

Changing highway policy and the implications for the Metropolitan areas

Report to *pteg*

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ATKINS

Plan Design Enable

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Key points

FOUR KEY 'TAKEAWAYS'

- From air quality to parking policy, and from competing demands for limited road space to road maintenance – the issues around highways are many, complex and inter-related. Yet responsibility for highways in the city regions is fragmented and separate from responsibilities for public transport – all within the context of declining funding and the danger of skills being lost.
- National Government is committed to a major expansion of national highway capacity predicated on a 40% increase in traffic by 2040. The implications of this level of traffic growth for the city regions would clearly be significant and potentially unmanageable – raising questions as to whether or not, and to what extent, the city regions can buck the traffic growth trends, as London has done, through transport strategies based on traffic restraint and alternative modes.
- In the face of large forecast traffic increases there is a strong case for effectively enforced parking policies, better coordination of transport and land use planning and more priority for buses yet Government policy (or to be more specific CLG policy) is pulling in the opposite direction.
- Air quality is likely to continue to slowly but surely go up the political agenda, given breeches in EU standards for noxious emissions across the Metropolitan areas. Transport has a key role to play with the need for national frameworks on issues like vehicle standards to dovetail with city region strategies which meet specific local conditions.

Chapter 1 – Introduction

- Traffic is forecast to grow by over 40% between 2003 and 2040 across the UK road network. A significant component of this growth is forecast to be from light goods vehicles.
- Metropolitan areas can influence the degree to which these forecasts materialise by adopting policies which either encourage or discourage car use. Others argue that that traffic levels have peaked or that they will reach a natural equilibrium below these levels.

Chapter 2 – Air quality and carbon emissions

- Over 90% of declared Air Quality Management Areas are as a consequence of transport emissions. All Metropolitan areas are currently in breach of EU limits for nitrogen dioxide.
- The Climate Change Act (2008) commits the UK to reducing CO2 emissions by 80% by 2050. As transport is a significant source of CO2 emissions, there will be increasing emphasis on the role of the transport sector in achieving this target.
- Metropolitan areas can improve air quality and reduce carbon emissions by promoting use of fuel efficient cars, sustainable transport, and measures to make freight movements more efficient. Cooperation across authority boundaries and across organisations can help.

Chapter 3 – Technological change

- Rapid technological advances in mobile communications has resulted in a significant increase in the amount of data available to inform travel information, and access to that information.
- The HA is continuing its Smart Motorways programme which help improve traffic flows and reduce congestion on the Strategic Road Network by using variable speed limits and by providing extra peak time capacity using hard shoulder running.
- Metropolitan authorities face challenges in processing the increasing volumes of data available, providing an output that is useful to the end user and being ready for technological change which could radically impact future transport provision.
- Metropolitan authorities also face a challenge in understanding and being ready for technological change which could radically impact future transport provision.

Chapter 4 – The Strategic Road Network

- By 2015, the Highways Agency will become a private company, wholly owned by Government. It will have greater commercial freedoms and flexibilities and is expected to become more efficient.
- The Highway Agency's budget will triple by 2020/21, with significantly more expenditure on enhancements and renewals. Metropolitan motorways are major beneficiaries. Some funding may be spent on local roads where it will assist the Strategic Road Network.
- The preparation of a national roads strategy and performance specification offers an opportunity to influence government thinking and objectives for the SRN. However, the greatly increased strategic roads programme could adversely affect supply chain costs and availability.

Chapter 5 – Road maintenance

- The road network is the public sector's most valuable asset worth at least £300 billion and is essential for the effective and efficient working of the economy.
- It is estimated that a £1.00 reduction in maintenance incurs a £1.67 wider cost to society.
- Understanding and articulation of the overall value and condition of the highway network in Metropolitan areas is weak but highways in Metropolitan areas have disproportionately high maintenance costs because of higher traffic volumes.
- Where roads are poorly maintained this impacts on wider policies to promote cycling and walking, and punctual and reliable bus services. It also impacts on road safety.
- All authorities face a backlog of maintenance with an annual average funding shortfall of £6.2 million per authority. There are high levels of public dissatisfaction with the condition of highways.
- There is considerable scope for the rationalisation of the number of techniques materials and specification for maintenance which would help deliver efficiencies.

Chapter 6 – Road safety

- Local highway authorities have a statutory duty to improve road safety. However, the dramatic improvement in road safety over time means there is diminishing returns from investment.
- The Strategic Framework for Road Safety abolished national road safety targets. This, and falling budgets may reduce the prominence of road safety in transport.
- A shared approach to road safety, coordinating with the emergency services can deliver additional funding, innovation, and economies of scale.

Chapter 7 – Planning issues

- There is a tension between the recognition of the importance of integrating transport and land use planning with the Government's wider identification of planning as an obstacle to growth.

- At a city region level there are also tensions between the desire to attract new businesses, developments and facilities, and setting terms around transport access, and also in the way in which planning and transport functions are currently organised within the city regions.
- The National Planning Policy Framework contains a presumption in favour of sustainable development and a Duty to Cooperate in the planning process amongst plan-making bodies and statutory consultees.
- Adoption of a Local Plan is a complex and time consuming process, but without a Local Plan in place, ad hoc uncoordinated development is more likely to occur.

Chapter 8 – Freight issues

- The freight and logistics industry is a large contributor to both GDP and jobs.
- Freight deliveries and collections have congestion, air quality, and noise and safety impacts in urban areas. There is therefore a need to balance economic health of cities against these impacts.
- There are a range of policy tools available to Metropolitan authorities to intervene in freight issues but those with direct impacts can be seen by the freight industry as adding costs and thus generates opposition. However at the same time the freight and logistics industry is responsive and highly competitive and does respond quickly to changes in its commercial or operating environment.
- The lack of a national freight strategy inhibits progress on these issues and collaboration between authorities.

Chapter 9 – Management of road space

- Responsibility for managing the local highway network rests with the Metropolitan borough councils but the PTEs have a responsibility for strategic transport planning and in coordinating public transport. This division of responsibilities can affect the overall cohesiveness of transport policy development and implementation in the city regions in the Metropolitan areas.
- Some Metropolitan areas are examining options for the Combined Authority taking responsibility for the most important local roads to realise efficiencies and to ensure a more coordinated approach.
- Measures where there is a need for close collaboration between local highway authorities and PTEs include delivery of 20mph zones, cycling improvements and bus punctuality improvements.
- New charging systems designed to restrain traffic can be highly politically contentious. However Nottingham's Workplace Parking Levy shows that with the right kind of the right scheme in the right location, and carefully promoted, then such schemes can be successfully implemented.

Chapter 10 – Parking policy

- The way in which parking is managed and enforced varies greatly between authorities and Metropolitan areas. Greater coordination within Metropolitan areas would be beneficial in terms of planning and offer opportunities for shared services.
- Local authorities use parking policy levers to support numerous policy objectives including supporting local economies, reducing congestion and tackling carbon emissions. However parking policy has a high media and political profile which tends to neglect these objectives in favour of focusing on motorists' perceptions of unfairness of charges or enforcement. This in turn is reflected in the overall approach of Government to parking which is to make parking policies harder to implement and enforce.
- Parking standards for new developments balance objectives to support economic growth and reducing car-based travel. In Metropolitan areas this balance can lead to tensions between local planning authorities and PTEs.
- Some authorities control little or none of their off-street public parking supply and are therefore unable to use parking policy to support other local authority and PTE objectives.

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Chapter 1 – Introduction

KEY POINTS

- Traffic is forecast to grow by over 40% between 2003 and 2040 across the UK road network. A significant component of this growth is forecast to be from light goods vehicles.
- However, the Metropolitan areas can influence the degree to which these forecasts materialise by adopting policies which either encourage or discourage car use.
- The finite capacity of the road network tends to lead to traffic levels reaching equilibrium and some commentators argue that traffic levels have peaked.
- Investment in alternatives sustainable transport modes can help mitigate against increased demand for travel as economic growth takes place.

This report

- 1.1 Transport policy and governance in England are currently in a period of significant change. The Government's localism agenda is shifting funding and decision-making to the local level, for example through Combined Authorities, City Deals and via Local Enterprise Partnerships. At the same time, local authority grants continue to fall, particularly revenue grants, placing ever more pressure on the ability to deliver high quality front line services.
- 1.2 At a national level, the Government is examining the ways in which much of the national transport networks are funded and planned, including the transition of the Highways Agency from an executive agency of the Department for Transport (DfT) to a New Roads Company.
- 1.3 This briefing report focuses on the highway networks and describes the most important recent and forthcoming policy changes and the implications of these changes for the Metropolitan areas of England. As the report is intended to be easily accessible, but cover a wide range of topics, it can only summarise the most pertinent issues. Sources of further information are therefore identified throughout the document as appropriate.

Governance of the highway network

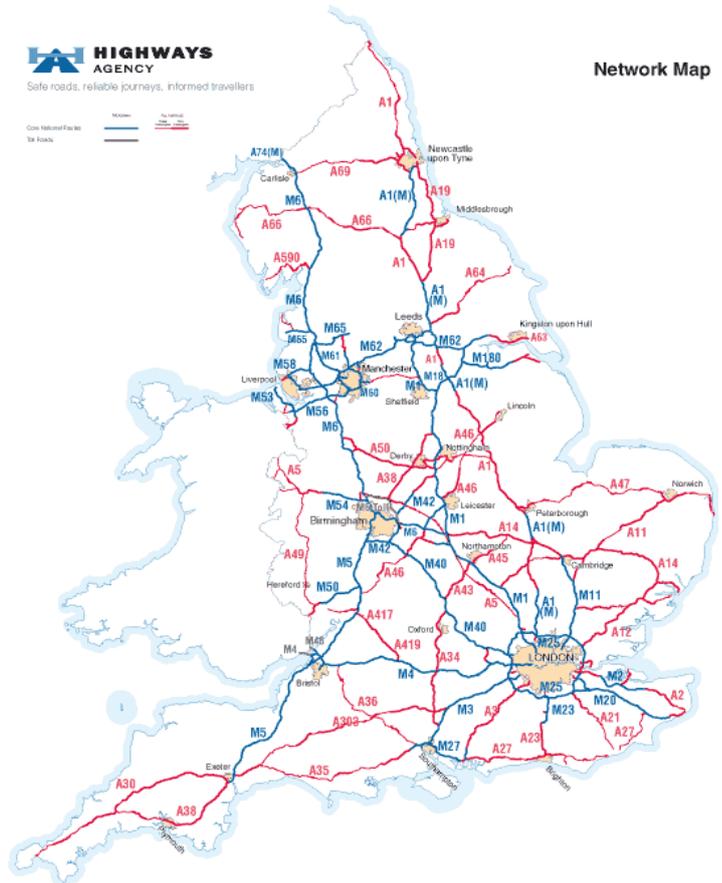
1.4 The highway network in England is operated and maintained by a large number of highway authorities. Local roads are the responsibility of the local highway authority; in Metropolitan areas this is the Metropolitan Borough Council (MBC). Motorways and trunk roads (the Strategic Road Network – as shown in the map) are the responsibility of the Highways Agency. Typically the public is not aware of this distinction.

1.5 The local road network comprises over 180,000 miles of road and is valued at over £400 billion¹. Local roads are of all standards, from rural lanes to dual carriageways. The highway network for which local authorities are responsible includes the carriageway itself but also structures, gullies, street lighting, signage and other roadside equipment as well as verges and trees. Local highway authorities are responsible for management and maintenance of all elements of the local road network within their administrative boundary, including a development control function.

1.6 Local authorities spend a mixture of capital and revenue on the local highway network. Capital funds are used for structural maintenance, renewals and improvements to the network (such as traffic control systems, junction improvements and safety measures) whilst revenue funding is used for routine maintenance and operation of the network (such as Urban Traffic Management & Control centres).

1.7 Local authorities receive capital grants from Government for expenditure on local transport through the Integrated Transport Block, and specifically for highway maintenance through the Maintenance Block. A formulaic approach, which includes factors such as population size and road length, is used to determine the amounts allocated through these grants, typically over a two year period. Revenue funding for the road network is provided through the Revenue Support Grant. In practice, both capital and revenue funding is not ring-fenced meaning that the size of council capital and revenue budgets for the local road network is determined by annual council budgeting processes.

Strategic Road Network

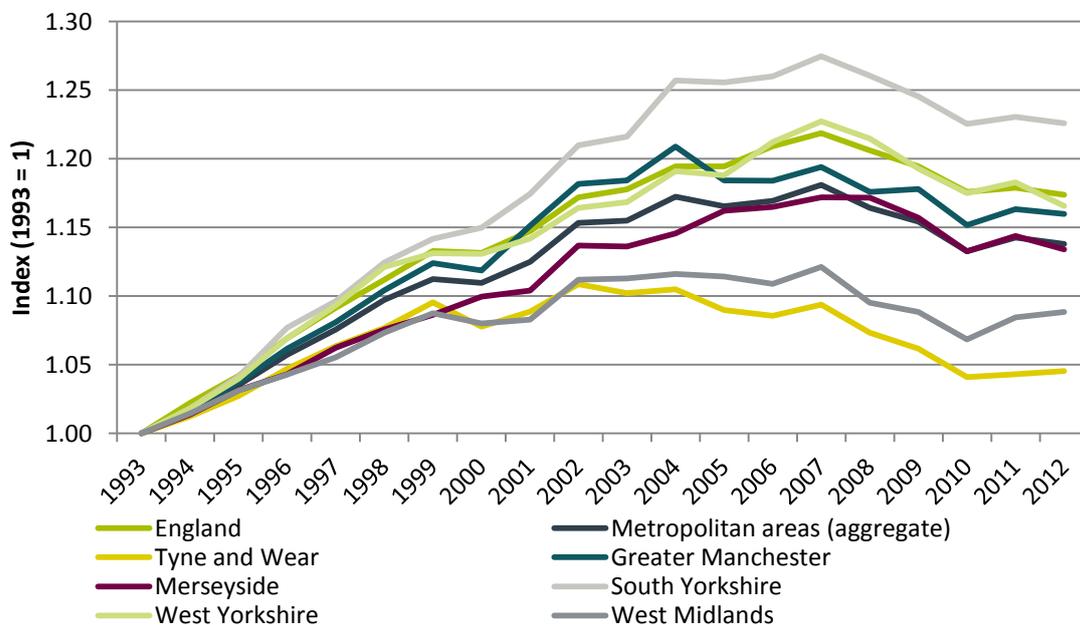


- 1.8 In England the Strategic Road Network (SRN) is operated, maintained and improved by the Highways Agency (HA), an executive agency of the Department for Transport (DfT). The HA contracts-out highway maintenance to the private sector through a number of area-based Asset Management Contracts; and also relies heavily on its supply chain for scheme design and development services.
- 1.9 The HA is also a statutory consultee on major developments affecting the SRN and responds to approximately 3,000 planning applications per annum. The SRN comprises only 4,338 route miles (3% of the total) but carries a third of all traffic in England². Only one third of the SRN is motorway standard.
- 1.10 Traditionally funding for the network has been awarded on an annual basis with the result that the HA has found it difficult to plan strategically for major renewals and upgrade programmes and projects; planning has therefore tended to be scheme-led rather than being aligned to a single strategic plan. However, in 2013 the Government announced a fixed profile for the Highways Agency’s capital budget which will give the Highways Agency certainty of funding to 2020/21 and see the budget increase from £1.5 billion in 2015/16 to £3.8 billion in 2020/21.

Recent trends in traffic levels

- 1.11 Historic traffic data show that, between 1993 and 2012, traffic volumes in Metropolitan areas (on all roads) grew by 14% compared to 17% in England as a whole. Figure 1-1 shows that traffic grew most in South Yorkshire (23%) and least in Tyne & Wear (5%). Between 1993 and 2012 traffic volumes on the SRN grew by 47.2%, whereas on local roads the growth was 12.4%.

Figure 1-1 Traffic growth in Metropolitan areas and England, 1993-2012

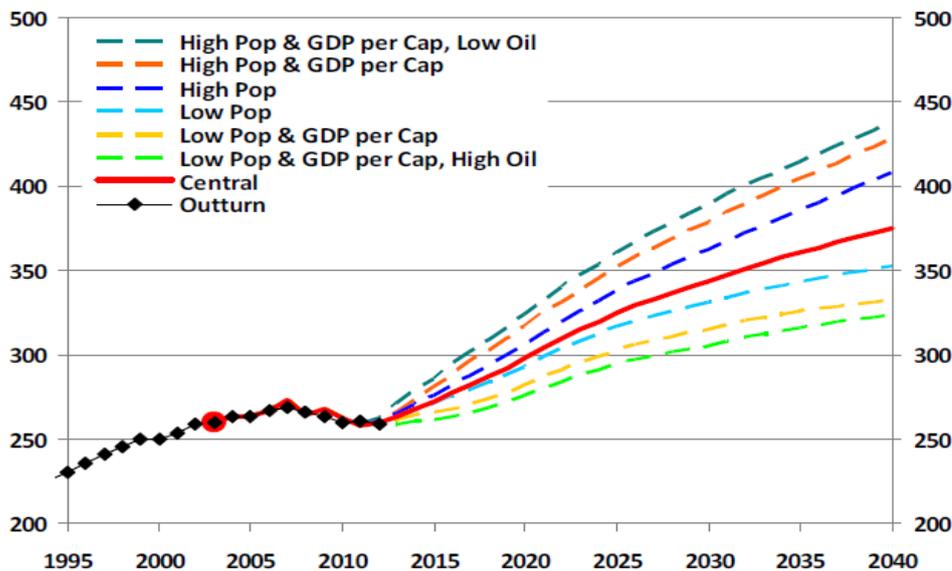


Source: Road Traffic: Statistics Tables Index. Table TRA8901
www.gov.uk/government/organisations/department-for-transport/series/road-traffic-statistics

Forecast traffic growth

- 1.12 The DfT uses the National Transport Model (NTM) to forecast traffic growth in future years with current forecasts running to 2040. These forecasts are used by the Government for policy formation, and strategic analysis of options, predominantly for England and Wales. The model is subject to improvements and updates to keep it up to date and to improve its functionality.
- 1.13 The forecasts are calculated based on an understanding of how people make travel choices, assume no changes in government policy beyond that already announced and predictions about:
- changing population levels and make-up (e.g. age profile, car ownership);
 - changing levels of GDP and personal income; and
 - motoring costs (relating to oil prices, taxation and fuel efficiency of vehicles).
- 1.14 Figure 1-2 shows the NTM forecasts for total traffic on the all roads in England up to 2040, along with the actual outturn traffic levels to 2012. NTM has fairly accurately forecast traffic between 2003-2010, with flat growth attributable to the economic slowdown and sustained high oil prices. Looking forward, the NTM forecasts that traffic growth will be sluggish up to 2015 in line with projected low GDP growth and high fuel costs.
- 1.15 As England then moves out of the recession and rapid fuel efficiency improvements significantly decreasing the fuel cost of driving, traffic is expected to rise by 19% from 2015 to 2025. As the rate of improvements in vehicle fuel efficiencies declines after 2025 there is slower growth in traffic. The central forecast from 2010-2040 projects traffic to grow by 41% for Non-SRN roads, 46% for SRN and an average of 43% for all roads. The highest increase in traffic is seen in light goods vehicles, whose growth is more than twice that of private cars.

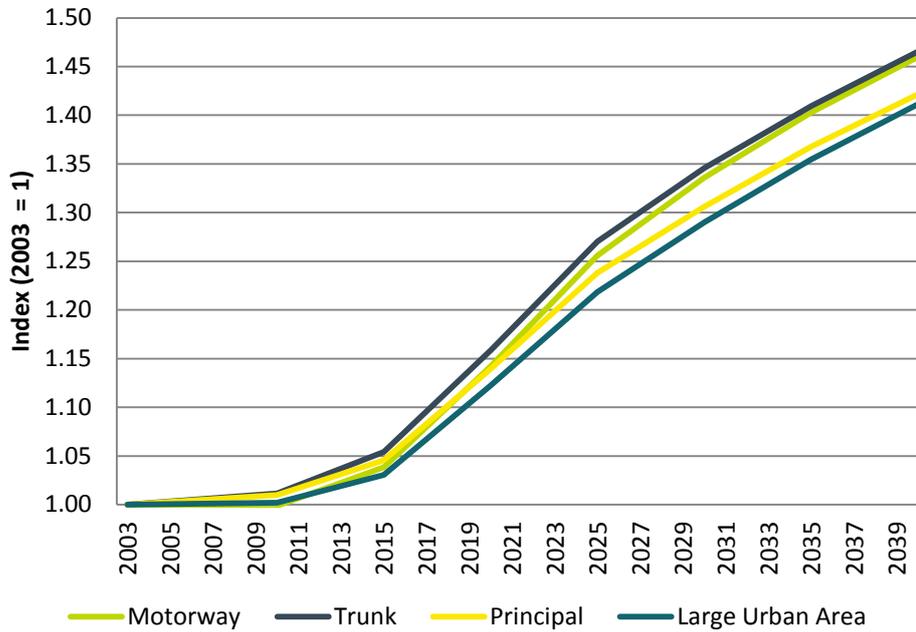
Figure 1-2 Traffic on all roads in England (billion vehicle kilometres)



Source: Road Transport Forecasts 2013 (DfT)

- 1.16 Figure 1-3 shows the NTM forecasts for different road types and also for “large urban areas” outside of London, which includes the Metropolitan areas. It can be seen that traffic levels were relatively flat between 2003 and 2010, with growth in excess of 40% expected by 2040.

Figure 1-3 Actual (to 2012) and forecast traffic growth by road type and in large urban areas



Source: Road Traffic: Statistics Tables Index. Table TRA8901
www.gov.uk/government/organisations/department-for-transport/series/road-traffic-statistics

Implications for Metropolitan areas

- 1.17 If they materialise, the forecast traffic levels presented above will have very significant impacts on Metropolitan areas, perhaps the most important being:
 - more roads operating at or close to capacity than at present, resulting in additional congestion and delays, increasing journey times and unreliability for motorists and bus passengers, with knock-on effects on the economy³;
 - increased vehicle emissions resulting in worsening air quality and increases in at-source carbon emissions (although these will in part be offset by advances in fuel efficiency and engine technology and take-up of electric vehicles); and
 - the cost of maintaining the network will increase as a consequence of greater wear and tear from a higher number of users / vehicles; for example, the heaviest HGV axle does over 150,000 times more damage to road surfaces than a typical car axle⁴.
- 1.18 However, Metropolitan areas should be cautious about using these forecasts in isolation to inform policy-making as they are simply that: forecasts which may be an under or over estimate, and which are dependent on a range of assumptions and macro-economic variables that are themselves subject to uncertainty. In other words, providing additional road capacity to meet the forecast demand would encourage realisation of a self-fulfilling prophecy.

