

TRANSPORT

Strategy

June 2018

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FOREWORD

Cllr Jack Scott,
Cabinet Member for Transport and Development

We have a vision for Sheffield to be the fairest city in the country. Good transport for all is a vital part of the achieving that vision.

The Sheffield Transport Strategy spells out a clear way forward for our changing city over the coming decade and beyond. It is, rightly, ambitious about the contribution that transport needs to make to improve the quality of life and environment for the people of Sheffield.

By identifying our changing and future needs we will develop the solution which best fit our situation. This Strategy represents a blueprint for the action that will help to address the entrenched transport issues that face Sheffield Today.

The stark truth is that given these challenges, we can no longer simply carry on in the old way. The overwhelming majority of trips are made by private motor car, resulting in far too much pollution and congestion. It is well established that this results in many, many of our citizens (disproportionately in the poorest areas) suffering poor health and premature deaths. It drags down our wellbeing and impairs economic achievement.

We have a moral and legal obligation to protect the people of this city from the impacts of road-based pollution. That obligation requires us to move away from a “car first” approach and towards a system of active and sustainable travel that works for everyone. We need to make it as affordable, safe, easy, convenient and as natural as possible for people to make the right travel choices for themselves, their community and their city.

Transport must also play its part in enabling new homes and new jobs by creating sustainable networks that work. These networks will be integrated, so using public transport is easy. But they also need to be separated, so conflicts between different forms of transport are eliminated wherever possible, and safety improved.

The problems in our transport network didn't appear overnight and they won't disappear immediately. To achieve our vision, we need concerted action to overcome the huge challenges and make this change happen.

To make this work, we will need communities, businesses, partners and everyone who is part of the lifeblood of this city to contribute their insight, knowledge and energy.

Getting this right for Sheffield and building the great transport system our city deserves is a huge prize. It will not be easy. But it will be worth it.

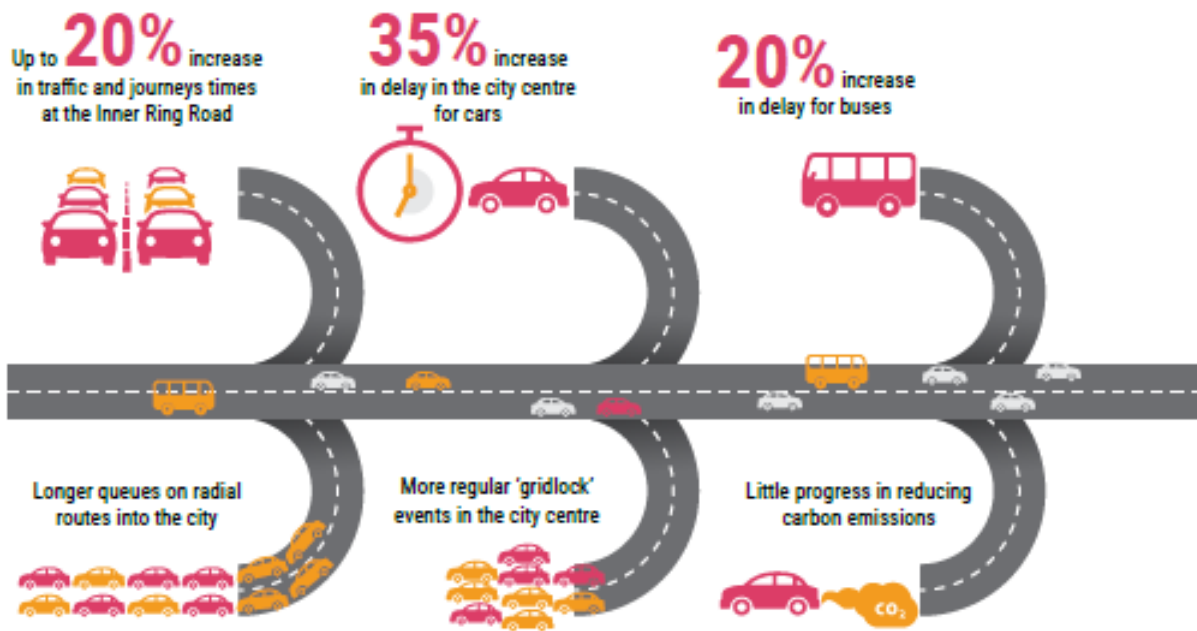
I hope you will join with us on this journey **toward better transport in a better city.**

EXECUTIVE SUMMARY

1. Sheffield is a city undergoing significant change and growth. Not only is the population growing and living longer, but more people are expected to stay in Sheffield and in particular, live in the city centre. So we must deliver transport that fits with these trends.
2. We sit at the heart of the Sheffield City Region (SCR) and our city centre has the largest concentration of jobs and the greatest capacity for future employment growth. With Rotherham, we share the Advanced Manufacturing Innovation District, a concentration of highly skilled jobs and a key driver of the local economy.
3. Transport has a key role to play in addressing future challenges whilst delivering benefits which can be shared by all. Transport connects people to opportunities and services, enables the delivery of goods and services and helps people to do business efficiently. It contributes significantly to the wider sustainability agenda whether it is improving air quality, reducing our carbon footprint, or improving resilience.
4. We can make Sheffield a place where everyone can access opportunities without mobility constraints and people, as well as raw materials and goods, can move around the city safely with the minimum delay. We can reduce the negative impacts of transport, improve safety and enhance quality of life.
5. The Strategy aims to create improved, sustainable and safe transport networks, for Sheffield:
 - Public transport which is integrated, faster and user friendly.
 - Better, safer active travel options.
 - Protecting the fast, reliable movement of traffic between the city and other economic centres.
6. This is a medium-term Strategy that dovetails both with the arrival of High Speed Rail in 2033 and the delivery of our proposed Sheffield Plan to help enable over 2,000 new homes to be built each year to 2035.
7. The Sheffield Transport Strategy also recognises the important role that Transport for the North and the Sheffield City Region play and how those higher level strategies are central to addressing Sheffield's transport needs.
8. However, Sheffield does have distinctive needs for transport. This is chiefly because of the distinctive nature of development in the city, and the physical and practical constraints of being a large urban area.
9. Potential development can be constrained by poor transport infrastructure resulting in access and connectivity issues. Major investment will be necessary to unlock such development without further overloading our highway network or suffering adverse environmental consequences. So we will create headroom for growth by embracing the opportunity to shift a significant number of trips toward the most space efficient and cleaner modes of transport.
10. Transport interfaces with other local priorities, such as those outlined in the recently launched Clean Air Strategy and Green City Strategy, and can help to provide safe and attractive places that provide a positive setting for activities within the city. Transport must play a significant part in making our city more economically active, more equal and better environmentally.

11. These are long term challenges and delivery of large scale schemes will not be simple. Given the scale of investment we will need to raise some funding from Sheffielders – be it businesses or residents, as well as drawing on SCR and Government funds. Implementation will also require consistent political support and widespread sign up from the public and key players in the city. There will be some disruption and the improvements will take decades. But these ambitious transport interventions are necessary to help Sheffield reach its true potential.

If we achieve our ambition for growth without addressing the transport challenge, by 2035 we expect significant adverse impacts as outlined in the graphic below.



This diagram shows:

- Up to 20% increase in traffic and journeys times at the Inner Ring Road
- Longer queues on radial routes into the city
- 35% increase in delay in the city centre for cars
- More regular 'gridlock' events in the city centre
- 20% increase in delay for buses
- Little progress in reducing carbon emissions

OUR TRANSPORT VISION FOR THE CITY OF SHEFFIELD

Imagine a Sheffield where everyone can access opportunities and services without transport or mobility constraints. Residents, businesses and visitors in our thriving city can safely move themselves and their goods or products with confidence and without delay.

The negative impacts of transport, including air quality and noise, are minimised and safety and quality of life is improved in the city as a result.

Reliable and clean journeys for everyone in a flourishing Sheffield.

12. Our 2017 Transport Vision document set the scene by describing how we need to make better use of our existing highway assets whilst boosting public transport, walking and cycling.

13. Public Feedback was broadly supportive of the Vision. This confirmed our three overall aims:

- To be inclusive and open up the city's opportunities to all.
- To underpin sustainable growth and a city that is open for business
- To support and enhance the health, wellbeing and quality of life for its residents and visitors, contributing to quality places that are safe, attractive, healthy and inclusive

Our new approaches

14. To ensure that we have an inclusive transport system that improves access to jobs, services and opportunities, we will support better regional road and rail connectivity and improve our local networks to maximise the benefits. This also means a better walking, cycling and public transport offer for the city.

15. To underpin sustainable growth, we will enable better use of the highway network by speeding up journeys for space efficient modes, especially for shorter trips.

16. We will develop our transport system to complement and enhance the urban and rural fabric of the city. It is essential to safeguard walking and cycling and to integrate and simplify public transport so that these modes are more competitive with the car in terms of journey times and convenience. This will lead to improved health and well-being, reduce our carbon footprint and reduce the impact of air and noise pollution – as well as enabling more movement within the constraints of the city.

17. We will support the development of transport technologies that work towards fully integrated and inclusive transport. We will adopt technology solutions that remove or reduce the need to travel and reduce the negative impacts of transport.

National & regional connectivity	City region connectivity	Local connectivity	Cross-cutting
Railways & motorways	Trams, trains and Major Road Network	Buses and bikes	Across the city
Lobby for additional and faster rail services, in particular to Leeds and Manchester	Secure Supertram as part of an expanded City Public Transport Partnership	Programme to improve public realm and permeability and accessibility of city centre	Implement findings of Clean Air Zone feasibility strategy
Support High Speed 2 and deliver station and growth masterplans	Develop new high speed mass transit corridors with park & ride	Review of arrangements for buses in the city centre, including reviewing the future of Pond Street Interchange	Develop and enact roadmap to decarbonisation of motorised transport
Provide new Sheffield –Rotherham road link to avoid M1	Highway improvements on Inner Ring Road, and between Upper and Lower Don Valley	Additional bus priority	Review relevant Council processes to align with strategy
Support and provide highway improvements to Trans-Pennine Tunnel		Review of bus operating model	Investigate a Workplace Parking Levy
		Improved cycling infrastructure prioritised in city centre and areas with greatest potential to reduce car trips	Investigate other Demand management measures, including a city centre congestion charge
			Produce and maintain register of threats and opportunities provided by change

Delivering for Sheffield: from Vision to Action

18. The Transport Strategy has been informed by an evidence base that has analysed current challenges, opportunities, strengths and weaknesses and also taken into account public feedback from the recent consultation on the Transport Vision. From that consultation we added to our knowledge about journey needs and local opinions on travel. The Strategy incorporates this knowledge as well as evidence from many local, national and international sources.
19. The Strategy will inform the development of a long-term Action Plan, which will start to identify a multi-million pound programme of transport investment and where this investment is most urgently needed. After the Strategy comes delivery. When funding becomes available,

transport programmes of schemes will be carried out across the city following local consultations. As Sheffield evolves so will its transport to better support the city's needs.

The Strategy in Summary

A city that's easier to get around	A better connected Sheffield	A safer and more sustainable Sheffield
Faster, better integrated and simpler bus services	Faster, longer and more frequent train services to other cities and to the rest of the city region	Sustainable safety, safe walking and cycling as standard
Securing the future of Supertram and supporting its expansion	A transformed Sheffield Station bringing High Speed rail services into the heart of the city	Improved air quality and working to manage congestion
New mass transit routes and services creating more public transport capacity for a growing city	Improved major road network, keeping Sheffield connected to motorways, airports, and other cities	Improving poor health and poor access to jobs and services
An inner ring road that has more capacity and is easier to cross into the city centre		

INTRODUCTION

This Strategy follows the Sheffield Transport Vision – a shorter document that began the conversation about the city’s future travel. This document sets out the proposed Transport Strategy for Sheffield, looking forward to 2035.

It reviews the issues the city is facing now and how these might change when considering the need for improved economic prosperity, balanced with the challenges of creating a safer, cleaner and better quality of life for all.

It shows how travel should adapt to our changing city and what we will do to help make it happen. There will be changes in the needs of the city’s people, the environment, health and wellbeing and the economy.

We explain our new ambitious approach to meet those needs, especially how to improve the local highway and rail network. We then set out an Action Plan for what sort of schemes will be delivered up to 2025 and beyond.

We have strived to ensure that Sheffield’s Transport Strategy is complementary to and consistent with, that of Sheffield City Region.

The City Region transport policies (still draft at the time of writing this document) are therefore included to illustrate the close alignment with our own proposed local policies.

The key proposals of the Strategy and Action Plan are summarised in the plan opposite, and are listed in full in Appendix B.

NATIONAL AND LOCAL CONTEXT

A range of national and local policies have been used to inform the Sheffield Transport Strategy and form the basis for its development:

What is it?	How does this impact on the Sheffield Transport Strategy?
National Planning Policy Framework (1)	<ul style="list-style-type: none">• The NPPF sets out the overall planning policy for England. It has provided the framework within which Sheffield has developed its own plans.• This has impacted the Transport Strategy, as promoting sustainable transport is a core planning principle; the transport system needs to be balanced in favour of more sustainable modes and it needs to support wider sustainability, quality of place and health objectives.
National Infrastructure Delivery Plan (2)	<ul style="list-style-type: none">• Highlights the importance of national road and rail networks and of ports and airports and sets out how the Government will support delivery of key infrastructure projects and programmes.• The Transport Strategy is impacted in that it shall respond to and link with national infrastructure commitments supporting the connectivity of the city with the wider nation and world.
Transport Investment Strategy (3)	<ul style="list-style-type: none">• The national level Transport Investment Strategy identifies four key aims of creating a more reliable, less congested and better connected network, building a strong and more balanced economy, enhancing global

	<p>competitiveness and supporting the development of new housing.</p> <ul style="list-style-type: none"> • The DfT Transport Investment Strategy has been used to develop focus areas for the Sheffield Transport Strategy. For example, a key consideration is how our transport offer can support new housing developments in Sheffield.
Northern Powerhouse Independent Economic Review (4)	<ul style="list-style-type: none"> • The Transport for the North NPIER looks at how the north has been economically under-performing. There are aspirations to a transformed north which could deliver an increase in productivity equating to a GVA of £100billion, creating up to 850,000 new jobs. • The NPIER has impacted the Transport Strategy as it outlines how major improvements to the north's transport connectivity are of critical importance to achieve the overall vision of a globally competitive environment that can sustain significant economic growth. The need to improve transport connectivity is as relevant in Sheffield as it is in other areas across the north.
TfN Strategic Transport Plan (5)	<ul style="list-style-type: none"> • The Transport for the North Strategic Transport Plan aims to increase the efficiency, reliability and resilience of the transport system, transform the economic performance of the north, improve access to opportunities and support the built and natural environment. This includes identification of key economic growth corridors including the central and southern Pennines, and the north west to the Sheffield City Region – essential to achieving transformational growth. • The Sheffield Transport Strategy has been developed in alignment with the key aims of the Strategic Transport Plan to ensure that we work towards shared goals and adopt a consistent approach to delivering our ambitions for transport.
Draft Sheffield City Region Transport Strategy (6)	<ul style="list-style-type: none"> • The city region-level Transport Strategy sets out transport priorities for the wider area over the next 20 or so years. It sets out four key goals of supporting economic growth, maximising safety, reducing emissions and enhancing social inclusion and health. • This has been used to inform the Sheffield Transport Strategy as we have aligned our objectives with the four key goals in the City Region Strategy to ensure a cohesive approach.
Sheffield Local Plan (7)	<ul style="list-style-type: none"> • The Local Plan identifies key challenges and opportunities which we face from now up until 2034. It sets out our aims to deliver 2,500 jobs a year over the next 20 years, and 2,150 new homes per year to support the growth in our population and a growing economy. • The Sheffield Plan vision is that “In 2034 the city will have thriving neighbourhoods and communities, be globally successful, with a distinct urban and rural identity underpinned by a strong and sustainable economy”. • One of the key aims to support this vision is the delivery of a ‘connected city’ which benefits from excellent digital and physical connectivity, with safe, efficient and sustainable transport provision.

Sheffield Strategic Economic Plan (8)	<ul style="list-style-type: none"> • The Strategic Economic Plan sets out the wider Sheffield City Region’s plans to transform the local economy over the next decade delivering 70,000 more jobs, an additional 6,000 businesses, 30,000 highly skilled occupations and an increase in GVA in excess of £3billion. • The Plan has a significant impact on the Transport Strategy, as the transport offer in Sheffield will be a critical component in terms of achieving the ambitious economic growth aspirations.
Peak District National Park context	<ul style="list-style-type: none"> • Sheffield City Council is the Highway Authority for all roads within Sheffield, including those in the Peak District National Park which lie within it’s boundary, and any work undertaken within or adjacent to that area must have regard to National Park purposes (as set out in the Environment Act, 1995). • The Peak District National Park Authority is the planning authority for the area of National Park within that highway boundary. There are a number of relevant documents which set out the principles and context for that area, including Peak District National Park Core Strategy (2011), Peak District National Park Local Plan (2001), Peak District National Park Development Management Policies (Part 2 of the Local Development Plan for the Peak District National Park) and the Peak District National Park Transport Design Guide Supplementary Planning Document.

WHY DOES SHEFFIELD NEED A TRANSPORT STRATEGY?

We have a range of key drivers which underpin the need for this Transport Strategy:

People and Communities: How is our population changing? How is the character and shape of our city changing?

Environment: How can we improve the air we breathe, the way in which we produce and use energy and the quality of our urban and public space environments?

Health and Wellbeing: How can we help to create a healthier, happier and safer Sheffield?

Economy: How can we enable and support economic growth and build on our existing strengths in areas such as advanced manufacturing?

Future Technology and Mobility: How can we embrace technological change to improve transport and mobility and be agile to changes in society, the economy, our lifestyles, needs and behaviours?

PEOPLE AND COMMUNITIES

Our population is growing and changing.

Our future transport networks and services need to support a growing population. But the city is not just growing in numbers; the demographic profile is also changing. A growing population will require a transport system with more capacity, an ageing population will require a greater focus on accessibility and more people in the city centre and its vicinity may mean that we need to re-think how we deliver transport services in and around our urban core.

It is important that the Transport Strategy takes into consideration these demographic changes; we have identified five key themes

- Sheffield’s population will be growing;
- Aging;
- More people expected to stay in Sheffield;
- More likely to live within and around the city centre; and
- composed of a greater number of young people.

Demographic changes result in a range of particular needs which must be addressed if we are to have a transport system which is fit for purpose in the future. A bigger population requires a transport system with more capacity so that people can continue to access work or services, physically or digitally and businesses have the room to grow. For example, even a small amount of homeworking can make a big difference to the demand for travel. The needs of various age groups vary dramatically and the transport strategy needs to consider this.

We are already seeing younger people delaying car ownership until later in life (if at all) (9) due to a number of socio-economic factors. Younger generations are also more likely to be influenced by and embrace new technologies which have the potential to change how we travel, as well as our need to travel. There will be a significantly greater number of elderly people in future which presents its own distinct challenges. Whilst people are living longer they are not necessarily living healthy lives for longer. We want people to enjoy healthy, happy lives as well as longer life. In addition, an ageing population may need to be economically active for longer (as a result of increasing retirement age, later mortgages, etc.)

Growing population: The current population of around 575,000 people is expected to increase by 62,000 between now and 2034 based on trends.

Ageing population: Projections show that 20% of residents in Sheffield will be over 65 by 2034, up from 16% in 2011, and there will be a doubling of residents over 85 within the next 20 years.

More people expected to stay in Sheffield: The current trend of a net outflow of people moving to outside Sheffield is expected to reverse in future as the city provides more jobs and homes, and people will be more likely to stay in Sheffield.

More likely to live in the city centre: The biggest increase in population in recent years has been concentrated within Sheffield city centre, as well as some areas to the east of the city. This trend is expected to continue in future.

More young people living in Sheffield: As the Sheffield population has increased, so has the number of households. The number of households in Sheffield is expected to increase from 236,865 to 271,801 by 2034 (10). This rise, which equates to 14.7% is higher than the overall rise in population as more people are expected to live on their own.

Our city is composed of diverse people and places undergoing significant change; this Transport Strategy has to be inclusive, considering all sections of the community; including those who come to work, play or stay in our city from elsewhere. The Strategy aims to respond to changing needs to ensure that access to opportunities and services are both maintained and enhanced.

Conscious of the above population trends, our local transport policies are intended to provide safe and attractive travel choices for all. These also align with the current draft Sheffield City Region policies also geared to improving access for all.

