

REPORT

CONNECTING LINES

HOW DEVOLVING TRANSPORT POLICY CAN
TRANSFORM OUR CITIES

Luke Raikes

March 2016

© IPPR North 2016

Institute for Public Policy Research

ABOUT IPPR NORTH

IPPR North is IPPR's dedicated thinktank for the North of England. With its head office in Manchester and representatives in Newcastle, IPPR North's research, together with our stimulating and varied events programme, seeks to produce innovative policy ideas for fair, democratic and sustainable communities across the North of England.

IPPR North specialises in regional economics, localism and community policy. Our approach is collaborative and we benefit from extensive sub-national networks, regional associates, and a strong track record of engaging with policymakers at regional, sub-regional and local levels.

IPPR North
2nd Floor, 3 Hardmann Square
Spinningfields, Manchester M3 3EB
T: +44 (0)161 457 0535
E: north@ippr.org
www.ippr.org/north
Registered charity no. 800065

This paper was first published in March 2016. © 2016
The contents and opinions expressed in this paper are those of the author only.

SUPPORTED BY



IDEAS to
CHANGE BRITAIN

CONTENTS

Summary	3
Opportunities and challenges for new mayors	3
Key recommendations	4
Summary of recommendations and pledges	5
1. Introduction and context.....	9
1.1 Policy context	9
1.2 This project.....	10
2. The importance of transport and its integration	12
2.1 Driving inclusive economic growth	12
2.2 Enabling mobility and access to services.....	14
2.3 Sustaining the environment and achieving public health outcomes	15
2.4 Transport integration, governance and devolution	16
3. New developments in UK policy	18
3.1 The shape of UK policymaking: austerity, devolution and public sector reform	18
3.2 Changes to transport policy	19
3.3 Financing public transport.....	21
3.4 Technology and big data.....	22
3.5 Local innovation in the UK.....	23
4. Lessons from overseas	26
4.1 Reinventing a city: Malmö, Sweden.....	26
4.2 Social service integration: Netherlands.....	27
4.3 Versement transport – a tax to boost transport investment: France	28
4.4 Congestion charging – prioritising the environment and public health: London, Stockholm, Copenhagen and Greater Manchester	28
4.5 Achieving rapid change: New York City	30
5. Conclusions and recommendations.....	32
5.1 Phase 1: Full implementation of current government policy and laying the groundwork locally, 2016–2017	33
5.2 Phase 2: Extension of current government policy and use of devolved powers, 2017–2020	36
5.3 Phase 3: Mayors have a level of devolved power and resource that approaches that of their European counterparts, 2020–2024	38
5.4 Summary of recommendations and pledges	39
References	44

ABOUT THE AUTHOR

Luke Raikes is research fellow at IPPR North.

ACKNOWLEDGMENTS

The author would like to thank those who kindly presented at our roundtables: Mark Wilson (North East Combined Authority), Rod Fawcett and Nicola Kane (Transport for Greater Manchester), and Lucy Saunders (Transport for London). We would also like to thank those we spoke to throughout the project's development, including Stephen Joseph (Campaign for Better Transport), Ian Taylor (Transport for Quality of Life), Nick Quinn and Tom Flude (Transport for London), Jonathan Spruce (ICE/Fore Consulting) and Richard Kotter (Northumbria University). We would also like to thank IPPR colleagues for their input throughout this project, especially Ed Cox, David Butler, Josh Goodman and Michael Jacobs.

We are very grateful to Keolis, who kindly sponsored the report.

Download

This document is available to download as a free PDF and in other formats at:

<http://www.ippr.org/publications/connecting-lines-how-devolving-transport-policy-can-transform-our-cities>

Citation

If you are using this document in your own writing, our preferred citation is:

Raikes L (2016) *Connecting lines: How devolving transport policy can transform our cities*, IPPR North. <http://www.ippr.org/publications/connecting-lines-how-devolving-transport-policy-can-transform-our-cities>

Permission to share

This document is published under a creative commons licence:

Attribution-NonCommercial-NoDerivs 2.0 UK

<http://creativecommons.org/licenses/by-nc-nd/2.0/uk/>

For commercial use, please contact info@ippr.org



SUMMARY

Across the major cities of England, new directly elected mayors will soon take charge of their transport networks. They will not govern alone, but they will be the primary political executives and the most visibly accountable individuals. This change is long overdue. The UK is behind other similar countries: we invest far less in infrastructure and leave local transport authorities without the powers they need over their transport networks.

This presents an important opportunity for English cities to improve their transport systems. Mayors should make their cities' transport systems more integrated and ensure that they better support wider goals such as access to jobs, schools and other public services, improvements in public health, carbon reduction and cleaner air.

This report makes detailed recommendations for how English mayors can improve city transport systems over three terms of office – and how central government can support them, including by giving them more powers.

Our recommendations fall into three categories, and would enable mayors to:

- **invest** in their transport network by drawing on new resources, such as an expanded business rate premium, workplace parking levies, road user charging and a broad range of other revenue raising powers
- **integrate** the transport services of public, private and community transport providers, starting with the re-regulation of buses but ultimately taking a 'Total Transport approach'
- **lead** their city-region, by using new democratic structures to govern inclusively, balancing strong executive power with the representation of all communities, and robust checks and balances.

Opportunities and challenges for new mayors

- New mayors seeking to improve their transport networks will face the challenge of reduced and falling **spending power** – but they will be helped by continuing technological advances, and potentially by increasing **autonomy** as more powers are devolved from central government.
- One of the most significant new powers they will have will be the ability to franchise (or regulate) their bus networks, which is set to be enabled by the new **buses bill**.
- Mayors can learn lessons from the '**Total Transport**' pilots, which are trying to improve the way different public bodies spend money on transport in rural areas.
- Within the UK, some transport authorities are **already innovating**. These range from Transport for London's public health innovations to Greater Manchester's earnback initiative and Nottingham's workplace parking levy.
- As UK city-regions move towards a level of devolved power and responsibility that has long been enjoyed by similar city-regions overseas, there is an opportunity for them to **learn from their international counterparts**: from the slow reinvention of Malmö to the rapid but radical changes seen in New York City; from integration across the public sector in the Netherlands to measures in France that raise vital revenue from employers; and to road user charges in several cities across Europe that have reduced emissions and improved congestion.

Key recommendations

Recommendations for central government

Resources

- Proceed with plans to enable mayoral combined authorities to levy 2p on **business rates** to be directed toward transport infrastructure – but then move to remove the **2p cap** and **broaden the scope** of the levy to allow it to fund services and other improvements in the transport network.
- Establish a **single transport fund** as part of a longer-term financial settlement with transport authorities.
- Enable metro mayors to implement **workplace parking levies** more freely, and to **pilot other taxes and levies** that support transport investment.

Service integration

- Proceed with current plans to enable the **franchising of buses**, and provide transport authorities with the tools and funding they need to put this in place, requiring only robust governance not specifically a mayor.
- Support and evaluate the current **Total Transport pilots** to help mayors to roll out the most successful aspects of public sector transport integration across other neighbourhoods and cities.
- Require all departments to work with the local transport authority to share and publish as much **data** as possible.

Governance

- Enhance the powers of **transport committees** to the level of policy advisory committees.
- Require a local **public sector advisory committee** to be set up in order to feed recommendations on transport policy to the mayor – and then move to set up governance structures needed to manage the **Total Transport** approach across the relevant public sector bodies.

Recommendations for metro mayors

For 2017

In the run-up to the 2017 mayoral elections, metro mayors should pledge to use their existing powers to:

- **reduce fares** for public transport on some bus routes and for some groups – young people, the low-paid or jobseekers
- invest in much-needed **tram infrastructure** or support **new bus routes** to reduce congestion on the roads
- introduce **smart ticketing** and a **rationalised, integrated transport network**
- guarantee that no resident lives more than an hour's bus journey or an affordable bus ticket away from a **job**, so that all residents are connected with vital work opportunities, and to make a similar commitment around travel to a leisure centre.

For 2020

In the 2020 mayoral election campaigns we would expect mayors to invest in and develop their networks further, and to implement a **'Total Transport' plan** which would guarantee no citizen is an unreasonable distance from hospitals, GP surgeries and other important public services.

For 2024

By 2024 we would expect mayors to have significant funding and control over their transport network such that they can pledge to make incremental improvements in transport infrastructure to **keep pace with the most advanced cities in the rest of Europe**.

Summary of recommendations and pledges

See chapter 5 for more detail on all recommendations and pledges.

Resources		
Phase 1 2016–2017	Phase 2 2017–2020	Phase 3 2020–2024
<p><i>Central government should:</i></p> <p>Proceed with the plans to enable mayoral combined authorities to levy 2p on business rates to be directed toward transport infrastructure.</p> <p>Align the bidding processes for funding pots related to transport, and top-slice each pot to fund an ‘integration incentive’.</p> <p>Expand the scope of earnback and gain share investment projects that cash in on transport’s impact on the local economy, to include within their scope economic growth generated from non-infrastructure transport improvements (such as bus routes) and investigate how broader public sector outcomes can be included too.</p> <p>Make it simpler and fairer to introduce workplace parking levies, and encourage more authorities to do so.</p>	<p><i>Central government should:</i></p> <p>Remove the cap on the business rate premium, and broaden its scope to fund services and other improvements in the transport network that go beyond physical infrastructure.</p> <p>Enable metro mayors to implement workplace parking levies without secretary of state approval.</p> <p>Enable leading city-regions to pilot new taxes and levies.</p> <p>Establish a single transport fund as part of a longer-term financial settlement with transport authorities.</p> <p>Expand the logic of earnback and gain-share to include other public sector outcomes in the ‘gateway assessment’ process.</p>	<p><i>Central government should:</i></p> <p>Allocate transport funding on a non-competitive basis, and instead allocate it according to population, patronage, economic growth potential and deprivation levels.</p> <p>Enable transport authorities to roll out a range of new levies to fund transport improvements.</p>

Service integration		
Phase 1 2016–2017	Phase 2 2017–2020	Phase 3 2020–2024
<p><i>Central government should:</i></p> <p>Proceed with current plans to enable the franchising of buses, and provide transport authorities with the tools and funding they need to put this in place, requiring only robust governance not specifically a mayor.</p> <p>Support and evaluate the Total Transport pilots, which integrate different public-sector transport operations and which are currently underway in rural areas.</p> <p>Gather ‘Total Transport’ intelligence on transport spending by different public-sector agencies across the country.</p> <p>Require all departments to work with the local transport authority to share and publish as much data as possible.</p>	<p><i>Central government should:</i></p> <p>Require all central government departments to consult extensively with transport authorities when tendering services, and top-slice seed funding for Total Transport pilots within city-regions.</p> <p>Integrate transport into all relevant devolution processes by formally involving transport authorities in all aspects of devolution deals.</p>	<p><i>Central government should:</i></p> <p>Enable ‘Total Transport’ service integration to be rolled out as far as possible.</p>

Governance		
Phase 1 2016–2017	Phase 2 2017–2020	Phase 3 2020–2024
<p><i>Central government should:</i></p> <p>Maintain the current role of transport committees within mayoral combined authorities, so that the right checks and balances are in place and diverse communities are adequately represented.</p> <p>Require a local public sector advisory committee to be set up in order to feed in recommendations on transport policy to the mayor, the combined authority and the transport committees.</p> <p>Require that passenger transport user groups and user groups from other sectors are set up to advise other local governance structures.</p>	<p><i>Central government should:</i></p> <p>Enhance the powers of transport committees to the level of policy advisory committees.</p> <p>Set up governance structures to manage city-region Total Transport pilots between the relevant public-sector bodies.</p>	<p><i>Central government should:</i></p> <p>Review and reform governance in response to new powers, challenges and opportunities to ensure effective decision-making, representation of all communities and robust checks and balances are maintained.</p>

Mayoral commitments		
Phase 1 2016–2017	Phase 2 2017–2020	Phase 3 2020–2024
<p>By 2017, candidates will be standing for mayor in major UK cities; in conjunction with other locally elected representatives, they will have the powers they need to drive forward proactive plans for economic growth, social inclusion, environmental sustainability, and public health outcomes.</p> <p>Using their powers to franchise buses, and by spending as appropriate public bus subsidies, the business rate premium, local growth fund and ‘access’ fund, as well as revenues raised from a workplace parking levy, road user charging and low-emission zones, mayoral candidates can pledge:</p> <ul style="list-style-type: none"> • To reduce fares for public transport on some bus routes and for some groups – young people, the low-paid or jobseekers. • To invest in much-needed tram infrastructure or support new bus routes to reduce congestion on the roads. • To introduce smart ticketing and a rationalised, integrated transport network. • To guarantee that no resident lives more than an hour’s bus journey or an affordable bus ticket away from a job, so that all residents are connected with vital work opportunities. • To guarantee that no resident lives more than half an hour’s bus journey and an affordable bus ticket from a leisure centre. 	<p>By 2020, in addition to the powers they had in 2017, mayors will now be able to use their increased powers to coordinate all local transport provision across the public sector and resources from the expanded business rate premium, a single, longer-term transport fund, new levies, and broader earnback or gain share projects. Mayors can then pledge to invest in and develop their networks further, and to implement a ‘Total Transport’ plan which would guarantee no citizen is an unreasonable distance from hospitals, GP surgeries and other important public services.</p>	<p>By 2024 the mayors of major UK cities outside of London could have significant funding for and control over their transport network. They will have the powers to coordinate transport across the whole public sector, guaranteeing high-quality and efficient use of resources. They will have the funding they need to invest in the infrastructure that any modern city needs but that is currently sorely lacking in major UK cities outside of London.</p>

1. INTRODUCTION AND CONTEXT

1.1 Policy context

In the UK, local transport authorities have little power over their transport networks. Outside of London the buses are deregulated and the Department for Transport (DfT) franchises the trains. In some areas, a light rail network is run by the authority, but these networks are very small-scale. In short, unlike countries such as Germany and France, decisions in the UK are made either by central government or by private, unregulated companies; regional authorities do not exist within England,¹ and city-region transport authorities do not have the powers required to effectively integrate the different modes of transport in their areas.

Investment in transport infrastructure is also relatively low, decision-making is centralised, and spending is skewed towards London. There is more light rail in each of the German cities of Karlsruhe, Cologne and Berlin than there is in the whole of the UK (Cox 2014); to reach German levels of light rail network per person, the UK would need to build 2,200km of new track – enough to build 24 networks the length of Greater Manchester’s Metrolink (author’s analysis of ERRAC and UITP 2012).² Furthermore, the centrally-controlled national infrastructure pipeline is skewed significantly towards London, which is set to receive £2,600 per head, compared to £327 per head across the rest of the UK (Cox and Raikes 2015a). A major reason for this shortfall is that transport authorities don’t have the funds to invest themselves, and 80 per cent of local authorities in one survey highlighted the lack of infrastructure investment as a barrier to growth (PwC 2014).

