



York Civic Trust

A Strategy for Managing Car Use in York April 2021

[Highlighted text indicates information still needed from the Council.]

1 The need for a holistic strategy

York's current Local Transport Plan was drafted in 2011 and sets out a long term strategy for the city's transport system for the period from 2011 to 2031, and a more detailed programme over the period to 2016. There is broad agreement that a new Local Transport Plan is needed, and that work should start soon in the context of the draft Local Plan, which is currently being examined.

We have already prepared a document with recommendations for an overall transport strategy for York, and this is one of seven reports offering proposals for individual modes and policies. Our vision is of a city which respects its environment while enhancing quality of life, social justice and economic vitality. York's new Local Transport Plan should be designed to contribute to that vision. It needs to address the city's needs over the next two decades, while identifying steps which can be taken now. For this to happen, political consensus will be essential to ensure that policies are not reversed each time the Council's political control changes.

In achieving our vision, the new Local Transport Plan should be designed to meet a number of interconnected objectives for the city. Of these, the most important are ensuring that the transport system is efficient, generates substantially less pollution and results in far lower levels of carbon emissions.

At the same time the Plan must be designed to achieve the objectives of ensuring safety, supporting public health, increasing equality of access, increasing liveability, and protecting public space and heritage. A Plan which successfully addresses all of these will also help to strengthen the sustainability and economy of the city.

In meeting these objectives, the Plan needs to adopt a holistic, bold and visionary strategy which achieves significant changes in travel behaviour in the immediate future. The transport strategy should be designed to make effective use of the full range of potential policy measures and to combine them to ensure that the strategy is acceptable, affordable and effective. In doing so it should seek to emulate the best examples in the UK and continental Europe of integrated, sustainable transport planning.

Since population growth is likely to exacerbate York's transport problems, the key elements of the strategy will be measures to enhance public transport, walking and cycling and, at the same time, to reduce car travel, especially in congested and sensitive areas of the City, and to reduce the need to travel longer distances, particularly through the design of sustainable communities. This combination of "carrots" and "sticks" will help make the strategy both more effective and more acceptable to the public and the business community. It should be reinforced by adopting a "hearts and minds" approach, in which incentives are designed to encourage users to change their travel habits and to respect the needs of others.

To reinforce this core strategy, action is needed to improve the operation of the road network, by reallocating road space and using it more efficiently and to improve freight and delivery operations.

2 The focus of this report

In this report, we consider the role of car use, the need to manage levels of car traffic, and ways in which this might be done. We have also included issues related to motive power and, in particular, the role of electric cars and the potential for connected and autonomous cars. While car use can, to some extent, be influenced by improvements to other modes and by the design of new developments, these are considered in our companion reports on Public Transport, Cycling and Walking; we do, however, consider the implications for these policies in a closing section of this report.

The objectives of managing car use can also be achieved in part by the regulation of taxis (hackney carriages) and private hire vehicles, and of commercial vehicles. The former two are governed by specific regulatory frameworks, and are considered in our report on Public Transport. The latter are covered by our report on Managing Freight Transport.

It is also possible to influence car use by the way in which the road network is managed, by encouraging good practice in such factors as the routes taken, speeds, queuing, idling and parking. These policies are covered in a companion report on Managing the Road Network.

The remaining sections of this report consider in turn:

3. how managing car use contributes to our objectives in Section 1
4. current trends in car use and the problems to be addressed
5. the targets which we propose for doing so
6. the measures which might be used
7. the ways in which we propose that they should be applied
8. our recommendations for different areas of York
9. our recommendations for different groups of users
10. the barriers to implementing these measures, and ways in which they might be overcome
11. the implications for each of our other six modal strategies.

3 The contribution of managing car use to our objectives

For those with one available, the private car will often offer the most efficient form of access from the user's perspective. In many cases, such as journeys out of York to places where public transport is poor, journeys at night when public transport is limited, and

journeys on which goods or heavy luggage are carried, the car may well be the only possible means of travel, apart from taxis. Any new Local Transport Plan needs to continue to provide for such car use, while ensuring that cars, and other vehicles, are operated in ways which do not adversely affect local communities.

But while car use makes sense in such circumstances, excessive use of cars on journeys or routes for which alternatives exist can contribute to congestion and delays, pollution and danger, as well as reducing the opportunities for active travel. In doing so, it can have adverse impacts on road safety, public health and liveability. Use of cars with internal combustion engines will have a greater impact on air pollution and carbon emissions, and the need to reduce these lies behind the government's decision to ban new sales of them from 2030 and to promote the use of electric cars. It is important to bear in mind, however, that these still result in some pollution and carbon emissions, and will still contribute to congestion and road casualties.

As the recent report from the International Transport Forum¹ puts it: "the objective must not be to suppress travel by car, but channel it to locations and uses where its value to the individual clearly exceeds the costs it imposes on society, including other car users".

