, due to the significant uncertainty in this area. • **Time savings vs carbon impacts.** A common feature of appraisal is that time savings outweigh carbon impacts, due

	to the value of the welfare and GDP benefits they are thought to generate. The DfT's 'Appraisal and Modelling Strategy' sets out work planned to improve the approach to valuing time savings. Further work in this area should address whether uncertainties in the methodology could shift the balance between time savings and carbon. This includes the valuation of small time savings, which can make up a significant share of the benefits of infrastructure schemes, but there is uncertainty over whether these should be monetised with lower values of time than for non-marginal savings. Alternative approaches based on valuation of accessibility could help and would integrate more easily with Wider Economic Impacts. • **Embodied emissions in infrastructure.** We are aware that DfT and delivery bodies, such as Network Rail and Highways England, are developing approaches to estimate and value embodied emissions from the construction of infrastructure. We welcome these efforts and look forward to continuing to work collaboratively on these new methods, with support from the Decarbon8 network. Care is needed in presentation of these emissions impacts, as direct source emissions will be counted in other sectors. There should be a focus on identifying opportunities to reduce these embodied emissions through innovative use of materials and construction methods. • **Other environmental impacts of cars.** TAG assumes that the total number of cars in the UK is independent of transport policy, which may be true at the margin but is unlikely to be true for significant shifts in transport policy. Taking London as an example, it is clear that car ownership has been reduced through a combination of provision of public transport and active travel infrastructure, access to car clubs and spatial restrictions on car access. Every additional car in the fleet has a resource and environmental cost and takes up valuable curb space that could be used for public realm or active travel infrastructure. The resource and environmental costs of cars are substantial, but not currently valued by TAG. As MaaS business models become more prevalent, there is an opportunity to explore whether intensified use of fewer cars can deliver equivalent welfare benefits for a lower total resource and environmental cost. We are not aware of any work planned by DfT in this area but would be interested in supporting any new research to fill this evidence gap.
3.5	Through the TDP, DfT needs to be clear how it is working with other Government Departments to ensure there is an appropriate contribution to the net-zero target from direct transport emissions, giving confidence that it is accounting for: • the costs and feasibility of decarbonisation in transport vs other sectors

	• the impact of embodied emissions in transport projects, as well as transport related emissions resulting from projects in other sectors; and • the indirect impact of electrified transport on the energy sector.
3.6	By specifically omitting embodied emissions from the scope of the TDP, transport infrastructure will continue to push the emissions problem elsewhere. At a local level these embodied emissions will still be a factor and will open up heightened risk to viability. To explore this in more detail TfN are working with DecarboN8 and our local partners to explore embodied emissions of the Tyne and Wear – South Northumberland sub corridor. More detail on the project is included in Appendix D.
3.7	The Covid 19 crisis has demonstrated the rate and scale of behavioural change possible as a result of strong national leadership. As government considers the steps required to recover from the pandemic, it will be crucial that it makes choices that will help the country at national and local levels lay the solid foundations needed for rapid decarbonisation. Early quick wins that will have long lasting impact in terms of decarbonisation of transport should be prioritised in consideration for a green recovery. These include accelerated implementation of the ban on new petrol or diesel vehicles from the current 2040 timescale to 2032, in line with the recommendations made by the Committee for Climate Change in its June 2020 progress report to Parliament.
3.8	We welcome the acknowledgement of the role that Mobility as a Service (MaaS) platforms may play in accelerating modal shift. Government should prioritise the building blocks to support MaaS integration and innovation, this would include an open data strategy and regulation that will minimise the concerns many private sector companies have around commercial sensitivities when sharing data.
3.9	Finally, another quick win that will have a lasting impact on decarbonisation is for changes to the National Planning Policy Framework and Building Regulations to support local authorities to 'build back better' and encourage modal shift to sustainable transport through measures such as the redesign of road space to ensure a safe space for active travel, provision for E scooters etc. Following the consultation on mandating EV chargepoints in all new residential and non-residential buildings in 2019, these requirements should now be adopted.
3.10	Government should also look to best practice from other countries such as France and introduce a mass programme to incentivise retrofitting low carbon solutions in existing road vehicles, this will

	be vital to ensure that all geographies and sections of society are supported to reduce their emissions and able to enjoy the resulting benefits. The challenge is not only to decarbonise our transport system, but to do this inclusively and equitably. To this end, we welcome the inclusion of 'Place Based Solutions' as a strategic priority and it will be imperative that government utilises the knowledge within, and evidence bases built up by, sub-regional transport bodies and local authorities.
4.0	**Strategic Priority** **Accelerating modal shift to public and active transport**
4.1	We welcome the Prime Ministers announcements in February to fund 4,000 zero emission buses, alongside additional measures to improve modal shift onto the bus, such as high frequency services, more 'turn up and go' routes, new priority schemes, and more affordable fares. The inclusion of the need to accelerate modal shift as a strategic priority, and the acknowledgement of role that behavioural change will need to play is welcomed. We feel that the TDP will need to be explicit in terms of demand management measures and give a very clear picture of the policy levers available and the extent to which each will reduce emissions. Covid 19 and the government's response to the health emergency has demonstrated how behavioural change is possible at both scale and pace. In the same way, in order to achieve rapid decarbonisation of transport national government must intervene, utilising their powers to make difficult decisions on behalf of the greater good. TfN analysis shows that shifts to active travel alone would reduce car-kms by 1-6%, due to short trip lengths for walk and cycle modes. The reduction in car-km could be improved to 4-18% with increased uptake of public transport, showing that it is critical to helping reduce longer distance car trips (responsible for the majority of emissions). In addition, promoting an ongoing culture of remote working could lead to more significant reductions in car-km in the range 12-22%. As such, unless society fundamentally changes, even in the most ambitious decarbonisation scenario (with high public transport and active mode uptake and increased remote working), car travel is still likely to be 60% of kilometres travelled and 39% of mode share (corresponding to a 22% drop in car-km). For this reason, the Transport Decarbonisation Plan needs to present a robust view

	on demand management at a transport-system level to encourage people to change to lower carbon travel options.
4.2	In many rural and coastal communities, local public transport provision is poor due to de-regulation and subsequent lack of funding. The TDP must make clear how government intends to provide suitable alternative options to the car in more dispersed areas, recognising the fundamental need for inclusivity in its plan (i.e. not everyone will want, or be able to utilise EVs). The rural bus service is fundamentally important to many rural and even semi-urban areas around the North, and the wider UK. Without this lifeline connectivity, we risk large scale social isolation or a dependency on car as the only method of transport. On demand options should not be at the expense of reliable and effective connectivity provided to these communities.
4.3	In the North we have over 300 bus operators, seeking consensus from these privately-owned organisations, has so far proved an insurmountable challenge to the implementation of TfN's Integrated and Smart travel programme. The co-operation and transparency required from commercial operators is also one of the biggest barriers to the rollout of Mobility as a Service (Maas), with unregulated competition leading to many MaaS solutions likely to have a limited selection of providers or a bias to one in particular. This may be a particular issue in rural/dispersed areas. While we are working closely with government and local partners to consider how we can support local implementation at the micro level, to implement a consistent turn up and go, tap on and off service government need to step in and use regulation to enforce change The TDP needs to incentivise metro mayors to adopt the powers allowed under the Bus Services Act 2017 and consider how the environmental gains from franchising, which include increased patronage and easier stipulation of requirements in relation to the electric and hybrid make up of fleets, might be extended to all cities and potentially those transport authorities presiding over more isolated communities.
4.4	TfN fully supports governments pledge, to deliver a better deal for bus users. At the heart of these plans are the commitment from DfT to create Britain's first all-electric bus town, which will see an entire bus fleet change over to zero emission electric capable buses. TfN are keen to ensure the town identified for this trial is within the North as we believe the North provides an ideal test bed for decarbonisation technology trials. The DecarboN8 research partnership who are looking at placed based solutions to

	decarbonisation of transport within the North offers a unique opportunity to add value to the trial through a pre-established and government funded partnership, which could help accelerate wider roll out of a successful model for zero-emission electric bus travel across a range of geographies.
4.5	Recent announcements have shown government have big ambitions to make public transport and active travel the natural first choice for daily activities. As such the TDP will need to show clear leadership to support fewer car trips through a coherent, convenient and cost-effective public transport network; and explore how we might use cars differently in future. The TDP needs to go beyond simply outlining plans to encourage cycling and walking for short journeys and providing additional funds to local authorities for active travel. The TDP needs to be bold and lay the foundations through planning policy, regulation and incentives to enabling a systematic shift to more sustainable modes. Both transport and spatial planning policy need to react to a revised mobility framework, which could specify the following priorities: 1) Connect digitally / Walk. 2) Micro mobility and cycling. 3) Zero emission shared modes (e.g. hydrogen buses). 4) Mobility as a Service. 5) 'Traditional' public transport. 6) Sole-use EV. 7) Private petrol/diesel cars. Within our response below we have outlined what TfN's evidence base identifies as the policy levers required, what the current constraints are, as well as our recommendations on what is required from national government to enable change at scale and with pace.
4.6	**Policy levers** - Improved infrastructure and accessibility is key to encouraging uptake of public and active travel. - Road re-allocation to encourage active mode connectivity, safety and uptake. - Use of Intermodal hubs to encourage sustainable access to rail stations and other PT. - Improved connectivity and service quality, this will need to be done using a number of different approaches including; Integrated and Smart ticketing, cycle schemes, transport user apps, real travel time information, Mobility as a Service (MAAS), Car clubs, on-demand buses, Arriva Click type services etc. - Reduced fares relative to costs of car travel – focused on specific cohorts e.g. Manchester young people subsidy

	- Mobility credits – incentivising in places where limited alternative sustainable modes e.g. rural / coastal communities. - Integrated mobility services spanning active travel, public transport and individualised motorised travel, creating transport hubs - Micro mobility - E-scooters, electric bikes
4.7	**Constraints** - Fragmented ownership and operational responsibility within the public transport system makes it difficult to secure buy in from private sector operators. TfN IST is a prime example of this as outlined earlier in paragraph 4.3. - Limited options in isolated rural / coastal communities where public transport infrastructure is already poor or non-existent. We feel that there is a need to define what 'good MaaS' looks like for different places, as there is a risk that sub-standard on-demand options are applied to these communities at the expense of current provision and may not deliver the same level of connectivity. - The wider carbon cost (i.e. to other sectors) of many changes, such as accelerating the production and take-up of EV's, as well as remote working, may become increasingly problematic when attempting to remain within the carbon budget required. - Just encouraging cycling and walking won't achieve significant change as outlined earlier in our response (paragraph 4.1). - Safety regulations.
4.8	**Recommendations to Government** - The CCC highlighted the need to 'embed fairness as a core principle' as one of their six overarching recommendations to the Prime Minister Boris Johnson, in their letter in relation to *Building a resilient recovery from the COVID-19 Crises (2020).* If government are serious about the levelling up agenda and a green recovery there needs to a systematic shift in how national government currently prioritises and favours transport investment focused on a small number of mega schemes connecting core cities shifting to a greater distribution of investment across geographies. To support this the TDP needs to incentivise the MaaS / Ride share / Car Club market in some locations where there is market failure, without these, existing badly connected areas such as rural or coastal areas will be put at a greater disadvantage, not just economically but also environmentally. - Government must use their powers to introduce regulation to enforce transport operators, utility providers and the retail and property industries to deliver specific levels of service and technology that will build public confidence and increase patronage of existing or emerging services and

	technologies, be this in relation to EV infrastructure through to franchised bus networks. - A clear national government decision needs to be reached on the implementation of Road User Charging as a means of demand management on the SRN. While local government can implement this in their own geographies through Ultra low emission zones or congestion charges, the TDP needs to provide a clear sense of direction as to the scale and rate at which this will need to be implemented to discourage unnecessary car trips. - This should also be supported by strong national policy or a campaign to encourage shared vehicle use. As well as helping to reduce car dependence, this could accelerate the decarbonisation of road vehicles, as car club cars tend to be lower emission and are utilised intensively, so would increase the share of kilometres travelled using low emission cars. Also, fewer cars parked provides more road space that can be used for cycle lanes, bus lanes or on street cycle storage.
5.0	**Strategic Priority** **Decarbonisation of all road vehicles**
5.1	We welcome the recent announcement from government regarding accelerating the cut-off date for petrol and diesel vehicles from 2040 to 2035. We believe this acceleration is essential and something we called for within our Strategic Transport Plan. Consideration should be given as to whether the implementation of the ban on new petrol or diesel vehicles could be further accelerated to 2032, in line with the recommendations made by the Committee for Climate Change in its June 2020 progress report to Parliament. Alongside this though, government also needs to recognise the life cycle of existing vehicles. The Government should learn from other countries such as France that are introducing mass retrofitting of existing vehicles with low carbon technologies, to ensure that high omitting vehicles are not just pushed out to economically deprived areas, making those communities not just economically but also environmentally disadvantaged.
5.2	We also welcome the announcement made by the Chancellor in the March Budget to deliver a core network of rapid/high powered charge points along England's key network of roads, meaning drivers on the SRN are never more than 30 miles from a rapid charge point. This is a really positive step. TfN and other STB's are keen to work with the department, Highways England and the energy sector to explore how this could be extended to cover the Major Roads Network.

5.3	These recent government announcements show some positive progress towards the transition to zero emission road vehicles though much more still needs to be done to ensure there is adequate vehicle supply, adequate charging provision, energy system readiness and market confidence in the technology to drive demand. The TDP clearly has to take full advantage of benefits that can be created through investment in innovative technology development and development of sustainable supply chains. Within our response below we have outlined what TfN's evidence base identifies as the policy levers required, what the current constraints are, as well as our recommendations on what is required from national government to enable change at scale and with pace.
5.4	The Setting the Challenge document acknowledges behaviour change will be an important aspect of the decarbonisation of transport. Public perceptions to EVs need to be better understood at different spatial and demographic levels and tested against real world requirements. The TDP will need to directly challenge some of these assumptions and perceptions or provide a strategy/support for others to do so. This may include public perception of issues such as: - The required vehicle range on a single charge. - Required charging speed. - Density of charging infrastructure network (and hence leading into most effective/convenient locations). - Operation costs (i.e. charging costs vs petrol/diesel). - EV performance and space standards. - Battery lifetime. Where justified, adverse perceptions could provide a basis for a physical EV/EV infrastructure acceleration programme, and where any adverse perceptions are not justified, this is could provide a solid focus for any behavioural change measures.
5.5	Carbon emissions related to the manufacture and charging of EVs (the latter of which will change as grid power decarbonises) will still need to be accounted for within the UK's carbon budget. Alongside this, the operation of EVs continue to generate harmful particulate local air quality emissions from tyre and brake wear. We are keen that EVs are not seen as the ultimate solution to the decarbonisation challenge and that demand management plays an equal or greater role. Please see section 4.1 of our response in this regard.
5.6	**Policy levers** - Strong regulations on new vehicle standards following leaving the EU

	- Increased energy supply and charge points across the North – see paragraph 5.2 above. - Fiscal incentives for the purchase of electric and other low / ultra-low options where suitable alongside disincentives for petrol/diesel vehicle purchase. - Vehicle occupancy incentives. - Restrictions on petrol/diesel vehicles within local areas. - Road User Charging. - Low emission zones; work parking levies etc - Availability and costs of Connected and Autonomous Vehicles - Road design manuals to include infrastructure for platooning of vehicles to aid move to automation eg specific lanes, appropriate surfacing to cope with HGV loads on similar tracking to avoid rutting and appropriate signs and lines on the carriage way.
5.7	**Constraints** - Fleet & Vehicle life span – risk that incentives only benefit wealthiest in society as they can afford new vehicles, need retrofitting policies as being utilised in France see paragraph 5.1 above. - Disjointed approach to EV charge points and payment methods across the national and local highway network, leads to a lack of public confidence in terms of physical and transactional interoperability in relation to charging EVs. - Public perception in relation to the time it takes to charge an EV being a constraint. - Public perception in relation to required EV vehicle range. - Current EV vehicle prices are a key current constraint. Price equity may be achieved by 2025, however, this will be dependent on battery sizes being reduced, which is linked to the perceived need for vehicle range. - Need a coherent strategy for the 25% of vehicles parked street-side. This is a particular challenge in the north with a predominance of terraced housing in many lower income areas. - Current local authority funding mechanisms / bidding for funds from national government pots means roll out of EV is currently piecemeal.
5.8	**Recommendations to Government** - Government need to lead by example when it comes to policy levers required to reduce unnecessary or unsustainable (i.e. petrol/diesel vehicles) road transport that might give local decision makers confidence to implement local charges / bans on petrol/diesel vehicles etc. - Government need to incentivise the market to ramp up trialling of new technology at scale and pace, this needs to explore hydrogen as well as battery technologies. - To provide users confidence in using new road-based technologies there also needs to be a implementation of a regulatory framework, to ensure user safety is paramount.