But devolution within the UK has been gaining momentum for some time, and the pace of change has accelerated rapidly in the last year. Rail North was heavily involved in the franchising of the Northern and TransPennine rail franchises and will soon take over their management; Transport for London (TfL) has long pushed for control over the capital’s suburban rail network, and this look set to progress in coming years.³ The Scottish referendum gave new energy to this devolution, and was followed by the landmark Greater Manchester agreement and the advent of Transport for the North. Since the 2015 election, the government has made further deals with major cities, and its legislative programme has prioritised two closely related pieces of legislation: the Cities and Local Government Devolution Act (which enables public services to be devolved) and the buses bill (which is not yet published but is expected to enable bus franchising outside of London). This pair of legislative changes will enable cities and counties within England to take on significant powers over their local transport networks.

This wave of devolution also presents an important opportunity to integrate transport policy directly with other public services. Combined authorities will be gaining more powers over other policy areas closely related to transport, such as skills and housing investment, and devolution of health is starting to happen in Greater Manchester and elsewhere, which provides a significant opportunity to integrate health priorities with transport policy too. This is on top of the policy

1 Although the new Transport for the North body should soon change this.

2 ‘Light rail’ in this case is used to refer also to metro and tram networks. Comparison is based on the latest available comparable data, published in 2012.

3 See: <https://tfl.gov.uk/corporate/about-tfl/how-we-work/planning-for-the-future/developing-the-rail-network>

areas for which local authorities are already responsible, such as social care and education.⁴ This also has great potential to tie in with the ‘whole place’ public service reform agenda pursued by this and previous governments. Furthermore, as seen in Greater Manchester’s earnback deal, business rate retention arrangements and the prospects of greater fiscal devolution, there are new opportunities being created for city-regions to fund transport infrastructure projects in ways that hitherto have been impossible in England.

There has also been a shift in the approach to transport policymaking in recent years. Traditionally, transport policy has been ‘problem-oriented’, in that it has reacted to issues, such as congestion or accidents, as they arise. While these considerations remain important, policy has shifted to become more ‘objectives-led’, whereby policymakers seek to define broad outcomes (economic, social, environmental) and then set out how transport policy can achieve these (Preston 2014). The involvement of Rail North in shaping the tenders of the Northern and TransPennine rail franchises is a recent example of this approach. Here, the local authorities across the North worked together to shape those franchises so that they were directed towards the future economic growth and prosperity of the North (Rail North 2015).

Technological advances continue to drive significant change in the transport sector. From big and open data to Uber, the transport sector is undergoing significant disruption. Political actors and institutions not only struggle to keep up with advances and ensure that they maximise the public good, but also miss opportunities to capitalise on these developments.

It is in this new and fluid situation that the integration of transport with other areas of public policy takes place. This can be done in two distinct but complementary ways:

- by gearing the transport network as a whole more effectively towards achieving broader economic, social, environmental and public health outcomes
- by coordinating the transport services already procured across the public sector (in areas such as health, social care and education) more efficiently.

1.2 This project

There is both a need and a desire to integrate transport more effectively, and devolution presents a clear opportunity for transport policy to take a leading role. But in the face of unprecedented fiscal challenges, there is also a need for transport to achieve more with much reduced resources.

This report focuses on the UK’s major city-regions, but our findings apply also to smaller cities, towns and rural areas across the country. City-regions are leading the way with devolution, and their mayors will have a prominent role in transport matters. However, they are not alone in pursuing devolution of transport powers – Cornwall, for one, has a strong devolution deal too. This report therefore sits alongside IPPR’s work on transport integration in towns and rural areas (Raikes et al 2015); we’ve also set out previously how all parts of the country should ultimately arrive at the same place with respect to devolution, albeit at different speeds (Cox et al 2014).

In preparing this report, we have investigated potential policy responses for both central government and new mayoral combined authorities as they are set up across the country. We have sought to develop policy based on existing research, and to set out new ideas for how transport can be revolutionised in UK cities.

4 Although of course the role of local authorities in education is rapidly diminishing.

The overarching question for this project, then, is:

'To what extent do integrated transport networks contribute to the economic and social wellbeing of city- and county regions, and to what extent can devolved policymaking enhance their effects?'

While more detailed research questions include:

- How does integrated transport planning relate to the delivery of key public services, such as health and education?
- What are the opportunities presented by local transport devolution and integration for creating more effective and efficient local services?
- What changes could be made to the governance and financing systems to promote and sustain more effective local transport systems?
- What can be learned from integrated transport networks in city and county regions overseas?

In order to address these questions we undertook:

- a literature review of current policy in the UK at the national and local level, to both understand the current context and learn from recent developments
- case studies of authorities in other places that have local or regional transport authorities using devolved powers effectively
- interviews with key stakeholders in academia and policymaking within UK city-regions, in order to understand their own perspectives on the opportunities and threats presented by new developments
- three roundtables to discuss the potential application of these new developments in England: in London (with a speaker from Transport for London); in Manchester (with a speaker from Transport for Greater Manchester); and in Newcastle (with a speaker from the North East combined authority).

This report brings together all the above, and proceeds as follows:

- Chapter 2 outlines briefly the value of a fully integrated transport network.
- Chapter 3 reviews new developments in UK policymaking.
- Chapter 4 reviews a set of international case studies that demonstrate the opportunities and pitfalls of devolution and transport integration.
- Chapter 5 sets out policy recommendations for achieving integrated transport and maximising its benefits. These proposals are arranged over three phases, between now and 2024, focused on empowering mayors, their combined authorities and transport committees to drive forward integrated transport networks in their city-regions.

2. THE IMPORTANCE OF TRANSPORT AND ITS INTEGRATION

Transport policy can be geared toward significant economic, social and environmental progress. As noted in the previous chapter, transport policymaking has started to place more emphasis on the wider objectives it can achieve, as opposed to merely reacting to problems as they arise. This section draws on the literature to show how transport networks are able to drive inclusive economic growth, enable mobility and access to services, and help to improve the environment while supporting public health outcomes. The report then shows how governance, devolution and integration can deliver these outcomes more effectively.

2.1 Driving inclusive economic growth

The theory of how transport can improve a local economy is well established. A range of studies confirm that transport underpins the functioning of an economy, and that choosing better or worse infrastructure investments and policies can have a significant economic impact (see for example Eddington 2006). More than 21 million UK residents regularly commute, and their economic activity directly generates wealth for them and the wider economy. The principal focus of analysis is therefore often on the ability of transport to drive a more efficient labour market, which can in the right circumstances produce a range of benefits.

The theory of why and how transport can improve an area's economy is well established, but is aptly summarised by Laird and Mackie, who state that investments can:

1. **reduce journey time** and therefore increase productivity and output
2. **reduce transport costs**, lowering prices and thereby allowing for an expansion of output
3. **reduce commuting costs**, therefore increasing the labour supply
4. **stimulate agglomeration economies** by effectively increasing proximity, raising productivity and wages
5. **increase competition**, leading to increases in net business productivity and output
6. **increase migration**, which reinforces agglomeration impacts and changes the composition of the workforce
7. **increase employment and real wages**, providing a social benefit via taxation (adapted from Laird and Mackie 2010).

More specifically, transport policy can drive *inclusive* growth. It is a vital tool for regenerating local economies – and thus for helping to tackle poverty, inequality and social exclusion – and for narrowing inequalities between places too (Lewis 2011).

From an economic and social perspective, the recent focus on bus regulation in particular is vital. Buses facilitate economic inclusion like no other form of public transport. The majority of those who commute using public transport take the bus: Mackie et al (2012) estimate that 2.5 million jobs are accessed by bus every day and that another 1 million workers have the bus as a back-up option; together this accounts for around 12 per cent of the working population and £64 billion of gross value added. They also estimate that one in 10 bus commuters would be

forced to look for another job if they were no longer able to commute this way (ibid). Other research from the Passenger Transport Executive Group (PTEG) shows that jobseekers in particular are reliant on buses, and are more than twice as likely to use buses as anyone else (PTEG 2015), while Johnson et al (2014) found that 58 per cent of unemployed people had relied on the bus when they were last in work.

By providing access to leisure opportunities, shops and town centres, public transport also supports local economies across the country. In many city-regions and rural areas the economy is reliant on retail, leisure and the tourism industry; in turn, many people are reliant on public transport to access these opportunities and facilities. While commuting is understandably the focus of much transport policy, it accounts for only 16.0 per cent all journeys, while 19.3 per cent of journeys are undertaken for 'other escort and personal business',⁵ and 18.8 per cent for shopping (DfT 2015a).

However, there are weaknesses in how decisions about transport investments are made, undermining the potential of transport infrastructure to contribute to wider economic and social objectives. Investment in the infrastructure that enables local transport networks to operate effectively can have a significant economic impact, but how those investments are appraised is often narrowly defined by the Department for Transport (DfT). Transport appraisal is undertaken by the DfT, and it produces value-for-money estimates, which are based in part on benefit-to-cost ratios calculated on a project-by-project basis.⁶ There has been constructive criticism of this approach: Greater Manchester and London recently put forward the proposal that these desired outcomes should be broadened and understood more holistically, which is in line with IPPR North's previous arguments (see Volterra 2014, IPPR North and the NEFC 2012). Devolution to Scotland has enabled an even broader argument about economic benefit to be articulated: Transport Scotland worked to construct a politically driven vision of how Scotland's economy should function, and as a result invested in many railway stations that did not demonstrate value for money in the strictest sense (Scottish Executive 2006).

But the role of transport in driving economic growth depends heavily on context. Several studies, notably the Eddington transport study (2006), have shown how transport infrastructure can promote economic growth (especially in cities) – although this benefit certainly cannot be taken for granted, and some projects have not had a significant impact on the local economy. Tim Leunig (2011) argues that there are diminishing marginal returns to transport investment in developed countries, and that it has more of a supporting role alongside other drivers of growth. Given the theoretical importance of transport to an economy, and how often it is promoted without qualification as a driver of economic growth, it is perhaps surprising that there many gaps in the evidence base for its economic impact (see WWCLEG 2015).

So transport networks are undeniably vital to an economy, but interventions cannot be assumed to drive economic outcomes in all cases. Its governance and operation are therefore ideally integrated with other interventions and their own structures of governance – notably in land use planning, housing and skills. In turn, these different complementary areas of policy need to be implemented in different permutations for different local circumstances (OECD 2012). The essential role of devolved powers in this context is outlined in section 2.4.

5 Where 'escort' refers to journeys for the purpose of taking someone else somewhere, such as taking a child to school.

6 For more details, see: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255126/value-for-money-external.pdf

2.2 Enabling mobility and access to services

Transport networks are a vital consideration for the education sector. There are, on average, 113 trips per person per year for education purposes (making up 12.2 per cent of all trips); but for those aged 16 and under this is much higher, at 300 trips per person per year (or 35.9 per cent) (DfT 2015b). Clearly, many people rely on public transport directly for part or all of their trip to school. But those who don't are also indirectly affected by transport policy, through congestion and accidents outside schools caused by cars, or through the maintenance of crossings and streets that encourage safe walking and cycling. Local authorities are responsible for home-to-school transport, and for transporting those with special educational needs (SEN), spending almost £1 billion each year on these services combined (EFA and DfE 2015).

In the health sector, transport networks are essential for those who need to access hospitals and GP surgeries – almost two-thirds of households (64.7 per cent) are more 30 minutes' travel from a hospital (DfT 2014) and many are often reliant on or use public transport to get there. Non-emergency patient transport can be relatively expensive for non-transport specialists in the health sector to procure, and the DfT has suggested that there are large savings to be made by packaging together contracts for NHS and local authority clients (DfT 2013). Of course it is not only patients who need to get to hospitals, surgeries and other health-and social-care related facilities – the transport arrangements of staff and visitors are also an important consideration.

Concessionary travel schemes help older people, younger people, disabled people and other groups who rely on public transport to move around more freely. In 2014/15, 1 billion journeys were made using concessionary passes and an estimated £1.2 billion was spent on concessions⁷ (DfT 2015c). Greener Journeys calculates that every £1 spent on concessionary bus travel produces at least £2.87 in benefits, both to the users themselves and, through reduced congestion, improvements in health and wellbeing and the encouragement of volunteering activities, for the wider economy (Greener Journeys 2015).

Alternative business models in the transport sector

IPPR recently published research on the future of bus services, with a focus on areas outside our large cities (see Raikes et al 2015). We found that there are many 'gaps' in the bus network, and these are getting larger. The bus market outside of London is completely deregulated – a company is able to start or cease operating on any given route simply by providing due notice, with very little oversight from authorities. This market is recognised as failing in many parts of the country, with many routes lacking proper head-to-head competition between operators (DfT 2012, KPMG 2016). Furthermore there are parts of the country where there is no commercial case for a bus operation, despite there being people who would use a bus service if it existed; providing and sustaining a bus service is often required as a proactive first step toward stimulating uptake. Local authorities will in some cases tender a contract to operate on a particular route, but financial pressures on local authority budgets means many services have been cut in many parts of the country.

In this context, alternative business models are performing an important role. These are able to pursue objectives other than simply maximising the profits of private shareholders, and are often able to harness the value of volunteers.

⁷ Includes both statutory and discretionary concessions: the former are required by the government (such as for older and disabled people); the latter are at the discretion of the local authority, and can mean enhancing these requirements further than is required.

Examples of such alternative business models include:

- Dales and Bowland is a community-interest company delivering transport in Yorkshire, working in the interests of the community rather than shareholders.⁸
- LibertyBus, run by HCT Group in Jersey, shows how a profit-sharing arrangement can be mutually beneficial to the tendering authority and the operator.
- Rosso in Rossendale shows how municipal ownership can be a viable alternative, as a company wholly owned by Rossendale borough council.⁹

2.3 Sustaining the environment and achieving public health outcomes

The connection between environmental objectives and transport policy is well-established but is becoming increasingly important to policymakers. Road transport accounts for more than one-fifth all greenhouse gas emissions (DECC 2015), and so increasing the use of public transport can significantly reduce this contribution – especially by reducing congestion, which is particularly damaging to the environment (CEBR 2014). Many journeys (especially those which take place within city-regions) are currently unnecessary or could be rendered unnecessary with increased investment in public transport. From an environmental perspective, active travel (such as walking and cycling) clearly reduces harmful emissions by replacing altogether journeys by car and other forms of transport. There are many examples of transport authorities successfully shifting people onto more environmentally friendly modes of transport, often by combining investment in the right forms of transport connectivity and the right incentives for users – see the examples of London, Stockholm and Malmö set out in chapter 4.

However, funding decisions have not flowed in the same direction. Edenhofer et al (2014) show that surprisingly little funding for climate change has been spent on transport projects internationally. They suggest the substitution of investment in infrastructure related to environmentally damaging transport (such as roads) and the ability to capture the increasing value of land that results from transport investment (so-called ‘value capture’) as ways of resolving this, but they also underline the need to fully outline the costs and benefits of low-carbon transport (ibid).