Thus, while effective provision for car use can contribute to our objective of improving **access**, targeted management of levels of car use can achieve benefits in terms of improved **efficiency, reductions in air pollution and carbon emissions, public health, road safety and liveability**. Depending on the resulting patterns of car use and the allocation of road space, it is also likely to have implications for **public realm, heritage** and the **economy**.

4 Current trends and problems

4.1 Car traffic

[We are awaiting trend data from CYC's classified automatic count sites]

The lockdown in the spring of 2020 demonstrated vividly the impacts of a substantial reduction in car traffic: the virtual absence of congestion, a 40% reduction in NOx concentrations, less traffic noise, reduced severance for pedestrians and cyclists, and potentially greater safety if drivers could be discouraged from speeding. However, that situation was inherently unstable, and reflects levels of restriction on mobility which could not be sustained. We need to achieve a position between the pre-lockdown conditions, with high levels of congestion, pollution and severance, and the improvements achieved during the lockdown, while at the same time providing for desired levels of accessibility. If we can identify that optimal intermediate set of travel patterns, our strategy can then be designed to achieve and sustain them.

4.2 Car modal shares

The latest published data for modal shares comes from the 2011 census, which showed that 57% of journeys to work in York were by car. This was lower than for comparable historic cities, largely because of York's higher cycling mode share. But it is much higher than in

¹ International Transport Forum (2021), *Reversing car dependency*, Paris, OECD

comparable European cities; Freiburg, for example, has only 21% of journeys by car.² [We are waiting for CYC to check whether there is data from the National Travel Survey]

4.3 Impacts of car use

We review the impacts of traffic generally on carbon emissions, air pollution and casualties in our companion report on Managing the Road Network.

4.4 Residents' aspirations

In our 2019 surveys³ 23% told us that they expected their car use to increase over the next five years, but only 14% wanted it to increase. In contrast, 34% expected to walk and use the bus more, but around 50% would like their use of these modes to increase. There is therefore a willingness to change to more sustainable modes.

4.5 Short term trends

It is at present unclear what will happen once the coronavirus is fully under control. It is probable that a heightened level of home working will continue, with resulting reduction in commuting by all modes. Retail and leisure activities may take some time to recover, and some will never do so. There is also likely to be some permanent shift of retail from shops to on-line. And users may be reluctant to return to public transport. Whatever happens, we can expect the innate attractiveness of the private car as an agent of personal autonomy and private space to continue, and need to reflect that in the policies which we develop. We have thus considered the extent to which levels of car use might ideally change by comparison with those of 2019, and then addressed the measures which might most effectively achieve such changes.

5 Proposed targets for reduction in car use

We propose two targets related to carbon and one for vehicle emissions. Car use is also relevant in addressing problems of congestion, and we discuss possible targets in our companion report on Managing the Road Network. The two carbon targets relate to the need to reduce car use throughout the city as a contribution to achieving the Council's zero carbon strategy. The first is the target reduction in car-km; the second is the change in mode share, after allowing for some of the reduction in car use arising from reduced travel. The third specifies the percentage of low emission and electric cars, to tackle air pollution problems and contribute to carbon reduction. We have used target dates of 2027, which is five years after the start of the new Local Transport Plan, and by which time the outer ring road should have been upgraded, and 2037, by which time the planned development in the draft Local Plan should be complete. Our proposed targets are justified below.

² May A D and Marsden G R (2019), *The role of new mobility services in sustainable urban transport strategies*, Proc 15th World Conference on Transport Research, Mumbai

³ York Civic Trust (2019), *York Transport Consultation: key findings report*

Target	Baseline	Survey
Reduce car-km overall: 20% reduction by 2027; 35% by 2037	2019 automatic classified counter flows [to check]	Automatic classified traffic counts from 41 sites
Reduce car mode share overall: 49% by 2027; 40% by 2037	2011 car mode share for journey to work 57% [ideally we need a more recent figure, and for all purposes]	Newly commissioned mode share surveys
Increase proportion of low and zero emission cars: 75% of cars to meet Clean Air Zone standards by 2027; 90% by 2037	At present there is no record either for new cars or for those in the current fleet. We understand that Transport for the North hold this data and that it is available to the Council.	We recommend that the Council seeks data on this.

5.1 Carbon reduction

The Council has committed to York being carbon neutral by 2030. It has received a background report on the most cost-effective measures⁴ which demonstrates clearly that simply switching to electric vehicles will be insufficient. Seven transport measures are among the ten most cost-effective measures. Of these, the first six and tenth involve mode change to diesel and electric buses and to walking and cycling. The other three involve changes to lower emission cars. Both Manchester and Sheffield have recently announced targets of a 25% reduction in car use by 2025 to meet carbon targets. West Yorkshire Combined Authority's Emission Reduction Pathways report⁵ advocates a 21% reduction by 2038. Leeds City Council, which has also set a 2030 target date, estimates that it needs a 30% reduction in car use by then.⁶ We have developed our own initial assessment of targets based on those in the WYCA report, which suggest a reduction of between 20% and 30% in car-km by 2027, and 25% to 35% by 2037.⁷ We have included the lower and upper bounds in the table above. These can be measured from automated classified counts.