- 1.19 Whilst the macro-economic variables may be outside the control of local authorities, the assumptions underlying the forecasts on the levels of investment in roads, public transport and smarter travel initiatives may not match reality. Less investment than assumed in roads and more investment in public transport and smarter travel would result in lower traffic forecasts. As a consequence, the traffic forecasts presented above may act as a catalyst for even greater uptake of policies to discourage car use to ensure that actual traffic levels in the future are below those forecast.
- 1.20 As traffic tends to find a natural equilibrium based on capacity of the network, it is also likely that if the assumed highway capacity is not provided, traffic levels will not be able to grow at the rates forecast, especially in the peak periods.
- 1.21 Further, some commentators argue that traffic levels have already peaked in the UK and that they will now begin to decline. This theory is based on evidence showing static traffic growth since 2010, high oil prices, the use of the Internet for retailing and business communications, and a decline in the importance placed by younger age groups on car ownership. If the 'peak car' theory is correct, it has major implications for how Metropolitan areas plan for the longer-term supply of highway, public transport and broadband capacity.

¹ *Action for Roads: A network for the 21st Century (2013)*

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/212590/action-for-roads.pdf

² *Graham Dalton presentation, 11th July 2013,*

³ *It has been estimated that a 5% reduction in travel time could result in £2.5 billion (0.2% of GDP) cost savings for business.*

⁴ *Heavy Lorries – do they pay for the damage they cause? Metropolitan Transport Research Unit (2008)*

Chapter 2 – Air quality and carbon emissions

KEY POINTS

- Transport is a significant source of air pollution and CO₂ emissions.
- Over 90% of declared Air Quality Management Areas are as a consequence of transport emissions.
- All Metropolitan areas are currently in breach of EU limits for nitrogen dioxide.
- The Climate Change Act (2008) commits the UK to reducing CO₂ emissions by 80% by 2050.
- Improvements in fuel efficiency and EU targets are helping to reduce emissions, but no targets apply to HGVs which are significant contributors.
- Metropolitan areas can improve air quality and reduce carbon emissions by promoting use of fuel efficient cars, behavioural change in favour of sustainable transport, and measures to make freight movements more efficient.
- Cooperation across authority boundaries and across organisations can help to mitigate against the effects of extreme weather events.

Air quality

EU and UK air quality policy

- 2.1 Action to manage and improve air quality is largely driven by the 2008 Ambient Air Quality Directive, which sets legally binding limits for concentrations of major air pollutants that impact public health (such as particulate matter and nitrogen dioxide)⁵. The 2008 Directive replaced nearly all the previous EU air quality legislation and was made law in England through the Air Quality Standards Regulations 2010. The European Commission is currently conducting a review of European air quality policy⁶; current limits are likely to remain until the 2020s with short-term reforms likely to focus on achieving compliance with current standards⁷.
- 2.2 In the UK, the Environment Act 1995 introduced the Local Air Quality Management (LAQM) regime which requires local authorities to assess air quality in their area and declare an Air Quality Management Area (AQMA) where national air quality objectives are exceeded⁸. Almost 500 AQMAs are currently declared in England, mostly in urban areas and with over 90% of AQMAs due to transport emissions⁹.
- 2.3 Under the Environment Act, local authorities are not legally obliged to achieve the national air quality objectives. They are, however, required to work towards the objectives by drawing up action plans.

Current issues and impacts on urban areas

- 2.4 When the LAQM regime was first introduced in the UK, it soon became apparent that transport was a significant source of air pollution in urban areas. As more stringent vehicle emission standards (Euro standards) were introduced (and continue to be introduced) for new vehicles¹⁰, it could be assumed that air quality issues linked to transport emissions would reduce over time. This has not been the case however, with the number of local authorities declaring AQMAs for NO_x (Nitrogen Oxides) increasing over the last 10 years.
- 2.5 This situation mainly results from the failure of Euro standards to deliver the anticipated emission reductions (especially for diesel vehicles) compounded by a significant increase in the proportion of diesel vehicles on UK roads and overall growth in traffic volumes. More recent diesel cars (Euro 5) emit significantly more NO₂ than an older (Euro 2) equivalent. This is partly due to the fact that the technology used by vehicle manufacturers to abate PM (Particulate Matter) emissions has a side effect of increasing NO₂ emissions. Another cause is that the test cycle used to determine if a model meets the Euro standard does not replicate real-world urban driving conditions. It is also important to note that as tail-pipe emissions decrease, emissions from tyre and brake wear become more significant (estimated to represent 35% of road transport emissions in central London) but they are not regulated so far.
- 2.6 The standard test for new vehicles (New European Driving Cycle) is being reviewed at the European level to ensure that results presented by manufacturers better reflect real life consumption. Standards are also being strengthened to secure reductions in other air pollutants. If this is achieved, Euro 6¹⁰ and future Euro standards (and the switch to alternative fuel vehicles) should support a reduction in air pollutants from the transport sector and benefit urban air quality.
- 2.7 Current NO_x levels remain above EU limits (NO₂ annual limit value) in all Metropolitan areas in England (as well as many other areas)¹¹. PM levels are also of concern in many urban areas. This results in the potential threat of infringement proceedings being launched by the European Commission against the UK¹². This situation is however not unique to the UK as the majority of Member States are in breach of the 2008 Ambient Air Quality Directive.
- 2.8 Taking account of this breach of EU limits and of criticism of the LAQM regime, seen, as described by DEFRA, as *“very administrative and diagnosis driven”*, DEFRA put forward proposals to change the regime in 2013¹³, with the aim of increasing the focus on achieving the EU standards. DEFRA’s preferred option is to:
- repeal local authorities’ existing LAQM duties to assess, report on and tackle poor air quality in designated AQMAs (also scrapping all AQMAs in England)¹⁴; and
 - transfer the assessment of performance against air quality standards to the national level with local authorities focusing efforts on measures contributing to the achievement of EU standards *“where there is scope for action at the local level”*.
- 2.9 The proposals are however facing strong criticism with most respondents to the consultation recommending the strengthening of the LAQM regime and stronger national guidance on measures to be implemented at the local level.
- 2.10 Against this background, the Highways Agency took the decision not to proceed with a proposed hard shoulder running scheme on the M60 in November 2013, due to concerns with additional air pollution resulting from additional traffic. The Agency is instead proposing to proceed with variable speed limits but without additional lane capacity in the area.

- 2.11 Campaigners see this decision as setting a precedent for the Agency and other highway authorities and have threatened legal action where developments are proposed in or near existing AQMAs and would result in further emissions. For example, Campaign for Better Transport has threatened legal action against the proposed A14 Cambridge to Huntingdon Improvement Scheme in Cambridgeshire¹⁵, proposed improvements to the A556 Knutsford bypass and the new River Thames Silvertown Tunnel in London.

Implications for Metropolitan areas

- 2.12 All Metropolitan areas are currently in breach of EU limits set for NO_x emissions (NO₂ annual limit value) and PM levels are also of concern in many urban areas. This brings the risk of EU level infringement proceedings against the UK as well as the risk of legal challenges against proposed schemes and developments likely to result in additional emissions in or near an Air Quality Management Area (AQMA).
- 2.13 Regardless of the changes to the Local Authority Air Quality (LAQM) regime proposed by DEFRA, EU limits are set to stay (and become more stringent over time) and local areas are likely to retain a key role in identifying and addressing air quality problems in urban areas, which are mainly due to transport emissions.
- 2.14 Many of the initiatives identified above for the reduction of greenhouse gases from the transport sector should also result in air quality improvements although this will need to be closely monitored as some CO₂ reduction measures can have a negative impact on air quality.

Carbon emissions

Climate change targets affecting the UK

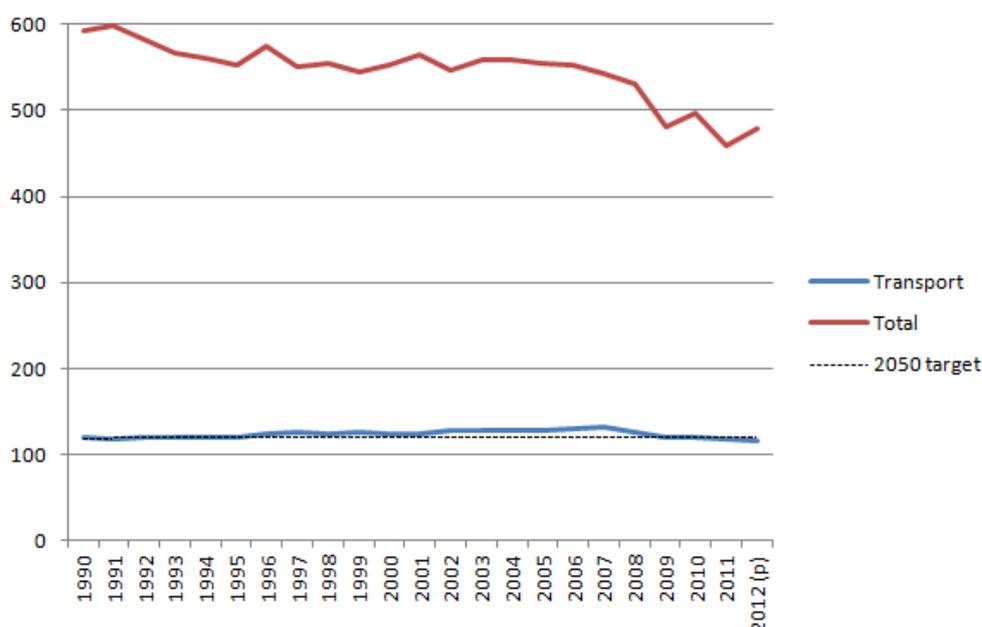
- 2.15 The UK is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC), with the goal of achieving the “stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”¹⁶.
- 2.16 As an EU Member State, the UK is also committed to reducing greenhouse gases, including support for the EU’s “20-20-20” targets, which anticipate that, by 2020:
- carbon emissions (across all sectors) will be reduced by at least 20% on 1990 levels¹⁷;
 - 20% of energy consumed will come from renewable sources; and
 - primary energy use will be reduced by 20% by improving energy efficiency.
- 2.17 Within the UK, the 2008 Climate Change Act introduced a legally binding target of at least an 80% cut in greenhouse gases emissions by 2050 (from 1990 levels), to be achieved through action in the UK and abroad. A carbon budgeting system has been set up, capping emissions over five year periods. An independent Committee on Climate Change (CCC) advises the Government on the level of the carbon budgets and on where cost effective savings can be made. The CCC submits annual reports to Parliament on the UK’s progress towards targets and budgets and the Government must respond to these annual reports.
- 2.18 The Climate Change Act does not include sector specific targets for emission reductions but the CCC advises the Government on the level of savings to be achieved in each sector. The CCC has set up an “indicator framework” to secure a 20% reduction in transport emissions in 2020 (relative to a business as usual scenario) based on two key planks of intervention¹⁸:

- increased fuel/carbon efficiency of vehicles (more fuel efficient engines, increased share of electric cars and vans, reduced CO₂ intensity of HGVs, and greater use of sustainable bio-fuels); and
- behavioural change (reduction in car use due to shift to more sustainable modes, uptake of eco-driving for cars, vans and HGVs, and enforcement of current motorway speed limits).

Transport CO₂ emissions in the UK

- 2.19 Transport contributes a quarter of UK domestic CO₂ emissions, with road transport the main contributor (cars, vans, HGVs and buses represent 20% of UK emissions). Figure 1-4 shows that, although overall domestic CO₂ emissions have reduced by a fifth between 1990 and 2012¹⁹, transport sector emissions have only fallen by 4% as significant improvements in engine energy efficiency could only go so far in offsetting the growth in traffic described in Chapter 1.
- 2.20 If transport sector emissions remain more or less constant in the future, all other sectors would have to cease emitting CO₂ for the UK to meet its 2050 Climate Change Act target of an 80% reduction in CO₂ emissions from 1990 levels.

Figure 1-4 UK domestic CO₂ emissions (million tonnes of CO₂)

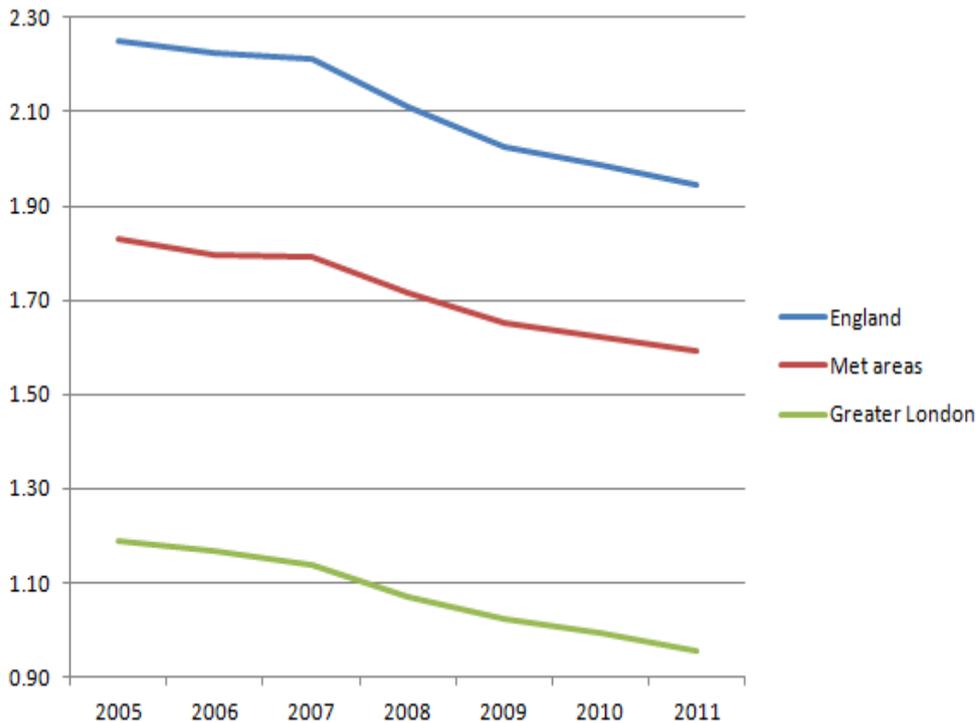


Figures shown for 2012 are provisional - Source: DECC

- 2.21 Surface transport emissions (from road and rail vehicles) account for 94% of domestic transport CO₂ emissions, with the remaining 6% attributed to domestic aviation and shipping²⁰. Surface transport emissions are dominated by cars (58%), followed by HGVs (21%), vans (14%) and buses (4%). Rail emissions account for just 2%.
- 2.22 Domestic transport emissions per head in the Metropolitan areas are approximately 20% lower than the average for the UK as a whole (as shown in Figure 1-5) although these levels are still some way behind London where transport emissions are just 50% of the English average²¹. Lower levels of emission per head in urban areas are linked to travel behaviours such as lower distances travelled and a higher share of mileage travelled by public transport in urban areas.

2.23 Domestic transport emissions per head have reduced by approximately 13% in England and in the Metropolitan areas between 2005 and 2011. Above average rates of reduction have occurred in Greater London (20%), linked to the travel behaviours described above.

Figure 1-5 Domestic transport emissions (tonnes of CO₂ per head)



Source: DECC

- 2.24 Work undertaken on behalf of pteg in 2010²² estimated that transport sector emissions (excluding aviation and shipping) in the Metropolitan areas would be likely to decrease under a Business as Usual scenario, from 18.7 MtCO₂ in 2007, to 18.3 MtCO₂ in 2016, and 16.2 MtCO₂ in 2022 (tailpipe emissions only). This is mainly due to improvements in car efficiency over the period, resulting in reduced emissions from cars (although dampened by the rebound effect linked to the lower cost of driving).
- 2.25 Emissions from vans were identified as likely to increase by approximately 20% over the period 2007-2022 (with improvements in van efficiency only partially offsetting the growth in van mileage). Although less significant in absolute terms, emissions from diesel trains were also set to increase significantly (approx. 30%) due to the provision of additional services.
- 2.26 Car and van CO₂ emissions are set to reduce further in the coming years with EU regulations requiring new car emissions not to exceed 130 gCO₂/km by 2015 and 95g/km by 2020²³ (fleet average). The 2020 target for cars represents a reduction of 40% compared with the 2007 fleet average of 158.7g/km²⁴.
- 2.27 EU regulation for vans is more recent and requires a fleet average for new vans of 175 gCO₂/km by 2017, with the target phased in from 2014, and 147 g/km by 2020. These cuts represent reductions of 14% and 28% respectively compared with the 2007 average of 203 g CO₂/km.

- 2.28 There are no such targets for HGVs at the European level at present although a number of studies and trials have been commissioned at EU and national levels to improve CO₂ emission measurements for HGVs and reduce emissions.
- 2.29 It is important to note that although EU regulations on new car/van emissions have encouraged manufacturers to deliver significant improvements in fuel efficiency, the regulations have not delivered the full extent of savings anticipated so far. This is due to issues with the current test procedures (New European Drive Cycle, under review) which manufacturers are exploiting to obtain results which are lower than real world fuel use and emissions²⁵.

Implications for Metropolitan areas

- 2.30 The issues and policy background described above result in the need for local authorities, ITAs and PTEs/Combined Authorities to support reductions in greenhouse gases emissions from the transport sector, whilst also supporting a return to economic growth. As recommended by the Committee on Climate Change, initiatives delivered at the local level are likely to include:
- reductions in the fuel intensity of vehicle fleets – mainly through EU and national level initiatives but with local support through fleet procurement for the public sector and the provision of alternative fuel refuelling/charging facilities (potentially supported by pricing signals and targeting the most polluting fleets where possible);
 - implementation of behaviour change measures, including Smarter Choices initiatives²⁶ (and support for alternative modes of transport), eco-driving awareness and training; and
 - factoring transport emissions into planning decisions.
- 2.31 Analysis undertaken in 2010 on behalf of *pteg* identified the following measures as the most cost efficient measures for Metropolitan areas in England²²:
- support for the take up low carbon vehicles;
 - stricter enforcement of speed limits;
 - driver training programme (eco-driving);
 - provision of improved cycling infrastructure;
 - public sector procurement of low carbon vehicles for own fleet (supporting early take up and infrastructure development);
 - roll-out of Smarter Choices initiatives and campaigns in targeted areas;
 - improvements in bus fleet efficiency; and
 - the introduction of workplace parking levy or equivalent demand management schemes.

Low emission vehicles and fuels

Low emission vehicles

- 2.32 Both the UK Government and the Committee on Climate Change (CCC) have identified the deployment of low and ultra-low emission vehicles (LEV and ULEV²⁷) as key to achieving the 2050 emission reduction target. The CCC has recommended that all new cars and vans purchased in the UK should be ULEV by the middle of the 2030s (sales of electric cars were around 2,250 vehicles in 2012, more than double the volume in 2011 but still only 0.1% of total new car sales).
- 2.33 The Government has accepted this advice, and is supporting electric vehicle market development through the following schemes:

- the Plug-in Car Grant, which provides consumers and businesses with up to £5,000 towards the purchase of an eligible electric car or up to £8,000 for an eligible electric van (funding only committed for the remainder of the current parliament);
- Plugged-In Places offering match-funding to private and public sector consortia for the installation of electric vehicle charging points in eight regional schemes including Greater Manchester, the Midlands and the North East and additional funding (£37 million announced in February 2013) available nationally for the installation of charging points; and
- research and development support including the H2Mobility28 project as well as a number of Technology Strategy Board (TSB) led projects²⁹ through the Low Carbon Vehicles Innovation Platform³⁰.

2.34 The EU launched its clean fuel strategy³¹ in January 2013. The strategy requires:

- a minimum number of electric vehicles recharging points (using a common plug) for each Member State to be publicly available by 2020 (target of 122,000 charging points for the UK, around 9,000 were installed in 2012);
- liquefied natural gas (LNG) refuelling stations to be installed every 400 km along the roads of the Trans European Core Network by 2020; and
- publicly accessible compressed natural gas (CNG) stations to be available Europe-wide with maximum distances of 150 km between them by 2020.

Low emission fuels

2.35 The CCC has recommended an increase in the use of bio-fuels in the transport sector to 8% (by volume) by 2020 (in 2012 bio-fuels accounted for 3.1% of fuel supplied by volume)³². Sustainability and greenhouse gasses emission reduction criteria are already being implemented for bio-fuels used in the transport sector and are likely to be tightened over time.

2.36 At the European level, the Commission proposes to place a 6% cap on the European transport sector's consumption of crop-based bio-fuels and to account for Indirect Land Use Changes (ILUC) impacts as part of Fuel Quality Directive compliance from 2020. The decision also includes a target for advanced bio-fuels to represent 2.5% of energy consumption in transport by 2020.

2.37 Advanced bio-fuels, also known as second (or third) generation bio-fuels, are fuels that can be manufactured from non-food biomass sources, including agricultural residues, municipal waste streams and algae that do not typically compete with food production. These sources address some of the concerns linked to the use of first generation bio-fuels and have therefore generated significant levels of interest from governments and private investors around the world.

2.38 The majority of investment in advanced bio-fuels to date has taken place outside the UK (mainly in the USA, other EU countries and South America). The UK Government announced £25 million of capital funding to enable the construction of demonstration-scale waste to fuel and other advanced bio-fuel plants in August 2013. Further developments in this sector are likely to offer potential environmental and economic opportunities to the Metropolitan areas.

Implications for Metropolitan areas

2.39 The impacts of the deployment of low emission vehicles and fuels in the Metropolitan areas are mainly linked to the need to provide charging and refuelling points to support the switch. National level schemes are currently providing financial incentives to develop a charging network and EU level targets will continue to drive these developments.

- 2.40 Metropolitan areas might be required to support national policies at the local level to achieve these targets, through the use of local funds, the procurement of local fleets (and associated incentives such as taxi licensing or low emission zones) and the planning process (to require charging points to be provided in new developments and to allow for refuelling infrastructure to be provided in strategic locations). At present, the planning process can be a significant obstacle to the development of LNG/CNG refuelling stations and this might need to be addressed to meet EU targets.
- 2.41 Metropolitan areas might also benefit from economic opportunities linked to development of the advanced bio-fuel and alternative fuels sector.

Climate change adaptation

- 2.42 Despite efforts to reduce greenhouse gas emissions, current and historic emissions mean that a certain amount of warming is inevitable, with a range of impacts predicted over the period to 2100³³:
- all areas of the UK are predicted to get warmer, and the warming is greater in summer than in winter;
 - there is little change in the amount of precipitation (rain, hail, snow, etc) that falls annually, but it is likely that more of it will fall in the winter, with drier summers, for much of the UK;
 - heavy rain days (rainfall greater than 25 mm) are likely to increase over most of the lowland UK by a factor of between 2 and 3.5 in winter, and 1 to 2 in summer by the 2080s; and
 - sea levels rises are predicted to be greater in the south of the UK than in the north.
- 2.43 At the national level, the Government commissioned the Climate Change Risk Assessment (CCRA)³⁴ to assess the risks posed by a changing climate to key sectors and published the National Adaptation Programme³⁵ to develop the UK's resilience to climate change. The National Adaptation Programme's vision describes local government as playing "a central role in leading and supporting local places to become more resilient to a range of future risks and to be prepared for the opportunities from a changing climate".
- 2.44 The CCRA notes that, for the transport sector, "most of the potential risks posed by climate change (e.g. heavier rainfall and higher temperatures) essentially represent a shift in the magnitude, duration and/or frequency of weather conditions that the sector already has to deal with".
- 2.45 CCRA analysis for the transport sector shows that the length of road at significant likelihood of flooding is likely to increase from 12,000 km currently in England and Wales to between 13,000 km and 18,000 km by the 2050s, and between 14,000 km and 19,000 km by the 2080s. Additionally, higher river flows may lead to more damage to road and rail bridges, with an increase risk of bridge failure, especially for older masonry arch bridges.
- 2.46 The CCRA also notes that warmer summers may cause more road surfaces to deform and that this may be more relevant to local roads (due to lower surface specifications compared to motorways and trunk roads). Warmer summers may also lead to additional rail disruptions through rail buckling, with the number of rail buckles estimated to increase from around 50 per year currently in Great Britain to 130 to 240 by the 2080s.
- 2.47 In cities, the urban heat island effect³⁶ is likely to become stronger with warmer, drier summers and the risk of surface flooding might increase with the forecast increase in heavy rain days.