City Region policies	Sheffield’s local policies
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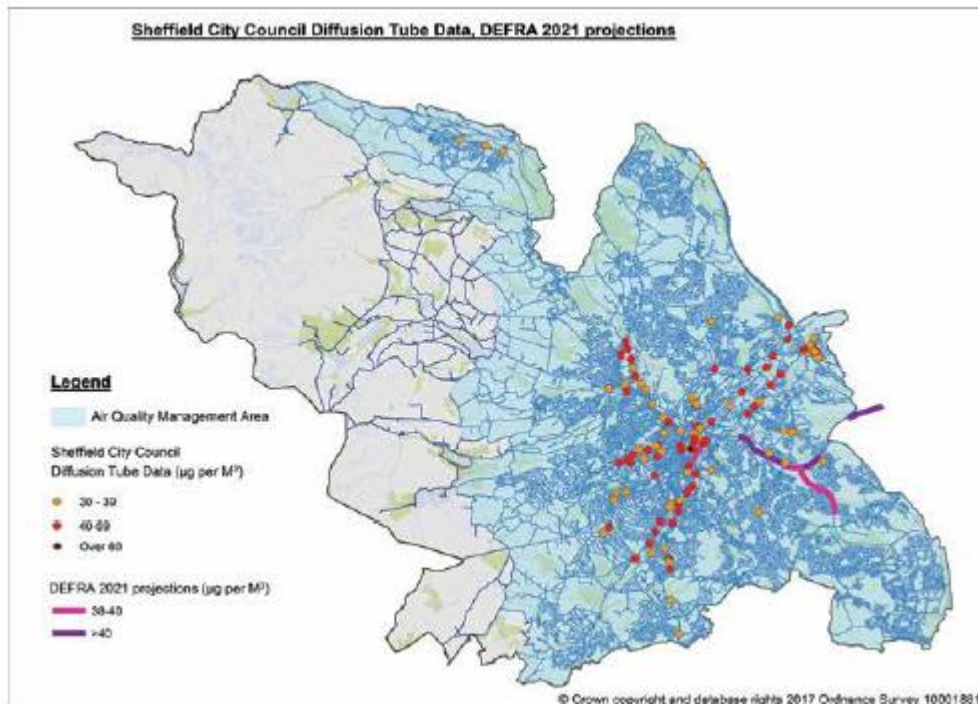
1. Improve the existing transport network to enhance access to jobs, markets, skills and supply chains adopting technology solutions to support this	1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people’s needs throughout their lives.
3. Invest in integrated packages of infrastructure to unlock future economic growth and support Local Plans, including new housing provision	3A. Our transport system will enable the city to support a greater population and greater economic activity

ENVIRONMENT

We need to consider how transport can improve quality of life and the environment for everyone in Sheffield. Transport and mobility have the potential to enhance our public realm, enable new green space and improve access to existing green space, improve air quality, reduce noise and rebalance space between vehicles and people. This all contributes to making Sheffield a distinctive and attractive place to visit, live in and invest in.

Sheffield is in breach of legal limits for Nitrogen Dioxide, with road transport accounting for 50% of emissions of oxides of nitrogen. Across Sheffield, there are 51 known locations where the annual average limit for Nitrogen Dioxide has been exceeded during the three year period 2010-12 (11). In the wider City Region we have a number of Air Quality Management Areas and high levels of carbon emissions around the city centre, as well as on motorways and main roads (6).

Whilst levels of particulates (PM10 and PM2.5) in our air are within legal limits, these pollutants still have their health impacts. These pollutants are carcinogenic and are considered to be unsafe at any level. Transport is a significant contributor of these pollutants – not just from tail-pipe emissions, but also from wear of consumable parts (such as tyres and brakes). Although the annual averages are significantly below the legal threshold, the daily average level is higher on more days per year at some locations than is acceptable by legal standards. Crucially, there is no safe limit for this pollutant.



(Graphic showing Sheffield City Council Diffusion Tube Data, DEFRA 2021 Projections)

The city has been directed by central Government to undertake a Clean Air Zone Feasibility Study, the actions arising from this are required to ensure our air quality complies with legal thresholds in the shortest possible time.

The impact on health and life expectancy is more significant for some groups of people than others and there is an identified link with deprivation. The challenge here is not only to mitigate our existing impacts on air quality, but to also accommodate the increased demand for housing and jobs whilst minimising the additional impact created by these increases. Sheffield's Clean Air Strategy sets out actions required to meet that challenge.

There are significant opportunities to reduce the energy use and carbon footprint of transport in the Sheffield City Region. There can, however, be a significant difference between how cost effective and how carbon effective measures are. By far the most carbon effective types of measures identified by the Mini-Stern Review (12) are those which relate to hybrid and electric vehicles, for which take up continues to rise. In contrast, park and ride schemes were the most cost effective, but their contribution to carbon savings is much less.

Climate change will have a significant impact on the city and transport has a key role to play in terms of addressing the causes of climate change and also in being resilient to the impacts of that climate change which is inevitable as a consequence of emissions to date. Major weather events cause network impacts which in turn impact the economy. We need to make networks more resilient to climate change effects.

It is important that we consider the availability of security of energy when planning our future transport and infrastructure systems. The cost and supply requirements for energy will change as demand diversifies. The capacity, security and resilience of energy networks will be key to enabling many future transport changes. We must consider the energy generation, supply, storage and distribution capabilities when proposing large scale changes to electrified transport to ensure that any proposals remain deliverable and sustainable. Our city faces a number of environmental issues which have acted as key drivers for the development of this Transport Strategy:

Air Quality and Emissions: DEFRA data indicates that Sheffield has roads where the NO₂ level in 2017 exceeds the legal limit. NO₂ levels on these roads in 2017 were 53µg/m³ when 40µg/m³ is the legal limit (11). Our local data indicates that air pollution is in fact worse and more widespread than DEFRA data suggests.

Climate Change: As a result of climate change, our climate is changing more rapidly than at any time in the past 125 years (13) and projections show that by 2050 we will have higher temperatures on average, reduced summer rainfall and increased winter rainfall.

Energy: Trends show that energy prices are likely to increase to 2034, which may worsen current issues in Sheffield such as fuel poverty, and increase some transport costs.

Open Space and Quality of Life: Rebalancing available space between vehicles and people, including better use of public open space, can have significant benefits in enhancing our quality of life. A key challenge is maintaining our public spaces against a backdrop of continued austerity and cuts to funding.

Transport is the single most significant contributor to Sheffield's air quality issues. Combined with the significant impact of climate change upon the city, the Transport Strategy has to effectively contribute to these basic quality of life concerns. In addition to Sheffield's Clean Air Strategy, local transport policies are therefore now proposed as follows.

City Region policies
4. Improve air quality across our City Region to meet legal thresholds, supporting improved health and activity for all, especially in designated AQMAs and CAZs
5. Lead the way towards a low carbon transport network, including a zero carbon public transport network
6. Work in tandem with the planning and development community to create attractive places

Sheffield's local policies
4A. We will implement our Clean Air Strategy to address exceedance of legal limits in respect of oxides of nitrogen.
4B. We will continue to intervene even upon the meeting of legal thresholds, to enable shift away from modes of transport responsible for emissions of particulates and oxides of nitrogen.
5A. We will intervene to enable shift away from carbon intensive modes of transport to less carbon intensive modes where these are suitable
5B. We will aim to achieve a zero carbon public transport network
5C. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable motorised transport to be demonstrably less carbon intensive
6A. Our transport system shall complement and enhance the urban and rural fabric of the City, and shall help provide an environment which is attractive to prospective and existing residents and businesses alike. This shall extend to new and existing developments.

HEATH AND WELLBEING

Transport can make a positive impact on our health and wellbeing; a healthier, happier population will have a greater level of participation and productivity. The quality of the places in which we live and the environment overall, can have a significant impact on our health and personal sense of wellbeing. Issues such as air pollution from vehicle emissions, noise, poor housing and lack of open space can affect us all and our ability to lead an active and healthy lifestyle.

Transport presents lots of opportunities to improve health and wellbeing in areas such as enhancing our already excellent outdoor activity facilities, further developing our cycle infrastructure and encouraging greater use of low or zero emission vehicles and public transport. Home or remote working can provide a means of mitigating the demand for travel and its adverse impacts. Good digital connectivity is key to this. Home working may not reduce trips (as people do other things with the time saved) but it benefits the peak demand.

Reduced traffic can lower emissions and improve our air quality and better connectivity can improve the prospects and wellbeing of those who are the most deprived within our communities. The levels of deprivation across the city vary considerably, with persistent inequalities between areas of the city as well as between groups of people within those areas.

Sheffield has committed to a Fairness Framework which includes principles to ensure that fairness is city wide and long-term (14). It is acknowledged that transport is one of the barriers to accessing services, education and employment opportunities. In particular, meeting the needs of our children and young people is crucial if we are to make Sheffield a place where they feel safe and want to stay.

For older people, having multiple illnesses is now more common than single illness, creating demand on health care provision and leading to early deaths. It is, however, more common in people of working age than those in retirement. There are therefore significant economic impacts – lost productive time, ill health retirement and early deaths. It also poses challenges for social care in later life, as most social care is required because of illness.

Prevalence of multiple illnesses (multimorbidity) is not equally spread across the city. In the poorest parts of Sheffield the age at onset is 10-15 years younger than the most affluent. Increasing the amount of activity we all do in our daily lives is acknowledged as a key part of improving the health of the population, both physically and mentally (15). Enabling more people to make journeys by walking or cycling can contribute significantly to this (16). The benefits to our health are multiplied when we consider the impact on air quality if fewer journeys are made by car.

The relative cost of public transport is one of the factors influencing travel behaviour. Bus users and non-users amongst young people, for example, count value for money as their most desired improvement according to Transport Focus (17).

The differing requirements of affordability and value for money on public transport need to be recognised; achieving these meaningfully requires a transparent and intelligible fares regime that the passenger can trust.

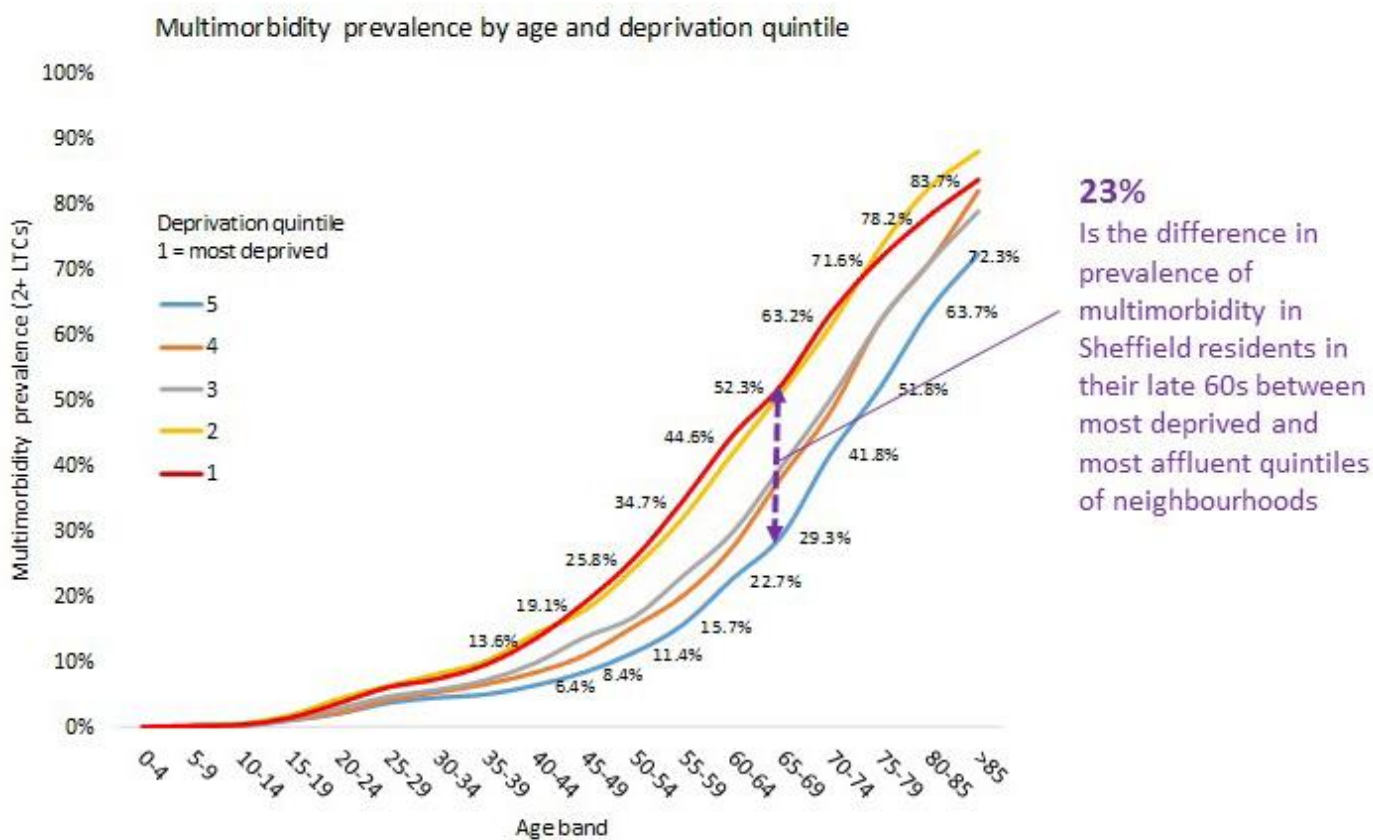


Diagram shows multimorbidity prevalence by age and deprivation quintile. 23% is the difference in prevalence of multimorbidity in Sheffield residents in their late 60s between the most deprived and most affluent quintiles of neighbourhoods.

Any fares subsidy would need to be carefully considered alongside other factors making public transport more attractive, such as frequency of service and quality of vehicle.

Sheffield faces a number of health and wellbeing issues which have acted as key drivers in the development of this Transport Strategy:

Life Expectancy: Sheffield has an average life expectancy for men of 78.1 years and for women of 81.8 years (18), which is less than the national averages of 79.6 and 83.2 years respectively. Figures for healthy life expectancy show a greater gap with the national average figures of 60.8

years for men and 60.3 years for women which are 2.6 and 3.7 years less than the national average respectively.

Ageing population: Projections show that, in future, there will be more elderly people and an increase in the health conditions associated with old age

Health: Obesity rates are predicted to increase in future. Currently it is estimated that around 20% of deaths per year in Sheffield could be prevented, with direct causes including factors such as obesity, lack of physical activity (19) as well as the environment

Air Pollution: Without changes in how we travel around Sheffield air pollution may increase, particularly along the main transport corridors such as the Lower Don Valley. (20) Many of these key corridors are expected to be more heavily congested in future if changes are not made.

Deprivation and Inequality: Sheffield still has a significant difference between the health of those people living in the most and least deprived communities, with people born in the most deprived areas expected to live 13 years less than those born in wealthier parts of the city. (21) Many of the adverse impacts of the transport system are felt disproportionately in more deprived communities.

The Council has legal duties under the Equality Act 2010 to actively advance equality of opportunity to people who share a protected characteristic of age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex and sexual orientation. Each of these groups, and people within those groups, has specific needs the transport system must respond to.

The relative cost of public transport influences behaviour, both in terms of how people travel, and whether they travel at all. An inability to afford public transport is a barrier for some in accessing jobs and services.

We must ensure then that our transport infrastructure supports people of all ages to feel safe when travelling by public transport, walking or cycling. Only when these modes are seen as an everyday, simple and safe choice for the population generally, will significant levels of people increasingly choose them for their journeys.

To create attractive streets and spaces that give people this sense of safety and well-being, the following local policies are proposed.

City Region policies
7. Ensure people feel safe when they travel and invest in our streets to make them more attractive places
8. Enhance our multi-modal transport system which encourages sustainable travel choices and is embedded in the assessment of transport requirements for new development, particularly for active travel
9. Ensure our transport network offers sustainable and inclusive access for all to local services, employment opportunities and our green and recreational spaces

Sheffield's local policies
7A. We will develop our transport system to encourage active and healthier lifestyles, and reduce noise and air quality impacts.
7B. We will assess our schemes against their performance in respect of health outcomes.
8A. We will adopt the Sustainable Safety approach to ensure the separate provisions to ensure the safety and convenience of pedestrians and of cyclists respond directly to the level of threat posed by motorised traffic, and by each other. We will adapt this as required to ensure inclusive design.

8B. We will intervene proactively to ensure our public transport system, and non-motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.

9A. We will maximise the opportunities presented by our parks and green spaces. We will improve access to these, and minimise the harms posed by transport on these.

ECONOMY

Sheffield is a key driver of the City Region economy, has significant economic growth aspirations and a key enabler of this growth will be transport. Connections with our neighbouring towns, particularly Rotherham, must continue to be strengthened, in support of local and City Region economies. We must deliver a transport system for Sheffield with the connectivity and accessibility needed to support and enable our growing and thriving economy.

Sheffield still faces a number of economic issues including:

- 10% Gross Value Added per head has grown 10% since 2011, similar to that of Newcastle and Nottingham (22) However, GVA per head remains lowest of all core cities.
- Unemployment higher than the national average
- Productivity levels within the SCR are 85% of the UK average (8)
- Wages lower than other core cities but growth has accelerated recently
- Growth has not resulted in a less polluted or more equal Sheffield
- 38% educated to NVQ level 4, equivalent to national average and fourth highest English core city.
- Too many people are missing out on jobs and other opportunities
- Relatively high levels of deprivation, particularly affecting people with low levels of educational attainment
- In Sheffield 73.3% of people are economically active. The Great Britain average is 78% (23).

Despite these challenges there are real opportunities and strengths for us to build on.

These include:

- A growing advanced manufacturing sector and the continued development of the Advanced Manufacturing Innovation District offering significant employment, training and economic opportunities involving internationally prominent companies, as well as providing opportunities to strengthen and improve the transport links between Sheffield and Rotherham to continue to support this growth area.
- A central location at the heart of the UK with multi-modal connectivity to other key markets, including international access from airports at Manchester and Doncaster.
- Two universities with a major student population of around 60,000 providing a significant boost to the local economy.
- An active leisure economy and a growing reputation as 'The Outdoor City', including the Peak District National Park.
- Access to high quality green spaces which is a distinctive asset, attracting visitors and residents.
- Accessible and well-connected spaces for new firms to locate.
- A recognised centre for creative and digital industries.

We need to enable more movement regionally to stimulate wider growth in jobs as proposed by SCR. The challenge here is to improve journey times and the reliability of existing links and to improve regional connectivity. We need to build upon the work which has already begun to

strengthen our regional links, including the tram-train trial between Sheffield and Rotherham, and development work on the Sheffield City Region Innovation Corridor. This includes the need to align with pan northern and regional strategies (including Transport for the North’s Strategic Transport Plan, Sheffield City Region’s draft Transport Strategy, the Department for Transport’s Major Road Network proposals, etc.) in order to maximise the opportunities arising from the significant investment in our region, including HS2 connectivity and development opportunities. These larger scale interventions will be key to the creation of higher skilled jobs – some 30,000 of the 70,000 total – as envisaged by SCR.

At a more local level we need to maximise the journey time savings to be delivered by HS2 and, more importantly Northern Powerhouse Rail. Transport has a significant role to play, in providing access to opportunities and enabling greater levels of participation (in education and employment). Interventions must address the impact that deprivation and inequality of access have on transport choices.

Retaining talent and attracting new people to our workforce is also important. One of Sheffield’s great attractions for those considering coming to or staying in the city is its reputation as The Outdoor City, and its proximity to the National Park. However, we must ensure we have excellent and sustainable links to these outdoor hubs as part of a first class transport network, if we are to encourage people to stay.

Our economic aspirations require improved connectivity and faster and more reliable journeys, between businesses within Sheffield and with cities and businesses in the wider north and beyond. By their nature, these journeys will predominantly be by motorised modes and largely by road. But this cannot come at the expense of the city’s environmental, health and inclusion goals and must be deliverable with the urban and rural fabric of the city. This leads us to the following policies.

City Region policies
1. Improve the existing transport network to enhance access to jobs, markets, skills and supply chains adopting technology solutions to support this
2. Enhance productivity by making our transport system faster, more reliable and more resilient, considering the role of new technologies to achieve this
3. Invest in integrated packages of infrastructure to unlock future economic growth and support Local Plans, including new housing provision
9. Ensure our transport network offers sustainable and inclusive access for all to local services, employment opportunities and our green and recreational spaces

Sheffield’s local policies
1B. We will support regional and pan-northern road and rail connectivity enhancements and will ensure our local transport system responds to exploit the benefits of these.
1C. We will improve our offer for walking, for cycling and for public transport, to ensure improved access to jobs and skills is not limited to those who have access to a car.
2A. We will act to enable more efficient use of the transport system by reducing reliance on the private car for local trips. Principally, this shall be by improving the speed and attractiveness of alternative modes.
2B. We will support targeted improvement in infrastructure and services where they support enhanced productivity through better connections for movements of freight and people between businesses within and beyond Sheffield.
2C. We shall ensure our actions in respect of the economy recognise and address the impact of poor health, well-being and inclusion on economic productivity.
3A. Our transport system will enable the city to support a greater population and greater economic activity
9B. We shall ensure all transport modes and services are integrated and inclusive such that

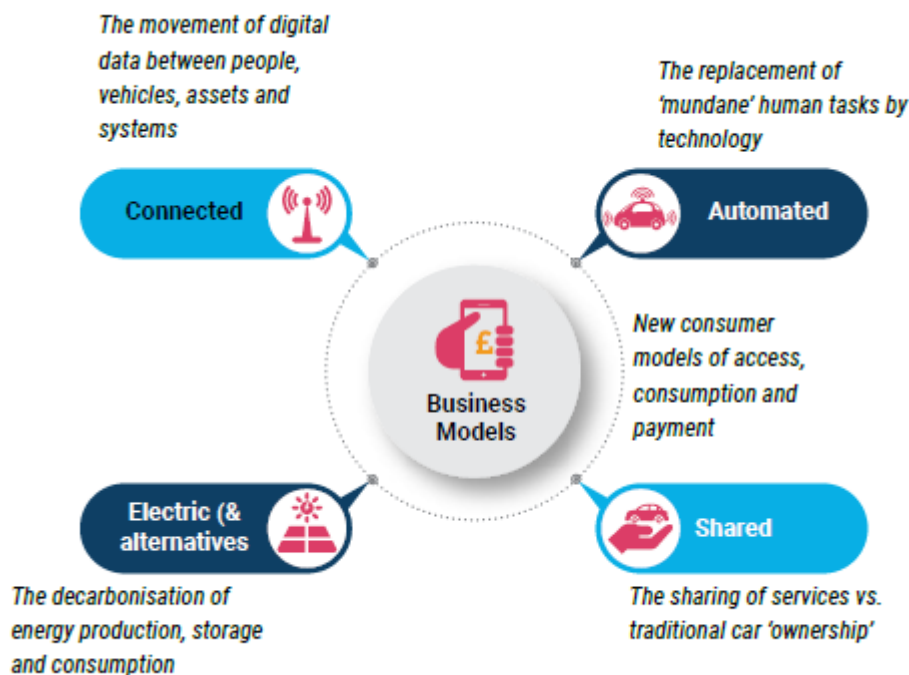
people and businesses have the flexibility to travel seamlessly in a manner that best meets the differing needs of individuals and those of the city.