Our analysis based on the WYCA study suggests that 10% of the reduction in car-km might come from reduced travel. This leaves a 10% reduction in car use from modal change in 2027, and a 25% reduction in 2037, which imply that the current car modal share (provisionally 57%) falls to 49% in 2027 and 40% by 2037. Regular monitoring of modal shares will be needed.

⁴ Gouldson A et al (2020), *A Net Zero Carbon Roadmap for York*, City of York Council

⁵ Element Energy (2020), *West Yorkshire Carbon Emissions Reduction Pathways*, West Yorkshire Combined Authority

⁶ Leeds City Council (2021), *Connecting Leeds Transport Strategy*

⁷ York Civic Trust Transport Advisory Group (March 2020), *Carbon reduction requirements*

5.2 Vehicle emissions

Nationally, air pollution targets are set by government, and delivered through local Air Quality Action Plans. As our briefing paper on air quality notes, this has two weaknesses, in that it solely relates to threshold concentration levels at adjacent residential properties, and also fails to consider the health benefits of further emission reductions below those thresholds. The principal focus needs to be those vehicles, including cars, which are most polluting. Where Clean Air Zones include cars, the requirements are Euro 6 for diesel cars and Euro 4 for petrol cars. According to DfT statistics, 65% of currently licensed diesel cars and 25% of petrol cars do not meet these standards. In the short term the focus must be on encouraging a switch to low emission vehicles throughout the network, and particularly in areas with higher levels of pollution. Longer term, there needs to be a transfer from internal combustion engines to electric to meet the carbon reduction targets. Our analysis⁸ of the WYCA report suggests that this will require between 35% and 60% of the carbon reduction from cars to arise from technological change. We propose a target of 75% of cars using York's roads meeting the minimum Clean Air Zone standards by 2027, and 90% by 2037. While these will include electric cars, it will be appropriate in due course to set targets specifically for electric cars. The Council does not at present have data for this, either for new cars registered in the city or for those using its roads. We recommend that the Council seek a source of such information.

5.3 Congestion

A reduction in car use is also needed to achieve reduced congestion, as discussed in our report on Managing the Road Network. As we note there, the Council does not currently have an indicator for monitoring trends in congestion, and we recommend that one be specified to provide a baseline for LTP4. Evidence from applications elsewhere, and from traffic levels in the autumn of 2020, suggests that our carbon-related targets above should in practice be sufficient to remove most congestion, and hence to achieve this fourth target. However, it is important to bear in mind that a switch to electric cars does nothing to tackle congestion. Thus the targeted reductions in car use need to be achieved.

5.4 Car size

A further issue is the size of vehicle in York's car fleet. There has been a tendency over recent years for drivers to respond to improvements in fuel efficiency by purchasing larger vehicles. While evidence suggests that larger vehicles do not contribute significantly more to air pollution or congestion, they do consume more fuel. A recent National Audit Office report⁹ found that carbon emissions from cars rose by 6% between 2016 and 2019, primarily because sales of SUVs more than offset the impact of sales of ultra low emission cars. As well as contributing further to carbon emissions, larger cars also appear more intimidating to pedestrians and cyclists. Recent US research demonstrated that a 46% increase in pedestrian fatalities over seven years was associated with an 82% increase in the involvement of SUVs.¹⁰ A recent report for the RAC Foundation concluded that 75% of SUVs

⁸ York Civic Trust Transport Advisory Group (March 2020), *Carbon reduction requirements*

⁹ National Audit Office (2021), *Reducing carbon emissions from cars*

¹⁰ Hu W and Cicchino J (2018), *An examination of the increases in pedestrian – motor vehicle crash fatalities during 2009-2011*, J Safety Research (67) pp 37-44

are bought by urban dwellers.¹¹ To quote the Director of the Foundation “At a time when we should all be choosing the right vehicle for the right trip to cut the size of our carbon footprint the term ‘SUV’ has become so broad as to be unhelpful. Whilst it’s right to question whether suburban drivers really need a car capable of ploughing over rivers, across fields and up steep hills just to pop to the shops, with all the negative consequences for emissions that entails, other motorists might just be seeking the comfort and convenience of ... cars that still come with the SUV badge but are economical to run.”¹²

We have not proposed a target for vehicle size, but recommend that the Council should consider one. In parallel, there is a case for promoting the benefits of smaller, more fuel-efficient cars for use within York, and for using car clubs within York if the car has been purchased primarily for longer distance travel.

5.5 Willingness and ability to change car use

Recent government research¹³ indicates that 78% of the respondents nationally want to see motor traffic reduced in towns and cities, with 66% supportive of reallocating road space to walking and cycling. High percentages applied to other aspects of road use: increasing road safety (88%), improving air quality (86%), reducing traffic congestion (83%) and reducing traffic noise (75%). Pedestrians and cyclists were more likely than car drivers to agree to government intervention, and 16-24 year olds least likely to agree than other age groups.