The public health benefits of transport are closely related to these environmental considerations. The emission of particulates and other harmful gases by vehicles is detrimental to public health, and congestion in particular has been shown to have a significant impact. Gowers et al (2014) estimate that in the UK 29,000 deaths per year are attributable to manmade particulate air pollution.¹⁰ In addition there are deaths attributable to nitrogen dioxide, which are significant in number, but more challenging to estimate (see Walton et al 2015).

Active travel (walking and cycling) provides a key area of overlap between environmental sustainability, public health and transport policy. From a public health perspective, obesity is a major problem: almost a quarter (24.0 per cent) of the UK’s adult population is obese and a further 40.6 per cent are overweight (PHE 2015).¹¹ As a result, the NHS five-year forward view has a notable focus on prevention rather

8 It is a wholly owned subsidiary of the Yorkshire Dales Society in partnership with the Friends of Dales Bus – see: <http://www.dalesbus.org/dalesandbowland/>

9 There remain some municipally owned bus operators in the UK, notably Lothian Buses in Edinburgh.

10 As the authors of the study explain: ‘Long-term exposure to anthropogenic particulate air pollution is estimated to have an effect on mortality risks equivalent to the number of attributable deaths. Air pollution is likely to contribute a small amount to the deaths of a larger number of exposed individuals rather than being solely responsible for the number of deaths equivalent to the calculated figure of attributable deaths.’

11 Although it is important to note that people can improve their health through exercise, even if they remain overweight or obese, while diet is proving to be a better way to lose weight.

than treatment, and physical exercise is clearly one of many elements in that (NHS 2014). From a policymaker's perspective, active travel can often be enabled by the right public transport infrastructure – whether that is directly, for instance in bike-share schemes, or indirectly, by locating bus stops or train stations so that they are accessible on foot – and a robust evidence base is increasingly being used to assess transport schemes on these terms (see section 3.4 for more detail).

These environmental and public health considerations also interrelate with the economic considerations we have outlined previously. There is increasing recognition of the economic costs to cities that disregard the quality of their environment, particularly in a context of increasing urbanisation, with urban core populations reversing previous declines to grow over recent decades. Major city-centres within the UK – London and Manchester for example – have seen this kind of turnaround over the past 25 years, largely due to increasing international migration and larger student populations, but also because of the growth in service-sector employment (Champion 2014). However, another important factor has been the growing attractiveness of urban cores as a place to live (OECD and CDRF 2010). Pollution is therefore an increasing problem for urban populations, deterring people from living where they might otherwise choose to, and damaging the health of those who choose to move in anyway. The OECD (ibid) has argued that attractiveness is an important factor for both firms and individuals, and therefore any deterrent caused by such pollution could also have negative economic consequences – and suggests intensifying the use of public transport as part of the solution. The closely related issue of congestion has a more direct economic consequences: van Essen et al (2008) estimate this to be between 1 and 2 per cent of national GDP, and a city-region's economy will be particularly badly damaged.

2.4 Transport integration, governance and devolution

Transport integration is most commonly thought of as integration between modes. An integrated transport network enables citizens to pass easily and seamlessly from origin to destination, and is the goal of any local transport authority. This means planning routes, coordinating timetables, integrating ticketing and so on – often referred to as horizontal integration. Within the UK, only TfL currently has the powers needed to do this effectively, but as described above this could soon change, if bus franchising is taken forward in other major cities across England.

But there is another form of transport integration – with broader public policymaking. Transport policy can be integrated with land-use planning, education, healthcare and other public services, and – more widely still – with socioeconomic and environmental policymaking; this is sometimes referred to as vertical integration. This is summarised by John Preston (2012) in the list below: the first five points relate to horizontal integration, and the final four to vertical integration. Clearly, the former enables the latter, and policymaking will usually include an element of each:

1. the integration of public transport information
2. the physical integration of public transport services
3. the integration of public transport fares and ticketing
4. the integration of infrastructure provision, management and pricing for public and private transport
5. the integration of passenger and freight transport
6. the integration of (transport) authorities
7. the integration between transport measures and land-use planning policies
8. integration between general transport policies and the transport policies of the education, healthcare and social services sectors
9. integration between transport policies and policies for the environment and for socioeconomic development.

Evidence has suggested that devolving powers over transport policy has particular benefits for both forms of integration. Devolution can facilitate more effective integration between transport modes, enabling a metropolitan authority to plan and manage their network holistically (ibid). It also allows a complementary set of powers to be held by a single authority, and so better integrated across modes with other public services and towards a clear set of economic, social and environmental objectives. The OECD (2015) shows how transport and land-use planning powers have been used effectively across the developed world, but argues that there is a need to integrate these more effectively. Most countries that are similar to the UK have strong regional and stronger city-regional transport authorities which have proven effective: in France and Germany the regional tier of governance have powers which are currently lacking in the UK, except in the devolved nations and increasingly across the north of England (Cox and Raikes 2015b).

The governance of transport is a crucial consideration, and 'leadership' must be balanced by robust accountability. Individual leaders have the crucial advantage of being able to make decisions quickly, and many examples highlight the role of mayors in showing leadership (see section 4.5 below). However, as Biela et al (2012) argue, a decision that takes longer to make can be a better one, as the slower process may prevent poor decisions from being made. In the context of the current debates around devolution and governance in the UK, Francesca Gains (forthcoming) argues that the model of governance in Greater Manchester has significant advantages, but that it will also need robust democratic checks and balances, and democratic engagement should be a high priority.

Related to this, there are issues of representation and pluralism in the governance of transport. UK city-regions are of course extremely diverse places; indeed, Gopal et al (2013) claim that Manchester is the most linguistically diverse city in western Europe. Gender balance among elected representatives is also an important consideration; Chantal Duchene (2011) argues that the transport sector is particularly behind on this issue, and that transport provision is insufficiently responsive to what tend to be more complex transport patterns among women. Reflecting diversity is particularly relevant to the discussions about governance in the UK. Gains (forthcoming) notes that none of the 11 politicians who signed Greater Manchester's devolution agreement was a woman¹² – indeed, none were of a black or minority ethnicity either. Clearly there is a balance to be struck between allowing firm executive decisions to be made and ensuring that those decisions are correct, and that the many divergent interests of all communities within a city-region are adequately represented.

12 One of the combined authority cabinet was a woman (now two), however she was unable to attend the signing ceremony.

3.

NEW DEVELOPMENTS IN UK POLICY

Given that transport can deliver to these objectives, the context in which it operates is crucial; in the UK it is changing at pace. The current fiscal situation in particular means that using transport to deliver economic growth, social inclusion, environmental sustainability and health is both extremely challenging and all the more essential. Between 2010 and 2020 the shape of public policymaking will have changed significantly, and in a way that has important implications for transport policy in particular. This chapter looks at how these shifts have impacted upon transport policymaking, discusses recent transport reforms in greater detail, and provides case studies of several UK initiatives that signal a way forward in this new environment.

3.1 The shape of UK policymaking: austerity, devolution and public sector reform

By 2020, the UK public sector will be far smaller than it was in 2010, and local government will have borne the brunt. In two successive spending reviews the government has tried to cut departmental expenditure by a total of £46.0 billion¹³ (IFS 2015). Within this, local government has endured some of the most severe cuts: already, grant funding to local government has fallen by £31 billion (28.1 per cent) since 2010/11 (HMT 2015). However, the uneven distribution of these cuts has meant that some authorities, especially those in the poorest parts of the country, have lost proportionately far more (Innes and Tetlow 2015).

These changes have had a devastating impact on local government services, but they have also acted as a catalyst for some positive reforms in the public sector. There have been many drives toward integration at a local level – dating back to 2009 and the last Labour government’s ‘total place’ concept¹⁴ – and this momentum has continued under the ‘whole place’ agenda pursued by both the Coalition and Conservative governments. Although the Whole Place pilots have faced many challenges, when they were last reviewed by the National Audit Office they had begun to show some limited success (NAO 2013). Other initiatives are pushing forward the integration of health and social care specifically, notably in Greater Manchester.

This public sector reform has tended to be more effective in a devolved context, and devolution is set to accelerate in coming years. Research and experience show that local government can be best positioned to drive integration, and also to ensure that services are accountable to the people they serve (Muir and Parker 2014, LGIT 2014). The argument made by major city-regions in particular is that public sector reform is necessary to ensuring people benefit from the opportunities that economic growth can deliver (GMCA et al 2014, Core Cities 2015). As a result, much of the focus of the devolution deals agreed in the past few years has been on the co-commissioning of employment support at the local level, as well as smaller-scale initiatives under the ‘troubled families’ agenda. Furthermore, as noted in the previous chapter, the devolution of public health responsibilities to local authorities is of particular relevance to transport, and Eugene Milne (2012) suggests that integrating public health with transport policy is an important way for local government to make a significant impact.

¹³ Note this does not include annually managed expenditure, which is set differently.

¹⁴ Although it’s possible to trace local collaboration back further than this – see for example: <http://www.instituteforgovernment.org.uk/publications/attempts-join-public-services-timeline>

3.2 Changes to transport policy

In this context, transport policy itself has undergone significant changes. The devolution agenda has placed transport at its heart, in terms of both spending and powers. The architecture for this devolution was established first by local enterprise partnerships (LEPs), which are private-sector-led organisations covering several local authority areas, and which have a major role in competing for and prioritising transport spending in their local areas. But the combined authorities now set up across some major cities are increasingly the focus of devolution, and it is these which have gained powers over other areas of social policy. More recently, the election of metro mayors across these areas have been set as a precondition for significant devolution. Over a number of years there have been a series of city deals, growth deals and devolution deals, which have transferred small amounts of power and funding to each of these structures, and each has had a major focus on transport capital spending. Meanwhile Transport for the North has been set up to prioritise government investment in the northern powerhouse, and by integrating with Rail North has the scope to develop into a regional transport body, similar to those found in Europe (Cox and Raikes 2015b).

The franchising of bus services will be one of the most significant powers granted to local government in this parliament. The ‘buses bill’ is expected to be introduced to parliament shortly, and will enable transport authorities outside of London to enjoy the same powers of franchising as TfL does in the capital. As an ‘enabling bill’ it is expected to allow local transport authorities to present a ‘five case business case’,¹⁵ and if successful they will be granted the power to regulate their bus networks. These authorities would then have the power to carve up their bus markets into contracts and through a competitive tendering process award these contracts for a bus operator to run exclusively. This stands in stark contrast to the current situation, where operators can pick and choose the routes they serve and compete with other companies for passengers on the street. This is certainly a step in the right direction. However, in reality it is little more than a partial undoing of the extensive de-regulation that took place in the 1980s, and sees the UK move slightly towards a model that is considered standard and ‘common-sense’ in many other European countries.

Franchising holds significant potential for transport authorities to orient their transport networks more effectively towards wider economic, social and environmental objectives. For example:

- It enables integrated smart-ticketing to be rolled out, in a way which recent experience has shown cannot be emulated with ‘partnerships’ or voluntary agreements between operators in an unregulated market, due to competition law.¹⁶
- It enables the integration and development of a coherent, more efficient multimodal transport network, aligning journeys on tram, train and bus so that they are more convenient for passengers.
- It unlocks capital investment by pooling and coordinating the fare-box revenue gathered from ticketing, in effect retaining and reinvesting some the profit an operator would otherwise have extracted from the area.
- It allows overarching economic, social and environmental objectives to be pursued under the accountability of democratic structures.

15 For more detail on this process, see the government’s ‘green book’ guidance document: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/469317/green_book_guidance_public_sector_business_cases_2015_update.pdf

16 Despite claims that this can be achieved in an un-regulated environment, further examination reveals that these fall short in several essential respects. For more detail on this debate, see Taylor and Sloman 2016.

While the decision to franchise is rightly placed with transport authorities to make based on their own local circumstances, it is difficult to conceive of circumstances where regulation is *not* the best option. The TfL model of bus franchising has worked very well for London, and its use of ‘quality incentive’ contracts to reward or fine operators based on their performance appears to have been particularly effective (LATC 2006). The transition from a completely privatised market to a regulated one will pose challenges, of course – bus operators could, in theory, simply cease providing services with very little notice and may be reluctant to invest. Transport authorities may need to implement transitional arrangements to maintain services during this period.

The ‘Total Transport’ approach seeks to integrate transport services across the public sector more effectively. This concept was introduced to the UK from the Netherlands by the Passenger Transport Executive Group,¹⁷ which drew also on many innovations already taking place here (see PTEG 2011). Several different public-sector bodies procure transport services currently, notably within the NHS, local authorities and the transport authorities themselves. The Total Transport concept tries to pull these operations together in a similar way to the aforementioned ‘whole place’ agenda in other public services. A similar concept is the Campaign for Better Transport’s proposed ‘connectivity fund’, which would top-slice departmental budgets to enable integration of services at a local level, on the basis that savings will accrue to those departments from improved transport provision (see CBT 2015).

The Total Transport concept has since been taken up by government and advanced in small-scale pilots in rural areas. Amid increasing recognition that bus services in rural areas are facing insurmountable challenges in maintaining their networks, the government has released a small pot of seed-funding for bids from rural areas to be used for Total Transport pilots (see Jones 2015).

As IPPR has previously set out, a number of different approaches to Total Transport service integration have been adopted (Raikes et al 2015). Examples include:

- **Improving passenger information:** Norfolk and Lincolnshire county councils have developed a one-stop shop for customers and stakeholders, which aims to draw on innovative technology and infrastructure applications to improve services. Essex and Suffolk county councils are developing an Uber-style digital technology solution.
- **Joint commissioning and integration:** Cambridgeshire county council has developed joint commissioning arrangements across adult social care transport, home-to-school transport and the existing Cambridgeshire Future Transport programme.
- **Patient transport:** North Yorkshire county council has focused on using the council’s fleet of minibuses and community transport provision to improve transport for renal dialysis clinic patient transport, out-of-hours and out-of-area patient transport, evening hospital discharge, and non-emergency referrals from GPs to hospital.
- **Establishing social enterprises:** Northamptonshire county council is establishing a social enterprise that will commission all council-supported transport services in the county – including home-to-school, SEN and adult social care transport – as well as additional transport services provided by other organisations, such as universities, community transport providers, demand-responsive services and health transport.

17 Now renamed Urban Transport Group, having added London to their membership.

The Total Transport approach could be of real value to major city-regions, but it is important to await evaluation of the pilots. These are currently being rolled out, and appear to be running up against similar institutional barriers to those faced by previous attempts to break down government silos in the name of reforming public services. The advantage of locating these pilots in rural areas is that their transport networks are relatively simple, but undertaking the same kind of integration in city-regions will clearly be more challenging still.

3.3 Financing public transport

The funding for major transport projects has changed and will continue to change. As table 3.1 shows, funding for transport projects is divided among a number of central and local government sources. This complexity creates an additional burden for overstretched transport authorities and local government more generally, and inhibits better coordination of different programmes of work.