- 2.48 The Highways Agency and Network Rail (as well as the numerous transport organisations which have submitted climate change adaptation plans under the terms of the Climate Change Act 2008³⁷) have already undertaken significant work on climate change adaptation.
- 2.49 Guidance is available for local authorities on adaptation related issues such as road surface maintenance³⁸ as well as wider issues³⁹. Many local authorities (including most local authorities in the Metropolitan areas) have undertaken assessments to understand their localities' vulnerabilities to current climate. For example, over 100 local authorities have used a Local Climate Impacts Profile (LCLIP)⁴⁰ to collect information on severe past weather events and how these have affected local communities, local authority assets, infrastructure and capacity to deliver services (over half of these LCLIPs were undertaken at district level). Some local authorities have gone beyond LCLIPs to carry out comprehensive climate change risk assessments (CCRA) and/or have signed up to the Climate Local initiative to reduce emissions and adapt to climate change⁴¹.
- 2.50 In addition, the Core Cities (councils from Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham and Sheffield) have signed up to the National Adaptation Programme Cities Commitment, acknowledging that *"while city councils face significant budgetary constraints they play a key role in addressing risks from a changing climate"*⁴².

Implications for Metropolitan areas

- 2.51 Urban areas and their transport networks will be affected by the changing climate and local councils, ITAs, PTEs/Combines Authorities will need to work together to prevent and minimise these risks and enhance their area's resilience and ability to recover from extreme weather events.
- 2.52 The National Adaptation Programme identifies a key role for local government and this has been recognised by the Core Cities through their support of the National Adaptation Programme Cities Commitment. For roads and transport networks in the Metropolitan areas, adaptation action plans are likely to consider changes to specifications (for example for pavements) and to maintenance regimes, processes to effectively manage instances of reduced network availability and/or functionality. For example, the Highways Agency has already made some changes to technical standards to increase resilience to climate changes including HD33 drainage standard and the Enrobé à Module Elevé 2 (EME2) revised pavement specification⁴³.
- 2.53 Climate change adaptation work has however often been undertaken by individual local authorities in the past and the National Adaptation Programme notes the need for cooperation across sectors and local boundaries to further develop.

⁵ Additional legislation includes the UNECE Gothenburg Protocol (focusing on SO₂, NO_x, NH₃ and VOCs), the 2001 National Emission Ceilings Directive and the UK 2002 National Emission Ceilings Regulations

⁶ For more information on the current review, see http://ec.europa.eu/environment/air/review_air_policy.htm

⁷ Source: http://europa.eu/rapid/press-release_SPEECH-13-822_en.htm

⁸ For a summary of national air quality objectives and EU limits and target values, see http://uk-air.defra.gov.uk/documents/National_air_quality_objectives.pdf

⁹ Source: DEFRA

¹⁰ Euro 6 enters into force in January 2014 and will aim to reduce NO_x emissions from diesel cars from 180mg/km to 80mg/km

¹¹ According to the latest compliance assessment published by DEFRA. The report also shows that 41 of the UK's 43 zones breached the long term objective for levels of ozone (http://uk-air.defra.gov.uk/library/annualreport/viewonline?year=2012_issue_1&jump=4-3)

¹² A Supreme Court case over UK air quality failures brought by the NGO Client Earth was referred to the Court of Justice of the EU in 2013. The case is expected to begin in mid-2015 and the Commission is likely to want to hear the outcome of this case before launching legal action against the UK.

¹³ See https://consult.defra.gov.uk/communications/https-consult-defra-gov-uk-laqm_review

¹⁴ AQMAs are used to highlight areas of high air pollution for planning and development purposes. The National Planning Policy Framework says: "Planning decisions should ensure that any new development in AQMAs is consistent with the local air quality action plan"

¹⁵ See http://www.bettertransport.org.uk/files/A14_HA_Consultation_response_Oct13.pdf

¹⁶ For more information: http://unfccc.int/essential_background/items/6031.php

¹⁷ For non-traded sectors (sectors outside the EU Emission Trading Scheme), including transport, the "Effort Sharing Decision" establishes annual binding emission reduction targets for Member States for the period 2013 to 2020, with the UK having to reduce non-traded sector emissions (which include transport) by 16% by 2020, on 2005 levels. Member states are then left to decide how best to achieve these targets across the non-traded sectors.

See also the Commission's 2011 White paper on transport "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system" (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:EN:PDF>)

¹⁸ Source: Meeting Carbon Budgets – 2013 Progress Report to Parliament, Committee on Climate Change

¹⁹ UK carbon budgets are defined on the basis of territorial emissions (i.e. those that are produced within the UK's borders). On this basis, UK greenhouse gas emissions have fallen substantially over the last two decades. However, UK imports of goods and services have risen significantly over the same period and a number of studies have suggested that the emissions embedded in these imports have caused the UK's overall carbon footprint (i.e. emissions measured on a consumption basis) to increase. For more information: Reducing the UK's carbon footprint, Committee on Climate Change 2013 (www.theccc.org.uk/publication/carbon-footprint-and-competitiveness/)

²⁰ Domestic transport emissions were 117 MtCO₂ in 2011. Emissions from international aviation and shipping were 42.5 MtCO₂ but are not currently formally included in carbon budgets under the Climate Change Act

²¹ CO₂ emissions from vehicles on motorways represent 23.6% of domestic transport emissions in England in 2011 and 26.2% of transport emissions in the Metropolitan areas. It is however important to note that the proportion of motorway emissions varies widely between Metropolitan areas (between 2.9% in Tyne & wear and 34% in Greater Manchester, 7.1% in Greater London)

²² See Carbon Pathways for transport in the city regions, Atkins on behalf of pteg, 2010 (www.pteg.net/resources/types/reports/carbon-pathways-transport-city-regions)

²³ 2021 for the full implementation

²⁴ In terms of fuel consumption, the 2015 target is approximately equivalent to 5.6l/100 km of petrol (50.4 mpg) or 4.9l/100 km (57.6mpg) of diesel. The 2020 target equates to approximately 4.1l/100 km (68.9mpg) of petrol or 3.6 l/100 km (78.5mpg) of diesel. Source: <http://ec.europa.eu/clima/policies/transport/vehicles/cars/>

²⁵ See Mind the Gap! Why official car fuel economy figures don't match up to reality, Transport and Environment, 2013 (www.transportenvironment.org/sites/te/files/publications/Real%20World%20Fuel%20Consumption%20v15_final.pdf)

²⁶ Defined as travel plans (e.g. workplace, school, residential, and station travel plans), personalised travel planning, public transport information and marketing, travel awareness campaigns, car clubs, car sharing schemes, tele-working, teleconferencing, and home shopping, cycling and walking information, marketing, training and events

²⁷ Including battery electric, plug-in hybrid electric or hydrogen fuel cell vehicles. An ultra-low emission vehicle is defined as one which conforms with European 'M1'-type approval standards and has the potential to operate with 'well-to-wheel' CO₂ emissions of less than 75 gCO₂/km (average CO₂ emissions for new cars sold in the UK in 2012 were 133.1 gCO₂/km)

²⁸ <http://www.ukh2mobility.co.uk/>

²⁹ See <https://www.innovateuk.org/transport>

³⁰ See <https://www.innovateuk.org/transport#platform>

³¹ See http://europa.eu/rapid/press-release_IP-13-40_en.htm

³² This target is broadly in line with current EU targets. The European Renewable Energy Directive (RED) requires fossil fuel suppliers to provide at least 5% of road transport fuels from sustainable renewable sources in 2013, possibly rising to 10% of transport energy from renewable sources by 2020 (by energy) and the Fuel Quality Directive (FQD) includes an overall target of a 10% reduction in GHG intensity of fuels by 2020

³³ Based on UKCP09 (see <http://ukclimateprojections.defra.gov.uk>)

³⁴ See

<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=15747#RelatedDocuments>

See also *Climate Resilient Infrastructure: Preparing for a Changing Climate*

(https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69269/climate-resilient-infrastructure-full.pdf)

³⁵ See <https://www.gov.uk/government/policies/adapting-to-climate-change/supporting-pages/national-adaptation-programme>

³⁶ See for example www.metoffice.gov.uk/media/pdf/8/m/MO_PUP_insert_HEALTH.web.pdf

³⁷ This is known as the Adaptation Reporting Power

³⁸ See www.dft.gov.uk/hmep/news/archive.php

³⁹ See for example UKCIP (www.ukcip.org.uk) or the Environment Agency's Climate Ready Support Service (www.environment-agency.gov.uk/research/137557.aspx)

⁴⁰ See www.ukcip.org.uk/lclip

⁴¹ See www.local.gov.uk/the-lga-and-climate-change/-/journal_content/56/10180/3574359/ARTICLE

⁴² See www.corecities.com/news-events/core-cities-group-welcomes-launch-national-adaptation-programme

⁴³ Source: Highways Agency Climate Change Risk Assessment, 2011 (www.highways.gov.uk/about-us/sustainability/climate-change-2/climate-change-adaptation/)

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Chapter 3 – Technological change

KEY POINTS

- Rapid technological advances in mobile communications has resulted in a significant increase in the amount of data available to inform travel information, and access to that information.
- The HA is continuing its Smart Motorways programme which help improve traffic flows and reduce congestion on the Strategic Road Network by using variable speed limits and by providing extra peak time capacity using hard shoulder running.
- Metropolitan authorities face a challenge in processing the increasing volumes of data available and providing an output that is useful to the end user.
- Metropolitan authorities also face a challenge in understanding and being ready for technological change which could radically impact future transport provision.

Introduction

- 3.1 Historically, technological advances, from traffic lights to electronic tolling, have significantly impacted on how highways are managed and used. This trend is set to continue, and even accelerate, as new telecommunications and Information Technology (IT) systems and services are launched, utilising more and more data about our travel behaviour.
- 3.2 For some policies, technology may be key to realising the required outcomes, such as reducing congestion, whilst for others it may be a supporting element. The technology *per se* is often less important than how it is implemented and operated. The institutional and user acceptance issues can be challenging, especially for applications such as road pricing.
- 3.3 This chapter discusses some of the main aspects of highway management and operation where changing technology is likely to impact on the role of transport providers and road users.

Current applications

Travel information

- 3.4 Travel information has benefited considerably from the technological advances, particularly the use of GPS technology to locate vehicles and users; mobile communications; and smart phones. The rapid progress in the capability of these systems has stimulated a demand for, and increased expectation of, better travel information.



YorkLIVE app (Source: mxapps website)

- 3.5 Public authorities have traditionally invested in roadside infrastructure to monitor the traffic conditions and then made the information available to the public via Variable Message Signs (VMS) or through other channels. This enabled traffic management strategies to be readily implemented.
- 3.6 The proliferation of GPS-based in-vehicle and mobile systems has led to a big increase in the amount of data available about how we travel. For local authorities this creates both an opportunity and a challenge. For example, sourcing traffic information from third parties may be more cost-effective for highway authorities than investing in its own monitoring systems, but the data may not be exactly suited to their operational requirements. A second issue arises from the fact that travellers are able to access a broader range of information about their journey choices. As a result, they may make different decisions to those made in the previous month, week or day, making effective traffic management strategies more difficult to implement.
- 3.7 Websites now represent a common means of disseminating real time travel information cost-effectively and apps are increasingly being used. For example, the City of York recently developed a new multimodal travel information website⁴⁴ through its iTravelYork (iTY) project. The iTY programme also supported the development of three travel information apps specifically to support a wider behaviour change campaign.
- 3.8 A move towards open data has been embraced by some authorities (such as Transport for London and Transport for Greater Manchester) as a mechanism to encourage more innovative traffic information services. Social media is also a new tool for authorities to gather and disseminate travel information. There is a real opportunity to use this data intelligently and for it to inform decision making. A key challenge is managing the data sources and ensuring the quality and consistency of the information they provide.

Smart motorways

- 3.9 Formerly known as Managed Motorways, Smart Motorways are sections of motorway that are equipped with technology to actively monitor and control the flow and speed of traffic⁴⁵. By varying the speed limits, and in many cases allowing the use of the hard shoulder during congested periods, journey times become more reliable and traffic flow improves thereby reducing congestion impacts. Overhead signs provide drivers with information on speeds and lane usage and enforcement systems support compliance.

- 3.10 Schemes of this type have been operational in the UK for some time, such as on the M42 and M6 in the West Midlands. Further schemes are currently being implemented including several that provide for all lanes to be available for use at all times through the removal of the dedicated hard shoulder lane. There are clear safety and operational benefits although the infrastructure investment is high and it requires significant operational management. The applicability of smart motorways to Metropolitan areas is less evident although some elements could provide benefits on selected roads.

Urban traffic control systems and management

- 3.11 Urban traffic control (UTC) systems are widely used to manage traffic at junctions in order to maximise available capacity or support other objectives such as prioritising buses. The coordination of traffic signals both at individual junctions and at different junctions can significantly reduce delays and through monitoring of traffic the signal timings can be adjusted to suit the actual conditions rather than historic flows⁴⁶.
- 3.12 For example Newcastle has used its UTC systems in combination with a bid for Better Bus Area Fund to implement a series of measures with the aim of improving bus journey times on specific corridors, improve the percentage of buses running to timetable, increase bus user satisfaction levels, and increase bus patronage.
- 3.13 A key development in recent years has been the adoption of Urban Traffic Management and Control (UTMC). The original UTMC Programme was launched by the Department for Transport in 1997 with the aim of developing a more open technical framework to the use of Intelligent Transport Systems in urban areas. Since 2003, the future development of the UTMC approach has been overseen by a 'community' of local authorities, central government, consultants and system suppliers⁴⁷.
- 3.14 UTMC has promoted the use of a much more open framework between different parties which will:
- allow different traffic management tools and systems to exchange information using a common language;
 - enable the information to be brought together in a common database; and
 - create a more open and competitive market (there are now over 100 implementations of UTMC systems across the country).
- 3.15 Central to the UTMC concept is linking UTC systems with other information, such as parking and public transport to provide authorities and road users with a more holistic view across the transport networks in their own area, but also those in adjoining authorities. The challenge is how to use this integrated information to make improved operational decisions.
- 3.16 To realise the full benefits of UTMC, the different component systems need to be actively managed and maintained. However, whilst capital can often be found to invest in the installation of UTC systems, many authorities struggle to cover the operating and renewal costs. Maintenance practices can also vary significantly between authorities; in 2011 the Roads Liaison Group commissioned the development of a Code of Practice to provide consistent guidance on the maintenance of UTC systems⁴⁸.
- 3.17 New cloud-based systems are now being offered which offer the potential for authorities to move away from hosting their own systems. This development raises a question of whether authorities will still need their own control centres in the future, or whether it will be more cost-effective to share or to procure a managed service.

Implications for Metropolitan areas

- 3.18 The implications of technological change with regard to the systems which are currently being deployed are numerous. They include the following:
- the potential to support new policy approaches through to improving the quality of, and reducing the cost of, existing services (such as travel information);
 - investments in technology need to be balanced with behavioural change measures and new operational procedures to fully realise the benefits of an integrated transport strategy;
 - combining personal data (e.g. from smart phones or social media) with highway authority and public transport systems to improve the quality of travel information;
 - operational efficiencies are possible from the sharing of data and integration of systems across sectors and jurisdictional boundaries as long as open standards and governance can be achieved;
 - as data volumes increase, so there is greater need for data processing and decision support tools to get the real value from that data;
 - capital funding models may no longer be the best approach for Metropolitan authorities to access the benefits of technology as cloud-based systems become more commonplace;
 - highway maintenance cost implications of technology installed in road surfaces; and
 - ensuring sufficient availability of skills and resources both to support legacy systems and the adoption of new systems and approaches to maximise the benefits of UTC systems.

Looking ahead: vehicle control systems

- 3.19 Vehicle control systems have evolved rapidly with driver support functions, such as intelligent cruise control and lane departure warning, now widely available. Significant research and development is being undertaken in application areas that transfer some of the driving control functions to systems through communications between vehicles and vehicles to infrastructure. The advent of Intelligent Vehicles has recently come to the fore through projects such as Google's driverless car. This has increased the profile of the technology potential and shown that it is technically feasible.
- 3.20 A number of car manufacturers are reported to be developing autonomous (driverless) vehicles that could be commercially available within a 2-3 year timeframe. Several US states have passed legislation that permits the use of such vehicles, with certain safeguards. The DfT is looking at the feasibility of HGV platooning based on electronically coupling of vehicles, but there are no immediate plans to pass legislation that would enable such technology to be deployed.
- 3.21 The National Infrastructure Plan published by government in 2013, recognised driverless cars present opportunities for the British automotive industry in the manufacture of the cars and the wider science and engineering sectors in the design of towns. To ensure that UK industry and the wider public benefit from the development of driverless cars, the Government announced it would review the legislative and regulatory framework so development could take place in the UK, and also create a £10 million prize for a town or city to develop as a testing ground for driverless cars.
- 3.22 Vehicle control systems could result in significant benefits, most notably:
- safety benefits due to collision avoidance and speed control;

- increased road capacity due to the control systems enabling closer headways between vehicles and narrower lanes.

Implications for Metropolitan areas

- 3.23 Notwithstanding the legal and user acceptance issues surrounding these types of development, highway authorities need to be aware of the potential implications of such a radical technological change and embrace the potentially significant changes that technology will bring.
- 3.24 Authorities will also need to consider how these systems could support achievement of the wider policy objectives and seek to influence the development roadmap through active engagement with the Government and system developers.
- 3.25 The institutional challenges are significant and therefore the implementation time horizon could be more like ten years away. What is more probable is that these types of system are introduced into non-public highway environments.

⁴⁴ *City of York Travel Information Website* - www.itravelyork.info

⁴⁵ *Highways Agency Website, Smart Motorways* <http://www.highways.gov.uk/our-road-network/managing-our-roads/improving-our-network/smart-motorways/>

⁴⁶ *Parliamentary Transport Select Committee, "Out of the Jam: Reducing Congestion on Our Roads", Written Evidence, September 2011* <http://www.publications.parliament.uk/pa/cm201012/cmselect/cmtran/872/872we01.htm>

⁴⁷ *Urban Traffic Management and Control Website* - <http://www.utmc.uk.com/>

⁴⁸ *Roads Liaison Group, "Management of Electronic Traffic Equipment – A Code of Practice", September 2011*

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Chapter 4 – The Strategic Road Network

KEY POINTS

- By 2015, the Highways Agency will become a private company, wholly owned by government. It will have greater commercial freedoms and flexibilities and is expected to become more efficient.
- The Highway Agency's budget will triple by 2020/21, with significantly more expenditure on enhancements and renewals. Metropolitan motorways are major beneficiaries.
- Some funding may be spent on local roads where it will assist the Strategic Road Network.
- The preparation of a national roads strategy and performance specification offers an opportunity to Metropolitan areas to influence government thinking and objectives for the SRN.
- The greatly increased strategic roads programme could have adverse effects for Metropolitan areas in terms of supply chain availability and costs; and additional delays and disruption during construction.

Introduction

The Cook Review

- 4.1 As described in Chapter 1, the Strategic Road Network of motorways and trunk roads is managed, operated and maintained by the Highways Agency. As part of the Department for Transport's Spending Review settlement in 2010, it agreed to commission an independent review to examine whether government has the right approach to operating, maintaining and enhancing the strategic road network.
- 4.2 The review, led by Alan Cook, reported in late 2011, making a number of recommendations including that the Government should:
- publish a long-term strategy and a (largely outcome-based) performance specification for the SRN;
 - focus on a distinctive new strategic role as the champion of road users;
 - commit to a five-year funding package for the SRN;
 - reform the Highways Agency to be a world-leading infrastructure operator;
 - give the Highways Agency more independence from government, including reforming its status;
 - instruct the Highways Agency to work with local authorities and Local Enterprise Partnerships to develop a 'new generation' of route-based strategies.

- 4.3 The Government adopted the vast majority of Cook’s recommendations, including those set out above, setting out its thinking in Action for Roads (see below). This chapter describes the key activities taking place following the Cook Review, and their implications for Metropolitan areas.

Action for Roads White Paper

- 4.4 The White Paper “Action for Roads: A Network for the 21st Century”, published in July 2013, sets out the Government’s vision for the role and operation of the Strategic Road Network. In it, the Government highlights the importance of the road network in ensuring that the UK can do business and prosper, but also notes that there are challenges to be faced in terms of making best use of the network and also in planning ahead to support economic growth.
- 4.5 The White Paper addresses three themes:

Transforming strategic roads

- 4.6 Confirmation of the commitment in Spending Round 2013 (SR13) ⁴⁹ to increase the Highways Agency’s capital budget by 2020/21 to approximately three times 2012/13 levels with expenditure of £15 billion over six years. This includes £4 billion on road maintenance and delivery of “the largest road building programme since the 1970s”. The programme includes commitment to 52 projects nationally, including Smart Motorways (formerly managed motorways) and enhancements to ‘A’ roads. Approximately half of the improvements budget has not yet been allocated. More details can be found later in this chapter.
- 4.7 The level of investment in the road network is intended to be transformational in terms of its benefits, and use of improvements in environmental techniques. At the same time the network will be prepared for the expected increase in use of low emission vehicles, and to “cycle proof” the network. Some commentators have however argued that, despite the unprecedented levels of funding, the programme will not reduce congestion on the SRN overall.

Managing our roads

- 4.8 Implementing the recommendations of the Cook Review to reform the Highways Agency, including long term funding certainty, a Roads Investment Strategy, and transition of the Highways Agency into a strategic highways company.
- 4.9 From 2015, giving the Highways Agency independence from government which will allow it to develop and deliver its long term objectives. It will be converted into a strategic highways company, 100% owned by the state, but will be free from central government processes and red tape. Providing funding certainty over a five year period, as is the case with the rail industry, will help the Agency to better plan its investment in the network which, in turn, will create a stable long term plan for the network.
- 4.10 A Roads Investment Strategy will set out plans for construction and maintenance to 2020/21 and beyond, the first coherent, proactive investment strategy for roads for 25 years. A Performance Specification will set performance criteria against which progress and efficiency can be measured. It is expected that this approach will help deliver savings of up to 20% on maintenance and improvement work through innovative working methods.

Supporting local roads

- 4.11 A recognition that keeping local road networks functioning is vital to promoting economic growth as well as allowing people to get on with everyday activities. Action for Roads also promises greater freedom, flexibility and capacity for local authorities to determine the shape of their network to meet local circumstances.
- 4.12 The Government's SR13 commitment to nearly £6 billion over six years for local road maintenance is noted in the context of "stopping the local road network entering a long-term cycle of decline"; as is its proposals to devolve funding and decision-making for local major transport schemes to Local Enterprise Partnerships.