FUTURE TECHNOLOGY AND MOBILITY

Transportation is on the cusp of a revolution with new technologies and services offering improved access to a range of mobility options including some new types of service not seen before in Sheffield. Increasingly the internet will have a major role to play with 'digital as a mode' allowing those that can to work from home for some of the time, thus avoiding the commute.

The rate of technological change is rapid and some aspects of it are uncertain, but the principles described below are all happening now and as such we must ensure the Sheffield Transport Strategy is 'future ready' for those that live, work and visit here and we must be agile to the changes and opportunities ahead.

Future technology will not only improve how we travel and the choices we have, it will also help improve the places we go to and the communities across our City.



Digital connectivity is enabling many of the things we do, how we shop, how we stay in touch with friends and how we pay for things. It underpins much of what many of us do. This digital revolution is beginning to impact the transportation sector with connectivity of vehicles enabling access to services on the move, the sharing of real time information and real time journey planning for example. Digital connectivity will help make our highway network safer and more efficient and provide customers and users with more accurate travel information, travel choices and methods of payment. However, we recognise that 'digital exclusion' should not be allowed to disadvantage those who either can't access such services, or choose not to use them.

Automation and robotics will transform not only how we travel but how road and rail networks are maintained. Autonomous vehicles, whilst in their infancy, are developing rapidly and should simplify driving for existing car drivers, making the experience less stressful and potentially more productive. It should also open up mobility for people presently excluded, particularly the young, the aging and disabled. The use of robots will help us to manage our networks more safely and effectively taking people out of hazardous environments. We will need to consider the automated agenda to make sure that our infrastructure is ready for these developments.

There are already over 600 electric vehicles on the streets of Sheffield and this number is expected to grow rapidly. Electric bikes, cars, vans, buses and trucks will help improve air quality

and reduce noise in Sheffield. With other advances being made in hydrogen fuels, we need to plan for charging and refuelling infrastructure at home, at key destinations and at work, so we are ready for a clean future.

Bike sharing, car sharing, car pooling and on-demand buses are all new ways of getting from A to B without ‘owning’ a car. New providers are offering on-demand services which can be booked and paid for via a smartphone app. These new services offer alternatives to traditional bus, rail and tram which could improve access for some people in some parts of the City.

The changes outlined above could lead to new ways to use and pay for transport. Mobility as a Service (MaaS) could offer tailored journey planning and pay-as-you-go or bundled transport across all modes, working in a similar way to smartphone data contracts. We need to look at how best we can encourage people to make the most of the transport choices they have and to simplify access and payment.

Changing transport technology and mobility technology will present us with some great opportunities as well as some challenges. Some of these changes will be hard to predict and might be of benefit to some more than others.

Becoming an early adopter of technology can be costly and disruptive if the systems in development are not suitable for our needs or robust in their application. However, transport mobility and connectivity technology will present us with some great opportunities, some which of are currently hard to predict.

It is for these reasons that we will continue to explore the future, and investigate evidence about future trends in line with the Government’s adopted approach of Horizon Scanning. This allows policies and approaches to evolve over time, in response to future changes.

City Region policies
2. Enhance productivity by making our transport system faster, more reliable and more resilient, considering the role of new technologies to achieve this
5. Lead the way towards a low carbon transport network, including a zero carbon public transport network

Sheffield’s local policies
2D. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable people to go about their business in a manner that requires less or less-harmful travel.
2E. We will remain alive and agile to developments in technology to ensure opportunities these present are exploited, and threats they might present are managed.
5C. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable motorised transport to be demonstrably less carbon intensive

CONSULTATION ON THE SHEFFIELD TRANSPORT VISION

Following the production of a draft “Vision” document (24), the Council undertook a public consultation exercise in January and February 2018. Just under 2000 people responded to this, 75% via the Council’s on-line “Citizen Space” site and 25% via on-street surveys commissioned to get a more representative sample in terms of age and ethnicity and to reach people who do not usually engage with such consultations.

Answers to the street survey showed people were less clear about the need for action with the most common responses being that only some parts of the city need action, or that only small

changes were needed. Respondents also showed more concern about affordability of transport, especially buses.

Some of the headlines from the overall consultation were:

- 84% public support for taking action on Sheffield’s transport, with 66% saying that it should be citywide.
- Congestion is the biggest public concern if no action were taken – in terms of its impact on all forms of travel. The effect on business featured strongly within this, followed by frequency of public transport, affordability of travel, safety and air quality.
- By mode, the largest group of people wanting citywide action were those wanting to switch from or to cycling.
- Concerns we didn’t prompt, but received significant responses, included the need for cycling infrastructure and access to public transport.
- Regarding the Vision itself, many liked our emphasis on increasing the priority/support for active travel and public transport, with a smaller but still significant number concerned about the effects this would have on car drivers.
- Some mentioned a need for more ambition, how funding could be a problem and that more detail was needed. Many people took the opportunity to express how public transport services needed improving, with some saying the Vision didn’t give them confidence that this would happen. The need for good cycle infrastructure was a concern for many.
- The feedback gave a flavour of how the public perceive different modes:
 - 42% of respondents apparently don’t currently travel the way they would like to.
 - Many were interested in cycling, but don’t because of safety concerns.
 - Many bus users want to drive but don’t have and/or can’t afford a car.
 - Many car drivers want to switch to the bus but believe buses take too long.
 - Many people wanted to use the tram but don’t have access to it.
- The main reason given for not making local journeys that people would like to was the perceived lack of a transport service that was accessible or affordable.

REVIEW OF AIMS AND OBJECTIVES

Public feedback on the Vision is seen as broadly supportive. The three proposed broad aims were not challenged and should therefore remain, namely:

Our Aim is that, by 2034, Sheffield’s transport system will		
Underpin sustainable economic growth and a city is open for business	Support and enhance the health, wellbeing and quality of life for its residents and visitors	Be inclusive and open up the city’s opportunities to all

The Vision also described a number of ‘Contributory Objectives’ that would inform the prioritisation of investment. These again were not challenged and are therefore proposed to be retained as follows:

Underpinning Sustainable Growth:

- Provide the accessibility, capacity and connectivity to the wider city region, to other cities and to ports and airports to support economic growth, prioritised to meet the needs of business and in particular the key growth sectors, to exploit improvements in regional road and rail connectivity.
- Improve the attractiveness, reputation and resilience of the city as a location for investment and living by supporting and enhancing the unique identity, the quality of the cityscape and the city’s transport system.
- Address barriers to participation in the economy of the city, in particular improving access to jobs, training and services.

- Provide good access to residents and visitors to the city’s events, cultural offering and outdoor spaces, in particular in the city centre, supporting expansion of the cultural and evening economy and also to outdoor spaces including the Peak District National Park.
- Be agile to technology change to capitalise on opportunities to realise Sheffield’s city vision.

Supporting Health and Well-being:

- Improve health, well-being and opportunity for the city’s most disadvantaged by providing interventions that improve access to services and opportunities for them.
- Safeguard and create neighbourhoods, streets and places that people enjoy being in and that are conducive to active travel.
- Improve local air quality across the city and reducing the contribution towards and negative impacts of, climate change.

Being Inclusive:

- Enable access to social and economic opportunities to improve people’s lives, reduce barriers to participation and to support economic growth through improved productivity, across the city and beyond.
- Be safe and accessible for all addressing, amongst other things, road and personal safety, air quality and incorporating measures to improve the service provided to those with characteristics protected under the Equality Act 2010.
- Ensure that the design of transport infrastructure, services and information removes and minimises inequality, and to actively advances equality – which requires disadvantaged people are actively involved in achieving this.

OUR POLICIES

Be inclusive
 Underpin sustainable growth
 Support health & well being

1. Improve the existing transport network to enhance access to jobs, markets, skills and supply chains adopting technology solutions to support this
1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people’s needs throughout their lives.
1B. We will support regional and pan-northern road and rail connectivity enhancements and will ensure our local transport system responds to exploit the benefits of these.
1C. We will improve our offer for walking, for cycling and for public transport, to ensure improved access to jobs and skills is not limited to those who have access to a car.
2. Enhance productivity by making our transport system faster, more reliable and more resilient, considering the role of new technologies to achieve this
2A. We will act to enable more efficient use of the transport system by reducing reliance on the private car for local trips. Principally, this shall be by improving the speed and attractiveness of alternative modes.
2B. We will support targeted improvement in infrastructure and services where they support enhanced productivity through better connections for movements of freight and people between businesses within and beyond Sheffield.
2C. We shall ensure our actions in respect of the economy recognise and address the impact of poor health, well-being and inclusion on economic productivity.
2D. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable people to go about their business in a manner that requires less or less-harmful travel.
2E. We will remain alive and agile to developments in technology to ensure opportunities these present are exploited, and threats they might present are

managed.
3. Invest in integrated packages of infrastructure to unlock future economic growth and support Local Plans, including new housing provision
3A. Our transport system will enable the city to support a greater population and greater economic activity
4. Improve air quality across our City Region to meet legal thresholds, supporting improved health and activity for all, especially in designated AQMAs and CAZs
4A. We will implement our Clean Air Strategy to address exceedance of legal limits in respect of oxides of nitrogen.
4B. We will continue to intervene even upon the meeting of legal thresholds, to enable shift away from modes of transport responsible for emissions of particulates and oxides of nitrogen.
5. Lead the way towards a low carbon transport network, including a zero carbon public transport network
5A. We will intervene to enable shift away from carbon intensive modes of transport to less carbon intensive modes where these are suitable
5B. We will aim to achieve a zero carbon public transport network
5C. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable motorised transport to be demonstrably less carbon intensive
6. Work in tandem with the planning and development community to create attractive places
6A. Our transport system shall complement and enhance the urban and rural fabric of the City, and shall help provide an environment which is attractive to prospective and existing residents and businesses alike. This shall extend to new and existing developments.
7. Ensure people feel safe when they travel and invest in our streets to make them more attractive places
7A. We will develop our transport system to encourage active and healthier lifestyles, and reduce noise and air quality impacts.
7B. We will assess our schemes against their performance in respect of health outcomes.
8. Enhance our multi-modal transport system which encourages sustainable travel choices and is embedded in the assessment of transport requirements for new development, particularly for active travel
8A. We will adopt the Sustainable Safety approach to ensure the separate provisions to ensure the safety and convenience of pedestrians and of cyclists respond directly to the level of threat posed by motorised traffic, and by each other. We will adapt this as required to ensure inclusive design.
8B. We will intervene proactively to ensure our public transport system, and non-motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.
9. Ensure our transport network offers sustainable and inclusive access for all to local services, employment opportunities and our green and recreational spaces
9A. We will maximise the opportunities presented by our parks and green spaces. We will improve access to these, and minimise the harms posed by transport on these.
9B. We shall ensure all transport modes and services are integrated and inclusive such that people and businesses have the flexibility to travel seamlessly in a manner that best meets the differing needs of individuals and those of the city.
9C. We shall involve disadvantaged communities and their representatives in the development of our interventions, to ensure they reduce inequality, and actively advance equality, and to ensure inclusive design.

OUR FUTURE PLANS

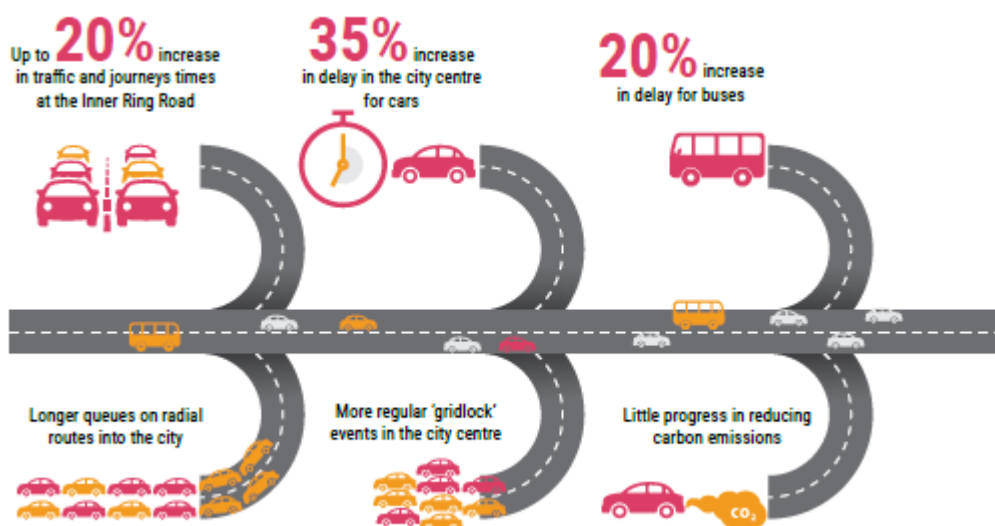
What we need to achieve

The city's vision for a thriving, vibrant regional centre requires more people to work in, visit and enjoy the city centre. Some of these will be living in the city; many will need to travel from outside – especially if the city is to play its part in the wider Northern Powerhouse.

There are many influences on traffic levels, with economic activity, technology, demographics and public expectations all playing a role. Historically, traffic volumes have fallen since the early 1990s, in particular around the mid-2000s. This is perhaps a reflection of poor economic performance in Sheffield and globally – something that has started to reverse, and we expect will continue. Some of these factors are likely to act as a downward pressure on traffic volumes in future, including changing expectations of younger generations.

However, the scale of our ambition for the city is such that our best information indicates that if we do not intervene, a significant growth in car traffic can be expected and we would anticipate significant congestion, accessibility and environmental consequences associated with this. The overall level of trip making within our local Sheffield forecasts are broadly consistent with nationally available forecasts published by the Department for Transport (DfT) and reflect wider anticipated trends for the future economy, demographics and car ownership.

The graphic below indicates our projection for impacts in the city centre and on the main corridors leading to it.

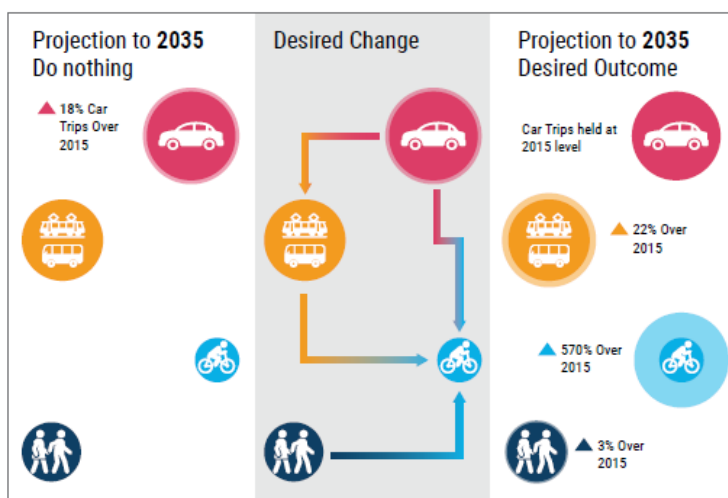


For a safer, cleaner and more inclusive Sheffield, we will need to improve infrastructure and services in a manner that allows people to make their day-to-day trips in an easy, low cost, healthy and sustainable way. Most travel in the city relates to local trips within the Sheffield boundary, with average trip length being just 3¼ miles. Moreover, many of the previously identified exclusion, health, environmental and economic challenges facing the city are felt most by Sheffield's existing residents, particularly in the more deprived parts of the city. We must also enable Sheffield's residents to move about the city and enjoy its opportunities, even if they do not have access to a car.

Notwithstanding the above, a significant component of the growth in traffic is anticipated to arise through increased movement between Sheffield and other centres, supporting economic activity in the city, the wider City Region and as part of the wider Northern Powerhouse. Whilst we welcome improved rail connectivity across the north between centres, we expect the car will remain the preferred mode for a large proportion of more diverse journeys. At the regional and national connectivity level, we will need to recognise this – both providing for it and mitigating for its adverse consequences.

Our approach, in addition to improving the opportunity and attractiveness of Sheffield, has the additional benefit of freeing up some capacity to balance supporting increased movements between Sheffield and other places, whilst still providing for local movement within the city.

The scale of this challenge is significant – but a number of small changes can make a big overall impact. By way of example, the scale of change we would envisage at the city centre is illustrated below.



OUR APPROACH

Our overarching approach will be to free up movement, in particular into the city centre and Advanced Manufacturing Innovation District (AMID), located between Sheffield and Rotherham, by the most space-efficient means. Of physical modes, these tend to be the ones with lesser environmental impacts, but this will also include approaches such as exploiting technological innovation to reduce the need for travel (such as improved digital connectivity, or 3D printing enabling products to be manufactured closer to point of use). It will also include making better use of spare capacity outside of peak periods.

This will support our objectives to provide a sustainable, attractive city and importantly, also create capacity for movement of information and ideas, as well as goods and people, within and between the city and the wider City Region and Northern Powerhouse. It also responds to the importance of our streets as places in their own right, and not solely for movement of traffic. Ensuring our transport system is space efficient will enable us to better provide for safe and attractive places that provide a positive setting for activities within the city, even in busier places.

The diverse nature of movement and activity within Sheffield means there is no single solution, or mode, that can provide for all our transport needs. Whilst there are benefits of reducing the reliance on private cars, cars do offer considerable advantages for many trips and so they are expected to remain a very significant part of the transport mix. Whilst the manner in which they are used and owned will change over time, we anticipate cars will most likely remain the single most-used mode of transport in the city.

We need to make sure our transport networks are planned in unison – both separated, to ensure each mode does not unduly impede others and integrated, so people may use a variety of modes, to suit the nature of their journey, as well as supporting activity in and around adjacent buildings and land.

To enable this, we propose to deliver future transport projects within the ‘Sustainable Safety’ framework. This seeks to minimise conflict between different modes of transport and so improve their safety and efficiency. How different modes of transport are provided for within each street are directly linked to its usage (25). In some cases, the usage of streets may need to change to enable the required provisions to be accommodated.

In the urban area, this means streets would ultimately be designated as either:

- Access streets – where motor traffic volumes and speeds would be managed to provide a pleasant environment for people in the area whilst maintaining provisions for access to premises, including for disabled people. Motor vehicle flows in the busiest hour would not exceed the equivalent of around 400-500 cars, and not more than 6 full-size buses each way. On these streets cyclists will be expected to use the carriageway. Speeds would be restricted to 20mph building upon our previous programme of changing speed limits, but crucially including changes to the design of streets as required to ensure drivers actually do restrain their speeds to 20mph or less. The priority would be providing for place, accessibility and for movement of non-motorised traffic over the through movement of motor vehicles. These would not form main bus routes, although local services may use these to serve local communities. Main cycle routes would preferably run on these streets to reduce conflict with motor vehicles; or,
- Arterial roads – busy roads designed to handle large volumes of motor traffic at 30mph (or sometimes faster), where pedestrians and cyclists are each provided with physically separate paths and crossings for their convenience and safety (or are prohibited where access is not required). These would be more engineered to support movement than access streets, but will also play their role in providing for the access, frontage and environment required to support a thriving, active city. There would be two types:
 - Public transport corridors – streets reserved principally for key public transport services, but still allowing access to local premises (including in particular for disabled people) and of course to pedestrians and cyclists. These would provide routes by-passing congestion, and avoiding the delays associated with features required to deal with large volumes of cars (in particular traffic signals); and,
 - Distributor roads – streets open to all traffic, forming the main arteries for cars and lorries in the city. Some bus services may use these streets either where separation is not possible, or not necessary.
- In some instances, particularly in the city centre, use of vehicles (including cycles) will be limited and perhaps restricted, enabling the full width of street to be used by pedestrians as a single surface (e.g. on shopping streets such as Fargate). These routes would not carry buses or be main cycle routes, nor would they carry more than the equivalent of around 100 cars in the busiest hour. Single or shared surface proposals will only be introduced where they can be effectively managed in a manner that does not create difficulties for disabled people or other pedestrians - this will typically require stringent restrictions on the use of vehicles, including pedal cycles.



