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London stalling

Reducing traffic congestion in London

Transport Committee

January 2017

Holding the Mayor to account and investigating issues that matter to Londoners

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The Transport Committee holds the Mayor and Transport for London to account for their work delivering the capital's transport network. The committee examines all aspects of the transport network and presses for improvements on behalf of Londoners.

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Contents

Caroline Pidgeon MBE AM

Chair of the Transport Committee

Over a decade ago, London led the world by introducing a Congestion Charge in the centre of the city. The scheme has proven successful, keeping a lid on private motor traffic and creating new space for buses, cyclists and pedestrians on the busiest part of our road network. Congested cities around the globe looked to London as they considered how to tackle the gridlock on their own streets.

However, congestion has begun to increase sharply again, and not just in central London but across the capital. Traffic has slowed down and road users are spending longer stuck in delays. Buses have become so unreliable that usage has begun to fall, after many years of growth. The causes of this change are complex and multiple, as our investigation has identified.

What is clear is that the current Congestion Charge is no longer fit for purpose – it is a blunt instrument using old technology that covers a tiny part of London. Fundamentally, vehicles should be charged according to their impact on congestion. Charging a daily flat rate to enter a zone may discourage some people from using part of the road network, but this approach is failing to target vehicles spending longer on the roads, at the most congested times, and travelling in other areas where congestion is high.

> "The current Congestion Charge is no longer fit for purpose."

We recommend in this report that the Mayor should make plans now to introduce road pricing in London. This idea has long been discussed, but until now the political will to make it happen has been lacking. Delaying further is not an option. There are a number of options for how this happens, which TfL will need to work out, including the geographical scope, monitoring technology and integration with Vehicle Excise Duty and the Mayor's emissions charges. In the interim, immediate reform of the existing Congestion Charge to target it at journeys causing congestion would be worthwhile.

There is a range of other measures that could also help to tackle congestion. The Mayor could do more to reduce the impact of roadworks, strengthen the on-street response to major traffic incidents, and encourage Londoners to receive personal deliveries in more sustainable ways. However these measures alone will not be enough to tackle London's congestion problem.

Road pricing is supported by business groups, local authorities and transport experts. Of course there is likely to be a vocal minority opposed to its introduction. But we agree the time has come for the Mayor to take a look at road pricing before things get any worse.

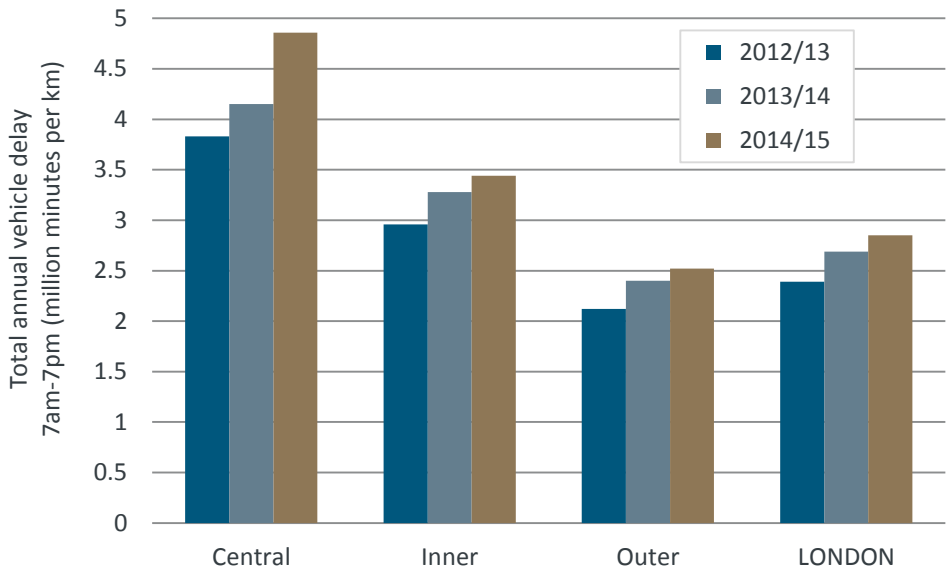
I would like to thank all those who have contributed to our investigation. I was encouraged to see a high degree of consensus about the changes needed to relieve the gridlock on our roads, and we now call on the Mayor to implement them.

Summary

Congestion is a source of huge frustration to road users. It reduces the functionality of the road network, meaning journeys take longer at huge cost to the city's economy. Not only this, it contributes to London's air pollution problem.

Traffic congestion in London is getting worse. Since 2012/13, vehicle speeds on major roads have gone down and journey time reliability has got worse. Time lost to traffic delay has gone up, as have excess waiting times for buses. This is occurring in all parts of the city – central, inner and outer London.

Minutes lost to traffic delays have increased across London



Source: *Total vehicle delay for London 2014-15*, Transport for London, 2016

The causes behind this trend are complex. Fundamentally, London's road network is increasingly hosting more traffic than it has the capacity to cope with. This is not primarily because of an increase in private car usage, which has fallen. Rather, other types of traffic have increased, particularly delivery vehicles and private hire vehicles. At the same time, road space has been re-allocated away from private motorised vehicles to help improve the provision of bus services and encourage cycling and walking.

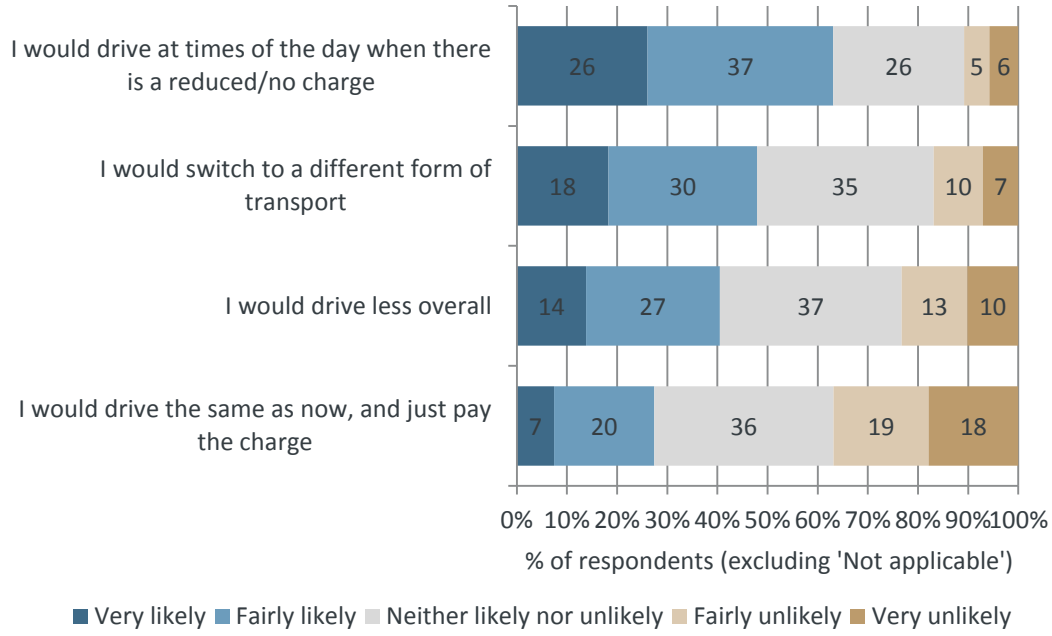
Transport for London (TfL) is doing a lot to tackle congestion, but not enough. It already uses a range of interventions, including the Central London Congestion Charge, bus priority measures, financial incentives to reduce roadworks, controlling traffic signals to respond to road incidents, and encouraging modal shift to public transport or active travel. These

interventions, while arguably effective in themselves, are no longer having the desired effect on congestion overall.

For congestion charging to work, London needs a way of charging people for road usage that is targeted at areas of congestion, at the times congestion occurs. We now therefore call on the Mayor to reform the Congestion Charge, which has been successful but is far too blunt an instrument and too narrow in scope. He should also begin developing proposals for a wider road pricing scheme for London. This would enable a more detailed consideration of how and whether road pricing would ultimately replace the Congestion Charge and other charges levied on drivers, including Vehicle Excise Duty.

Road pricing would be a fairer approach, as road users would pay according to how much they contribute to congestion. This is popular with Londoners, with half of road users responding to our survey saying they support road pricing and only a fifth opposed. As our survey confirms, road pricing has the potential to shift driver behaviour by encouraging them to drive at less congested times and/or switch to more sustainable modes.

Drivers would change their behaviour if road pricing was introduced



Source: Transport Committee survey, September 2016

Our preferred system of road pricing would include private hire vehicles, which have increased significantly in recent years but remain exempt from the Congestion Charge.

To be most effective, road pricing should be integrated with other charges drivers pay. This should include Vehicle Excise Duty, which we ask the government to devolve to TfL so it can be replaced with a system fairer to

motorists. The emissions charges being introduced by the Mayor – which will have little impact on congestion – and any proposed road tolls should all ultimately be integrated with a single, simple road pricing scheme.