'Expressways'

- 4.13 The concept of expressways was coined in Action for Roads. Effectively, the Government proposes to create a two-tier 'A' road network, with the "most important" 'A' roads treated as 'expressways' which would provide levels of safety and performance similar to the motorway network. The roads which would be treated in this way are not defined.
- 4.14 According to the Command Paper expressways should be "visibly distinct" from the rest of the road network; and motorists should have a clear expectation of the level of service they offer in terms of:
- being a minimum of dual carriageway standard;
 - offering a high quality of journey (a road that is "well built" and provides better information);
 - being safer (near motorway standard);
 - having sufficient capacity to deal with strategic traffic and uses technology to better manage traffic (a road that is "resilient to delay")
 - being subject to clear performance expectations (to be determined by the Government and intended to hold the HA to account); and
 - being well-maintained.
- 4.15 The investment programme will deal with those sections of the 'expressways' which do not, in part or in whole, already meet this standard already. Bottlenecks and inconsistencies of standard will be prioritised, informed by the Route-Based Strategies.

Implications for Metropolitan areas

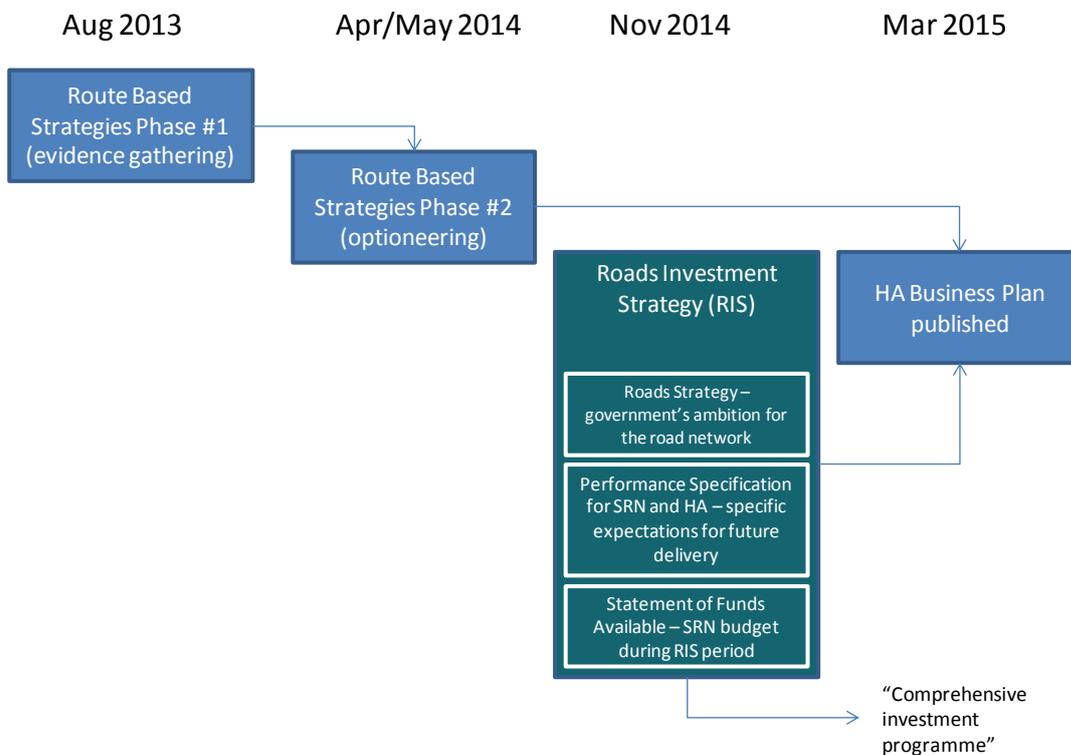
- 4.16 Parts of the Strategic Road Network already meet these standards and could be designated as Expressways relatively easily. However, much of the network does not, and some routes which are largely of Expressway standard have sections which fall below these levels. The Government proposes to prioritise improvements to deal with these inconsistencies, especially where it will remove a bottleneck, for example dualling short single carriageway sections.
- 4.17 Without knowing the Government's aspirations for the routes which it will treat as Expressways, it is not possible to judge the scale of improvements which would be required. Depending on the location of these enhancements, there could be significant local public challenge where this affects urban or semi-urban areas (for example the A628 between Manchester and Sheffield).

- 4.18 For those which go ahead, increases in capacity on roads serving urban centres and the Metropolitan areas more generally will inevitably have knock-on effects on traffic on locally-managed roads.
- 4.19 Informal discussions with the Department for Transport suggest that the Government may already be drawing back from the concept of ‘Expressways’, perhaps due to its recent change in policy in which it is no longer considering the use of tolls to part-fund major road improvements.

New investment planning regime

- 4.20 Some of the most tangible short-term implications of Action for Roads relate to the new regime for planning and prioritising investment in the Strategic Road Network, as summarised in Figure 4-1. To a large extent, these changes could have been implemented without a transition of status of the Agency itself.

Figure 4-1 The new investment planning regime



- 4.21 The key change in this context will be the preparation of a Roads Investment Strategy (RIS). The RIS will comprise a roads strategy (setting out the Government’s ambitions for the road network); a performance specification for the SRN (defining expectations for future delivery on the SRN); and a Statement of Funds Available (SoFA) from the Government during the RIS period. The RIS will be prepared by the Department for Transport and, along with the findings of the HA-led Route-Based Strategies, inform the HA’s Business Plan and investment programme.
- 4.22 The implications of these changes will be significant for the SRN and also major local roads:

- The Government's Roads strategy is expected to define the objectives for the SRN, in other words, what the Government wants the SRN to achieve in terms of outcomes. The Metropolitan areas and others will be keen to contribute to the Government's thinking on what could be a challenging task: the Roads Strategy will need to face real issues about the distribution of investment nationally; how main urban centres and international gateways are served; the knock-on effects on the local road network; and the relationship between the role of the strategic road network, rail (including HS2) and air travel in achieving the Government's ambitions.
- The Performance Specification will allow the DfT, as consumer champion, to define how it wants the SRN to perform. It may decide for example to define acceptable levels of delay, journey times and so on. The existing (and first) Performance Specification for the SRN sets out what the Government wants the SRN to achieve by 2014/15 (the current Spending Review Period) in support of achievement of wider government priorities:
 - a SRN which supports and facilitates economic growth;
 - a SRN which is maintained to a safe and serviceable condition;
 - an efficiency and effectively-operated SRN;
 - a SRN which minimises its negative impacts on users, local communities and the environment; and
 - a SRN which balances the needs of individuals and businesses that use and rely on it.
 - The Performance Specification is also likely also to define some of the schemes it expects to see delivered during the RIS period, in much the same way as the HLOS does for the rail network; but it is unclear as to how much the DfT will intervene here or how explicit it will be about particular schemes, their costs and timescales. It is anticipated that the Performance Specification will be influenced by a consumer body, and the Government has suggested that this role could be fulfilled by Passenger Focus.
- The SoFA will give the Highways Agency certainty of funding to 2020/21, and its commercial freedoms will give it the flexibility to move funding between years. This, in combination with a more regulated environment, should drive efficiencies and enable more strategic investment in a coherent programme of schemes. The Metropolitan areas need to influence thinking on this and provide evidence to ensure that they secure major scheme investments to support local economic growth and other priorities.

Implications for Metropolitan areas

- 4.23 The preparation of a national roads strategy and performance specification gives the Metropolitan areas an opportunity to influence the Government's thinking on the objectives for the SRN, and the outcomes it should achieve. Many parts of the SRN have both a local and national role, and it will be important for the Metropolitan areas to be clear on how the SRN contributes towards their own objectives and how it can assist them in maximising the economic growth and complement the local networks. It may, for example, allow the Metropolitan areas to take advantage of a better SRN to provide better Park & Ride and longer distance bus services. Where there are potential conflicts in terms of priorities for the SRN between the Agency and local stakeholders, the new planning approach should help to identify and resolve them further, through the Route-Based Strategies, the Highways Agency may look to fund improvements on the local road network where these could improve conditions on the SRN.

4.24 As the performance specification will support of achievement of wider government priorities, the way in which the SRN is managed and enhanced should also support local ambitions for economic growth (see Chapter 7) and providing a high quality service whilst protecting the quality of life of those living close to major roads. The five-year funding commitment will certainly provide the Metropolitan areas with a much greater opportunity to engage with the Highways Agency (and its successor) to plan collaboratively for the long-term. In this way, local authorities will be more supportive of, and better prepared for, planned changes to the SRN. However, there is some concern that resources within the Agency may be stretched and therefore their ability to properly engage becomes constrained.

Highways Agency transition

- 4.25 The transition of the Highways Agency from an executive agency of the Department for Transport into a new private company (referred to here as ‘the New Roads Company’), wholly owned by the Government, will have a number of effects. As these effects are about the way in which the New Roads Company will function, they may take a year or more to become apparent:
- It will put the New Roads Company at arms’ length from Government, and therefore reduce short-termist political influence on the Agency’s policies and investment strategy. This should enable the agency to plan more effectively for the longer-term, having identified its priorities through the Route-Based Strategies. The New Roads Company will therefore have more autonomy in terms of what it delivers and when; however it is expected that in the Roads Investment Strategy, the Government will specify a programme of priority projects.
 - A regulatory body will scrutinise the performance of the New Roads Company in terms of cost, efficiency and performance and influence funding decisions. Fully-fledged economic regulation of the New Roads Company is not envisaged. Given the role already played by the Office for Rail Regulation (ORR) in relation to Network Rail, the Government has suggested that it could potentially take on this role.
 - The New Roads Company will have greater flexibility of funding. It is likely to be able to flex approximately 10% of its annual Government (more than HM Treasury normally allows) to reflect planning and programming uncertainty and the potential need to over-programme in certain years. This should allow greater delivery, particularly in terms of renewals. The Government expects the transition to deliver capital efficiencies of £600m per annum by 2020/21. Note that the New Roads Company will not be able to borrow money to any great extent; only small amounts of money to deal with short term cash flow issues. It is not expected to or able to borrow against the value of asset as per Network Rail, although the asset will sit on the New Roads Company’s balance sheet and therefore be owned by it on the Government’s behalf.
 - Some limited commercial freedom, for example the New Roads Company will potentially pay higher salaries to secure the best staff to lead its future direction. It will also potentially allow it to adopt more innovative procurement from its supply chain.

Additional funding for the Strategic Road Network

4.26 In the 2013 Spending Round, the Government announced that the capital budget for the Highways Agency (and its successor) is set to 2020/21 with annual funding by 2020/21 being approximately three times 2012/13 levels. Total capital funding for the HA will be £15 billion over this period, including £6 billion expenditure on road maintenance and delivery (see Table 5-1). The Government has committed to pass legislation in this Parliament to guarantee this level of funding to 2020/21, irrespective of which party is in government.

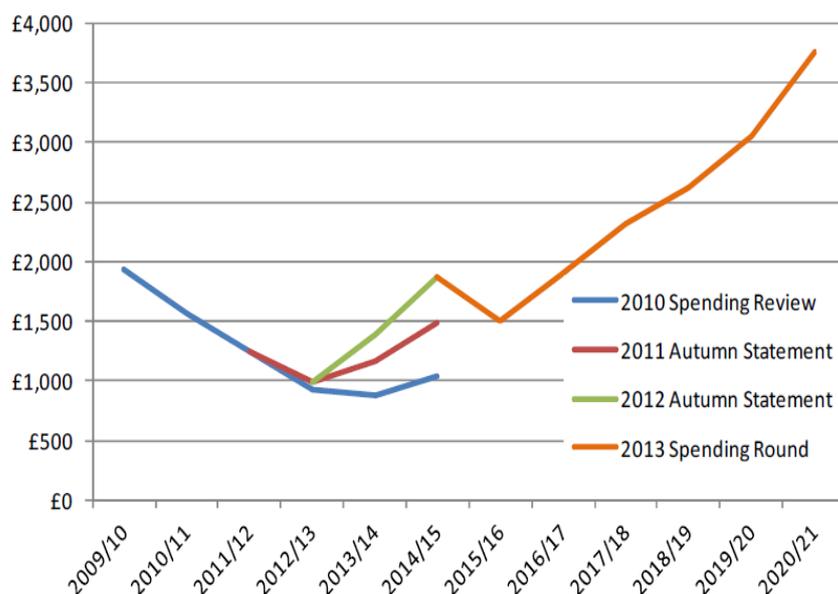
Table 5-1 Highways Agency / New Roads Company capital budget (£m)

2015/16	2016/17	2017/18	2018/19	2020/21	2021/22	Total
£1,497	£1,907	£2,316	£2,614	£3,047	£3,764	£15,145

Source: *Investing in Britain’s Future, Table 1.A.*

4.27 Figure 4-2 shows changes in the HA’s capital budgets since the 2010 Spending Review. Whilst long-term spending clearly rises, there is a dip in funding in 2015/16 which may reflect the state of readiness of HA schemes, or simply the large amounts of additional funding for the HA during 2013/14 through the Growth Review, scheme acceleration and Pinch Point programmes.

Figure 4-2 HA’s Capital Budget since the 2010 election



4.28 The HA’s plans for expenditure to 2020/21 are summarised in Figure 4-3. This demonstrates that much of the funding to 2018/19 is already committed to specific schemes (‘medium term investment’) but that much of the investment budget beyond 2018/19 (‘longer-term investment’) has yet to be identified against specific projects.

4.29 The Highways Agency is now gearing up for transition by reviewing its operating practices, in particular in terms of how it can accelerate the delivery process, secure sufficient resources internally and within its supply chain to deliver the levels of investment now proposed; and look towards managing delivery in terms of programmes rather than individual schemes.

Implications for Metropolitan areas

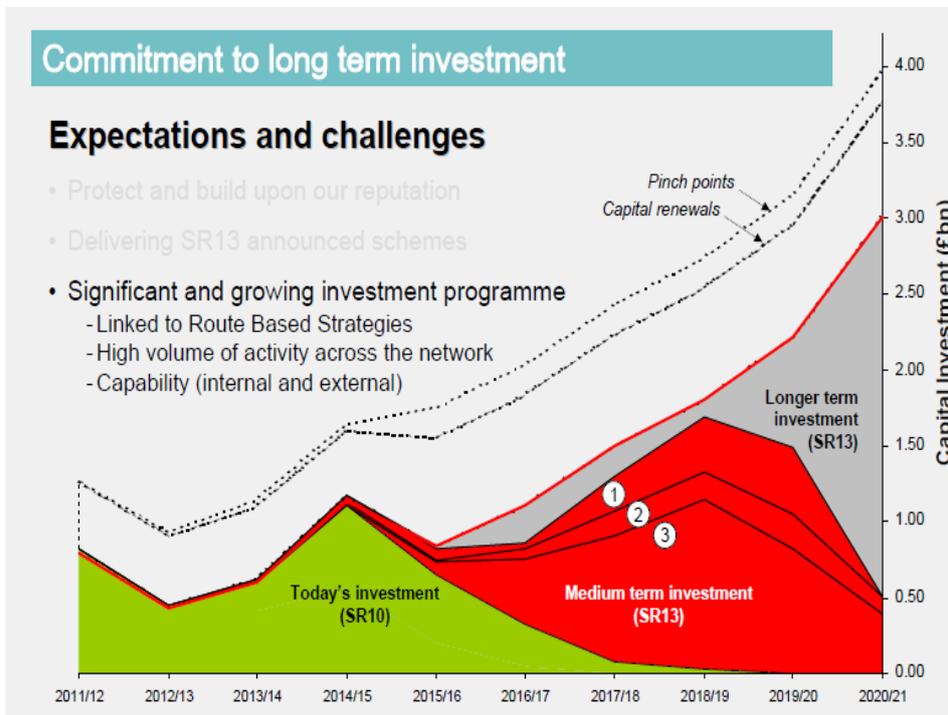
4.30 This large increase in budgets therefore will result in greater investment in the Strategic Road Network in the Metropolitan areas over this period. For example, new schemes which the Government committed to funding in SR13 include:

- M5 Jn4a-J6 (Bromsgrove to Worcester) Managed Motorway Scheme;
- A19 Testos Junction flyover (south of Newcastle); and
- A19/A1058 Coast Road improvements (Newcastle-South Shields).

4.31 In addition, the Government has committed to funding some further schemes, subject to finalisation of the options and consideration of their business case and deliverability (or agreement being reached on developer contributions), including:

- M6 J2-J4 (Coventry-Birmingham) Managed Motorway Scheme;
- M6 J21a-J26 (Wigan) Managed Motorway Scheme;
- M56 J6-J8 (Altrincham) Managed Motorway Scheme;
- M60 J24-J27 & J1-J4 (Manchester) Managed Motorway Scheme;
- M62 J10-J12 (Manchester) Managed Motorway Scheme; and
- M54 to M6 Link Road.

Figure 4-3 Medium and long-term Highways Agency investment



1 = A14 Cambridge to Huntingdon Scheme; 2 = Conventional schemes (widening, bypasses etc); 3 = Managed Motorways

Source: Highways Agency presentation

4.32 It is worth noting that whilst these schemes are being implemented it could mean that local economies are affected by disruption caused by the resultant road works.

- 4.33 It is possible that the much greater levels of delivery proposed could put pressure on consultancy and contractor supply chains such that the ability of local authorities to secure sufficient resources for their own programmes is impaired. Further, there is some concern that, as a consequence, prices of local authority supply chains could rise.

Participation of Metropolitan areas in national policy development

- 4.34 The Government's (DfT and HA) policies on the Strategic Road Network (and national highways policy generally) is only just emerging:
- The July 2013 Command Paper – 'Action for Roads' is described elsewhere in this report. This document sets out the case for investment in roads (centred on their importance to the economy); the progress the Government has made to date (such as investment in Managed Motorways); and its vision for a network which is greener, safer and better-managed (the latter focussing on certainty and flexibility of funding and on proposals to commercialise the Highways Agency).
 - A National Policy Statement (NPS) on the National Networks, including the Strategic Road Network, was published for consultation in December 2013. The NPS will support the Highways Agency in achieving approval for enhancement of the SRN by making the 'need case' for this investment.
- 4.35 At national level, it is unclear as to the level of engagement there has been with the Metropolitan areas on these activities. The Highways Agency has now to develop an investment strategy and business plan which it intends to finalise in late 2014 following consultation on the legislation to guarantee funding to 2020/21 in late 2013.
- 4.36 The Highways Agency is now commencing 18 Route-Based Strategies covering the whole SRN with the objectives of:
- identifying operational, maintenance and improvement priorities;
 - informing the roads investment strategy for 2015/16-2020/21; and
 - deliver required network performance (for example asset value), whilst helping to facilitate local economic growth.
- 4.37 Reports on the first phases of the Route-Based Strategies are due in spring 2014. These will draw together available evidence on performance issues, stakeholder views, local aspirations and priorities for growth (it is understood that those involved in consultation events will see drafts of these reports in January 2014). The second phases will report by March 2015. These reports will identify priorities for investment, thereby informing the development of the Roads Investment Strategy.
- 4.38 There is evidence from the three pilot Route-Based Strategies and the first of the others to begin that stakeholders are being involved in the studies. However it is unclear as to whether the level of dialogue to date is appropriate or acceptable to the Metropolitan areas.
- 4.39 Overall, for definition of a national roads policy is still at a relatively early stage, but certainly the views of key stakeholders in the Metropolitan areas need to feed into this and influence the Government's thinking on the role of the DfT (or external bodies) acting as the customer champion.

4.40 More generally, there remains the issue that the ability of the Metropolitan areas to contribute to national highway policy debates is inhibited by the fact that the Metropolitan Borough Councils may lack the resources to contribute whilst the PTEs may not be seen by the Government as of sufficient relevance.

⁴⁹ UK Government (2013) *Investing in Britain's Future*

Chapter 5 – Road maintenance

KEY POINTS

- The road network is the public sector’s most valuable asset worth at least £300 billion and is essential for the effective and efficient working of the economy.
- It is estimated that a £1.00 reduction in maintenance incurs a £1.67 wider cost to society.
- Understanding and articulation of the overall value and condition of the highway network in Metropolitan areas is weak but highways in Metropolitan areas have disproportionately high maintenance costs because of higher traffic volumes.
- Where roads are poorly maintained this impacts on wider policies to promote cycling and walking, and punctual and reliable bus services. It also impacts on road safety.
- All authorities face a backlog of maintenance with an annual average funding shortfall of £6.2 million per authority. There are high levels of public dissatisfaction with the condition of highways.
- There is considerable scope for the rationalisation of the number of techniques materials and specification for maintenance would help deliver efficiencies.

Why maintenance matters

- 5.1 Since the publication of CIPFA’s Code of Practice in 2010⁵⁰, and an increasing number of severe weather events in recent years, there has been an increasing recognition that the highway network is the most valuable asset owned by the public sector. Current estimates put the value of the local road network at least £300 billion.
- 5.2 More recently, a range of influential publications including: ‘Going the Distance – Achieving Better Value for Money in Road Maintenance’ (2011)⁵¹, the ‘Potholes Review - Prevention And A Better Cure’ (2012)⁵² and the ‘Highway Infrastructure Asset Management Guidance’ (2013)⁵³ have acknowledged that well maintained roads are *fundamental* to the economic, social and environmental prosperity and well being of communities. These publications have cited numerous benefits including:
- facilitating business, trade and tourism at local, regional, national and international levels;
 - linking local and strategic road networks, providing access to rail, ports and airports;
 - shaping the character and quality of life (including accessibility for different groups as well as contributing to safety); and
 - enabling regeneration and providing access to education, employment and healthcare.
- 5.3 Whilst there is now a widespread acceptance of the contribution that well maintained roads make to the wider economy, and therefore the need to invest in them, there is presently no single agreed approach to calculate the direct value they add. A report published by the RAC Foundation (2013)⁵⁴ for England and Wales stated whilst a direct comparison was not possible with the National Roads Maintenance Review carried out in Scotland (2012)⁵⁵, one of the key conclusions was equally applicable to the UK, that a reduction in £1 in road maintenance would cost the wider society £1.67.