Table 3.1

Total expenditure on transport by tier of government and capital/current split, England, 2014/15

	Central	Local	Public corp.	Total
Local public transport	£196,734	£1,531,608	£0	£1,728,342
Local roads	£0	£960,253	£0	£960,253
National roads	£960,811	£0	£0	£960,811
Other transport	£319,359	£81,919	£0	£401,278
Railway	£93,777	£490,308	£0	£584,085
Current	£1,570,681	£3,064,088	£0	£4,634,769
Local public transport	£0	£726,320	£0	£726,320
Local roads	£0	£3,326,732	£0	£3,326,732
National roads	£1,884,988	£0	£0	£1,884,988
Other transport	-£78,658	£19,293	£328	-£59,037
Railway	£3,936,616	£0	£1,592,702	£5,529,318
Capital	£5,742,946	£4,072,345	£1,593,030	£11,408,321
TOTAL	£7,313,627	£7,136,433	£1,593,030	£16,043,090

Source: HMT 2015

Public funds are undoubtedly in short supply, and the new mayoral combined authorities will need to draw on a range of resources to finance more efficient public transport systems. As fiscal consolidation continues over the remainder of this parliament, local government will have less money to spend on transport, just as more spending is required.

However, there has been a small but important shift in policymaking towards fiscal devolution, and this may provide a number of options for local transport authorities to unlock spending on vital infrastructure. These options are summarised and compared in table 3.2, with reference to policy changes made in various Australian cities (Stanley 2014).

Table 3.2

Summary and comparison of local transport funding options

	Net revenue raising potential*	Stability and predictability	Equity (horizontal/vertical)**	Travel behaviour impacts	Strategic development impacts	Public acceptability****	Ease of implementation and flexibility	Accountability and transparency
Fare increases	low	high	med/low	-	low	?	yes	high
Fuel tax/road pricing	high	med	low/low	++	++	?	yes/no	med-high
Road tolls	med	high	med/med	+	+	?	**	high
Carbon taxes	med	high	high/med	+	+	?	yes	low
Employer taxes	high	high	high/high	low	**	?	yes	**
Parking levies	med-high	high	high/med	+	+	?	yes	**
Property taxes	high	high	high/med	low	low	?	yes	**
Metropolitan Improvement Levy	med-high	high	high/med	low	low	?	yes	**
Tax increment financing	med	med	high/high	low	+	?	**	med
Special assessments	high	high	high/high	low	+	?	**	high
Developer levies	low	high	high/med	low	**	?	yes	med

Source: Stanley 2014

Notes: * Revenue raising potential, net of implementation and operational costs = potential to raise money that can be used widely for public transport in Sydney and Melbourne; high = >\$300m pa, med = \$100m-300m pa, low = <\$100m pa.

** High stability = little equity concern; low stability = serious equity concerns.

*** Impact will depend substantially on how the measure is shaped and implemented (which is true to a large part with all measures and all impact categories).

****Public acceptability is context-specific but is often a decisive consideration, and has been included to illustrate this.

3.4 Technology and big data

Technological innovation is of course fundamental to transport provision. Today, for example, new propulsion technology is helping to drive down emissions across the sector, helping to mitigate some of the impact of transport on public health and the environment, and the Committee for Climate Change sees the emergence of electric vehicles as one of the top priorities for the UK (CCC 2015).

But technology is also changing the relationship people have with their transport services. For example, Deloitte (2015) identifies five ‘disruptive trends’ that technology enables in transport:

- transport is becoming more user-centred
- it is becoming more integrated and intelligent
- it is making use of new payment methods
- there is an increase in automation and safety
- private and public innovation will be crucial.

The market is also facing increasing ‘disruption’ by new technologies and the business models that accompany them. Uber and similar apps represent the proliferation of a business model which both the private and public sectors struggle to manage. Driverless cars will soon be on the market, and they are sure to have a disruptive impact on transport networks too.

The massive expansion in the collection and availability of data – through big data and open data – is another driving force for innovation in transport. Open data is seen as a way to improve the transparency of public services and enable improvements (POST 2014), and in the UK the DfT has made many datasets publicly available. Applications of big data in transport include asset maintenance, road traffic management, planning of services and informing user decisions (ibid). TfL is making use of the rich data it collects (on the 30 million trips taken each day in London) by using the origin and destination data their systems provide to understand travel patterns in great detail (GLA and TfL 2015). In addition, by releasing some of its data to developers, TfL has enabled 360 apps to be created (ibid). The CEBR estimated in that in 2011, big data added £1 billion in value to the transport industry alone, and more than £25 billion to the wider economy (CEBR 2012).

But technology and big data have a particular application in the integration of transport with broader public policy objectives. For example, big data can monitor in greater detail the air quality in urban environments, leading to a better understanding of the impact of poor air quality on people's health (Zheng et al 2013). It could also monitor the footfall of shoppers more accurately, and use this information to levy businesses that benefit from improved transport connectivity. Technology can also be used to give emergency vehicles priority at traffic lights, or to set a vehicle's speed so that it doesn't need to stop at so many traffic lights throughout its journey (Knapton 2015). There are also smartphone apps which can monitor the transport mode in use based on the movement of the phone, and then estimate the individual's carbon footprint in real time, thereby encouraging greener modes of transport (Manzoni et al 2012).

For policymakers, technology and open data present the opportunity to create a better-functioning transport network, but they also throw up new challenges. Policymakers have to stay abreast of new developments and ensure new technology is appropriately 'future-proofed', to avoid unexpected costs further down the road. But, at the same time, they must enable and encourage others – including those in the private sector and users themselves – to innovate, by providing the right institutional framework and support, often then standing back. Meanwhile, specific challenges – such as data protection or new disruptive business models (such as Uber) – will also require the right response.

3.5 Local innovation in the UK

While it is well established that the UK in general lags behind other similar countries in its approach to transport policy, this hasn't stopped many local areas from using their powers in highly innovative ways. Below are just three examples of how transport authorities have intervened to link up transport policy and programmes with wider objectives.

Transport and the economy: Greater Manchester's earnback

Tax increment financing (TIF) is quite common in the US and France, and has now been rolled out in the UK too. This mechanism allows governments (usually at the state or district level) to invest upfront based on the return they expect much later in tax revenues, usually through some form of business rate or property tax. In the UK, the Coalition government rolled out a number of TIF projects – so-called 'new development deals' – which allowed local authorities to invest a little, during a time when regeneration budgets were being cut significantly. In a similar vein, TfL used a combination of incremental business rate income and developer contributions to finance the extension of the Northern tube line.

Greater Manchester's city deal took TIF a step further by establishing an 'earnback' mechanism. This deal, agreed in 2013, allowed the combined authority to be rewarded by central government for generating local economic growth through

transport investments, in theory. As a result, the authority is able to borrow based on the expected reward from central government, linking investment directly to future economic growth.

In reality, this scheme did run into some difficulties, but these have now been resolved. Measuring local economic growth with any degree of precision is extremely challenging in itself, let alone measuring the *increase* in economic growth generated by a transport scheme – indeed, this has been found to be impossible. As a solution, the devolution deal struck with Greater Manchester in 2015 revised the terms of this earnback arrangement. Now, there will be a series of ‘gateway assessments’, conducted every five years: evidence will be presented to an independent commission, and the combined authority will be rewarded for demonstrating success in terms of implementing the scheme and boosting the economy. This is similar to the ‘gain share’ agreements in Leeds and Greater Cambridge, and is an approach which has also been taken up by, for example, Glasgow and Clyde Valley.

This explicit linking of transport to economic growth sets an important precedent for transport policy. While it's certainly not the case that all transport infrastructure investment drives higher productivity, it very often does; as set out in section 2.1, value-for-money estimates seek to factor this in, and form the basis of all transport decisions made by the DfT.¹⁸ Earnback shows how economic growth and infrastructure investment can be inextricably linked on a project-by-project basis, simultaneously unlocking much-needed funding and ensuring economic growth remains a high priority.

Enhancing public health outcomes: Transport for London’s approach to transport appraisal

Transport and health have always been closely linked with one another, and to concerns related to poverty. Malcolm Ward, for example, traces this interrelationship back to the industrial revolution, when public health considerations in newly urbanised cities became more acute (Ward 2011). In a more contemporary context, Geddes et al (2011) demonstrate the need to factor in health poverty and inequality when seeking to integrate transport and health.

TfL has been at the forefront of integrating health and transport, and has sought to integrate public health into its decision-making and operations in several ways, for example by employing a public health specialist to work across the organisation. In 2014, it developed the world’s first health action plan, which recognised the importance of transport to the health of Londoners (Mayor of London and TfL 2014a). And it attaches great importance to its role in encouraging active travel (walking and cycling), both for its direct health benefits and for the reductions in emissions, noise and stress it can produce.

This approach extends beyond simple recognition at the strategic level: TfL has monetised health considerations in order to factor them into project appraisals. Using a tool developed by the World Health Organization – the Health Economic Assessment Tool (HEAT), and its own Sickness Absence Reduction Tool (SART) – TfL has been able to monetise health benefits quite robustly (ibid). In fact, in some cases, more is known about the health impacts of transport interventions than is known about their economic impacts.¹⁹ The HEAT tool was used, for example, to estimate the value of the economic health benefits of the mayor’s vision for cycling, which it put at £183.5 million per annum by the time of its completion in 2026 (ibid).

18 See: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255126/value-for-money-external.pdf

19 For more detail, see Cavill et al 2008.

Reducing congestion: Nottingham's workplace parking levy

Congestion in major UK cities can be a significant problem, and most authorities have struggled to shift commuters away from car use. Private non-residential parking has been estimated to account for 40–60 per cent of town-centre spaces (Higginson 2013). As noted earlier in this paper, this has consequences for the environment and public health, and indirectly for the economy, by making crucial urban centres less attractive.

The workplace parking levy in Nottingham has set a strong precedent for local action to tackle congestion. The 2000 Transport Act allowed local authorities to implement such charges: in London the mayor could already implement these levies,²⁰ however in England outside of London this requires the secretary of state's approval.²¹ The first and thusfar only workplace parking levy scheme was introduced by Nottingham City Council in October 2011, with charging commencing on 1 April 2012. All employers within the Nottingham City Council administrative boundary that provide workplace parking are required to obtain a licence, and employers providing more than 10 liable workplace parking places pay the charge. The revenue raised – estimated at £14 million per annum over 23 years (ibid) – is used to finance public transport infrastructure, and will be used to fund an extension to the tram system, the redevelopment of Nottingham railway station (now delivered) and the Link bus network (see NCC 2015).

Like congestion charging, the workplace parking levy faced political opposition. Nottingham is the only city to have used this power, and did so in the face of vocal criticism from business – the Confederation of British Industry and Federation of Small Businesses both argued against it, as did local political opposition parties (see Butcher 2012).

But early modelling indicated that it would be successful, and a full evaluation is due in 2017. As Nottingham's local transport plan notes, the direct impact of the charge on employees' modal shift is estimated to be 'positive but modest', because few employers were expected to pass the cost on to their staff (NCC 2011). However, the levy incentivises employers to promote alternative transport options and manage parking arrangements, and this is predicted to have an 'additional and larger' impact. And there will be some positive impacts on modal shift on account of the new alternative modes of transport the charge is used to fund. The council argued that the cost of the levy on employers is outweighed by the benefits they will gain from Nottingham's improved transport network, and that businesses will ultimately stay in and even be attracted to Nottingham due to the investment they will make (ibid). Research undertaken by Burchell et al (2014) in the year after the scheme's implementation appeared to show that, while there had been difficulties with its implementation and it had not had a significant impact so far, it had achieved 100 per cent compliance and behaviour change was expected over the longer term. The House of Commons transport committee has recommended that the scheme is evaluated, that if it proves successful the government should encourage its rollout elsewhere, and that they should make it 'simpler and fairer' to implement (HCTC 2013). In turn the government's response to this recommendation was to await the 2017 evaluation of the scheme (HCTC 2014).

20 This is under the Greater London Authority Act 1999, and the mayor holds the power to bring forward their own scheme or approve or reject boroughs' schemes, although the two can't overlap (see Butcher 2012).

21 In Scotland there is no legal basis for workplace parking levies (see Butcher 2012).

4. LESSONS FROM OVERSEAS

To fully tackle these problems, and to capitalise on the benefits that transport policy can deliver, the UK can learn a great deal from other countries. It is clear that UK policy is already starting to become a little more ‘normal’ in its approach to transport policy. Nevertheless, there remains a long way to go, and there are important lessons that the UK can learn from similar countries about how to use transport powers most effectively. This chapter draws on some international case studies that have particular significance for the future of British transport authorities.

4.1 Reinventing a city: Malmö, Sweden

As described by Iain Docherty (2013), transport governance in Sweden is ‘something of a “third way” between German and UK models’: in Germany there remains tight and extensive public control over transport, while in the UK there has been extensive privatisation and deregulation.²² In Sweden, there are also stronger devolved structures for transport policymaking. Transport is controlled by the *Skånetrafiken* (transport boards) of regional governments, which are responsible for the tendering of transport services and are therefore able to coordinate these effectively. Municipalities, meanwhile, have the exclusive right to formulate and adopt land use plans (within a national framework) (ibid).

The city of Malmö provides some important lessons for the UK, on account of its history and specifically its approach to reinvention. Its experience is similar to that of many other middle-tier European cities: it has endured rapid change since the 1970s, as accelerating globalisation has fundamentally changed its relationship with the wider world. Employment in industry has gone from 50 per cent of all jobs to less than 20 per cent, resulting in severe unemployment problems during the 1990s especially. Since then, as with some UK cities, there has been something of an economic revival, as the service sector has grown, with increasing immigration and a student population driving up population numbers (KPMG 2014). But unlike many other comparator cities – especially those in the UK – public transport usage has increased dramatically: since 2006, bus and train patronage has grown by approximately 8 per cent per annum (Lowe and Stanley 2011).

The demonstrable success in achieving this modal shift towards public transport in Malmö is due, in part, to having the right tools available at the right tier of government. On one hand, regional and municipal authorities are able to invest in high-quality public transport and urban realm, implement smart ticketing and prioritise public transport and active travel in various ways; on the other, they are able to reduce road space and implement parking controls and speed limits. This combination of carrot and stick measures seems to be at the root of Malmö’s success (Docherty 2013). They were implemented slowly and incrementally over a long period of time, while also capitalising on circumstances and events – such as fuel price rises – to embed behaviour change. Many also point to the importance of political context, leadership and ‘narrative’ (Docherty 2013, KPMG 2014). Malmö underwent significant economic and social change, but – unlike other cities that underwent similar changes – it constructed an environmentally sustainable set of public transport policies in response.

²² Although, as noted already, this is expected to be partly reversed by the buses bill.

The broad lessons for UK cities are quite simple. Malmö shows how to implement policy and to exploit local demographics and changing economic fortunes in order to embed a culture of public transport use. What appears to have worked in Malmö is that, first, the right powers were available to the regional and municipal authorities to act, and second, the right mix of political and demographic incentives was in place to bring about a reinvention. Enhanced powers and new governance models in major UK cities mean there is an opportunity to prompt a step-change in the transport patterns of their residents. In addition, the demographics of many cities tend to be quite young and many won't drive. This means that, with the right approach, public transport uptake or active travel can be embedded and sustained throughout an individual's life.