Some car users will be more willing to switch to other modes than others, though most attempts to categorise them focuses on willingness to use an alternative. Early research by MORI¹⁴ divided survey participants into regular and occasional bus users, non-rejecters (prepared to use buses in principle) and rejecters (non users unlikely to be swayed) and categorised them by person type (age, social class, car ownership). The recent study for DfT¹⁵ summarises such research: “younger people appear less likely to drive, perhaps because they are more likely to live in urban areas and less likely to own a car. Each generation is also driving less than their predecessors as they age. Although younger people are more likely to make a mode switch, older individuals are more likely to sustain any changes that they make. Deprived communities benefit from active transport initiatives, especially where they are involved in decision-making about the design. ... Women and people from ethnic minority backgrounds are less likely to switch to active travel and evidence for other population groups such as older or disabled people is very limited.”

A related question is how difficult it would be not to use a car for a specific journey. This is related to the question of whether car use is “non-essential” as referenced in the Council’s proposal to remove non-essential cars from the city centre.

¹¹ New Weather Institute (2021), *Mindgames on wheels: How advertising sold false promises of safety and superiority with SUVs*

¹² RAC Foundation (2021), *Majority of SUVs registered to urban homes*

¹³ Kantar (2020), *Public opinion survey on traffic and road use*, Department for Transport

¹⁴ Buspower 2000 (1995), MORI for CPT

¹⁵ Kantar (2020), *Public opinion survey on traffic and road use*, Department for Transport

We suggest that any assessment of which car uses are less essential should consider:

- Are the driver (and any passengers) individuals who could readily use more sustainable modes for this journey?
- Is the purpose of the journey one which could readily be served by a more sustainable mode?
- Is the timing of the journey one which could readily be served by more sustainable modes?
- Are the origin and destination of the journey such that it could readily be undertaken by a more sustainable mode?
- Are the origin and destination of the journey such that an alternative route by private car is available and feasible?

In applying these tests, we need to bear in mind that some journeys are linked, and users may feel compelled to use a car because it is needed later in the day. Policies such as the provision of pool cars or car clubs can help overcome this constraint.

6 The range of policy measures

Car use can be influenced by measures which promote alternatives, by those which restrict usage either physically or through regulation, and by those which add to the costs of car use. There is also a set of measures which relates to the type of car used. We list these separately below.

6.1 Promotional measures

1. Personalised Travel Plans
2. Workplace and School Travel Plans
3. Incentivisation programmes
4. Car clubs
5. Car sharing
6. Park and Ride/Pedal While strictly a public transport and cycling measure, park and ride and park and pedal services encourage those using their cars to approach York to change mode. We consider them in complementary papers.

6.2 Physical measures

1. Road space reallocation This involves reallocating road space for use by public transport, cyclists, pedestrians or as public realm, and is considered in our report on Managing the Road Network.
2. Road closures Roads can be completely closed, for example for a foot street, or to close a “rat run” through a residential side street. They are considered in our report on Managing the Road Network.
3. Reductions in parking supply
4. Tighter parking standards in new developments

6.3 Regulatory measures

1. Selective road closures These close a street to cars (and possibly commercial vehicles) while retaining access for buses, cycles (and, where appropriate, taxis). They are considered in our report on Managing the Road Network.

2. Traffic cells These use selective road closures to ban through movements by car and commercial vehicle within a given area, such as a city centre, while permitting through movement for buses, cycles (and, where appropriate, taxis). They are considered in our report on Managing the Road Network.
3. Regulation by number plate Schemes which prohibit use by cars with a given number plate on certain days (e.g. “odds and evens”) are in use in many countries, but are not legal in the UK.
4. City centre access permits
5. Specific access controls These are used to protect certain streets or areas from extraneous traffic. Examples are home zones, play streets and school zones. They are considered in our report on Managing the Road Network.
6. Clean Air Zones
7. Parking regulations
8. Specific parking restrictions

6.4 Fiscal measures

1. Road pricing (or congestion charging)
2. Charging Low Emission Zones
3. Parking charges
4. Workplace parking levies

6.5 Measures primarily designed to influence the type of car used :

1. Higher parking charges for larger or more polluting vehicles
2. Exemptions for electric vehicles
3. Support for electric vehicles
4. Support for connected vehicles
5. Support for autonomous vehicles

7 The ways in which each measure might be used

In recommending which measures might be used, and how they might be applied, we have carried out a more detailed assessment of how effective and enforceable each might be, how expensive they might be to implement and operate, and how acceptable they might be. This assessment is available as a separate document.

7.1 Promotional measures

Given our assessment above of willingness to reduce car use, measures which promote such changes, and the use of alternatives, are clearly important. They are typically supported by the public, and reduce the need to impose restrictions, which are inevitably less acceptable.

7.1.1 Personalised Travel Plans These involve recording individuals’ patterns of movement and presenting them with suggested alternatives. They are widely used to promote sustainable travel, and have been found to achieve reductions of 5% to 15% in car use. They do however need to be sustained, and require revenue funding to support them. York had a major programme a decade ago, but lack of continuing funding has meant that its impacts have been lost.