- 5.4 In contrast, a poorly maintained road network not only diminishes the benefits described above, but adds indirect costs to communities and the wider society in the form of compensation and insurance claims (for personal injuries and/or damage to vehicles); higher vehicle operating costs (caused by greater wear and tear and increased fuel consumption) and journey time delays due to accidents and emergency repairs (leading to loss of individual/business output and productivity). In addition, delaying maintenance expenditure results in higher costs in the longer term; allowing road sections to fail can result in reconstruction costs which are at least three times greater than timely repairs.
- 5.5 Evidence is emerging which is now beginning to highlight these costs. A freedom of information request by Guide Dogs for the Blind⁵⁶ has shown UK local authorities paid out over £106 million in compensation claims for trips and falls on footways between 2006 and 2010. The figure is closer to £300 million once ongoing claims are also included. More recently, surveys carried out by ALARM in 2012⁵⁷ and 2013⁵⁸ based on responses from English and Welsh local authorities found aggregated claims of £35 million and £32 million respectively. A survey carried by YouGov in 2010 found businesses on average lose over £8,000 due to vehicle damage and higher fuel costs caused by the poor condition of roads whilst a third of businesses surveyed also lost on average £15,000 in lost competitiveness⁵⁹. More recently, an ALARM survey carried out in 2011⁶⁰ stated poor road conditions resulted in a cost of £4.1 billion to small businesses and local economies in England and Wales.
- 5.6 Metropolitan districts face disproportionately higher volumes of traffic and higher costs of poorly-maintained roads compared to rural communities. Urban areas have a more diverse group of road users with a higher dependency on the road network; each has their own specific needs for accessibility, e.g. businesses, cyclists, the elderly, those with disabilities and so on. A higher volume of users combined with different needs means the social cost of delays attributable to a poorly maintained road network is far in excess of that likely to be felt in rural areas. Delays are just one consequence of poorly maintained roads; cycling charity CTC says 15% of the crashes its legal department deals with are the result of highway defects, and British Cycling's data suggests 12% of accidents of its members between April 2012 and September 2012 were as a consequence of "a defective stretch of road or a spillage or obstruction in the cyclist's path"⁶¹.
- 5.7 The condition of the road network in Metropolitan areas (as opposed to total area) also plays a more significant role in:
- keeping road users safe;
 - influencing local politics;
 - adding to the quality of an area;
 - creating integration between different forms of transport, e.g. bus and rail services;
 - influencing the performance of businesses; and
 - ensuring the effectiveness of emergency services.
- 5.8 Consequently the maintenance approach used in Metropolitan areas has to take a far more comprehensive 'fence to fence' which in addition to carriageways includes associated highway infrastructure such as drainage, footways, structures, street lighting and street furniture.
- 5.9 Despite the increasing recognition of the value of the road network to the wider economy, local authorities across the UK have struggled to maintain roads to desired standards. Whilst cuts in funding and record levels of defects caused by the recent severe weather have played a big part in this, a deteriorating road network has also revealed:

- the fragility of the UK’s roads, much of which were not designed for the demands that have been placed upon them;
- questions about the effectiveness of treatments, materials and techniques employed to carry out maintenance activities, e.g. increasing concern over repeat visits to repair the same potholes;
- the shortage of skills and experience to effectively manage highway assets, in particular to understand their condition, determine required levels of service and performance, collect timely condition data and use it effectively to devise and deliver maintenance and renewal programmes;
- pressures placed on asset managers to focus on the short term horizon; delivering works which are influenced politically and do not offer long term value (the result is a failure to invest in preventative maintenance);
- different approaches, standards and specifications used by highway authorities across the UK with little cooperation to employ best practice; and
- a lack of willingness to invest in valuing the local network, on the basis of whole-life costs, so that an effective business case can be made for funds to maintain it.

5.10 In order to address some of these issues, the DfT has introduced the Highways Maintenance Efficiency Programme (HMEP) with £6 million of funding. This initiative supports all elements of delivering highway maintenance and is helping local authorities to improve efficiency and deliver improved services to road users. The challenge now facing authorities is the cultural and behavioural shift required to implement the guidance.

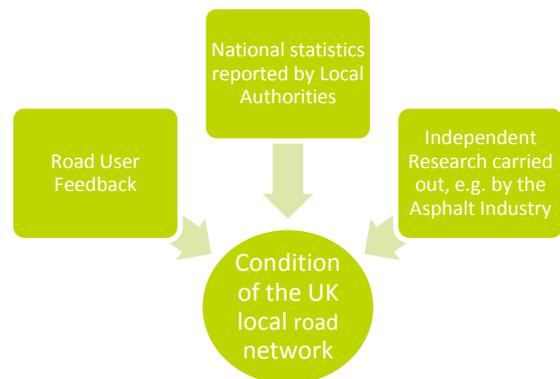
The current condition of the road network in Metropolitan areas

5.11 There are three important perspectives to consider when assessing the condition of the local UK road network as illustrated in Figure 5-1, namely: feedback from road users (e.g. through public opinion surveys), national statistics on the condition of roads and research carried out by third parties who have a vested interest in the road network.

5.12 Until recently, all UK local highway authorities have been required to assess the condition of their road networks using a variety of methods including:

- SCANNER (machine) surveys to assess the surface condition of classified (Principal ‘A’ and Non Principal ‘B’ & ‘C’) roads;
- visual inspections to assess the surface condition of unclassified roads; and
- SCRIM (machine) surveys to measure skid resistance of classified roads.

Figure 5-1 – Perspectives on highway condition



- 5.13 National Statistics on road condition⁶² show: that there are however no conclusive trends across Metropolitan areas in the percentage of Principal and Non Principal roads requiring maintenance between 2007/08 and 2010/11. This is illustrated in Figures 5-2 and 5-3. Limited data is available in 2010/11, due to changes in reporting of national indicators.
- 5.14 The data also shows that, between 2006/07 and 2010/11 the percentage of the unclassified road network in England for which maintenance needed to be considered has varied little, being in the range of 15-16%. This data is not broken down by Metropolitan districts.
- 5.15 The percentage of principal roads in Metropolitan districts requiring further investigation of their level of skid resistance has remained at 27% in terms of a three year rolling average between 2006/07 – 2008/09 and 2009/10 – 2011/12.

Figure 5-2 – Percentage of Principal Roads requiring maintenance

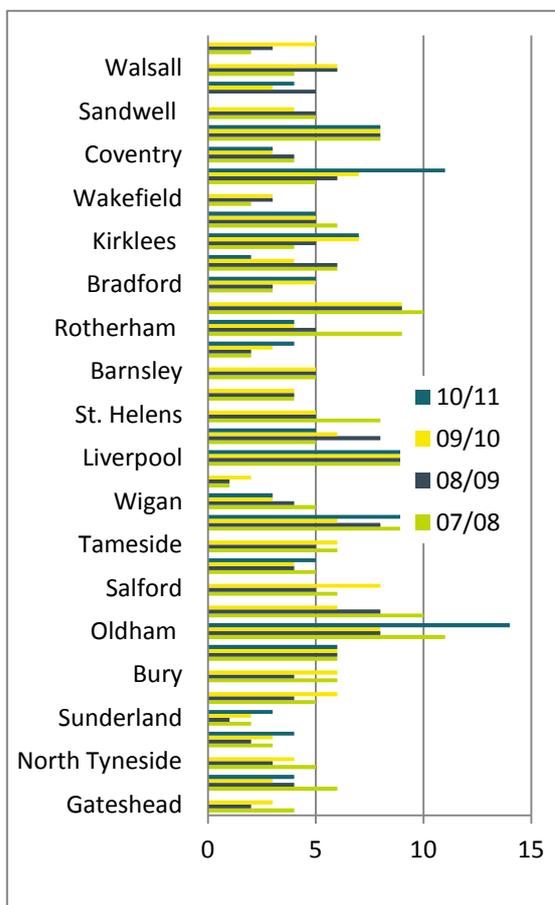
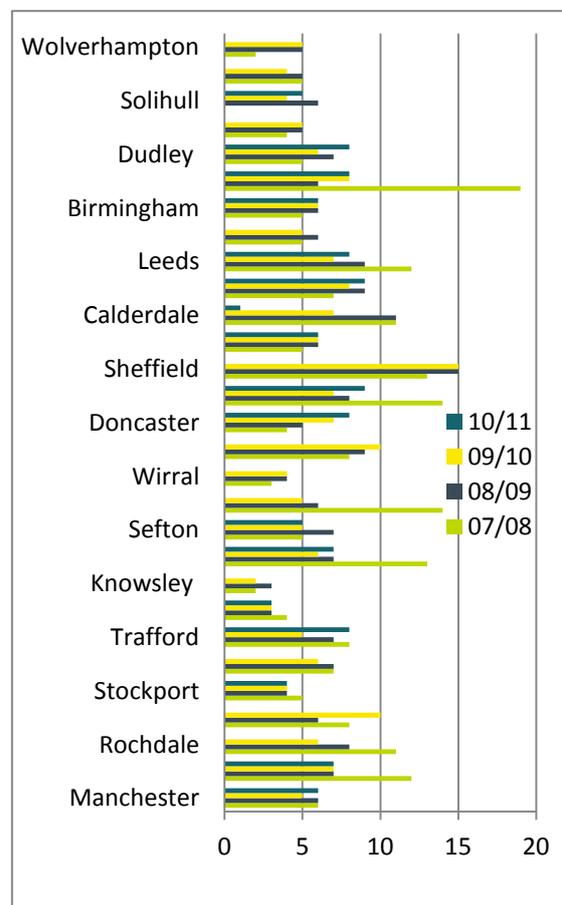


Figure 5-3 – Percentage of Non Principal Roads requiring maintenance



- 5.16 For a fifth year in succession, the 2013 NHT public opinion survey (2013)⁶³ highlighted continued dissatisfaction with the ‘Condition of Highways’, averaging just 31% satisfied. The ‘Quality of repair to damaged roads & pavements’, ‘Condition of road surfaces’, ‘Speed of repair to damaged roads & pavements’ and ‘Deals with potholes and damaged roads’ were all at their lowest levels recorded. When asked ‘What is most in need of improvement in your area’, respondents chose ‘Condition of roads’ and ‘Pavement & footpaths’ as areas most urgent need of attention.

- 5.17 An independent survey carried out by the asphalt industry in 2013⁶⁴ painted a gloomy picture associated with shortfall in funding for road maintenance. The report highlights the magnitude of the maintenance backlog facing local authorities, made worse by recent severe weather events. The key findings for local authorities in the UK excluding London were:
- an average annual shortfall of £6.2 million per authority for structural maintenance;
 - a quarter of highway budgets now used for reactive maintenance;
 - an estimated 12 years to clear carriageway maintenance backlog with an estimated one time catch up cost per authority of £69 million;
 - potholes repaired in the last year close to 2 million, an increase of 29% over the previous year; and
 - £297 million worth of flood damage incurred in 2012 alone.
- 5.18 Whilst the national statistics paint an indifferent picture of the road condition in Metropolitan areas, there is clear evidence from public opinion and other surveys that there is a significant gap in funding for maintenance across the UK which appears to be growing larger. The solution does not just lie in more funding. All UK local authorities need to think differently to ensure they spend their limited budgets in the most efficient way. For instance, there is a need for authorities to review the targets for the services they want to deliver, as described in the new Asset Management Guidance⁶⁵. Authorities also need to ensure a greater alignment between their corporate vision, the condition of the network and available budgets to ensure investment is targeted to provide the best returns.

Current road maintenance practices in Metropolitan areas

- 5.19 Metropolitan Borough Councils use a range of delivery models for the maintenance of the road networks for which they are responsible including: private funding models (e.g. use of Private Finance Initiative arrangements), use of single or multiple providers, frameworks, joint ventures, in-house delivery or in-house with top-up arrangements. These models are often used to procure a combination of highway services including:
- policy & strategy;
 - programme management;
 - asset management;
 - design;
 - business & performance management;
 - routine & cyclical maintenance;
 - emergency response;
 - network management;
 - scheme improvement; and
 - customer and engagement/management.
- 5.20 The choice of model is influenced by a combination of factors including: corporate objectives, political influence, capacity, capability and attitude towards risk. Each model can be procured through one of several routes: Open Procedure, Restricted Procedure, Negotiated Procedure or Competitive Dialogue.

- 5.21 It can be argued that there is no real innovation in the use of current service models or procurement routes. Most authorities take a standard model and tweak it to meet their own requirements. Whilst many authorities take part in national or regional working groups, there is little co-operation in terms of sharing resources, standards and working practices for improved maintenance outcomes. Even authorities who have worked together to procure services through a single framework, find it difficult to come to a consensus on use of standards, treatments, materials and specifications for maintenance activities.
- 5.22 The real innovation lies in taking a different approach to road maintenance based on the constraints faced with budgets and an aging asset base. The work undertaken by the HMEP in a variety of areas provides a good starting point for this.

Implications for Metropolitan areas

- 5.23 The implications for the Metropolitan areas in terms of highway maintenance are numerous:
- Without a true measure of the value of the road network and its condition, the case for funding will not be strong enough to identify and secure effective resources at national and local levels. Current DfT work on calculating asset value and economic benefits will help all authorities build a case for investment. The findings of this work are expected in summer 2014. Importantly Metropolitan authorities will need to make sure that any methodology developed reflects the specific needs of urban networks.
 - With the economy now showing signs of recovery, greater demands will be placed on the road network. A poor road network could slow the recovery and place higher costs on businesses.
 - Metropolitan areas need to make the case for continued funding highway maintenance. In doing so, they need to be able to describe the level of service they want to deliver as well as the cost of delivering it. Calculating and demonstrating the benefits of investing in highway maintenance will also be a challenge. Furthermore, there needs to be a focus on whole-life costs.
 - The cost of maintenance is increased by the amount of utilities under the road surface and by equipment embedded in the road surface. As technological advances become more commonplace, the need for road side equipment will rise.
 - Local authorities need to engage with their stakeholders to shape a highway service which is fit for purpose and affordable. This includes understanding the needs of road users, presenting to decision makers a robust case for investment and communicating a clear strategy for delivering the highway service.
 - In recent years, skills and expertise in highway maintenance have been lost, as the size of local authority teams have reduced. Metropolitan authorities have been particularly badly hit and should consider how they: share skills for mutual benefit; form closer working relationships and share good practice more effectively. This will allow them to have a stronger voice in the sector, ensuring that their view is considered appropriately when national policy is made.
 - Metropolitan areas face higher social costs associated with poor road maintenance as compared with rural areas. In particular deteriorating roads in urban areas will lead to higher vehicle operating costs.

- In recent years PTEs have aimed to integrate different modes of transport to offer passengers better services, including improved journey time reliability. Delays caused by the poor condition of roads may mean less integration and greater challenge to coordinate bus and rail timetables.
- There is a real need to rationalise the number of techniques, materials specifications and maintenance activities that are adopted. Many authorities continue to employ a variety of specifications, which have been developed over a period of time. This leads to inefficiencies and increased cost of maintenance work. HMEP recently published information on the development of common specifications, which can improve efficiency as well as effectiveness of maintenance activities. The potential benefits for Metropolitan authorities can be significant.
- The Potholes Review recognised that utility works present an ongoing challenge for many Local Authorities, but the situation is more challenging in urban areas. A number of recommendations have been included in the Review and these should be considered by Metropolitan authorities.
- It is understood that the way capital highway maintenance is funded may change in the near future, and a requirement may be introduced to demonstrate efficient use of resources, through effective asset management. Metropolitan authorities should consider the implications of any potential changes and communicate with the Department for Transport. It is understood that any changes will be presented early in 2014.
- Road condition often hits the news, for Metropolitan areas this is very rarely in the form of “good news”. Resources are limited and further cuts are expected, particularly in revenue budgets. The Government is considering changes to the way highway maintenance is funded with strong indications that demonstrating an asset management approach will be a pre-requisite for authorities to benefit from higher levels of maintenance funds. Recognising the issues listed above, Metropolitan Authorities are well placed to consider collectively how they can fully embed effective asset management into their practices.
- The cost of collecting and managing data to support decision making is often high. Highway authorities face challenges in defining the data they need; developing effective data collection and management methods and making sensible choices on technology and tools to support analysis.

⁵⁰ *Code of Practice on Transport Infrastructure Assets, CIPFA, 2010*

⁵¹ *Going the distance - Achieving better value for money in road maintenance, Audit Commission, 2011*

⁵² *The Potholes Review – Prevention and a Better Cure, HMEP / UKRLG, 2012*

⁵³ *Highway Infrastructure Asset Management Guidance Document, HMEP / UKRLG, 2013*

⁵⁴ *The Economics of Road Maintenance, Ellie Gould, Chris Parkman & Thomas Buckland, June 2013 RAC Foundation for ADEP, 2013*

⁵⁵ *Economic, Environmental and Social Impacts of Changes in Maintenance Spend on Local Roads in Scotland, Abell, Bradbury, Parkman & Peeling, TRL for Transport Scotland, 2012*

⁵⁶ *Cracking under pressure, James White and Jon Gerlis (The Guide Dogs for the Blind Association), 2011*

⁵⁷ *Annual Local Authority Road Maintenance (ALARM) Survey 2012, Asphalt Industry Alliance (AIA), 2012*

⁵⁸ *Annual Local Authority Road Maintenance (ALARM) Survey 2012, Asphalt Industry Alliance (AIA), 2013*

⁵⁹ *The Economic Impact of Local Road Condition, YouGov for the Asphalt Industry Alliance (AIA), 2010*

⁶⁰ *Annual Local Authority Road Maintenance (ALARM) Survey 2011, Asphalt Industry Alliance, 2011*

⁶¹ <http://www.theguardian.com/environment/bike-blog/2013/jan/28/how-to-deal-with-potholes>

⁶² *Road Conditions in England: 2012, Statistical Release, Department for Transport, 2013*

⁶³ *National Highways & Transportation Survey - Public perspectives on, and satisfaction with, highways and transportation services in local authority areas, NHT, 2013*

⁶⁴ *Annual Local Authority Road Maintenance (ALARM) Survey 2012, Asphalt Industry Alliance (AIA), 2013*

⁶⁵ *Economic, Environmental and Social Impacts of Changes in Maintenance Spend on Local Roads in Scotland, Abell, Bradbury, Parkman & Peeling, TRL for Transport Scotland, 2012*

Chapter 6 – Road safety

KEY POINTS

- In 2009 road safety incidents cost the economy £16 billion.
- Local highway authorities have a statutory duty to improve road safety.
- The dramatic improvement in road safety over time means there will be diminishing returns from investment in road safety.
- The Strategic Framework for Road Safety abolished national road safety targets. This, and falling budgets may reduce the prominence of road safety in transport.
- A shared approach to road safety, coordinating with the emergency services can deliver additional funding, innovation, and economies of scale.

Introduction

- 6.1 The UK has one of the best road safety records in the world, but more can be done to prevent deaths and serious injuries. Under the 1988 Road Traffic Act, local highway authorities (in the Metropolitan areas, the Metropolitan District Councils) have a statutory duty to prepare and carry out a programme of measures designed to promote road safety on local roads. The Highways Agency is responsible for road safety on its network.
- 6.2 Deaths and serious injuries not only directly impact on those involved in an incident and their families, but also have a wider economic impact on emergency services, health and welfare services, insurance, traffic congestion, as well as the personal cost to people affected by road collisions. The overall social and economic cost of reported road accidents in Britain was estimated to be £16 billion in 2009⁶⁶. Built-up roads account for the majority of injury incidents and casualties, accounting for 86% of the total.

The role of local highway authorities

- 6.3 The statutory duty on local highway authorities requires them to study the occurrence of collisions, take preventative measures and reduce the possibility of casualties on new roads. Typically measures fall into the following categories:
- engineering (e.g. signs, road markings, traffic calming and junction improvements);
 - education (e.g. road safety awareness campaigns, road user training and travel planning advice); and
 - enforcement (e.g. safety cameras, and on-road enforcement of driver behaviour offences or vehicle defects).
- 6.4 Local authorities set out details of their approach to road safety in their Local Transport Plan (LTP); in the case of the Metropolitan areas where the LTP is prepared by the PTE, there is a need for the LTP to draw together road safety issues from constituent highway authorities. In addition, many highway authorities also set out their challenges and approaches in a formal road safety strategy that may consider the likely impact of each improvement activity.
- 6.5 In fulfilling their statutory road safety duty, local highway authorities need to ensure that:

- road safety activities are managed and planned;
- responsibilities of individual roles and organisations are clear;
- stakeholders are identified and communicated with; and
- the range of activities that affect the highway and public rights of way should consider road safety from the outset.

6.6 Experience from around the world has shown that large reductions in fatalities and serious injuries can be achieved through the adoption of a holistic “Safe System” approach. This involves a clear focus on results and evidence-based actions, supported by appropriate organisational management capacity. Although compliance with laws and standards provides a sound basis for basic decision making, compliance with laws and standards in itself does not guarantee a step-change improvement in safety. As obvious clusters of casualties and collisions reduce in prevalence, further improvements become more difficult and the increasingly requires innovative approaches such as “Safe System” thinking.

Strategic Framework for Road Safety

6.7 In 2011, the Department for Transport published a ‘Strategic Framework for Road Safety’⁶⁷. The framework sets out a package of policies and measures that would be implemented at the national and local levels to continue the improvement in road safety seen since 1998. The approach for delivering improved road safety was based in three themes:

- freeing local councils to make their own decisions on how best to make their roads safer;
- improving public education and training; and
- targeted enforcement and sanctions for the minority of offenders who drive dangerously.

6.8 The Government notes that the UK has amongst the safest roads in the world and emphasises that future improved performance will also be achieved by a mixture of the right policies, actions and road user behaviours.

6.9 Unlike previous policy documents, the Framework does not set out national casualty reduction targets because the importance of improving road safety is recognised as a universal goal and because the Localism approach allows local authorities to set targets that are appropriate to local circumstances. However, the Framework does set out its expectation for the downward trend in casualties to continue with the following national central forecasts:

- fatalities falling by 37% to 1,770 by 2020, and by 41% by 2030 to 1,670 from the 2005-09 average of 2,816; and
- killed or seriously injured falling by 40% to 18,070 by 2020, and by 50% to 13,570 by 2030 from the 2005-09 average of 30,040.

Delivering road safety

6.10 As each metropolitan authority is a highway authority, each has its own team delivering road safety. Over time road safety budgets have in general been scaled back and local authority officers are having to become increasingly innovative in terms of identifying alternative funding sources and working with partners to share resources.

- 6.11 Traditionally road safety engineering measures were targeted to address specific casualty problems at cluster sites or on a route-or area-based approach. Over time as these sites and location have been addressed the focus has shifted to addressing behaviours that increase the risk of incidents taking place. This has also meant a shift from predominantly capital funding to revenue funding for education, training and publicity (ETP)⁶⁸, often targeted at high risk groups such as school-aged children, young drivers and motorcycle riders, cyclists and the elderly.
- 6.12 This change of approach has resulted in more innovative approaches being taken to improve road safety. However, there are also examples of road safety engineers operating independently from their ETP colleagues, often as a result of inadequate communication across the authority.
- 6.13 Road safety is now seen as part of a wider remit for local authorities to improve public health. Other public services such as the NHS and the emergency services also have statutory responsibilities and influence improvements to road safety. As such local coordination between different delivery agencies can pay dividends in terms of efficiency savings and pooling of scarce resources.

20mph zones

- 6.14 This is dealt with in Chapter Nine.

Implications for Metropolitan areas

- 6.15 The implications for delivery of improved road safety in Metropolitan areas are:
- each metropolitan authority faces its own set of unique challenges, but the high risk groups remain broadly consistent: school aged children, the elderly, young drivers and motorcycle riders, and cyclists;
 - the limited resources for road safety combined with the removal of national targets has reduced the prominence of road safety as a key transport issue;
 - the large improvements in road safety over the past 20 years means that it is becoming more and more difficult to reduce casualty rates still further;
 - the shift from engineering measures to ETP requires adoption of more innovative approaches to reach the target audiences and influence behaviours;
 - coordination with other providers, such as the NHS and the emergency services, in delivering ETP can produce economies of scale in terms of funding and human resources;
 - a shared approach amongst Metropolitan authorities to delivering better road safety could result in greater value for money and innovative approaches; and
 - the arrival of new technology brings new challenges to delivering road safety (for example, hybrid and electric vehicles present risks to vulnerable road users due to their very low noise levels; agreement at European level on the need to induce a minimum sound level has not yet been reached.