4.2 Social service integration: Netherlands

The Netherlands is highly regarded for its transport policy generally. A great deal of transport policy is devolved to the provinces and some city-regions, alongside land-use planning and powers over health and recreation; municipalities also hold some powers over spatial planning and local infrastructure (McKibbin 2012). This has enabled some significant integration to take place between public transport services and those commissioned by other public sector agencies locally – these shifts are summarised in the following box, based on research by the Passenger Transport Executive Group.

Total transport case studies, PTEG

Some Dutch provinces have franchised whole networks, pooling together social, health, education and public transport budgets and services into one package. In doing so, the intention has been to offer the public a comprehensive 'door-to-door' service, integrated into the wider public transport network, while at the same time creating efficiency gains and ensuring the right vehicles are used for the job.

Examples include:

- South Holland province: some regular public transport services have been abolished in favour of integration with social services transport, resulting in about half of regular public transport passengers travelling in social services vehicles.
- Fryslân province: regular bus services to the smallest villages have been replaced with demand-responsive services subcontracted to local taxi companies which also operate social services transport. This has resulted in increased efficiency, as the same vehicles can be used for both services.
- Groningen and Drenthe provinces: a combined public transport bureau was created to jointly tender, manage and market public transport across the two provinces. The bureau convinced all municipalities to coordinate the tendering of their social and education transport services, with small-scale regular public transport being provided by the bureau itself.

Source: PTEG 2011

The Netherlands has much in common with the UK in some respects, and their approach to integration has already influenced UK government policy, in the form of the Total Transport pilots. As van de Velde (2010) points out, the population density in each country is similar, and public transport funding is centrally distributed in both. The one major difference in the past has been that, as noted above, the provinces tend to have more control over their transport networks – something which is now changing in the UK. The Total Transport pilots are developing their own local solutions, as sketched out in section 3.5. In the UK, this is largely a response to financial pressures, but there is an increasing recognition, informed by examples like the Netherlands, that devolution and integration provide a better way of operating regardless.

4.3 Versement transport – a tax to boost transport investment: France

Like the Netherlands and Sweden, France has a greater level of devolved decision-making than is currently the case in the UK. Provinces formulate regional transport policy across all modes and agree rail services with the state-owned SNCF. *Communes* are then responsible for organising their transport networks and, in larger areas, for formulating urban mobility plans. Mayors and elected council members are responsible for setting local taxes and transport spending.

Versement transport (VT) is a now-longstanding payroll tax levied on local businesses. It works by taxing employers, who benefit (indirectly but significantly) from the transport system that brings their employees to work each day. It is levied at 1–2.2 per cent of the payroll of private and public employers with more than nine employees, and the funding it raises goes to the urban transit authorities, for whom it makes up a large share (up to 40 per cent) of their budgets. It was first rolled out in the Île de France region around Paris in 1971, with revenues earmarked for capital investment alone. It was soon introduced to other French cities, and the revenue it raised was able to be spent more broadly; by 1982 it could be used to fund any public transport improvement in urban areas across France (OECD 2010).

VT has been largely successful, albeit with some problems. Its positives include simplicity of application and efficiency, as ATM and Ineco (2001) note. It has also underpinned a large amount of investment in the transport networks of major French cities: Vigrass and Smith (2005, in OECD 2009) credit it with the affordability of and investment in urban French transport, while Ubbels et al (2001) credit the tax for France's significant investment in light rail specifically. However, some argue that it is unfair, as some companies will be better able than others to pass the costs (by raising prices) than others. Some have also argued that it produces distortions (like any tax) and, as a tax based on payroll, that it makes employment more expensive (OECD 2009).

The UK has moved toward a similar policy more recently, but there is room to learn from VT and go much further. In the 2015 spending review, the government confirmed that it would allow combined authorities with a directly elected mayor to add a premium of 2p in each pound on local business rates, to be hypothecated for transport infrastructure. They will only be able to do so if the majority of business members on the local LEP agree. While this is not a new tax, or a payroll tax like France's VT (which is an advantage, as it doesn't directly disincentivise employment), there are clear parallels: it is a tax on businesses hypothecated for transport infrastructure, based on the fact that employers are major beneficiaries. If followed through, this policy will be a small but significant step not only towards increasing investment in vital transport infrastructure, but also towards local government being responsible for financing it, as part of broader moves toward fiscal devolution in the UK.

4.4 Congestion charging – prioritising the environment and public health: London, Stockholm, Copenhagen and Greater Manchester

Many major cities suffer from the related problems of air quality, environmental sustainability and congestion. Car use itself is damaging to the environment, and this is exacerbated by 'stop/start' of congested traffic flows. In city-centre areas, where there are high concentrations of both employees and residents, the consequences for health can be severe.

Congestion on the roads is an increasing problem in many cities, especially those which evolved or were planned long before car use proliferated. While increasing the

capacity of some roads is sometimes necessary, it is not always possible and clearly exacerbates the negative environmental and public health impacts. Building new roads also tends not to improve congestion: not only can it induce more demand, but this additional demand worsens congestion on connecting roads (see Beck and Bliemer 2015). While improving the quality of the public transport alternative is of course part of the equation, congestion charging has been found to be a highly effective solution as well.

Implementing a congestion charge has the dual advantage of both reducing harmful car use and raising funds which can be spent on alternative modes of transport. By incentivising car users to alter their journey patterns or use public transport, congestion charging can reduce the quantity or concentration of emissions in city centres. It also has the advantage of charging those who benefit from the resulting reduction in congestion (the car user), and using that charge to provide for those who take the more environmentally friendly option. In their comparative study, the OECD and CDRF (2010) suggested that congestion charging can result in net economic growth by improving the attractiveness of city centres and associated 'firm creation [and] higher incomes, productivity and wages'.

Many cities across the world have implemented congestion charges, among which there are some notable successes:

- One of the largest congestion charges in the world, and most widely celebrated success stories, is in London, which implemented its charge in 2003.²³ Between 2000 and 2013 it has seen a modal shift towards public transport and active travel of 10.6 percentage points, which is attributed to a combination of this congestion charge, investment, and other policies that restrict car use (Mayor of London and TfL 2014b). The charge brought in a net income of £172.5 million to TfL in 2015, supporting investment in the quality and connectivity of the public transport system (TfL 2015).
- Stockholm is another significant success story. Its congestion tax was implemented in 2007 after a seven-month trial followed by a referendum. Despite a highly charged debate, the tax is now widely regarded as having been a success and to have many transferable lessons for other cities (Eliasson 2014a). Notably, given how critical the political dimension is in introducing congestion charging, the popularity of the charge has shifted significantly over time: in the years since its implementation public support has shifted from two-thirds against to two-thirds in favour (Eliasson 2014b).

But while congestion charging is widely regarded as an effective policy across several fronts, the initial opposition of the electorate and other key stakeholders has been challenging to overcome:

- In 2008, Greater Manchester residents voted on the introduction of a congestion charge. Today, congestion remains a severe problem for the city, but air quality is an increasingly prominent issue, particularly as the city-centre population booms: Gowers et al (2014) found that 1,346 deaths in 2010 in Greater Manchester were attributable to man-made particulates in the air.²⁴ There is also an increasing focus on the relationship between the economic growth of cities and their levels of air pollution (see OECD and CDRF 2010).
- In 2012, Copenhagen pulled back from implementing a congestion charge when the Danish parliament intervened. The local council were supportive and the lord mayor was a strong advocate; however, the decision ultimately fell under the remit of the national parliament. Disputes between the governing parties resulted in the prime minister backtracking on her manifesto promise

²³ Although Durham implemented the UK's first congestion charge in 2002.

²⁴ As noted earlier, this doesn't include the effects of nitrogen dioxide and therefore understates the impact of pollution on health.

to introduce the charge, and it was shelved. This is likely to inhibit the development of Copenhagen's transport network in a country which is extremely centralised, with no local tax-raising powers.

The considerations with regard to congestion charging are overwhelmingly political. Few would argue that congestion charging doesn't make sense from a policy perspective. It both raises money and reduces car use, unlocking vital finance for investment, reducing emissions, and ultimately contributing towards a stronger economy, healthier population and more sustainable city. It extends the reach of cities' labour markets by reducing journey times, which means a healthier labour market and more visitors to the city. And it is a prime example of the 'polluter pays' principle, which is strongly supported by OECD and EC countries. But the two failed examples above show how it can face overwhelming opposition from the business community and from those who vote in referendums and elections. While people and businesses tend to be won over once such a scheme is in place and they experience its many benefits, it does take strong political leadership to overcome that initial opposition.

The lessons are therefore to build a strong case, based not only on reduced congestion, but also on environmental benefits, quality of life, health outcomes, and – through the attractiveness of the city to businesses and skilled individuals – economic growth. The case of Stockholm also suggests that trialling such a scheme can be a good way to defuse these political tensions.

Given the increasing population of urban centres, the growing recognition of the damage emissions do to people's health, and the devolution of new powers, there is perhaps an opportunity for other UK city-regions outside London to look at this approach again. In the absence of the political will to introduce a congestion charge specifically, other options, such as a workplace parking levy or low-emission/clean-air zone²⁵ may be more politically attractive. Of course, these are not mutually exclusive and a city-region could choose to implement them all.

4.5 Achieving rapid change: New York City

The mayor of New York City has a very different set of powers compared to those that are now or will shortly be held by British local leaders. In general, the powers of New York's mayor relate to the delivery of services as opposed to strategic oversight and planning. While this gives New York City a greater 'grip' over service delivery within city limits, it has been suggested that it lacks the ability to plan strategically and coordinate across the whole of the metropolitan area (Frug 2010).

This trans-Atlantic contrast is particularly sharp with respect to transport policymaking. In the UK, the mayor of London chairs and appoints the TfL board, and directly elected mayors in other British cities will, in conjunction with the combined authority and transport committees, be responsible for the network as a whole. But it is New York *State* that has control over the powers exercised and budget spent by the mayor of New York City, and it has long denied the city mayor much direct control over transport. The two major transport authorities receive little or no direction from the mayor – he nominates just four of 17 members of the Metropolitan Transportation Authority board, while the members of the Port Authority of New York and New Jersey are appointed entirely by the two state governors. And there is yet more fragmentation in the governance of the city's transport network, with different authorities responsible for some bridges but not for others, and some rail lines but not others (ibid).

It is in this challenging context that PlaNYC was born. This sustainability plan was initiated under Mayor Bloomberg in 2007, and it integrated environmental

25 For more on measures to improve air quality, see Defra 2015.

considerations and quality of life concerns within a plan to manage rapid population change. Transport was and continues to be a major feature of the plan, alongside housing and other areas of policy. The plan set goals for public transport, active travel, and the creation of parks and playgrounds within a 10-minute walk for all residents. Since 2011 it has had public health as an explicit goal too, and has since expanded to cover the highly successful 'Citi Bike' bike-sharing scheme and targets for bike lanes, and to prioritise equality more highly by focusing on neighbourhoods with high levels of need.

PlaNYC has so far shown many signs of being successful. There have been direct impacts, such as increased travel by bicycle and public transport, and a reduction in traffic fatalities (Mayor of New York 2014). But crucially there have also been many indirect benefits to citizens: childhood obesity rates have reversed; retail sales around pedestrian plazas have increased; life expectancy is higher and rising faster than average; and there are record numbers of tourists (Designed to Move 2015).

The overarching lesson from PlaNYC is that the right leadership can effect change, even within a fragmented system, in a relatively short space of time. Many of the previous case studies (particularly Malmö) emphasise the role of culture, and therefore appear to show that change has to occur slowly; New York proves that this needn't be the case. The civic leadership of successive mayors who have personally committed to the scheme has clearly had an impact on its success (ICLEI and City of New York 2010). That said, the fact that the State of New York blocked Mayor Bloomberg in his attempt to implement a congestion charge in 2007 perhaps shows the need for real devolved power to city-regions in the US too.

5. CONCLUSIONS AND RECOMMENDATIONS

The UK is behind in its approach to transport. Compared to similar countries, policymaking is at once too centralised and too fragmented. Rail franchises are controlled centrally by the DfT, which also dishes out grant funding for the transport authorities; while buses operate within a completely deregulated market. The consequences of this are clear to see on the streets of any city outside of London.

This problem has been recognised and change is coming. Transport powers are at the forefront of devolution to mayors and combined authorities within England. The power to franchise bus services means that the transport network can be better integrated across modes: they will have more powers to coordinate policy across rail, bus, tram, walking and cycling. In addition, capital budgets and some new fiscal freedoms will mean that transport authorities can start to invest to support the integrated networks they need to thrive.

But beyond this integration of different modes of transport with one-another, devolution, and the leadership a directly elected mayor can provide, presents a significant opportunity for transport to be geared towards social, economic, environmental and public health objectives. Broadly speaking, this can be done in two ways:

- by gearing the transport network as a whole more effectively towards achieving broader economic, social, environmental and public health outcomes
- by coordinating the transport services already procured across the public sector (in areas such as health, social care and education) more efficiently.

And devolution provides the opportunity to bring all this together under accountable, representative and effective governance structures. Powers over both transport and other areas of policy such as employment support, housing and health and social care are being pushed slowly but surely away from the centre, and will soon be delegated to mayoral combined authorities, themselves an integrated form of governance.

From international case studies – from Malmö to New York City – and from transport reforms already underway in the UK, we have drawn out some broad conclusions, setting out how transport authorities can take full advantage of this devolution moment.

The broad conclusions are as follows:

1. **Resources:** Resources are scarce across the public sector, and especially for local government. Fiscal devolution is increasingly recognised as being vital to the effective exercising of devolved powers. In some areas local authorities are already drawing on resources in innovative ways, but they will have to go further. Examples from both the UK and overseas have shown how finance can be raised by capturing the economic impact of transport investment, congestion or workplace parking; by coordinating public sector resources more effectively; or by monetising health benefits in project appraisal and harnessing the value of the voluntary sector.

2. **Service integration:** The buses bill will soon enable more effective integration of transport services outside of London by allowing transport authorities to franchise their bus networks. Meanwhile the Total Transport pilots are showing how various public sector transport services can be better coordinated in rural areas. In more favourable fiscal circumstances, integrating transport with other public services would mean both improving coordination and making savings that could be better-spent elsewhere. In the current fiscal circumstances, however, service integration is a simple necessity: it is already essential in many rural areas, and is likely to become essential in the rest of the country within the next five to 10 years. However, the Total Transport pilots are already showing that, while there are broad outcomes and parameters that are widely applicable, there is no ‘one-size-fits-all’ model. Policy has to enable different areas to respond to different local conditions.
3. **Governance:** Good governance enables and underpins integration: integration at lower levels can only occur if there is agreement at the top level within a local area. Local democratic control over a transport network is, of course, a good in its own right and mayors will be able to make relatively quick and accountable decisions. However, all communities need to be appropriately represented and the right checks and balances have to be in place – again, both in principle and in order to ensure decision-making is more effective and considered. For both of these reasons, governance has to provide accountability and transparency, while ensuring that a plurality of interests are represented. Mayoral figures can provide the strong leadership that is needed, but decision-making must also be responsive to the interests and needs of diverse populations, and have buy-in from all the relevant public sector bodies.