A range of other measures need to be implemented by the Mayor to tackle congestion. Tackling the growth of commercial traffic should be a priority. Consolidation centres could help take vehicles off London's roads. While London already has a number of these, there is potential to introduce more. TfL could also address the increasing number of delivery vans making internet shopping deliveries, which is contributing to congestion, by taking steps to ensure people collect packages in more sustainable ways.

The day-to-day management of disruptions on the road could also be enhanced in several ways. TfL deploys sophisticated technology to respond to congestion-causing incidents remotely, but its on-street presence is relatively small. The new team of enforcement officers introduced to tackle congestion should be expanded.

More could be done to reduce the impact of roadworks, which are increasingly contributing to congestion. Despite the Mayor's recent action plan on congestion promising more coordination between utilities companies and others conducting works, we are not convinced TfL is using the right financial incentives to limit roadworks. TfL has also been responsible for much of the disruption during the implementation of Road Modernisation Plan schemes. While we strongly believe these should continue, they should be better planned to limit the congestion impacts.

Sadiq Khan will shortly be producing his first Mayor's Transport Strategy, defining the way he and TfL will respond to one of the biggest transport challenges facing London. The findings of our investigation show clearly that London needs bold action, with road pricing representing the best option the Mayor has to make a significant difference to congestion levels in London.

Recommendations

Recommendation 1

In the short-term, the Congestion Charge should be reformed, so the payments levied better reflect the impact of vehicles on congestion. The daily flat rate should be replaced with a charging structure that ensures vehicles in the zone at peak times, and spending longer in the zone, face the highest charges.

For the longer-term, the Mayor needs to start to develop proposals now for replacing the Congestion Charge with a new citywide road pricing scheme, which charges vehicles according to the extent, location and timing of their road usage. Road pricing could also replace Vehicle Excise Duty, which should be devolved by the Government to the Mayor. There may be a case for the scheme to be wider than the existing Congestion Charge zone; discussions with all boroughs should take place to determine whether and how road pricing should cover their local road network.

The Mayor's forthcoming Transport Strategy should set out plans for both Congestion Charge reform and for the potential introduction of road pricing. The Mayor should also update the committee by the end of April 2017 about discussions with the government on the devolution of Vehicle Excise Duty.

Recommendation 2

TfL should ensure that new monitoring technology introduced to identify vehicles in the proposed Ultra Low Emissions Zone should be compatible with the future requirements of a road pricing scheme. TfL should confirm it will do this when responding to the recent consultation on ULEZ proposals.

Recommendation 3

TfL should take steps to encourage bids from boroughs interested in piloting a local Workplace Parking Levy. Provided the plans fit with any wider road pricing scheme, TfL should offer support to a WPL pilot programme if proposed by a borough. This should include offering additional funding to the borough(s) to initiate the scheme.

Recommendation 4

The Mayor and TfL should take steps to encourage more delivery consolidation. This will involve working with those running large construction schemes and retailers, potentially through Business Improvement Districts. The new London Plan should promote consolidation for new developments. TfL should also work with London Councils to reduce restrictions on night-time deliveries. The Mayor and TfL should write to the committee by the end of April 2017 setting out their plans to reduce commercial traffic in these ways.

Recommendation 5

TfL should pilot a ban on personal deliveries for staff. Based on the findings, the Mayor should consider extending this to all GLA Group premises, and promote this change in practice to other large employers in London. We ask that TfL write to the committee setting out plans for a pilot by the end of April 2017.

Recommendation 6

TfL should reconsider its approach to 'click and collect' at Tube and rail stations. Stations should be identified for a pilot programme in which multiple retailers and/or freight operators can deliver packages to a station for collection. We ask that TfL write to the committee confirming plans to seek partnerships of this type by the end of April 2017.

Recommendation 7

The Mayor should set out how his new regulations for the private hire industry and the legislative changes he is advocating will affect congestion levels in London. He should also commit to assessing the impact of making private hire vehicles subject to a new road pricing regime, and different options for implementing this proposal. The Mayor should write to the committee by the end of April 2017 confirming these plans.

Recommendation 8

TfL should conduct and publish an analysis of the impact of the Road and Transport Enforcement Team and, if it is proven to be cost-effective, set out plans to expand the size and coverage of the team. We ask that TfL writes to the committee by the end of April 2017 with an update.

Recommendation 9

The Mayor and TfL should carry out an assessment of the effectiveness of the London Permit and Lane Rental schemes for roadworks. This should be aimed at ensuring the cost of delayed roadworks on London's road users is reflected in the amount companies must pay. We ask that TfL write to the committee by the end of April 2017 with an update.

Recommendation 10

TfL should continue to implement its Road Modernisation Plan schemes including the proposed network of safer cycling routes such as Cycle Superhighways and Quietways. It should report back to the committee by the end of April 2017 on how the construction of additional Superhighways and other major projects will be planned more effectively to minimise traffic congestion.

Recommendation 11

TfL should conduct and publish an analysis of the impact of the pilot scheme displaying traffic notices on buses and, if it is proven to be cost-effective, set out plans to roll out the programme more widely. We ask that TfL writes to the committee by the end of April 2017 with an update.

David Kurten AM, UKIP Group Lead on the Committee, agrees with Recommendations 4, 5, 6, 7, 8, 9 and 11 of the report. He disagrees with Recommendations 2 and 3, and partially disagrees with Recommendations 1 and 10.

1. Introduction

Key points

- Traffic congestion in London is getting worse. As well as being a source of huge frustration to road users, congestion costs London's economy billions of pounds every year and is damaging to Londoners' health.
- TfL already deploys a wide range of measures aimed at managing congestion. Our investigation has examined the effectiveness of these and explored possible new interventions.
- Evidence gathered for our investigation has included analysis of traffic data, our road user survey, site visits and contributions from a large number of experts and stakeholders.

1.1 London's road network is extremely busy, across almost all parts of the city. Traffic is not simply a result of people driving their own cars, as private car usage has been decreasing. London's road network also hosts buses – London's most used form of public transport – as well as emergency service vehicles, taxis, minicabs, delivery vehicles, and cyclists, motorcyclists and pedestrians.

1.2 While a busy road network is to be expected in a global city with a prospering economy and millions of people moving around for work and leisure, the latest evidence suggests that traffic congestion has been getting significantly worse in recent years. Traffic speeds have fallen, more time is lost to delays, and passengers are waiting longer for buses. Londoners confirmed these trends in our survey, where a large majority of respondents reported that congestion has worsened in the past two years.

1.3 As well as its effects on individuals' wellbeing and quality of life, congestion has a detrimental impact on London's economy. Transport for London (TfL) has calculated that traffic delays cost London £5.5 billion in 2014/15.[1] This figure represents a huge 30 per cent increase in just two years (£4.2 billion in 2012/13). Of the £5.5 billion total, £3.6 billion falls in outer London, £1.3 billion in inner London and £0.6 billion in central London. Congestion is a London-wide problem.

1.4 TfL is attempting to manage congestion using a number of methods. Most prominent is the Central London Congestion Charge, which was introduced in 2003. TfL also monitors traffic across the road network and can use signalling at junctions to respond to instances of heavy congestion, supplemented by on-street enforcement in some areas. Working with London boroughs, TfL operates measures to control commercial traffic, particularly Heavy Goods Vehicles, and to minimise the impact of roadworks. To help reduce the impact of congestion on buses, TfL has introduced bus priority measures, such as bus lanes.[2] In a more general sense, TfL promotes more sustainable modes of travel, particularly walking and cycling, encouraging a shift away from motorised vehicles where possible.

Our investigation

1.5 In this investigation we set out to assess how effective TfL's existing interventions are, noting that the recent increase in congestion suggests that they may need to be enhanced or modified.

1.6 We have gathered evidence through a range of methods. Our call for written views and information attracted almost 250 submissions from Londoners, transport experts and stakeholder organisations. We have analysed available data on congestion and its causes from a variety of sources. At two committee hearings on this topic, we heard from a range of guests including TfL, London boroughs, academics, and representatives of London businesses, motorists, cyclists, taxi drivers and utility companies. Committee Members have been on

site visits, including to TfL's Surface Transport and Traffic Operations Centre, the central hub from where TfL monitors and manages traffic.

1.7 We also conducted a survey of Londoners to inform our investigation. This was carried out on behalf of the committee by Populus, who surveyed a representative sample of over 1,000 people.[3] The road usage of our sample broadly reflected transport mode shares in London, with 64 per cent of respondents regularly travelling by bus, 57 per cent by car or van, 18 per cent by cycle, and 13 per cent by taxi or minicab.[i]

1.8 In this report we set out the conclusions of our investigation and make a series of recommendations to the Mayor and TfL about how they can reduce traffic congestion on London's roads.

[i] Full survey findings are published alongside this report. For the question on mode usage, respondents were asked to select all modes they use at least once per week.