Speed Limit
Designed for...

Pedestrian Street
10mph

Access Street
20mph

Arterial Road
30mph

Max Freedom For



The intention would be for main traffic routes, public transport routes and main cycle routes to be separated as far as practical, preferably in different streets, but failing that within separate spaces within a street. This will include separation of pedestrians and cyclists. We recognise the needs, perceptions and priorities of different people using different modes. We want to enable safe, reliable journeys for all. We need to not only reduce collisions, but reduce the possibility that collisions can occur and the belief that they might.

Separation will enable us to deliver places that are safe and feel safe for non-motorised travel and will make walking and cycling more attractive and practicable options for day-to-day travel. This will additionally enable us to create public transport corridors largely free of red lights and other impediments where, much like the tram or a train, buses only need to stop to pick up or set down passengers.



Extract from City Centre Plan (26) – of main motor (black), public transport (blue) and cycle (light blue) routes, and how this leads to street classification

This will not mean that every project will make improvements for all modes – we will focus on projects that meet the overarching objectives for the city and address local challenges.

The purpose is to displace a modest proportion of existing and new short, local car trips onto public transport, foot and bicycle. This will improve the quality of the environment in the city, and also free up capacity for greater numbers of people coming in and out of the city to work or visit, including those coming by car.

On main roads connecting the major economic areas to each other and to other places, we will need to enable fast and reliable trips for both people and goods in cars and lorries. But for local trips, space will need to be taken from private motor traffic to halt the shift towards car use and enable switch towards public transport, walking and cycling. Some increase in inconvenience will result for car journeys for local trips, at least in the shorter term.

All of the actions included in this document are conditional on being affordable, funded, providing value for money, public and political support and continuing to remain suitable and relevant as circumstances change.

THE FIRST PART OF THE PLAN (TO 2025)

National and pan-Northern Connectivity

Rail

Context	Action	Outcomes	Impact
Planning approval granted for improvements to Hope Valley line	Push for additional and faster services to Manchester and Leeds	Improve accessibility by rail	Greater agglomeration between Sheffield, other northern economic centres and London
Recent and projected strong growth in rail patronage	Support HS2 & NPR	Faster and more frequent rail services	
Transformational national and regional rail connectivity	Deliver HS2 Growth Plan and Station Masterplan	Modal shift away from private car to train and/or tramtrain	
Opportunity provided by existing rail infrastructure	Lobby for service enhancements as rail franchises renewed		

Railways have been a success story for Sheffield as rail passenger arrivals into the city centre have more than doubled since 2001. However, we know that commuting movements into Sheffield from beyond the city region remain low given Sheffield’s size. With developments including Northern Powerhouse Rail (NPR) and High Speed Two (HS2) supported to address this, we expect strong growth in rail patronage to continue into the future and we need this to support the Sheffield and Northern Powerhouse economic aspirations.

We are working and will continue to work with delivery partners to ensure that the benefits of these transformational projects are realised in the city. This will include putting in place the infrastructure

and services to connect HS2 and NPR to the wider city and City Region, as outlined in subsequent sections.

The city has secured new services through the new Northern Rail franchise and we continue to push for these to be implemented. We will also seek further improvements to services as franchises come up for renewal. An early example of that will be delivery of improvements on the Hope Valley line and we will push to ensure this additional capacity is utilised by further services between Manchester and its airport, and Sheffield. We will collaborate with Network Rail on priorities under future Control Periods.

We will also work with partners to make better use of existing rail routes for both passengers and freight. In particular on routes to the Advanced Manufacturing Innovation District and South East, and to Doncaster Sheffield Airport, and exploring options for the expansion of tram-train services.

<p>Actions</p>
<p>We will support Northern Powerhouse Rail, and High Speed 2, to provide faster and more frequent services between Sheffield, its partner cities in the north, London and elsewhere. Specifically, we will work towards the delivery of –</p> <ul style="list-style-type: none"> • 6 trains per hour to Leeds, with journey times under 30 minutes; • 6 trains per hour to Manchester and its airport, with journey times under 30 minutes; • Two HS2 services per hour to London, with journey times under 1½ hours.
<p>We will work with partners in the City Region, Transport for the North, HS2 Limited and Network Rail to deliver a masterplan for Sheffield Station. This will cover, amongst other things, the transport infrastructure improvements required in order to accommodate and serve High Speed Rail and Northern Powerhouse Rail, and provide connectivity to HS2 for local communities and the wider City Region. This will also consider connectivity for all modes, ranking, waiting and parking provision for cars and taxis, and will include re-thinking the operation of the Inner Ring Road in the vicinity of the station.</p>
<p>We will push to ensure improvements to the Hope Valley Line and at Dore result in an additional hourly service between Sheffield and Manchester and its airport by 2024.</p>
<p>We will continue to push for enhanced services and rolling stock as committed in the new Northern Rail and Trans Pennine Express franchises, to be delivered by 2024, including –</p> <ul style="list-style-type: none"> • An additional hourly off-peak service to Worksop and Retford, and faster services to Lincoln; • Faster services between Sheffield and Leeds, including extended services to Bradford; • Additional Sunday services.
<p>With City Region partners, and authorities in the East Midlands, we will lobby for enhanced services as part of the East Midlands franchise renewal, including by 2026 –</p> <ul style="list-style-type: none"> • Delivery of two trains per hour to London, with journey times under two hours; • Ensuring new rolling stock delivers on improved speed and reliability, and reduced train emissions in Sheffield; • Retaining existing connectivity, with improved rolling stock and facilities, to Liverpool and to Norwich; • Additional stopping services to call at Dore & Totley and Dronfield; and, • Faster services and extended operating hours on weekends.
<p>We will support the City Region in their study into reintroduction of passenger services on disused or freight lines.</p>
<p>We will work with partners to review provision for rail freight, to exploit opportunities for freight to be moved from road to rail, improve access to the rail network for manufacturers, and support improvements to passenger services.</p>

These actions will support the following policies –

- 1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people’s needs throughout their lives.
- 1B. We will support regional and pan-northern road and rail connectivity enhancements and will ensure our local transport system responds to exploit the benefits of these.
- 3A. Our transport system will enable the city to support a greater population and greater economic activity

Road

Context	Action	Outcomes	Impact
Demand at M1 Junctions 33 and 34 exceeding capacity	Provide new road link between Sheffield and Rotherham avoiding motorway junctions	Local traffic diverted away from motorway junctions	Capacity for further development in AMID unlocked
Circa 40% of traffic passing through these junctions is local i.e. not accessing the M1	Support Trans-Pennine Tunnel highway improvement	No objections from Highways England to further development	Improved connectivity in the North, supporting growth in key sectors and their high value jobs
Highways England holding up development of the city because of congestion on the M1	Provide multimodal capacity improvements to connect Sheffield to Trans-Pennine Tunnel	Improved accessibility between Sheffield and Rotherham, and markets beyond	Realisation of the agglomeration benefits of a much larger, single Northern economy.
Hazardous, slow and unreliable Trans-Pennine connections		Faster, safer and more reliable connectivity between Sheffield and Manchester	

The M1 motorway provides the road artery connecting Sheffield to the wider City Region, the Northern Powerhouse, the wider UK and to ports and airports. The Strategic Road Network also provides a vital artery for the movement of people and freight across the broader north.

Almost all movements between Sheffield and Rotherham must pass through motorway junctions. These junctions suffer significant congestion at peak hours, and there is little scope for increased capacity at these junctions given physical constraints. Additionally, the number of freight movements through the motorway and its junctions is exacerbated by constraints on the local highway network, notably low railway bridges, which also hinder accessibility and permeability within the Advanced Manufacturing Innovation District, raising a serious challenge for the city. (27)

The operators of the motorway, Highways England (HE), now routinely object to and hold up planning applications, due to adverse impacts on the national Strategic Road Network. This capacity constraint will need to be eased if the growth of the city is to be achieved. Collaboration will be required between Sheffield and Rotherham councils, and HE, to ensure the solution addresses both Highways England’s concerns and the city’s need to support growth in a sustainable and equitable manner.

The X1 Sheffield to Rotherham to Maltby SteelLink bus service, started in September 2016 and the Sheffield to Rotherham tram-train service due to commence later in 2018, should help improve public transport connectivity, but this is not expected to be sufficient to address the issue in itself.

In the longer term, the City Council supports the Northern Powerhouse vision for improved connectivity across the north, including proposals for improved trans-Pennine connectivity between the northwest, Sheffield, Hull and the Humber ports. (5)

Improved connectivity will bring great economic advantages to Sheffield and the north of England. We must ensure that local transport infrastructure and services in Sheffield provide for the 'last mile' between the Strategic Road Network and growth areas, to lock in these benefits. Given the most promising option for this improved connectivity is for a new, partially tunnelled route in the Woodhead Pass corridor, we envisage that our focus for improvements will be on the A61 Penistone Road corridor.

You said: The impact of transport issues on Sheffield's attractiveness for business and investment was the second most raised concern. 580 (30%) of respondents had this in their top three concerns.



We did: Address the most significant transport constraint on investment in Sheffield, which is Highway's England's holding objection to planning applications in the city centre and Lower Don Valley.



Actions

Working with the Department for Transport, Highways England and Rotherham MBC, we will bring forward the SCR Innovation Corridor project as part of the Government's Local Large Major Projects programme. This will provide a new road to relieve motorway junctions of local traffic and so resolve Highways England's objections to growth in the city, and to improve access to and within AMID, particularly for commercial vehicles.

We will support Highways England and Transport for the North in delivering improved trans-Pennine road links between Sheffield and Manchester. We will work with them and our partners in the City Region, to identify and deliver local multi-modal connectivity and capacity improvements, to support and lock in the benefits of this project.

These actions will support the following policies –

- 1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people's needs throughout their lives.
- 1B. We will support regional and pan-northern road and rail connectivity enhancements and will ensure our local transport system responds to exploit the benefits of these.
- 2B. We will support targeted improvement in infrastructure and services where they support enhanced productivity through better connections for movements of freight and people between businesses within and beyond Sheffield.
- 3A. Our transport system will enable the city to support a greater population and greater economic activity

CITY REGION CONNECTIVITY

Local Rail

Context	Action	Outcomes	Impact
Opportunities offered by rail improvements to better connect central Sheffield to other centres	Explore options for better utilisation of existing rail infrastructure	Improve accessibility by rail	Benefit of national and Northern Powerhouse rail improvements enjoyed beyond the city centre
Need this improved connectivity to be accessible to and enjoyed by the wider City Region		New local rail services	Realisation of the agglomeration benefits of a much larger, single Northern economy
		Modal shift away from private car to train and/or tram-train	

For the benefits of improved rail connectivity to be realised, we must ensure that the transformational improvements to services at Sheffield station can be accessed from the wider city and City Region. To this end, we will explore opportunities afforded by existing infrastructure to improve local rail connectivity between central Sheffield, the wider district and to our partner districts in the City Region.

Work by Network Rail to understand future rail capacity is underway. Early findings include that increased demand for rail travel between Sheffield, Barnsley and Leeds will likely result in more passengers standing by 2024. This section of line provides a key public transport route, connecting Chapeltown, Meadowhall (and its associated park & ride sites) and the city centre.

Existing rail infrastructure may also be of use in improving connectivity within the district. Where existing, use of railways will be considered as part of our mass transit studies (see the Mass Transit section).

Actions
<p>We will work with Network Rail to identify required capacity improvements on local rail routes (in particular to Leeds via Barnsley), and we pursue these through Transport for the North and the Department for Transport.</p> <p>We will look to support these with accessibility and parking improvements at and around Chapeltown and Meadowhall stations.</p>
<p>We will, with Network Rail and partners in the City Region, initiate a study of rail provision on the Sheffield to Lincoln and Rother Valley lines. This will seek to explore options for improved rail connectivity between the city centre and Waverley and the Advanced Manufacturing Park, Beighton, Sothall and, in liaison with Rotherham MBC, Aughton and Killamarsh.</p> <p>The review will explore options for new stations and new local services, perhaps including further roll-out of tram-train services. It will also consider access to existing and potential stations, including park & ride, and cycle routes.</p> <p>We will, with partners, initiate a similar study in respect of the lines to Wakefield, including exploring opportunities for additional services and stops in the Lower Don Valley, Rotherham and the Dearne Valley.</p>

These actions will support the following policies –

- 1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people’s needs throughout their lives.
- 1B. We will support regional and pan-northern road and rail connectivity enhancements and will ensure our local transport system responds to exploit the benefits of these.
- 1C. We will improve our offer for walking, for cycling and for public transport, to ensure improved access to jobs and skills is not limited to those who have access to a car.
- 3A. Our transport system will enable the city to support a greater population and greater economic activity
- 8B. We will intervene proactively to ensure our public transport system, and non-motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.

Securing the tram system

Context	Action	Outcomes	Impact
Existing infrastructure reaching end of useful life	Secure existing tram network with capital maintenance	Tramway infrastructure fit for operation	Maintain accessibility by public transport
Inter-peak service cuts owing to traffic congestion	Strengthen tram priority	Faster and more reliable tram journeys in interpeak periods	Improved business case for future public transport improvements
Age and limitations of existing infrastructure and rolling stock are existential threat to Supertram	Create a City Public Transport Partnership, including Supertram	Lower operating costs	

Our most pressing challenge is that the Supertram system requires extensive maintenance. Vehicles and infrastructure are reaching the end of their economic life and require extensive maintenance, only affordable with central Government support (28). Should the city fail to secure funding for these maintenance works, the failure of Supertram would be a major setback, ruling out future tram extensions and posing challenges as to how (or if) people currently travelling by tram would travel into the city and undermining the improvements in connectivity between Sheffield and Rotherham afforded by tram-train. Avoiding this is our first public transport priority.

You said: Of car drivers, 19% indicated they would prefer to take the tram if this were viable for them. Other than continuing to drive, this was the most popular preference. Not having access to the tram and the length of journey times, were cited as the most common obstacles for those who would like to make the change to tram.



We will: Secure the existing tramway, and provide a platform to provide additional and improved tram services. We will act to improve the speed of tram services in the city.



Actions
We will support South Yorkshire Passenger Transport Executive in delivering the refurbishment and security of the existing Supertram system as part of the Department for Transport's Local Large Major Schemes programme.
To show the city's commitment to the retention and extension of Supertram and to maximise its economic benefit, we will strengthen tram priority including during inter-peak periods, in particular reversing the relaxation of the Hillsborough tram gates. We will work with Supertram to reverse service cuts in the inter peak periods.
We will learn from the experience of delivering the Sheffield to Rotherham tram-train pilot and its impact and will apply this knowledge to future mass-transit schemes.
We will work in partnership with Stagecoach Supertram in the same manner as with bus operators. As a first step, we will invite Stagecoach Supertram to join the Sheffield Bus Partnership, to create a City Public Transport Partnership.
With SYPTE, we will explore options to expand park and ride sites on the Supertram system, to meet demand at Meadowhall, Middlewood and Halfway.

These actions will support the following policies –
<ul style="list-style-type: none"> • 2A. We will act to enable more efficient use of the transport system by reducing reliance on the private car for local trips. Principally, this shall be by improving the speed and attractiveness of alternative modes. • 2B. We will support targeted improvement in infrastructure and services where they support enhanced productivity through better connections for movements of freight and people between businesses within and beyond Sheffield. • 3A. Our transport system will enable the city to support a greater population and greater economic activity • 5A. We will intervene to enable shift away from carbon intensive modes of transport to less carbon intensive modes where these are suitable • 5B. We will aim to achieve a zero carbon public transport network

New mass transit corridors

Context	Action	Outcomes	Impact
Existing high levels of car usage from suburbs (and beyond) into city centre	Develop new high speed, high frequency mass transit corridors	Improved public transport uptake in suburbs	Improve accessibility by public transport
Uncompetitive bus journey times to suburbs	Provide park & ride to support interchange between car and mass transit routes	Provide connectivity to employment areas	Maintain and improve accessibility to city centre by road
Increased demand associated with more homes and jobs in the city		Suppression of growth in car trips to city centre, and so reduce congestion	
Need to provide connectivity between enhanced rail services at Midland Station, growth areas (such as AMID) and Doncaster Airport.			

The growth of the city (both in its physical size and in the numbers of people living and working here) and the need for public transport to become more competitive, leads us to identify a need for new mass transit routes. To compete with private car travel these will need to provide fast, prioritised, limited stop services from the city’s outer suburbs, which together with Park & Ride services, will enable those arriving at the city by car to avoid bringing their cars into the city centre.

These projects will be a significant undertaking. Any bus-based mass transit would take upwards of five years to deliver; a tram would take ten years or more and we must first undertake studies to prioritise and develop schemes for our key corridors.

You said: A third of car drivers would prefer to use public transport if it met their needs. Of respondents to the Transport Vision questionnaire, the greatest openness to use improved public transport services instead of the car was reported by residents in the north of the city, Stocksbridge and Chapeltown



We will: Secure the existing tramway, and provide a platform to provide additional and improved tram services. We will act to improve the speed of tram services in the city.



<p>Actions</p> <p>We will develop and bring forward proposals for new high speed and frequent mass transit routes, possibly tram or tram-train extensions, or rail where lines exist. These will incorporate park & ride on key gateways to the city. We would envisage these would form dedicated public transport corridors, also improving journey speed and reliability on existing services.</p> <p>Our first priority is to investigate mass transit opportunities between Sheffield, AMID and Rotherham. A study is ongoing and should identify a preferred option by Summer 2018.</p> <p>Our next areas for exploration are services along the following corridors</p> <ul style="list-style-type: none"> • The Upper Don Valley – with possible routes from Sheffield to Stannington, Wisewood, Stocksbridge and Grenoside; • From Chapeltown and High Green to Sheffield via Meadowhall, Northern General Hospital and/or Hillsborough; • Meadowhead to City (to support a potential park & ride site near Bowshaw Roundabout); • A north orbital service, connecting Hillsborough to Northern General Hospital, Meadowhall and AMID; • A new service to the south east, providing faster connections into the city from Handsworth, Woodhouse and Beighton, possibly with a spur to Aston and Aughton including a new park and ride site to serve the A57; and, <p>Improved direct services between the West and South West, the city centre and the Lower Don Valley and Meadowhall (which might form an extension of the route(s) to serve AMID).</p> <p>In partnership with Sheffield City Region, we will integrate our local mass transit proposals with proposals for onward routes to connect to other parts of the city region. Our priority</p>
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corridors align with potential onward mass transit routes from Sheffield:

- To Rotherham, Doncaster and Doncaster Sheffield Airport;
- To Hoyland and Barnsley; and,
- To Dronfield and Chesterfield.

These actions will support the following policies –

- 1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people’s needs throughout their lives.
- 1B. We will support regional and pan-northern road and rail connectivity enhancements and will ensure our local transport system responds to exploit the benefits of these.
- 1C. We will improve our offer for walking, for cycling and for public transport, to ensure improved access to jobs and skills is not limited to those who have access to a car.
- 2A. We will act to enable more efficient use of the transport system by reducing reliance on the private car for local trips. Principally, this shall be by improving the speed and attractiveness of alternative modes.
- 2B. We will support targeted improvement in infrastructure and services where they support enhanced productivity through better connections for movements of freight and people between businesses within and beyond Sheffield.
- 3A. Our transport system will enable the city to support a greater population and greater economic activity
- 8B. We will intervene proactively to ensure our public transport system, and non-motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.

Road

Context	Action	Outcomes	Impact
All junctions on Inner Ring Road over capacity by 2024 (now?)	Major improvements to junctions on the Inner Ring Road	Additional highway capacity	Improved accessibility to city centre by road
Congestion on Inner Ring Road approaches delays public transport	Improved highway links between Upper Don Valley, Lower Don Valley and Inner Ring Road	Faster, more reliable public transport	Improved accessibility to Upper Don Valley and parts of Lower Don Valley by road
Ring road creates severance for pedestrians and for cyclists		Fewer collisions	Improved accessibility to city centre by public transport
Poor safety record		More pleasant and expedient conditions for walking and for cycling	Modal shift away from cars
Circa 50% of movements on the Inner Ring Road is		Through traffic between Upper and Lower Don	Improved perceptions of safety

cross-city traffic		Valley and Sheffield Parkway is diverted away from the City Centre and Inner Ring Road	
Poor performance of the Inner Ring Road encourages traffic to cut across the city centre		Less traffic using cutting across the city centre to avoid the Inner Ring Road	Maintain walking modal share

As described previously, road connectivity is vital in enabling economic activity in the city. Road transport is and will likely remain, the majority mode for transport of freight, and for passenger travel between Sheffield, the wider City Region, and beyond.

Responding to this need, the Department for Transport is in the process of identifying a Major Road Network (MRN) nationally. These economically important routes will be eligible for targeting funding from central Government to reduce congestion and support economic and housing growth. This network will be the focus of our efforts to keep traffic moving. This will include both highway improvements and also reducing the degree to which capacity is utilised by local trips that could be made by more efficient means.

Just as local traffic can pose issues compromising the operation of the Strategic Road Network, this cannot be allowed to happen to the MRN which needs to provide fast, reliable connectivity between businesses within and beyond Sheffield.