^{66/64} Source: *Reported Road Casualties Great Britain: 2012 - Annual Report*. This includes an estimate of the cost of damage only collisions but does not allow for unreported collisions.

⁶⁷ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/8146/strategicframework.pdf

⁶⁸ ETP interventions are increasingly designed and targeted by use of socio-demographic analysis. Some authorities make use of the MAST database (available at <http://www.roadsafetyanalysis.org/>)

Chapter 7 – Planning issues

KEY POINTS

- There is a tension between the recognition of the importance of integrating transport and land use planning with the Government’s wider identification of planning as an obstacle to growth.
- At a city region level there are also tensions between the desire to attract new businesses, developments and facilities, and setting terms around transport access, and also in the way in which planning and transport functions are currently organised within the city regions.
- The National Planning Policy Framework contains a presumption in favour of sustainable development and a Duty to Co-operate in the planning process amongst plan-making bodies statutory consultees.
- Adoption of a Local Plan is a complex and time consuming process, but without a Local Plan in place, *ad hoc* uncoordinated development is more likely to occur.
- The Highways Agency is a statutory consultee for developments and is taking a more proactive and permissive approach to enabling development.

Introduction

- 7.1 There is a tension between the recognition of the importance of integrating transport and land use planning with the Government’s wider identification of planning as an obstacle to growth.
- 7.2 At a city region level there are also tensions between the desire to attract new businesses, developments and facilities and setting terms around transport access, and also in the way in which planning and transport functions are currently organised within the city regions.
- 7.3 The complexity of the planning regime was seen by the current Government as a barrier to growth and prosperity. The National Planning Policy Framework of 2012 is a key part of Government reforms to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth.
- 7.4 The Local Transport White Paper (2011) recognised the importance of integration of land use planning and transport:
- “Land use planning is critical to transport. Where places (e.g. shops, work and other services) are located in relation to where people live is a significant factor in determining how much people need or want to travel. It is vital that sustainable transport is a central consideration from the early stages of local planning – for example whenever new houses or retail areas are being developed.”*
- 7.5 The White Paper went on to state:
- “Our vision is for a transport system that is an engine for economic growth, but one that is greener and safer and improves quality of life in our communities....*
- By improving the links that help to move people and goods around, and by targeting investment in new projects that promote green growth, we can help to build the balanced, dynamic, low carbon economy that is essential to our future prosperity.”*

- 7.6 Integration of transport in land use planning is fundamental to achieving these ambitions. Well-planned settlements avoid the need for unnecessary trips and carbon in the first place, and lead to increased use of low-carbon modes of transport such as public transport, walking and cycling. However there is clearly a tension between this and the Government's wider identification of planning as an obstacle to growth.

The National Planning Policy Framework

- 7.7 The National Planning Policy Framework (NPPF), published in 2012, is part of Government reforms to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth.
- 7.8 The Framework sets out planning policies for England and how these are expected to be applied. It sets out the requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so, with the objective of providing a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.
- 7.9 The NPPF includes a presumption in favour of sustainable development. This means that local authorities must:
- seek opportunities which meet the development needs of the area; and
 - where a local plan is not in place, grant permission for development unless its adverse impacts outweigh the positive impacts of the development.
- 7.10 In promoting sustainable development, there is a requirement for local planning authorities to support a pattern of development, where possible, that facilitates the use of sustainable transport modes.
- 7.11 The Framework does not contain specific policies for nationally significant infrastructure projects, but it does include a 'Duty to Cooperate' across administrative boundaries particularly to address strategic priorities for the area. This means local planning authorities should work with other bodies to meet development requirements which cannot be wholly met within their own particular area. Working collaboratively includes, but is not limited to, the following:
- public sector: neighbouring local planning authorities, Local Enterprise Partnerships, Local Transport Bodies; and
 - private sector: utilities, infrastructure providers, transport operators.

Local Plans

- 7.12 Local planning authorities, including each Metropolitan Borough Council, must prepare a Local Plan which is consistent with the NPPF and which sets planning policies in a local authority area. Local Plans are critical in the planning process as they identify and agree future sites for employment and housing development, as well as the transport improvements needed to deliver this growth.
- 7.13 The process of preparing, consulting on and adopting a Local Plan can be extremely lengthy, taking several years in some cases. As a consequence, more than half of local authorities in England did not have an adopted Local Plan in place in 2013, and only half of those without a plan had even published a draft Local Plan⁶⁹.

- 7.14 Where a Local Plan has not yet been adopted, a planning authority may still be using a Local Development Framework, or even a Unitary Development Plan, as their statutory planning document. However where this is the case, and the plan is therefore not consistent with the NPPF, the local authority could find it difficult to prevent development where it believes the development is inappropriate.

The role of the Highways Agency

- 7.15 The Highways Agency is a statutory consultee in the planning process. Where the Agency feels that granting permission would adversely impact the current Strategic Road Network (or on the route of a proposed future strategic road), it can give directions restricting the granting of planning permission by the local planning authorities. The Agency cannot however grant or refuse planning permission. Usually restrictions relate to provision of measures to mitigate the effects on the SRN and, historically, required developers to mitigate the effect of their development *and background traffic growth* for a period of ten years after submission of the application (the 'review period'). Typically the Highways Agency would become involved with a development at the pre-application stage.
- 7.16 Following the Localism Act (2011) Duty to Cooperate, and the NPPF, the Highways Agency is now obliged to cooperate with local planning authorities and other plan-making bodies much earlier in the planning process (during the preparation of local plan documents themselves) to support achievement of sustainable economic growth. As a consequence, the Agency's role has changed from one in which it 'protected' the performance of the SRN against development-related traffic to one in which it is utilising the SRN's ability to proactively support development. For example, where the overall forecast demand at the time of opening of the development can be accommodated by the existing infrastructure, further capacity mitigation will not be sought by the Agency.

Community right to challenge

- 7.17 The Community Right to Challenge introduced by the Localism Act 2011 allows voluntary and community groups, charities, parish councils, local and fire and rescue authority staff to bid to run authority services where they believe they can do so differently and better. This may be the whole service or part of a service and can include transport services.
- 7.18 Local authorities are required to consider a written expression of interest if submitted by a group and respond to expressions of interest which, if accepted, will trigger a procurement exercise for that service. The interested group will then take part in the procurement exercise, alongside others.

Implications for Metropolitan areas

- 7.19 The implications for Metropolitan areas from current planning policy are described below.
- 7.20 Integrating land use and transport planning is fundamental to delivering the ambition of a *"transport system that is an engine for growth"* by avoiding the need for unnecessary car journeys and creating a greater reliance on well planned and high quality sustainable modes.

- 7.21 The challenges involved in getting a Local Plan adopted mean that many local planning authorities do not have a Local Plan which is consistent with the NPPF, and therefore cannot refuse permission for sites unless their impacts are severe. The absence of a Local Plan places developers in a stronger position to challenge a refusal of planning permission on the basis of the presumption for sustainable development. This lack of control could place an unwanted burden on both the local highway and public transport networks.
- 7.22 This same lack of control could result in *ad hoc* developments in disparate locations as developers tend to prefer smaller developments which are more difficult to serve effectively by public transport and potentially generate more demand for travel as development is not coordinated. Indeed there are numerous potential impacts of an uncoordinated approach to planning such as poor accessibility to key services (e.g. employment, health, retail, and education), the availability of an adequate supply of labour to fill jobs, local competitiveness as a result of reduced agglomeration impacts, and highway and congestion impacts for householders.
- 7.23 Finally, in the Metropolitan areas there is potential for conflict between the desire of local planning authorities to secure growth through redevelopment and the ability of the public transport network (managed by the PTEs) to cope with the additional demand for travel.

⁶⁹ CPRE 2013

Chapter 8 – Freight issues

KEY POINTS

- The freight and logistics industry is a large contributor to both GDP and jobs.
- Freight deliveries and collections have congestion, air quality, and noise and safety impacts in urban areas. There is therefore a need to balance economic health of cities against these impacts.
- There are a range of policy tools available to Metropolitan authorities to intervene in freight issues but those with direct impacts can be seen by the freight industry as adding costs and thus generates opposition. However at the same time the freight and logistics industry is responsive and highly competitive and does respond quickly to changes in its commercial or operating environment.
- The lack of a national freight strategy inhibits progress on these issues and collaboration between authorities.

Introduction

- 8.1 The freight and logistics sector is important to the UK economy, accounting for 9% of GDP and 7% of UK employment⁷⁰. Commercial vehicles large and small are the lifeblood of our cities, delivering retail goods to city centres, moving equipment and materials which enable businesses to function and transporting products to market, or direct to homes. Within the Metropolitan areas the freight industry relies on the local road network for access to motorways and trunk roads, to rail-linked distribution sites and to deliver to commercial and domestic customers.
- 8.2 At the same time there is concern over the impacts these vehicles have in terms of their contribution to noise, pollution, road safety problems, road maintenance costs and congestion. Commercial vehicles are seen by some as being in conflict with the dense urban fabric within which they commonly operate, for example, the interaction between HGV and vulnerable road users, particularly cyclists, has resulted in casualties and high profile headlines in recent months. A further concern is the issue of operators using illegal vehicles, for example, VOSA data for 2012/13⁷¹ shows that as a result of road side checks 37% of commercial vehicles tested received prohibitions for mechanical defects, and almost 73% of vehicles tested received prohibitions for weight related violations.
- 8.3 But despite the inevitable problems that commercial vehicles cause, highway authorities are generally reluctant to inhibit their operation despite having tools at their disposal to do so (such as lorry bans, loading controls, weight restrictions and planning conditions) and in general, Freight Quality Partnerships have had mixed results. Even for the most enlightened and bold cities, the lack of appropriate standards and of a national freight policy inhibits their ability to act effectively. There is also the issue of first mover disadvantage; measures to control freight movements may be perceived as restrictive and potentially reduce the competitiveness of one local authority compared to others, or make city centres less competitive than out of town retail parks. However it is also worth noting that the freight and logistics industry is very competitive and response to changes to its commercial and operating environment.

8.4 In autumn 2012, **pteg** commissioned MDS Transmodal to report on the context for freight transport across the major urban centres in England outside London. The report provides an overview of the “big picture” issues and trends, as well as highlighting some of the key policy issues arising from freight transport. It also provides a broad policy tool-kit for authorities to consider when developing their freight strategies. The remainder of this chapter summarises the key findings of ‘Freight in the City Regions’ which is available to download on the **pteg** website.

The impacts of freight in city regions

8.5 ‘Freight in the City Regions’ identified the key impacts of freight activity in the Metropolitan areas as shown in Table 8-1.

Table 8-1 Key impacts of freight in city regions

Costs	Benefits
<p>Congestion: Road freight vehicles both contribute to congestion on strategic and urban road networks and also suffer from congestion as freight transport operators have to deploy additional resources to make on-time deliveries. Rail freight services use scarce rail network capacity, particularly at pinch points on the network and also suffer from any delays caused by passenger services.</p> <p>Safety: Injuries and fatalities suffered by other road users, such as cyclists, due to accidents involving freight vehicles. Freight vehicles can also cause damage to the physical fabric and infrastructure of cities (e.g. “bridge strikes” by HGVs).</p> <p>Air quality: Impact on human health from particulate emissions from diesel-powered freight vehicles.</p> <p>Carbon emissions: GHG emissions from freight movements contribute to global warming</p> <p>HGV routing: Congestion and “nuisance” caused by HGVs using inappropriate routes.</p> <p>Wear and tear: Greater impact on urban road infrastructure caused by HGVs compared to lighter vehicles.</p> <p>Noise: This is a particular issue for deliveries made at night, when residents’ sleep can be disturbed.</p> <p>Inefficient deliveries & collections: Results in higher costs for freight operators which are passed onto their customers and the wider economy.</p>	<p>Efficient deliveries and collections: More efficient deliveries and collections reduce the costs of the freight operators and provide a better service to businesses located in urban areas. This leads to lower costs for the economy as a whole as the lower costs will be passed on to the wider economy through market forces.</p> <p>Employment: Freight transport creates employment in the City Regions in freight transport businesses and at distribution centres and port facilities. Indirectly, efficient City Region logistics help to support retail and HoReCa employment by reducing delivery costs for businesses.</p>

Source: MDS Transmodal (2013)

EU & National policy context

8.6 There are several policy documents at national and European level relating to freight, the most important of which are:

- the European Transport White Paper (European Commission, 2011);
- the Logistics Growth Review (DfT, 2011);
- the National Policy Statement for Ports (Jan 2012);
- the National Planning Framework (March 2012); and the DfT’s Strategic Rail Freight Interchange Policy Guidance (Nov 2011).

- 8.7 To a greater or lesser extent, these documents have a bearing on road freight in the Metropolitan areas. The key themes of relevance emerging from these policies are:
- the Coalition Government has an important role as a facilitator of greater efficiency and sustainability in the logistics sector;
 - a European goal of 30% of road freight over 300 km shifting to other modes such as rail (or waterborne) transport by 2030;
 - a European goal for “essentially CO₂-free city logistics in major urban centres by 2030”;
 - EU vehicle engine standards, promotion of alternative fuels and electric vehicles;
 - the need to improve the longer term capacity, performance and resilience of congested road and rail networks;
 - investment in the Strategic Road Network including measures to cope more effectively with severe weather and serious incidents;
 - the need for additional rail-linked distribution parks close to the major urban areas;
 - making maximum use of Intelligent Transport Systems (ITS) to increase the efficiency of deliveries and travel information for drivers; and
 - reducing noise from freight movements, including exploration of more quiet night time deliveries.
- 8.8 In spite of the policies outlined above there is a vacuum at the heart of freight policy with the government addressing freight issues at the margins with no overall strategic direction for freight. This means the majority of freight (82%) is transported by road, HGVs emit disproportionately high levels of CO₂ as a percentage of emission from all traffic, are more likely to be involved in fatal accidents than any other vehicle, and cause more damage to road surfaces than a typical car.

Incentivising the freight industry to deliver sustainable urban freight transport (UFT) strategies

- 8.9 Most freight in any one city region will have an origin or destination elsewhere. As a result, any policy vision needs to consider freight transport over medium and long-distances, where individual local authorities and PTEs are less able to influence the behaviour of the freight industry and the way in which it organises urban freight transport for deliveries and collections within the urban areas themselves. Policy development needs to recognise these factors.
- 8.10 Local planning authorities and PTEs can have a significant influence over the behaviour of the freight industry in carrying out deliveries and collections in their urban areas. Together they have the means to have a positive impact on the quality of the urban environment and the success of the freight economies in Metropolitan areas through planning powers and their ability to control and influence the management of transport networks. The key to success will be to identify strategies which protect and enhance local quality of life; and recognise that for many areas of the economy, individual Metropolitan areas are engaged in a competition for private sector inward investment.
- 8.11 Clearly, it is not in the interests of any Metropolitan area for its efforts to minimise environmental impacts to lead to a loss of competitiveness; a balance will always be required. Nevertheless, given that the freight industry usually operates in a competitive private sector environment, the public sector has an opportunity to identify ways in which the freight sector can change its behaviour for the common good. In practice, the freight industry is responsive and adaptable.

- 8.12 Given a good understanding of the freight operating environment, it should be possible for Metropolitan authorities to provide leadership on developing successful strategies, particularly where PTEs can offer area-wide co-ordination.
- 8.13 Achieving more sustainable, lower-impact freight operations in Metropolitan areas will require policy measures at a European, national and local level to influence the behaviour of the freight industry.

City Region Freight Policy Framework

Introduction

- 8.14 In its report to **pteg**, MDS Transmodal developed a City Region Freight Policy Framework in an attempt to encapsulate the key measures where local authorities and PTEs can have a direct influence over the behaviour of the freight industry to secure more sustainable distribution, while helping to maintain the economic vitality of their City Regions.
- 8.15 The Framework illustrates how the City Regions can develop integrated and evidence-based freight strategies within the existing LTP and land use planning framework, with tailored packages of policy measures that influence the behaviour of the freight industry to achieve objectives that improve the quality of life for residents and visitors and support the local economy. These measures form a policy “toolkit” from which local authorities and PTEs in the City Regions can select the most appropriate measures to meet their local objectives and local economic and social context.
- 8.16 The measures within the policy toolkit can be categorised as being:
- land use planning;
 - regulation;
 - pricing and incentives;
 - information; and
 - road and rail infrastructure management and development.
- 8.17 Through these packages of measures, which must be developed specifically to meet the needs of individual City Regions, the public sector can influence the freight industry to adapt their distribution strategies to secure the sustainability and economic objectives of the City Regions and also secure appropriate development to facilitate the future growth of more sustainable distribution practices at both a local and strategic level.
- 8.18 Each of these categories of policy measure will be considered in more detail below.

Land use planning

- 8.19 Land use policies provide a powerful means of influencing behaviour without public sector funding. As a general rule transport planning for freight and land use planning benefits from being integrated and, while this is the objective of the LTP process, it may not be as well developed for freight as it is for passenger transport. Where freight transport policy and land use planning policy are integrated they are more likely to be able to maximise the overall benefits to society through the development of consistent policies over a long period.
- 8.20 The policy measures which could be implemented are:

- Zoning of land use activities and the relocation of freight traffic generators (such as logistics or industrial activities) to non-urban locations to encourage rationalisation of deliveries.
- Development of a network of Urban Distribution Centres (UDCs) on the edge of urban areas, gradually shifting the distribution industry away from the present practice of locating regional Distribution Centres between City Regions. The City Regions could play an active role in developing this concept further by encouraging Strategic Rail Freight Interchanges to be located in suitable locations so they are, in effect, UDCs through the land use planning system; and establishing where suitable sites are available in their City Regions, rather than leaving the initiative to private sector developers.
- Safeguarding of brown field sites in urban areas for sustainable distribution sites handling rail and waterborne freight against competing and more remunerative uses such as residential and office development.
- Encouraging consolidation of orders for goods through collaborative transport orders. In the UK TfL has been promoting the use of Delivery Service Plans (DSPs) to consolidate loads through more rational procurement that leads to lower costs for the organisation, while also reducing environmental impacts.
- Ensuring provision of off-street loading and unloading bays at new office or retail development as part of the planning process.
- Port gateways & port-centric distribution.
- Supporting delivery of 'port centric distribution' by providing appropriate infrastructure and by providing the scope for key existing infrastructure hubs to be fully exploited via the planning system.

Regulation

- 8.21 Regulatory (or 'command and control') measures are essentially a package of rules and prohibitions, supported by a control/enforcement system, that are designed to control private activity for the wider benefit of society. Many regulatory measures are not compulsory just for freight traffic but apply to all traffic within a city (such as speed limits, parking restrictions, one-way streets, etc.). These are not considered in this report because they are not specifically designed to control freight activity.
- 8.22 Regulatory levers fall into three broad categories.

Time-based restrictions on access for freight vehicles

- 8.23 These could be in the form of time windows for access to urban areas by road freight vehicles during the day; or similar restrictions at night. Daytime restrictions are usually during peak hours to avoid conflicts with pedestrians. However, time windows are likely to increase the costs of distribution overall because of the need to deliver and collect all freight in the restricted area in a shorter space of time than would be possible if access was available at all times of day.

- 8.24 Night time restrictions tend to be either complete bans or closely regulated access and are usually implemented over quite extensive urban areas to avoid loading and unloading activities that might disturb the sleep of residents. Whilst night time delivery restrictions are effective in reducing the impact on residents from freight activity, night-time deliveries can reduce demand for scarce road network capacity during the day and operators can secure operational and cost efficiencies. However, any such schemes need to be developed by the freight industry through close partnership working between with the City Regions and in consultation with local residents and their political representatives.

Volume or weight restrictions on access for freight vehicles

- 8.25 Volume or weight restrictions are where access to specified urban areas is restricted to freight vehicles under a certain weight or size. These are usually total bans that are introduced to protect road infrastructure that is not suitable for heavy or large vehicles due to physical constraints or to protect a sensitive environment from physical damage (e.g. a medieval city centre). Due to their greater size and weight, the restrictions are inevitably mainly targeted at HGVs.

Emissions-based restrictions on access for freight vehicles

- 8.26 Low Emissions Zones (LEZs) are where access to urban areas is limited to freight vehicles that meet certain emissions standards in urban areas where air quality is a particular concern. Access may be allowed for more polluting vehicles if the owner is prepared to pay a punitively high daily charge. The only LEZ in the UK is in London, although other cities are considering whether they should introduce an LEZ to meet European air quality standards.
- 8.27 LEZs are usually implemented to improve air quality in major metropolitan urban areas, with a focus on reducing PM and NOx which are known to have a significant impact on the health of residents. However, the impacts of LEZs are not always clear, mainly due to a lack of evaluation.
- 8.28 LEZs are likely to increase costs for freight transport operators either because they have to replace their vehicles before the end of their economic lives or because they avoid the LEZ restriction by splitting loads and transporting them in smaller vehicles; these costs will be passed onto shippers and receivers and ultimately onto consumers. As with many regulatory measures, LEZs are also likely to distort the market by favouring larger transport operators that have greater financial resources.
- 8.29 Poor air quality is a major and urgent issue for many City Regions. In this context regulatory measures that reduce emissions of particulates are urgently required in the absence of, for example, a radical move away from diesel engines to the use of low and zero emission vehicles in urban areas. LEZs are a means to reduce emissions from freight vehicles but if they are implemented in the City Regions, they should be harmonised as much as possible to allow operators to plan effectively for fleet modernization and to use their fleets as flexibly as possible.

Pricing and incentives

- 8.30 The freight industry is be highly responsive to measures that impact on their cost-base, but pricing measures can be complex and require the creation of administrative structures that can constitute a significant overhead for the public sector. The types of policies available include:
- Congestion charges (such as the central London Congestion Charge). However, the potential for promoting more sustainable distribution is, in itself, very unlikely to make the adoption of a congestion charging scheme a preferred policy measure for City Regions.

- Subsidies from local authorities to operators to encourage the development of sustainable urban distribution are uncommon as they are likely to be anti-competitive, may lead to state aid issues and is likely to be very expensive for the public sector. However, indirect incentives which provide cost advantages for those behaving in a way that leads to sustainable urban distribution are tenable. Examples include exemption from the congestion charge for low and zero emission vehicles in London.
- Other charges for freight. Where freight operators are obtaining private benefits from the use of public goods, there is a case for introducing user charges for the use of public infrastructure. In a UK context, such charges could be for the use of “priority lanes” by freight vehicles to allow more rapid access for deliveries in city centres or payment for the use a dedicated network of on-street loading and unloading bays. Such initiatives would require effective enforcement.