7.1.2 Workplace and School Travel Plans These perform similarly to Personalised Travel Plans, but are administered in and with businesses, institutions and schools. They, too, have been found to achieve reductions of 5% to 10% in car use, and also help promote car sharing. However, they have similar financial requirements and constraints to Personalised Travel Plans and are also a particular burden for smaller firms. As a result they have not been actively pursued in York for some time. The only exception is the requirement in planning conditions for Travel Plans for new developments, which have proved successful in managing travel resulting from major developments such as the University of York and York Hospital.

7.1.3 Incentivisation programmes There are several of these which relate either to mode choice in general or to types of car and the ways in which they are used. Examples are car-free days, eco-driving campaigns and anti-idling publicity. They are typically effective in raising awareness but, because they are rarely sustained, fail to achieve lasting changes in behaviour. However, there is now growing public and business awareness of the need to change behaviour in order to meet carbon reduction targets, and we recommend a sustained hearts and minds programme focused on carbon reduction.

7.1.4 Car clubs Car clubs offer an alternative to car ownership and, by charging at the point of use, result in fewer journeys by car. Several case studies suggest that a typical car club car replaces around 10 privately owned cars, and that car club users travel 55% less than do private car owners. York already has a car club network, but could do more to publicise and expand it. As noted above, car clubs could usefully complement the promotion of smaller urban vehicles, by providing for the occasional longer journey on which a larger car is needed. We suggest that the Council should aim to establish car club vehicle collection sites within 20 minutes' walk of each residential community, with the possibility of using e-scooters and e-bikes to extend the coverage of each site.

7.1.5 Car sharing Car sharing schemes encourage drivers to share their vehicle with others making a similar journey. They became very popular in the US, where they are reinforced by designated parking spaces at workplaces and high occupancy vehicle lanes. Early experience in the UK suggested that they are as likely to extract travel from public transport as they are to reduce car use, but it appears that community-based car sharing schemes may be more effective. We suggest that the Council investigates their potential.

7.2 Physical measures

7.2.1 Reductions in parking supply Removal of parking spaces can lead to a reduction in car use in the affected area. However, one effect is to increase searching for parking spaces as demand approaches the (reduced) capacity, and relocation of parking to the fringes of the controlled area. They are thus likely to be more effective if combined with measures to control parking demand, and if applied over an area which makes walking from fringe parking areas unattractive.

7.2.2 Parking standards in new developments Maximum standards for parking in new developments limit the growth in parking supply. They also influence the behaviour of the occupants of those new developments, though evidence, for example in Derwenthorpe, suggests that they may result in on-street and fly parking instead unless the development as

a whole is managed to avoid this. York already has approved maximum standards for different types of development in different parts of the city, and we recommend that the Council adheres to them and takes action to adopt new residential roads so that fly parking can be controlled. There is also a case for requiring that all new residential parking be available for rent rather than being purchased with the property.

7.3 Regulatory measures

7.3.1 Permits to access the city centre While continental-style permit access zones are not in use in the UK, York's earlier green badge scheme in the city centre offered a form of permit control, by only allowing severely disabled users to gain access. Its main weaknesses were the administrative burden on the Council and the difficulty of enforcing restrictions on other non-permitted vehicles. More recently, ANPR cameras for automated enforcement, with a specified list of approved vehicles, have enabled bus gates such as that in Coppergate to operate. We suggest that it might be appropriate to consider a wider application of such an approach to the city centre as a whole. At the very least, it needs to be applied to other bus gates such as Piccadilly and Pavement.

7.3.1 Clean Air Zones These restrict access to a designated area by vehicles which do not meet certain emissions standards. York was the first city voluntarily to introduce a Clean Air Zone, specifically for buses, in January 2020. However, while buses accounted for 30% of emissions in the city centre in 2013¹⁶, overall they only contribute 9% of urban road transport emissions, as against 55% from cars. There is thus a clear case for expanding the existing scheme to restrict more polluting cars (as well as commercial vehicles and taxis). However, such controls have proved unpopular with car owners, and raise some issues of equity. Few UK cities have yet implemented them.

7.3.2 Parking regulations These can include restrictions on operating hours, parking duration and types of user. All are in common use in York, including spaces which are not available at peak times, car parks and on-street parking which are only available for up to specified maximum time, and residents' and blue badge spaces which are only available to designated users. They do, however, require regular enforcement if they are to be effective. Legitimate users will be able to continue parking, which might lead to searching for parking space as demand approaches capacity. Restrictions also lead to fringe parking by those who are not permitted to park.

7.3.3 Specific parking restrictions These can be applied at specific locations and times, e.g. outside schools during opening and closing times. Similar observations apply.