In this way, three conclusions translate into three pillars, and a framework for recommendations. Across these three pillars and over three phases, this report now sets out the changes needed to achieve positive, sustainable transport integration. Phase 1 involves the culmination of current reforms; which are pushed a little further in phase 2, in preparation for phase 3, which sees city-region mayors wielding considerable powers to shape their local areas, and by 2024 a step change in transport investment and integration within major UK cities.

5.1 Phase 1: Full implementation of current government policy and laying the groundwork locally, 2016–2017

Central government is currently moving in the right direction with regard to transport policy. In this first phase, therefore, we only suggest marginal changes to enable city-regions to fully exploit the potential of these new policies.

Resources

Central government should:

- **Proceed with the plans to enable mayoral combined authorities to levy 2p on business rates to be directed toward transport infrastructure.** This is an important first step toward the proper financing of transport infrastructure, and will enable much-needed investment. The government should proceed with this as planned – that is, only in city-regions and only on transport infrastructure – during the first phase, but would expand its scope in phase 2 (see below).
- **Align the bidding processes for funding pots related to transport, and top-slice each pot to fund an ‘integration incentive’.** Currently, transport authorities and their partners (LEPs, combined authorities and local authorities) are continually competing with one-another for different funding pots from central government. These are often relatively short-term and thus do not allow long-term strategies to be implemented effectively. While these different streams of funding may need to remain separate during this early phase, they should all be distributed at around the same time period. This would allow transport

authorities to plan for a ‘bidding stage’ and an ‘implementation stage’, and therefore to bring together where possible the different funding streams that they receive. A small proportion of each pot should be top-sliced and used to reward authorities that demonstrate integration, where appropriate, between these discrete streams.

- **Expand the scope of earnback and gain share investment projects that cash in on transport’s impact on the local economy, to include within their scope economic growth generated from non-infrastructure transport improvements (such as bus routes) and investigate how broader public sector outcomes can be included too.** Early difficulties in implementing earnback in Greater Manchester have now been ironed out and there is much to learn from gain share in Leeds, Cambridge and similar schemes across the country. The government should now expand the number and range of schemes that can be funded in such a way (both in the areas that currently have them and elsewhere), and the deal-making processes involving earnback provisions should be more closely aligned with the bidding timescales for central funding, as outlined above. In addition, given the evidence base for the health benefits of improved transport is so strong, the government should investigate whether the public health or NHS budgets can be brought into the earnback gateway assessment processes, and if so pilot a proposal as part a future devolution deal.
- **Make it simpler and fairer to introduce workplace parking levies, and encourage more authorities to do so.** Nottingham’s workplace parking levy appears to have been a success, although a full evaluation has not yet been completed. Dependent on the findings of this review, the government should follow the advice of the Transport Committee (HCTC 2013) and make it ‘simpler and fairer’ to introduce, while encourage others to take it up.

Service integration

Central government should:

- **Proceed with current plans to enable the franchising of buses, and provide transport authorities with the tools and funding they need to put this in place, requiring only robust governance not specifically a mayor.** The case for franchising of buses has been accepted by the government and would bring the UK into line with other developed countries. As is currently proposed, the buses bill should allow for bus regulation across the country and enable transport authorities to use the Treasury’s ‘five-case’ model to build a business case for franchising of their bus network, with minimal interference from central government. Robust governance and accountability should be criteria for fast-tracking the move towards franchising in a given area, but there should be no preference shown to mayoral models of governance specifically. Furthermore, government should provide the financial support required to make franchising a practical possibility, for example by providing a transition fund to help manage interim arrangements. This could also take the form of capital expenditure, for example to enable the transport authorities themselves to maintain investment in the fleet that is operating locally.
- **Support and evaluate the Total Transport pilots, which integrate different public-sector transport operations and are currently underway in rural areas.** ‘Total Transport’ is the right approach, but it is challenging to achieve. The Total Transport pilots are a very small step towards integration, but will enable important lessons to be learned for application across the country. The pilots themselves should be fully supported, and their evaluation should be robust enough to enable wider roll-out across the country. If legislative change or clarity is needed (for example around procurement regulation) then this should be investigated and resolved by central government.

- **Gather ‘Total Transport’ intelligence on transport spending by different public-sector agencies across the country.** Intelligence is an important first step toward integration, but outside of Total Transport pilot areas very little is known about how much the public sector spends on transport. So, the first step toward integration involve all local public sector agencies calculating their expenditure on transport and how much could be saved by working more closely with the local transport authority. Central government departments should be required to identify how much money they are spending on transport within each local area. They should also familiarise themselves with the local transport authority’s operations, in order to facilitate closer working in phase 2 (once the Total Transport pilots have been robustly evaluated). Transport authorities should have the power to request data from private operators. Moreover, where possible, this data should be made public so that individuals and organisations can propose their own solutions.
- **Require all departments to work with the local transport authority to share and publish as much data as possible.** Big data is extremely useful for transport purposes and for other outcomes too. Transport authorities should take the lead on the sharing of data within their local areas. They should also be required to publish as much data in as accessible a format as possible for the public to use, within reasonable legal and financial limitations.

Governance

Central government should:

- **Maintain the current role of transport committees within mayoral combined authorities, so that the right checks and balances are in place and diverse communities are adequately represented.** There is great value in having a figurehead who is directly and visibly accountable for the running of the transport network. However, there must be a range of mechanisms that both enable diverse communities to influence the policy process and allow mayors to be held to account between elections by other elected representatives. As a first step, then, the current transport committees should retain their current role, and the role of the combined authority cabinet should remain as it is currently proposed.
- **Require a local public sector advisory committee to be set up in order to feed in recommendations on transport policy to the mayor, the combined authority and the transport committees.** Transport authorities need to start working with the rest of the public sector at a strategic level in order to enable future integration. Advisory committees should be set up to include representation from the health and social care, education (including higher education) and welfare²⁶ sectors. They would be formally consulted on transport plans and decisions and present their ‘Total Transport’ intelligence to local decision-makers, such as the mayor and combined authority cabinet as well as transport and scrutiny committees, in order to prepare the ground for integration in phase 2.
- **Require that passenger transport user groups and user groups from other sectors are set up to advise other local governance structures.** Transport users need to be formally involved in the governance of transport in order to promote a more inclusive and integrated network. This would need to be representative, and include for example older people, younger people and disabled people. As IPPR has previously suggested, passenger transport users should be formally involved in the governance of transport authorities, and this could be done in a similar way to Healthwatch organisations engage with the health and social care sector. In turn user groups similar to Healthwatch across all public services should have a formal advisory role in transport.

²⁶ Including Jobcentre Plus and work programme providers.

Mayoral manifestos in 2017

By 2017, candidates will be standing for mayor in major UK cities; in conjunction with other locally elected representatives, they will have the powers they need to drive forward proactive plans for economic growth, social inclusion, environmental sustainability, and public health outcomes.

Using their powers to franchise buses, and by spending as appropriate public bus subsidies, the business rate premium, local growth fund and 'access' fund, as well as revenues raised from a workplace parking levy, road user charging and low-emission zones, mayoral candidates can pledge:

1. To reduce fares for public transport on some bus routes and for some groups – young people, the low-paid or jobseekers.
 2. To invest in much-needed tram infrastructure or support new bus routes to reduce congestion on the roads.
 3. To introduce smart ticketing and a rationalised, integrated transport network.
 4. To guarantee that no resident lives more than an hour's bus journey or an affordable bus ticket away from a job, so that all residents are connected with vital work opportunities.
 5. To guarantee that no resident lives more than half an hour's bus journey and an affordable bus ticket from a leisure centre.
-

5.2 Phase 2: Extension of current government policy and use of devolved powers, 2017–2020

During this phase the government should build on the gains made through previous policies, while developing these policies further.

Resources

Central government should:

- **Remove the cap on the business rate premium, and broaden its scope to fund services and other improvements in the transport network that go beyond physical infrastructure.** Fiscal independence has underpinned investment and economic growth in many European cities. Transport infrastructure has a long way to go in the UK if the country and its cities are to compete internationally. Successive governments in Westminster have neglected this, and so this shift will have to be driven by the cities themselves. This also requires a slight change of perspective to be most effective. A bus route should be considered to be an infrastructure asset just like a new rail or tram line: indeed bus routes are, if anything, *more* effective at driving economic growth and social inclusion than these more glamorous developments. More broadly, it should be acknowledged that the economic, social and environmental benefits derive not from investment in new transport routes in isolation, but from the better functioning of an integrated transport network. Policy should reflect this. Combined authorities, provided they have their governance in order, will have a mandate to raise a premium on business rates to fund transport, and if they are elected on that basis should be free from central government intervention to do so. The government should therefore remove the cap on raises in the business rate premium and allow it to be spent on any transport scheme (rather than infrastructure alone); at the same time, while economic growth should remain a priority, the support of the local LEP for a scheme or investment should no longer be a requirement.
- **Enable metro mayors to implement workplace parking levies without secretary of state approval.** The workplace parking levy currently requires the secretary of state's approval to be implemented outside of London, but not within London. The government should enable metro mayors outside of London to hold the same powers that the Mayor of London currently holds to implement such schemes.

- **Enable leading city-regions to pilot new taxes and levies.** There are numerous options for raising the finance to invest in transport, and many other cities across the world are showing how this can be done, for example from increases in land value, payroll or new developments. The government should allow city-regions to pilot those before rolling them out more widely.
- **Establish a single transport fund as part of a longer-term financial settlement with transport authorities.** Integration relies on both local flexibility and stability of funding over a period of time. As noted above, therefore, the dividing lines between different funding pots need to be broken down. In the 2018 spending round, all of the funding currently dealt out through bidding processes – such as through the ‘access’ fund (the successor to the Local Sustainable Transport Fund) – and any future growth deals should be brought into a single pot.²⁷ Funding should be granted according to a single set of priorities, and transport authorities should be formally consulted in the shaping of those priorities; the authorities in turn should have consulted local stakeholders. Integration between the different funding pots should be encouraged throughout the process, and proposing to align these streams more effectively should be part of a local transport authority’s ‘offer’ to government.
- **Expand the logic of earnback and gain-share to include other public sector outcomes in the ‘gateway assessment’ process.** Current earnback mechanisms allow a combined authority to be rewarded for the economic growth generated by a discrete transport investment. This is innovative, and sets an important precedent: that local government should be rewarded for driving economic growth and saving central government money. In this second phase, the scope of earnback should be expanded to cover both the cumulative impact of all transport infrastructure investments and interventions that have a positive effect on non-economic outcomes, such as public health priorities. As is currently the case, this would rely on a robust evidence base being submitted to the independent commission at the gateway assessment stage.

Service integration

Central government should:

- **Require all central government departments to consult extensively with transport authorities when tendering services, and top-slice seed funding for Total Transport pilots within city-regions.** Total Transport pilots are small pilots in rural areas where transport authorities work with the rest of the public sector to coordinate their procurement and operation of local transport services (see section 3.2). Once they have been evaluated, the lessons of these pilots should be applied to transport integration across the public sector in city-regions too. At this stage, all central government departments should consult closely with transport authorities before tendering transport services, at the very least and begin to work ever more closely with the rest of the public sector. Meanwhile a second wave of Total Transport pilots should be undertaken in some urban areas within city-regions in order to test the concept in a more complex environment. The seed funding for these initiatives could be top sliced from the local budgets of public sector bodies, as has been suggested at a national scale by CBT (2015).
- **Integrate transport into all relevant devolution processes by formally involving transport authorities in all aspects of devolution deals.** Many areas of policy are better delivered at the local level, but integrating these other areas with transport provision can provide an additional benefit in some cases. For example, elected or appointed schools commissioners at the

²⁷ This would not include grants that are not currently bid for.

city-regional level could enable home-to-school transport arrangements to be better integrated with the wider network. The government should continue to pursue its devolution agenda, and transport authorities should be formally consulted at every stage of the devolution process to ensure that the benefits from improved transport arrangements are maximised in each case.

Governance

Central government should:

- **Enhance the powers of transport committees to the level of policy advisory committees.** The visible accountability of mayors is vital to ensuring an effective transport network, but the mayoral structure has its faults. It is often not an appropriate model for rural areas, where transport connectivity is vital and yet under significant funding pressure. And within both rural areas and cities the mayoral model may fail to reflect social diversity and political plurality, and threaten to sideline less politically engaged citizens – who often rely on public transport the most. In addition, mayors will only be directly responsible for buses, and so will lack the direct power to integrate modes across the network. Transport committees should therefore see an expansion of their powers to include those equivalent to a local authority policy advisory committee; they should be charged with integrating the network as a whole; and be able to make policy recommendations for the mayor and combined authority in order to fulfil that objective.
- **Set up governance structures to manage city-region Total Transport pilots between the relevant public-sector bodies.** Governance will need to be in place in order to enable the city-region Total Transport pilots described above to take place. The precise arrangements will depend on the approach taken to service integration within the local area. The government should therefore require a local solution to be found in order to enable these pilots to be taken forward.

Mayoral manifestos in 2020²⁸

In addition to the powers they had in 2017, mayors will now be able to use their increased powers to coordinate all local transport provision across the public sector and resources from the expanded business rate premium, a single, longer-term transport fund, new levies, and broader earnback or gain share projects. Mayors can then pledge to invest in and develop their networks further, and to implement a ‘Total Transport’ plan which would guarantee no citizen is an unreasonable distance from hospitals, GP surgeries and other important public services.

5.3 Phase 3: Mayors have a level of devolved power and resource that approaches that of their European counterparts, 2020–2024

During this final phase, the decision-making powers of transport authorities in major UK city-regions will be approaching that of comparable cities and regions in other European countries.

Resources

Central government should:

- **Allocate transport funding on a non-competitive basis, and instead allocate it according to population, patronage, economic growth potential and deprivation levels.** The current allocation of funding is largely determined by competitive bidding and ‘deals’ struck with central government. While these

²⁸ The first term of the Greater Manchester mayor is currently expected to be three years, while subsequent terms will be four years.

have the advantage of rewarding the ‘best’ plans, funds would ideally be spent more strategically. The precise basis of allocation could retain a competitive element if appropriate, but a combination of population size, patronage, levels of need and growth potential should be overriding considerations for the allocation of transport funding generally.

- **Enable transport authorities to roll out a range of new levies to fund transport improvements.** Other similar countries have better transport systems founded on more investment and local control. Therefore building on the pilots in phase 2 these should be allowed wherever mayors choose to take them forward, without the approval of the secretary of state.