2. Congestion trends

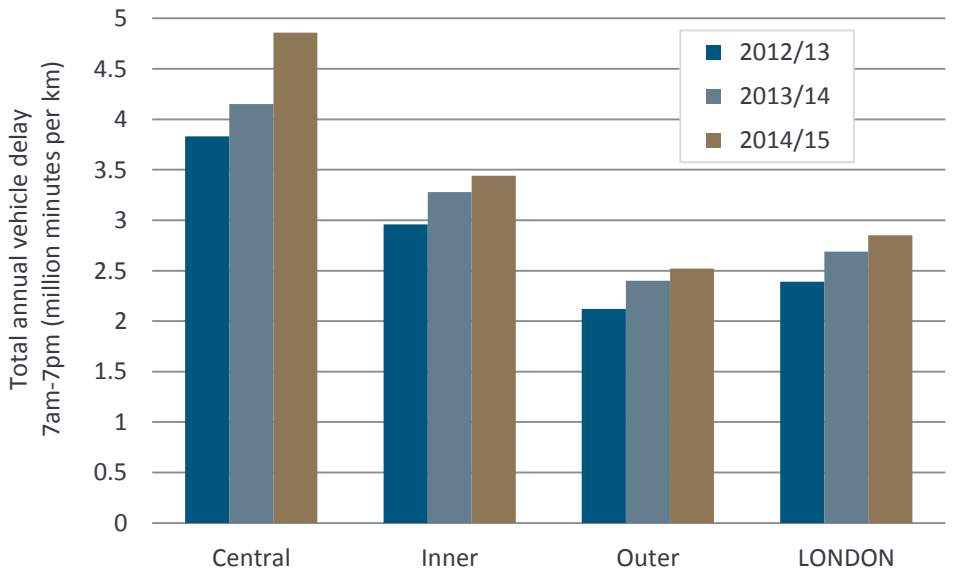
Key points

- All the evidence shows a significant worsening in traffic congestion in the past few years. Traffic speeds have gone down, journey times have increased. Excess bus waiting times have gone up, leading to a fall in ridership.
- Londoners confirm these trends. A large majority of respondents to our survey say congestion is getting worse, and many say it is affecting their employment and their health.
- The causes of rising congestion include an increase in certain types of vehicle, particularly delivery vans and minicabs, and a reallocation of road space away from private motor traffic.

Traffic data

2.1 By any measure, congestion has been increasing across London in recent years. For instance, Figure 1 below shows how the estimated number of minutes of delay for vehicles travelling on London's roads has increased since 2012/13, in central, inner and outer London. Across London as a whole, the number of minutes lost to delay increased by 14 per cent in the two years to 2014/15.

Figure 1: Minutes lost to traffic delays have increased across London



Source: *Total vehicle delay for London 2014-15*, Transport for London, 2016

2.2 Other congestion measures tell a similar story:

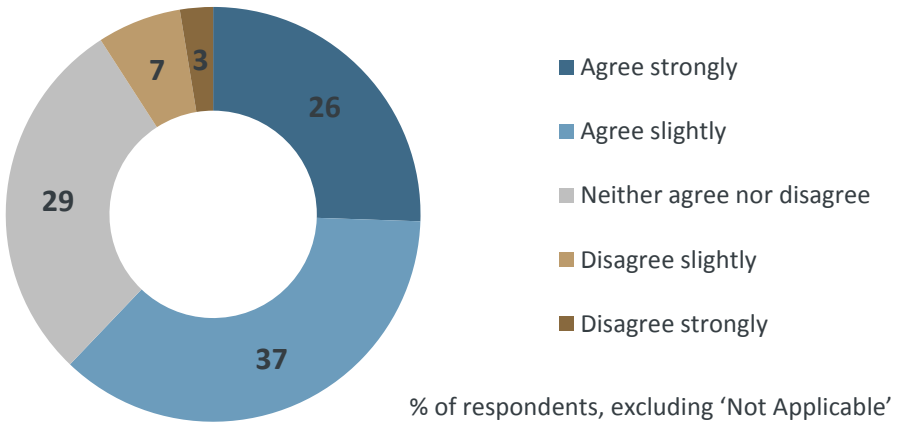
- The average vehicle speed on major roads has fallen significantly, from 19.9 miles per hour (mph) in the fourth quarter of 2012/13, to 17.7 mph in the same period of 2015/16, a drop of 11 per cent.[4]
- Journey time reliability[ii] on the TfL Road Network (TLRN) – the network of major roads managed by TfL – has fallen from 89.2 per cent in 2012/13 to 87.8 per cent in 2015/16.[5]
- Excess wait time for buses[iii] has increased from 1.0 minutes in 2012/13, to 1.2 minutes in 2015/16, a rise of 20 per cent, with ridership falling as a consequence.[6]

[ii] 'Journey time reliability' is the percentage of journeys completed within an allowable excess of 5 minutes for a standard 30 minute journey during the morning peak.
[iii] 'Excess wait time' is the number of minutes that a passenger has had to wait in excess of the time that they should expect to wait if buses ran as scheduled.

Experience of Londoners

2.3 Londoners agree that congestion is getting worse. As Figure 2 shows, 62 per cent agreed that congestion had got worse in the last two years, with only 9 per cent disagreeing.[7]

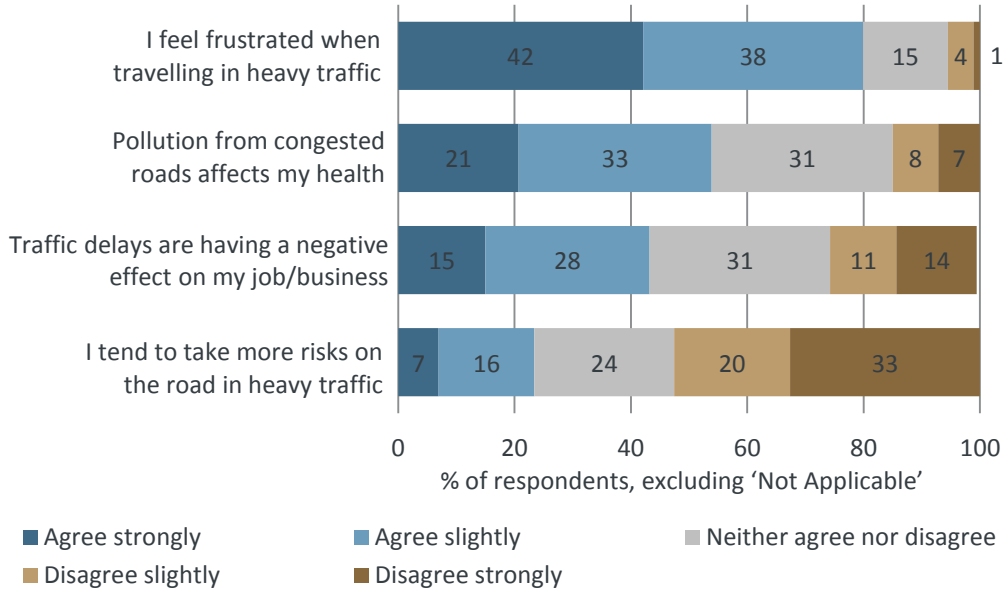
Figure 2: Most Londoners say congestion has got worse in the past two years



Source: Transport Committee survey, September 2016

2.4 We also heard about some of the effects that congestion has on the lives of Londoners. 80 per cent of our survey respondents said congestion was a source of frustration, with a majority also saying it affected their health. Many also said congestion had a negative impact on their job or business.

Figure 3: Impacts of traffic congestion on Londoners



Source: Transport Committee survey, September 2016

Causes of increases in congestion

2.5 The fundamental cause of congestion is the road network having more traffic than it has capacity to manage efficiently. In recent years, London's roads have seen significant changes with both sides of this equation: increases in certain types of vehicle traffic, and a reduction in the road space available for the traffic to use.

2.6 In London, congestion isn't getting worse because more people are driving their own cars. Londoners' usage of cars has been falling for at least ten years. Between 2005 and 2014, all the key measures of car use – trips taken by Londoners as a car driver, the distance travelled and time spent driving – all fell by around 25 per cent.[8]

2.7 Many Londoners have switched to public transport. The mode share of private vehicle transport has fallen in recent years, from 41 per cent in 2003 to 32 per cent in 2014. This has corresponded with significant investment in London's public transport network, with the mode share of public transport going up from 37 to 45 per cent in the same period.[9]

2.8 Despite this success, there are more private motor vehicles on London's roads. Our investigation has identified significant increases in the use of two types of vehicle:

- Delivery van traffic has increased. In 2012, vans drove 3.8 billion kilometres on London's roads. In 2015 this had increased to 4.2 billion kilometres, a rise of 11 per cent.[10]
- The number of private hire vehicles and drivers has increased. Licensed vehicles rose from 49,854 in March 2013 to 84,886 in November 2016 – an increase of 70 per cent in less than four years. The number of licensed drivers rose by 72 per cent over the same period, from 66,975 to 115,513.[11]

2.9 Alongside this, in some areas, road space has been reduced both as a result of temporary construction work, and because of decisions by TfL and others to permanently reallocate space away from private motor traffic. As set out in TfL's submission to the committee:[12]

> "We, and other London highway authorities, have reallocated road space away from private vehicles particularly in inner London to improve road safety, increase bus service reliability, and to improve facilities for pedestrians, cyclists and taxis. This includes segregated bus and cycle lanes…
>
> Road space reallocation and the scale of development in London have resulted in reducing the road capacity available for car users in certain areas. This has led to a reduction in traffic volumes, but static (and more recently, rising) levels of congestion."