	- Public perceptions to EVs need to be better understood at different spatial and demographic levels and tested against real world requirements. The TDP will need to include, where warranted, measures to change adverse perceptions and behaviours that don't reflect real world requirements in relation to EVs and charging infrastructure. - The TDP needs to focus on transactional (payments), physical (charging hardware) and data interoperability, which will support behavioural change and increased demand. - Government must specify the Level 0 requirements and lay the framework for support for not only those planning, developing and installing charging infrastructure, but also those maintaining charging infrastructure. - All EV focussed strategies, policy levers and requirements should consider the future need to consider Connected and Autonomous Vehicles (CAVs). - Future local Development Plans need to consider the physical accommodation of autonomous vehicles and also react to the different behavioural patters they will encourage (i.e. different travel and charging behaviours, reduced need for 'work-side' parking places). -
6.0	**Strategic Priority** **Decarbonising how we get our goods**
6.1	The recognition of 'last-mile' deliveries as essential for ensuring a sustainable delivery system is welcomed and should address both urban and rural deliveries. The TDP needs to provide clarity that supports the industry to optimise the efficiency of logistics and explore innovative digitally enabled solutions, data sharing and collaborative platforms. Within our response below we have outlined what TfN's evidence base identifies as the policy levers required, what the current constraints are as well as our recommendations on what is required from national government to enable change at scale and with pace.
6.2	**Policy Levers** Planning and Highway Policy and urban access - Use of planning policy to promote warehouse clustering and freight consolidation centres. - Government will need to provide to local planning departments with additional guidance in this respect as local spatial plans often don't promote/prioritise new consolidation/distribution centres because the need and requirements are set at a bigger geographic area. - Policies to enable freight traffic to sustainably get in and out of urban areas, linking this to the promotion of urban consolidation centres. Could include drones, particularly in hi-tech scenarios

	- Consideration of delivery points in local planning policy so deliveries can take place efficiently – balanced with the needs of active travel and increased cycle infrastructure. - Maximise urban development to have safe spaces for smaller delivery vehicles. These spaces are more prevalent in places such as Rotterdam and Amsterdam. There is active planning policy for both vehicle segregation but coupled with appropriate business access. - Road user charging needs to recognise the essential nature of freight movements. Intermodal hubs - Use of inter-modal hubs for deconsolidation. The success of iPort in Doncaster suggests that is possible to make freight work on smaller journeys with the right paths, infrastructure and opportunity. - Consideration of the potential innovative zero carbon systems for the mass transit of goods (e.g. hyperloop systems). Port policy - Use of SMART Port technology. Initiatives such as CAPITOLs in the Humber use vehicle technology to bring lorries portside when vessels are ready to load/discharge. - Carbon pricing as a lever to incentivise users to make changes to their fleet for long term sustainability. This needs certainty of fuelling policy so wise investments can be made. - Increased rail freight through planning policy to promote intermodal hubs and increases in rail capacity for freight trains. - Brexit and the increased use of the northern ports for freight requires clear freeport policy and legislation.
6.3	**Constraints** - The use of hydrogen is influenced by global cost trends, UK fiscal incentives, fuel availability and re-fuelling infrastructure. - Battery recharging times reduces efficiency of delivery vehicle fleets and restricts charging windows. - The lack of a consistent approach globally to shipping fuel, and shipping organisations choosing to gravitate towards the cheapest source (even if overseas).
6.4	**Recommendations to Government** - Government needs to provide certainty around its strategy for fuel for the freight sector and also its availability (i.e. hydrogen v electric v compressed natural gas). Some companies are investing in batteries already so emerging priority should be for an electric charging network easily accessible from the network. If other fuels are favoured, accelerated work on the fuelling network needs to be considered.

	- Coordination with Other Government Departments on potential to use Hydrogen in other sectors (industry or residential heating), so there can be shared distribution infrastructure. - At the same time as enabling areas to improve active travel, the TDP needs to recognise the highway also needs to enable congestion free deliveries to businesses to minimise emissions. - Fiscal measures to support change for smaller companies with less investment capital.
7.0	**Strategic Priority** **Place based solutions**
7.1	Setting the Challenge recognises that how and why emissions occur depends on a range of factors, as such a place-based approach is key to achieving net zero. The TDP will need to target support for local areas, considering regional diversity and different solutions. We welcome that government acknowledges a single solution will not be appropriate for every location. Key to understanding what solutions are best employed in which locations, DfT need to build spatial and segmented analysis of different groups of people and trip purposes. It is still unclear what work the department are doing to understand how emissions vary by group and location. TfN can add some real value here to national governments work as we have developed a suite of bespoke models within our Analytical Framework that help us explore a multitude of factors at a granular spatial level. Within our response below we have outlined what TfN's evidence base identifies as the policy levers required, what the current constraints are as well as our recommendations on what is required from national government to enable change at scale and with pace.
7.2	**Policy levers** - Address emissions at a local level through local management of transport solutions - Spatial planning policies and economic development strategies that incentivise high density development in city and town centres or support LA in delivering sustainable transport solutions and good place making - Flexible working policies, business practices and digital communications technologies that enable remote working - An agreed method of calculating the carbon benefits of remote working.
7.3	**Constraints** - At a regional and local level, the lack of powers over spending decisions, fiscal autonomy, and the need for

	increased local regulatory powers in transport and non-transport policy - Unclear what viable solutions exist for dispersed or rural areas, most of the transport decarbonisation solutions will be very difficult to implement in areas with poor current public transport provision or areas with a wide geography. - Lack of resolution in the National Planning Policy Framework (NPPF) on requirements regarding sustainable transport. The current mechanisms local authorities have to raise funds to support the delivery of sustainable transport infrastructure (Section 106 and Community Infrastructure Levy (CIL) contributions) makes sustainable placemaking difficult in the North. Lower property prices and lower density housing often leads to S106 and CIL contributions towards sustainable transport modes being eroded to maintain scheme viability.
7.4	**Recommendations to Government** - Revise NPPF to support local authorities to put sustainable transport solutions at the heart of local placemaking. - Government to set accelerated targets pre 2050 for urban and economic centres to achieve net zero to allow for offsetting more dispersed / rural areas where currently not enough viable alternative options available to car use. - Government should consider how best to structure the TDP so as to acknowledge and clarify approaches, roles and responsibilities for different geographies.
8.0	**Strategic Priority** **UK as a hub for green technology and innovation**
8.1	We support governments ambition to utilise the UK's world-leading scientists, business leaders and innovators to position the UK as an internationally recognised leader of environmentally sustainable technology and inclusive innovation in transport. The TDP has a unique opportunity to build on expertise in the UK for technology developments and capitalise on near market quick wins, supporting not just rapid decarbonisation of transport but also creating high value jobs in the process. The North is well placed to support these efforts and we believe could be the test bed for trailing many of the emerging technologies due to: - The work of DecarboN8, a unique research network supported by eight of the most research-intensive northern universities who are exploring placed based decarbonisation of transport. - The urgent need for major transport infrastructure renewal which provides the opportunity for employing new technologies through their incorporation within major infrastructure projects.

	- The governments commitment to the 'levelling up' agenda and utilising the regions existing skilled manufacturing base. - The wealth of freight assets located in the North including four key port areas. Alongside this there are significant opportunities for parts of the North to lead the way in developing hydrogen and carbon capture and storage, given existing initiatives in the development of battery and hydrogen propulsion technology in the North, for example at Teesside, Liverpool City Region and Ellesmere Port, and Cumbria.
8.2	**Policy levers** - Data interoperability strategies to support: open data; contactless ticketing; sharing of customer information with technology providers. - Supporting technology providers to develop new innovative infrastructure solutions through grants, competitive funding rounds, incentives, tax subsidies etc - Ensuring changes in energy use have fully coordinated planning of supply, distribution and demand management
8.3	**Constraints** - The current coverage of digital communications technology – particularly in more isolated areas. - Security and safety concerns in terms of data-sharing, both for individuals and businesses.
8.4	**Recommendations to Government** - In the hunt for quick-wins, there is a real risk of dispersed / rural areas being de-prioritised, leading to them being further environmentally and economically disadvantaged. In some parts of country, government will have to step in to incentivise the market to respond to this challenge.
9.0	**Strategic Priority** **Reducing carbon in a global economy (aviation)**
9.1	Aviation provides critical connectivity for the North to support business growth the ambitions of the Northern Powerhouse Independent Economic Review (NPIER). It is therefore encouraging that Setting the Challenge outlines a specific strategic priority to consider both how both aviation and maritime will play their part in delivering the countries overall net zero ambitions. We are highly supportive of government's ambitions for low or zero emission flights, including the creation of the Jet Zero Council in June 2020.

	TfN doesn't have any direct responsibility for aviation or shipping with international emissions currently considered through an international approach, and emissions from domestic flights and shipping considered by UK legislation. We also recognise that many other organisations will be better placed to advise government on this strategic priority. That said, change and growth in the maritime and aviation industry does have an impact upon local emissions particularly in relation to surface access of passengers and the movement of freight, the latter being the subject of its own strategic priority. As a very minimum, airports need to play their part in facilitating people movements to and from those facilities through zero or low carbon modes. TfN's own investment programme aims to balance economic aims of the NPIER with the need for sustainable connectivity to and from airport where possible. Similarly, the movement of freight to and from, both ports and airports, to logistics and distribution hubs via zero or low carbon modes should again be responsibility jointly borne by those business sectors.
9.2	**Policy levers** - Modal shift to shipping instead of road transport in some areas so road miles are reduced, and waterways are maximised. Port of Warrington and Port of Leeds are examples of opportunities that could be better explored.
10.0	**The Role of Transport for the North**
	TfN's response to the Future Transport call for evidence sets out how best we feel that we can support our local authority partners and the Government in the planning and successful delivery of future transport measures. Of relevance to the decarbonisation challenge, these include: - Provision of evidence and strategic support towards Future Transport update across the North. - Supporting the development of a pan-northern data platform with open data capabilities. - Supporting trials and implementation of Future Transport measures, and effective transition to implementation and mass role out. - Articulate the ambition of the North, supporting and informing the local and national agenda. - Support Future Transport through provision of key enabling tools and application of TfN programme expertise.
10.1	**Strategic Priorities – Accelerating Modal Shift to Public and Active Transport, and, Place-based Solutions for Emissions Reduction**

	Development of place-based solutions is an area where TfN and other sub-national bodies can add significant value. By analysing emissions at a more disaggregate level, we can provide enhanced evidence and intelligence to inform bespoke local and regional strategies and support national policies to take account of spatial and social variation. Appendix C provides an overview of our analytical approach in this area and begins to set out what more can be done to help provide further insight to tackle the most difficult decarbonisation challenges. Further insight will be made available to DfT through a set of publications on the modelling of our Future Travel Scenarios and Decarbonisation Pathways, planned for October 2020. Beyond this publication, we would welcome active collaboration with DfT and other sub-national bodies to continue to build a shared evidence base to inform a place-based strategy.
10.2	**Strategic Priority – Decarbonisation of Road Vehicles** As the sub-regional transport body for the North, TfN is well placed to engage with its Partners across the north to understand the particular place based challenges, perceptions and behaviours that will need to be overcome to achieve this Strategic Priority. We would welcome the opportunity to set out the North's expectations, to government, on what a pan northern charging infrastructure plan should include and why, so that it is inclusive, and effective for the way the North works now and is resilient across our Future Travel Scenarios (for which insights are planned for publication around October 2020). It could include further detail on recommendations for policy levers and responsibilities at a regional level, that could be endorsed and adopted across our range of Partners.
10.3	**Strategic Priority – UK as a Hub for Green Technology and Innovation** TfN is an advisory board member of DecarboN8, a research council funded network that brings together academic expertise from the eight most research intensive universities in the North, along with the public and private sector in order to build an effective and integrated environment for developing and applying solutions to decarbonise transport across the North. Our role on the advisory board is to: • Provide advice about the current and future policy and implementation environment which DecarboN8 is engaging with. • Identify potential overlaps, synergies and opportunities for collaboration to advance decarbonisation of transport. • Review the portfolio of externally funded projects and provide feedback on strengths and weaknesses in the portfolio as it evolves.

	• Consider, at the end of Year 1 and 2 of the programme, progress against our key performance metrics and spend against profile, providing guidance on whether and how the project might respond. • Champion the DecarboN8 approach externally, identifying opportunities for collaborative working with other stakeholders across the North, nationally and internationally. The DecarboN8 network is already mature in its development and could serve as ready made facilitator for transport innovation projects in the North. TfN's relationship with both DfT and Decarbon8 put us in a unique position to promote this exchange and work with our wider partners to identify the most appropriate test beds for research and development activities.
11.0	**TfN Decarbonisation Evidence Base**
	Appendix A1 – Temple Interim Findings Note produced for TfN, August 2019
	Appendix A2 – Temple Policy Stocktake on behalf of TfN, August 2019
	Appendix B – TfN Decarbonisation Pathways & Future Travel Scenarios
	Appendix C – TfN Carbon Analysis Initial Findings & Next Steps
	Appendix D – TfN & DecarboN8 Embodied Emissions Sub Corridor Pilot
	Appendix E – Decarbonisation Policy Levers
	Appendix F – TfN response to Future of Transport call for Evidence, July 2020

Decarbonisation Policy and Technical Stocktake Interim Findings: Internal Briefing Note for TfN

Authors: Marko Ristic Smith, Ross Hunter (29/08/19)

Reviewed By: Ross Hunter (30/08/19)

Overview

This is a briefing note outlining the key findings from the policy and technical stocktakes. These have been developed over the past two months and have involved a literature review of key policy and technical documents produced to date. It also reflects discussions with TfN technical leads during a 2-day visit to TfN's head office in Manchester in early August.

Documents, Programmes, Analysis and Policies Reviewed

A summary the major documents, programmes and analysis undertaken by a range of organisations – including TfN itself, national government and agencies, local authorities and TN partners – is as follows:

- Interventions developed by TfN were identified in the Investment Programme, the SPOCs prepared to date for the SDCs, and the Strategic Transport Plan. The Investment Programme provides an overview of all currently planned projects and interventions, and incorporates the measures outlined in the other documents. These have been examined and are presented here.

- The Northern Powerhouse Independent Economic Review (NPIER) 'transformational economic scenario' underpins the transformational travel scenarios developed by TfN, which in turn act as an input into greenhouse gas calculations. The 'transformational economic scenario' is to be updated, and a new suite of transformational travel scenarios are due to be developed by TfN.

- The Greenhouse Gas Model (v7) developed to date provides a back-end calculation process for greenhouse gas emissions. This is currently being superseded as part of the move to the new analytical framework, which is due to be deployed for use alongside the new travel scenarios.

- TfN's analytical framework will consist of components including NELUM and NorTMS and will include a vehicle fleet model. This framework can account for the impacts of and interrelationship between a comprehensive list of drivers that result in changes in travel demand and emissions intensity. These outputs can be used to calculate the overall emissions by applying the existing back-end calculation process.

- National-level policy which will influence greenhouse gas emissions within TfN's remit has also been reviewed:
    - The DfT's Road to Zero defines a suite of measures focused around ending the sale of conventional petrol/diesel cars and vans by 2040.

    - The Clean Growth Strategy developed by BEIS outlines the Government's commitments in growing the economy while cutting GHG emissions.
    - The Climate Change Act 2008 introduced an 80% emissions reduction target by 2050 relative to 1990 levels. This was accompanied by 5-year carbon budgets
    - The 2019 update to the Climate Change Act amended the emissions reduction target to a Net Zero 2050 target.
- Policies and interventions devised by eight local authorities within TfN's jurisdiction (WYCA, York, Greater Manchester, Hull, Sheffield, Newcastle, Liverpool and Tees Valley) have been reviewed. Quantification of greenhouse gas impacts associated with these is limited.

- The Tyndall Centre has produced analysis for Greater Manchester and Sheffield setting out carbon budgets and a GHG emissions pathway which is related to and based on the commitments of the Paris Agreement. This is the only analysis currently published, which we are aware of, which directly aligns carbon pathways to the Paris Agreement commitments.

