

Written evidence submitted by Transport for the North (EVP0101)

This response has been compiled by officers of Transport for the North, and shared with Local Transport Authority officers within the TfN constitution for inputs.

1. Introduction

- 1.1. TfN has a unique arrangement bringing the North's Local Transport Authorities, Local Enterprise Partnerships (LEPs), Network Rail, Highways England, HS2 Ltd, and central Government together. As a partnership, we enable the North to speak with one voice on the transport infrastructure investment and strategy that meets the needs of persons living or working in, or visiting, the area having regard to social and environmental impacts and facilitating sustainable economic growth. The role of 'Sub-National Transport Bodies is set out in the enabling legislation¹. Our Northern leaders have committed to develop a regional level 'Decarbonisation Pathways to 2050' so that a zero-carbon transport network is at the heart of public policy-making and future investment decisions in the North.
- 1.2. We have agreed and published our Future Travel Scenarios which provide regional evidence towards future travel demand and enable our assessment of transport decarbonisation solutions². We have also developed integrated transport, spatial and land-use appraisal frameworks; and holistic appraisal capabilities that assess carbon impacts of transport and socio-economic decisions. The Decarbon8 report³ on the role of STBs in carbon governance concludes that that sub-national areas are the optimally sized geographic and administrative region to co-ordinate transport carbon-reduction strategies. Therefore, TfN is in a prime position to support the ambition of road decarbonisation, which has prompted this response to the call for evidence.

2. Summary – our main conclusions

- 2.1. We welcome the Transport Committee's approach to considering both zero emission vehicles and road pricing together. It is important that these, and other measures, are seen as interdependent solutions which need to be delivered as a package in order to make significant progress to our shared ambitions for transport decarbonisation. Delivering the right outcomes include both demand and supply side measures.
- 2.2. National Government policy and regulatory action can set us on a pathway to zero carbon before 2050. However, the scale and pace of change needed for achieving the mass adoption of electric vehicles will require action at all levels of national, regional and local government. A greater strategic focus on **Electric Vehicle charging** across the regions would encourage integrated travel needs to be explored so that clean air and place making can be realised at local levels.
- 2.3. **We believe that through working with our partners TfN is in a prime position to support delivery of national EV charging targets, and input into a national conversation on the future of how we pay for road travel.** TfN draws together 20 constituent Transport Authorities and 50 Highway Authorities across the North. We work closely with Highways England and Network Rail and have a proven track record of bringing DfT, National and local partners together to agree on recommended delivery programmes. Sub-national bodies can offer significant benefits from consolidating and

facilitating multi-agency activities, evidence and analysis on an integrated regional scale, and the decision-making to deliver an evidenced solution which is right first time. This can encourage a phased implementation, on a manageable scale, that delivers the most effective network and encourages the right private sector delivery.

- 2.4. Strategic planning and a coordinated approach is essential to allow open sharing of evidence at sufficient scale for investors to develop and embed sustainable commercial models. Ensuring place-based solutions and limiting reactive, piecemeal deployment that increases risk of market failure. We are supporting Local Authorities in delivering sustainable transport solutions and good place making. And a regional approach would create a platform that achieves EV co-ordinated uptake in ways that promote broader transport, social and economic aims, whilst supporting local delivery where confidence is high in solutions being planned and delivered.
- 2.5. We suggest the following actions are critical to achieving an efficient and socially equitable roll out of Electric vehicles.
 - To support a greater uptake in electric vehicles, the Government will need to strengthen existing policy and fiscal measures.
 - A whole system approach is needed with robust, integrated and evidence-based planning of energy, land use and transport.
 - Ensure place based solutions are prioritised and implemented - a single solution will not be appropriate for every location.
 - Clear and effective spatial planning and regulations will be critical in creating certainty of the suitable locations to meet a range of charging needs.
 - Take action to reduce risks of social exclusion.
 - Acknowledge the importance of behaviour change and public awareness towards transport decarbonisation.
 - Explore ways private operators can be supported and guided towards greater uptake of electric vehicles and most appropriate provision of charging infrastructure.
 - Regional and local bodies can play a critical role in delivering integrated results, mitigating fragmented and piecemeal results to deliver National ambitions.
 - Intra-urban and cross-boundary analysis and evidence, across a large enough geography, can support understanding and delivery of an effective future network plan.
- 2.6. Use of low and zero-emission vehicles alone will not be enough to ensure we meet shorter term carbon reduction targets. Achieving net zero will require a broad based strategy **implementing measures to reduce car trips** private vehicle miles, encourage public transport and active travel, combined with deployment of zero-carbon vehicles. Reducing travel demand, particularly that from private vehicles can significantly reduce our emissions, but also reduce congestion, increase operational efficiency, and improve air quality and health. This demand reduction could to some degree happen through societal changes (i.e. working from home, vehicle ownership changes) and technological changes (i.e. shared mobility models). However, there is also a risk that mass adoption of EV and other low emission vehicles, with lower running costs will lead to an unsustainable increase in private vehicle mileage, impacting on levels of traffic congestion and pollution from particulates.