2.10 The latest traffic data indicates clearly that congestion is increasing in London, with our survey of Londoners supporting this finding. Although

private car usage does not appear to have increased in London, the changes in network capacity may mean that it needs to be reduced further in order to alleviate congestion.

2.11 In the next chapter, we will consider the most prominent method TfL has for managing congestion, the Congestion Charge, and examine how it may be reformed to enhance its effectiveness. Chapter 4 will then consider wider efforts to encourage modal shift among Londoners.

2.12 Given the increasing road usage in the freight and private hire sectors, further specific measures need to be considered to address this, as will be discussed in Chapter 5. In Chapter 6 we will consider the ways in which TfL manages disruption and change on the road network.

3. Charging for road usage

Key points

- The Central London Congestion Charge has proven successful since its introduction in 2003, but with congestion rising the Mayor needs to consider whether there are more effective ways to manage traffic levels through user charging.
- There is widespread support for a reformed road pricing regime in London, which would better target vehicles using the most congested parts of the road network at peak times. Londoners supported this idea in our congestion survey, with most saying this would be a fairer system than the Congestion Charge.
- To be most effective, road pricing should be integrated with other forms of paying for roads, including Vehicle Excise Duty and the Mayor's proposed emissions charges.

Congestion Charge

3.1 The Congestion Charge was introduced in London in 2003. It is considered to have been successful in relieving congestion in central London. TfL data shows that car traffic entering central London fell by 39 per cent between 2002 and 2014. The Congestion Charge is not necessarily the only reason for this shift, with car traffic already falling prior to its introduction, and improvements in public transport giving Londoners better alternatives to car travel.

The Congestion Charge

The Congestion Charge was introduced in central London in 2003, covering 21 square kilometres. The charging zone was extended to the west in 2007, but this extension was reversed by the previous Mayor in 2010. Drivers not exempt from the charge must pay a flat daily fee of £11.50 to enter the zone between the hours of 07:00 and 18:00, or £10.50 with automatic payment. Exempt vehicles include taxis and private hire vehicles, emergency service vehicles, motorcycles, and those used by disabled people, with residents in the zone also eligible for a discount.

3.2 Dr Rachel Aldred of the University of Westminster gave us an overview of the positive impact of the Congestion Charge:

> "Congestion charging in the early years was very effective in enabling capacity previously allocated to private motor vehicles to be reallocated largely to bus lanes and pedestrian space because it reduced demand and because it allowed us to use our public space more efficiently, more pleasantly and so on. Also, the research suggested that there was a road safety benefit as well both through fewer car trips and through car trips causing fewer injuries."[13]

3.3 The Congestion Charge has almost certainly discouraged many people from driving in central London, and has also raised revenue for transport improvements. TfL raised £168 million from the charge in 2015/16 (net), representing five per cent of TfL's income, and has raised over £1.7 billion in total from the scheme since 2003/04.[14]

3.4 TfL accepts, however, that congestion within the zone has returned to its previous level. As set out in its submission:

> "As a result of providing more road space for walking and cycling, and improvements to public transport, urban realm and road safety, congestion levels in the Congestion Charging Zone returned to similar levels seen before the scheme five years after its introduction, despite there continuing to be less traffic. However, without the Congestion Charge, congestion in central London would be worse."

3.5 Our survey results indicate that the Congestion Charge is supported by Londoners, although many think the £11.50 daily charge is too high:

- 48 per cent of respondents said they support the charge (24 per cent strongly), while 27 per cent oppose it (10 per cent strongly).
- 54 per cent of respondents said the charge is too high, 27 per cent said it is about right, and 11 per cent said it should be higher.
- For both of these questions, respondents from lower income groups were more likely to oppose the charge and to say it was too high.

3.6 Considering the objective to reduce congestion, the current Congestion Charge appears to have significant flaws. It is restricted to a relatively small area, and charges all drivers the same regardless of whether they drive in the zone all day long or just for a short time. As Dr Steve Melia of the University of the West of England told us:

> "One of the reasons for the limited impact of the Congestion Charge is its flat-rate charging structure. Once you have paid for the day, there is no financial disincentive, and there is possibly a psychological incentive, to drive more. An appropriately-constructed Congestion Charge could have a much bigger impact on congestion."[15]

3.7 David Leam of the business group London First also highlighted the lack of targeting in the current Congestion Charge regime:

> "The occurrence of congestion at the moment is wider than the current scheme, but also trying to have a bit more variance in it. The fact that we have a flat charge to cross a cordon and that there is not then at least some variability of price taking into account the fact that congestion varies over the course of the day… Just some element of variance will help sharpen the incentives for people."[16]

3.8 Traffic congestion in central London would be much worse without the Congestion Charge. Despite this, the recent increase in congestion should lead to a reassessment of whether the policy is achieving key objectives, and how it may be modified or replaced. In the short-term, the Congestion Charge should be reformed in order to ensure it better targets congestion. We have also examined whether a new form of charging for road usage could target congestion in a more sophisticated way.

Road pricing

3.9 'Road pricing' is a term used to describe another way of paying for road usage. Although the Congestion Charge might be considered a form of road pricing, generally this term indicates a broader form of charging regime. Under most road pricing models, drivers incur charges based on how much they drive, rather than paying a pre-determined fee to enter a single zone. They also pay

more to drive at times of the day when congestion is high, and/or on the most congested roads.

3.10 The existing Mayor's Transport Strategy, published by Boris Johnson in 2010, allows for road pricing to be introduced in London if other congestion measures are unsuccessful:

> "The Mayor, through TfL, and working with the London boroughs and other stakeholders, if other measures are deemed insufficient to meet the strategy's goals, may consider managing the demand for travel through pricing incentives (such as parking charges or road user charging schemes). This would depend upon there being a reasonable balance between the objectives of any scheme and its costs and other impacts. Any scheme would need to take account of local conditions, as well as the impact on surrounding regions, and to be fair and flexible relating charges to the external costs of travel with sensitivity to time of day, and with scope for discounts or exemptions for specific user groups."[17]

3.11 This form of road pricing has been introduced in a number of cities across the world, notably in Singapore and Stockholm, as described below. The UK Government proposed a national road pricing scheme in 2005, although ultimately it was not implemented.

Road pricing in Stockholm

Stockholm introduced a differential 'congestion tax' in 2006.[18] Although superficially similar to London's Congestion Charge scheme, the wider scope and differential charging structure means it is effectively much closer to a road pricing scheme.

As in London, there is a cordon around the central part of the city. At 35 square kilometres, the charging zone is significantly larger than London's. Around two-thirds of the population of the City of Stockholm lives within the zone, or one-third of the wider metropolitan area.

Automatic Number Plate Recognition (ANPR) is used to detect vehicles entering and leaving the zone, with charges levied for both entering and leaving. There are higher charges for those crossing the cordon at the morning and evening peaks. There are four charging levels, ranging from around £1 to £3 for each crossing, depending on the time of day, with no charge at night.[iv]

Despite initial opposition to the scheme, two-thirds of residents voted in favour of the scheme following a seven-month trial before it became permanent. Car traffic entering the charging zone fell by 22 per cent shortly after charging began, and has remained stable at that level.

[iv] In Singapore's road pricing scheme, the price structure is reviewed quarterly and amended to reflect changes in the severity and timing of congestion.

Potential benefits

3.12 Most experts and stakeholders we have heard from in our investigation expressed support for road pricing. Professor Stephen Glaister of Imperial College, told us some form of road pricing was necessary to control demand:

> "The demand on the road networks is going to go on and on. We could do things in outer London to increase the capacity… but we are not going to be able to deal with this in any other way than mitigating the growth in demand on the network through some kind of price incentive. It would not necessarily be Congestion Charge with a capital C as we know and understand it, but some way of giving incentive to use the road space more effectively and generate lots of revenue."[19]

3.13 The Institution of Civil Engineers argued that the charges drivers pay should reflect road capacity:

> "A move to a usage charge could more closely align costs to the user to the capacity of the road – for example, a charge based on time spent within the congestion zone would make drivers consider the amount of time spent on the road. Equally a differential pricing mechanism could be used as a means of more closely matching demand and capacity."[20]

3.14 Dr Aruna Sivakumar, also of Imperial College, said road pricing could help shift traffic to less congested times of the day:

> "The important thing perhaps in the next stage is really a variance [in pricing]. For instance, trying to spread the peak because, at the end of the day, it is about whether we have capacity in the off peak or on the shoulders of the peak that in many cases we do. Admittedly, there are some routes that will struggle to find that capacity but many routes can afford to have a spreading of peaks. Peak pricing or pricing that helps spread the peak would be a big part of that picture."[21]