Initial Commentary and key Thoughts

At this stage it may also be useful to outline some key thoughts and initial commentary based on the findings of the policy and technical stocktakes, and discussions with TfN technical leads. However, please note that a more comprehensive and detailed commentary, findings, suggestions and recommendations will be detailed in the briefing notes that are to follow:

- In order to remain in line with the UK Net Zero 2050 commitment and the Paris Agreement commitments, TfN will need to consider an ambitious greenhouse gas target and associated decarbonisation pathway. This will likely include an absolute zero emissions target for those emissions that fall under TfN's jurisdiction by 2050 at the latest. Innovative work has been conducted by the Tyndall Centre developing carbon budgets for Greater Manchester and Sheffield which are in line with the Paris Agreement. This presents a general approach that TfN and its partner organisations could follow.

- A significant number of polices and interventions have been proposed by TfN's partner local authorities. TfN could build on this in the future and seek to maximise these efforts and outcomes within its own more overarching decarbonisation work. This could be achieved through developing and leading a joined-up technical and policy level a decarbonisation strategy across the North. Additionally, TfN's existing focus through its Investment programme is not on reducing greenhouse gas emissions. TfN could reposition its focus more closely towards reducing GHG emissions by aligning with and exploiting the policy levers available to its local authority partners. Our work revealed a clear intention amongst local authorities to liaise with TfN more closely on decarbonisation work moving forwards.

- A comprehensive analytical framework is in the final stages of development which should allow TfN to undertake sophisticated analysis of a wide range of policies and measures. This will provide TfN with a robust evidence base to inform the decarbonisation pathway. Further thought is required as to how this modelling suite can be more aligned to decarbonisation policy analysis. This may require some additional pre and post processing of data.

- Further work is needed to develop a robust and accurate greenhouse gas emissions inventory specific to TfN's jurisdiction.

- Key to further analytical work is determining which policies and interventions are included in the baseline and policy scenario projections. There are no right or wrong approaches to doing so, and decisions will be informed as much by policy as by technical considerations. However, whatever approach is adopted it will need to be clearly documented.

- It is recommended that the policy stocktake is used as an evolving document to keep track of new interventions and the latest policy developments which need to be accounted for in future decarbonisation analysis.

- It is further recommended that TfN considers the scope for analysing air quality and noise impacts alongside the current focus on greenhouse gas emissions. There are significant crossovers in these areas and there is potential for applying aspects of the analytical framework for air quality and noise assessment.

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National Policies and Measures (PaMs)for assessment to identify associated

Name of intervention/policy [a]		*Sector(s) affected* [b]	*GHG(s) affected*	*Objective and/or activity affected*	*Type of instrument* [c]
The Climate Change Act 2008 (2050 Target Amendment) Order 2019		Entire economy	All GHGs	Economy-wide reduction in GHG emissions.	Regulatory
The Road to Zero	RtZ1	Road	All GHGs	Road transport emissions	Regulatory / Economic
Legally-binding 15-year low carbon fuel strategy	RtZ2	Road	All GHGs	Road transport emissions	Regulatory
Action against garages removing emissions reduction technology	RtZ3	Road	All GHGs	Road transport emissions	Regulatory

CVRAS	RtZ4	Road	All GHGs	Road transport emissions	Economic
Fuel-efficient motoring	RtZ5	Road	All GHGs	Road transport emissions	
Grants for plug-in vehicles	RtZ6	Road	All GHGs	Road transport emissions	Economic
Vehicle Excise Duty	RtZ7	Road	All GHGs	Road transport emissions	Economic
Government car fleet	RtZ8	Road	All GHGs	Road transport emissions	Economic
Go Ultra Low campaign	RtZ9	Road	All GHGs	Road transport emissions	Education
Road Transport Emissions Advice Group	RtZ10	Road	All GHGs	Road transport emissions	Research
Vehicle recalls	RtZ11	Road	All GHGs	Road transport emissions	Regulatory
Supporting ULEVs market	RtZ12	Road	All GHGs	Road transport emissions	Information
Reducing HGV GHG emissions	RtZ13	Road	All GHGs	Road transport emissions	Other
Zero emissions HGVs	RtZ14	Road	All GHGs	Road transport emissions	Research
Truck emission standards	RtZ15	Road	All GHGs	Road transport emissions	Research / Regulatory

The Road to Zero	Natural gas HGVs	RtZ16	Road	All GHGs	Road transport emissions	Research
	Zero emissions vehicles R&D	RtZ17	Road	All GHGs	Road transport emissions	Research
	Battery research	RtZ18	Road	All GHGs	Road transport emissions	Research / Economic
	ULEVs supply chains	RtZ19	Road	All GHGs	Road transport emissions	Research
	ULEVs supply chains	RtZ20	Road	All GHGs	Road transport emissions	Research
	ULEV repairs	RtZ21	Road	All GHGs	Road transport emissions	Education
	ULEV statistics	RtZ22	Road	All GHGs	Road transport emissions	Information
	EV infrastructure funding	RtZ23	Road	All GHGs	Road transport emissions	Economic
	Automated and Electric Vehicles Bill	RtZ24	Road	All GHGs	Road transport emissions	Economic
	EV infrastructure for housing	RtZ25	Road	All GHGs	Road transport emissions	Regulatory
	On-street EV charging	RtZ26	Road	All GHGs	Road transport emissions	Economic
	EV Homecharge Scheme (EVHS)	RtZ27	Road	All GHGs	Road transport emissions	Economic

	Workplace Charging Scheme	RtZ28	Road	All GHGs	Road transport emissions	Economic
	On-street Residential Chargepoint Scheme	RtZ29	Road	All GHGs	Road transport emissions	Economic
	Planning policy	RtZ30	Road	All GHGs	Road transport emissions	Regulatory
	Building regulations	RtZ31	Road	All GHGs	Road transport emissions	Regulatory
	EV infrastructure R&D funding	RtZ32	Road	All GHGs	Road transport emissions	Economic / Research
	Futureproofing Strategic Road Network	RtZ33	Road	All GHGs	Road transport emissions	Research
	EV energy demand management	RtZ34	Road	All GHGs	Road transport emissions	Research
	Government EV support	RtZ35	Road	All GHGs	Road transport emissions	Economic
	Low emission bus scheme	RtZ36	Road	All GHGs	Road transport emissions	Economic
	Taxi charging infrastructure	RtZ37	Road	All GHGs	Road transport emissions	Economic
	The Clean Growth Strategy	CGS1	Entire economy	All GHGs	Transport emissions	Regulatory / Economic

The Clean Growth Strategy	Vehicle sales	CGS2	Road	All GHGs	Road transport emissions	Regulatory
	ULEV funding	CGS3	Road	All GHGs	Road transport emissions	Economic
	EV charging networks	CGS4	Road	All GHGs	Road transport emissions	Economic
	Plug-in taxi programme	CGS5	Road	All GHGs	Road transport emissions	Economic
	Bus retrofit	CGS6	Road	All GHGs	Road transport emissions	Economic
	Automotive Sector Deal	CGS7	Road	All GHGs	Road transport emissions	Economic
	Zero emissions vehicles	CGS8	Road	All GHGs	Road transport emissions	Information
	Cycling and walking	CGS9	Road	All GHGs	Road transport emissions	Economic
	Rail freight	CGS10	Rail	All GHGs	Rail emissions	Other
	Centre for Connected and Autonomous Vehicles	CGS11	Road	All GHGs	Road transport emissions	Economic
	Low carbon transport funding	CGS12	Road	All GHGs	Road transport emissions	Economic
	Rail decarbonisation		Rail	All GHGs	Rail emissions	Unspecified

Abbreviations : GHG = greenhouse gas; LULUCF = land use, land-use change and forestry.

[a] To the extent possible, the following sectors should be used: energy, transport, industry/industrial processes

[b] To the extent possible, the following types of instrument should be used: economic, fiscal, voluntary agreem

[c] To the extent possible, the following descriptive terms should be used to report on the status of implementa

[d] Additional information may be provided on the cost of the mitigation actions and the relevant timescale.

[e] Optional year or years deemed relevant by the Party.

ɨ emissions: information on mitigation actions and their effects

Status of implementation [d]	*Brief description* [e]	*Start year of implementation*	*Implementing entity or entities*
Adopted	The Climate Change Act commits the UK government by law to reducing greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050.	2019	BEIS
Adopted (?)	The Road to Zero establishes a series of interventions with the overarching ambition of ending the sale of conventional petrol and diesel cars and vans by 2040. Additionally, the Road to Zero sets a target of 50-70% of new car sales and 40% of van sales as ULEVs in 2030. Specific interventions listed below.	2018	DfT
Adopted	Legally binding 15-year strategy to more than double low carbon fuel use to 7% of road transport fuel by 2032.	2018	DfT
Adopted	Taking action against garages offering the removal of emissions reduction technology, working with the DVSA, VCA and industry to ensure our regulatory and enforcement regimes give us the levers we need to tackle this problem.	2018	DfT

Adopted	Extending the Clean Vehicle Retrofit Accreditation Scheme (CVRAS) beyond buses, coaches and HGVs to include vans and black cabs.	2018	DfT
Adopted	Taking steps to accelerate the adoption of fuel-efficient motoring by company car drivers, businesses operating fleets, and private motorists.	2018	DfT
Adopted	Continuing to offer grants for plug-in cars, vans, taxis and motorcycles until at least 2020. The plug-in car and van grants will be maintained at the current rates until at least October 2018. Consumer incentives in some form will continue to play a role beyond 2020.	2018	DfT
Adopted	Consulting on reforming Vehicle Excise Duty to incentivise van drivers to make the cleanest choices when purchasing a new van.	2018	DfT
Adopted	Leading the way by ensuring 25% of the central Government car fleet is ultra low emission by 2022 and that all new car purchases are ultra low emission by default. Committing to 100% of the central Government car fleet being ultra low emission by 2030.	2018	DfT
Adopted	Launching a 2018/19 Go Ultra Low campaign and continuing to work with industry on consumer communications about ultra low emission vehicles until at least 2020.	2018	DfT
Adopted	Setting up a new Road Transport Emissions Advice Group, bringing government, industry and consumer groups together to help ensure clear and consistent consumer messaging and advice on fuel and technology choices.	2018	DfT
Adopted	Legislating to enable government to compel vehicle manufacturers to recall vehicles for an environmental nonconformity or failure, and to make tampering with emissions control systems a legal offence.	2018	DfT
Adopted	Supporting the early market for used ultra low emission vehicles by producing guidance, funding training and making appropriate changes to the DVLA V5 documentation.	2018	DfT
Adopted	Introducing a new voluntary industry-supported commitment to reduce HGV greenhouse gas emissions by 15% by 2025, from 2015 levels.	2018	DfT
Adopted	Launching a joint research project with Highways England to identify and assess zero emission technologies suitable for HGV traffic on the UK road network.	2018	DfT
Adopted	Working with industry to develop an ultra low emission standard for trucks.	2018	DfT

Adopted	Undertaking further emissions testing of the latest natural gas HGVs to gather evidence that will inform decisions on future government policy and support for natural gas as a potential near-term, lower emission fuel for HGVs.	2018	DfT
Adopted	Target for total zero emission vehicles R&D of 2.4% of GDP by 2027 and increasing the rate of R&D tax credit to 12%.	2018	DfT
Adopted	£246m to research next generation battery technology through the Faraday Battery Challenge.	2018	DfT
Adopted	Working with industry to set an ambition for a UK content target for the ultra low emission vehicle supply chain that is at least as ambitious as for conventional vehicles, as we look to secure investment in battery manufacturing in the UK.	2018	DfT
Adopted	Launching a new supply chain competitiveness and productivity improvement programme targeting areas where key businesses need to improve to match the best in Europe.	2018	DfT
Adopted	Working with the Institute of the Motor Industry to ensure the UK's workforce of mechanics are well trained and have the skills they need to repair these vehicles safely.	2018	DfT
Adopted	Working with the Office for National Statistics to extend their data collection to include jobs and exports attributable to both low and ultra low emission vehicle technologies.	2018	DfT
Adopted	Launching a £400 million Charging Infrastructure Investment Fund to help accelerate charging infrastructure deployment.	2018	DfT
Adopted	Taking powers through the Automated and Electric Vehicles Bill to ensure (1) that chargepoints are available at motorway service areas and large fuel retailers; (2) that chargepoints are easily accessed and used across the UK; (3) that chargepoints are smart ready.	2018	DfT
Adopted	Consulting on introducing a requirement for chargepoint infrastructure for new dwellings in England where appropriate.	2018	DfT
Adopted	All new street lighting columns to include charging points , where appropriately located, in areas with current on-street parking provision.	2018	DfT
Adopted	Continuing to provide grant support through the EVHS until March 2019, with installations becoming smart enabled.	2018	DfT

Adopted	Increasing the grant level of the Workplace Charging Scheme from £300 per socket to 75% of the purchase and installation costs of a chargepoint capped at a maximum of £500 per socket.	2018	DfT
Adopted	Investing £4.5 million in the On-street Residential Chargepoint Scheme until 2020.	2018	DfT
Adopted	Ensuring local planning policies incorporate facilities for charging electric vehicles via the National Planning Policy Framework.	2018	DfT
Adopted	Consulting on amending Building Regulations to require relevant charging provision in new non-residential buildings.	2018	DfT
Adopted	Launching the process for a R&D programme of up to £40 million by summer 2018 to develop and trial innovative, low cost wireless charging and public on-street charging solutions that can be deployed across entire residential streets.	2018	DfT
Adopted	Running a pilot to increase electrical capacity at a motorway service area working closely with Highways England.	2018	DfT / Highways England
Adopted	Launching an Electric Vehicle Energy Taskforce to bring together the energy and automotive industries, in order to plan for future electric vehicle uptake and ensure the energy system can meet future demand in an efficient and sustainable way.	2018	DfT
Adopted	Monitoring market developments to determine whether any significant gaps in charging infrastructure provision appear over the medium term, and considering whether there may be a case for direct central government support in areas of market failure, which may include rural areas.	2018	DfT
Adopted	Fulfilling a £48m ultra low emission bus scheme funding round to accelerate uptake and deployment of supporting infrastructure.	2018	DfT
Adopted	Launching a second round of funding for local authorities to roll out dedicated taxi charging infrastructure. We will make available a minimum of £6 million to support more local areas to make the switch.	2018	DfT
Adopted	The Clean Growth Strategy outlines the UK's indutrial strategy, which is focused on growing the national economy while cutting greenhouse gas emissions. The strategy sets out a series of policies and proposals on the topics of domestic energy use, industry efficiency, the energy sector and transport.	2017	BEIS

Adopted	End the sale of new conventional petrol and diesel cars and vans by 2040.	2017	BEIS
Adopted	£1 billion funding to support take-up of ULEVs, including helping consumers to overcome the upfront cost of an electric car.	2017	BEIS
Adopted	Investing an additional £80 million, alongside £15 million from Highways England, to support charging infrastructure deployment.	2017	BEIS
Adopted	Providing £50 million for the Plug-in Taxi programme, which gives taxi drivers up to £7,500 off the purchase price of a new ULEV taxi, alongside £14 million to support 10 local areas to deliver dedicated charge points for taxis.	2017	BEIS
Adopted	Providing £100 million for a national programme of support for retrofitting and new low emission buses in England and Wales.	2017	BEIS
Adopted	Work with industry as they develop an Automotive Sector Deal to accelerate the transition to zero emission vehicles.	2017	BEIS
Adopted	Announce plans for the public sector to lead the way in transitioning to zero emissions vehicles.	2017	BEIS
Adopted	Invest £1.2 billion to make cycling and walking the natural choice for shorter journeys.	2017	BEIS
Adopted	Work to enable cost-effective options for shifting more freight from road to rail, including using low emission rail freight for deliveries into urban areas, with zero emission last mile deliveries.	2017	BEIS
Adopted	The establishment of the Centre for Connected and Autonomous Vehicles and investment of over £250 million, matched by industry.	2017	BEIS
Adopted	Invest around £841 million of public funds in innovation in low carbon transport technology and fuels including trials of 'HGV platoons'.	2017	BEIS
Adopted	The Rail Industry Decarbonisation Taskforce has committed to removal of diesel only passenger trains from the national rail network by 2040. It does not set out a specific package of measures and interventions, but identifies electrification, hydrogen and battery powered tains as areas of potential.	2019	Rail Industry Decarbonisation Taskforce; DfT

, agriculture, forestry/LULUCF, waste management/waste, other sectors, cross-cutting, as appropriate.

ent, regulatory, information, education, research, other.

tion: implemented, adopted, planned.