7.4 Fiscal measures

7.4.1 Road pricing (or congestion charging) Road Pricing is able to induce and sustain a significant reduction in traffic levels, and to generate significant revenue which can be used to finance alternatives and hence provide improved and more reliable transport for those who do not have cars available. Typical applications in London, Stockholm and Milan have achieved reductions of 15% to 20% in cars entering the zone, and have generated

¹⁶ Tate J (2013), *York Low Emission Zone Feasibility Study: Vehicle Emission Modelling*, University of Leeds

annual revenues of around £100 per head of the urban population (or £20m per year for a city like York). There is concern over the equity impacts, and it is important to use the revenues to provide alternatives for those who would be adversely affected, as well as to provide limited exemptions for those who have no alternative but to drive. Road pricing is controversial, and it will be important to demonstrate that the chosen scheme maximises the benefits while reducing the adverse consequences for those unable to pay to use their cars. However, a recent 2020 IPSOS MORI poll¹⁷ showed 62% of the population (and 60% of motorists) in favour of urban road pricing, 25% strongly. The recent International Transport Forum report¹⁸ comments that “Road pricing is an effective tool to manage congestion and use road capacity more efficiently. Flexible charges that vary by time and location can set prices to match drivers’ marginal cost of using roads and thereby change their behaviour. Road pricing may have unwanted effects on equity, however, as do many fiscal instruments. Earmarking tolling revenues for improvements in public transport can neutralise distributional impacts”.

7.4.2 Charging Clean Air Zones If a Clean Air Zone covering cars (and commercial vehicles) is to be introduced (see above) there may be a case for allowing higher emission vehicles to continue to enter, but charging them to do so. This has the twin benefits of offering flexibility to owners who might find it difficult to replace their vehicles in the short term, and providing a source of revenue. While it could in theory result in a lower level of reduction in pollution, there is no clear evidence of this happening in the application in London. Oxford is introducing a two-tier scheme from mid-2021 which may offer a template for a similar scheme in York. Coventry is trialling the use of mobility credits, where owners of older more polluting cars receive £3000 of credits for use on alternative modes.

7.4.3 Parking charges Parking charges are an effective way of ensuring that demand does not exceed parking supply, and hence of reducing traffic and delays resulting from searching for parking space. The relative levels of parking charges and bus and park and ride fares also offer a means of reducing car use in the affected area, though this will depend on the proportion of parking space which can be charged and the extent of through traffic, which will be uncharged, and may increase as a result. In practice, the Council is limited in its ability to influence charges. It can only directly determine charges on-street and in its own public car parks, though it may be able to negotiate parking charges with private operators of public car parks, and with owners of private retail parking. Parking charges generate revenue which, for the Council, are an important element of its transport budget. This acts as a constraint on the Council’s readiness to close car parks. Parking charges also influence destination choice and consequently the economy of the area affected, which can lead to pressures from businesses for lower charges. The recent International Transport Forum report¹⁹ advocates the use of dynamic parking pricing or alternatively employing a standard per minute charge, so that short visits for shopping and personal business are not adversely affected.

¹⁷ [Ipsos MORI survey](#), November 2020

¹⁸ International Transport Forum (2021), *Reversing car dependency*, Paris, OECD

¹⁹ International Transport Forum (2021), *Reversing car dependency*, Paris, OECD

7.4.4 Workplace parking levies Workplace parking levies can be applied to private employee parking sites. They have only been used to date in Nottingham, but there is now renewed interest in Birmingham, Oxford and Scottish cities. Experience in Nottingham indicates that the scheme is a valuable source of revenue (which has contributed significantly to Nottingham's light rail network) but has only a modest impact on car use. One difficulty in York is that workplace parking is a relatively small proportion of the total in and around the city centre. It might be more relevant for some of the larger inner and outer urban employment centres.

7.5 Measures primarily designed to influence the type of car used

7.5.1 Higher parking charges for larger or more polluting vehicles These are already used for residents' parking permits, and can potentially be applied to on- and off-street public parking. We recommend that the Council uses such higher charges both on- and off-street for consistency and to encourage changes in purchasing behaviour.

7.5.2 Exemptions for electric vehicles These could apply to parking charges or potentially to regulatory restrictions on vehicle movement. There is a danger, however, that doing so will make any controls less effective as ownership of electric vehicles increases. Following advice in a recent Local Government Association report,²⁰ we recommend that electric vehicles are not exempt from parking charges or regulations on vehicle movement.

7.5.3 Support for electric vehicles The most obvious measures under this heading are provision of charging points in public car parks and on residential streets. The Council issued a new 2020-25 Electric Vehicle Charging Strategy last year. We have been invited to review it in a separate paper on electric vehicles and, in doing so, will bear in mind our target of 75% of cars meeting Low Emission Zone standards by 2027.

7.5.4 Support for connected vehicles Connected vehicles are ones which communicate indirectly with one another and with the highway. They provide information to the highway authority and, potentially, other vehicles; they also receive information from the highway authority and providers of real-time guidance. The Council's STEP programme is already making use of information provided by such vehicles. We recommend that the Council reviews the potential for expanding such provision in the light of results from STEP.