We would therefore not wish to implement measures that would induce growth in the use of private cars for local trips at the expense of more efficient modes. Except where required to mitigate for the impact of local developments, it is therefore unlikely we will entertain highway capacity improvements away from the MRN, and links between this and the main employment areas.

The Inner Ring Road is key to our plans for the development of the city centre. Its operation is key to creating a more pleasant and attractive environment in the city centre whilst providing access to it (particularly for visitors to the city). It and congestion on it, also acts as a barrier to the movement of people travelling by public transport, foot or bicycle, and to freight. These are all modes we need to support and enhance to supply the city centre with the people and goods that will support its growth.

Already, most junctions are full to capacity in peak hours, and public transport is delayed in the resulting congestion. Minor junction improvements, such as that proposed at Bridgehouses, will help for some time to support early developments, but cannot in themselves address the scale of the challenge the city faces.

Furthermore, in its current form the Ring Road acts as a constraint to the benefits of economic growth reaching neighbouring districts. Connectivity across the ring road and in parts the environment along it, are poor. Previous limited interventions, such as at Sheaf Square and the University have demonstrated that many of the negative impacts can be mitigated.

If we do nothing, we anticipate journey times on the Inner Ring Road to increase by around 25% (29). More problematically than that, existing capacity issues combined with a lack of resilience in junction and traffic signal control design on the Inner Ring Road do, on occasion during busier parts of the year, result in gridlock events and standing traffic throughout the city centre, which in

turn causes severe delays and disruption to all transport networks. Deliveries and bus services will become more difficult and time consuming to provide, resulting in a less attractive city for investment, and requiring more commercial vehicles to do a similar job. If we do not address the capacity issue we expect these gridlock events will become more frequent, severely undermining our development and environmental aspirations.

We will develop a programme of major improvements on the Inner Ring Road, not only to increase capacity, speed up public transport and improve resilience, but also to mitigate for the severance and adverse environmental impacts it and the traffic on it, creates.

We are mindful that, due to Sheffield’s geography and consequential lack of a complete Outer Ring Road, there are major traffic movements across the city centre via the Inner Ring Road, in particular to growth areas in the Upper and Lower Don Valleys. About half of all traffic on the Inner Ring Road has neither origin nor destination in the city centre, a pattern we broadly expect to continue into the future.

You said: Congestion was the top concern, with 1,201 (62%) of respondents listing this in their top three.



We will: Progress capacity improvements at our most problematic locations on the Major Road Network where this will support economic and housing growth and provide both more capacity and better options for more sustainable modes of travel.



Actions
We will construct the highway improvement on the Inner Ring Road at Bridgehouses, to quickly provide capacity for development in the West Bar and Kelham Island areas.
We will develop and bring forward the next phases of improvements to the Inner Ring Road. These will be multi-modal improvements; securing additional capacity, quicker and more reliable bus journeys and safe attractive crossings for people on foot or bicycle. These priority areas will be Shalesmoor, and the roundabouts at Moore Street and Bramall Lane.
We will work with the Department for Transport to identify a Major Road Network for Sheffield, providing connectivity between areas of economic importance and the outside world. With the City Region and in line with the overall Sustainable Safety approach, we will develop schemes to - <ul style="list-style-type: none"> • Improve capacity and reliability on the Major Road Network. • Reduce and mitigate harms to local communities and vulnerable road users caused by the MRN and traffic using it. In the interests of preserving the functionality of the Major Road Network, we will avoid bringing forward highway schemes that might encourage greater use of private cars for short local trips.
We will investigate the potential for improved road links between the Upper Don Valley, Lower Don Valley and Sheffield Parkway , to facilitate movement between these key economic areas and infrastructure without routing traffic through the city centre / Inner Ring Road and to open up new land for development.

These actions will support the following policies –

- 1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people’s needs throughout their lives.
- 1C. We will improve our offer for walking, for cycling and for public transport, to ensure improved access to jobs and skills is not limited to those who have access to a car.
- 2B. We will support targeted improvement in infrastructure and services where they support enhanced productivity through better connections for movements of freight and people between businesses within and beyond Sheffield.
- 3A. Our transport system will enable the city to support a greater population and greater economic activity
- 5A. We will intervene to enable shift away from carbon intensive modes of transport to less carbon intensive modes where these are suitable
- 8B. We will intervene proactively to ensure our public transport system, and non-motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.

CITY REGION CONNECTIVITY

The city centre

Context	Action	Outcomes	Impact
Capacity for 20,503 additional jobs in city centre by 2024	Rolling programme of highway works to improve public realm and permeability and accessibility of city centre	High quality and distinctive environment	More investment into Sheffield City Centre
12,469 additional homes in city centre by 2024	Review of traffic restrictions in city centre to support this	Safe, more convenient streets for walking and cycling	Foundations laid for wider walking & cycling improvements
Existing and projected congestion issues		Improved and more resilient access to city centre businesses	
Need for attractive environment to attract investment			
Focus of movements in city			

The city centre forms the driver for growth in Sheffield and the wider city region, with potential to accommodate around one quarter of the City Region’s jobs growth aspiration of around 70,000 new jobs by 2024 (20). As such, the city centre needs not only to provide for the transport needs of people coming into it and living within it, but needs to perform as a destination in its own right.

We will need to continue our work on improving the quality of environment in the city centre, to make it an attractive place in which to work, live and visit. Our approach to managing traffic in the city centre is described in more detail in the City Centre Plan – the focus will be on seeking to manage traffic volumes to provide a safe, pleasant environment whilst minimising the need for heavily engineered and/or inflexible solutions.

This will enable our vision to be achieved in a manner that allows us to provide good accessibility to the city centre for goods and people, whilst also allowing us to adapt to changing circumstances, provide the best use of public space, and to deliver co-ordinated improvements to the quality of the urban environment.

Our proposals in respect of the Inner Ring Road and the new Public Transport Box (detailed later) will be key in enabling this vision to be achieved whilst supporting good access to the City Centre and ease of movement around and across it.

<p>Actions</p> <p>We will deliver a rolling programme of public realm improvements in the city centre. These will provide an attractive environment, enabling safe and convenient movement by sustainable modes, and sustainable access to existing and new developments.</p> <p>We will review traffic restrictions to manage volumes of motorised traffic in the city centre in support of this, whilst also –</p> <ul style="list-style-type: none"> • maintaining reliable access to local businesses and homes for people and goods • provide the flexibility and resilience to enable the city centre to function during its redevelopment; and, • ensure accessibility for disabled people is maintained and improved. <p>These actions will support the following policies –</p> <ul style="list-style-type: none"> • 1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people’s needs throughout their lives. • 2A. We will act to enable more efficient use of the transport system by reducing reliance on the private car for local trips. Principally, this shall be by improving the speed and attractiveness of alternative modes. • 2B. We will support targeted improvement in infrastructure and services where they support enhanced productivity through better connections for movements of freight and people between businesses within and beyond Sheffield. • 3A. Our transport system will enable the city to support a greater population and greater economic activity • 5A. We will intervene to enable shift away from carbon intensive modes of transport to less carbon intensive modes where these are suitable • 6A. Our transport system shall complement and enhance the urban and rural fabric of the City, and shall help provide an environment which is attractive to prospective and existing residents and businesses alike. This shall extend to new and existing developments. • 8B. We will intervene proactively to ensure our public transport system, and non-motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.

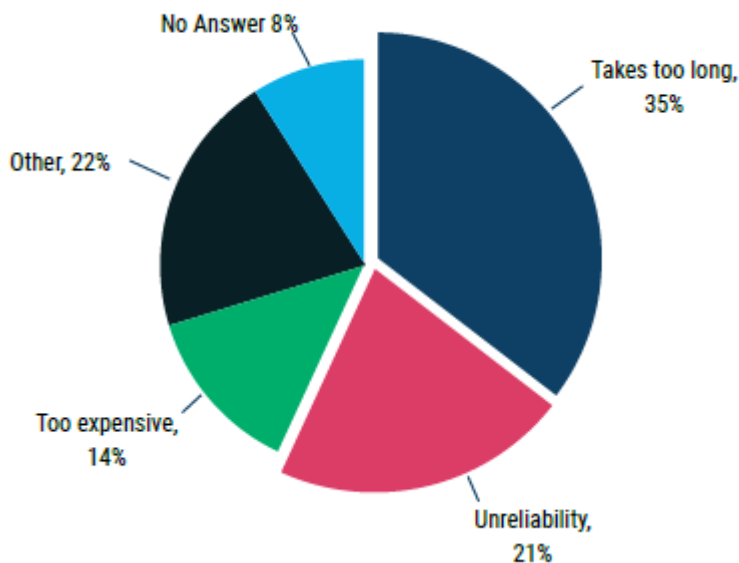
Bus

Context	Action	Outcomes	Impact
Falling bus patronage	Provide extra priority for buses	Faster, more reliable bus services	Maintain and improve accessibility by public transport
Poor and worsening bus speeds	Reviewing city centre stopping arrangements for buses, including reviewing the future of Pond Street	Reduced operating costs	Improved business case for future public transport improvements

	interchange		
Buses expected to be caught in severe city centre congestion	Review operating model for buses, to achieve integration and simplification of services, timetabling, ticketing, and infrastructure	Mode shift from car to bus, and so slower traffic growth	Maintain accessibility by road
Congestion at bus stops in the city centre			
Opportunities under Bus Services Act 2017			
Lack of ease of use of buses compared to cars			
Complex ticketing and network			

As in any large city, public transport is vital to the functioning of Sheffield. But in Sheffield's case, the system is in decline; suffering a trend of worsening journey times and falling patronage.

Whilst the tram is the flagship system, the bus is most significant by proportion of passengers moved. 17% of passenger movements into the city centre are by bus, the most of any mode except by car and about three times the number made by tram. However, this mode shows long-term decline and bus journey speeds are showing a decline. Recent national research has demonstrated a clear link between bus speeds and bus usage (30) and we know car journey speeds are often notably greater than bus journey speeds, even in congested periods. Response to the Transport Vision consultation supported the idea that buses need to be faster. As a first step we need to maximise the attractiveness of the bus service using the infrastructure, vehicles and operating model we have now, but recognise this could change.

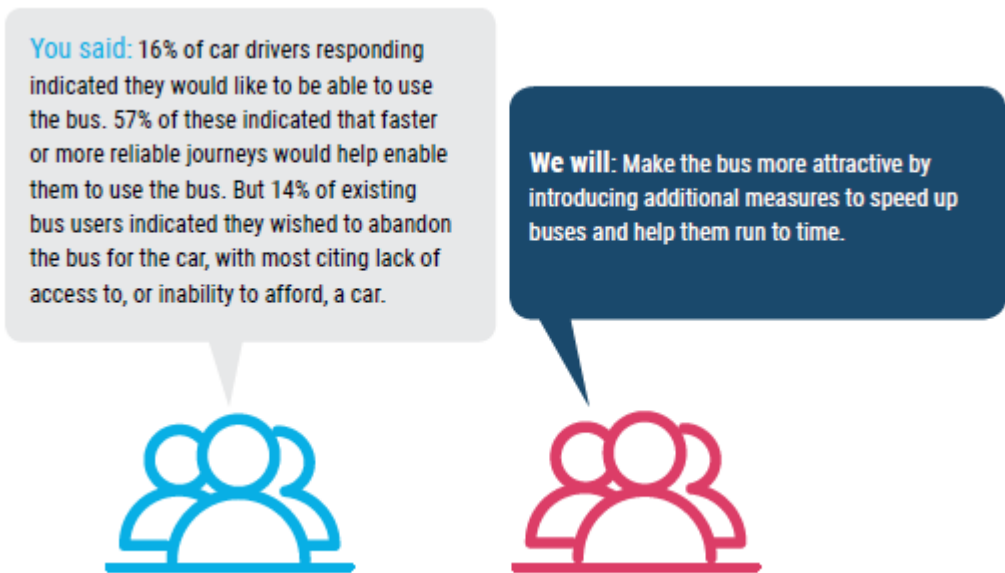


We also recognise that understanding the huge variety of bus and tram services, tickets and timetables available in Sheffield is difficult for some service users. We don't believe that it will be enough to simply make the bus faster. We need to make it simple to understand and use, and therefore, more attractive.

Whilst recent work has sought to improve the provision of bus services in this regard, we think a step-change is required to reverse the decline and to make buses and trams as easy to use as cars, both to attract people away from cars and on to bus services, but also to encourage existing bus passengers not to abandon the bus for the car. There are new business models emerging in the field of public transport. Whilst many of these could only be delivered in partnership with public transport operators, we will consider the opportunities these models could provide to enable new and improved services. We will act to enable these opportunities and will lobby Government for additional powers where this would help improve public transport outcomes.

The boundaries between private cars, taxis and public transport, are expected to shift and become blurred as technology allows for and makes it easier to provide a wider range of operating and business models. Our policies and practices will need to adapt to this change, to make sure that we make the most of the new opportunities and to make sure these changes support and do not undermine the city's transport system. An example is the role of taxis. These have been regarded as part of the public transport system and have been admitted to bus lanes. However, growth in ride share services could reach a point where this becomes impracticable. Given differences in use of road space, a stronger case might be made for prioritising demand-responsive mini-buses, than for individually hired vehicles.

Some of these new transport models and technologies represent a threat to bus services, as do some of our transport proposals (for example our cycling proposals). Therefore, all modes can be expected to compete for bus passengers and revenues. We will need to ensure the bus, as part of the wider public transport system, is financially sustainable and provides the mass transit and accessibility functions the city and its people require. To achieve this, we need to ask fundamental questions as to how the bus service operates in Sheffield and how it will operate in the future.



Actions
We will introduce additional bus priority, including new bus lanes on existing key bus routes, to not only protect buses from congestion but also to proactively improve bus journey times . This will help to cut operating costs and enable the provision of new and improved bus

services. Other priority measures will include **traffic signal control improvements**, realigned to **proactively speed up buses**, rather than merely bringing late running buses back to timetable.

We will **extend the hours of operation of existing bus lanes** throughout the city to include weekends and daytime periods, to ensure bus journey times and reliability are maintained throughout the day and to reduce the costs of operating public transport in the city. To improve bus speeds, we will also **review our policy on admission to bus lanes**, considering whether permitting taxis, motor cycles and pedal cycles to use bus lanes remains appropriate in light of this strategy.

We will **introduce a new 'Public Transport Priority Box'** in the city centre. This will form a ring of streets in the heart of the city centre, where buses are prioritised and other motor traffic restricted, to enable the faster movement of buses and simplify and rationalise the routing and stopping of buses. This will include prohibiting cars and lorries from some sections of street to facilitate bus movement, and will be supported with a shuttle bus to maintain penetration within the box.

Although not finalised, this priority box could be formed of the following streets –

- Arundel Gate / Eyre Street
- Cumberland Gate / Fitzwilliam Street
- West Street / Church Street

Working with the City Region Mayor, we will review the operating, business and regulatory model for public transport services in the city, to provide the best platform from which we can maintain and improve public transport services in the manner that best meets Sheffield's needs. The review will explore:

- How bus services are procured, regulated and co-ordinated.
- How hackney carriage and private hire vehicles (taxis) are licenced, regulated and accommodated.
- The fitness of bus and taxi fleets for purpose. For example, providing a safe convenient and accessible journey for passengers and minimising harm, particularly air pollution.
- How bus services, including vehicles and information, can be improved to facilitate access to public transport for disabled people.
- The integration of public transport services with each other, infrastructure and network operation, including provision of stops, stands and ranks.
- Introduction of an 'Oyster card' style smart, prepaid ticket, automatically offering passengers the cheapest fair, enabling travel across modes and operators and reducing the time buses are waiting at stops.
- How public subsidy can be best used to support a faster, cost competitive and high quality bus network.
- How different operating models and/or technologies can ensure resources are used in a more efficient and co-ordinated manner.
- How demand for transport may change into the future, to ensure public transport is fit for purpose.

The aim would be to remove barriers to using more efficient forms of transport, ensure cost effectiveness, ease of use, and reduce barriers to travel for all citizens.

These actions will support the following policies –

- 1C. We will improve our offer for walking, for cycling and for public transport, to ensure improved access to jobs and skills is not limited to those who have access to a car.
- 2A. We will act to enable more efficient use of the transport system by reducing reliance on the private car for local trips. Principally, this shall be by improving the speed and attractiveness of alternative modes.
- 5A. We will intervene to enable shift away from carbon intensive modes of transport to less carbon intensive modes where these are suitable
- 8B. We will intervene proactively to ensure our public transport system, and non-motorised

modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.

- 9B. We shall ensure all transport modes and services are integrated and inclusive such that people and businesses have the flexibility to travel seamlessly in a manner that best meets the differing needs of individuals and those of the city.

Active Travel

Context	Action	Outcomes	Impact
Existing high levels of car usage from some suburbs near city centre	Improve infrastructure for cycling in city centre, and areas where there is greatest opportunity to relieve city centre of car trips	Modal shift away from private car to bicycle for some short trips	Maintain and improve accessibility by road
Concerns regarding the safety of cycling	Offer schemes to improve access to electric-assist cycles		Increased cycling rates
Perceived lack of credibility for cycling as an important part of the transport mix for the general public	Support dockless bike hire scheme and explore options for supply of electric bike		Small contribution to improved air quality
	Work with City Region Combined Authority and Local Enterprise Partnership, and with local communities, to sell the benefits of cycling		

With support from the Department for Transport and the City Region, Sheffield will be amongst the first cities in the country to develop a Local Cycling and Walking Action Plan (LCWIP), which will be produced during 2018. This will prioritise and plan for infrastructure improvements to support walking and cycling in the City Region.

Sheffield will prioritise improvements in the areas where there is greatest opportunity for ordinary members of the public to cycle short trips into the city centre and where this would be instead of making car trips. The first priority will be the areas connecting the city centre with and suburbs in the Broomhill, Highfield, Sharrow and Nether Edge areas; development work on later priorities will continue in parallel.

We know from travel patterns in Sheffield and from experience elsewhere that these cannot be isolated 'superhighways'. If cycling is to be a credible option for more people in Sheffield, we will need to intervene on an area-wide basis to provide for the journey door-to-door, not only for access to the city centre but also local schools and services.

This level of accessibility would also be needed if the city were to exploit the use of cargo bikes, enabling a wider range of personal journeys to be made by bicycle and also potentially opening up opportunities for the last leg of delivery trips to be made by more sustainable means. We need to strive to make cycling an option for people, regardless of their current level of fitness, impairment, or indeed their interest in cycling as a pursuit.

This probably represents the most far-reaching element of our strategy. Success will be contingent on the taking of difficult decisions. We understand it is difficult to believe this pain will be worth it and we know many people reading this do not entertain cycling in Sheffield and may struggle to relate with people who do.

Notwithstanding this, cycling presents a relatively low cost opportunity to relieve the city centre of traffic congestion. We must exploit this fully if we are to achieve growth without gridlock. Peak hour car trips wholly within Sheffield currently have a mean length of around 3¼ miles, a distance achievable by bicycle within 25 minutes where topography and infrastructure are right.

By enabling more people to cycle, we can relieve the city centre of as much commuter car traffic as arrives into the city in morning peak hour on Sheffield Parkway (31). This is even accounting for our unfavourable topography and is based on achieved real-world behaviours of the general population and not just people identifying themselves as cyclists.

Increasing the amount of cycling is particularly important given the need to facilitate greater motorised vehicle travel between the city and neighbouring economic centres and so that we can play our full role in the Northern Powerhouse.

The response to our consultation, which indicated around 13% of car drivers would prefer to cycle when making their most common trip, is consistent with DfT modelling. A quadrupling of bicycle movements (including a shift of 11% of local car trips i.e. those wholly within Sheffield District) to/from the city centre is realistic, if we focus on meeting the needs of people for whom cycling could become a realistic option.

On the basis of responses to the Transport Vision consultation, the scope for walking to address Sheffield's transport challenges appears to be limited. Only 1% of car drivers indicated they might leave their cars at home if walking were a better option. However, walking remains important to the functioning of the city, as it ensures access to public and to local services. Therefore, whilst our strategic active travel interventions will be focused on cycling, our focus for walking will be on local accessibility in communities and the areas in and around city centre.

Recognising the limitations of Sheffield's size and topography and the opportunity afforded by new technology, we will work to improve access to electric bicycles in the city. We know this technology is not yet sufficiently developed to be viable and affordable for many. We will however conduct further work to make electric bikes more accessible and our work to identify what needs to be done to decarbonise the transport system will further explore this (see also the following Future Ready actions section).

To bring the city with us on this ambition, we will work hard to develop our proposals with local residents, businesses and communities, particularly disadvantaged communities, to ensure our proposals work for the city as a whole.

We will prioritise the needs of the general population, for the benefits of cycling are only realised if we bring the city at large with us, and meet the needs of ordinary people, including disadvantaged people.

We will focus our active travel initiatives where there is greatest opportunity to relieve congested parts of the network of car trips, particularly the city centre. Our initiatives will be based on the propensity of the general public to cycle, not only existing cyclists – acknowledging that the population generally will be less inclined to cycle, at least initially, particularly where distance and/or topography are a barrier.

You said: 75 (13%) of car drivers responding indicated they would prefer to make their journey by bicycle. Two-thirds reported safety as being the biggest obstacle to them making the change. No existing cyclists indicated a desire to switch mode.