Estimate of mitigation impact (not cumulative, in kt CO_2 eq)[f]		**Assumptions**
2020	***future year***	
Not completed	Net zero GHG emissions by 2050.	N/A
Not completed	Not completed	N/A
Not completed	Not completed	N/A
Not completed	Not completed	N/A

Not completed	Not completed	N/A
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Not completed	Not completed	N/A
Not completed	Emissions reductions of 30 MtCO2e and 80 MtCO2e in 4th (2023-27) and 5th (2028-32) Carbon Budgets respectively relative to an 'existing policies' baseline projection.	The Clean Growth Strategy was published prior to the update of the Clean Air Act (2019). The focus of the Strategy is achieving emissions reductions within the Carbon Budget periods rather than comparing against a 2050 target.

Not completed	Not completed	N/A
Not completed	Not completed	N/A
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Additional comments, references
http://www.legislation.gov.uk/uksi/2019/1056/introduction/made
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739460/road-to-zero.pdf
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739460/road-to-zero.pdf
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https://www.nsar.co.uk/wp-content/uploads/2019/02/Rail-Industry-Decarbonisation-Task-Force-Initial-Report-to-the-Rail-Minister-January-2019.pdf

Main findings
This is the key emissions reduction target policy for the UK. It establishes the 100% emissions reduction target for 2050. The legislation leaves space for use of international carbon credits, so it is net zero rather than absolute zero. It should be noted that UK carbon budgets have not been updated to reflect the revised target (Climate Change Act updated to include net-zero 2050 target in 2019). At present the existing carbon budgets are based on the previous target of an 80% reduction (on a 1990 baseline) by 2050. It is assumed that these carbon budgets will be updated in due course so as to be relevant for the 2050 net-zero target and to be in line with the UK's commitments under the Paris Agreement. Detailed analysis to inform this has already been undertaken as part of the UKCCC's 2050 Net Zero Report). However, it should also be noted that UK commitments under the Paris Agreement are still subject to negotiation via UNFCCC processes (as is the case with all signattory Parties) and hence the UK target and associated may be subject to further update once this has been agreed (likely towards the end of 2020).
This is the main government target that will directly influence an area of TfN's remit - road transport.

The transport policies of the strategy are directly relevant to TfN's remit. TfN will need to quantify the GHG impacts associated with the Strategy, and decide whether to incorporate them into the baseline or policy projections in subsequent analytical work.

Key issues and questions
TfN have already indicated that net zero by 2050 means effectively absolute zero from road emissions. TfN have mentioned the potential use of a supplementary, ambitious intermediate year target. How will this be defined? Would it be the CCC's recommendation for Scotland of 100% reduction by 2045?
TfN have stated that they are keen to pursue an absolute zero GHG emissions target for 2050. This likely means that petrol and diesel vehicles will need to be phased out before 2050, as required by the DfT commitment. A key task for TfN in future analytical work is determining whether this national level policy should be included in the baseline scenario or the policy projections. Additionally, TfN will need to quantify the GHG emissions impact associated with these interventions.
In its current incarnation, TfN's GHG model deals with road transport emissions only in terms of average car emissions/van emissions etc. based on fleet composition. In order to incorporate uptake of low carbon fuels, TfN will need to model projections with a split for different fuel types, vehicle ages etc.

Current work on the GHG model does not consider black cabs separately. Future analytical work may benefit from trating black cabs as a category of its own, which would allow assessment of this intervention.
Motorcycles are not incorporated into the GHG model at present. They may need including in the GHG inventory and baseline projections so that this intervention can be assessed.
Does central government's fleet fall under TfN's remit, and would it need considering in future analytical work?
This policy could impact EV fleet penetration in future years and may contribute to the government's ambition to phase out petrol and diesel vehicles by 2040.
This can be simply incorporated into current analytical work.
What will be the status of this standard? Will it be binding and enforceable in any way? The exact details of the standard will determine its overall effect in reducing GHG emissions.

In its current incarnation, TfN's GHG model deals with road transport emissions only in terms of fleet emissions etc. based on fleet composition. In order to incorporate uptake of natural gas and other fuels, TfN will need to model projections with a split for different fuel types, vehicle ages etc.
What impact will EV R&D have on fleet turnover?
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Presumably this will coincide with increased uptake of EV. Appraisal of fleet composition in future years will be required to assess the impact of this policy, and to determine the GHG impact.
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This relates to the energy sector and isn't strictly within TfN's remit. They may however want to retain 'indirect' emissions functionality within future analytical work, in which case this may be relevant.
TfN will need to decide whether the Clean Growth Strategy policies should come into the baseline or policy projections. Analytical work will need to determine the GHG emissions impact of the strategy in order to project the decarbonisation pathway.

This target is already incorporated into the GHG analytical work conducted by TfN. However, the fleet changes will need to be projected in further detail - presumably uptake of low emissions vehicles will not follow a linear trend to 2040.

TfN will need to decide whether in future analytical work this target is accounted for in the baseline scenario or the policy projection. This will need to be clearly stated.

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TfN Future Travel Scenarios and Decarbonisation Pathways

1. Executive Summary

1.1 This note provides an overview of TfN's work to develop Future Travel Scenarios and Decarbonisation Pathways and how the two parallel workstreams relate to one another.

1.2 TfN's Future Travel Scenarios will be used to explore how different uncertain trends in society, the economy and national policy could influence the level and distribution of travel demand in future. By using a series of different Future Travel Scenarios we aim to future-proof our decision making as much as possible, making it resilient to wide ranging and cross-sector uncertainties.

1.3 The Future Travel Scenarios represent factors that are external to TfN's direct control and are used as 'reference case' scenarios to test different TfN strategies and policies in terms of their performance against objectives.

1.4 TfN's Decarbonisation Pathways are intended to show what policies and measures are likely to be required to achieve TfN's target of a zero emission transport system before 2050. The level of additional action required to achieve this target will vary depending on which TfN Future Travel Scenario is being considered. In each scenario, the level and distribution of travel demand is different, as is the level of national Government ambition and support for decarbonisation in the North. Assessing the decarbonisation 'policy gap' in each scenario will allow TfN to develop a resilient Decarbonisation Strategy that can adapt to different future circumstances.

2. TfN Future Travel Scenarios

2.1 Scenario planning is a technique used to inform medium to long-term strategic analysis and planning. TfN has adopted this approach to help future-proof decision making and ensure it is informed by vision-led strategic transport planning. Starting in late 2019, TfN has been working with Local Authority Partners, National Delivery Partners and academic experts to develop a new set of Future Travel Scenarios. These stakeholders have been involved throughout and have provided valuable expertise, intelligence and viewpoints, particularly regarding local strategies and priorities. The scenarios represent uncertainty across the the following five external factors:

- Growth in the population and economy;
- Spatial planning policy and the distribution of growth;

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- National environment and sustainability policy;
- Technogical change; and
- Social and behavioural change.

2.2 The Future Travel Scenarios will be used by TfN in the following ways:

- **Communicating our approach to uncertainty**: TfN will publish a report on the refreshed scenarios in early autumn 2020. This will articulate the process of developing the scenarios, our understanding of key drivers and policies, the implications for future travel patterns and how the scenarios will be used in to help TfN continue to develop its strategy for an uncertain future.

- **Use in TfN programmes**: The scenarios will be used to test a range of plans under TfN's Investment Programme and are key to enhancing TfN's Analytical Framework to strengthen business case development. By assessing which interventions perform best in a range of scenarios, we can develop transport policies and strategies that are robust, resilient, flexible and innovative.

- **Refining the TfN and Partner vision**: The Future Travel Scenarios represent a set of plausible futures with different outcomes for the North. The development and use of these scenarios helps to inform a discussion with TfN Partners on what a preferred set of outcomes should look like. Along with the other workstreams to develop the Northern Transport Charter, the scenarios can be used to help to establish a more detailed and holistic representation of this TfN vision.

- **Improving understanding of policy interactions**: The scenarios include assumptions on key policy areas where TfN influence is to some extent indirect, such as technology uptake and spatial planning. Scenario analysis provides a way for TfN to test the interactions between these policies and its transport strategy to identify synergies that contribute towards realising the overall vision. This analysis will provide new evidence on the local and national policies that complement TfN's strategy, and that TfN and partners should support.

2.3 The scenarios have been finalised in qualitative narrative form, with work to produce quantified representations of the scenarios currently underway. The key elements of these scenarios can be summarised using the following set of 'what if' questions:

- **Scenario 1: Just About Managing** - What if society keeps developing broadly following existing trends? This scenario is led by markets, without much political direction, with its biggest driver being economic.

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- **Scenario 2: Prioritised Places** – What if society becomes focused on quality of life, place-making and community, rather than primarily economic growth? This scenario is led by a change in priorities, with its biggest driver being the push for a fairer redistribution of economic prosperity.

- **Scenario 3: Digitally Distributed** – What if society achieves NPIER outcomes by using technology solutions to create connections and agglomeration across towns and cities? This scenario is led by technology and some policy influence, with the biggest drivers being technical advances and a willingness to embrace mobility-as-a-service and shared mobility.

- **Scenario 4: Urban Zero Carbon** – What if society achieves NPIER outcomes by using policy interventions to maximise energy efficient city growth? This scenario is led by public and political attitudes to climate action and urban place-making, with the biggest drivers being strong Government policy and urban densification.

2.4 The key next step is to represent the Future Travel Scenarios in TfN's Northern Economy and Land-Use Model (NELUM) to quantify the potential changes in travel patterns that could emerge in each future. NELUM is particularly well-suited to this analysis because it allows representation of non-transport policies such as spatial planning and skills.

2.5 The quantified scenarios will be reviewed and refined collaboratively with TfN Partners and taken through TfN governance in the form of a report to be published in early autumn 2020, as mentioned above.

3. TfN Decarbonisation Pathways

3.1 TfN's Strategic Transport Plan commits to lead the scoping and development of a 'Decarbonisation Pathway to 2050' so that a zero carbon transport network is at the heart of public policy making and future investment decisions in the North.

3.2 An acceleration towards a zero-carbon transport network must therefore be at the heart of TfN's investment programme planning and appraisal processes. The primary objective of the 'Pathway to 2050' will be set out how this can be achieved, based on a clear framework of targets, parameters and policies, which aligns with policy and planning frameworks at both the national and local levels.

3.3 The 'Pathway to 2050' will be built up from several components:

- **Greenhouse Gas Inventory**. A Greenhouse Gas Inventory is an estimate of the current or historic emissions from a specific set of

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sources. Following advice from Temple in 2019, we are establishing an inventory for emissions from land transport, covering all travel within the North of England with a base year of 2018 (in line with new TfN transport models). The benefit of developing the inventory in house is that embedding the carbon tools within TfN's Analytical framework will enable us to look at emissions at a more granular level than the tools currently used by DfT, we believe this provides real added value to TfN business case development as well as supporting partners in considering a more place based approach to decarbonisation of transport.

- **Baseline projections**. Taking the inventory as a fixed starting point, baseline projections show how emissions could change in future as the external drivers that affect emissions evolve over time. From a TfN perspective, these external drivers are captured by the TfN Future Travel Scenarios. This means there are four different baseline projections that TfN will use to develop its Decarbonisation Pathways. The scenarios range from projections under which limited progress is made towards decarbonisation targets, to those in which there is a more concerted national effort and progress is consistent.

- **Target trajectory**. The target trajectory is the overall annual emissions trajectory to which the Pathways will be aligned. The specific details of this will need to be agreed by TfN Board, but the end point will be a zero emission transport system before 2050, and an interim trajectory aligned to the rate of progress in the CCC's Carbon Budgets as a minimum.

- **Pathways**. The Pathways will show what additional measures are required to get from each baseline projection (based on each of the four TfN Future Travel scenarios) to the target trajectory. Measures will cover changes that affect both demand and the emissions intensity of vehicles. For some scenarios, the required additional measures will be significant, because of a deficit in national action, whereas in other scenarios more limited additional action will be required.

- **Policy analysis**. The final step will be to analyse the policies required to roll out the additional measures in each scenario and assess the extent to which TfN and Partners can take these steps without national support, or whether additional support is required. This support could be in the form of additional national policy or Government provision of more devolved funding or powers. This analysis will provide TfN and Partners with further evidence of what new policies are required for the North to realise its objectives.

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3.4 This process and these components are set out as a flowchart in Figure 1 below.

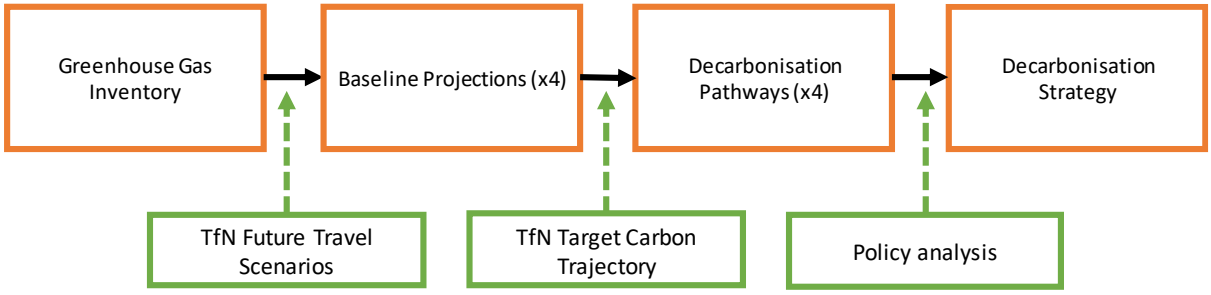

***Figure 1**: Flowchart of process for developing Decarbonisation Pathways and Strategy using the TfN Future Travel Scenarios*

3.5 Use of the TfN Future Travel Scenarios to develop our Decarbonisation Pathways recognises that there remains significant uncertainty in the level of national policy that will be brought forward to reduce emissions and in the wider drivers of demand and technology that can indirectly affect emissions. The result will be a series of Pathways, rather than one single Pathway, but there will be many common features across these Pathways that will allow us to develop a coherent, resilient Decarbonisation Strategy.

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Embodied carbon assessment of multi-modal transport corridors: project scoping

A DecarboN8 & TfN Collaboration

Context

In order to stay within 1.5-2 deg of global warming there is an urgent need to reduce global greenhouse gas emissions. Not exceeding this level of warming effectively gives a global 'carbon budget' from 2020 to 2100 and indeed beyond. This carbon budget can be ratioed to a UK budget, a city budget[1], or indeed to the transport sector. The recent Decarbonising Transport: setting the challenge paper from the Department of Transport focused only on operational emissions, and whilst it acknowledges embodied emissions in infrastructure and the transport fleet exist, it does not propose to deal with them. This is ignoring a critical part of the decarbonising transport challenge, and has a real risk of delivering decarbonisation solutions for 'tail-pipe emissions' that merely shift the carbon burden to another part of the system. To truly decarbonise transport we must both decarbonise both the operational and embodied emissions. This requires understanding and assessment of embodied carbon as part of strategic decision making for infrastructure investment, as well as systematic quantification and reduction at a scheme level.

This project proposes estimating the embodied carbon impact of one of TfN's multimodal sub-corridors in order to provide the evidence base to conduct a strategic level embodied carbon assessment, and thus enable the results to be factored into decision making.

Project Scope

- Embodied carbon assessment of the infrastructructure of a TfN sub-corridor: Tyne and Wear – South Northumberland
- Sub-corridor is in TfN's 2027-2033 phasing.
- If the different components of the scheme will deliver operational decarbonisation, e.g. shorter journey times, if provided with the operational benefit of the scheme, we could explore the timeframes that embodied carbon would be paid back in operational savings.

Life Cycle Stages included in study:

- As a minimum we will include cradle to gate emissions, which estimates the impact of the initial materials used to build the infrastructure for the sub-corridor.
- Ideally, transport of materials, construction (both machinery required on-site and modal disruption implications) and maintenance impacts for the sub-corridor will be included, however this is partially dependent on data availability.
    - Discussion of the different datasets, and scenario models to cover these life cycle stages will make up part of the embodied emissions workshop on 27th July, and will help to determine the life cycle stages that we can cover.

Key Project Steps:

1. TfN to identify sub-corridor options and discuss with Strategic Oversight Group

[1] E.g. http://www.manchesterclimate.com/sites/default/files/Manchester%20Carbon%20Budget.pdf

2. Confirm sub-corridor for DecarboN8 assessment
3. DecarboN8/TfN embodied emissions workshop with delivery partners & academics
    a. Scope datasets & models available to estimate the embodied carbon of different models across all stages of the lifecycle.
4. DecarboN8 to confirm life cycle stages to be assessed based on data availability
5. DecarboN8 team to conduct embodied carbon assessment of sub-corridor
6. Sub-corridor Results workshop with TfN & delivery partners

Expected Outputs

- DecarboN8 Webpage providing an overview (and links where possible) of all the datasets that are available to assess the embodied carbon of infrastructure
- Embodied carbon assessment of sub-corridor options, highlighting any hot spots that could be targeted for reduction.