- 2.7. The Institute for Fiscal Studies has highlighted the £40Bn impact of the phasing out of fossil fuels on future tax revenues to the exchequer, and the benefits of Government acting quickly to introduce new systems of taxation, linked to use of our roads.
- 2.8. Key considerations of any new approach to paying for our roads should include:
- Public support, including transparent communication and engagement; and fair application.
 - That revenue from the tax is invested in transport, and in providing greater choice of travel options including active travel and public transport.
 - That the scheme is equitable, with measures in place to ensure those on a lower income and people living in areas with limited public transport are not disproportionately impacted.
 - There is a mechanism for recompensing drivers experiencing significant delays.
- 2.9. The Government should set out clarity over approaches to **road pricing and its role in encouraging behaviour change, including modal shift to Public Transport and Active Travel**. With the forthcoming publication of the Transport Decarbonisation Plan, expected in the Spring this year, now is the time for the Government to start a national conversation on the future of how we pay for road travel.
- 2.10. We acknowledge these are politically challenging issues, and urge the Government to work with STB's and local partners to engage with the public on developing shared ownership of acceptable solutions. Any road pricing development would require a collaborative effort, considering a national system which provides the flexibility to support locally-led policies tailored to best meet local requirements. The Government should set out a timetable for working with STB's, Highways England, Local Authorities, businesses and the wider transport sector to develop options for future models for how we pay for our roads. This needs to start soon and should be informed by a clear set of policy objectives, for example including delivering efficient and reliable journeys, reducing carbon emissions and raising revenue to support the level of service users expect from our transport networks.

Accelerating the shift to zero emission vehicles

This response has been compiled by officers of Transport for the North, and shared with Local Transport Authority officers within the TfN constitution for inputs.

1. The feasibility, opportunities, and challenges presented by the acceleration of the ban of the sale of new petrol and diesel vehicles to 2030.

i. Feasibility and opportunity:

- 1.1. In our response to the Government's Decarbonising Transport: Setting the Challenge, we recommended the implementation of the ban on new petrol or diesel vehicles be further accelerated, in line with the recommendations made by the Committee for Climate Change in its June 2020 progress report to Parliament. Therefore we welcome the

announcement to accelerate the cut-off date for petrol and diesel vehicles to 2030. 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.

- 1.2. There are a number of opportunities presented by this decision, in addition to the benefits of early uptake of low and zero-emission vehicles to meet carbon reduction targets and improve air quality. **The 2030 ban provides the private sector with greater certainty**, encouraging innovation and drive to design alternatively fuelled vehicles (whether electric or another source such as hydrogen), and new technology advances in charging infrastructure. **This can also act as a national driver for activities being undertaken at a local and regional level**, allowing local and regional authorities to build their environmental expertise, capabilities and policy making with confidence.

ii. *The challenges we need to overcome to deliver this acceleration effectively:*

- 1.3. **National Government policy and regulatory action can set us on a pathway to zero carbon before 2050. But National Government can't deliver zero carbon on its own.** There is a need to deliver a coherent plan at scale and pace; for a full and effective EV infrastructure network which is resilient and flexible for future demands. The right solution is required in the right place to build in 'fair' access to zero carbon solutions, for all communities, avoiding the piecemeal or fragmented results. Lessons can be learnt from the roll out of broadband technology, particularly when considering the public sector support that could be required where population densities are lower.

- 1.4. The challenge through a regional lens:

- 23% of vehicle kilometres travelled in the UK are travelled in the North. Surface transport emissions in the North represent nearly one quarter of UK road emissions and 6% of total UK emissions.
- 60% of road distance travelled in the North occur on the Major Roads Network. Medium and long-distance trips over 10 kilometres generate 54% of car emissions in the North, with 14% of emissions generated by cars travelling over 50km.
- These are trips which go beyond local or combined authority boundaries, which means a regional approach is vital if we are to deliver an effective EV charging network.
- The scale of EV infrastructure deployment is a small fraction of what is needed between now and 2030. Deployment is fragmented and piecemeal to date, with the North seeing lower levels of overall EV infrastructure development (as shown by Figure 1). This risks a patchwork approach comprising of multiple providers with a variety of commercial models.
- Battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) make up around 6.6% and 4.1% of new car sales in the UK during 2020. However, this rate of uptake is lower in the North and considerably different across our constituent authority areas, as shown by the Figure 2 below.