We will: Refocus our active travel efforts on people who might be able to cycle but don't currently.



<p>Actions</p> <p>As a first phase, we will deliver enhanced conditions for cycling in the City Centre and suburbs in the Broomhill, Broomhall, Highfield, Sharrow and Nether Edge areas, in line with the City Centre Plan, and the aforementioned 'Sustainable Safety' approach. This is the area where evidence suggests there is greatest scope to relieve the city centre of commuting car trips.</p> <p>We will work with Sheffield City Region to develop and align the Local Cycling and Walking Infrastructure Plan to meet the city's needs and we will deliver on the findings of that plan where these identify additional priorities.</p> <p>We will develop and bring forward cycling proposals for the next priority areas:</p> <ul style="list-style-type: none"> • Middlewood, Wadsley Bridge, Southey Green and Parson Cross, including links to the city centre. • Around Darnall, Attercliffe, Handsworth and Greenland to link to the city centre, Meadowhall and the Advanced Manufacturing Park. • In the Mosborough Townships to serve stops on the blue Supertram line. <p>We will develop cycling proposals with local communities to serve not only the city's transport needs, but also the aspirations and needs of the city's people, including its disadvantaged communities. This will help us understand where best to provide for cycling in a manner that works for local people, meets objectives and is not unduly led by existing interests and so better supports congestion relief, accessibility and health outcomes.</p> <p>As part of developing our plans we will work to ensure that our plans are, and are seen to be, in the wider public interest and open up possibilities for people generally, not just cyclists</p> <p>We will support hire bike providers in Sheffield, including to test and develop electric and cargo bikes. We will continue to work with partners offer electric and/ or cargo bicycles for short term loan to residents, employees and businesses in Sheffield, under the Cycle Boost loan scheme. We will work with and regulate scheme providers to ensure left bikes do not obstruct footways or other pedestrian areas.</p> <p>We will continue a programme of pedestrian accessibility improvements, providing improved footways and crossings to address local issues, in particular to improve access to local services and public transport.</p>

These actions will support the following policies –

- 1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people’s needs throughout their lives.
- 1C. We will improve our offer for walking, for cycling and for public transport, to ensure improved access to jobs and skills is not limited to those who have access to a car.
- 3A. Our transport system will enable the city to support a greater population and greater economic activity
- 6A. Our transport system shall complement and enhance the urban and rural fabric of the City, and shall help provide an environment which is attractive to prospective and existing residents and businesses alike. This shall extend to new and existing developments.
- 7A. We will develop our transport system to encourage active and healthier lifestyles, and reduce noise and air quality impacts.
- 8A. We will adopt the Sustainable Safety approach to ensure the separate provisions to ensure the safety and convenience of pedestrians and of cyclists respond directly to the level of threat posed by motorised traffic, and by each other. We will adapt this as required to ensure inclusive design.
- 8B. We will intervene proactively to ensure our public transport system, and non-motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.

CROSS –CUTTING

Air quality

Context	Action	Outcomes	Impact
Levels of oxides of nitrogen will continue to exceed legal limits	To be identified by Local Feasibility Study into Clean Air Zone	To be identified by Local Feasibility Study into Clean Air Zone	Levels of NOx to be brought within legal limits in shortest possible time

DEFRA data indicates that Sheffield has roads where the nitrogen dioxide (NO₂) level in 2017 exceeds the legal limit. The level on these roads in 2017 was 53µg/m³ when 40µg/m³ is the legal limit. Our local data indicates that air pollution is in fact worse and more widespread than DEFRA data suggests (11).

By the end of 2018, we will have already completed the Local Feasibility Study into a Clean Air Zone in partnership with Rotherham Council. This study will identify what the City must do to meet our legal obligations to improve air quality in the shortest possible time.

This will consider a broad range of interventions to meet this challenge, including introducing Clean Air Zones, potentially involving charging the most polluting vehicles to actively deter their use (32) (33).

The Clean Air Strategy identifies a number of early actions in respect of Transport, the majority of which represent the conclusion or perpetuation of existing programmes. Our plans for walking, cycling and Supertram are detailed in the relevant sections above.

However, our work to date suggests that our existing programmes, modal shift away from cars and the ‘natural’ adoption of cleaner (e.g. electric) vehicles will not be sufficient to meet our legal obligations in the timescales required.

For example, fully exploiting cycling's potential to reduce car use in the city might achieve just one sixtieth of the improvement in air quality required. The Clean Air Zone study will detail the steps we will need to take to meet our obligations.



Actions

We will implement the findings of the **Clean Air Zone** study in accordance with DEFRA's framework, and **update our statutory Air Quality Action Plan** accordingly. This study will consider measures **to bring air quality within legal limits within the shortest possible time**, and before January 2021, and to **keep them within legal limits as the city grows into the future**.

Our focus will be on measures resulting in **upgrade and replacement of older, more polluting buses, taxis and goods vehicles**. These vehicles are responsible for a disproportionate share of NOx emissions in the city, and we have the greatest opportunity to effect change within our existing powers.

Should our studies find this necessary, we will **introduce a Clean Air Zone** in line with DEFRA's framework. This may include **introducing a charge to use polluting vehicles**. In line with the national framework, our initial focus will be on commercial vehicles with private cars charged only if necessary.

We will lobby **Government to ensure that support for air quality improvements does not cease** once compliance in respect of NOx is achieved and that there is ongoing support to deliver a sustainable transport system in Sheffield, including **addressing the further challenges of carbon and particulate emissions**.

These actions will support the following policies –

- 4A. We will implement our Clean Air Strategy to address exceedance of legal limits in respect of oxides of nitrogen.
- 4B. We will continue to intervene even upon the meeting of legal thresholds, to enable shift away from modes of transport responsible for emissions of particulates and oxides of nitrogen.

Carbon & Climate Change

Context	Action	Outcomes	Impact
<p>To limit global warming to 1.5°C –</p> <ul style="list-style-type: none"> • Around 45% reduction in CO₂ equivalent required globally by 2030 • Decarbonisation required globally by 2050 • Sheffield’s motion declaring climate emergency and to bring forward decarbonisation locally 	<ul style="list-style-type: none"> • Support the planned work on Climate Change in line with full Council motion of 6th February, 2019. • Review strategy in response, with likely greater emphasis on– <ul style="list-style-type: none"> • Managing demand for travel • Deterring use of carbon intensive modes • Supporting transition to zero emission motor vehicles 	<ul style="list-style-type: none"> • Reduced demand for travel • Make best use of existing infrastructure and services • Transition away from fossil-fuel powered motor vehicles 	<ul style="list-style-type: none"> • Near-elimination in Sheffield’s transport CO₂ emissions
<p>One of the greatest challenges we aspire to meet is the reduction of carbon emissions from the city’s transport system.</p> <p>The July 2018 version of this Strategy drew on the 2011 Mini-Stern Review for Sheffield City Region as its principal evidence base in respect of climate change (12).</p> <p>Based on evidence then available, our identified actions in the Transport Strategy, combined with projected savings arising from national and international policy, might be expected to deliver CO₂ savings of 23% by 2035, if fully implemented.</p> <p>In October 2018, the Intergovernmental Panel on Climate Change (IPCC) issued its analysis of what is required at a global level to keep global warming within 1.5°C of pre-industrial levels (39). This goal required a global cut in emissions of 45% by 2030, with emissions reaching net zero by 2050. Because of the UK’s greater contribution to carbon emissions, and our greater means to reduce these relative to much of the world, cuts will need to have much greater scale and pace.</p> <p>In response to this, Sheffield City Council passed a motion to declare a Climate Emergency on 6th February, 2019.</p> <p>The City of Manchester have recently explored what it would take to achieve a zero carbon city by 2038 (40). In respect of transport, outcomes considered included all of the following * –</p> <ul style="list-style-type: none"> • All cars and buses to be electric by 2035 			

- Complete railway electrification by 2025
- 25% reduction in passenger travel demand per head by 2035
- Significant per-mile modal shifts in walking and cycling (+4 percentage points), public transport (+15pp), so reducing car mode share (-19pp)
- No motorisation of currently non-motorised modes (i.e. no electric bicycles, segways etc).

Even these significant (and not necessarily deliverable) outcomes, along with similarly dramatic changes across all other aspects of society, were found only sufficient to deliver a zero carbon city after 2050, and having overshoot their carbon budget based on a 2°C global rise – despite all domestic passenger transport and all electricity generation having been decarbonised by 2035.

Exactly what addressing the Climate Emergency will mean for Sheffield’s Transport Strategy, and the wider policy context in which it is set, will need to be understood as part of the Council-wide work in line with the motion of 6th February, 2019. However, work undertaken elsewhere suggests the implications will be dramatic.

Thus far, the Sheffield Transport Strategy has adopted an approach of enabling a shift to sustainable travel to mitigate for traffic growth arising from population and economic growth. Demand management would follow only if, and so far as might be, necessary in the event that such interventions failed to deliver the specified outcomes.

The need to reduce carbon emissions to address Climate Change will require significant action of much greater scale and pace, globally, nationally and locally. Further work will define these actions, and what we need to lobby the City Region, central government and others for. However, given that major infrastructure to support sustainable transport has a significant lead in time, the need to manage the demand for travel, especially but not exclusively by car, is expected to be required at a much earlier stage.

Our response, therefore, is not likely to be a question of just more ambition for cycling, cheap bus fares or tram extensions – rather, we anticipate the Climate Emergency is likely to fundamentally challenge, in short order, the degree to which we can facilitate travel as we have become accustomed to.

We will **support the emerging work on Climate Change in line with full Council motion** of 6th February, 2019.

Informed by the above work, we will **review the transport strategy**, including in particular **to address any changes in the policy context that arise from that work**.

Based on work available (although not specific to Sheffield), we would anticipate the required reductions in transport emissions to be significantly greater and faster than can be achieved as a result in investment in new infrastructure or services alone. It is highly likely a significant proportion of the required reductions will have to be achieved by making better, and lesser, use of existing infrastructure and services.

Therefore, we anticipate greater need to give greater priority and pace to those measures that –

- reduce demand for travel;
- where travel occurs, deter the use of cars for this; and,
- ensure that new motor vehicles entering the car, bus and taxi fleets are electric or zero emission.

* These outcomes (Ambition Level 4) have been described very concisely in the Antithesis report. We understand these to be the same as the Ambition Level 4 defaults per the SCATTER tool, but have not been able to confirm this. There is some discrepancy between that scenario and that described in the report.

Policy, operation and local issues

Our vision for the city requires more effective management of parking and use of kerbside space. We recognise that the space needed for new developments, better transport services, infrastructure and building a quality urban environment, will reduce the amount of kerbside parking that we can provide. In managing this, we will maintain good access to homes and businesses, and try to reduce the amount of avoidable congestion from traffic circulating seeking a parking space.

We will **continue the 'Streets Ahead' programme until 2037**, ensuring the benefits of the core investment period are enjoyed into the future. We will take opportunities **to align maintenance activity and highway schemes** where these arise.

The 'Streets Ahead' programme of road maintenance, which commenced in 2012, has seen the majority of roads in Sheffield brought up to an improved standard. This highway maintenance programme has helped improve the comfort and safety of road users, and should reduce future disruption to the network from reactive maintenance that might have been required otherwise.

To ensure these benefits are locked in, there will be ongoing maintenance of the highway network under the Streets Ahead contract until 2037. Whilst this programme operates on a 'like-for-like' basis, the Council will continue to take opportunities to align schemes to better the transport system with this maintenance programme, to minimise cost and disruption.

We will implement the **Sheffield Parking Strategy (35)**, to ensure that our parking is effectively and efficiently managed. We will **review this regularly** to ensure that it remains relevant, as development in the city, technology, and expectations of these, progress. Our priority actions will be:

- Introducing a programme of new **Controlled Parking Zones**, with the priority being uncontrolled areas adjacent the city centre.
- **Review existing Controlled Parking Zones** to ensure that these manage availability of space in an efficient manner providing good access for residents, business and visitors alike.
- Developing a **pricing policy that responds to demand**. Ensuring that the supply of and demand for parking can be balanced out and to provide an **influence on parking prices in the private sector** in line with the need to manage the demand for car trips.
- **A review of eligibility for parking permits**, including considering **reducing the number of permits issued to households** in areas of excess residential demand.

These actions will support the following policies –

- 2D. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable people to go about their business in a manner that requires less or less-harmful travel.
- 3A. Our transport system will enable the city to support a greater population and greater economic activity
- 5A. We will intervene to enable shift away from carbon intensive modes of transport to less carbon intensive modes where these are suitable
- 8B. We will intervene proactively to ensure our public transport system, and non-

motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.

- 9B. We shall ensure all transport modes and services are integrated and inclusive such that people and businesses have the flexibility to travel seamlessly in a manner that best meets the differing needs of individuals and those of the city.

Similarly, the Council's Network Management and Urban Traffic Control practises will need to be updated to reflect changing needs. These have, to date, tended to result in intervention on an ad hoc basis, focused on trying to reduce delays for motorised traffic and prioritise buses only to keep them to time.

Our strategy of seeking to minimise local car trips requires a much better service to be provided by public transport. In order to be competitive with cars, we consider that buses should preferably not have to stop for signals at all, a level of priority currently only afforded to Supertram. A similar step change is required for non-motorised users, who have historically have tended to receive only minimum provisions. We will ensure that the needs of these users are given much more active consideration to provide an attractive environment for walking and for cycling.

Equally, maintaining access to the wider City Region will remain important. Whilst local car trips will have to take a lower priority, there will still be a need to minimise delays on key connections between Sheffield and the wider region. We will set out how this tension should be managed and how different considerations are prioritised in different locations.

This strategy will also identify where investment in infrastructure is required, to enable Intelligent Transport Systems (ITS) tools to be used to support the overall Transport Strategy.

Actions

We will develop a Network Management Strategy which will include policies to support public transport, walking and cycling and give them a greater priority. This will be developed to ensure that our network management operations, urban traffic control & ITS systems are aligned to the objectives and approach of this Transport Strategy and are ready for future opportunities afforded by improvements in information and computing technology.

These actions will support the following policies –

- 2A. We will act to enable more efficient use of the transport system by reducing reliance on the private car for local trips. Principally, this shall be by improving the speed and attractiveness of alternative modes.
- 2C. We shall ensure our actions in respect of the economy recognise and address the impact of poor health, well-being and inclusion on economic productivity.
- 2D. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable people to go about their business in a manner that requires less or less-harmful travel.
- 3A. Our transport system will enable the city to support a greater population and greater economic activity
- 5A. We will intervene to enable shift away from carbon intensive modes of transport to less carbon intensive modes where these are suitable
- 7A. We will develop our transport system to encourage active and healthier lifestyles, and reduce noise and air quality impacts.
- 7B. We will assess our schemes against their performance in respect of health outcomes.
- 8B. We will intervene proactively to ensure our public transport system, and non-motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.
- 9B. We shall ensure all transport modes and services are integrated and inclusive such

that people and businesses have the flexibility to travel seamlessly in a manner that best meets the differing needs of individuals and those of the city.

To ensure the safe and efficient operation of the improved transport infrastructure and services we wish to introduce, we need effective, clearly understood and enforceable traffic restrictions. At present, our ability to enforce some restrictions is constrained by the Government.

At present, national regulations severely limit the council's ability to enforce traffic restrictions. The police, who hold many of these responsibilities, are not in a position to treat matters of delay or efficiency as a priority. Therefore, the efficiency and safety of the road network sometimes suffers. For example, where drivers block yellow boxes, or make unlawful turns.

This means we cannot ensure our interventions are as effective as we'd like. This can have negative consequences for many road users that might be avoided if we had a broader range of enforcement options open to us. We will continue to seek enhanced powers from Central Government to address these issues.

Actions

We will develop and review our parking and traffic enforcement policy, and will lobby for the Sheffield to be granted powers to enforce moving traffic offences under the decriminalised enforcement regime.

These actions will support the following policies –

- 1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people's needs throughout their lives.
- 3A. Our transport system will enable the city to support a greater population and greater economic activity

Freight and distribution is important to an intensified urban centre and retail offer and to the success of manufacturing in the city. Without efficient freight movement business in the city will suffer. There will be a need to minimise the impact of local deliveries and consolidation will become more important at a business and personal level. We will also need to respond to changing behaviours, particularly in respect of retailing where the move towards on-line shopping might be expected to result in less need for traditional heavy goods vehicles, but a notable growth in vans and light goods vehicles. In particular, the delivery sector might be expected to be an early adopter of new technologies.

Actions

We will revise and expand the city's HGV strategy to form a new freight strategy. This will seek to enable freight movements to meet the needs of local people and businesses, whilst minimising harm associated with goods vehicles. This will respond to changes in retailing and technology and will link to the work on rail freight opportunities.

Particular areas for further investigation will be consolidation and management of deliveries, both to businesses and homes, including supporting less intrusive solutions for the last leg of deliveries. In particular, we will work with larger organisations, including the two Universities and the NHS, to better handle freight movements into the city.

These actions will support the following policies –

- 1B. We will support regional and pan-northern road and rail connectivity enhancements

and will ensure our local transport system responds to exploit the benefits of these.

- 2D. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable people to go about their business in a manner that requires less or less-harmful travel.
- 3A. Our transport system will enable the city to support a greater population and greater economic activity
- 6A. Our transport system shall complement and enhance the urban and rural fabric of the City, and shall help provide an environment which is attractive to prospective and existing residents and businesses alike. This shall extend to new and existing developments.

This Transport Strategy is, by its nature, focused on the 'bigger picture' and higher level strategic challenges facing the city. However, we know that many of the issues that affect local people are not at this level, but are local level things. For example, the speed of traffic in local neighbourhoods, parking creating an obstruction and the ease of walking and crossing roads.

Whilst much of this does not individually pose a direct challenge to the success of the city as a whole, they do have real impacts on people and communities and their cumulative effect is a less attractive, less accessible city. Therefore, addressing these is important if we are to create an attractive city in which people want to live and can access local services and opportunities (including transport services).

Transport has major implications for public health. Transport itself can directly result in adverse health outcomes, through accidents and pollution, for example. There are also the indirect consequences of less healthy people as a consequence of lack of exercise as people choose to stay indoors or avoid active travel because of traffic and pollution. Active modes, even walking to the bus stop, should play a role in addressing the city's health challenge.

A tension between transport, health and inclusion objectives is that many interventions are aimed at providing alternatives to car use. The less affluent parts of the city are often generating only relatively low volumes of car trips, whilst the wealthier areas create the larger part of the problem. So we need to specifically target less affluent communities to ensure the Transport Strategy takes into account the additional dis-benefits they suffer from and not leave them behind.

The Urban Transport Group has noted how bus fare increases have a disproportionate effect on low income families given that they are most likely to rely on buses to get around. They therefore need to spend a higher proportion of their income on bus travel yet struggle to access the best fare deals. Often there is the added cost of paying for children's travel. These transport costs act as a barrier to employment (34).

The differing requirements of affordability and value for money on public transport need to be recognised. Achieving these meaningfully requires a transparent and easily understood fares regime that the passenger can trust. Any fares subsidy would need to be carefully considered alongside other factors making public transport more attractive, such as frequency of service and quality of vehicle.

Actions

We will progress a rolling programme of local safety and accessibility schemes, to improve local access to jobs, services, public transport and parks. These schemes will be bought forward to align with the Transport Strategy and will prioritise areas suffering deprivation poor health and/or recorded injuries resulting from traffic collisions, as well as areas that are anticipated to suffer adverse impacts as a direct consequence of local housing or employment growth.

As outlined above, we will adopt the Sustainable Safety approach to ensure streets accommodate active modes in a safe convenient manner.

We will assess all transport schemes in terms of the health impact, and will prioritise schemes that bring about health benefits. We will not bring forward schemes that are expected to result in worsened health outcomes.

Within the Sustainable Safety approach, we will assess our schemes against the ten 'Healthy Streets' themes of:

- Pedestrians from all walks of life.
- Easy to cross the road.
- Shade & shelter.
- Places to stop.
- People choosing to walk and cycle.
- Not too noisy.
- People feel safe.
- Things to see and do.
- People feel relaxed.
- Clean Air

The Council is duty bound by the Equality Act to advance equality of opportunity for persons who share one or more of the protected characteristics of age, disability, gender assignment, pregnancy and maternity, race, religion or belief, sex and sexual orientation. Moreover, the Council is committed to ensure Sheffield becomes Britain's fairest city – something which requires we act to address a far greater range of inequalities.

We recognise that many of our proposals will have equalities impacts, with particular concerns being raised during engagement in respect of our proposals for cycling, public transport, and restraint of private car use. We will need to ensure these do not have adverse consequences for society's most vulnerable, and that these schemes actively contribute to advancing equality.

Actions

We will ensure our transport interventions do not disadvantage people with protected characteristics, or otherwise disadvantaged people.