Longer Term Plan:

- DecarboN8 will run a workshop with TfN, delivery partners & academics to brainstorm options to reduce the embodied carbon of the sub-corridor route.

Data Request for analysis:

To conduct the analysis, we will ideally need information on the below

To define the study boundary conditions:

- Mapped-out spatial boundary of the sub-corridor (and different contributing elements) to show the scale of the construction and maintenance;
- Intended design life: i.e. the timescale over which the construction, operation and maintenance impacts are expected to be accounted for, ideally will a break down for the estimated time of construction and frequency of maintenance once operational. -
    - This would likely need to be for the different sub-components, or could be by modal type, e.g. road, rail & tram.

To estimate the embodied carbon of the sub-corridor:

- As much scheme design information as is available for all elements of the project;
- Typical component build ups, material specifications and maintenance procedures;
- Typical geographical sources of these materials (these would usually be covered by manufacturers if they are a part of the National Sustainable Public Procurement practitioners)
- Operational impact of the alterations i.e. are their predicted emissions savings?

Data that could assist in filling information gaps:

- If available, cost/carbon relationships/comparison from previous projects;
- Any initial cost analysis of the schemes;
- Access to similar data on previous projects for comparison or benchmarking of environmental performance.

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Decarbonisation Policy levers

Change Lever	Policy Levers	CCC net-zero scenario			Contribution to meeting target	TfN direct influence	TfN Partner influence	National Government influence	Private Sector influence	Potential TfN enhanced ambition scenario		
		2030	2040	2050						2030	2040	2050
Uptake of Electric Vehicles	Fiscal incentives for EV purchase and disincentives for fossil fuel vehicle purchase. Increased energy supply and charge points across the North. Funding trials and infrastructure for hydrogen (H2) HGVs Restrictions on fossil fuel vehicles within local areas.	60% of new car and van sales electric	100% of new sales electric by 2035	Close to 100% of car and van fleet electric. Some HGVs remain fossil fuelled	High		x	x x x x	x x	Some potential to go further		
Increased use of Public Transport	Improved connectivity and service quality Reduced fares relative to the costs of car travel	Not addressed explicitly, only through reductions in car travel			Medium	x	x x	x	x x	High potential to go further		
Increased use of Active Travel and Micro mobility	Improved infrastructure and accessibility Availability through sharing schemes					x	x x	x	x x			
Increased use of Digital Connectivity	Policies to support enhanced home-working, replacing a subset of commute and business trips						x		x	Limited potential to go further		
Reduced car use	Road User Charging Low emission zones; work parking levies etc	Car-km 10% below baseline	Car-km 10% below baseline	Car-km 10% below baseline	Medium		x x	x x	x	High potential to go further		
Rail decarbonisation	Electrification or hydrogen (H2)		54% of track electrified and H2 explored		Low	x		x	x			
Freight transport and logistics improvements	Use of inter-modal hubs Freight consolidation centres	HGV-km 10% below baseline	HGV-km 10% below baseline	HGV-km 10% below baseline	Low		x x		x x			

1 **Note –** this table is derived from the TfN Future Scenarios evidence & represents the modelling assumptions we are making through the pathways work

What additional role could TfN take as a result of further devolution?

Ultra Low Emissions Vehicles

- TfN could seek funding to incentivise the market in parts of the North where uptake is expected to be low (rural and coastal).
- TfN could build evidence on hydrogen fuel, which is likely to be needed to decarbonise HGVs, through co funding pilots within the North and working with the LEP's to understand how carbon capture and storage will also create clean growth opportunities, enhancing the economic case for Government investment.

Increased shared mobility

- One of the key focuses from DfT currently is the exploration of mobility credits, TfN could look to undertake a trial of mobility credits to Public Transport or a MaaS, linked to the IST Programme. These are designed to ensure the distribution of equity within the Transport System and opening up of new transport modes for all.
- TfN could also play a role in promoting Car Clubs across the region, sharing best practice and coordinating local schemes to help to improve affordable access to zero-emission vehicles, incentivising the use of cars only when public transport or active travel are inconvenient, and reducing the number of cars in the fleet (reducing environmental costs and saving curb space)

Road User Charging

- The perception of road user charging is negative and needs to be carefully considered but could present opportunities to raise revenue and directly impact travel behaviour. Road user charging must be used in conjunction with improving accessibility by sustainable modes as the other significant challenge is that it does not offer an alternative.

Autonomous Vehicles including Freight platooning

- Significant research has been developed around the Autonomous vehicle revolutions with many roadmaps identified.
- In order to progress these roadmaps there is a desire and need for standards and policy in both a public and private context.

None of the above

- Role for TfN is essentially focused around agreeing investment programme appraisal criteria which are consistent with target / pathway and reflect sustainable growth ambitions of Members.
- Thought leadership, to support partners in building evidence base

TfN response to the Governments Future Transport Regulatory review – call for evidence

Transport for the North welcomes the opportunity to comment on the Department for Transport's (DfT) 'Future of Transport Regulatory Review', as part of enabling the UK's transport system to support delivery of climate change targets. We have taken this opportunity to respond to both the general principles and aspects of Future Transport referred to, and particular aspects under the Roads, Mobility as a Service and Transport Data themes.

It is encouraging that the consultation document (and other transport and environmental related pieces) recognise the importance of an integrated approach to shaping the future of transport. Collaboration is also key to understanding and informing further consideration of suitable intervention measures required across the UK. Adequate regulatory frameworks are vital to facilitate innovation whilst supporting key principles for delivering a sustainable transport system fit for the 21st century, and assist in the post Covid-19 recovery.

Contents

1. Transport for the North (TfN) – our role

TfN published its first Strategic Transport Plan (STP) and Investment Programme in January 2019. This STP is the culmination of an unprecedented collaborative effort between TfN and its Partners. Our role is to add value, ensuring value for money funding and strategic decisions about transport in the North are informed by our local knowledge, expertise and needs. It reflects the views of our Partners, bringing the regions together to consider transport solutions which connect the economic assets across the North, both internally to create an economic mass, but also externally as part of a global marketplace.

As a sub-national body, we support our constituent Local Authority Partners in the creation of their local transport and spatial strategies, and integration at regional and national level. This response has been shared with TfNs partners before its submission. We have also contributed to a joint STB response.

2. Covid-19 and STBs:

The COVID-19 global pandemic will, at least in the short and medium term, lead to changes to the way we live, work and do business. This is likely to have an impact on travel behaviour and demand. It is clear that the future for our transport system cannot be a case of business as usual. There are many positive behaviours that could and should be carried forward from the tragedy of this pandemic. As Sub-national Transport Bodies, we are committed to not just being the advocates of change, but being instrumental in delivery.

Covid-19 has shown that delivery of change to achieve objectives is possible if done at scale and pace. The high level of state intervention and investment required to tackle the covid-19 crisis sets a precedent for the level of intervention likely required to tackle climate change through decarbonisation of the transport system. The challenges and opportunities set out in the consultation document serve as catalysts for change to the transport system.

It is important to clearly articulate what success looks like, and how these different solutions can deliver a holistic approach. By supporting mass role out of workable solutions (suitable for the place in question), we can support future travel norms and behaviours that the public want to see made available. These issues are fundamental to the future of transport and go beyond the regulatory element of the consultation.

Sub-National transport bodies can add considerable value in providing strong and cost effective leadership on issues that are of regional significance. STBs have an ability to draw in expertise from Local Transport Authorities and Local Enterprise Partnerships, as well as delivery partners Highways England and Network Rail. Working at a strategic scale enables STBs to rise to big strategic challenges such as rebalancing economies, decarbonisation, and addressing the disconnection of communities. STBs focus on the regionally specific aspects of such challenges, where we can add most value and monitor and evaluate programme impacts to maximise benefits and value for money role out of National ambitions and principles.

This provides a mechanism and opportunity to make a real difference in this area and achieve economies of scale. STBs also have a track record of looking at

aspects across 'sector' boundaries, and we would also encourage a strong cross-departmental approach to deliver this agenda. A holistic approach and the co-ordination of numerous funding streams would ensure opportunities are realised to their maximum effect. The challenges posed by Covid-19 are significant for governments and local authorities everywhere. However, this also presents an opportunity to consider transport policies and shape Future Transport to deliver the vision we want to see.

3. The importance of future transport solutions which deliver TfN's ambitions for environmental and sustainable outcomes

Championing an inclusive and sustainable North:

TfN's Board members have set out aspirations for an inclusive and sustainable North, prioritising and supporting a net gain in environment and biodiversity, as well as supporting rapid decarbonisation of the transport network. Transport accounts for around a third of the UK's greenhouse gas emissions and reaching net zero by 2050 requires urgent action. An acceleration towards a zero-carbon transport network must be at the heart of public policy making and investment decisions.

When defining a future for the North's transport system, we need to ensure that we do this in a way that is sustainable and inclusive, embracing the diverse range of needs of our 15 million people and the environment that sustains them. We need an appraisal system that will enable investments that support transformational economic growth, whilst delivering environmental and social benefits.

Identifying and promoting low carbon transport intervention measures:

Future Transport solutions offer opportunities to make significant progress in our shared ambitions for a net zero transport system no later than 2050. This needs to be shaped by an integrated whole-systems approach, where sustainable low carbon mobility is the preferred option for most trips. This requires a long term, sustainable approach to planning, scheme appraisal and managing our environment and assets.

This may be possible through a combination of behavioural change; increased public transport use; new technology; on-demand, flexible or shared mobility; active travel; electrification (or other low carbon energy options). It should be supported by a whole systems approach, with much more integration of transport, energy, housing infrastructure and associated land use planning.

Regions which support in research and development, innovation and create new technological solutions grow faster than those that do not. This can provide a reliable pipeline of skills in the North, which could attract and retain employers to support a 'levelling up' effect. There is an opportunity to harness North's growing digital, energy and innovative capabilities, by using the North as early adopters or a test bed to strengthen the UK's competitive advantage globally.

TfN's Future Travel Scenarios:

The call for evidence outlines how Future Transport may have positive impacts (reduction of car ownership, increased in shared transport and active travel, decarbonisation) and negative impacts (competition with active travel over short distances, increased use of private modes or hire vehicles and decreased use of public transport).

It is important to remember that travel is a derived demand and that these are examples of future uncertainties driven by a range of factors (both transport and non-transport). These trends pose both risks and opportunities which will require vision based strategic planning. TfN have developed its Future Scenario Framework to tackle future uncertainty and understand a variety of road maps for the North towards our overall future vision. We intend to apply these scenarios to TfN's Analytical Framework to deliver robust, resilient and agile transport policies and strategies.

Our scenario development helps us understand the key drivers of future change and the policy levers or solutions available to reach our vision. By interrogating evidence on aspects of this call for evidence (micromobility, shared transit, MaaS) and other factors (such as active travel, modal shift, future technology and decarbonisation measures), we can better understand associated travel demand and carbon emission impacts across different scenarios.

This tool will also be made available to partners to increase capabilities across the North, ensure agile strategic planning, and support integration across potential boundaries as new innovative transport solutions are developed. We have collaborated with DfT during development of our Future Scenarios and will continue to do so, to ensure intelligence sharing, clear understanding of their intended use, and a consistency of approach were appropriate.

Developing a Decarbonisation Pathway:

Further to their application to our Investment Programme, TfN's Future Scenario Framework will enable the implementation of the decarbonisation pathways by providing a road mapping tool to assess carbon emission factors against different mode choices and transport solutions. This will allow for identification of carbon policy gaps and help to inform development of Transport for the North policy positions on decarbonisation and appropriate intervention measures. The 'Pathway to 2050' will set out how these policies and interventions can contribute towards meeting UK carbon budget targets.

4. TfN response to the Government's Future Transport principles and themes

a. Achieving inclusivity as a fundamental principle for Future Transport:

Whilst future transport solutions and enabling transport technology advancements are exciting, we must consider their applicability to the different communities and businesses. To achieve mass implementation of these different modes as part of our transportation mix, these solutions need to be accessible by all who can safely undertake travel by any particular means. This also applies to active travel. To achieve this, we believe inclusivity should be brought out further within the guiding principles for Future Transport.

Individual STBs and local authority partners are best placed to advise on whether micro-mobility options should be allowed on the road or cycle paths and the modal shift impact it may have. However, safety and inclusivity are critical and any solution should not be at the expense of pedestrian safety and disabled access quality or experience. Consideration needs to be given to the size of the device/vehicle in question, maintaining high quality public realm (e.g. not confusing or cluttered), ensuring consistency across local authority boundaries and appropriate guidance needs to be made available to users and police.

Any regulations and supporting activities should provide a framework that ensures all parts of society are able to use Future Transport and MaaS solutions. This should include:

- Appropriate consideration to development which supports the use of those with protective characteristics.
- Consideration towards affordability of solutions across the UK is also vital, to ensure technology does not outprice willing participants.
- Clear guidelines on how any solution may support the disabled to improve their connectivity and accessibility.
- Solutions which encourage widespread uptake of appropriate new modes by families and the older generation.
- Considerations need to include the societal and spatial assessment of different needs of urban and rural areas. Just because a technology, measure or service succeeds in one location does not mean it will succeed in another across the UK.

MaaS must be accessible to all demographic groups in the population, but existing regulations mean that it is likely to present a number of accessibility and inclusivity concerns. By design, MaaS service consumers will have greater access to a range of transport provision, which are not fully accessible to all and are inherently difficult to make more accessible. A study about MaaS in metropolitan areas (published by the Urban Transport Group in 2019) suggests that whilst people that are "Tech savvy" and "early adopters with a high disposable income" will respond positively to MaaS, this can leave out people with disabilities, those on lower incomes, and those who live in less central and dense urban areas.

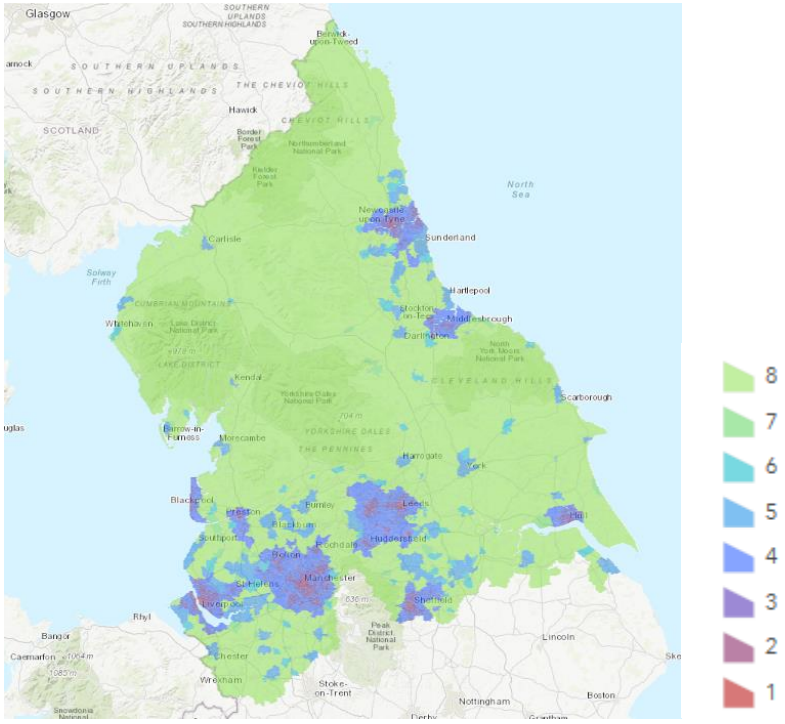
b. *More consideration to different place types required:*

The main references to rural interventions throughout the call for evidence is in relation to flexible bus services. We would encourage the Government to consider rural risks and opportunities in greater detail across its Future Transport workstreams. These areas currently experience a variety of transport connectivity challenges, or are car dependant. This consideration should also be extended to understanding of semi-rural areas which are prevalent right across the UK.

Our assessment of Middle-Super Output Areas[1], we found that 27% of the North's population live outside of the North's large towns and cities and their immediate fringes. This includes areas classed as rural, small to medium urban areas, and towns with population up to 100k. Clearly some of the Future Transport aspects are more suited to large town and city areas, (just over 50% of the North's population living within a large urban setting over 250k population).