Figure 1: Public charging devices per 100,000 of population by UK region

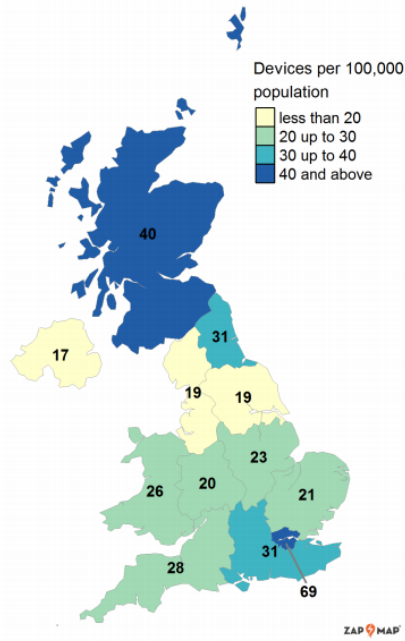
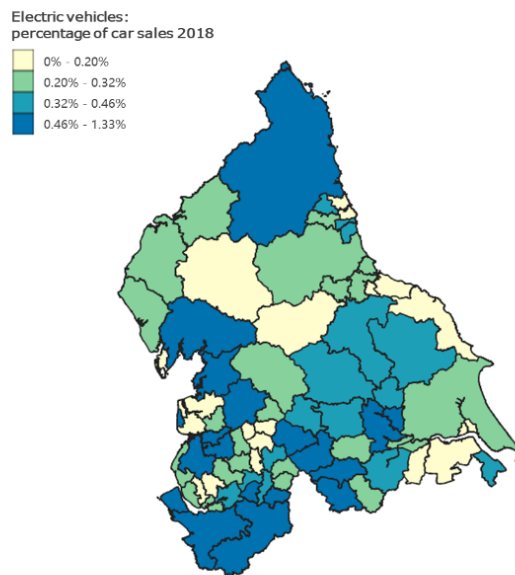


Figure 2: EV % of car sales in the North of England (2018)



1.5. The challenge is to **deliver an evidenced solution; and at manageable scale which delivers a full and effective network. It is important that charging networks developed are not developed in isolation given the transboundary nature of private car travel and freight.** The regional Major Roads Network will be used to support ‘cross boundary’ movements and long-distance commuters. It is by ensuring the right spatial distribution and provision across a range of area types, that we will drive mass adoption of new solutions. Analysis of charger types and vehicle ownership across the UK shows that deployment of Rapid chargers does not necessarily lead to an increase in EV uptake and that pursuing a rapid dominated supporting infrastructure also presents a

significant “cost challenge” due to the significant electricity network upgrade requirements needed to ensure rapid charging can be achieved. Furthermore, placing SRN rapid chargers at service areas may cause unintended journeys and consequences, such as in those areas which host a large amount of the SRN and intersections but fewer service areas. A greater strategic focus on slower and fast charging across the region can encourage integrated travel needs to be explored so that clean air and place making can be realised at local levels

- 1.6. Linked to this, **the supporting national and local electricity infrastructure, both grid capacity and supply capabilities, is fundamental.** The UK currently has around 37,000 charge connections; with the CCC 6th Carbon Budget estimating a need for around 260,000-480,000 public chargers by 2040 or earlier. This is a significant undertaking and requirement of our energy and transport networks which requires robust, integrated and evidence-based planning across ‘sectors’. This will also be key to future proofing networks which support and enhance interoperability, interchangeability and can harness ‘disrupter’ technologies such as Smart Charging and Vehicle to Grid (V2G) and potential for energy storage technologies. There is a challenge that if not done correctly, we will uphold conventional vehicle use norms (refuelling at petrol stations) rather than encouraging new behaviours which take advantage of opportunities to spread energy demand across a wider network and time period.
- 1.7. There is a risk that **low or zero emitting solutions may increase dependency on road vehicles and result in increased congestion.** Ownership of EV (or other solutions) may perpetuate the problem if overall vehicle usage is not reduced, or EVs are chosen over public transport, shared mobility, and active modes (or not travelling at all). This is particularly a problem if Connected and Autonomous Vehicles (CAVs) increase ridership, without stimulants for sharing, making private mobility accessible to a larger section of society. The challenge is that alternative vehicle solutions are seen as providing the whole answer, without focus on other ‘avoid’ or ‘shift’ measures (such as demand reduction measures targeted to reduce needs for both EVs and Internal Combustion Engines).
- 1.8. **Delivering a solution which is accessible for all is key to achieve mass implementation** of new solutions. A significant part of the challenge is to decarbonise our transport system, in an inclusive and equitable way, which is resilient across our Future Travel Scenarios. This is particularly relevant across the North where we see a range of urban, semi-urban, rural and remote place types. There are different spatial, energy and transport challenges across these very different place types. There is a predominance of terraced housing in many lower income areas of the North. Key challenges include access to sufficient on-street charging and the enabling infrastructure (with around 25% of vehicles parked street-side), and the impact of on-street charging on walkability of neighbourhoods and access for those with reduced mobility. National Government funding mechanisms will need to recognise the need for flexibility to ensure solutions fit for a particular place, which can drive the uptake of EVs.
- 1.9. **Avoiding other social exclusion impacts is also key,** with the risk that EV uptake benefits the wealthiest in society as they can afford new vehicles, benefit from discounted or free parking and the removal of taxes through Vehicle Excise Duty and Fuel Duty. It is likely in the long term that an alternative form of road user charging will be initiated to make up the shortfall of revenue, which may also exacerbate Transport