3.15 TfL listed the potential benefits of road pricing in its submission:

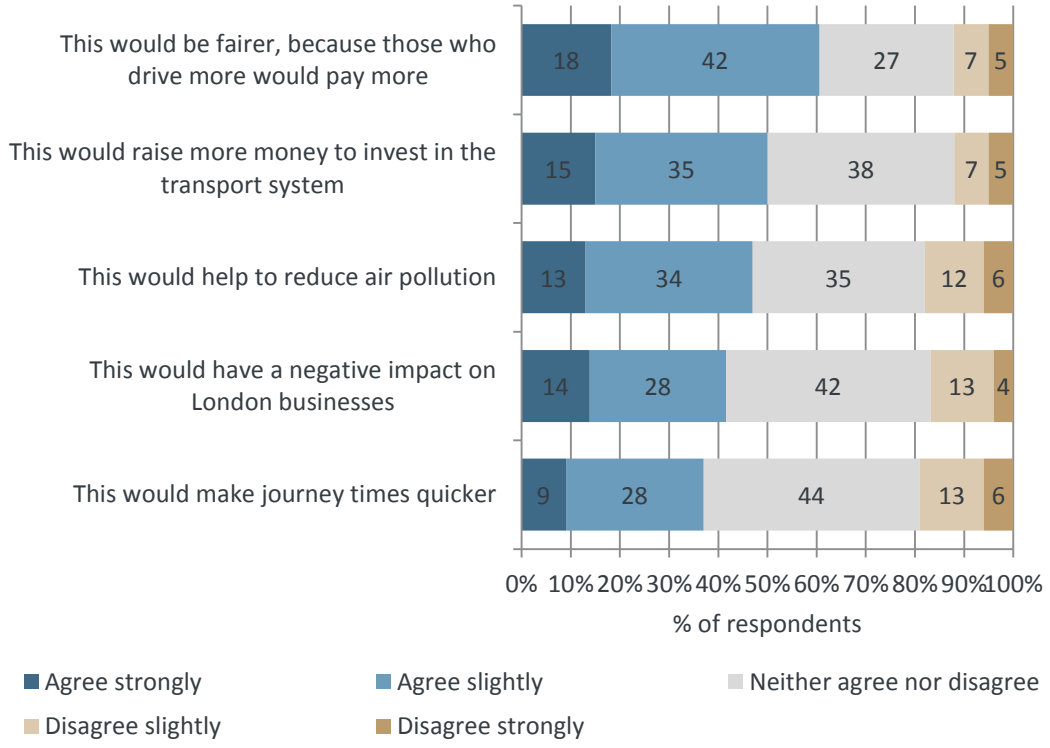
> "Usage-based charging offers more flexibility to target specific types of trips and/or vehicles and could take account of time, location, distance and vehicle type.
>
> Longer trips place greater demand on road space, so it seems appropriate to charge drivers more at congested times, proportionate to the distance driven.
>
> Charging levels could be set to reflect the value of the road space. For instance, higher rates could be set in central London in the peak and lower rates in outer London outside of peak periods.
>
> It offers the opportunity for a holistic approach to road user charging and to integrate other charging mechanisms that already exist."[22]

Public views and behaviour

3.16 When we surveyed a thousand Londoners, we found strong support for the principles behind road pricing. We asked people if they thought charging drivers for how much they drive (for example, per mile or per hour) was preferable to charging a single flat rate: 50 per cent of respondents agreed with this proposal, while only 20 per cent opposed, with 30 per cent undecided.

3.17 To further explore Londoners' views, we asked about some of the possible benefits and disbenefits of road pricing. Responses showed that people think fairness is the most appealing aspect of road pricing, as shown in Figure 4.

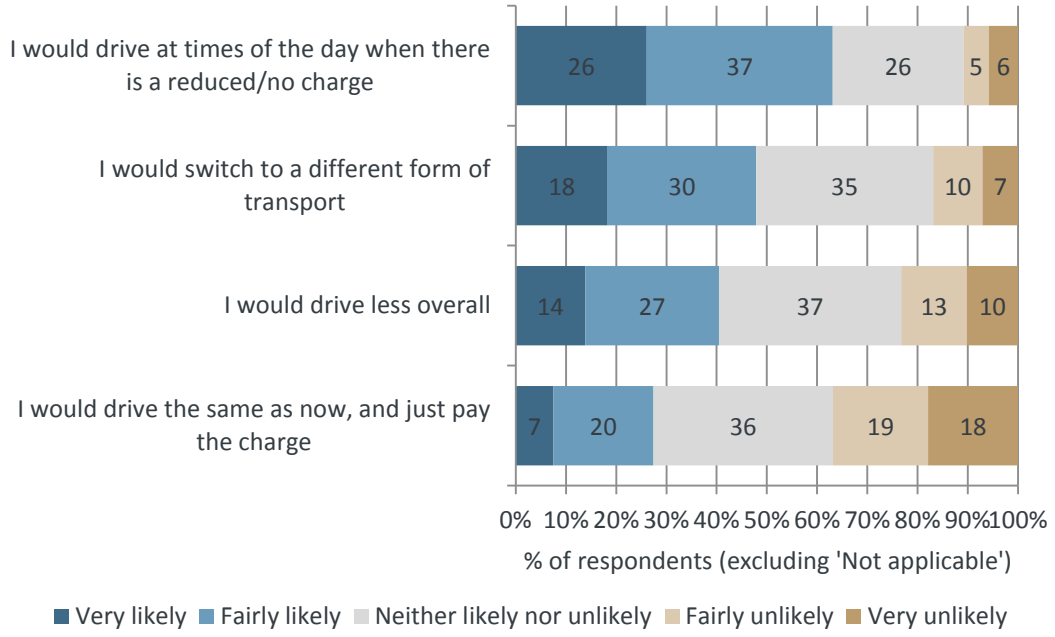
Figure 4: Most Londoners believe road pricing would be fairer than the Congestion Charge



Source: Transport Committee survey, September 2016

3.18 We also asked how road pricing would influence drivers' behaviour. Responses indicated that road pricing would encourage people to drive at less congested times and to switch to other transport modes. This is exactly what road pricing is supposed to achieve. This data is displayed in Figure 5.

Figure 5: Drivers would change their behaviour if road pricing was introduced



Source: Transport Committee survey, September 2016

Implementation

3.19 Under the Greater London Authority Act, TfL has the power to introduce road pricing. The Act states that TfL may introduce road charges anywhere in Greater London, with different price levels depending on the time of day, area, distances travelled and type of vehicle.[23] Implementation of road pricing would present challenges, however. As TfL stated in its submission:

> "The effectiveness of any usage-based road pricing scheme in reducing traffic volumes is dependent on the charge level and the spatial and temporal structure of the charge. However, the impacts of usage-based charging are largely untested, the technology requirements are complex and there are significant potential social and economic impacts which would need to be better understood."

3.20 There are a range of different options for how road pricing could operate, for instance the level of charges and timings. It would be important for the scheme to be designed with the right mix of incentives and disincentives to target congestion effectively. Before implementing any scheme, TfL would need to rigorously assess the impact of its proposals, including equalities and environmental impacts.

3.21 TfL would need to determine the geographical scope of road pricing. With congestion high and rising across London, the existing Congestion Charge zone is focused on only one small part of the problem. Road pricing could be

extended as far as the whole of Greater London, although even if this were the case it does not necessarily mean that every journey would be subject to a charge. While some boroughs submitting evidence to this investigation have expressed support for road pricing, some in outer London – Richmond and Kingston upon Thames in particular – have concerns that charging for local roads would make their town centres less competitive than other centres just outside Greater London.[24]

3.22 The technology used to implement road charging would depend on the exact scope and nature of the scheme. Vehicles entering the current Congestion Charge zone are identified by TfL cameras around the boundary of the zone using Automatic Number Plate Recognition (ANPR). Alex Williams, managing director of planning at TfL, told us that such a system is now dated, and more advanced technology would be used if the scheme were being introduced today. It is likely that road pricing would require a larger and more sophisticated system of tracking vehicle movements to calculate their road usage. As discussed below, this may also be the case for the Ultra Low Emission Zone scheme being introduced by TfL. Such a system would have implications in terms of privacy and civil liberties and would therefore need to be very carefully designed and managed.

Integration with other charges

3.23 One of the key implementation challenges for TfL would be determining how road pricing corresponds to other charges levied for road usage, or proposed charges. Most charges paid by drivers at present are set and collected by central government, but TfL has active proposals for new charges it would administer itself.

3.24 Vehicle Excise Duty (VED), commonly known as car tax or road tax, is a national charge payable for each licensed vehicle. The rate is fixed and does not depend on how often, where or how much the vehicle is used. During our investigation a range of stakeholders and TfL have called for VED to be devolved to London. This was also a conclusion of the London Finance Commission, which concluded yields from VED should be retained locally.[25]

3.25 Although devolving VED on its own would not have a direct impact on congestion, it would provide TfL with a revenue stream for investments in the transport network to help alleviate congestion. Furthermore, VED could be integrated by TfL into a road pricing scheme in a way that helps create the appropriate incentives and disincentives, by charging people according to their road usage instead of the flat, annual rate currently charged. In theory, some car owners could pay *less* under a new system, particularly if they drove infrequently and away from congested roads.