7.5.5 Support for autonomous vehicles Autonomous vehicles are designed to relieve the driver of the driving task and can drive without occupants (for example to return to base). They are being promoted by government, but are not yet permitted on public roads. Research based on Leeds suggests that promotion of privately owned autonomous cars in cities could increase car use by over 50%, while reducing public transport by up to 20% and active travel by up to 15%. Limiting such vehicles to car clubs (and shared ownership) could reduce these impacts somewhat, but would still result in much less sustainable travel²¹. We

²⁰ Lokesh K et al (2020), *Decarbonising transport: travelling less and the role of online opportunities*. London: Local Government Association

²¹ May A D et al (2020), *The potential impacts of automated cars on urban transport: an exploratory analysis*, Transport Policy 98 pp 127-138

therefore recommend that the Council take whatever steps it can to avoid the use of such vehicles in York within the timeframe of the Local Transport Plan.

8 Proposed policy measures by area

8.1 City-wide measures

As noted in the introduction, the strategy needs to adopt a hearts and minds approach. The promotional measures above will be key to this. We recommend that the Council continues to promote:

- Personal Travel Plans;
- Workplace Travel Plans, particularly with larger employers;
- School Travel Plans, particularly with larger schools and those in the private sector
- A reinvigorated anti-idling campaign
- A sustained hearts and minds campaign focused on carbon reduction.

We might expect these, if sustained, to achieve a reduction in car use of around 10% among those targeted. Enhancement of sustainable modes may have a similar impact, although there will be many who are influenced by both; thus the net effect may be closer to between 10% and 15% overall. Given our targets above, active interventions to reduce car use will also be needed to achieve the required carbon reduction and to tackle congestion in certain areas. We consider these for different parts of the network below.

We do not advocate the introduction of road pricing in the short term, since we are aware that DfT regulations impose lengthy procedures on the acceptance of such schemes. However, we do recommend that the Council initiate a study of options, and a process of public engagement, so that a preferred scheme can be implemented more rapidly assuming, as seems likely, that further car use reduction is required. Any study needs to consider the basis on which charges should be levied, the locations and times of day when they are operational, the vehicle types to which they apply, any provision for exemptions and rebates, and the resulting impacts on the environment, the economy and equity. European guidance to which we have contributed offers a model for such a study.²²

8.2 City centre

The Council decided, in December 2019, to ask the Executive Member for Transport to develop proposals for a ban on non-essential car traffic in the city centre. We were invited to advise on how such a ban might operate, and developed our proposed definition of “non-essential” above in that context. We suggest that the most appropriate approach is to use a combination of traffic cells to remove through traffic, which is by definition non-essential, and restrictions on parking supply and an increase in parking charges. We also propose that the existing Low Emission Zone be extended to cover all vehicles, including diesel and petrol engine cars. Our proposals for traffic cells are set out more fully in our report on Managing the Road Network. Briefly they involve the use of bus gates in George Hudson Street and on Ouse Bridge, together with effective enforcement of the ones in Piccadilly and Pavement, to

²² May A D et al 2010, *Road user charging and its transport policy implications – findings from the CURACAO project*, Proc Transport Research Arena, Brussels

ensure that other traffic is unable to drive through the city centre, while enabling all vehicles to access each area of the centre from appropriate access points through the City Walls. We also suggest investigating the possibility of using ANPR cameras to enforce controls on car access to the whole city centre, which would allow the most severely disabled drivers to maintain access. We discuss this further in our report on Improving Walking. We expand below on our proposals for parking.

We have developed a spreadsheet showing all of the public parking inside and within 400m of the City Walls. There are around 1,200 public parking spaces within the Walls, of which half are privately operated. Charges for two hours' parking range from £2.50 to £8.30; the Council charges £5.20. We recommend that this charge should be set, based on market research, at a level sufficient to encourage a family to travel in by park and ride or local buses. The Council currently charges four times this amount for eight hours' parking; we recommend that this ratio be retained. This will require the Council to negotiate with private operators of Peel St and Shambles car parks. Surplus parking space, particularly on open ground, should be closed.

There are a further 2,200 spaces which require access directly from what is currently referred to as the Inner Ring Road. A quarter of these are Council owned, and charge between £2.60 and £5.20 for two hours. Half are operated privately, with charges ranging from £2.00 to £7.50 for two hours. A further quarter are in retail facilities on Foss Islands Rd, and are limited to two hours' parking, but free. We recommend that the charge for two hours' parking should again be set at level which encourages a family to travel using park and ride. This would require the Council to increase its charges at Foss Bank and possibly Nunnery Lane. It would also involve encouraging the owners of the retail parking on Foss Islands Rd to introduce charging similar to that at Sainsbury's and, with Sainsbury's, to impose a charge similar to that in Council car parks. Charges for eight hours' parking, where available, should be at least four times those for two hours. Once again, surplus provision should be closed.

There are a further 2,000 spaces within 400m of the City Walls, two thirds of which are managed by the Council. We do not see an immediate need to change the way in which these are operated.

At the same time as introducing these measures, it will be important to retain and increase off-street spaces for disabled users and to upgrade the shopmobility scheme by providing a new facility to the north of the city centre.