However, there are solutions and benefits that should be applied across all area types to increase sustainable and multi-modal connectivity options. This can increase opportunities available to those who live in such areas, such as access to jobs, education and leisure activities. This might be through direct A – B connections or enhanced and integrated multi-modal and public transport options.

Figure 1: TfN Area Types based on Middle-Super Output Areas



[1] *Based on NTEM CTrip-End classification, which identifies 8 Middle-layer Super Output Area (MSOA) types. TfN has redefined the top four categories within that classification ('Inner London', 'Outer London', 'Metropolitan Areas' and 'Urban Big'), to ensure relevance to the North of England and to distinguish between the city centre and suburban areas in the North. This is based on three categories: 2018 employment, population; proportion of people living in flats.*

A focus on solutions across all area types is key if the UK is to meet its decarbonisation targets and the pathways as set out by the carbon budgets.

c. *More focus on rail required:*

Whilst we agree that the majority of future transport interventions will be covered by the workstreams themes, we suggest consideration towards a rail workstream, as this feels omitted across the 8 workstreams identified. If the intention is to include this as part of the integration of different transport modes under MaaS, then we suggest making this clearer. This should be consistent with, and informed by, the findings from the recent Williams review. This is particularly important as TfN develops its plans for Northern Powerhouse Rail and integration with HS2 and the wider rail network.

Transport for the North have previously responded to the House of Commons Transport Select Committee Inquiry into trains fit for the future. TfN's Long Term Rail Strategy recognises the importance of enhancing rail's wider role in society and reflecting our global responsibilities, including the reduction of greenhouse-gas emissions, the transition to sustainable energy sources and reducing the pollution caused by transport activities. Developing new technologies to support a cleaner transport system and supporting modal choice to public transport is therefore a fundamental part of our plan to 2050. TfN fully supports development of battery and hydrogen traction noting the potential for regional and UK-wide benefits arising from the development of battery and hydrogen propulsion technology in the North, for example at Teeside, Liverpool City Region and Ellesmere Port, and Cumbria.

Train stations have the ability to act as strategic mobility hubs, using the rail network as a spine for integration with wider catchment areas via the highway network. Whilst rail will serve a substantial number of people, about 90% of our journeys are currently by road. 60 – 70% of people also chose to drive to work pre-covid. Therefore linking road and rail through station hubs has the potential to de-silo connectivity benefits and increase the commercial viability of MaaS solutions across the place types referred to above. This has, in part, been recognised in the recent Government provision of indicative local transport authority funding allocations for light rail and cycle facilities at railway stations.

Whilst significant proportions of journeys are by road, TfN holds an aspiration to deliver a significant modal shift to rail. Both NPR and the wider strategic rail network are vital to delivering TfN's Strategic Transport Plan aims for connectivity for people and businesses all over the north and UK. This includes across the different geographies, markets, services and visitor economies referenced in section 4b.

Further integration of smart ticketing mechanisms is also a must if we want to ensure interoperability of data across modes and support MaaS.

d. Roads theme, particularly the Low or Zero Emissions Vehicles

Road re-allocation measures:

We need to learn from experiences during the covid-19 pandemic, to understand and apply best practice regarding road space reallocation. Roads have the ability to be flexible and agile to required changes in use. Any successes realised during this period should see continued support to meet our overall vision, including the continued funding support and powers of enactment.

The ideal solution would be to have comprehensive networks of cycle/micro vehicle routes across a place. However, this can be challenging and land demanding to achieve. This transport challenge should be kept in mind during planning for any new developments, such as Garden Village schemes.

This will also be key to delivering better buses and also to increasing active travel uptake. These should be fundamental parts of our transport solution mix. Considerate urban design should create an integrated transport system that promotes walking and cycling is key, as this can encourage people to choose active means of travel. The integration of regional and local trips is vital to ensure we support the increase in these modes, providing the user with the availability, efficiency and safety of good quality connectivity options. **We will work with our delivery partners and local authorities to explore how best to achieve this, whether it is driving 'best in class' standards or supporting specification and development were appropriate.**

Petrol and diesel cars, VED call for evidence:

We were pleased to see the Government pledge to ban new petrol and diesel cars by 2035, something we called for in our Strategic Transport Plan. Reducing greenhouse gas emissions from the transport network, at a pan-Northern and a local level, is a key priority for TfN. We recognise that this is not just a transport challenge; any reduction in carbon emissions needs to be linked with a wider national energy strategy.

It was also positive to see the Government's ambition for between 50% and 70% of new car sales will be zero emission by 2030, and the HM Treasury call for evidence on exploration of ways to improve the ability of Vehicle Excise Duty (VED) to incentivise lower-emission car purchases. Potential VED changes can be a useful method of influencing vehicle purchase decisions (as a separate tax to any vehicle usage decisions), and can be a useful tool to shape a trajectory towards to phase out of fossil fuel vehicles.

It is important to note that if we are to meet the targets outlined, we must apply supporting policies to get their effectively. As the CCC point out, we are not on track for the 4th and 5th carbon budgets as things stand, and whilst the foundations are available, more action is required to meet these targets. It is also vital that we learn from successes and the lessons of other countries in this area, with the Netherlands and Norway indicating systems that could provide valuable insights to our own. **We would like to understand whether, as part of this theme, the Government is considering the use of policy levers in the form of fiscal measures (road user, pay at point of use, carbon credits)? We note the complexities and sensitivities in relation to policy levers such as these, and would be willing to work with the Government and our partners to further explore application risks and opportunities.**

Electric Vehicles:

Accelerated and co-ordinated delivery of Electric Vehicle charging infrastructure is required across local, regional and national networks. Dedicated and continuous funding will enable forward planning and rapid delivery of a widespread EV network which ensures no place is left behind. This, alongside modal shift (i.e. active travel and public transit) and behaviour change (i.e. working from home) can provide a transportation mix which supports improvements to air quality and the UK in meeting committed carbon budgets.

During the covid-19 pandemic, car is believed to be the safety mode of transport for distances not suited to active travel. This has the potential to challenge our aspirations for reduced congestion, improved air quality and decarbonisation whilst low-carbon solutions (i.e. EV, hydrogen) are not seen on mass.

The role of Government on setting policy for the deployment of EV infrastructure is key (i.e. how to tackle properties that have no driveway, working with large companies to understand any barriers to flexible use of carparks for evening charging). Consideration is also required for heavier duty vehicles such as HGVs, which require a more powerful solution. Other energy methods should be considered here, including the use of hydrogen. The North has seen a number of advancements in this area in recent years, with Teesside and Merseyside seeing advances in this area.

In response to a TfN call for evidence (Dec 2019), our partners outlined areas TfN might consider to support this aspect of Future Transport. These include:

- Comprehensive guides on charging points;
- A central point for strategic intelligence and co-ordination towards local, regional and national road networks and application across the region;
- Forums, best practice sharing and knowledge on usage of charging points and networks across the region (Local roads, Strategic Road Network and Major Road Network) to ensure EV capacity is effective and efficient;
- Research support, i.e. we have begun collaboration with Northern Distributor Network Operators to deliver strategic results;
- An advocacy role;
- Support supplier and business collaboration;
- Support through data intelligence.

We will work with our partners to understand the value added of each, and methods of supporting our partners and the Government in delivering aims for Zero Emission Vehicles. As with Future Transport references above, TfN are open to discussing these further with the Government and Delivery Partners (Highways England) to support enhanced delivery of sustainable transport solutions.

We note the work underway by Government to develop a plan for a rapid / high powered chargepoint core network during 2020. It is not clear whether this is solely electric or if consideration is being given to other energy sources such as hydrogen as per advice from the Committee on Climate Change. **TfN would like to know how this plan interacts with the wider Major Road Network and Local Road Networks, and are willing to work with Government and Highways England to assess this further to ensure quality coverage is**

achieved, integration is reached during the lifetime of the plan, and no place is left behind.

Monitoring the Major Road Network

Monitoring the Major Road Network (MRN) through Mobile Phone Data insights to understand journey purpose and demand – this data can provide insights as to why people are choosing to drive as opposed to using public transport or active modes, nudges can then be used to support modal shift. Data and funding for Major Roads could be used to bolster the North's MaaS offering through Demand Responsive Transport (DRT) services, behavioural nudges, and improved active travel spaces. Furthermore, access to car clubs through MaaS schemes or independently could see reliance on private car use and ownership decrease.

5. Response to the role of an STB towards Future Transport and Mobility as a Service

- *(Question 5c.3 - In this context, what role might sub-national transport bodies most usefully play, in your opinion?)*
- *(Question 4.1 - In your opinion, in the development of Mobility as a Service platforms, what should be the role of local authorities, central government, or other transport authorities?)*

TfN activity which can inform how STBs can support delivery of Future Transport solutions

Following development of our Future Travel Scenarios (see summary above), TfN undertook an initial stakeholder consultation to better understand the region's position with regards to Future Transport. Initial feedback has confirmed that TfN and its partners priorities remain in line with each other, with responses prioritising themes particularly focused on:

- Environmental and sustainability (enabling decarbonisation);
- Delivering an effective and integrated mobility system;
- Focus on the customer and opportunities;
- Modal choice;
- Leading innovation (in particular in supporting the North as a test bed).

However, there have been different plans, strategies and levels of work undertaken to date across our region's networks. There is a varying uptake of future activities around Demand Responsive Transport, Smart Ticketing, Micromobility, Smart Parking, Electric Vehicles, Connected Autonomous Vehicles (CAVs) and Mobility as a Service (MaaS). Varying plans and strategies should not be seen as a negative, as there are a mixture of enablers which may best reflect the different local area types, strengths and opportunities seen across the North (and indeed the UK).

However, the current penetration Future Transport aspects is medium to low in the North and feedback suggests there are consistent barriers across the region.

TfN's partners have provided initial insights on how best TfN can support our local authority partners and the Government in planning and delivering successful Future Transport measures. This suggests that TfN could act in an enabling capacity, to bridge gaps in delivery and stimulate active development and implementation of Future Transport measures on mass. At the time of writing, the activities outlined in Table 1 require further work with our Local Authority Partners to understand their expectations, the opportunities and value added of each, and agree suitable methods. This includes consideration of TfN resource available to support such activities, and agreement via TfN Governance structures.

Depending on the suitable measure of delivery, some responsibilities outside of TfN's core activities and objectives, or that of our partners, may need to be matched by appropriate funding, responsibilities and powers (without removing

local authority powers already in place) to ensure effective delivery and implementation (i.e. enforcement).

Table 1: Emerging options for TfN (STBs) role in Future Transport, for further consideration and evaluation.

	Act as advisor, enabler and facilitator for the North
1	Build on excellent partner engagement to date through new or existing partner engagement groups focused on this, and related, subject matter. To facilitate integration, sharing best practice, lessons learnt and research and knowledge – in order in support local plans and strategies, and fuel progress on the 'Future Transport curve' across the sub-national area.
2	Consider collecting a repository of this knowledge will enable TfN to better inform policy and strategic direction within the North and enable knowledge transfer between partners. i.e. capture lessons learned from Future Mobility Zone bids and explore of how these bids and plans could be strengthened and opportunities supported from a regional perspective.
3	Supporting collaborative engagement and partnerships across the wider transport industry / private sector buy in and good practice, which support Northern partners in the delivery of Future Transport solutions.
	Provision of evidence and strategic support towards Future Transport uptake across the North
4	Continue to further develop frameworks to inform strategic planning which ensures resilience, agility and robust evidence (i.e. Future Scenario Framework, Decarbonisation Pathways, TfN Analytical Framework), and seek and support partner use for their own strategy development. Evidence building for Future Transport solutions in the North to create a reliable picture of future travel demand through our Future Scenario work and TfN Analytical Framework. Providing data collection, validation, analysis and evaluation.
5	Support accelerated and co-ordinated delivery of Electric Vehicle charging infrastructure across local, regional and national networks. Including other low / zero emission solutions such as hydrogen across the North's road and rail network. Improving the partner working and collaboration across the North, including with the energy sector. See section 4d of our response to Government.
6	Support interoperability and integration between modes to enable enhanced multimodal journeys (i.e. interaction with locally led aspects such as bus, light rail and active travel; better use of train stations as hubs and connection points).

7	Support towards strategic approaches for urban / rural areas, coverage of travel to work areas, and door to door journeys across both local and strategic networks.
8	Partners have sought further mechanisms for advice regarding regulations and enforcement changes.
9	Thought leadership and evidence towards integration of Public Transport, MaaS and active modes. Use of Data to monitor road and rail network demand and performance, utilising that intelligence to support the application of Future Transport solutions and to leverage good MaaS which induces modal shift.
10	Building an understanding of what 'Good MaaS' looks like; and support to local Strategic Transport and Sustainability Plans.
11	Development of a Data Strategy to enable enhanced use of data to capture and use passenger flows and demand, particularly the interoperability of data between systems. Applied as a pillar to support wider Future Transport activities and measures.
	Support trials and implementation of Future Transport measures, and effective transition to implementation and mass role out
12	Exploring trials and pilots and ensuring they fit the region's wider strategic transport objectives. Supported by adequate funding, responsibilities, powers additional to that at local level, and regulations which enable a 'fleet of foot' to deliver well timed Future Transport solutions. This may provide opportunities for Government to test policy and legislation through TfN as a delivery agent, before rolling out as national solutions. See section 5iii for more details.
13	Support Partner Future Transport trials to provide opportunities for further testing of an ideal MaaS delivery model and support transition into implementation and BAU. Supported by facilitating and collaborative engagement indicated above.
	Articulate the ambition of the North, support and inform the wider National Government agenda
14	Enable enhanced feedback to national Government to shape and inform the Future Transport agenda (including decision making and regulatory reviews).
15	Articulate the voice of the North in key Future Transport and MaaS at key groups, events and forums.
	Support Future Transport through provision of key enabling tools and application of TfN programme expertise

16	Enhanced utilisation of TfN's existing Open data platform: Open Data Platforms are key to enable MaaS and provide MaaS platforms with key information about network operations and network assets. To enable MaaS in the North a Pan Northern Open Data platform would be essential that provides a single source for Transport Data for the North.
17	Support further adoption of Integrated Smart Ticketing, information, and platforms on bus. Enables buses and smaller operators to be part of digital MaaS solution, and ensures bus services are MaaS ready.
18	Support further adoption of Integrated Smart Ticketing, information, and platforms on rail. Ensuring compatibility of its IST rail smart tickets/Account Based ticketing with other regional modes. This would ensure any future MaaS developments in the North are inclusive of rail and promotes interconnectivity in the North.
19	Progression of Real Time Information to ensure the ability of a MaaS solution to optimize services and improve efficiency in the network. To support MaaS in the North or in key Northern areas it would be essential to provide Real Time Network and Asset Information (EV Chargers etc.) to MaaS platforms.

6. Response to Part 1 (Micro mobility) and Part 2 (Buses, taxis and private hire vehicles).

As a regional body, we support our Local Authority Partners in the creation of their local transport and spatial strategies, and integration at regional level. As mentioned, our 20 Local Transport Authorities are on different points of the Future Transport curve. But some have already explored this transport option or are considering options for the future. Our local partners are best placed to provide intelligence and respond to these sections of the call for evidence. We have provided some general responses and guiding advice to these sections in line with our STP objectives and vision for transport across the North.

Micromobility

Question 2.1 - Do you think micromobility vehicles (such as those in Figure B) should be permitted on the road? Please explain why.

Micro-mobility clearly presents opportunities to enhance inclusive connectivity and modal shift, as well as reduce congestion, air pollution and carbon emissions if regulated and managed well. Micro-mobility use has the potential to boost public transport use through connectivity. These mobility solutions have the potential to play a significant role in supporting and enabling first mile/ last mile legs of journeys to and from bus and rail services, particularly within urban areas where there is by default more sustainable services due to the higher density of population (making micro-mobility schemes more commercially viable).

We note that the largest benefit in carbon terms from Micromobility would come from the mass adoption of e-bike in urban, peri urban and rural localities,

replacing the 5-10 mile "short" journey that makes up most car-based trips. The KiM Netherlands Institute for Transport Policy Analysis Mobility Report 2016 states:

- 'The average distance covered by e-bike was 5.3 kilometres. Hence the range of an e-bike was one and a half that of a 'normal' bike (averaging 3.6 kilometres per trip).'
- 'Almost 60 per cent of e-bike owners confirmed the statement that using their e-bikes had resulted in less travel by car and 30 per cent reported that it had resulted in less use of public transport.'
- 'Almost two thirds of all e-bike owners stated that since they had bought an e-bike, they cycled more frequently, over longer distances and faster.'
- 'Two thirds of all e-bike owners endorsed the statement that it was an advantage to be able to ride faster. Almost 90 per cent stated that getting tired less quickly was an advantage. The fact that people identified this latter argument as an important one underlined that convenience and comfort weighed more heavily than speed: for this reason, people tended to undertake longer trips, thus covering greater distances, rather than to ride faster.'