Related Social Exclusion issues (*see response to road charging section*). There is also a challenge of old Internal Combustion Engines (ICE) being passed down the income chain and kept within the fleet for longer; and any incurred environmental impacts resulting from vehicle scrappage.

- 1.10. **Public perceptions towards decarbonisation and alternative fuelled vehicles remains a challenge, however we would note a significant shift in recent years.** There remains uncertainty regarding vehicle range; the speed of charging; a variety of charging power ratings; and a variety of payment and transactional methods. However we believe there are Government and Private Sector actions which can overcome these challenges (see paras 2.9 and 2.10).
2. The actions required by Government and private operators to encourage greater uptake of electric vehicles and the infrastructure required to support them.
 - 2.1. To support a greater uptake in electric vehicles, **the Government will need to strengthen existing policy and fiscal measures.** Zero-emission cars and vans are expected to reach cost parity with ICE vehicles from the mid-2020s. Fiscal policy should incentivise EV purchase and disincentivise ICE purchase. Taxes should shift towards substantially increasing the cost of new ICE vehicles, as they will impact the low-income consumers the least. The Government should consider phasing increases in taxes as the zero-emission market grows and second-hand vehicles become available. There are examples of this approach elsewhere, including notable success in Norway, which we should look to learn from.
 - 2.2. **Regional and local bodies can play a critical role in delivering integrated results** (across transport, energy and spatial systems) which enable the rapid delivery of a widespread EV network which ensures no place is left behind, supporting improvements to air quality and the UK in meeting committed carbon budgets. TfN can supplement the work of our Local Authority members by enhancing EV infrastructure delivery across the Major Roads Network, alongside local road networks and the Strategic Roads Network. By applying our strong multi-agency partnerships across public and private sector, and decision-making capabilities, we can consolidate expertise and local transport intelligence and deliver an evidenced solution. Through this, we can support a ‘right first time’ EV network which accounts for transboundary nature of private car and freight movements in the North.
 - 2.3. **Intra-urban and cross-boundary evidence across a large enough geography is required to fully understand the potential charging ‘need’ to deliver an effective future network plan. It is important that charging networks developed are not developed in isolation given the transboundary nature of private car travel and freight.** A regional delivery approach can also provide consistency and interoperability of technology and payment systems, procurement principles, and future proofing of travel and energy requirements. Coordinating and prioritising charging needs can open up opportunities to improve connectivity across the region and beyond. By delivering this at a manageable scale we can embed sustainable commercial models, open up economic potential, and avoid piecemeal deployment that increases risk of market failure, particularly in the less affluent and rural areas of the North.

- 2.4. This approach can **ensure place based solutions are prioritised and implemented** as a single solution will not be appropriate for every location. The use of local and regional evidence and delivery capabilities will be key to understand the integrated spatial requirements of an EV charging network. This can identify which solutions are best deployed in which locations, using spatial and segmented analysis of different groups of people and trip purposes. TfN can add some real value here to national governments work as we have developed a suite of bespoke analytical tools that help us explore a multitude of factors at a granular spatial level. STBs also have the collaborative partnerships with Local Enterprise Zones which can support the trialling of innovative solutions at a micro and macro level. For example, providing advice to Government on funding mechanisms to provide flexibility for on-street charging which may have different requirements in different places, such as roadside charging points or neighbourhood charging hubs.
- 2.5. To deliver a comprehensive EV infrastructure rapidly and effectively, **a whole system approach is needed to create a platform for co-ordinated EV uptake in ways that support the Northern Charter ambition ‘Championing and Inclusive and Sustainable North’**. This will require robust, integrated and evidence-based planning of energy, land use and transport. Collaboration between transport and energy sectors is key to deliver supply, distribution and demand management of networks which support future travel and energy demand. How we will move around (or not travel) in the future still remains uncertain (as mapped by our Future Travel Scenarios⁴), therefore developing a view of likely future travel demand, and the associated charging energy demands, will inform the delivery of EV and other solutions are ‘future proofed’ and resilient. This should support local delivery where confidence is high in solutions being planned and delivered
- 2.6. This **scenario analysis provides an opportunity to tackle current limitations for the appraisal of new policies and the Government’s ambitions**. The current approach only considers ‘committed policies’, which tend to have a cautious definition and are not aligned to the Government’s ambitions to reduce emissions. By including ‘planned polices’ required to meet decarbonisation commitments, this would allow more explicit and transparent exploration of the benefits of solutions. For example, this would allow a greater understanding of the interaction between emissions caused by highway schemes and uptake of electric vehicles; or how the intensified use of shared cars can deliver our goals. This is an area TfN has been developing through our Future Travel Scenarios and insights from this work, using our analytical tools to understand the potential ‘real life’ impacts of policy decisions and transport infrastructure investments.
- 2.7. Further to this, joined up **spatial planning and regulations will be critical in creating certainty of the suitable locations to meet a range of charging needs**. Changes are required to the National Planning Policy Framework and Building Regulations to provide a framework which supports local authorities to ‘build back better’ and encourage modal shift to sustainable transport. This can also encourage developer confidence and ensure forms of interoperability features between EV charge point provisions. Following the consultation on mandating EV chargepoints in all new residential and non-residential buildings in 2019, these requirements (including minimum planning standards for EV charge points) should now be adopted in building and planning regulations. This should include the avoidance of damage from environmental aspects such as flooding. Other spatial aspects should include:

- Parking Standards to ensure ongoing and increasing retrofit of existing parking spaces in car parks and leisure and retail venues to EV priority spaces (with charging infrastructure).
- Policies to ensure that opportunities to install passive provision for EV infrastructure during road improvements are taken.
- Consistent and high maintenance standards on all public charging infrastructure to allay potential user anxiety around this issue.

2.8. **Take action to reduce risks of social exclusion.** We support the Transport Committee in their view that any policies and delivery frameworks need to ensure “solutions which are accessible and affordable to all sections of society”. Developing increased accessibility to good low-cost sustainable public and active transport can play a key role in reducing dependency on private road vehicles. This may include bus, the prioritisation of Mobility as a Service solutions, and zero emission shared vehicle use (i.e. car clubs). We also welcome the Government’s consideration to Fuel Duty and Vehicle Excise Duty (*see response to road charging section*) in light of EV solutions. There are a number of wider policies which will need to be delivered with social impacts at the core, including parking arrangements and combustion engine life cycles. 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 emitting vehicles are not just pushed out to economically deprived areas, making those communities not just economically but also environmentally disadvantaged.

2.9. The Government’s Setting the Challenge document acknowledges **behaviour change and public awareness 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. There are good examples of interventions, such as Go Ultra Low programme and information provided by Zap Map. The Government will need to directly challenge some of the current public 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).
- Battery lifetime and disposal.

2.10. Further to the above, there are a number of ways private operators can encourage greater uptake of electric vehicles and provision of electric vehicle charging infrastructure:

- Support interoperability and interchangeability of charging systems. Seeking standardisation where appropriate.
- Support public awareness aspects referred to above, such as increased battery capabilities.
- Seek innovations to mitigate challenges outlined such as charging access for all, i.e. on-street.
- Enhance manufacturing techniques to reduce emissions produced at this stage.
- Support the recycling of old ICE vehicles.

- Support understanding of how we can sustainably manage the disposal of old EVs.
- Continue research into innovative use of EVs and efficiency benefits to the National Grid.
- Continue to explore alternative models for accessibility to the market.
- Support solutions which support the urban realm and place-making.
- Continue to explore other alternative fuels for vehicles.

3. The challenges around decarbonising buses and how these should be addressed.

Table 1: A summary of challenges and suggested actions for decarbonisation of bus

Challenges	How these can be addressed
<p>Many rural and coastal communities, local public transport provision is poor ahead of any new solutions to decarbonise.</p>	<p>The Governments transport decarbonisation plan 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).</p> <p>This may require greater investment in public transport and active travel to reduce reliance of private car usage and ownership, especially in rural and coastal areas where there may be few public transport alternatives to car usage.</p>
<p>Bus connectivity does not improve, or public view it as too expensive. They will look at other means of transport, including car.</p>	<p>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.</p> <p>Consider incentives for public to use bus services, making them more viable and increase revenue.</p>
<p>Not a good investment for smaller bus operators / cost of retrofitting busses or buying new zero emission buses too high.</p>	<p>Consider mechanisms to encourage SMEs to change fleet and provide services.</p>
<p>The need to find alternative models which are cost effective and deliver better connectivity.</p>	<p>Take action to reduce costs, but also to explore other connectivity options.</p> <p>Consider the role of mobility hubs (particularly linked to rail), demand responsive options, encourage electric car share clubs, active travel.</p>

Challenges	How these can be addressed
Consideration towards geography – some hillier areas may burn out electric motors	Choose vehicle types appropriate to terrain (i.e. hydrogen may work better in hillier areas).
Consideration towards large land mass needed for re-fuelling stations, particularly if hydrogen fuelled; land-use planning to ensure adequate power supply	Whole system approach will be needed with robust, integrated and evidence-based planning of energy, land use and transport.
Distance capabilities and charging time will affect the number of buses and services required.	Place based planning, applying local plans and strategies and collaboration with bus companies to ensure services that deliver connectivity for all.
Similar energy considerations to EV response	If using hydrogen, need to consider to the electricity needed for production. Need for cheap electricity from offshore wind.