We will work with people with protected characteristics and other disadvantaged people and their representatives to ensure our transport proposals **advance equality in Sheffield.**

Recognising that the methods, policies and practices we propose to adopt are imperfect in respect of equalities, **we will be prepared to compromise on and adapt their implementation where this is necessary to support greater equality and inclusion.**

These actions will support the following policies –

- 1C. We will improve our offer for walking, for cycling and for public transport, to ensure improved access to jobs and skills is not limited to those who have access to a car.
- 2C. We shall ensure our actions in respect of the economy recognise and address the impact of poor health, well-being and inclusion on economic productivity.
- 6A. Our transport system shall complement and enhance the urban and rural fabric of the City, and shall help provide an environment which is attractive to prospective and existing residents and businesses alike. This shall extend to new and existing developments.
- 7A. We will develop our transport system to encourage active and healthier lifestyles, and reduce noise and air quality impacts.

- 7B. We will assess our schemes against their performance in respect of health outcomes.
- 8A. We will adopt the Sustainable Safety approach to ensure the separate provisions to ensure the safety and convenience of pedestrians and of cyclists respond directly to the level of threat posed by motorised traffic, and by each other. We will adapt this as required to ensure inclusive design.
- 8B. We will intervene proactively to ensure our public transport system, and non-motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.
- 9A. We will maximise the opportunities presented by our parks and green spaces. We will improve access to these, and minimise the harms posed by transport on these.
- 9C. We shall involve disadvantaged communities and their representatives in the development of our interventions, to ensure they reduce inequality, and actively advance equality, and to ensure inclusive design.

Demand management & income generation

Context	Action	Outcomes	Impact
Scale of growth too big to mitigate adequately with new infrastructure and services alone	Investigate a Workplace Parking Levy	Modal shift away from cars to other modes as necessary	Maintain accessibility by road
Need for local funding to pay for transport interventions	Investigate other demand management measures, including a city centre congestion charge	Encourage travel outside of peak times as necessary	Improved business case for other investments
		Provide income to pay for other interventions	

The scale of our ambition for Sheffield's future transport system is very significant. Our modelling work suggests that it will be difficult to maintain access between the city centre and markets beyond if we only attempt to provide more services and infrastructure to accommodate this and so we may need to actively intervene to manage demand for car travel around the city centre.

Our transport ambition requires a massive uplift in investment at a time when Government and other funding sources are dwindling and subject to competition from other cities. If we are to deliver we will need to raise income locally to fund schemes and to provide local contributions to projects supported by external funding partners.

The council is also starting work on considering the possibility of introducing a Workplace Parking Levy in Sheffield (35), as has been introduced in Nottingham to fund their new tramways, and other transport initiatives. This entails levying a charge per space on employers, who provide off street parking spaces for their staff. Smaller employers are exempt from the charge and many of the employers who are subject to the levy, pass the cost on to the employees who enjoy the benefit of the parking spaces.

Our plans outlined in this strategy are ambitious, in cases potentially controversial and require significant funding. The congestion challenge posed by the city's aspirations is very significant.

As part of our work to address the challenge posed by poor air quality, we will be required by DEFRA to test the implications of a Clean Air Zone charge, amongst other things. We have already stated in our Clean Air Strategy that “we have no intention whatsoever to charge private car users”, a position we maintain.

We will review this position should it prove necessary in order to achieve compliance with Air Quality legislation, to fund transport improvements, or mitigate for congestion where the interventions we are able to afford are found to be inadequate, or if changes in technology result in increased traffic volumes. Our intention is to deliver transport improvements that render a congestion charge unnecessary and to secure funding for these improvements from other sources.

Actions
We will bring forward new mechanisms to provide local funding for transport projects, including potentially the introduction of a Workplace Parking Levy.
We will bring forward mitigations for the city’s air quality situation as identified by the Clean Air Zone Feasibility study, which may include the introduction of charges for the use of more polluting vehicles in the city in line with Government direction.
Should our interventions prove insufficient to address traffic congestion, or if funding cannot be found to deliver these where they prove necessary, we will investigate the introduction of congestion charging in Sheffield city centre. This will be considered alongside the review of the public transport operating model, to explore the possibility that charges for road use could form part of the same system.
We will work with the City Region in the development of their digital strategy to ensure it identifies and supports the use of digital connectivity to reduce the need to travel.

- These actions will support the following policies –
- 2D. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable people to go about their business in a manner that requires less or less-harmful travel.
 - 3A. Our transport system will enable the city to support a greater population and greater economic activity
 - 4A. We will implement our Clean Air Strategy to address exceedance of legal limits in respect of oxides of nitrogen.

FUTURE READY

Context	Action	Outcomes	Impact
Potential and definite upcoming changes, particularly in technology	Produce and maintain register of threats and opportunities provided by change	Continuous up-to-date understanding of emerging issues, to inform decision making	Sheffield best able to manage and exploit changes affecting transport to meet objectives

As outlined earlier, this is a time of great social, economic, demographic and technological change (36). These can be expected to change the way people go about business and travel into the future. Many of these changes might be significant, others are highly uncertain.

But the future will bring about its changes and these will present threats and opportunities to the transport system and how this supports the city. We will need to be responsive to these and review and update our plans accordingly to exploit the opportunities and to mitigate against the threats. To help us in this we will develop and continually update a register of threats and opportunities posed by likely and potential future changes and we will use this to inform our

decision making, including what elements we might actively seek to address and/or support and those we might passively monitor.

Our approach to future technologies should always refer back to the wider vision for the city and its transport system and our activity should be focused on achieving outcomes rather than interventions. Some of our outcomes require advancement in technology. For example, decarbonisation of the transport system in which we will need to be proactive during its advancement. Others, such as our public transport improvements might be achievable within existing circumstances, but will be impacted by change (potentially positively and/or negatively), to which we must be agile and responsive. More generally, the threats and opportunities posed by change will themselves change over time, as these external influences and our understanding of them, develops. We must be aware of these changes and respond to them to best meet the city's needs.

With support from partners in research and industry, we will produce and maintain a register of threats and opportunities to the transport system presented by external factors, including demographic, social, economic, technological and climatic, and keep this updated to inform our decision making. This will enable us to be agile to, and encourage, change to deliver improved outcomes for all.

These actions will support the following policies –

- 2D. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable people to go about their business in a manner that requires less or less-harmful travel.
- 2E. We will remain alive and agile to developments in technology to ensure opportunities these present are exploited, and threats they might present are managed.
- 5C. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable motorised transport to be demonstrably less carbon intensive

THE SECOND PART OF THE PLAN (2025 – 2035)

Sheffield in 2025

Sheffield can expect to see some significant changes by 2025. We anticipate that –

- Around twenty thousand new dwellings will provide a range of high quality homes for new arrivals in the city, as well as providing for our ageing population.
- Around 30,000 additional jobs created in the city, providing greater opportunity for Sheffield's residents and playing our part in delivering the Northern Powerhouse.
- We will have addressed our most pressing issue of air quality, having introduced a Clean Air Zone.
- Much more of the city centre will have been regenerated. The Heart of the City 2 project will be nearing completion, and much of the city centre around will have been transformed.
- The Innovation Corridor will have been completed, unlocking development opportunity in the Lower Don Valley.
- Supertram will be renewed, securing the system for the next generation and providing a platform for expansion.
- The significant improvement to bus journey speeds and reliability, and the first of our new high speed, high frequency bus routes will be delivered, halting the decline of public transport in the city.
- Bus patronage will have stabilised and be recovering for the first time in nearly four decades, with a single integrated public transport network and payment method at its heart.
- Working with local people and communities, we will have completed the first of our area-wide walking and cycling treatments, demonstrating cycling can be viable as a mode of transport for

ordinary people and freeing the city centre and Inner Ring Road of up to a thousand two-way commuting car movements.

Transport will have started to play its part in improving the environment, reducing inequality and supporting growth. However, whilst much will have been done, we will expect to have a number of challenges as follows:

- Although much of the Inner Ring Road will have been improved difficulties in respect of severance and congestion will remain, most notably at Brook Hill.
- Whilst we hope to manage congestion to minimise the impact of traffic growth on the accessibility of the city and in particular the city centre, we would expect congestion in peak hours to have worsened on local routes, although we hope to be doing much better in enabling public transport to get past the queues.
- Technological innovation will have moved on apace with electric propulsion, autonomous control systems and digital connectivity all likely to have a greater role in how vehicles and transport services are operated.
- Whilst we will have made much progress on identifying what the city's low-carbon transport future looks like and taken some early steps to achieving this, the transition will have to accelerate dramatically if the city is to make its contribution to avoiding dangerous climate change.

More positively, we will have in place the plans for the next and more ambitious phase from 2025 and crucially the means of funding them. For example, by having set up a Workplace Parking Levy.

Actions

By 2025, much will have changed. We will have a better understanding of how our interventions impact on the city in practice. Much of the development proposed in the city may have been achieved. Demographics, technology and economy may result in significant changes in how we travel and do business, which may address some issues but also create new challenges.

This level of change means we cannot predict with certainty this far ahead. We must acknowledge this and allow for the Transport Strategy to be revised reflecting the new situation and the pace of change and growth.

We will, in 2025, review the transport strategy to ensure it is fit for the next ten years, having regard to changes in external factors and lessons learnt from the first part of the strategy.
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- In the city centre, our biggest task will be the infrastructure works to enable the arrival of HS2. This is anticipated to include improvements to the eastern side of the Inner Ring Road.
- We would hope to construct the next round of Bus Rapid Transit routes, and the first tram extensions, arising from the mass transit study. We will continue to build on our work to secure and enhance fast public transport journeys.
- We would anticipate having identified a programme of works to support and link to Transport for the North's Trans-Pennine road improvement proposals and would expect works for local supporting infrastructure to be undertaken in this period. It may be that early phases of the trunk road scheme are opened towards the end of this period.
- We will continue roll-out of walking and cycling works improving connectivity to employment areas, local services and public transport interchanges.
- We will be adapting to and exploiting the benefits of new technologies, including to reduce the need to travel and we will adapt our approaches to meet the opportunities and challenges these present.
- We will be putting in place measures which may include regulatory measures to secure the decarbonisation of the transport system in line with our roadmap. We will seek to be more

ambitious than Government targets, not only phasing out the sale of new fossil-fuelled vehicles by 2040 but having largely phased out their use by that point.

MONITORING, EVALUATION AND REPORTING

It is vital that the delivery of the strategy through its “Delivery Plan” can be monitored, measured and evaluated. This is partly to demonstrate the effectiveness of individual projects, and partly to show how each project delivers at a programme level against broader objectives. It also allows feedback from project implementation to inform future programmes through the lessons learned.

Monitoring & Reporting

The Council already reviews a number of transport related measures in its Corporate Performance Monitoring process. These measures include:

- The number of people killed or seriously injured.
- The percentage of journeys made by public transport.
- The percentage of journeys made by walking.
- The percentage of journeys made by cycling.
- Total number of bus passengers.
- Overall satisfaction with traffic levels and congestion.
- The number of recording stations where the standard for Nitrogen Dioxide levels are exceeded.

In addition to these it is felt that additional performance measures are needed that are accessible and understandable to the general public and can be readily monitored or captured from existing data or surveys without the need for expensive extra monitoring. As described above, these should be forecastable so that when developing new transport projects, their likely contribution to overall objectives can be determined. This is seen as increasingly important in securing funding.

Measures will include outcome based indicators and those that capture the users’ experience of and satisfaction with the transport network. In addition to measuring outcomes, as part of projects we will conduct before and after surveys ‘on the ground’ as an integral part of individual projects. Together with the view of partner organisations, this will help us better understand the experiences of the public generally and inform our future work.

The Council recognises the uncertainty prevalent at the launch of new Strategies and Delivery Plans such as this and is therefore proposing to use a number of Conditional Outputs (37) (38). An output is something that the transport system delivers. For instance, a change in the number of accidents, or the time taken to travel from A to B. They are conditional because they will only be achieved if affordable and deliverable projects that have public and political support can be identified and progressed. This links directly to the evaluation process outlined above.

The following set of Conditional Outputs is therefore proposed (all to be achieved by 2035):

<p>Maintain car journey times on key parts of Major Road Network</p>	<p>We will ensure most (85%) car journeys are at least as fast as they are now on the Inner Ring Road, and on the parts of the Major Route Network connecting the Inner Ring Road with –</p> <ul style="list-style-type: none"> • The A61 at Salt Box Lane, Grenoside • M1 Junction 34 (North and South) • Sheffield Parkway at the city boundary • Meadowhead Roundabout
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	We will ensure most (85%) car journeys are at least as fast as they are now on the Outer Ring Road between Meadowhead Roundabout and Arena Square
Improve access to key employment areas by public transport	Increase the number of people within 30 minutes by public transport of... <ul style="list-style-type: none"> • The University of Sheffield – from 0.28 million to 0.36 million • Sheffield Business Park – from 0.07 million to 0.13 million • Advanced Manufacturing Park – from 0.06 million to 0.11 million
	Increase the number of people within 60 minutes by public transport of... <ul style="list-style-type: none"> • The University of Sheffield – from 0.99 million to 1.09 million • Sheffield Business Park – from 0.88 million to 0.97 million • Advanced Manufacturing Park – from 0.75 million to 0.83 million.
Meet national air quality regulations	In the shortest possible time, reduce the maximum measured concentrations of nitrogen dioxide (NO ₂), achieving 40 µg/mg ³ annual mean, with continued reduction thereafter NB: This conditional output will be reviewed to reflect the City's air quality strategy, as it is developed.
Improve perceptions and usage of active modes of travel	Increase the public satisfaction with... <ul style="list-style-type: none"> • Safety on roads from 61% to 66% • Personal safety on the bus from 68% to 72% • Personal safety while waiting at bus stops from 65% to 70%
	To reduce numbers of people killed or seriously injured on Sheffield's roads in line with national trends
	Increase the public satisfaction with... <ul style="list-style-type: none"> • Safety of walking from 69% to 74% • Safety of cyclists from 55% to 60% • Safety of children walking to school from 60% to 65% • Safety of children cycling to school from 48% to 53%
	From 2017 base, increase share of people movements by bicycle across city centre cordon by 370% – from 1.4% to 6.6% in peak hours, and from 0.9% to 4.2% across the 12 hour day.
	Maintain the share of movements cross the city centre cordon made on foot at 2016 levels

Evaluation

The processes and indicators described above will also become embedded in a Monitoring & Evaluation Plan for each scheme or project, to inform prioritisation of schemes within the overall programme and to ensure the expected impact of individual schemes is fully understood. We will use a multi-criteria approach to evaluate schemes, leading the formation of a balanced programme and one which demonstrates alignment with our objectives and vision.

A Monitoring & Evaluation Report will then follow after scheme implementation is completed to ensure the planned outcomes are achieved and to feed into future reporting and decision making.

FUNDING, FINANCE AND RESOURCES

This Strategy outlines a series of significant interventions. Our early estimates suggest over a billion pounds of additional funding will be needed over 20 years to deliver these interventions,

with an additional £25 million to submit them as funding bids. This is a significant uplift in spending on our transport infrastructure.

Decentralisation of decision making, through devolution, is likely to increase the opportunity for locally agreed financing mechanisms. At a more strategic level the Transport for the North Strategic Transport Plan is finalised and calls for Government and the private sector to explore new and innovative approaches to funding.

Implementation programmes flowing from the Transport Strategy will be specifically designed to deliver sustainable growth and conditional outputs. Capturing the benefits that will be delivered by investment in local transport infrastructure and services will help in making the case for funding from multiple sources. For example, matching central Government funding grants with devolved funding allocations, or locally raised finance. Demonstrating public sector commitment will also help build private sector confidence and investment.

Sheffield must remain ready to respond to the funding opportunities released by Government to ensure investment in early stage scheme design, prioritisation and programming. Preparation for the delivery of schemes, in addition to the consideration of operational and maintenance costs, is just as important as the construction costs themselves. The outcomes of the schemes will be compromised unless a balanced programme, including maintenance, is reached. In addition there is an acknowledged skills gap in the transport and construction sector that has been acknowledged by Government and needs to be addressed nationally.

Finally, it should be noted that some of the models adopted in London or larger European cities will not work in a Sheffield context, mainly because of the current lower levels of productivity, viability and land values. Consideration of different methods may include, but will not be exclusive to, some of the following:

- Grant funding from central Government or other sources, ensuring that funds outside transport are considered (e.g. housing, technology, health, etc.).
- Developer Contributions. Fixed or formulaic contributions towards a clearly identified programme of investment, accepting that some of the contributions may be required on a 'pain before gain' basis, as investment is secured in advance of scheme delivery. The benefits of such investment should be clearly understood and any formula, if used, should be clear and transparent.
- Shared and Pooled financing. Drawing on a number of sources to bring together the required levels of funding to deliver more strategic schemes.
- Linking benefits to financial contributions, either through direct contributions or some other fiscal measures (taxation or charging for example). This will need to ensure issues of viability are considered.
- Capture of value uplift following investment (normally applied to land or property values), including consideration of Tax Incremental Financing.
- Return on Asset Value. Using assets to generate revenue which will lead to re-investment.
- Taxation Levies. Using a specific levy on Council Tax, for example, to provide a specific economic or transport investment fund.

Conclusions

This Transport Strategy focusses on helping Sheffield become the kind of city we all want it to be, ensuring that the transport system supports inclusive economic growth, and the additional journeys associated with planned employment and housing growth, whilst also ensuring health and environmental sustainability.

In addition, the Sheffield City Region is in the process of refreshing its own transport strategy, with a parallel document likely to be published in the future by Transport for the North. It is therefore doubly timely to ensure alignment between local and broader strategic transport needs as Sheffield gears up for the arrival of High Speed Rail in 2033.

This process will enable the Council to adopt a clear strategic approach to transport for the next 20 years. The Transport Vision, and this Strategy, will also support the local economy, the developing Sheffield Local Plan, and help influence and inform the refresh of the Sheffield City Region Transport Strategy.

THE NEXT STEPS

This Strategy provides a template for developing a long-term Delivery Plan of projects. Some candidates for early inclusion are described in the future approaches section and the Council is exploring funding sources for enabling this early work to take place.

An important part of this early development process will be ongoing discussion with partners and stakeholders and engagement with the public to air and discuss how projects might be identified, how early schemes might be prioritised, the risks and issues involved, all with a view to setting a clear delivery pathway. Partnership working with the Governments' Department for Transport, Transport for the North, the Sheffield City-Region and the Mayor will be particularly important. We will also need to work with major trip generators in the city, including the Universities and the Hospitals, to ensure our projects enjoy the maximum use and benefit.

The views of Sheffield residents are equally important in endorsing how transport can best support the kind of city we want and therefore the need to change some of our travel habits. The Strategy deliberately refers to local matters as well. Resolving local accessibility issues can often contribute to how people make short journeys and therefore impact upon the success of the broader strategy.

APPENDIX A – SUMMARY OF POLICIES

1. Improve the existing transport network to enhance access to jobs, markets, skills and supply chains adopting technology solutions to support this
1A. Our transport system will ensure that access to jobs, markets and skills is inclusive and responds to people’s needs throughout their lives.
1B. We will support regional and pan-northern road and rail connectivity enhancements and will ensure our local transport system responds to exploit the benefits of these.
1C. We will improve our offer for walking, for cycling and for public transport, to ensure improved access to jobs and skills is not limited to those who have access to a car.
2. Enhance productivity by making our transport system faster, more reliable and more resilient, considering the role of new technologies to achieve this
2A. We will act to enable more efficient use of the transport system by reducing reliance on the private car for local trips. Principally, this shall be by improving the speed and attractiveness of alternative modes.
2B. We will support targeted improvement in infrastructure and services where they support enhanced productivity through better connections for movements of freight and people between businesses within and beyond Sheffield.
2C. We shall ensure our actions in respect of the economy recognise and address the impact of poor health, well-being and inclusion on economic productivity.
2D. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable people to go about their business in a manner that requires less or less-harmful travel.
2E. We will remain alive and agile to developments in technology to ensure opportunities these present are exploited, and threats they might present are managed.
3. Invest in integrated packages of infrastructure to unlock future economic growth and support Local Plans, including new housing provision
3A. Our transport system will enable the city to support a greater population and greater economic activity
4. Improve air quality across our City Region to meet legal thresholds, supporting improved health and activity for all, especially in designated AQMAs and CAZs
4A. We will implement our Clean Air Strategy to address exceedance of legal limits in respect of oxides of nitrogen.
4B. We will continue to intervene even upon the meeting of legal thresholds, to enable shift away from modes of transport responsible for emissions of particulates and oxides of nitrogen.
5. Lead the way towards a low carbon transport network, including a zero carbon public transport network
5A. We will intervene to enable shift away from carbon intensive modes of transport to less carbon intensive modes where these are suitable
5B. We will aim to achieve a zero carbon public transport network
5C. We will proactively support the development of, and adopt or encourage the uptake of new technologies that enable motorised transport to be demonstrably less carbon intensive
6. Work in tandem with the planning and development community to create attractive places
6A. Our transport system shall complement and enhance the urban and rural fabric of the City, and shall help provide an environment which is attractive to prospective and existing residents and businesses alike. This shall extend to new and existing

developments.
7. Ensure people feel safe when they travel and invest in our streets to make them more attractive places
7A. We will develop our transport system to encourage active and healthier lifestyles, and reduce noise and air quality impacts.
7B. We will assess our schemes against their performance in respect of health outcomes.
8. Enhance our multi-modal transport system which encourages sustainable travel choices and is embedded in the assessment of transport requirements for new development, particularly for active travel
8A. We will adopt the Sustainable Safety approach to ensure the separate provisions to ensure the safety and convenience of pedestrians and of cyclists respond directly to the level of threat posed by motorised traffic, and by each other. We will adapt this as required to ensure inclusive design.
8B. We will intervene proactively to ensure our public transport system, and non-motorised modes, are where suitable, competitive with the private car in terms of speed, cost, availability and ease of use.
9. Ensure our transport network offers sustainable and inclusive access for all to local services, employment opportunities and our green and recreational spaces
9A. We will maximise the opportunities presented by our parks and green spaces. We will improve access to these, and minimise the harms posed by transport on these.
9B. We shall ensure all transport modes and services are integrated and inclusive such that people and businesses have the flexibility to travel seamlessly in a manner that best meets the differing needs of individuals and those of the city.
9C. We shall involve disadvantaged communities and their representatives in the development of our interventions, to ensure they reduce inequality, and actively advance equality, and to ensure inclusive design.