Information

- 8.31 Freight operations in urban areas can be quite complex because of the need to meet all regulatory requirements, while also providing an efficient and cost-effective service to customers. For this reason, the public sector can make the regulatory landscape easier to navigate by providing information to the freight industry to improve regulatory compliance. The public benefits are likely to include fewer incidents involving freight vehicles (such as bridge strikes), fewer HGVs using inappropriate routes and generally greater compliance with the existing traffic and parking regulations which should help to reduce congestion. This can be achieved through several relatively cost-effective measures, such as:
- lorry routing and signage;
 - use of Intelligent Transport Systems (ITS) to assist operators plan their operations (for example automatic booking and enforcement of parking spaces for loading and unloading); and
 - the development of a ‘single window’ for freight transport in City Regions which provides a single point of reference for regulatory information that the freight industry is likely to need to operate in a particular City Region can help freight operators and their customers to reduce compliance costs and increase the sustainability of their operations.

Road and rail infrastructure management and development

Introduction

- 8.32 While infrastructure measures have a strong impact on freight transport in urban areas, they are more expensive to implement than other measures. Infrastructure for freight mainly consists of:
- on-street loading and unloading spaces for freight vehicles;
 - Urban Consolidation Centres; and
 - sustainable freight transport facilities: the use of rail and waterborne freight for ‘near last mile’ deliveries.

On-street loading and unloading spaces for freight vehicles

- 8.33 Where private off-street loading and unloading spaces are not available, transport operators are forced to use on-street parking spaces. Where specified loading and unloading spaces are not available reasonably close to the final origin or destination the transport operators are forced to compete with other road users for on-street parking spaces, which can lead to illegal parking and increased road congestion.
- 8.34 A network of freight loading and unloading bays in reasonable proximity to origins and destinations of traffic allows freight vehicles to park legally on the street in order to make deliveries and collections. If the bays are within a time window restricted area, they can be shared with other users and freight operators could also be charged for their use.

Urban Consolidation Centres

- 8.35 Urban Consolidation Centres (UCCs) are distribution centres on the edge of urban areas that receive freight from a number of different transport operators with loads for a variety of customers in the urban area and then consolidate the freight into 'full' loads for 'last mile' deliveries.
- 8.36 UCCs are, in theory, an effective means to improve the efficiency of deliveries in city centres where the freight market is fragmented, characterised by a large number of deliveries by vehicles with low load factors to a large number of different locations in an urban area. However, many UCCs have struggled to operate on a commercial basis and MDS Transmodal recommends that the development of UCCs should be left as far as possible to the market to avoid market distortions and poor value for money, rather than being funded directly by the public sector. However, the incentives provided by City Regions to assist the development of UCCs could be more generous time windows for deliveries, exemptions from access charging regimes and privileged use of priority lanes.

Sustainable freight transport facilities

- 8.37 The use of goods yards located in city centres made rail a significant element of urban freight transport in the past, but the role of rail in an urban context has almost disappeared in the UK and elsewhere in Europe due to competition from road transport, with its greater flexibility and ability to offer a door-to-door service and development pressures in city centres. However, a few experiences in European cities have suggested that heavy rail can still play a role for 'near last mile' delivery. The experience of the Monoprix chain of stores in Paris is most notable.
- 8.38 Infrastructure for the loading and unloading of waterborne freight is often available in cities that have rivers or canals passing through them, although it is unusual for waterborne transport to be used for 'last mile' deliveries because final origins and destinations are not generally located adjacent to waterborne freight facilities.
- 8.39 Inland waterways could have some limited role for the transport of freight for 'near last mile' deliveries in cities such as Manchester, Leeds and Birmingham, but are likely to be successful only in niche markets. Rail freight is also unlikely to be able to compete in the market for 'near last mile' deliveries.

- 8.40 As a general rule therefore road freight transport will remain the most important mode for these deliveries and collections in urban areas due to its inherent flexibility. For this reason there needs to be an increasing emphasis on providing cost-effective low and zero carbon technologies for road freight transport for city logistics rather than investing public funds in ambitious sustainable distribution schemes in cities.

Implications for Metropolitan areas

- 8.41 The following implications for Metropolitan areas emerge:
- There is already a raft of policy tools available in Metropolitan areas which could be used to influence the way in which the freight sector operates in order to reduce impacts on urban areas and become more sustainable. However, there are significant challenges, in particular a desire to avoid inhibiting local economic growth.
 - As the vast majority of freight operations are within the private sector, the policy tools available to Metropolitan areas which have direct impacts tend to be those which restrict practices, and therefore potentially affect the economy. Most other policy tools are enablers or catalysts of change (such as planning policy) but are dependent on the private sector to take advantage of them.
 - There are key challenges for the Metropolitan areas in influencing the freight sector in the ways described above in terms of striking the right balance between regulating and pricing unwanted behaviour and encouraging desirable behaviour.
 - Appropriate investment by Government in strategic rail and road infrastructure, supported by Metropolitan area initiatives to provide for 'last mile' deliveries such as urban consolidation hubs could reduce the adverse physical and environmental impacts of freight vehicles. It is difficult for Metropolitan authorities to act alone; without a national freight strategy, it may require a single Metropolitan area to be bold and make a transformational step towards more sustainable distribution before others feel confident in following.

⁷⁰ *Freight in the City Regions – Final Report. MDS Transmodal (2013)*
<http://www.pteg.net/resources/types/reports/freight-city-regions>

⁷¹ *VOSA Effectiveness Report 2013 to 2013*

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Chapter 9 – Management of road space

KEY POINTS

- Responsibility for managing the local highway network rests with the Metropolitan borough councils but the PTEs have a responsibility for strategic transport planning and in coordinating public transport. This division of responsibilities can affect the overall cohesiveness of transport policy development and implementation in the city regions In the Metropolitan areas.
- Some Metropolitan areas are examining options for the Combined Authority taking responsibility for the most important local roads to realise efficiencies and to ensure a more coordinated approach.
- Measures where there is a need for close collaboration between local highway authorities and PTEs include delivery of 20mph zones, cycling improvements and bus punctuality improvements.
- New charging systems designed to restrain traffic can be highly politically contentious. However Nottingham’s Workplace Parking Levy shows that with the right kind of the right scheme in the right location, and carefully promoted, then such schemes can be successfully implemented.

Introduction

- 9.1 Road space is a scarce public resource, but rights to road space is one of the most valuable assets owned by the local authorities, and highway design can have a significant impact on a community’s character and transportation patterns. Conventional transport planning practices tend to devote most road space to motorised vehicles and parking, which tends to limit road space for other road users.
- 9.2 Measures to better manage the available road space could be motivated by a desire to:
- re-balance the available space in favour of non-car modes (for example, providing wider pavements, cycle lanes, bus lanes or other public transport infrastructure);
 - improve the efficiency of the existing capacity available to motorists (for example, junction re-design or provision of High Occupancy Vehicle (HOV) lanes); or
 - change the character of a street or neighbourhood, including the overall perception of who has priority (for example, pedestrianisation, 20mph zones, home zones or shared spaces).
- 9.3 In the Metropolitan areas, responsibility for managing the local highway network rests with the Metropolitan borough councils and it is they which ultimately determine how the road space is used. However, the PTEs have a responsibility for strategic planning of the transport networks, for example through the Local Transport Plan preparation process; and have other interests as the coordinator of public transport services, notably in the provision of bus lanes and priority, pedestrian and cycle access to the public transport network and, in some cities, trams.

- 9.4 This division of responsibilities has the potential to lead to tensions between the highway authorities and PTEs; for example a PTE may wish to see road space allocated in favour of bus priority to improve journey time reliability; whilst the highway authority may prefer to retain all the capacity for general traffic, including buses. Issues such as this have led to some Metropolitan areas to consider as part of Combined Authority discussions, whether the Combined Authority should take over powers for the major local roads in its area from the district authorities.
- 9.5 The following sections discuss some of the most pertinent current issues in Metropolitan areas with regard to the management of road space.

20mph zones

Overview

- 9.6 Traffic calming measures are a common element of road safety strategies as their ability to reduce traffic speed cuts both the number and severity of accidents. Also, traffic calming can reduce traffic in residential streets, reducing the absolute level of conflict between pedestrians and cyclists.
- 9.7 Typically, traffic calming measures are engineering solutions, such as speed humps and cushions and chicanes. Area-wide measures such as home zones and 20 mph zones are becoming increasingly common. In the latter, the speed limit is lowered to calm traffic, and can be accompanied by additional engineering measures such as speed cushions. Signs are used on entering 20mph zones to notify drivers, and repeater signs within zones to reinforce the message.
- 9.8 However, there is some debate as to the effectiveness of 20mph zones; the DfT recommending that 20 mph speed limits should only be considered for use on roads where average speeds are already below 24mph.
- 9.9 Further, there are a number of deliverability issues raised by this type of scheme, namely:
- their effects on journey times, which is a particular concern for emergency services because of the impact on response times, and for public transport operators because of the impact on both journey times and punctuality (although the number of bus services in residential areas can be limited);
 - discomfort for drivers and passengers from vertical deflection caused by speed humps (hence the preference for speed cushions which buses can traverse with little or no deflection);
 - impacts on local residents due to vibration caused by vehicles passing over vertical deflections;
 - the ability to effectively enforce 20mph zones is questionable as they are a low priority for the Police;
 - the potential for increased local noise and pollution (although slower moving traffic generally tends to be quieter, the braking and acceleration between traffic calming measures may increase noise and disturb residents in the surrounding area; traffic calming measures may also increase vehicle emissions due to the stop/start nature of traffic); and
 - internal local authority resource considerations and priorities, staff availability and skill levels, plus concerns regarding ongoing maintenance costs.

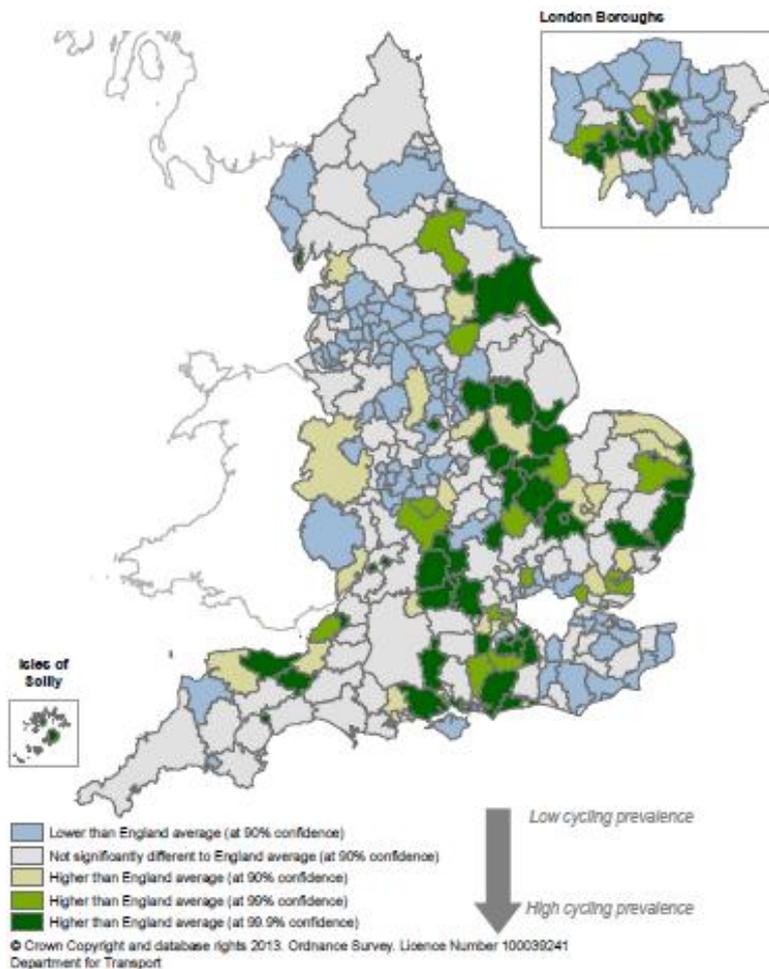
Implications for Metropolitan areas

- 9.10 20 mph zones are very attractive as is shown by the number of local authorities that have implemented them, particularly in urban areas. It is reported that 12 million people now live in a local authority area which has adopted or is adopting 20 mph zones⁷².
- 9.11 20 mph zones can deliver a range of benefits, primarily around road safety. They are often requested by communities where a problem with excessive traffic speed is apparent or perceived.
- 9.12 But 20 mph zones are not universally supported by a range of stakeholders from transport operators and emergency services who cite increased journey and response times, and local residents who cite increases in emissions and noise levels.
- 9.13 There is also an impact on local authority budgets. For example, extra signage and the use of physical speed reduction measures will result an increase in long term maintenance liabilities.

Cycling infrastructure and promotion

- 9.14 For a number of years, cycling has accounted for approximately 2% of all journeys at a national level. In the UK, 15% of adults cycle at least once per week but, as Figure 9-1 shows, there is considerable variation across the country. Those areas shaded in blue are those authorities where adult cycling is less than the national average.

Figure 9-1 Proportion of adults who cycle at least once per week



Source: DfT

- 9.15 Large increases in cycle use have been observed in those places which have consistently invested in cycling infrastructure and promotion, primarily in larger cities. The 2011 census measured a 10.1% increase in cycling to work since 2001 in the group of 8 ‘core cities’. Even some of those who started off at a very low level ten years ago, saw high growth rates – a growth of 8.6% in Birmingham, 15.8% in Liverpool, 21.4% in Manchester, 34.7% in Leeds, 53.3% in Newcastle, 61% in Sheffield⁷³. In London cycling increased by 79% in the decade from 2001 to 2011, with even greater increases (of 173%) in central and inner London areas over the same period.
- 9.16 Successive governments have recognised the role cycling can play in reducing congestion and CO₂ emissions and improving health. Since the 1990s, governments have supported local authorities to increase cycling through a range of initiatives and funding opportunities, such as encouragement of cycling projects delivered through the Local Transport Plan process (following the 1998 White Paper on Integrated Transport); and the Sustainable Travel Demonstration Towns and Cycling Demonstration Towns projects (between 2004 and 2009).

- 9.17 Between 2008 and 2011, the previous Government invested over £140 million to promote cycling and to address a historic decline in cycling activity. Part of this investment (around £50 million) was used to create one Cycling City and eleven Cycling Towns, although none were within the Metropolitan areas. Alongside matched funding from the participating local authorities, the investment aimed to deliver a step change in the provision of facilities and the promotion of cycling for travel and leisure purposes, leading to wider impacts in areas such as health, decongestion, reduced carbon emissions and accessibility.
- 9.18 Most recently, the Local Sustainable Transport Fund (LSTF) has supported £600 million of capital and revenue investment in 'smarter travel' initiatives across England since 2011. Most English local authorities have benefitted from this fund and used it to invest in cycling infrastructure (such as cycle lanes and paths, cycle parking and cycle hire) and events and activities to promote cycling.
- 9.19 In addition, over the next two years, the DfT will invest £77 million in eight cities to kick start delivery of proposals to increase cycling. Along with local contributions, the total funding of £144 million available from 2013 to 2015, takes investment in cycling in these cities to over £10 per person per year. Greater Manchester, West Yorkshire and the West Midlands are key beneficiaries of this fund, receiving £84 million in DfT grant between them.

Implications for Metropolitan areas

- 9.20 Investment in cycling is probably at an all time high and, despite the likely end of LSTF funding after 2015/16, the raised profile of smarter travel generally will give local authorities more impetus (and evidence) to continue to invest, at least in capital schemes, into the future.
- 9.21 Cycling in Metropolitan areas is less prevalent than in other locations. There may be a range of different reasons for this, for example, large urban areas tend to have narrower roads so reallocation of road space for dedicated cycle lanes may not be physically possible. This increases the perception, amongst potential cyclists that it is dangerous, and the current cluster of cyclist fatalities in London adds to this perception.
- 9.22 The strategy for further investment in cycling needs to be joined up at the Metropolitan level between PTE and local highway authorities to strike the right balance between the needs of cyclists and other road users. Also, it is important that cycling investment plans are integrated with the district authorities' planning policies and also the PTE's role as public transport provider.

Bus punctuality

- 9.23 Improving bus punctuality is seen as a key priority for many bus users⁷⁴. Bus punctuality is an important component of making public transport more attractive and is therefore a high priority for both the PTEs and bus operators. Research by Passenger Focus⁷⁵, which drew on the work of the PTEs, identified the following as the main causes of poor punctuality:
- long passenger boarding and alighting times due to:
 - elderly passengers, parents with buggies, tourists and visitors;
 - complex ticket machines and use of cash fares and infrequent passengers being unfamiliar with tickets;
 - most buses only having one set of doors;
 - traffic conditions and highway design delaying vehicles, in particular:
 - worsening congestion and traffic queues;

- narrow streets limiting scope for sufficiently wide bus lanes to allow buses to pass parked vehicles and other obstructions;
- turning vehicles;
- poorly designed junctions. phasing of signals and pedestrian crossings; and
- the absence of yellow boxes or patchy enforcement of them.
- obstructive parking and loading, and insufficient enforcement thereof;
- inadequate recovery times built in to operating timetables at the end of a journey;
- impacts of road works both directly on the route and on traffic diverting onto a route to avoid road works elsewhere;
- difficulties pulling away from bus stops back into the general flow of traffic;
- ad hoc events such as demonstrations, burst water mains, and road traffic accidents; and
- poorly-maintained buses and overly-cautious driver behaviour.

Implications for Metropolitan areas

- 9.24 The causes listed above are a mixture of operational issues within the remit of the bus operating companies and issues relating to the highway itself and therefore the responsibility of the local highway authority. Achieving punctuality improvements requires a partnership approach with operators, whereby the local authority makes improvements to infrastructure (such as bus lanes and selective vehicle detection at junctions) and operators improve their working practices.
- 9.25 However, infrastructure measures require reduction in highway capacity for other road users (typically due to bus lanes) can be difficult to implement due to engineering constraints (i.e. narrow roads or junction approaches) and opposition from motorists who may be adversely affected by the scheme. Furthermore, some measures, such as bus lanes, can need enforcement measures if they are to operate effectively.

Workplace Parking Levy

Introduction

- 9.26 Road user charging, or congestion charging or Workplace Parking Levy (WPL), are all ways of providing additional disincentives for certain vehicle types (most notably cars) where roadspace is limited, as well as a means of generating additional funding for alternative modes of travel (most notably public transport).
- 9.27 The best example of road user charging in the UK is the London Congestion Charge which has operated since 2003. However, proposed charging schemes for Edinburgh and Manchester were unanimously rejected in public ballots and were dropped. With the current focus on economic growth, charging schemes are not at the top of the transport agenda for local authorities, although their benefits may become more prominent if economic growth is accompanied by increasing congestion which can have the effect of stifling growth. The Nottingham WPL scheme also shows that the right scheme, in the right place (and carefully promoted) can succeed.
- 9.28 Local authorities have powers to introduce a WPL scheme under the Transport Act 2000⁷⁶. Under a WPL scheme, a local authority can impose an annual charge for each parking space provided at places of employment within a defined area.

- 9.29 Workplace parking is defined as including any parking provided by an organisation for its employees or for persons visiting for business reasons. The definition excludes parking by persons not attending work or on business (for example shoppers), residential parking and people using leisure facilities.
- 9.30 Whilst legislation states that revenues from a WPL scheme must be re-invested in the transport network, there is significant flexibility in the design of the scheme, including area of coverage, exemptions and charges. A scheme may only be made if it facilitates the policies set out in the Local Transport Plan.

Practicalities

- 9.31 WPL schemes operate by requiring eligible employers (typically those with large amounts of on-site parking) to obtain a licence covering the maximum number of workplace parking places they provide, with the charges paid on that licence levied according to the number of places. The charge applies to the employer, not the employee; however the organisation is free to pass the charge on, in full or in part, to employees.
- 9.32 Clear accountability for any revenue raised is essential, and it must be identified in a separate and transparent account. The legislation sets out how net proceeds may be spent by local traffic authorities during the first ten years of operation, essentially in support of the authority's Local Transport Plan. After this time, local authorities must spend the net proceeds in accordance with regulations made by the Secretary of State.

UK experience

- 9.33 To date, the only city in the UK to have implemented WPL scheme is Nottingham, which began operation on 1st April 2012. The objective of the Nottingham scheme is to raise funding for a £570 million expansion to the Nottingham tram network, the redevelopment of Nottingham station, and to support the local bus network. The levy of £288 per space in the first year of operation, increased to £334 per space in year two, and applies to any business within the City of Nottingham administrative boundary that has eleven or more parking spaces. There are exemptions for disabled parking, loading bays, fleet cars and the emergency services; the hospital for example is exempt from the scheme entirely.
- 9.34 No formal assessment of the impact of Nottingham's WPL scheme has yet been undertaken. However, Nottingham City Council estimates the following impact, from implementation to 2015:
- traffic growth almost halved from 15% to 8%;
 - 2.5 million fewer car journeys;
 - public transport journeys risen by 20%;
 - demand for Park & Ride services risen by 45%; and
 - expected to raise £14 million per annum over 23 years.
- 9.35 Whilst the City Council has stated that the Levy has not resulted directly in any major businesses moving out of Nottingham⁷⁷, this view is not shared by the local Chamber of Commerce⁷⁸.
- 9.36 Nottingham City Council intends to undertake a formal review of the levy's impacts in its first year of operation in 2014.

9.37 Whilst other cities have previously considered their own WPL schemes, none have progressed beyond feasibility studies. However, as local authorities seek new streams of revenue to compensate for reductions in central government grants, WPL schemes may become an increasingly attractive way of generating income for investment in the transport networks.

Implications for Metropolitan areas

9.38 As WPL schemes are implemented by the local highway authority, in Metropolitan areas, any scheme would either need to be limited to a single Metropolitan Borough Council or be coordinated across a number of Councils.

9.39 There are clearly large potential benefits of so doing: WPL schemes allow local authorities to raise revenue for reinvestment in the transport networks, and are conceptually and practically easier to implement than Road User Charging schemes such as the London Congestion Charge. Where employers respond to the introduction of a WPL scheme by reducing the number of spaces available on their premises, such a scheme can also result in other benefits relating to the management of demand for car travel.

9.40 However, any form of additional cost to motorists will inevitably be controversial, as the Manchester congestion charging referendum showed. The pros and cons of such schemes should be seen in the light of the traffic forecasts set out in Chapter One.

9.41 WPL schemes can potentially have a number of impacts which need to be fully addressed including:

- the potential for businesses to relocate outside of the WPL area to avoid paying the levy;
- the potential for businesses to pass on all of the cost to employees;
- the potential for businesses to pass on all of the cost to customers;
- the effects on those employees who lose their parking space and need to find alternatives; and
- spill-over parking into surrounding streets.

9.42 Some commentators have also suggested that WPL as a policy tool is inequitable (as there is no link between payment and benefit in terms of investment in alternatives) and is inflexible as it does not manage or charge for road space in real time.