4. The Government’s ambition to phase out the sale of new diesel heavy goods vehicles, including the scope to use hydrogen as an alternative fuel.

- 4.1. There is a need for certainty around future policies on fuel for the freight sector and increased focus on the potential of hydrogen, electric or compressed natural gas for the sector. 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. Likewise, where rail is favoured as mode of choice for freight, then this requires the supporting infrastructure and integrated capacity which make best use of freight handling assets.
- 4.2. 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. However, more support for seeding hydrogen infrastructure is required to support existing local partnerships to move projects forward to deployment. A pan northern EV charging and hydrogen refuelling infrastructure plan could detail what infrastructure should be included where, 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. Scenario planning is valuable to consider impacts of different policy drivers, regulations and behavioural change to make different futures plausible.
- 4.3. Effective spatial planning is again key, to adapt to the different future demands of freight. Providing an enabler for freight traffic to sustainably get in and out of urban areas, promoting warehouse clustering and the right location for freight consolidation centres, and understanding the power needs of logistic parks and the effect on energy supply and capacity.
- 4.4. Peoples working and travel patterns will determine the different freight requirements we need to support. Increased working from home may free up our roads for goods services,

however an increase in home deliveries may offset this vehicle reduction benefit. Policies will also need to consider the increase of technological solutions such as drones and smaller electric vehicles; and any road charging solutions will need to recognise the essential nature of freight movements, whilst ensuring sustainable practices.

- 4.5. There is a wealth of freight assets located in the North, including four key port areas. The Government's commitment to the 'levelling up' agenda, and new models following Brexit, could see the utilisation of the regions existing skilled manufacturing base. The increased use of the northern ports for freight requires clear freeport policy and legislation.

Road pricing

This response has been compiled by officers of Transport for the North, and shared with Local Transport Authority officers within the TfN constitution for inputs.

1. The case for introducing some form of road pricing and the economic, fiscal, environmental and social impacts of doing so.
 - 1.1. Whilst low and zero-emission vehicles are an essential part of the mix to decarbonise transport in the long term, this alone will not ensure we meet shorter term carbon reduction targets. Reducing travel demand, particularly that from private vehicles can significantly reduce our emissions, but also reduce congestion, increase operational efficiency, and improve air quality and health. This requires **a broad based strategy implementing measures to reduce car trips and private vehicle miles, encourage public transport and active travel, combined with rapid deployment of new low and zero carbon vehicle technologies**. With the forthcoming publication of the Transport Decarbonisation Plan, now is the time for the Government should see this as an opportunity to think about how we meet carbon targets through additional supporting national policies, how we can potentially fund future infrastructure, and how these aspects fit with the Government's Levelling Up agenda.
 - 1.2. TfN analysis indicates that the **behavioural and transport shifts currently taking place will not be enough to ensure we meet shorter term carbon reduction targets**.
 - 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%.
 - That is before you factor in the expected overall vehicle-km growth expected by 2050, which according to the Committee on Climate Change is an increase by 15%.
 - 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).

- 1.3. EVs and other alternative fuels provide a lower-carbon solution for when travel is required, **but a holistic approach is required alongside those vehicle solutions to avoid consequences outlined (see section 3) with regards to congestion, energy capacity and capabilities, and social exclusion.** Covid 19 and the government’s response to the health emergency has demonstrated how behavioural change is possible at both scale and pace. In order to achieve rapid decarbonisation of transport, national government must intervene in the same way, utilising their powers to make difficult decisions on behalf of the greater good. **A national framework should be established, supported through legislation and wider frameworks, which provides the flexibility to support bespoke locally-led road pricing solutions implemented at suitable to place and area type.**
- 1.4. The **Government should set out clarity over approaches to demand management and its role in accelerating modal shift. This can set the tone and provide a clear sense of direction** as to the scale and rate at which road pricing will need to be implemented on all roads across our network. This should include strong measures to reduce car travel in favour of sustainable modes or digital interaction, including greater subsidisation for public transport fares and funding significant expansion of networks for public transport (particularly long-distance travel shifts from road to rail via HS2 and Northern Powerhouse Rail) and active travel. Supported by the utilisation of the evidence base prepared by local and regional authorities.
- 1.5. Whilst there a number opportunities in considering demand management as part of a whole system approach to transport decarbonisation, we must acknowledge the potential for significant unintended consequences if these solutions are not implemented in the right way.