The Micromobility solutions highlighted in the call for evidence also have the potential to overcome barriers that currently deter active travel. Geography and particularly hilly areas can deter pedal cycle use. With their short range, micromobility solutions can help overcome these topographical barriers that put people off from walking or cycling for what would otherwise be a comfortable distance by these modes.

We agree with the intention to trial these aspects further and both real world and regulatory tests will allow a better understanding of approaches, and useful lessons can be learnt from both positive and negative experiences. Simple and easy to follow guidance and legislative requirements is vital, as well as management and regulation powers to ensure proper use of any transportation method. We feel the North provides an ideal test bed to understand further how different micro-mobility solutions may impact different place types, but also importantly how these may be integrated across a wider geographical area to deliver consistency and integration were appropriate. Providing a wealth of understanding to support the North and wider UK.

With that in mind, we agree with the reference to Local Authorities or regional mayors potentially having more powers to deliver such transport options at a local level. With a national framework in place to support this and allow for flexibility in delivery. To achieve optimum delivery and management of such options, it is important to know and understand the local area. This includes how infrastructure, landscapes and spatial plans differ. This is particularly relevant across the North where we see a range of urban, semi-urban, rural and remote place types. For example, East Riding of Yorkshire, Transport North East and Liverpool City Region are all trialling micromobility and bike share options at present. This potentially provides a wealth of understanding to support the North and wider UK if used in the right way.

Our local partners will be able to advise on whether micromobility options should be allowed on the road, cycle paths or pedestrian areas (as above), and the modal shift impact it may have in their area. However, we would point out that

safety and inclusivity are a key importance here, and that any solution should not be at the expense of walking and disabled access quality or experience. It should also align with individual approaches to place making and active travel strategies such as cycle network and 'place' strategies seen across the North. The examples your report quotes from around the world suggest similar approaches to this challenge.

Urban and peri urban localities will derive the most benefit (to congestion) if a mode-shift from single occupancy cars can be achieved. However often the geography or form of these conurbations does not lend itself to scaled segregated spaces – unless the area restricts access by other modes. The ideal solution would be to have comprehensive networks of cycle/micro vehicle routes across a place. However, this can be challenging and land demanding to achieve. This transport challenge should be kept in mind during planning for any new developments, such as Garden Village schemes.

COVID-19 has brought forward e-scooter trials and consideration is needed to ensure that these are implemented properly, and that formal evaluation is put in place. The best trail approach may be to adopt no or low-car access where appropriate to for all micro vehicles alongside footways for walking. This may then be supported by the approach to road space during the covid-19 period, and it may be sensible for the law to permit local authorities in allowing micro vehicles through traffic regulation orders on routes they see as suitable.

Furthermore, any decisions should not be made in isolation to the use of roads. Our infrastructure may see a change in use over the coming years, whether it's more shared transit or an increase in EVs / CAVs, the road network will remain important and will need to remain efficient and reliable. Almost all journeys start and finish on local roads, providing a consolidation point between stations, park-and-rides, or other destinations. Roads fundamentally play a major part in everyone's life. Whether as a pedestrian, cyclist, bus passenger, driver or freight operator - we all rely on a well-functioning road network to access jobs, education, leisure, goods and services. Investing in our roads is vital in providing a sustainable, multi-modal transport system.

Questions 2.3 & 2.4 - In your opinion, which of the following micromobility vehicles should be permitted, if any, on roads, lower speed roads, and/or cycle lanes and cycle tracks?

The ideal solution will differ from place to place. However, TfN recognise the need to set clear, safe and innovative regulations to provide a framework for this. Some micromobility vehicles should be permitted on the road, by applying existing guidance for cycles/eBikes where suitable. Roads often have a better surface condition than footpaths, as well as being gritted in the winter months. The utilisation of road space will also avoid conflict with pedestrians. As above, the road surface is an important factor, as potholes represent hazards for users of such vehicles, and if not avoided could result in personal injury and damage to the vehicle.

In line with the Government's Principle 6 (*Mobility innovation must help to reduce congestion through more efficient use of limited road space, for example through sharing rides, increasing occupancy or consolidating freight*), we should not lose sight of impacts and benefits for freight transportation. As legal frameworks change, we should ensure existing methods such as cargo bikes or

new innovative micromobility solutions are supported and considered within the user mix. We suggest that large e-bike(s) and powered trailers could be used on all roads excluding Motorways/dual carriageways. This would support a shift towards low emissions freight and support a mode which isn't suitable for cycle lanes or pedestrian walkways. There is evidence that these larger forms of vehicle can operate safely and effectively in Low or Zero Emission Zones at minimal cost to consumers and business. For larger (emerging) powered delivery vehicles, guidelines should be developed as the highway/road is the only viable place for use.

Similarly, electric skateboards/uni-wheel/hover boards can pose significant safety issues for other active travel modes due to issues with user competence and technological limitations (braking etc.), but may not be suitable for roads either. They should use cycle paths and tracks were possible. Although care needs to be given towards the safety of other cycle path and track users – particularly children and less confident users.

Micromobility should not be at the expense of active travel – care should be given in considering any of these modes for use on walkways.

Question 2.8 - In your opinion, what should the requirements be for micromobility users?

We agree that regulation should be proportionate to the risk, however we would note that not all micromobility options are of a lighter and slower composition. Regulation, maintenance checks and training would likely be required to ensure proper use and application, in line with EAPC requirements currently. In other areas, regulations should go further:

- Suggest a minimum age of 16 as seen in Barcelona. This is further to the EAPC which states 14 years of age.
- Speed limits should be regulated by design speed to 12.5 mph.
- No taxation should be required to encourage uptake.
- Sufficient training and licences should be considered for some modes.
- But we would stress that these measures require testing in the real world to form an evidence base to support final regulation decisions.

Buses, taxis and private hire vehicles

Transport for the North's Local Authority partners manage and invest in local transport networks within their economic clusters, and this includes working with Operators to deliver bus services. We note that the Bus Services Act 2017 potentially gives local authorities new powers through partnerships or franchising to regulate buses in their area, and this has potential to deliver transport services to the customer suitable for a particular location.

Whilst bus services are clearly the responsibility of our local partners, TfN's Strategic Transport Plan set out the importance of a multi-modal approach across the region, '*It is important that the North's transport network delivers a future mobility which is right for the customer. People should be able to have a seamless travel experience, including improved ticketing and better journey information. Currently, integration is poor and information and ticketing systems are fragmented and complex. This improved travel experience must be made not just on pan-Northern routes, but also at a local level, including on light rail, rapid*

transit and buses.' Importantly, bus services can provide additional connectivity and capacity without increasing the number of vehicles on the road network.

The main challenge for any shared transit option is its attractiveness and commercial viability when compared to the private vehicle. The Government's Decarbonisation Transport Setting the Challenge rightly sets out how accelerating modal shift to public and active transport can help reduce emissions from transport. However, this will likely require a combination of public confidence, enjoyment of the shared services provided and demand measures suitable to the local area in question. Examples are emerging which provides confidence that these solutions can be a successful part of the mix.

The call for evidence notes the success of flexible bus services such as Arriva Click in providing a new innovative solution within Liverpool and Leicester. 40% of the customers using the Liverpool service have switched from single occupancy cars or taxis, indicating a clear modal shift. These projects provide useful lessons learned which should be easily transferrable to other urban areas around the UK. It also provides an opportunity to test these types of services in more rural areas to understand whether similar benefits can be recognised. The rural bus service is fundamentally important to many rural and even semi-urban areas around the North, and the wider UK. Without this lifeline connectivity, we risk large scale social isolation or a dependency on car as the only method of transport. That is why we agree to Question 3.10 and the use of flexible bus services as part of the solution, but this should not be at the expense of reliability and effectiveness of the whole bus service provided to the people within these communities.

In answer to Question 3.12b, the role of the local road network cannot be forgotten, particularly the issue of the ongoing maintenance of the network, which also serves buses, rapid transit, cycling and walking. Whilst some of TfN's work is focussed on new strategic interventions, specifically on the Major Road Network, one of the objectives of the Strategic Transport Plan is to increase the reliability and resilience of the transport system as a whole. It is critical to ensure that ongoing funding for local road maintenance and asset management, as well as maintaining and renewing local public transport system, reflects the real needs of such networks. Our Strategic Transport Plan included plans for the road network which is integrated with our plans for rail and smart ticketing to transform the way people travel in the North.

Furthermore, strategic rail-based park and ride also remains a relatively untapped market across the North. As major rail interventions such as Northern Powerhouse Rail are developed, understanding the opportunities for strategic park and ride to reduce overall levels of car mileage and volumes of traffic entering urban areas will be important. Through consideration of micro-mobility options when calculating journey times, some new stations or strategic rail developments could perform better in business cases. This is as stations are accessible in quicker times due to micro mobility reducing the overall journey-time.

Flexible bus services have faced issues relating to the lack of commercial viability. Successful schemes will often require proportionally significant high 'up front' funding, and a sufficient volume of regular users for them to be financially

viable in the longer term. This may be difficult in areas where alternative conventional public transport provision or access to convenient private transport is reasonably high. The current regulations requiring services to be pre-booked are onerous, as is the requirement for services to operate in a limited geographical area. We would suggest these regulations should be reviewed to remove some of the barriers to longer term viability.

TfN suggest flexible bus service schemes are designed with an understanding of local needs, to harness opportunities for service take-up. Consideration needs to be given on how conventional public transport services in some areas can operate alongside flexible bus service options, so as not to dilute remaining use. Flexible bus service options might be an effective option in the short and medium term following the impact of Covid -19 on public transport use.

7. Response to Part 3 - Mobility as a Service

TfN consider this to be a key enabler in encouraging individuals to choose more sustainable travel options. MaaS can play an important role in the future mix of our transport options, and place the user at the heart of the transport network. TfN encourage a multi-modal approach to the connectivity of the customer in the future, and MaaS can help to facilitate a shift from separate modal journeys to 'one journey'. However, to date, MaaS has not developed as quickly as it could have and can be complicated by piecemeal approaches and complex regulations.

There are examples of European cities which had been developing into Mobility as a Service (MaaS) markets pre-covid19. In such cases, there was a shift to commuters viewing public transport as a safe alternative to private transport, with a flexible and dynamic range of modes across one platform. However, the onset of Covid-19 means that MaaS, and particularly the aspiration for increased shared transit, will need to evolve too if this trend is to continue.

We would like to see a clearer definition of roles and responsibilities in the development of MaaS. Government should lead on the understanding and communication of what 'good MaaS' looks like, and steer it in the correct direction to ensure optimisation that meets the needs of the consumer. MaaS needs a clear Government mandate, without being overlay regulated. Most importantly, this requires an outcome-based approach to delivery in order to navigate what can be innovative changes to a complex system.

Local authorities and STBs have a vital supporting role to government in the development and mass implementation of MaaS, providing advice and guidance to ensure that the development and day to day operation of services is optimised for their local area. One of the key aspects of the Local Authorities and STBs role would be in determining the specification of the optimum network for their area, identifying best practice and working across regional boundaries. Local Authorities and STBs know their areas and are well placed to leverage additionally from such programmes – potentially accelerating the deployment and mass role out of these Future Transport solutions. This should include those solutions which may be provided by smaller localised providers. This would require new funding models, which could include Central government or the ability for local revenue generation, and would see local operator groups as beneficiaries, as well as seeing increased patronage.

In terms of ensuring active travel is considered as part of MaaS. This will need to come from either communication of the carbon emissions per mode to allow an informed choice, or for Government to go further and explore carbon fiscal policies. By including a cost on carbon, the market would see a faster shift to EV, ULEV or active travel as a first choice of mode.

i. Enabling trials of new modes

Question 5b.1 - In your opinion, which specific areas of road traffic law might benefit from having a statutory exemption power included to help support safe trials of transport technologies? Why have you suggested these areas?

Question 5b.2 - In managing the risks of allowing exemptions to transport legislation for trials, what do you believe should be the role of:
- *Local authorities?*
- *Combined authorities or the Greater London Authority?*
- *National government?*
- *Trialling organisations?*
- *Other?*

TfN welcome the intention for a series of trials, both regulatory and physical – to help prove the commercial case for innovations, but also to identify that each one can deliver the social, economic and environmental benefits sought and manage risks we want to avoid. Travel patterns are diverse and often extend across local authority boundaries.

Based on TfN's evidence building to date, there is some support for TfN to consider the support of trials. This is something we will explore further with our partners. In the first instance we would suggest Local Authorities are provided with sufficient backing and robust legal frameworks (responsibilities and powers) to enable pilots and trails. Funding mechanisms (new or existing) will also need to be in place to adequately deliver trails and ensure effective delivery and implementation.

TfN will consider what role it can play in supporting this. We are aware that other STBs are suggesting STBs should have the power (concurrent with local transport/highway authorities) to declare 'trial areas'. Experience from covid-19 suggests that doing things at scale and at pace can effect change in ways that we have often aspired to but never achieved – STBs operate at scale, and by working with our partners can be a driver for innovation. **We are willing to work with the Government and other STBs, informed by our own Local Authority partners, to better understand the merits of such an option.**

ii. Commercial sensitivity and deliverability for Future Transport solutions

Question 4.4 - What competition concerns do you think Mobility as a Service might present that could be difficult to address through existing regulations?

Question 4.5 - In your opinion, does the current framework for consumer protection need to be expanded to include liability for multi-modal journeys? If yes, please provide evidence.

A careful balance is needed between consumer protection and commercial competition. It is important that innovation is not stifled by over regulation but conversely it is important to protect consumer needs. This is well developed in

the rail sector, e.g. delay repay. Clarity is needed on how this will work within MaaS platforms. Furthermore, liability for each end-to-end journey should be assigned to the MaaS provider selling the ticket, as consumers are unlikely to continue using the service after a poor experience complicated by having to deal with several different providers. Focus should be on how the consumer has an easy way to get access to information on travel choices and then make a payment. Therefore Government may want to consider looking at consumer legislation/regulation as opposed to solely transport regulation.

MaaS must be accessible to all demographic groups in the population, but existing regulations mean that it is likely to present a number of accessibility and inclusivity concerns. One of the biggest barriers to rollout of integrated ticketing remains the co-operation and transparency required from commercial operators. There are a number of competition concerns that MaaS may present that could be difficult to address through existing regulations. Mobility as a Service may cause inequality in the market where either a leading MaaS provider or group of providers favours a partnership with a specific transport provider(s) based on commercial considerations rather than seeking to offer the best solution or widest range of choice for the consumer. It is likely that unregulated competition will lead to many MaaS solutions either having a limited selection of providers or have a bias to one or more providers. On these occasions the consumer is unlikely to get the optimum combination of travel solution based on their needs, and in turn there will be less use of sustainable modes (or something below the maximum use if the best possible MaaS solution was in place).

Consideration is required towards adequate provision and separate regulatory protection in relation to higher costs of entry likely to be incurred by smaller organisations.

iii. *Digital infrastructure to support Future Transport and MaaS*

TfN support the Governments principle *'Data from new mobility services must be shared where appropriate to improve choice and the operation of the transport system'.*

Initial TfN partner responses indicate that collecting network data across the North that all members could access would be useful. This might be something that members and the business community could access to inform the deployment of new technology or transport solutions in their area. TfN may also be able to lead conversations with operators at regional level to stress the importance of data sharing, which may ease some of the pressures local authorities encounter when requesting it locally (Table 1, recommendation 11).

Similarly, we have seen support towards on Pan northern data platform with open data capabilities (Table 1, recommendation 18)

Having adequate digital infrastructure in place to support innovation is key for Future Transport in a few ways:

- Data standards are vital to enable the interoperability for ticket selling including standards for tap data. The provision of data standards for journey planning purposes are broadly available or are coming in to play over the coming years.

- This interoperability is critical to MaaS in real time service provision, but also in terms of analysis, forecasting, and modelling new services and infrastructure. The complex relationships between different mobility services can only be understood by modelling their integration. Externalities, such as air quality, land value, and congestion can also be better understood.
- Due to the variety of geographies from each MaaS service providers, it is important that these data sources are interoperable to enable analysis at the maximum range of geographies for analysis and modelling purposes.
- Standardised inputs to analytical models will enable more comparable outputs between different geographies, and MaaS solutions. This will mean that MaaS business cases are easier to compare. It will also allow for the standardisation and re-use of these models, leading to efficiencies.