APPENDIX B – SUMMARY OF ACTIONS

	Action	Key partners
Regional rail	<p>We will support Northern Powerhouse Rail, and High Speed 2, to provide faster and more frequent services between Sheffield, its partner cities in the north, London and elsewhere. Specifically, we will work towards the delivery of –</p> <ul style="list-style-type: none"> • 6 trains per hour to Leeds, with journey times under 30 minutes; • 6 trains per hour to Manchester and its airport, with journey times under 30 minutes; • Two HS2 services per hour to London, with journey times under 1½ hours. 	<p>High Speed 2 Ltd Transport for the North Network Rail Sheffield City Region DfT</p>
	<p>We will work with partners in the City Region, Transport for the North, HS2 Limited and Network Rail to deliver a masterplan for Sheffield Station. This will cover, amongst other things, the transport infrastructure improvements required in order to accommodate and serve High Speed Rail and Northern Powerhouse Rail, and provide connectivity to HS2 for local communities and the wider City Region. This will also consider connectivity for all modes, ranking, waiting and parking provision for cars and taxis, and will include re-thinking the operation of the Inner Ring Road in the vicinity of the station.</p>	<p>High Speed 2 Ltd. Transport for the North Network Rail Sheffield City Region DfT</p>
	<p>We will push to ensure improvements to the Hope Valley Line and at Dore result in an additional hourly service between Sheffield and Manchester and its airport by 2024.</p>	<p>Network Rail DfT Trans Pennine Express</p>
	<p>We will continue to push for enhanced services and rolling stock as committed in the new Northern Rail and Trans Pennine Express franchises, to be delivered by 2024, including –</p> <ul style="list-style-type: none"> • An additional hourly off-peak service to Worksop and Retford, and faster services to Lincoln; • Faster services between Sheffield and Leeds, including extended services to Bradford; • Additional Sunday services. 	<p>DfT Trans Pennine Express Northern Rail</p>
	<p>With City Region partners and authorities in the East Midlands we will lobby for enhanced services as part of the East Midlands franchise renewal, including by 2026 –</p> <ul style="list-style-type: none"> • Delivery of two trains per hour to London, with journey times under two hours; • Ensuring new rolling stock delivers on improved speed and reliability, and reduced train emissions in Sheffield; • Retaining existing connectivity, with improved rolling stock and facilities, to Liverpool and to Norwich; • Additional stopping services to call at Dore & Totley and Dronfield; and, <p>Faster services and extended operating hours on weekends.</p>	<p>DfT Sheffield City Region</p>

	We will support the City Region in their study into reintroduction of passenger services on disused or freight lines.	Sheffield City Region
	We will work with partners to review provision for rail freight, to exploit opportunities for freight to be moved from road to rail, improve access to the rail network for manufacturers, and support improvements to passenger services.	Network Rail Sheffield City Region
Strategic Road Network	Working with the Department for Transport, Highways England and Rotherham MBC, we will bring forward the SCR Innovation Corridor project as part of the Government's Local Large Major Projects programme. This will provide a new road to relieve motorway junctions of local traffic and so resolve Highways England's objections to growth in the city, and to improve access to and within AMID, particularly for commercial vehicles.	DfT Highways England Rotherham MBC Sheffield City Region
	We will support Highways England and Transport for the North in delivering improved trans-Pennine road links between Sheffield and Manchester. We will work with them and our partners in the City Region, to identify and deliver local multi-modal connectivity and capacity improvements, to support and lock in the benefits of this project.	Sheffield City Region DfT Highways England Transport for the North
Local rail	We will work with Network Rail to identify required capacity improvements on local rail routes (in particular to Leeds via Barnsley), and we pursue these through Transport for the North and the Department for Transport. We will look to support these with accessibility and parking improvements at and around Chapeltown and Meadowhall stations.	Network Rail Northern Rail
	<p>We will, with Network Rail and partners in the City Region, initiate a study of rail provision on the Sheffield to Lincoln and Rother Valley lines. This will seek to explore options for improved rail connectivity between the city centre and Waverley and the Advanced Manufacturing Park, Beighton, Sothall and, in liaison with Rotherham MBC, Aughton and Killamarsh.</p> <p>The review will explore options for new stations and new local services, perhaps including further roll-out of tram-train services. It will also consider access to existing and potential stations, including park & ride, and cycle routes.</p> <p>We will, with partners, initiate a similar study in respect of the lines to Wakefield, including exploring opportunities for additional services and stops in the Lower Don Valley, Rotherham and the Dearne Valley.</p>	Network Rail Sheffield City Region
Tram	We will support South Yorkshire Passenger Transport Executive in delivering the refurbishment and security of the existing Supertram system as part of the Department for Transport's Local Large Major Schemes programme.	SYLTE Stagecoach Supertram Sheffield City Region
	To show the city's commitment to the retention and	Stagecoach

	extension of Supertram and to maximise its economic benefit, we will strengthen tram priority including during inter-peak periods, in particular reversing the relaxation of the Hillsborough tram gates. We will work with Supertram to reverse service cuts in the inter peak periods.	Supertram
	We will learn from the experience of delivering the Sheffield to Rotherham tram-train pilot and its impact and will apply this knowledge to future mass-transit schemes.	SYPTE Stagecoach Supertram Sheffield City Region DfT Rotherham MBC
	We will work in partnership with Stagecoach Supertram in the same manner as with bus operators. As a first step, we will invite Stagecoach Supertram to join the Sheffield Bus Partnership, to create a City Public Transport Partnership.	Stagecoach Supertram Buses for Sheffield
	With SYPTE, we will explore options to expand park and ride sites on the Supertram system, to meet demand at Meadowhall, Middlewood and Halfway.	SYPTE
Mass transit	<p>We will develop and bring forward proposals for new high speed and frequent mass transit routes, possibly tram or tram-train extensions, or rail where lines exist. These will incorporate park & ride on key gateways to the city. We would envisage these would form dedicated public transport corridors, also improving journey speed and reliability on existing services.</p> <p>Our first priority is to investigate mass transit opportunities between Sheffield, AMID and Rotherham. A study is ongoing and should identify a preferred option by Summer 2018.</p> <p>Our next areas for exploration are services along the following corridors</p> <p>-</p> <ul style="list-style-type: none"> • The Upper Don Valley – with possible routes from Sheffield to Stannington, Wisewood, Stocksbridge and Grenoside; • From Chapeltown and High Green to Sheffield via Meadowhall, Northern General Hospital and/or Hillsborough; • Meadowhead to City (to support a potential park & ride site near Bowshaw Roundabout); • A north orbital service, connecting Hillsborough to Northern General Hospital, Meadowhall and AMID; • A new service to the south east, providing faster connections into the city from Handsworth, Woodhouse and Beighton, possibly with a spur to Aston and Aughton including a new park and ride site to serve the A57; and, <p>Improved direct services between the West and South</p>	Sheffield City Region Rotherham MBC

	West, the city centre and the Lower Don Valley and Meadowhall (which might form an extension of the route(s) to serve AMID).	
	In partnership with Sheffield City Region, we will integrate our local mass transit proposals with proposals for onward routes to connect to other parts of the city region. Our priority corridors align with potential onward mass transit routes from Sheffield: <ul style="list-style-type: none"> • To Rotherham, Doncaster and Doncaster Sheffield Airport; • To Hoyland and Barnsley; and, • To Dronfield and Chesterfield. 	Sheffield City Region Rotherham MBC Doncaster MBC Barnsley MBC NE Derbyshire DC Chesterfield Council
Major Road Network	We will construct the highway improvement on the Inner Ring Road at Bridgehouses, to quickly provide capacity for development in the West Bar and Kelham Island areas.	Sheffield City Region
	We will develop and bring forward the next phases of improvements to the Inner Ring Road. These will be multi-modal improvements; securing additional capacity, quicker and more reliable bus journeys and safe attractive crossings for people on foot or bicycle. These priority areas will be Shalesmoor, and the roundabouts at Moore Street and Bramall Lane.	Sheffield City Region DfT
	We will work with the Department for Transport to identify a Major Road Network for Sheffield, providing connectivity between areas of economic importance and the outside world. With the City Region and in line with the overall Sustainable Safety approach, we will develop schemes to - <ul style="list-style-type: none"> • Improve capacity and reliability on the Major Road Network. • Reduce and mitigate harms to local communities and vulnerable road users caused by the MRN and traffic using it. In the interests of preserving the functionality of the Major Road Network, we will avoid bringing forward highway schemes that might encourage greater use of private cars for short local trips.	Sheffield City Region DfT
	We will investigate the potential for improved road links between the Upper Don Valley, Lower Don Valley and Sheffield Parkway, to facilitate movement between these key economic areas and infrastructure without routing traffic through the city centre / Inner Ring Road and to open up new land for development.	
City Centre	We will deliver a rolling programme of public realm improvements in the city centre. These will provide an attractive environment, enabling safe and convenient movement by sustainable modes, and sustainable access to existing and new developments.	
	We will review traffic restrictions to manage volumes of motorised traffic in the city centre in support of this, whilst also – <ul style="list-style-type: none"> • maintaining reliable access to local businesses and 	

	<p>homes for people and goods</p> <ul style="list-style-type: none"> • provide the flexibility and resilience to enable the city centre to function during its redevelopment; and, • ensure accessibility for disabled people is maintained and improved. 	
Bus	<p>We will introduce additional bus priority, including new bus lanes on existing key bus routes, to not only protect buses from congestion but also to proactively improve bus journey times. This will help to cut operating costs and enable the provision of new and improved bus services. Other priority measures will include traffic signal control improvements, realigned to proactively speed up buses, rather than merely bringing late running buses back to timetable.</p>	SYLTE Buses for Sheffield
	<p>We will extend the hours of operation of existing bus lanes throughout the city to include weekends and daytime periods, to ensure bus journey times and reliability are maintained throughout the day and to reduce the costs of operating public transport in the city. To improve bus speeds, we will also review our policy on admission to bus lanes, considering whether permitting taxis, motor cycles and pedal cycles to use bus lanes remains appropriate in light of this strategy.</p>	
	<p>We will introduce a new 'Public Transport Priority Box' in the city centre. This will form a ring of streets in the heart of the city centre, where buses are prioritised and other motor traffic restricted, to enable the faster movement of buses and simplify and rationalise the routing and stopping of buses. This will include prohibiting cars and lorries from some sections of street to facilitate bus movement, and will be supported with a shuttle bus to maintain penetration within the box. Although not finalised, this priority box could be formed of the following streets –</p> <ul style="list-style-type: none"> • Arundel Gate / Eyre Street • Cumberland Gate / Fitzwilliam Street • West Street / Church Street 	
	<p>Working with the City Region Mayor, we will review the operating, business and regulatory model for public transport services in the city, to provide the best platform from which we can maintain and improve public transport services in the manner that best meets Sheffield's needs. The review will explore:</p> <ul style="list-style-type: none"> • How bus services are procured, regulated and co-ordinated. • How hackney carriage and private hire vehicles (taxis) are licenced, regulated and accommodated. • The fitness of bus and taxi fleets for purpose. For example, providing a safe convenient and accessible journey for passengers and minimising farm, particularly air pollution. • How bus services, including vehicles and information, can be improved to facilitate access to public transport 	

	<p>for disabled people.</p> <ul style="list-style-type: none"> • The integration of public transport services with each other, infrastructure and network operation, including provision of stops, stands and ranks. • Introduction of an 'Oyster card' style smart, prepaid ticket, automatically offering passengers the cheapest fair, enabling travel across modes and operators and reducing the time buses are waiting at stops. • How public subsidy can be best used to support a faster, cost competitive and high quality bus network. • How different operating models and/or technologies can ensure resources are used in a more efficient and co-ordinated manner. • How demand for transport may change into the future, to ensure public transport is fit for purpose. <p>The aim would be to remove barriers to using more efficient forms of transport, ensure cost effectiveness, ease of use, and reduce barriers to travel for all citizens.</p>	
Active travel	As a first phase, we will deliver enhanced conditions for cycling in the City Centre and suburbs in the Broomhill, Broomhall, Highfield, Sharrow and Nether Edge areas, in line with the City Centre Plan, and the aforementioned 'Sustainable Safety' approach. This is the area where evidence suggests there is greatest scope to relieve the city centre of commuting car trips.	
	We will work with Sheffield City Region to develop and align the Local Cycling and Walking Infrastructure Plan to meet the city's needs and we will deliver on the findings of that plan where these identify additional priorities.	Sheffield City Region DfT
	<p>We will develop and bring forward cycling proposals for the next priority areas:</p> <ul style="list-style-type: none"> • Middlewood, Wadsley Bridge, Southey Green and Parson Cross, including links to the city centre. • Around Darnall, Attercliffe, Handsworth and Greenland to link to the city centre, Meadowhall and the Advanced Manufacturing Park. • In the Mosborough Townships to serve stops on the blue Supertram line. 	Stagecoach Supertram
	<p>We will develop cycling proposals with local communities to serve not only the city's transport needs, but also the aspirations and needs of the city's people, including its disadvantaged communities. This will help us understand where best to provide for cycling in a manner that works for local people, meets objectives and is not unduly led by existing interests and so better supports congestion relief, accessibility and health outcomes.</p> <p>As part of developing our plans we will work to ensure that our plans are, and are seen to be, in the wider public interest and open up possibilities for people generally, not just cyclists</p>	Local communities
	We support hire bike providers in Sheffield including	Bike share operators

	to test and develop electric and cargo bikes. We will continue to work with partners offer electric and/ or cargo bicycles for short term loan to residents, employees and businesses in Sheffield, under the Cycle Boost loan scheme. We will work with and regulate scheme providers to ensure left bikes do not obstruct footways or other pedestrian areas.	
	We will continue a programme of pedestrian accessibility improvements, providing improved footways and crossings to address local issues, in particular to improve access to local services and public transport.	Local communities Buses for Sheffield
Air Quality	<p>We will implement the findings of the Clean Air Zone study in accordance with DEFRA's framework, and update our statutory Air Quality Action Plan accordingly. This study will consider measures to bring air quality within legal limits within the shortest possible time, and before January 2021, and to keep them within legal limits as the city grows into the future.</p> <p>Our focus will be on measures resulting in upgrade and replacement of older, more polluting buses, taxis and goods vehicles. These vehicles are responsible for a disproportionate share of NOx emissions in the city, and we have the greatest opportunity to effect change within our existing powers.</p> <p>Should our studies find this necessary, we will introduce a Clean Air Zone in line with DEFRA's framework. This may include introducing a charge to use polluting vehicles. In line with the national framework, our initial focus will be on commercial vehicles with private cars charged only if necessary.</p> <p>We will lobby Government to ensure that support for air quality improvements does not cease once compliance in respect of NOx is achieved and that there is ongoing support to deliver a sustainable transport system in Sheffield, including addressing the further challenges of carbon and particulate emissions.</p>	DEFRA DfT Rotherham MBC
Climate change	We will support the emerging work on Climate Change in line with full Council motion of 6 th February, 2019.	
	<p>Informed by the above work, we will review the transport strategy, including in particular to address any changes in the policy context that arise form that work.</p> <p>Based on work available (although not specific to Sheffield), we would anticipate the required reductions in transport emissions to be significantly greater and faster than can be achieved as a result in investment in new infrastructure or services alone. It is highly likely a significant proportion of the required reductions will have to be achieved by making better, and lesser, use of existing infrastructure and services.</p> <p>Therefore, we anticipate greater need to give greater priority</p>	DEFRA DfT Office for Low Emission Vehicles Sheffield City Region

	<p>and pace to those measures that –</p> <ul style="list-style-type: none"> • reduce demand for travel; • where travel occurs, deter the use of cars for this; and, • ensure that new motor vehicles entering the car, bus and taxi fleets are electric or zero emission. 	
Highways Maintenance	<p>We will continue the ‘Streets Ahead’ programme until 2037, ensuring the benefits of the core investment period are enjoyed into the future. We will take opportunities to align maintenance activity and highway schemes where these arise.</p>	Amey
Parking	<p>We will implement the Sheffield Parking Strategy (35), to ensure that our parking is effectively and efficiently managed. We will review this regularly to ensure that it remains relevant, as development in the city, technology, and expectations of these, progress. Our priority actions will be:</p> <ul style="list-style-type: none"> • Introducing a programme of new Controlled Parking Zones, with the priority being uncontrolled areas adjacent the city centre. • Review existing Controlled Parking Zones to ensure that these manage availability of space in an efficient manner providing good access for residents, business and visitors alike. • Developing a pricing policy that responds to demand. Ensuring that the supply of and demand for parking can be balanced out and to provide an influence on parking prices in the private sector in line with the need to manage the demand for car trips. • A review of eligibility for parking permits, including considering reducing the number of permits issued to households in areas of excess residential demand. 	
Network Management	<p>We will develop a Network Management Strategy which will include policies to support public transport, walking and cycling and give them a greater priority. This will be developed to ensure that our network management operations, urban traffic control & ITS systems are aligned to the objectives and approach of this Transport Strategy and are ready for future opportunities afforded by improvements in information and computing technology.</p>	
Enforcement	<p>We will develop and review our parking and traffic enforcement policy, and will lobby for the Sheffield to be granted powers to enforce moving traffic offences under the decriminalised enforcement regime.</p>	DfT
Freight	<p>We will revise and expand the city’s HGV strategy to form a new freight strategy. This will seek to enable freight movements to meet the needs of local people and businesses, whilst minimising harm associated with goods vehicles. This will respond to changes in retailing and technology and will link to the work on rail freight opportunities.</p>	

	Particular areas for further investigation will be consolidation and management of deliveries, both to businesses and homes, including supporting less intrusive solutions for the last leg of deliveries. In particular, we will work with larger organisations, including the two Universities and the NHS, to better handle freight movements into the city.	
Localities	We will progress a rolling programme of local safety and accessibility schemes, to improve local access to jobs, services, public transport and parks. These schemes will be bought forward to align with the Transport Strategy and will prioritise areas suffering deprivation poor health and/or recorded injuries resulting from traffic collisions, as well as areas that are anticipated to suffer adverse impacts as a direct consequence of local housing or employment growth.	Local communities
Design & appraisal	We will adopt the Sustainable Safety approach to ensure streets accommodate active modes in a safe convenient manner.	
	<p>We will assess all transport schemes in terms of the health impact, and will prioritise schemes that bring about health benefits. We will not bring forward schemes that are expected to result in worsened health outcomes.</p> <p>Within the Sustainable Safety approach, we will assess our schemes against the ten 'Healthy Streets' themes of:</p> <ul style="list-style-type: none"> • Pedestrians from all walks of life. • Easy to cross the road. • Shade & shelter. • Places to stop. • People choosing to walk and cycle. • Not too noisy. • People feel safe. • Things to see and do. • People feel relaxed. • Clean Air 	
	<p>We will ensure our transport interventions do not disadvantage people with protected characteristics, or otherwise disadvantaged people.</p> <p>We will work with people with protected characteristics and other disadvantaged people and their representatives to ensure our transport proposals advance equality in Sheffield.</p> <p>Recognising that the methods, policies and practices we propose to adopt are imperfect in respect of equalities, we will be prepared to compromise on and adapt their implementation where this is necessary to support greater equality and inclusion.</p>	
Demand management & income	We will bring forward new mechanisms to provide local funding for transport projects, including potentially the introduction of a Workplace Parking Levy.	SCC Public Health NHS

generation		
	We will bring forward mitigations for the city's air quality situation as identified by the Clean Air Zone Feasibility study, which may include the introduction of charges for the use of more polluting vehicles in the city in line with Government direction.	
	Should our interventions prove insufficient to address traffic congestion, or if funding cannot be found to deliver these where they prove necessary, we will investigate the introduction of congestion charging in Sheffield city centre. This will be considered alongside the review of the public transport operating model, to explore the possibility that charges for road use could form part of the same system.	
	We will work with the City Region in the development of their digital strategy to ensure it identifies and supports the use of digital connectivity to reduce the need to travel.	Sheffield City Region Creative Sheffield
Future ready	With support from partners in research and industry, we will produce and maintain a register of threats and opportunities to the transport system presented by external factors, including demographic, social, economic, technological and climatic, and keep this updated to inform our decision making. This will enable us to be agile to, and encourage, change to deliver improved outcomes for all.	
Review	We will, in 2025, review the transport strategy to ensure it is fit for the next ten years, having regard to changes in external factors and lessons learnt from the first part of the strategy.	

APPENDIX C – REFERENCES

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