Table 1: Challenges and Opportunities of Demand reduction policies to encourage sustainable use of roads

Challenges	Opportunities
Political and social appetite towards lifestyle restrictions and people’s ability to travel.	Options available to devise road charging strategies to work towards sustainability ambitions to meet the 2050 Net Zero target.
<p>Potential for inequitable economic effects on those with less alternative transport choices.</p> <p>Individuals or family’s dependent on the private car, particularly for their employment, are impacted by charging, especially those living in rural areas where cars may still be the dominant mode of transport and are unable to afford road pricing on routes they regularly take.</p>	<p>Charging may encourage users to use public transport if perceived as a cheaper and quicker way to travel within and between cities.</p> <p>Developing increased accessibility to good low-cost public and active transport is vital before any charging policies are implemented in all regions (depending on place type). This will reduce user costs and perceived impacts of road charging.</p>
Increase in travel costs may affect the ability of some businesses to operate. Levies can create inequitable impacts upon businesses where employees and customers have few other mode	There are opportunities for retail and hospitality businesses to benefit through the utilisation of outdoor parking space etc.

Challenges	Opportunities
choices. This will be an important consideration for both freight and mobility providers.	
Road pricing focused on congestion carries the risk of encouraging development in presently uncongested locations on the fringe of urban areas that generate many long car trips and which generate additional congestion in the longer term, leading to unsustainable low-density urban sprawl. To avoid unintended adverse consequences, strong complementary land-use planning will be needed	Policies have the potential to enable better management of road user demand if undertaken in the right way, supporting improved traffic flow and efficiency of the road network.
Risks impacts on ability for areas to attract investment if not undertaken with appropriate considerations.	Demand management of congestion should improve the environment for pedestrians, cyclists, and other active modes.
Road pricing is not widespread across the UK, so development and implementation of a broad scheme would take considerable effort.	New technologies can include GPS-enabled and in-vehicle technology to create a more dynamic charging and distance-based system. Demand reduction polices, and techniques such as geo-fencing, should take account of geographical location, the access to public transport connections, and the level of congestion in an area. If a car is registered, and used regularly, from a rural address, should it be cheaper to use in rural areas, than if travelling into an urban area for example.
Any potential reduced revenues from Vehicle Excise Duty and Fuel Duty may affect the ability to spend on improvements encouraging the use of other modes of transport	Opportunity to generate ring fenced revenue funding which Local Transport Authorities', Combined Authorities' can use to deliver against local investment priorities, for example active travel, public transport, grants for EV charging etc.
It may be challenging to make this effective for demand management – if is a mechanism for replacing lost fuel revenue, and does not cost more than the tax most people currently pay, it may not be an effective method for managing demand to the desired/expected level.	Demand reduction policies and measures can form part of a mobility ecosystem which would help integrate transport networks and payment system for transport. Could also present opportunities to raise revenue and directly impact travel behaviour.

2. Which particular road pricing or pay-as-you-drive schemes would be most appropriate for the UK context and the practicalities of implementing such schemes.

- 2.1. Charging has traditionally been for access to a defined stretch of road according to a published 'rate card'. Digital and data advances provide the opportunity for wireless communications integrated with e-payments which allow for free-flow at charging points, and similar technologies are now enabling 'per-mile' charging providing the ability to calculate distance travelled, at what time and the contribution made to both pollution and congestion. Examples of schemes include:
- Road toll (fixed rates)
 - Congestion pricing (time variable)
 - Cordon fees (particular area such as London)
 - High occupant lanes (HOT lanes)
 - Distance-based fees
 - Pay-as-you-drive
 - Micro-transactions (for mobility providers)
- 2.2. Most schemes are dynamically priced based on demand to smooth congestion between peak and off-peak times. Any charging scheme implemented will need to be adaptive and flexible, keeping in mind that all cars will be electric or alternatively fuelled by 2050, seeing low emissions zones superseded by low congestion zones. Given technology advances, our capabilities could go further, opening up new Mobility as a Service avenues such as a 'Level of Service' model – where if a user is delayed they get a refund on their road price paid.
- 2.3. Road pricing risks being regressive, with high income people likely to not change their travel patterns and low income people more likely to avoid travelling and that this needs to be considered as part of design. Solutions could include giving everyone a small, free 'car miles budget', with additional miles on top of that charged for (see the AA submission to Wolfson Price 2017⁵).
- 2.4. This would require a collaborative effort between the Government, the devolved administrations, local authorities and other stakeholders to agree the right method from the list above, the calibration of variations, and establish where and when they should apply. **A national system should be considered, established and supported through legislation and wider frameworks, which provides the flexibility to support locally-led road pricing solutions implemented at suitable to place and area type.**
- 2.5. **The key to understanding congestion, and to putting together the right solution for tackling it, is understanding its causes. These vary from place to place.** It requires local knowledge of the make-up of the traffic in a given locality to work out which solutions would be best fit particular conditions. This means that local needs, strategies and implementation will be key in any overall strategic approach. Getting the prices and complementary local measures right will need a greater knowledge at the localised level of road use, the different needs and lifestyles of different road users, and the public transport offer.
- 2.6. Any **national framework will need to consider proposals how road charging would be governed, managed and accounted for, and how motoring taxes would be used.** Guidance and practical assistance for local authorities would be required and the

consideration towards a national or local back-office and management functions would be worthwhile to ensure value for money delivery. This would need to encourage knowledge and data sharing to deliver effective results and help to promote public understanding and trust towards the benefits of charging.