3.26 The Mayor is currently consulting on proposals for two new types of road charge aimed at improving air quality, the Ultra Low Emissions Zone (ULEZ) and the Emissions Surcharge (ES, also commonly known as the T-Charge). The ES would be a further charge for the oldest vehicles entering the Congestion

Charge zone from 2017. Under ULEZ proposals, the most polluting vehicles would pay to enter a new geographical zone, which may extend as far as the North and South Circular roads, from 2019. The Environment Committee has responded to the Mayor on these proposals on behalf of the London Assembly.[26]

3.27 The ULEZ and ES will not have a significant impact on traffic congestion, as they would target only a small minority of vehicles, although the coverage may increase over time. If road pricing is introduced in London, it would be possible to integrate these charges into the new regime, which could include differential charges based on the emissions standards of vehicles. On a practical level TfL is currently devising a new system of monitoring vehicles over a relatively wide area for ULEZ, so this system could be adapted for the purposes of road pricing in the future.

3.28 Finally, the Mayor is also proposing two new tolls for river crossings in east London. The Silvertown Tunnel is a new proposed road crossing, which drivers would have to pay a toll to use. In addition, a new toll would be levied for drivers using the existing Blackwall Tunnel. These charges would help pay for the new infrastructure and may help restrict demand. However, there are concerns about the fairness of charging east London road users for river crossings while those in central and west London – or indeed any other roads outside the Congestion Charge zone – are not tolled.

3.29 We believe that a comprehensive road pricing scheme is the best way forward for London, based on charging vehicles according to when, where and how much they are driven. This does not necessarily mean every driver should start paying more than they already do, but every journey should be charged according to its true cost to London in terms of congestion, pollution and public health. We recognise, of course, that some journeys made by motor vehicles can be considered necessary, and we are not looking to punish individuals or businesses for making use of London's road network. The key objective of a road pricing scheme should be to reduce the number of motor vehicles making journeys on London's road network, in order to reduce congestion, improve health and make the city work better for all residents.

3.30 There is an opportunity for London to show leadership on this issue. The Mayor already has the power to introduce road pricing, and must show the political will to make it happen. We know it will not be universally popular but our research shows most Londoners are already in favour of this approach, and we would expect a further shift in opinion as congestion eases and drivers get used to the new system.

3.31 The precise arrangements for road pricing will depend on a number of factors, and the findings of TfL's assessments of the possible impacts of the scheme. There are technical challenges, but none is insurmountable. Road pricing will clearly take a number of years to devise and implement, so it is

important that the Mayor sets TfL to work on this as soon as possible. London can't afford to wait any longer.

3.32 Discussions with boroughs will need to take place in order to determine the geography of road pricing, and how it could be used to tackle local congestion problems. We would also expect that other road charges levied by TfL – including emissions charges and any river crossing tolls – would be integrated with road pricing rather than operating separately. If Vehicle Excise Duty is devolved to London, this would allow TfL to implement a more comprehensive scheme, potentially abolishing this charge altogether and integrating it with road pricing.

Recommendation 1

In the short-term, the Congestion Charge should be reformed, so the payments levied better reflect the impact of vehicles on congestion. The daily flat rate should be replaced with a charging structure that ensures vehicles in the zone at peak times, and spending longer in the zone, face the highest charges.

For the longer-term, the Mayor needs to start to develop proposals now for replacing the Congestion Charge with a new citywide road pricing scheme, which charges vehicles according to the extent, location and timing of their road usage. Road pricing could also replace Vehicle Excise Duty, which should be devolved by the Government to the Mayor. There may be a case for the scheme to be wider than the existing Congestion Charge zone; discussions with all boroughs should take place to determine whether and how road pricing should cover their local road network.

The Mayor's forthcoming Transport Strategy should set out plans for both Congestion Charge reform and for the potential introduction of road pricing. The Mayor should also update the committee by the end of April 2017 about discussions with the government on the devolution of Vehicle Excise Duty.

Recommendation 2

TfL should ensure that new monitoring technology introduced to identify vehicles in the proposed Ultra Low Emissions Zone should be compatible with the future requirements of a road pricing scheme. TfL should confirm it will do this when responding to the recent consultation on ULEZ proposals.

Workplace parking

3.33 Another form of road charging we have considered in this investigation is the Workplace Parking Levy (WPL). Introducing WPL would mean that employers offering parking spaces to their employees would need to pay a fee for each space. The cost of this may be passed on to employees, to customers, or absorbed by the business.

3.34 TfL has the power to introduce a WPL anywhere in London, while individual boroughs can also do so in their areas. To date the only city in the UK to have introduced a WPL is Nottingham, as described below.

Nottingham's Workplace Parking Levy

Nottingham introduced a WPL in October 2011.[27] All employers in the city offering over 10 parking spaces must pay a fee of £375 per year, per space. Around 25,000 spaces are subject to this charge.

The WPL raised £25 million in its first three years of operation, which is ring-fenced for local transport improvements. This contributed, for instance, to an extension of Nottingham's tram network, although this provided only a small proportion of the overall £570 million cost of the extension.

The city council reports that there has been a significant increase in public transport usage since the WPL was introduced, while road traffic has not increased and it has not led to businesses leaving the city, as had been feared.

3.35 A number of experts and stakeholders have advocated the introduction of a WPL in London to help tackle congestion, although for some this is a scheme to be pursued only if a wider road pricing scheme is not introduced.[28]

3.36 TfL and London First both told us that introducing a WPL in central London was unlikely to be worthwhile, given relatively few people commute to central London by car and park at their workplace. The Campaign for Better Transport argued that the scheme would be most effective in areas outside central London:

> "London is well-placed to introduce Workplace Parking Levies. In outer London centres which are beyond the congestion charge zone, such as Uxbridge, Hounslow, Kingston or Croydon, they would provide an efficient congestion control mechanism which is currently lacking, while in Canary Wharf or the Royal Docks, they would complement existing measures in areas of intense construction activity where good public transport is already in place."

3.37 A WPL would therefore seem more suited to outer London, where commuting by car is more common. However, given travel-to-work patterns do not fit

neatly within borough boundaries, a sub-regional or even London-wide approach may be most effective. Furthermore, it is unlikely that any borough would implement a WPL without support from TfL. Using the WPL to achieve modal shift would depend on investment in other modes, especially in parts of London where public transport provision is relatively limited. TfL would need to offer this financial incentive to make a scheme viable.

3.38 Although we believe a new road pricing scheme should be TfL's preferred option for managing congestion through charging, a Workplace Parking Levy is a tool that could be effective. We agree that it would be most appropriate to implement a WPL in outer London. TfL should support boroughs in developing proposals where they think a WPL scheme could cut congestion. It is important that drivers have viable alternatives to the car if a WPL is introduced, whether public transport or active travel options. Revenue from a WPL should therefore be redirected towards local transport improvements.

Recommendation 3

TfL should take steps to encourage bids from boroughs interested in piloting a local Workplace Parking Levy. Provided the plans fit with any wider road pricing scheme, TfL should offer support to a WPL pilot programme if proposed by a borough. This should include offering additional funding to the borough(s) to initiate the scheme.

4. Commercial traffic and private hire services

Key points

- Commercial traffic is increasing in London, as a result of trends such as the boom in internet shopping and construction activity in the city. TfL should take steps to encourage more consolidation of freight traffic, and to ensure that Londoners can receive personal deliveries in more sustainable ways.
- The number of licensed private hire drivers and vehicles has increased dramatically in London in recent years, in large part as a result of operators exploiting new technology. There is evidence that this trend is contributing to London's congestion problem, although it is not clear how the changes being pursued by the Mayor will address this issue.
- Congestion from both commercial traffic and private hire traffic could be reduced through a new road pricing scheme.

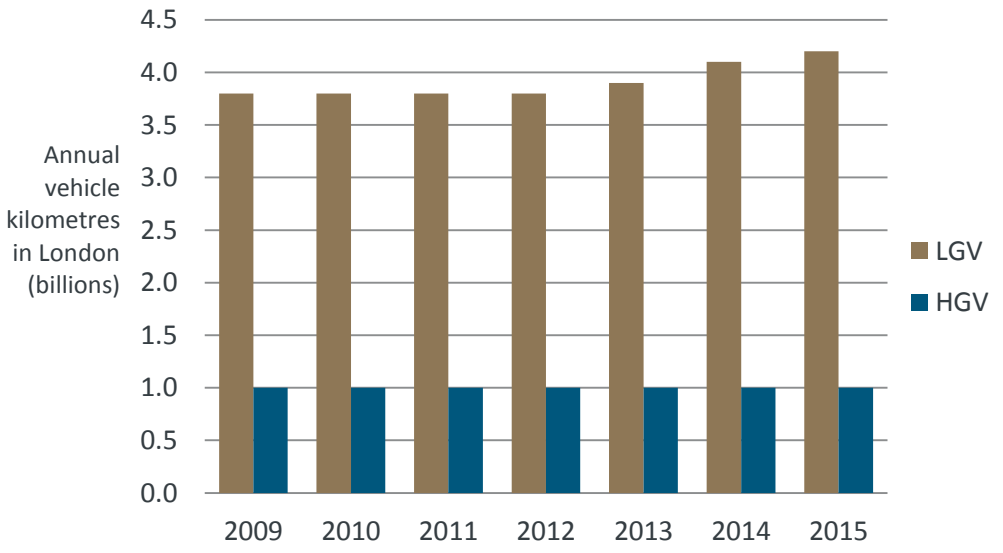
4.1 This chapter considers two major sources of traffic on London's roads, commercial traffic and the private hire trade. Both of these appear to have significantly increased their traffic volumes in recent years, with TfL pursuing measures to control this growth.