⁷² *20s Plenty for US*, <http://www.20splentyforuk.org.uk/>

⁷³ *Get Britain Cycling, Report from the Inquiry*, All Party Parliamentary Cycling Group, 2013

⁷⁴ *Bus passenger priorities for improvement*, Passenger Focus, March 2010

⁷⁵ *Passenger Focus (2013) Bus Punctuality – A Briefing note*

⁷⁶ *Although permission to establish a WPL is required from the Secretary of State for Transport*

⁷⁷ *David Bishop, Corporate Director for Development, Nottingham City Council speaking at ADEPT Conference 2013*

⁷⁸ <http://www.bbc.co.uk/news/uk-england-nottinghamshire-20575059>

Chapter 10 – Parking policy

KEY POINTS

- The way in which parking is managed and enforced varies greatly between authorities and Metropolitan areas. Greater coordination within Metropolitan areas would be beneficial in terms of planning and offer opportunities for shared services.
- Local authorities use parking policy levers to support numerous policy objectives including supporting local economies, reducing congestion and tackling carbon emissions. However parking policy has a high media and political profile which tends to neglect these objectives in favour of focusing on motorists' perceptions of unfairness of charges or enforcement. This in turn is reflected in the overall approach of Government to parking which is to make parking policies harder to implement and enforce.
- Parking standards for new developments balance objectives to support economic growth and reducing car-based travel. In Metropolitan areas this balance can lead to tensions between local planning authorities and PTEs.
- Some authorities control little or none of their off-street public parking supply and are therefore unable to use parking policy to support other local authority and PTE objectives.
- Enactment of the powers under Section 6 of the Traffic Management Act (2004) would allow to tackle the effects of disruptive driver behaviour.

Determination and enforcement of parking policy

On street parking

10.1 Managing on street parking is the responsibility of the Metropolitan Borough Councils as highway authorities. They are responsible for controlling the use of kerb space across their areas through use of yellow lines/signs to limit waiting/loading; residents' parking areas/zones, paid on-street parking (Pay & Display or meters) and other uses. The determination of policy for use of kerb space is therefore made separately by each authority, within broad guidance and best practice. Kerb space tends to be controlled where:

- parked vehicles affect road safety;
- parked vehicles inhibit the free flow of buses;
- the Council wishes to encourage turnover of vehicles to support vitality of local shops and reduce the amount of searching traffic;
- the Council wishes to encourage more sustainable modes of travel;
- parked vehicles detract from the quality of the public realm; or
- demand for parking exceeds available supply and creates conflicts.

- 10.2 Many authorities prioritise controlled kerb space based on a hierarchy of need similar to the following:
- disabled people;
 - suppliers of goods and services;
 - local residents;
 - business customers and shoppers; and
 - employees.
- 10.3 The order in the hierarchy can vary depending on Council policies, for example whether the Council wishes to see a reduction in traffic levels, particularly in private car commuter traffic; or commitment to fostering the well-being of residents and businesses in the borough. Often, a balance is struck between traffic restraint and the encouragement of economic activity.
- 10.4 For those areas which have been designated as Civil Parking Enforcement (CPE) areas (under the 2004 Traffic Management Act), the local authority (or an agent working on its behalf) is responsible for enforcement of all restrictions and controls in that area, including yellow lines. In CPE areas, Fixed Penalty Notices are issued to those in breach of the restrictions. Councils can apply for CPE powers for part or all of their area. All of the Councils in the Metropolitan areas have CPA powers for at least part of their area with the exceptions of Wakefield (North Yorkshire), Knowsley (Merseyside) and Halton. Outside CPE areas, enforcement of yellow line restrictions is the duty of the Police Traffic Wardens through the use of Fixed Penalty Notices.
- 10.5 Outside London, offenders challenging their PCN may take their case to the Traffic and Parking Tribunal.

Off-street public parking – responsibilities and enforcement

- 10.6 Provision of off-street parking is determined through the planning process. Private car park operators, developers or the Council can apply for consent to provide new parking for public or private use. Decisions are made through the standard development control process; conditions relating to restrictions on use could be applied (for example setting maximum duration of stay).
- 10.7 Policies on the amount, location, quality and pricing of off-street parking are generally set through the Local Transport Plan and Local Development Framework. Policies will reflect broader aspirations relating to economic prosperity, regeneration, traffic management or environmental objectives (see below).
- 10.8 It is important to note however that Councils can only enact these policies within their own parking stock, unless planning conditions for private car parks enable them to do so. As discussed elsewhere, the share of parking supply in city centres under the control of Councils is often relatively low, so their ability to influence the quality and pricing of off-street supply can be limited, whilst its influence over the amount and location of parking can often be largely determined by developers.
- 10.9 Enforcement of off-street car parks is a matter for the owner or operator, but generally through either controlled access/exit (e.g. barriers) or through manual enforcement of P&D. Typically a local authority would enforce its own car parks.

Off-street public parking – policy levers

- 10.10 This section considers the policy common policy levers applied to publically-available off-street parking policies in Metropolitan areas; and the rationale for use of these levers. Policies relating to parking associated with new development are not considered here. This information is drawn from the Local Transport Plans of the six Metropolitan areas, and the Local Development Framework Core Strategy Documents of the Councils representing the core centres and other parking policy documents. As such, the emphasis is on policies relating to the core centres.
- 10.11 There is a significant degree of commonality across the six Metropolitan areas in terms of recognition of the need to balance local economic, environmental and quality of life objectives when considering off-street parking policy. Many of the policy levers quoted relate to these objectives.
- 10.12 By far the most common policy levers are those aimed at discouraging long-stay parking in centres in favour of shorter-stay visitors and shoppers: either by capping/reducing the amount of long-stay parking; or by using maximum length of stay limits and tariff structures. These practices are adopted by many of the Councils in the Metropolitan areas, especially in those areas with the highest public transport accessibility; and often in tandem with provision of Park & Ride on the urban periphery and/or provision of more short-stay parking.
- 10.13 The reason why this approach is so common is that it is seen to support multiple objectives relating to:
- supporting local economic vitality by improving access;
 - reducing congestion, especially in peak periods;
 - encouraging sustainable travel patterns;
 - reducing the dominance of the car in centres;
 - managing demand for car travel and tackling carbon; and
 - local environmental objectives relating to air quality and public realm.
- 10.14 Other policy levers (and underlying objectives) quoted, but to a lesser degree include:
- redevelopment of car parks for retail and leisure purposes (supporting regeneration and economic vitality);
 - maintaining total public parking stock at current levels (to manage demand for car use and congestion), for example in Newcastle and Liverpool;
 - providing high quality, safe and secure parking (to raise the level of service offered and improve the quality of centres); and
 - maximising efficiency and use of Council car park operation and usage (to maximise net income).

Implications for Metropolitan areas

- 10.15 Management and enforcement of on and off-street parking can vary greatly within a Metropolitan area. This makes strategic planning difficult and can be confusing for motorists. Such differences could also lead to perverse incentives, such as drivers choosing to travel further to a retail centre with less stringent parking enforcement.

- 10.16 Harmonisation of arrangements would therefore be beneficial and largely possible given that most Metropolitan District Councils have adopted Civil Parking Enforcement. Whilst procurement and contractual arrangements may mean it takes time to totally harmonise across a Metropolitan area, there is clearly potential for sharing of enforcement and back-office functions (such as transactions) between authorities to reduce costs.

Off-street private parking standards

- 10.17 Private parking, both residential and non-residential, accounts for a significant share of total parking supply. However, the absolute amount of private parking supply is notoriously difficult to ascertain as much is often hidden away behind, between and under properties (although more is known of more recent developments which have required planning consent). Where detailed inventories have been undertaken, private parking has been shown to potentially account for 50% or more of total supply.
- 10.18 As planning authorities, Metropolitan Borough Councils can influence the amount of parking provided at developments and how it is used through the development control process; and subsequently monitor and enforce use of this supply where planning conditions allow. However, for many older properties, no such conditions exist, meaning that local authorities have no control over parking on those sites.
- 10.19 From 2009, planning authorities were able to set locally-determined maximum parking standards for non-residential development in their Local Development Frameworks rather than the national standards for large developments previously mandated in Planning Policy Guidance 13⁷⁹. These standards were required to be consistent with local transport policies and those set out in Regional Spatial Strategies and authorities were not able to set minimum standards.
- 10.20 Under the Coalition Government, the previous and extensive planning guidance regime has been replaced with the National Planning Policy Framework (NPPF). NPPF does not include any policies on parking standards (although it does require planning authorities to take a number of considerations into account and to take actions to safeguard the vitality of town and city centres). Therefore, since March 2012, local planning authorities have been free to set maximum and/or minimum standards as they wish. Standards are set in Local Development Framework Development Plan Documents (DPDs) or Supplementary Planning Documents (SPDs).
- 10.21 As a consequence, standards and their application vary greatly across Metropolitan planning areas (as shown in Table 10-1) although it is important to note that some planning authorities are still in the process of formally replacing their Unitary Development Plan policies with Local Plans. Often different standards are set for different parts of the authority and can be applied to either individual developments or a number of developments over a period within a particular location. Further, standards are often treated more as baselines for negotiation with developers with DPDs and SPDs setting out circumstances under which there could be variance from the standards quoted (indeed in some instances no standards are set and parking provision determined on a case by case basis).

Table 10-1 Sample of maximum parking standards – B1 Office in the core centres

Core centre	Standard (1 space per x m ² gross)			Source (most recently adopted planning document)
	Core	Fringe	Remaining	
Birmingham	60m ²	45m ²	30m ²	Birmingham City Council (Feb 2012) Parking Standards
Leeds	175m ²	100m ²	33m ²	Leeds City Council (Nov 2012) Leeds Parking Policy SPD
Liverpool	Site specific (note 2002 UDP not yet replaced so reflects PPG13)			Liverpool City Council Unitary Development Plan (Nov 2002)
Manchester	Case by case basis		30-40m ²	Manchester City Council (July 2012) Core Strategy
Newcastle	200m ²	Not stated	20-50m ²	Newcastle City Council UDP saved policies
Sheffield	175m ²	100m ²	Not stated	Sheffield City Council (Jan 2013) Parking Standards and Guidelines for New Developments

Implications for Metropolitan areas

10.22 The process of determining the standards reflects the need to balance what can be conflicting policies of supporting economic growth whilst promoting sustainable forms of travel and minimising unwanted impacts on the transport networks. For those Metropolitan areas which are not also a Combined Authority, this balance can be harder to strike as economic policy and development control sits with the Metropolitan Borough Councils whilst transport policy, through the Local Transport Plan, is set by the Integrated Transport Authority. For some areas, it may therefore be difficult to use parking policies to support wider sustainable transport and quality of life policies.

The cost of parking

Introduction

- 10.23 Most parking in city centres is off-street, with limited paid/uncontrolled on-street parking. Typically, a large share (up to 60%) of off-street parking is Private Non-Residential (PNR) or private residential, with the remainder in car parks, most of which publically available (Leeds say 50%). These car parks have tariffs which are designed to attract either short or long-stay visitors.
- 10.24 The focus here is on car parks aimed at shoppers, so it excludes car parks outside these areas or car parks at supermarkets, stations or elsewhere which are accessible by the public.
- 10.25 Long-term off-street parking is supplied by a mix of official car parking operators and bomb-site car parks which often undercut rivals due to their lower overheads, but are often without planning permission and subject to closure notices by the planning authority.

Relative cost of parking

- 10.26 Figures 10-1 and 10-2 show car parking tariffs in ‘shopper’ car parks for stays of up to two and four hours respectively.

Figure 10-1 Sample off-street ‘shopper’ car parking tariffs for stays up to 2 hours

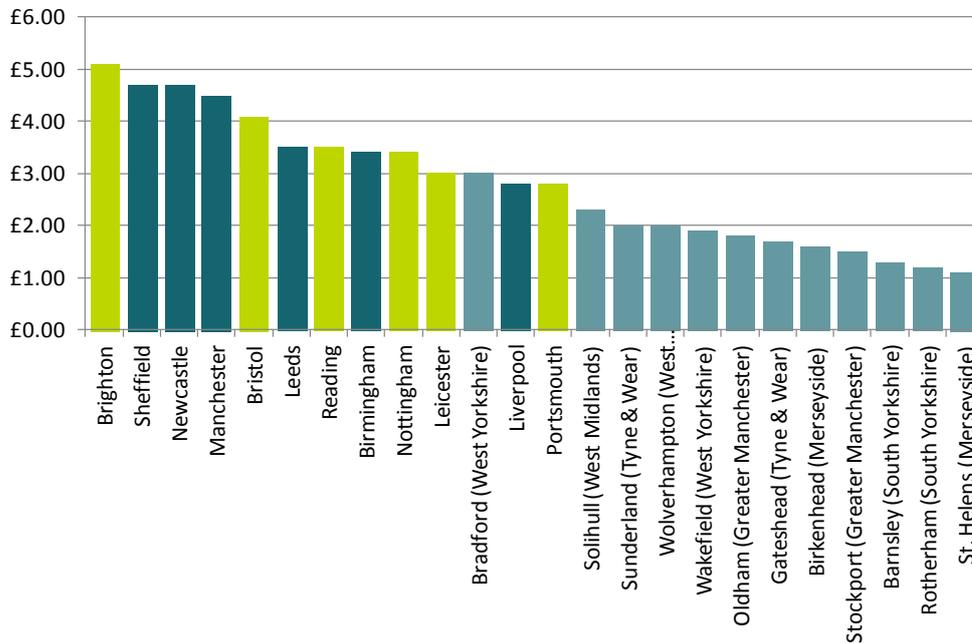
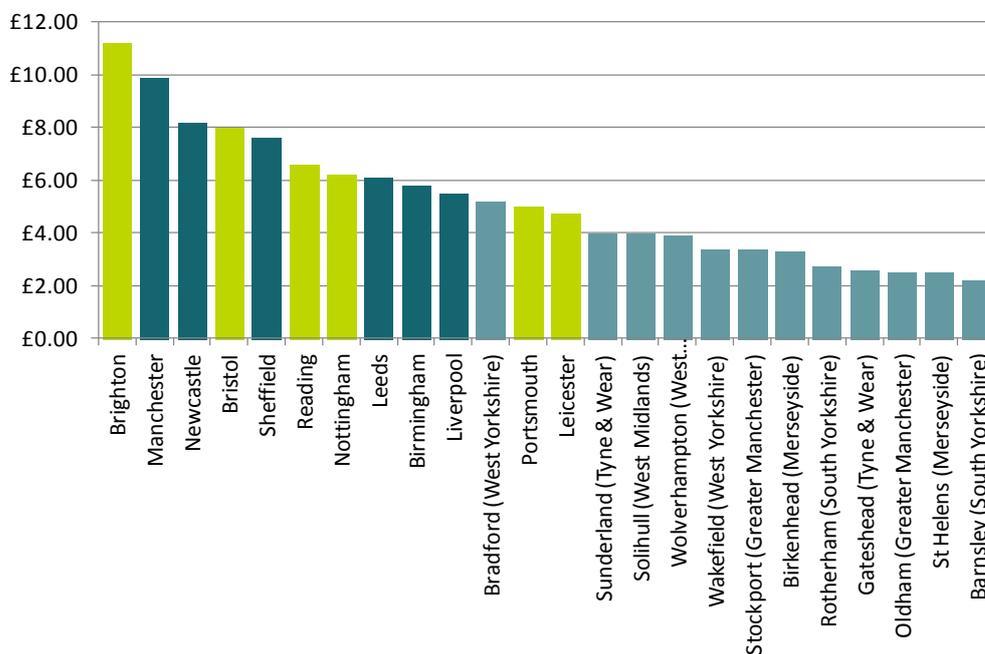


Figure 10-2 Sample off-street ‘shopper’ car parking tariffs for stays up to 4 hours



10.27 The key conclusions from this analysis are as follows:

- Councils tend to own/operate approximately 50% share of shopper supply and typically have smaller average size car parks (more of which are surface). In some centres, the Council share can be much lower (0% in Sheffield and Manchester, 8% in Birmingham).
- Outside the core centres, the majority of off-street car parking is owned and operated by the Council as their financial viability is often less strong.

- In most core centres and other cities, shopping centres own (and often operate) one or more large car parks in which prices are typically kept relatively low to attract shoppers. Many shopping centres make no profit (or even a loss) on their car parks.
- NCP and other privately-owned/operated car parks tend to be more expensive and are often more geared towards the weekday business and contract market.
- Council car parks tend to be cheap where the Council is trying to attract business either to their car parks, or to the centre (e.g. Portsmouth), but tend to be expensive if the Council is trying to deter car use (e.g. Brighton). The retail performance and parking prices of neighbouring cities is often a material consideration.
- Ranking of tariffs are similar for two and four hour stays.
- In terms of core centres, shopper parking in the Metropolitan areas is highest in Manchester (where there is an NCP monopoly), Newcastle (where approximately half the supply is Council-controlled, the other half NCP) and Sheffield (where the Council operates no car parks and NCP predominates).
- By contrast, parking is cheaper in Leeds (where the Council operates half the supply and the shopping centre car park is relatively cheap); Birmingham (where the large Bullring-owned car parks are actually more expensive than NCP and Council car parks); and Liverpool (although exclusion of one slightly peripheral but large car park increases the average price notably).
- Prices in the core centres is broadly similar to the other large English cities, although more expensive than in Portsmouth and Leicester (but much cheaper than in Brighton which is the most expensive of the cities surveyed).
- Prices in a sample of non-core centres in the Metropolitan areas (two per Met) are always lower than in the respective core centre by up to 70%, depending on the centre.

The balance and availability of public and private parking

10.28 Car parking supply in city centres falls into three broad categories:

- on-street bays and un-controlled kerbside;
- private non-residential (PNR) and private residential off-street parking; and
- publically-available off-street car parks.

10.29 The balance between the amount of supply falling into each of these categories can vary greatly from centre to centre, however in general the share of parking in city centres which is provided on-street is relatively small (less than 10% where kerbside is controlled) and is usually in the form of short-term paid bays (meters or Pay & Display). In non-core centres, on-street supply tends to account for a larger share of the total as there are fewer off-street car parks, and there is a higher tendency to provide some free short-term parking bays.

10.30 Publically-available car parking supply, i.e. that accessible to any vehicle, usually on payment of a tariff before or after the stay, can be further sub-divided as follows:

- Medium-stay car parks. Often large, multi-storey, car parks with tariffs designed to attract visitors staying from two to four hours, predominantly those shopping. They can be freestanding or integral/connected to shopping centres. They can be owned and operated by the local Council, by a private car park operator (such as NCP or Q-Park) or by a shopping centre. Such car parks tend to be of a higher standard and be situated in prime locations in the retail core.
- Car parks serving supermarkets, other large shops or leisure facilities. These car parks tend to have a maximum stay and discount/refund schemes designed to deter use by those also shopping elsewhere. Where this is not the case, and where stores are located in the retail core, such car parks can effectively act as more generic medium stay car parks (as above).
- Long-stay car parks. Some car parks operate tariffs designed to attract long-stay visitors and deter short-stay. These may take the form of large multi-storey car parks, or be located adjacent to stations. Often, the distinction between these and medium-stay car parks can be unclear, especially when sections of a car park are reserved for contract customers. These car parks tend to be located outside the core shopping areas (where land is cheaper and employment levels higher). In addition to the formal car parks, many city centres are blighted by temporary 'bomb site' car parks offering cheap long-stay parking on development land. Most do not have planning permission but enforcement is expensive and protracted.
- Short-stay car parks. Tariffs structures are set to strongly deter stays of over 1-2 hours. These are often smaller surface car parks operated by Councils, situated in prime locations for shoppers, often in niche/boutique shopping districts.

Implications for Metropolitan areas

- 10.31 The key implication of these pricing arrangements is that some Metropolitan authorities control little or none of their public off-street parking supply. Where this is the case, prices are determined by market forces rather than by wider Council or PTE policies. As a consequence, a key policy lever which could be used to influence demand for travel by car can have limited or no effect. In fact, as prices are set by car park operators to maximise revenue, they are likely also to encourage car use, including (where there is plenty of supply) for long-stay commuter parking in city centres.
- 10.32 For PTEs, these consequences are strongly counter to their objectives of encouraging use of public transport and reducing the demand for car use as cheap parking will encourage visitors to remain in their cars. As can be seen from the example of Brighton, where local authorities outside Metropolitan areas retain control of a large share of parking supply and have strong sustainability policies, parking prices tend to be higher.

CLG proposals on local government parking strategies

Background

- 10.33 Parking policy has a high media and political profile which tends to neglect these objectives in favour of focusing on motorists' perceptions of unfairness of charges or enforcement. This in turn is reflected in the overall approach of government to parking which is to make parking policies harder to implement and enforce. For example a DfT consultation on local government parking strategies has just closed that proposed:
- stopping the use of CCTV for on-street parking enforcement;

- giving local communities and businesses new rights to require authorities to review aspects of their parking strategies such as the level of parking charges and whether all double-yellow lines are appropriate and necessary at particular locations;
- introducing limited ‘grace periods’ where a driver has stayed in a parking place for a short period before issuing a parking ticket; and
- updating statutory guidance to local authorities to emphasise a less ‘heavy-handed’ approach to parking enforcement, and re-emphasise that parking charges and fines cannot be used to as a means to raise revenues.

Implications for Metropolitan areas

10.34 Depending on whether or not all these proposals are implemented the implications for enforcement are potentially severe. For example:

- implications for disabled people (in terms of boarding buses if a bus cannot draw up to the curb at the right place because of parked cars);
- road safety issues, including in relation to enforcement around zebra crossings;
- lack of enforcement of ‘school-keep clear; markings which could put children’s safety at risk;
- additional congestion on major routes, on which CCTV-equipped vehicles are currently deployed to ensure obstructive parking does not cause congestion; and
- inability to enforce other restrictions which may be enacted through the Traffic Management Act (see below).
- Even if these proposals are not all implemented it is clear that local authority parking policies are often under very close scrutiny by parliament and the media, and are often perceived as waging war on the motorist. Most significantly the CLG is promoting policies and regulatory change that could restrict the abilities of local authorities to set, monitor and enforce parking offences as well as require them to provide more information about the parking enforcement they carry out in a way that increases the overall cost of parking enforcement. A more consistent approach to parking policies across LTAs could assist in articulating the rationale for such policies to the public and stakeholders.

Implementation of Section 6 of the Traffic Management Act (2004)

10.35 Since 2004, the majority of the powers set out in the Traffic Management Act (TMA) have been enacted. These powers enable local authorities across England to improve traffic conditions by:

- enforcing moving vehicle offences in bus lanes, bringing bus punctuality benefits to bus passengers and operators;
- allowing authorities to issue parking penalty charge notices by post, use of cameras to detect parking contraventions, and issue penalty charges for parking within the zigzag area of a pedestrian crossing; and
- creating specific offences to deal with double parking and parking at dropped footways.

10.36 However, the powers under Part Six of the TMA have not yet been enacted by the Government other than in London. These powers would enable local authorities to enforce a variety of civil offences, such as banned turns and obstruction of yellow box junctions.

Implications for Metropolitan areas

- 10.37 The enactment of these powers would enable local transport authorities to take direct local enforcement action on issues affecting local communities. Currently, a lack of police resources means that enforcement of these types of offences is often a low priority.
- 10.38 By enforcing these civil offences, local highway authorities will be able to directly tackle the effects of disruptive driver behaviour which can worsen congestion, bus punctuality and road safety.

⁷⁹ See DCLG (2009) *Planning Policy Statement 4 – Planning for Sustainable Economic Growth*

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