Examples of TfN activity towards data to date:

Bus Open Data Digital Service

TfN is an active member of the industry round-table for DfT's Bus Open Data Digital Service, alongside bus operators, leading journey planning app providers, other mobility information companies and open data experts. Government will legislate the open publication of new data sets – including timetables, vehicle location and fares.

Fares Data Build Tool

We are building a Fares Data Build Tool which will help operators publish fares in the required NeTEx data exchange standard. Will be free to use for bus operators and LTAs. Being delivered as part of phase 2 IST programme. Will be available via both the DfT's Bus Open Data Service and TfN's regional Open Data Hub.

This a good example of collaborative partner working between DfT and TfN, and we would be open to discussing with Government how this might be applied as a use case to deliver other aspects related to Future Transport. This may provide opportunities for Government to test policy and legislation through TfN as a delivery agent, before rolling out as national solutions.

Integrated Smart Ticketing

As MaaS apps and platforms continue to develop, it is intended that travel is easier and more accessible. For local journeys, users should be able to Pay as you Go, with the reassurance that they will be charged the best fare and not be penalised for multi-mode journeys. The development of open data portals and shared back offices for rail, enables the operator to share information and gain a greater understanding of the users and travel. Through gaining additional information and data about users, this can assist transport operators and planners to continually build on their understanding and act on this information in a more. MaaS ticketing and data platforms are key to delivering this.

As of 2020, the Integrated Smart Ticketing programme contains four phases:

- **Phase 1:** Implementing smartcards for rail travel in the North, including seasons and flexi tickets.

- **Phase 2:** Providing better quality information to customers using open source data.
- **Phase 3:** Developing an account-based travel solution to deliver contactless pay-as-you-go travel on rail.
- **Phase 4:** Supporting our transport authority partners to deliver localised smart travel schemes across bus, trams and ferry.

8. Response to non-regulatory measures

- *Question 5c.4 - In your opinion, could any non-regulatory measures help to empower local authorities, combined authorities or the Greater London Authority to manage transport innovation? Please provide examples.*

- *Question 4.10 - Do you think guidance or a Code of Practice for the Mobility as a Service industry would be useful? If so, what content do you believe would be beneficial to include in a Code of Practice?*

We have outlined a number of non-regulatory options to support and manage the delivery of the Future Transport principles (see Table 1). We would welcome our local partners views in shaping these questions. We would note that, to date, due to the range of players and bodies involved, the innovation landscape is often difficult to navigate and achieve successful results which can reach implementation stage and be rolled out on mass. Increasing co-ordinated and collaborating approaches may tackle current barriers (both sectoral and organisational) and enable more integration of knowledge and solutions.

Codes of Practice are by nature guidance, and not enshrined in law through regulations. However, these can be useful mechanisms to set out guidance and standards to support the uptake and adherence to any Future Transport regulations. This may be particularly of use in pointing to best practice of businesses and employers, to provide frameworks for how they may provide necessary support for employees as Future Transport uses increase in the future.

TfN are open to supporting further identification of the suitable breakdown of regulations and non-regulatory options as this conversation develops.

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Transport for the North Scrutiny Committee

Subject: Integrated Rail Plan

Author: Tim Foster, Head of Policy and Strategy

Sponsor: David Hughes, Strategy and Programme Director

Meeting Date: 26 August 2020

1. Purpose of the Report:

1.1 This report updates members on progress towards developing an Integrated Rail Plan for the Midlands and the North. The Committee is asked to note progress and the emerging conclusions, with fuller proposals to be agreed at Board in September.

2. Executive Summary:

2.1 The Integrated Rail Plan should represent a coherent, integrated pipeline of rail interventions for the next 30 years that secures the investment needed through HS2, Northern Powerhouse Rail (NPR), Transpennine Route Upgrade (TRU) and other schemes to create a fully integrated, reliable and flexible network for passengers and freight. The National Infrastructure Commission (NIC) is developing options for Government to consider by the end of 2020. Following the initial submission to the NIC's call for evidence, Transport for the North is now working to develop more detailed proposals for the Board to consider and agree in September 2020.

2.2 The emerging work has identified the need for an initial, accelerated pipeline of schemes to be completed within the next 10 to 15 years, as well as opportunities to achieve a more integrated design between NPR, HS2 and the conventional rail network that can better meet the needs of the North and its passengers and freight market.

2.3 TfN is currently working with partner officers to define those opportunities and undertake an initial assessment of deliverability. Proposals will be presented to the Board in September for consideration before they are presented to the NIC and government. It should be noted that this is very much "work in progress" – the intent is that the very latest position will be updated verbally to the Committee.

3. Consideration:

3.1 Following the publication of the HS2 Review on 11 February 2020, the Government announced its intention to develop an Integrated Rail Plan for the North and the Midlands by the end of 2020, bringing together Northern Powerhouse Rail, HS2 Phase 2b and other major rail interventions including TRU.

3.2 The Integrated Rail Plan should represent a coherent, integrated pipeline of rail interventions for the next 30 years that secures the investment needed through HS2, NPR, TRU and other schemes to create a fully integrated, reliable and flexible network for passengers and freight. The TfN Board has agreed that the North should play a leading role in its development.

3.3 The NIC has been asked by the Government to advise on the appropriate sequencing and delivery of major rail projects in the North and Midlands. The NIC initially conducted a call for evidence to inform a "Rail Needs Assessment" (RNA) which TfN responded to in May. The NIC has said it intends to advise the government on the broad options by the Autumn and has subsequently published the proposed methodology for the RNA.

3.4 Following the initial submission to the NIC, TfN is developing more detailed proposals to support statutory advice to government in the autumn on the North's preferred outcome. This will support the development of interventions for both passengers and freight. This paper reports the initial conclusions following discussions with rail officers in partner authorities on the potential for greater integration and acceleration of major rail schemes. This will inform the development of a sequenced pipeline of major rail investment for the North, over the next 30 years, which we will be developing with officers in August and bringing to September 2020 TfN Board for agreement.

4. Emerging conclusions from the TfN work:

4.1 In discussions with partner officers, there is a high level of consensus about what investment is required in the rail network across the North for passengers and freight, as well as what economic outcomes can be achieved. There is strong support for the development of a long-term sequenced programme to 2050 for the railway in the North, which should have an appropriate devolved funding settlement that enables its delivery.

4.2 As TfN set out in the response to the National Infrastructure Commission, we need:

- A fundamental transformation in the level of capacity on the North's network, to deal with the current bottlenecks on the network, and disentangle the current mix of freight, commuting and regional services on our congested network. It should also include consideration of freight capacity and connectivity, including to the Northern ports, airports and warehousing clusters. It should be closely aligned with road investment, last mile considerations, local connectivity and active travel plans to meet the decarbonisation agenda.

- That capacity can create the resilience, reliability and flexibility needed to grow the markets for rail in the North sustainably so we can deliver economic transformation by connecting the north's labour markets and separate economies.

- Together with HS2, NPR creates a powerful interconnected labour market with nearly 10 million people living within 90 minutes of multiple economic centres across the North of England, but only if it's successfully integrated with the North's existing rail network.

4.3 From the initial round of analysis and discussions with partners, we now have a complete understanding of the 180 separate schemes or interventions that are needed to deliver the end state rail network capable of meeting that ambitious vision. From the next phase of work, we will present Members with options for how that programme should be accelerated and integrated to ensure it can be efficiently planned and delivered.

Opportunities for accelerated development and delivery

4.4 There are very clear opportunities for accelerating a wide range of schemes across the North which could be delivered in the next 10 to 15 years, that either tackle existing long standing problems on the network and can facilitate more efficient delivery of other rail projects, while achieving early outcomes for sustainable economic growth, unlock key freight routes and creating confidence for investors that there is long term plan for the railway that they can align with. The evidence from London and the South East (Crossrail) and the West Midlands (HS2) demonstrates what is possible.

4.5 Early delivery of schemes in the Economic Recovery Plan, with additional investment through accelerating elements of NPR, HS2 and the TfN Investment Programme can provide the foundations for a modernised network and allow NPR services to start running in the 2020s, whilst the new line infrastructure (which will take longer to plan and deliver) is constructed.

4.6 Opportunities for early delivery will include schemes which are independent of HS2 and NPR, as well as schemes which are part of NPR or inter-dependent with HS2 and NPR. The schemes outlined below, in the main, have both passenger and freight benefits which will

support the Strategic Transport Plan (STP) ambition to see greater degrees of modal shift from road to rail for freight movements, including:

- Development of the Castlefield Corridor as an urgent agreed priority for TfN Board and other local schemes which can urgently alleviate capacity constraints for the wider network.
- First phase of Transpennine Route Upgrade from Leeds to Manchester
- Upgrade of East Coast Mainline as part of the NPR Leeds to Newcastle corridor, including Darlington Station and freight capacity via Leamside and Stillington
- New NPR stations at Barnsley Dearne Valley and Rotherham, and the upgrade of the line from Sheffield to Clayton.
- Acceleration of Hope Valley development for NPR, and ensuring Stockport is 'NPR ready'
- Delivery of the NPR Leeds to Hull Corridor in the mid 2020s.
- Early development of the Leeds to Bradford leg of NPR, including a new, integrated central Bradford station.
- HS2 station upgrades at Preston, offering early benefits to Blackpool and other areas' services.
- Delivery of Crewe Hub and Crewe North Connection, delivering early benefits for East Cheshire, Liverpool City Region the North West and Wales.

4.7 This is not a complete list and more detailed proposals for the sequencing of schemes, and the opportunities for acceleration and integration of schemes are currently being worked through with officers in and will be reported to the Board in September. In developing the initial pipeline, we will consider the delivery implications including the alignment with the Economic Recovery Plan, Network Rail plans and supply chain considerations. TfN will also work with LEPs on the opportunities for freight, skills base and to align with broader economic recovery planning.

4.8 A clear accelerated programme delivered in partnership with Network Rail and others would allow early benefits for partners. Alongside this, TfN, government and partners can complete design and consents work on the remaining new line elements of NPR and Phase 2b that will require parliamentary approvals. This will require very close working with TfN partners to develop and deliver the pipeline and a more refined and sequenced specific approach to consents.

Opportunities for integration with HS2 and the conventional network

4.9 There are also opportunities for greater integration between the major schemes, and with local connectivity opportunities that can ensure efficient delivery of 'once and done' solutions rather than piecemeal upgrades. This should help achieve a more efficient approach to delivery and costs if planned efficiently as a network (as TfN is doing

with NPR). This includes areas for greater integration between NPR and HS2 Phase 2b in places where, as the Board has previously identified, NPR infrastructure and services were designed to fit around a fixed HS2 design.

4.10 The emerging consensus is that the design for HS2 Phase 2b is (broadly) the right one, and the delivery of both Western and Eastern legs should now be accelerated by government following the outcome of the Oakervee Review. This is clearly subject to resolving the known issues at Golborne and Piccadilly. There are no equivalent design questions on the Eastern leg that need to be resolved.[1] However on both legs, where a 'fixed' HS2 design has taken primacy over east-west connectivity (for example in the station design at Piccadilly or east of Leeds), a more integrated solution for those parts of the network should be considered.

4.11 There is also a case for looking at the phasing including delivering early parts of the Phase 2b network in the North where early delivery can unlock benefits for NPR.

4.12 These opportunities to create a single, integrated programme for both passengers and freight include:

- Integration of HS2 Phase 2b delivery with NPR in the Liverpool to Manchester corridor.
- Electrification of Sheffield station and the Midland Mainline for NPR and HS2 as a single programme of delivery.
- The corridor between Leeds, York and Selby, including the proposed junction at Garforth and the eastern approaches to Leeds station.
- The HS2 and NPR stations at Piccadilly, where government has now commissioned HS2 Ltd to cost the proposed combined HS2/NPR underground station proposals.
- Early integrated solutions at Stockport and other key 'pinchpoints' on the network, where capacity is urgently required but needs to be future proofed to enable early and more efficient NPR and HS2 delivery.

Challenges, risks and opportunities

4.13 There is a clear opportunity for the delivery of early and significant benefits – if government can agree the pipeline, the funding and delivery mechanisms through the Integrated Rail Plan and National Infrastructure Plan. There is an urgent need to unblock delivery of major schemes and create a practical deliverable programme for the North that is aligned with partners' wider plans. This is even more urgent in the wake of the current crisis.

[1] Whilst the Oakervee review did raise a number of questions over the specification of the eastern leg, our emerging conclusion is that those issues can be resolved locally and as part of finding better, integrated solutions. This position will be developed further with Eastern partner officers during the next phase of work.

4.14 In developing an early accelerated pipeline of investment, we will need to be mindful of delivery constraints – particularly in the early years of development and ensure we can develop sustainable industry capability in the supply chain and delivery partners.

4.14 This will require a skills pipeline in the north that can build supply chain capability to deliver a long-term pipeline from the mid-2020s and beyond, but also addresses the wider productivity challenge and provide opportunities for young people as part of the economic recovery. Creating higher skills, higher value transferable jobs (for example in energy and engineering) that can properly address structural economic changes that started in the 1980s.

4.15 Significant challenges remain, and Members may need to make early choices in September on the immediate priorities ahead of formal scheme development decisions. There will be clear trade-offs and choices between early implementation and achieving the optimal design. Identifying and accelerating some elements of NPR and HS2 could risk delays to later parts of the network not then being delivered at a later stage, particularly if the business case for longer term interventions is weakened by accelerating other parts of the network. We will need to demonstrate and articulate what tangible benefits can be achieved.

4.14 We will consider these issues in the work we present to Members in September 2020 and will mitigate this risk by framing each choice clearly in the context of the end state 2050 network. This will support decision making and alleviate the risk of fragmentation in the network. It is essential that the North reaches an agreed view and communicates that to government and the NIC before the NIC finalise their recommendations to government.

5 Next steps:

5.1 In September 2020 the Board will see a sequenced programme for rail investment and a clear statement why this is needed. It will be aligned to the NPR programme and Economic Recovery Plan. TfN is currently working with Partners on this proposition to the September Board for agreement and submission to government and the NIC. TfN is also working with LEP members on the specifics of the proposals, and to align with broader economic recovery planning and the skills opportunities. The intent is that the proposals for Board will provide a clear ambitious plan with a constructive offer to government on how it can be delivered and the benefits it will achieve.

6. Conclusion:

6.1 This report updates Members on progress towards developing an Integrated Rail Plan for the Midlands and the North. Good progress has been made in identifying the opportunities for acceleration, integration

and more efficient delivery of rail infrastructure in the North of England. In September TfN will present the Board with more detailed proposals for an integrated plan. This is 'work in progress' – the latest position will be updated verbally at the Committee's meeting.

7. Recommendation:

7.1 The Committee is asked to note the progress to date, the emerging conclusions and the need to agree proposals at Board in September 2020.

ENDS

Required Considerations:

Equalities:

Age	Yes	**No**
Disability	Yes	**No**
Gender Reassignment	Yes	**No**
Pregnancy and Maternity	Yes	**No**
Race	Yes	**No**
Religion or Belief	Yes	**No**
Sex	Yes	**No**
Sexual Orientation	Yes	**No**

Consideration	**Comment**	**Responsible Officer**	**Director**
Equalities	A full Impact assessment has not been carried out at this stage of development	Head of Policy	Strategy and Programme Director

Environment and Sustainability

Yes	**No**

Consideration	**Comment**	**Responsible Officer**	**Director**
Sustainability / Environment – including considerations regarding Active Travel and Wellbeing	A full impact assessment has not been carried out because no formal decisions are required at this stage of development.	Head of Policy	Strategy and Programme Director.

Legal

Yes	No

Consideration	**Comment**	**Responsible Officer**	**Director**
Legal	TfN's Legal Team has confirmed that there are no new legal implications as a result of this report.	Deborah Dimock	Julie Openshaw

Finance

Yes	No

Consideration	Comment	Responsible Officer	Director
Finance	TfN Finance Team has confirmed there are no financial implications.	Paul Kelly	Iain Craven

Resource

Yes	**No**

Consideration	Comment	Responsible Officer	Director
Resource	TfN's HR Team has confirmed there are no direct resource implications as a result of this report	Head of HR	Business Capabilities Director

Risk

Yes	No

Consideration	Comment	Responsible Officer	Director
Risk	A risk assessment has been carried out and the key risks are included in the report.	Haddy Njie	Iain Craven

Consultation

Yes	No

Consideration	Comment	Responsible Officer	Director
Consultation	A suitable consultation has been carried with partner authority officers and the results	Head of policy	Programme and Strategy Director.

	are included in the report.		

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