Commercial traffic

4.2 'Commercial traffic' refers in general to the movement of goods and services on the road network. The most prominent form of commercial traffic is the delivery of goods, also known as freight. This includes deliveries to individuals, businesses, and the distribution of construction material. Commercial traffic is categorised according to vehicle type. Heavy goods vehicles (HGVs) are lorries weighing 3.5 tonnes or more. Light goods vehicles (LGVs) are vans beneath that weight threshold.

4.3 Vans make up around 80 per cent of commercial traffic in London, and are responsible for almost all the recent growth. After a period of stability, LGV traffic has increased from 3.8 to 4.2 billion kilometres per year since 2012 (11 per cent) while HGV traffic has remained stable at 1.0 billion kilometres per year.[29] Trends are displayed in Figure 6 below.

Figure 6: Van traffic has increased while lorry traffic has remained stable



Source: Road traffic statistics, Department for Transport, 2016

Reasons for growth

4.4 The growth in commercial traffic is a reflection, generally, of the growth of London's population and economy. But the fact that van traffic has outstripped lorry traffic suggests other changes are contributing to the trend, including the restrictions placed on lorries, and the increasing popularity of internet shopping.

4.5 Internet shopping has increased significantly in recent years. In October 2011, 9.4 per cent of all retail spending was online. In October 2016 this had increased to 15.2 per cent.[30] This changes traffic patterns as more vans are deployed, visiting more locations as they deliver packages to consumers and businesses. Traffic is also created by people returning items they have bought online.

4.6 A range of measures have been introduced in recent years to improve the safety record of lorries, and reduce the number of collisions between lorries and other road users. For instance, TfL has recently launched a 'Direct Vision Standard' for lorries using London's roads. Under this scheme, lorries that provide low levels of visibility from drivers' cabs will be banned from 2024. Although this and similar schemes are vital for improving road safety in London, the Freight Transport Association has suggested these requirements may inadvertently increase traffic levels. This is because delivery firms may be shifting from using a single lorry to multiple vans, which is less efficient:

> "HGVs are also subject to many detailed operating requirements regarding the vehicle itself that must be complied with. In combination, the costs of complying with these regulations have, it is believed, encouraged some to utilise vans to do deliveries that could be done by HGV. If the regulatory burden on HGVs increases over time, this unintended consequence would grow."[31]

4.7 While we appreciate the potential unintended consequence of HGV regulations on freight patterns, this cannot be a reason to reduce the safety requirements for these vehicles. The growth in commercial traffic has other causes, and there are alternative measures the Mayor should consider in order to address this issue, rather than put the safety of other road users at risk.

Reducing commercial traffic

4.8 Delivery vehicles are already subject to the Congestion Charge, and we would expect that they would also be subject to any new road pricing scheme TfL introduces. A usage-based charge may be particularly beneficial for controlling commercial traffic, if delivery vehicles are travelling on busy roads for much of the day. At present the Congestion Charge scheme would charge these vehicles the same amount as those contributing much less to congestion, and would charge nothing for delivery vehicles outside the central zone. Road pricing may encourage firms to use vehicles more efficiently, or switch some deliveries to modes that cause less congestion, including rail, waterways, bicycles and motorcycles.

4.9 Other measures to reduce commercial traffic considered during our investigation include establishing more consolidation centres, modifying restrictions on night-time deliveries, and changing the way personal deliveries are received. More generally, there is potential to increase the use of bicycles in freight, particularly in the last mile of the delivery chain.

4.10 Consolidation centres are used in the freight industry to reduce delivery traffic. They allow for deliveries from multiple sources to be combined into fewer vehicles before entering congested parts of the road network. A number of inner London boroughs have introduced schemes to consolidate their deliveries, which reduce the number of vehicles travelling to council premises, and some Business Improvement Districts have done the same for business premises in their areas.[32] A consolidation centre used by businesses on Regent Street has also proven to be successful, as Dr Steve Melia told us:

> "There is a great need for freight and servicing to become more efficient… along Regent Street, there is an 80 per cent reduction in lorry movements associated with a delivery consolidation scheme."[33]

4.11 Consolidation is also used in the construction industry, although despite extensive construction activity there are only 12 consolidation centres for the sector in London.[34] During this investigation we met with High Speed 2 (HS2), which is an example of a major construction project with significant traffic movements. Along the A41, for instance, HS2 is projecting there will be 262 construction vehicles per day, with a peak of 25 per hour in both directions.[35] The Mayor has some powers to influence the construction sector; he could, for instance, promote consolidation centres in the London Plan and make their use a requirement of planning permissions he grants, to help ensure this approach is used for new developments. Another suggestion made by the Institution of Civil Engineers is that vehicles from consolidation centres could receive a rebate on Congestion Charge payments.

4.12 Another potential change to delivery patterns could be brought about by encouraging more deliveries in the evening. London boroughs operate restrictions on night-time deliveries in certain areas as part of the London Lorry Control Scheme (LLCS). These restrictions were relaxed during the 2012 Olympic and Paralympic Games because of the need to ensure athletes and officials could travel around the city as quickly as possible, and TfL has sought to implement lessons learned during the Games. The challenges of doing this include the preference of many businesses for day-time deliveries, and the risk that night-time deliveries will also create noise disturbances for residents. London Councils has recently initiated a review of the LLCS.

4.13 The Mayor and TfL face challenges in changing commercial traffic patterns in London. Introducing road pricing would give TfL an additional tool to shift incentives for the industry in a way that reduces traffic at congested times. Establishing more consolidation centres should also be a priority for the Mayor and TfL, including those facilitating more deliveries to be made by bicycle. TfL should also engage fully with the London Lorry Control Scheme review and align their objectives with those of the boroughs.

Recommendation 4

The Mayor and TfL should take steps to encourage more delivery consolidation. This will involve working with those running large construction schemes and retailers, potentially through Business Improvement Districts. The new London Plan should promote consolidation for new developments. TfL should also work with London Councils to reduce restrictions on night-time deliveries. The Mayor and TfL should write to the committee by the end of April 2017 setting out their plans to reduce commercial traffic in these ways.

Personal deliveries

4.14 Changing the way personal deliveries are made could also reduce traffic. We have heard that internet shopping deliveries to workplaces are contributing to congestion in central London. As Edmund King of the AA told us:

> "One of the major problems in London is people having stuff delivered to their offices in London, which is very inefficient and causes immense congestion. I know some companies have actually banned it because it is causing congestion at their reception areas, let alone on the roads. That is something we have to look at."[36]

4.15 Some companies based at Canary Wharf have taken the step of banning non-work deliveries to offices. The Mayor and TfL have no power to compel other organisations to do this, although TfL told us that it is considering a pilot scheme aimed at reducing personal deliveries to its own offices.[37]

4.16 TfL also provides 'click and collect' at some of its stations in partnership with a number of retailers. This service allows consumers to pick up packages at convenient locations, as part of journeys they are already making. Click and collect has the potential to cut congestion by allowing delivery vehicles to reduce the number of locations they must travel to, and preventing duplicate road journeys caused by missed deliveries.

4.17 TfL's record in providing click and collect is mixed, however. High-profile partnerships with the food retail industry have failed; Tesco and Sainsbury's both ceased to offer click and collect at Tube stations in 2015.[38] Other retailers continue to have click and collect points at stations – for instance Argos at Cannon Street and Amazon at Finchley Central and Newbury Park – but the service is available at only a small minority of stations. It may also be the case that limiting click and collect to only one retailer at a station narrows the opportunities for passengers to take advantage of the service.

4.18 **TfL has a significant role to play in changing the way people receive deliveries. As a major employer, TfL can lead by example in tackling the problems caused by internet shopping being delivered to workplaces in congested areas. As the operator of hundreds of Tube and rail stations**

across London, TfL has an even bigger opportunity. By promoting click and collect at Tube stations, TfL can raise additional commercial revenue while helping to reduce traffic congestion. We believe TfL needs to consider again whether it has the right approach to click and collect, and look to expand the opportunities for Londoners to collect packages from stations.

Recommendation 5

TfL should pilot a ban on personal deliveries for staff. Based on the findings, the Mayor should consider extending this to all GLA Group premises, and promote this change in practice to other large employers in London. We ask that TfL write to the committee setting out plans for a pilot by the end of April 2017.