2.7. A national framework should be **supported by the development of a detailed research programme into road users' attitudes and behaviour**, including market research, to inform scheme design and provide a better understanding of the range of travel choices and pricing options which would reflect the different needs of different segments of society; and develop and evaluate pricing propositions likely to appeal to road users as consumers, while keeping the price signals needed to have the right effect.

2.8. Any road pricing scheme should be supported by:

- Enhancement of public transport alternatives where possible.
- Policies which prioritise shared transport options, such as taxis, car sharing and car clubs, through prioritised public parking.
- Parking policies to alleviate congestion, reduce pavement parking and support active modes:
 - On-street parking in city and town centres should be more expensive than off-street parking to discourage cruising whilst waiting for spaces.
 - Seasonal (or permanent) freeing up of parking spaces to be used as 'parklets'.
 - Provision of reserved delivery parking spaces on residential roads.
 - Parking policies to encourage EVs and car club use.
- Development of local road space strategies to minimise modal conflict and help facilitate any pay-as-you-go road price (potentially nationally led).

3. The level of public support for road pricing and how the views of the public need to be considered in the development of any road pricing scheme.

3.1. We acknowledge these are politically challenging issues, and government should work with STB's and local partners to engage with the public on developing shared ownership of acceptable solutions – which critically will need to be seen by the public as fair and transparent. It is important to develop trust and clarity, by providing the whole picture of low emission vehicles and road pricing encouraged by the Committee's inquiry.

3.2. A sufficient level of public acceptability is critical to the feasibility of road pricing. To accept road pricing, people need to agree that it would deliver a solution to an issue that they can see needs addressing. As the global community becomes more aware of sustainability and environmental needs, there may be more support for measures such as this. Further to this, the public would likely be increasingly receptive if they were confident that road pricing is designed to deliver transport and other benefits, rather than as a means of raising more revenue.

3.3. It is important that the public see choice, and are actively informed and led in a debate to promote public understanding and trust. The Government should consult fully on any changes and maintain clear and understandable messaging about a holistic approach to transport decarbonisation, connectivity enhancements and funding mechanisms – and what this means for the public. Trials of new approaches should be considered to support this. Experience in other countries and in London shows that attitudes become more positive once it is possible to engage with a real scheme rather than an abstract concept.

3.4. This can support the testing of any new system, but also communicate the alternatives it presents, which may become relatively more attractive. For example, potential improvements in journey time and reliability (with associated economic and safety benefits) if more road users change their method of travel; bus services become quicker and more reliable; freight becomes efficient. This may deliver local air quality and noise reduction benefits. At a local level this can also support an increase in active travel uptake (and associated mental and physical health benefits), better utilisation of outdoor parking space, and an opportunity to generate ring fenced revenue towards use for active travel schemes and improved public transport.

4. The lessons to be learned from other countries who are seeking to decarbonise road transport and/or utilise forms of road pricing

4.1. We should take lessons learned from our own experiences in the UK, in particular London. But also from Local Authorities who have explored this approach previously and have experience of public and private sector engagement. More globally, the following can provide useful experience:

- San Sabastian introduced a zoning and pricing strategy to regulate parking in the city. This included:
 - Extended paid-parking zone to all flat areas of the city.
 - A new pricing and zoning policy integrating both on-street and underground parking facilities
 - Paid parking in business districts
 - Incentives for high occupancy vehicles (more than two occupants) to promote car pooling
 - Reduction of the number of car trips towards the city centre and three business districts.
- High-Occupancy Vehicle lanes, or ‘carpool lanes’ in California.
- Stockholm’s congestion pricing scheme as part of their ‘Smart Cities’ movements.
- Singapore – which applies both road pricing and road taxes.
- Milan – which focused on emissions related charging.

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Endnotes

¹ The Local Transport Act 2008 (as amended)

² <https://transportfornorth.com/future-travel-scenarios/>

³ <https://decarbon8.org.uk/sntbs-carbon-governance/>

⁴ <https://transportfornorth.com/future-travel-scenarios/>

⁵ [Gergely Raccuja wins 2017 Wolfson Economics Prize | Policy Exchange](#)