8.3 Inner York

We envisage that in the immediate future the measures proposed above will be sufficient to achieve the necessary reductions in congestion and pollution in the vicinity of the city centre. However, the requirement to reduce carbon emissions and, in due course, to tackle any further growth in congestion may well require action over a larger area of inner York. The only available and effective tool for this is road pricing, and we recommend that this be investigated in the study proposed above.

8.4 Residential streets in Inner and Outer York

In our report on Managing the Road Network we propose extensive use of Low Traffic Neighbourhoods, Home Zones and School Zones to ensure that through traffic uses the primary and secondary distributors. In addition we advocate the extension of residents' parking schemes to all areas in which extraneous commuter parking occurs, subject to gaining the approval of residents in the affected area. We also encourage the Council to roll out residential charging facilities for electric vehicles wherever charging is not possible off-street.

8.5 Outer York centres

Clifton Moor, Monks Cross and Naburn Designer Outlet are major trip generating, primarily car-based developments, and contribute to congestion in the surrounding areas. There are a number of other edge of city business park sites which are also overwhelmingly car-based, but without particular congestion problems. The University of York also generates substantial traffic and, while parking on the campus is controlled, this does lead to commuter parking in adjacent residential areas. We propose that any action should focus initially on Clifton Moor, Monks Cross and Naburn. Workplace parking charges might influence employee parking, but would not address the retail-generated traffic, and might displace parking into nearby residential areas. A better solution might be local road pricing, with the intent of financing a range of improvements to bus and active travel alternatives for people who currently drive. Any such measures need to be coupled with the offer of residents' parking zones on the periphery.

9 The implications by user type

As noted at the outset, we recommend that as much of the needed change in car use as possible is achieved through a hearts and minds campaign and through improvement of alternatives. That being the case, the users who are most likely to change are, as discussed above under targets, those who are in socio-demographic terms more willing to do so, and those for whom the need for a car on the affected journey is least.

Where further change is needed, it will need to be achieved through pricing and regulation as outlined above. Any such measures must be designed in such a way that the impacts are as fair as possible and the needs of those least able to change are respected. Continued provision for those who are disabled will be particularly important.

10 The barriers to be overcome

10.1 Political and public acceptability

Change which is achieved through a hearts and minds approach should by definition be acceptable to those who change, and welcomed more widely. However, measures designed to restrict car use are unpopular, and politicians are typically reluctant to implement them. It is thus essential that the need for them is made clear, by stressing the objectives which they are designed to achieve, and demonstrating that there are no more cost-effective alternatives. In designing them, the equity impacts need to be identified and addressed,

preferably by providing alternatives and where necessary, as with disabled drivers, introducing exemptions.

10.2 Governance

All of the measures considered in this report are within the purview of the Council, and there should thus be no governance-related barriers. This may however change if the structure of local government is amended. It will thus be important to agree on the policies to be adopted before such changes occur.

10.3 Finance

Most of the measures considered in this report are inexpensive to implement. However, they are typically dependent on Council revenue funding, which has been substantially reduced by government over the last decade. Given the cost-effectiveness of these measures, the Council needs to specify and support a revenue budget sufficient to enable the programme to be funded. One important consideration is that fiscal measures such as road pricing and parking charges are a source of revenue to support the whole of the transport strategy. They should be designed and adopted with this in mind.

10.4 Enforcement

Enforcement is critical for the regulatory and fiscal measures discussed above. Where possible, automated enforcement should be used to achieve an appropriate level of compliance. The government is legislating to make most moving vehicle offences civil offences which can be enforced by Council staff. The Council needs to take steps to benefit from this change and to ensure that an appropriate level of enforcement staffing (which should be self-financing from fines revenue) is provided.

11 The implications for other modal strategies

11.1 Reducing travel

The strategies for reducing travel and for managing car use are largely complementary. If levels of travel are reduced, there is less need to reduce car use, and to some extent the converse is true. Some of the measures considered, such as parking provision in new developments, are common to both.

11.2 Public transport, walking and cycling

All of these offer alternatives to car use, and they need to be designed to provide attractive alternatives to the car, while also directly serving their own users. Our targets for reduction in the car mode share and for increases in the mode shares of each of these modes have been specified to be compatible. At the same time, reductions in car use will support these other modes, by relieving buses from congestion and by allowing more road space to be allocated to buses, pedestrians and cyclists. These four strategies therefore need to be designed to achieve such synergies.

11.3 Managing the road network

There is a significant overlap between the measures considered in this report and those in our report on Managing the Road Network. Measures to reduce car use will reduce congestion and thus simplify the task of managing the road network. At the same time measures such as Low Traffic Neighbourhoods will have at least a limited impact on the overall level of car use. Given the dominant emphasis on carbon reduction and air quality, for which reductions in car use are essential, we recommend that the strategy for managing the road network is developed in the context of what can realistically be achieved by reducing car use.

11.4 Improving freight

To some extent reducing car use will reduce congestion, and thus improve the efficiency of freight and logistics. However, the way in which the road network is managed will have a greater impact on freight. Conversely, there is likely to be little impact of the freight strategy on levels of car use. These two strategies can, therefore, largely be developed independently.