Service integration

Central government should:

- **Enable ‘Total Transport’ service integration to be rolled out as far as possible.** The complexity of transport networks within major cities make achieving the ‘Total Transport’ ideal far more challenging here than in rural areas – but there is clearly a great deal that can be achieved by moving further in this direction. There is identifiable waste in the way authorities tender their transport services – especially non-emergency patient transport within the NHS – and the expertise of the local transport authority within each area should be utilised by all public service bodies. But very little is known currently, and situations vary in their complexity across the country. Therefore phase 3 would build on the experiences gained and ground laid in phases 1 and 2, and see the local transport authorities move from advising on services to partnering or taking on the role of tendering these services from the rest of the public sector. In order to maintain accountability and ensure departmental objectives are met, public service departments should set frameworks and minimum standards centrally, but allow local service commissioners freedom to make arrangements with their local transport authorities.

Governance

Central government should:

- **Review and reform governance in response to new powers, challenges and opportunities to ensure effective decision-making, representation of all communities and robust checks and balances are maintained.** By this point all stakeholders should be in some way represented. With the new powers and in a new context, there will be a need to review the governance of these transport authorities and reform them as appropriate.

Mayoral manifestos in 2024

By 2024 the mayors of major UK cities outside of London could have significant funding for and control over their transport network. They will have the powers to coordinate transport across the whole public sector, guaranteeing high-quality and efficient use of resources. They will have the funding they need to invest in the infrastructure that any modern city needs but that is currently sorely lacking in major UK cities outside of London.

5.4 Summary of recommendations and pledges

The new powers soon to be conferred on metro mayors across the country present a significant opportunity for the transport systems of their city-regions. These mayors and other local leaders could soon have far more control over their transport networks than is currently the case, and will have comparable powers to city-region executives in similar countries.

Over three phases, we've set out how mayors, working with local leaders, can shape their transport networks so that their cities are economically prosperous, socially inclusive, healthy and environmentally sustainable. They can do so by drawing on a range of resources, approaching integration in new and innovative ways across the public sector, and ensuring their governance is inclusive, robust and accountable.

Resources		
Phase 1 2016–2017	Phase 2 2017–2020	Phase 3 2020–2024
<p><i>Central government should:</i></p> <p>Proceed with the plans to enable mayoral combined authorities to levy 2p on business rates to be directed toward transport infrastructure.</p> <p>Align the bidding processes for funding pots related to transport, and top-slice each pot to fund an 'integration incentive'.</p> <p>Expand the scope of earnback and gain share investment projects that cash in on transport's impact on the local economy, to include within their scope economic growth generated from non-infrastructure transport improvements (such as bus routes) and investigate how broader public sector outcomes can be included too.</p> <p>Make it simpler and fairer to introduce workplace parking levies, and encourage more authorities to do so.</p>	<p><i>Central government should:</i></p> <p>Remove the cap on the business rate premium, and broaden its scope to fund services and other improvements in the transport network that go beyond physical infrastructure.</p> <p>Enable metro mayors to implement workplace parking levies without secretary of state approval.</p> <p>Enable leading city-regions to pilot new taxes and levies.</p> <p>Establish a single transport fund as part of a longer-term financial settlement with transport authorities.</p> <p>Expand the logic of earnback and gain-share to include other public sector outcomes in the 'gateway assessment' process.</p>	<p><i>Central government should:</i></p> <p>Allocate transport funding on a non-competitive basis, and instead allocate it according to population, patronage, economic growth potential and deprivation levels.</p> <p>Enable transport authorities to roll out a range of new levies to fund transport improvements.</p>

Service integration		
Phase 1 2016–2017	Phase 2 2017–2020	Phase 3 2020–2024
<p><i>Central government should:</i></p> <p>Proceed with current plans to enable the franchising of buses, and provide transport authorities with the tools and funding they need to put this in place, requiring only robust governance not specifically a mayor.</p> <p>Support and evaluate the Total Transport pilots, which integrate different public-sector transport operations and which are currently underway in rural areas.</p> <p>Gather ‘Total Transport’ intelligence on transport spending by different public-sector agencies across the country.</p> <p>Require all departments to work with the local transport authority to share and publish as much data as possible.</p>	<p><i>Central government should:</i></p> <p>Require all central government departments to consult extensively with transport authorities when tendering services, and top-slice seed funding for Total Transport pilots within city-regions.</p> <p>Integrate transport into all relevant devolution processes by formally involving transport authorities in all aspects of devolution deals.</p>	<p><i>Central government should:</i></p> <p>Enable ‘Total Transport’ service integration to be rolled out as far as possible.</p>

Governance		
Phase 1 2016–2017	Phase 2 2017–2020	Phase 3 2020–2024
<p><i>Central government should:</i></p> <p>Maintain the current role of transport committees within mayoral combined authorities, so that the right checks and balances are in place and diverse communities are adequately represented.</p> <p>Require a local public sector advisory committee to be set up in order to feed in recommendations on transport policy to the mayor, the combined authority and the transport committees.</p> <p>Require that passenger transport user groups and user groups from other sectors are set up to advise other local governance structures.</p>	<p><i>Central government should:</i></p> <p>Enhance the powers of transport committees to the level of policy advisory committees.</p> <p>Set up governance structures to manage city-region Total Transport pilots between the relevant public-sector bodies.</p>	<p><i>Central government should:</i></p> <p>Review and reform governance in response to new powers, challenges and opportunities to ensure effective decision-making, representation of all communities and robust checks and balances are maintained.</p>

Mayoral commitments		
Phase 1 2016–2017	Phase 2 2017–2020	Phase 3 2020–2024
<p>By 2017, candidates will be standing for mayor in major UK cities; in conjunction with other locally elected representatives, they will have the powers they need to drive forward proactive plans for economic growth, social inclusion, environmental sustainability, and public health outcomes.</p> <p>Using their powers to franchise buses, and by spending as appropriate public bus subsidies, the business rate premium, local growth fund and ‘access’ fund, as well as revenues raised from a workplace parking levy, road user charging and low-emission zones, mayoral candidates can pledge:</p> <ul style="list-style-type: none"> • To reduce fares for public transport on some bus routes and for some groups – young people, the low-paid or jobseekers. • To invest in much-needed tram infrastructure or support new bus routes to reduce congestion on the roads. • To introduce smart ticketing and a rationalised, integrated transport network. • To guarantee that no resident lives more than an hour’s bus journey or an affordable bus ticket away from a job, so that all residents are connected with vital work opportunities. • To guarantee that no resident lives more than half an hour’s bus journey and an affordable bus ticket from a leisure centre. 	<p>By 2020, in addition to the powers they had in 2017, mayors will now be able to use their increased powers to coordinate all local transport provision across the public sector and resources from the expanded business rate premium, a single, longer-term transport fund, new levies, and broader earnback or gain share projects. Mayors can then pledge to invest in and develop their networks further, and to implement a ‘Total Transport’ plan which would guarantee no citizen is an unreasonable distance from hospitals, GP surgeries and other important public services.</p>	<p>By 2024 the mayors of major UK cities outside of London could have significant funding for and control over their transport network. They will have the powers to coordinate transport across the whole public sector, guaranteeing high-quality and efficient use of resources. They will have the funding they need to invest in the infrastructure that any modern city needs but that is currently sorely lacking in major UK cities outside of London.</p>

REFERENCES

- Autoritat del Transport Metropolità [ATM] and Ineco (2001) *Comparative study of the finance systems of the public transport in different metropolitan areas of Europe*, European Metropolitan Transport Authorities. <http://Inweb90.worldbank.org/ECA/Transport.nsf/ECADocByUnid/448F122E3420156485256CAE004DCD24?Opendocument>
- Beck M and Bliemer M (2015) 'Do more roads really mean less congestion for commuters?' The Conversation blog, 12 April 2015. <http://theconversation.com/do-more-roads-really-mean-less-congestion-for-commuters-39508>
- Biela J, Hennl A and Kaiser A (2012) *Combining federalism and decentralization, Comparative case studies on regional and transport policies in Switzerland, Austria, Denmark, and Ireland*. <http://www.uio.no/english/research/interfaculty-research-areas/democracy/news-and-events/events/conferences/2012/papers-2012/Kaiser-wshop3.pdf>
- Burchell J, Ison SG and Enoch MP (2014) *Managing congestion: evaluating the Nottingham workplace parking levy*, transportation research board meeting 2014. <http://docs.trb.org/prp/14-1004.pdf>
- Butcher L (2012) *Roads: Workplace Parking Levy (WPL)*, House of Commons standard note SN00628, House of Commons Library. <http://researchbriefings.parliament.uk/ResearchBriefing/Summary/SN00628>
- Campaign for Better Transport [CBT] (2015) *Buses in crisis: A report on bus funding across England and Wales 2010–2016*. http://www.bettertransport.org.uk/sites/default/files/pdfs/Buses_In_Crisis_Report_2015.pdf
- Cavill N, Kahlmeier S, Rutter H, Racioppi F and Oka P (2008) *Methodological guidance on the economic appraisal of health effects related to walking and cycling: Summary – economic assessment of transport infrastructure and policies*, World Health Organization [WHO]. http://www.euro.who.int/__data/assets/pdf_file/0007/87478/E90944sum.pdf
- Centre for Economics and Business Research [CEBR] (2012) *Data equity: Unlocking the value of big data*. <http://www.bdvc.nl/images/Rapporten/Value-of-Data-Equity-Cebr.pdf>
- Centre for Economics and Business Research [CEBR] (2014) *The future economic and environmental costs of gridlock in 2030*. http://inrix.com/wp-content/uploads/2015/07/Whitepaper_Cebr-Cost-of-Congestion.pdf
- Champion T (2014) *Future of cities: People in cities – the numbers*, Foresight, Government Office for Science. <https://www.gov.uk/government/publications/future-cities-people-in-cities-the-numbers>
- Committee on Climate Change [CCC] (2015) *Reducing emissions and preparing for climate change: 2015 Progress Report to Parliament, Summary and recommendations*. <https://www.theccc.org.uk/publication/reducing-emissions-and-preparing-for-climate-change-2015-progress-report-to-parliament/>
- Core Cities (2015) *Unlocking the Power of Place*. <http://www.corecities.com/what-we-do/publications/unlocking-power-place>
- Cox E (2014) 'Unlocking HS2' in Keolis, *Integrated cities: Integrating the transport network into HS2*. <http://www.keolis.co.uk/sites/default/files/pdf/Keolis-Integrated-Cities.pdf>

- Cox E and Raikes L (2015a) *Rhetoric to reality: A business agenda for the northern powerhouse*, IPPR North. <http://www.ippr.org/publications/rhetoric-to-reality-a-business-agenda-for-the-northern-powerhouse>
- Cox E and Raikes L (2015b) *Transport for the North: A blueprint for devolving and integrating transport powers in England*, IPPR North. <http://www.ippr.org/publications/transport-for-the-north-a-blueprint-for-devolving-and-integrating-transport-powers-in-england>
- Cox E, Henderson G and Raikes L (2014) *Decentralisation decade: A plan for economic prosperity, public service transformation and democratic renewal in England*, IPPR North. <http://www.ippr.org/publications/decentralisation-decade>
- Deloitte (2015) *Transport in the digital age: Disruptive trends for smart mobility*. <http://www2.deloitte.com/uk/en/pages/business-and-professional-services/articles/transport-in-the-digital-age.html>
- Department for Energy and Climate Change [DECC] (2016) 'Final UK greenhouse gas emissions national statistics: 1990-2014'. <https://www.gov.uk/government/statistics/provisional-uk-greenhouse-gas-emissions-national-statistics-2014>
- Department for Environment, Food and Rural Affairs (Defra) (2015) *Improving air quality in the UK: Tackling nitrogen dioxide in our towns and cities*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/486636/aq-plan-2015-overview-document.pdf
- Department for Transport [DfT] (2012) *Green light for better buses*. <https://www.gov.uk/government/publications/green-light-for-better-buses>
- Department for Transport [DfT] (2013) *Tendering Road Passenger Transport Contracts: Best Practice Guidance*. <https://www.gov.uk/government/publications/tendering-road-passenger-transport-contracts-best-practice-guidance>
- Department for Transport [DfT] (2014) 'Table ACS0204: Users with reasonable access to key services by mode of travel, by rural and urban areas, England, from 2007', data. <https://www.gov.uk/government/statistical-data-sets/acs02-availability-of-transport-to-key-services-or-work-among-users>
- Department for Transport [DfT] (2015a) 'Table NTS0401: Purpose share, average number of trips: England', data. <https://www.gov.uk/government/statistical-data-sets/nts04-purpose-of-trips>
- Department for Transport [DfT] (2015b) 'Table NTS0611: Average number of trips (trip rates) by age, gender and purpose: England', data. <https://www.gov.uk/government/statistical-data-sets/nts06-age-gender-and-modal-breakdown>
- Department for Transport [DfT] (2015c) *Concessionary travel statistics: England, 2014/15*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/464301/concessionary-travel-statistics-year-ending-march-2015.pdf
- Designed to Move (2015) *Active cities: A guide for city leaders*. <http://e13c7a4144957cea5013-f2f5ab26d5e83af3ea377013dd602911.r77.cf5.rackcdn.com/resources/pdf/en/active-cities-full-report.pdf>
- Docherty I (2013) *Delivering lower carbon urban transport choices: Lessons for the UK from northern Europe*. http://archive.northsearegion.eu/files/repository/20130812124122_Dochertyreport.pdf
- Duchene C (2011) *Gender and transport*, ITF discussion paper 11, OECD. <http://www.oecd-ilibrary.org/docserver/download/5kg9mq47w59w.pdf?expires=1454673177&id=id&accname=guest&checksum=5549B31DE10DCE1D4C904B9DD0EF8C2F>
- Eddington R (2006) *The Case for Action: Sir Rod Eddington's Advice to Government*, Department for Transport. <http://webarchive.nationalarchives.gov.uk/20090104005813/http://www.dft.gov.uk/about/strategy/transportstrategy/eddingtontstudy/>

- Edenhofer O, Pichs-Madruga R, Sokona Y, Minx JC, Farahani E, Kadner S, Seyboth K, Adler A, Baum I, Brunner S, Eickemeier P, Kriemann B, Savolainen J, Schlömer S, von Stechow C and Zwickel T (2014) *Climate change 2014: Mitigation of climate change*, working group III contribution to the fifth assessment report of the Intergovernmental Panel on Climate Change, IPCC. http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_full.pdf
- Education Funding Agency [EFA] and Department for Education [DfE] (2015) 'Budget summary level: 2014 to 2015', data. <https://www.gov.uk/government/publications/section-251-budget-2014-to-2015-data>
- Eliasson J (2014a) *The Stockholm congestion charges: an overview*, CTS working paper 2014: 7, Centre for Transport Studies. <http://www.transportportal.se/swopec/CTS2014-7.pdf>
- Eliasson J (2014b) *The Stockholm congestion pricing syndrome: How congestion charges went from unthinkable to uncontroversial*, CTS working paper 2014: 1, Centre for Transport Studies. <http://www.transportportal.se/swopec/CTS2014-1.pdf>
- European Rail Research Advisory Council [ERRAC] and UITP (2012) *Metro, light rail and tram systems in Europe*. <http://www.uitp.org/metro-light-rail-and-tram-systems-europe>
- Frug G (2010) 'Empowering the City: London / New York', Urban Omnibus website, 17 February 2010. <http://urbanomnibus.net/2010/02/empowering-the-city-london-new-york/>
- Gains F (forthcoming) 'Metro mayors – democracy, devolution and the importance of getting the design right in DevoManc', *Representation*
- Geddes I, Allen J, Allen M and Morrissey L (2011) *The Marmot Review: Implications for Spatial Planning*. <http://www.apho.org.uk/resource/item.aspx?RID=106106>
- Greater Manchester Combined Authority [GMCA], Greater Manchester Local Enterprise Partnership and Association of Greater Manchester Authorities (2014) *A plan for growth and reform in Greater Manchester*. https://www.greatermanchester-ca.gov.uk/downloads/file/10/gm_growth_and_reform_plan%20
- Gopal D, Matras Y, Percival L, Robertson A and Wright M (2013) *Multilingual Manchester: a digest*, University of Manchester. <http://mlm.humanities.manchester.ac.uk/wp-content/uploads/2014/04/MLMDigest.pdf>
- Gowers AM, Miller BG and Stedman JR (2014) *Estimating Local mortality burdens associated with particulate air pollution*, report PHE-CRCE-010, Public Health England Centre for Radiation and Chemicals in the Environment. <https://www.gov.uk/government/publications/estimating-local-mortality-burdens-associated-with-particulate-air-pollution>
- Greater London Authority and Transport for London [GLA and TfL] (2015) 'Written evidence submitted by the Greater London Authority and Transport for London', BIG0067. <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/science-and-technology-committee/big-data-dilemma/written/21294.pdf>
- Greener Journeys (2015) *Bus 2020: The Case for the Bus Pass*. <http://www.greenerjourneys.com/publication/bus2020-case-bus-report/>
- Higginson M (2013) 'Workplace parking levies as an instrument of transport policy', presentation, Newcastle University. <http://ncl.ac.uk/ceg/assets/documents/seminars/WorkplaceParkingLevies.pdf>
- HM Treasury [HMT] (2015) 'Public expenditure statistical analyses: Chapter 7: Local government financing and expenditure tables', data. <https://www.gov.uk/government/statistics/public-expenditure-statistical-analyses-2015>

- House of Commons Transport Committee [HCTC] (2013) *Local authority parking enforcement, seventh report of session 2013–14, Volume I*, HC118. <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmtran/118/118.pdf>
- House of Commons Transport Committee [HCTC] (2014) *Local authority parking enforcement: Government Response to the Committee's Seventh Report of Session 2013–14*, HC970. <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmtran/970/970.pdf>
- Houses of Parliament Parliamentary Office of Science and Technology [POST] (2014) 'Big and open data in transport', postnote 472. <http://researchbriefings.files.parliament.uk/documents/POST-PN-472/POST-PN-472.pdf>
- ICLEI and City of New York (2010) *The Process Behind PlaNYC: How the City of New York Developed Its Comprehensive Long-Term Sustainability Plan*. http://s-media.nyc.gov/agencies/planyc2030/pdf/iclei_planyc_case_study_201004.pdf
- Innes D and Tetlow G (2015) *Central Cuts, Local Decision-Making: Changes in Local Government Spending and Revenues in England, 2009-10 to 2014-15*. <http://www.ifs.org.uk/publications/7617>
- Institute for Fiscal Studies [IFS] (2015) 'The 2015 Spending Review', webpage. <http://election2015.ifs.org.uk/spending-review-2015>
- IPPR North and the Northern Economic Futures Commission [NEFC] (2012) *Northern prosperity is national prosperity: A strategy for revitalising the UK economy*, IPPR North. www.ippr.org/publications/northern-prosperity-is-national-prosperity-a-strategy-for-revitalising-the-uk-economy
- Johnson D, Mackie P and Shires J (2014) *Buses and the Economy II: Main report*, Institute for Transport Studies. <http://www.greenerjourneys.com/publication/buses-economy-ii/>
- Jones A (2015) 'Total Transport: working together for our communities', speech, 23 October, Total Transport North 2015, York. <https://www.gov.uk/government/speeches/total-transport-working-together-for-our-communities>
- Knapton S (2015) 'Gadget which turns all traffic lights green trialled in UK', *Telegraph*, 3 April 2015. <http://www.telegraph.co.uk/news/science/11512274/Gadget-which-turns-all-traffic-lights-green-trialled-in-UK.html>
- KPMG (2014) *Magnet cities: decline | fightback | victory*. http://kpmg.co.uk/creategraphics/07_2014/Magnet_cities/index.html
- KPMG (2016) *Local Bus Market Study: Report to the Department for Transport*. <https://home.kpmg.com/uk/en/home/insights/2015/12/local-bus-market-study.html>
- Laird J and Mackie P (2010) *Review of methodologies to assess transport's impacts on the size of the economy*, The Northern Way. http://www.northernwaytransportcompact.com/downloads/Evidence%20Base/Transport%20&%20the%20Economy/Review_of_Methodologies_to_Assess_Transports_Impacts_on_the_Size_of_the_Economy.pdf
- Leunig T (2011) *Cart or horse: Transport and economic growth*, ITF discussion paper 04, OECD. <http://www.oecd-ilibrary.org/docserver/download/5kg9mq4ws027.pdf?expires=1454681579&id=id&accname=guest&checksum=262B5E1177DCA6D7C12C9621BF6B7230>
- Lewis D (2011) *Economic perspectives on transport and equality*, ITF discussion paper 09, OECD. <http://www.oecd-ilibrary.org/docserver/download/5kg9mq4dwzg1.pdf?expires=1454673388&id=id&accname=guest&checksum=0BF9DD2FF31C099598B8A45943105AD1>
- Local Government Innovation Taskforce [LGIT] (2014) *First report: The case for change*, LGA Labour Group. http://lgalabour.local.gov.uk/web/lgalabour/publications/-/journal_content/56/330956/5970641/PUBLICATION

- London Assembly Transport Committee [LATC] (2006) *Value added? The Transport committee's assessment of whether the bus contracts issued by London buses represent value for money*. https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/archives/assembly-reports-transport-value-added.pdf
- Lowe C and Stanley J (2011) *European public transport: Some trends of relevance to Australia*, Institute of Transport and Logistics Studies, University of Sydney. http://www.busvic.asn.au/images/uploads/links/European_Public_Transport_Some_Trends_of_Relevance_to_Australia.pdf
- Mackie P, Laird J and Johnson D (2012) *Buses and economic growth: main report*, Institute for Transport Studies. <http://www.greenerjourneys.com/2012/07/buses-economic-growth-making-the-link-new-report>
- Manzoni V, Maniloff D, Kloeckl K and Ratti C (2012) *Transportation mode identification and real-time CO2 emission estimation using smartphones*. <http://dosen.narotama.ac.id/wp-content/uploads/2012/03/Transportation-mode-identification-and-real-time-CO2-emission-estimation-using-smartphones.pdf>
- Mayor of London and Transport for London [TfL] (2014a) *Improving the health of Londoners: Transport action plan*. <http://content.tfl.gov.uk/improving-the-health-of-londoners-transport-action-plan.pdf>
- Mayor of London and Transport for London [TfL] (2014b) *Travel in London: Report 7*. <http://content.tfl.gov.uk/travel-in-london-report-7.pdf>
- Mayor of London and Transport for London [TfL] (2015) *Annual report and statement of accounts*. <http://content.tfl.gov.uk/annual-report-2014-15.pdf>
- Mayor of New York (2014) *PlaNYC progress report 2014*. http://www.nyc.gov/html/planyc2030/downloads/pdf/140422_PlaNYCP-Report_FINAL_Web.pdf
- McKibbin D (2012) *Integrated transport in the Netherlands*, research and information service briefing paper, Northern Ireland Assembly. http://www.niassembly.gov.uk/globalassets/documents/raise/publications/2013/regional_dev/6013.pdf
- Milne Eugene MG (2012) 'A public health perspective on transport policy priorities', *Journal of Transport Geography*, 21: 62–69. <http://www.sciencedirect.com/science/article/pii/S0966692312000178>
- Muir R and Parker I (2014) *Many to many: How the relational state will transform public services*, IPPR. <http://www.ippr.org/publications/many-to-many-how-the-relational-state-will-transform-public-services>
- National Audit Office [NAO] (2013) *Case study on integration: Measuring the costs and benefits of whole-place community budgets*, HC 1040. <https://www.nao.org.uk/report/case-study-on-integration-measuring-the-costs-and-benefits-of-whole-place-community-budgets/>
- National Health Service (2014) *Five year forward view*. <https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf>
- Nottingham City Council [NCC] (2011) *Nottingham local transport plan strategy 2011 – 2026*. <http://www.nottinghamcity.gov.uk/transportstrategies>
- Nottingham City Council [NCC] (2015) 'About the Workplace Parking Levy (WPL)', webpage. <http://www.nottinghamcity.gov.uk/whatisaWPL>
- OECD (2009) *OECD Territorial Reviews OECD Territorial Reviews: Toronto, Canada 2009*. <http://www.oecd.org/publications/oecd-territorial-reviews-toronto-canada-2009-9789264079410-en.htm>
- OECD (2012) *Promoting Growth in All Regions: Lessons from across the OECD*. <http://www.oecd.org/gov/regional-policy/promotinggrowthinallregions.htm>
- OECD (2015) *Governing the city*. <http://www.oecd.org/publications/governing-the-city-9789264226500-en.htm>

- OECD and China Development Research Foundation [CDRF] (2010) *Trends in urbanisation and urban policies in OECD countries: What lessons for China?* <http://www.oecd.org/urban/roundtable/45159707.pdf>
- Passenger Transport Executive Group [PTEG] (2011) *Total Transport: Working across sectors to achieve better outcomes*. <http://www.pteg.net/resources/types/reports/total-transport-working-across-sectors-achieve-better-outcomes>
- Passenger Transport Executive Group [PTEG] (2015) *Ticket to thrive: The role of urban public transport in tackling unemployment*. <http://www.urbantransportgroup.org/resources/types/reports/ticket-thrive-role-urban-public-transport-tackling-unemployment>
- Pisu M, Pels B and Bottini N (2015) *Improving infrastructure in the United Kingdom*, OECD working paper no 1244. http://www.oecd-ilibrary.org/economics/improving-infrastructure-in-the-united-kingdom_5jrxqbc7m0p-en
- Preston J (2012) *Integration for seamless transport*, ITF discussion paper 1, OECD. <http://www.internationaltransportforum.org/jtrc/DiscussionPapers/DP201201.pdf>
- Preston J (2014) *Moving forward: Improving strategic transport planning in Wales*, Public Policy Institute for Wales. <http://ppiw.org.uk/publications/>
- Public Health England (2015) 'Active People Survey (APS) excess weight data for the Public Health Outcomes Framework', data. http://www.noo.org.uk/data_sources/adult/Active_People_Survey_PHOF
- PwC (2014) *The Local State We're In 2014: Our annual local government survey*. <http://www.pwc.com/gx/en/industries/government-public-services/public-sector-research-centre/united-kingdom/local-state.html>
- Raikes L, Straw W and Linton C (2015) *Total transport authorities a new deal for town and rural bus services*, IPPR. <http://www.ippr.org/publications/total-transport-authorities-a-new-deal-for-town-and-rural-bus-services>
- Rail North (2015) *Long term rail strategy: A twenty-year vision to develop rail in the North of England*. <http://www.railnorth.org/wp-content/uploads/2013/12/Long-Term-Rail-Strategy-2015.pdf>
- Scottish Executive (2006) *Scotland's National Transport Strategy*. <http://www.scotland.gov.uk/Resource/Doc/157751/0042649.pdf>
- Stanley J (2014) *Public transport: funding growth in urban route services, bus and coach industry policy paper 3*. http://sydney.edu.au/business/__data/assets/pdf_file/0005/228785/Moving-People-3.pdf
- Taylor I and Sloman L (2016) *Building a world-class bus system for Britain, Transport for Quality of Life*. http://www.transportforqualityoflife.com/u/files/160120_Building_a_world-class_bus_system_for_Britain_FINAL1.pdf
- Transport for London [TfL] (2015) *Annual report and statement of accounts*. <http://content.tfl.gov.uk/annual-report-2014-15.pdf>
- Ubbels B, Nijkamp P, Verhoef E, Potter S and Enoch M (2001) 'Alternative ways of funding public transport', *European Journal of Transport and Infrastructure Research*, 1(1): 73–89. Also available at: https://dspace.lboro.ac.uk/dspace-jspui/bitstream/2134/3601/3/Alternative_ways_2001_01_05.pdf
- Van de Velde D, Eerdmans D and Westerink H (2010) *Public transport tendering in the Netherlands*, Passenger Transport Executive Group. <http://www.pteg.net/system/files/PTtenderinginNL20100723small.pdf>
- Van Essen H, Schrotten A, Otten M, Sutter D, Schreyer C, Zandonella R, Maibach M and Doll C (2011) *External costs of transport in Europe: Update study for 2008*. http://www.cedelft.eu/publicatie/external_costs_of_transport_in_europe/1258
- Vigrass JW and Smith AK (2005) 'Light Rail in Britain and France: Study in Contrasts, with Some Similarities', *Journal of the Transportation Research Board*, 1930(1): 79–87. <http://trrjournalonline.trb.org/doi/pdf/10.3141/1930-10>

- Volterra (2014) *Investing in city regions: the case for long-term investment in transport*. <http://volterra.co.uk/wp-content/uploads/2014/11/Volterra-Investing-in-City-Regions-A4-report-PDF.pdf>
- Walton H, Dajnak D, Beevers S, Williams M, Watkiss P and Hunt A (2015) *Understanding the Health Impacts of Air Pollution in London*, King's College London for Transport for London and the Greater London Authority. https://www.london.gov.uk/sites/default/files/HIAinLondon_KingsReport_14072015_final_0.pdf
- Ward M (2011) *Crossing bridges, Report of the 'health in all policies' focus area group on: Transport, planning and health*. http://www.health-inequalities.eu/HEALTHY/EN/projects/crossing_bridges/
- What Works Centre for Local Economic Growth [WWCLEG] (2015) *Evidence Review 7: Transport*. http://www.whatworksgrowth.org/public/files/Policy_Reviews/15-07-01-Transport-Review.pdf
- Yu Zheng, Furui Liu, Hsun-Ping Hsieh (2013) 'U-Air: When Urban Air Quality Inference Meets Big Data', 19th SIGKDD conference on Knowledge Discovery and Data Mining. <http://research.microsoft.com/en-us/projects/urbanair/>