Recommendation 6

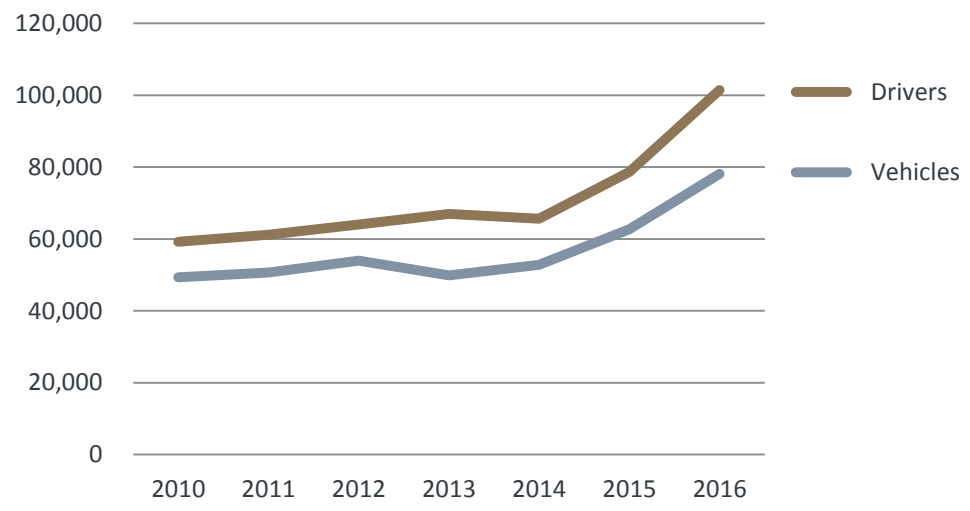
TfL should reconsider its approach to 'click and collect' at Tube and rail stations. Stations should be identified for a pilot programme in which multiple retailers and/or freight operators can deliver packages to a station for collection. We ask that TfL write to the committee confirming plans to seek partnerships of this type by the end of April 2017.

Private hire

4.19 TfL told the committee that the private hire industry (minicabs), while providing an essential transport service for Londoners, is increasingly contributing to congestion on London's road network. As discussed in Chapter 2, there has been a 72 per cent increase in private hire driver licences and a 70 per cent increase in vehicles since 2012/13. Figure 7 displays these trends.

4.20 Over this period, there has been a slight decrease in the number of taxis (black cabs) and taxi drivers licensed in London. The growth in private hire services is believed to be driven by the exploitation of new technology, which has enabled changes to the way operators and drivers offer services, and the way passengers book journeys. Despite the growing size of the industry, the number of private hire operators has fallen in London, suggesting there has been a concentration of the sector into a smaller number of larger operators.

Figure 7: Private hire vehicle and driver licences have sharply increased



Source: Transport for London, 2016

4.21 TfL told us how private hire vehicles are contributing to congestion in central London.

> "Since 2013, the number of private hire vehicles entering the Congestion Charging zone during hours of operation has increased by 54 per cent to around 15,000 vehicles a day. This means they now make up 13 per cent of motorised traffic and 38 per cent of car traffic in the zone. This is approximately double the proportion of taxis, which make up around 20 per cent of car traffic. Outside of charging hours the figures can be even higher with up to 30,000 PHVs entering the zone on Saturdays."

4.22 Uber, a global private hire operator that has grown rapidly in London, told us that most of its bookings do not take place at peak congestion times. According to its data, only 32 per cent of Uber travel occurs between 7am and 6pm.[39] However, this does not mean that private hire vehicles are not present in busy areas in sufficient numbers to cause congestion; the TfL data quoted above suggests that they are.

4.23 TfL has been seeking to strengthen regulations placed on the private hire industry, most recently through its Private Hire Regulations Review, which led to new measures on insurance, driver training and the journey booking process. The Licensed Private Hire Car Association (the largest trade body for the sector) and the operator Addison Lee told us that new regulation – for instance to prevent clustering of vehicles or to remove older vehicles – could help reduce the sector's contribution to congestion.[40] The Impact Assessment for the Private Hire Regulations Review suggested some operators may face

difficulties meeting new requirements, but does not indicate that this would result in an overall reduction in private hire traffic.[41]

4.24 The Mayor has lobbied the government for new legislation to control private hire traffic. In particular, the Mayor has asked for TfL to have the power to cap private hire licence numbers.[42] Other cities can implement a cap on licence numbers, but TfL is currently obliged to license every driver and vehicle presenting a valid application. The Mayor has also lobbied for the government to address the issue of cross-border hiring; under current legislation, any operator licensed in England and Wales can take bookings anywhere. The Mayor has not stated what impact these proposals would have on private hire traffic levels.

4.25 Another proposal put forward by the Mayor for managing private hire traffic is to remove the sector's exemption from the Congestion Charge. TfL has said it is currently assessing the feasibility of this proposal; a study was due to be completed by the end of summer 2016 but has not been published. Operators submitting views to the committee have strongly opposed this proposal. Addison Lee indicated that it would be open to the idea of a usage-based charging model as charges would more accurately reflect vehicle movements. It suggested that different rates could be charged for vehicles that were empty and those that were carrying passengers.

4.26 The Mayor and TfL are implementing changes to private hire regulation in London, although it is not clear that these will have any impact on the sector's contribution to congestion. Equally, TfL has not said how new legislation on private hire licensing, or the Mayor's proposal to remove the Congestion Charge exemption, could affect congestion. This suggests the Mayor and TfL lack a detailed analysis of the congestion effects of private hire traffic and a meaningful plan for addressing this.

4.27 Our road pricing recommendation offers a positive way forward for responding to this challenge. Although TfL will need to conduct detailed assessment of this proposal and its potential impacts, we believe disincentivising private hire journeys in congested areas at peak times will reduce traffic congestion overall in London.

Recommendation 7

The Mayor should set out how his new regulations for the private hire industry and the legislative changes he is advocating will affect congestion levels in London. He should also commit to assessing the impact of making private hire vehicles subject to a new road pricing regime, and different options for implementing this proposal. The Mayor should write to the committee by the end of April 2017 confirming these plans.

5. Encouraging modal shift

Key points

- Encouraging Londoners to shift to public transport modes and active travel would help to reduce congestion.
- Road pricing can encourage modal shift. Most drivers in London say they would consider switching to the Tube, underlining the importance of ongoing investment in capacity programmes.
- Buses are an efficient road-based mode and can help relieve congestion, but usage has fallen as a result of reduced reliability.

5.1 A major component of reducing traffic congestion is encouraging drivers and businesses to reduce their use of cars and vans, particularly at the busiest times. This will only be possible if viable alternative options are made available, such as walking and cycling, buses, the Tube, trams or National Rail. Achieving a shift to more sustainable modes has other benefits, too, including reductions in air pollution and improvements to Londoners' health.

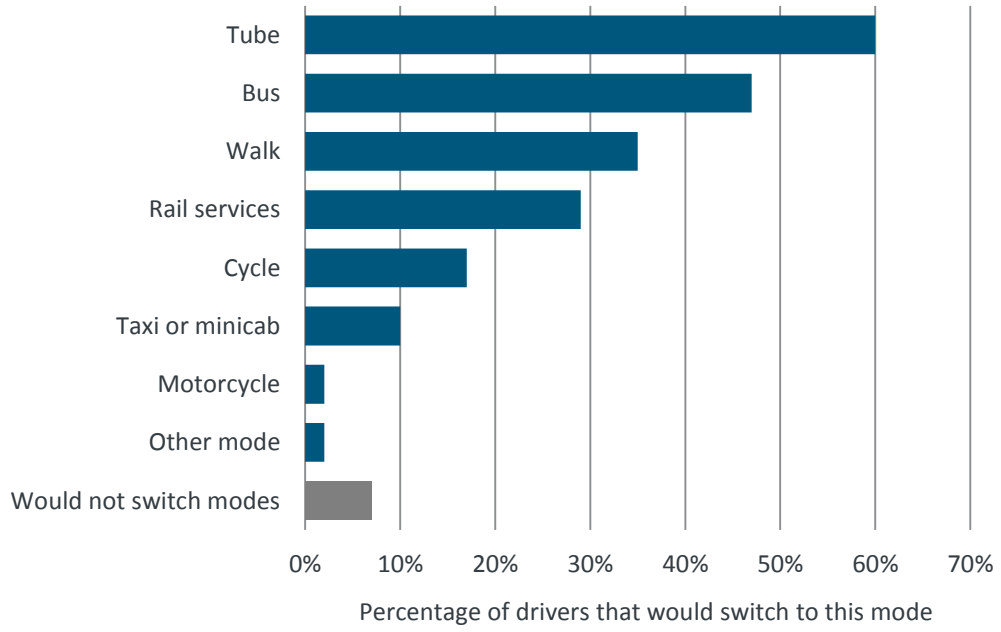
5.2 TfL data shows, in fact, that a long-term shift toward more sustainable modes has been taking place. Between 2010 and 2014, the proportion of journey stages taken by private transport in London fell from 43 to 32 per cent. The corresponding figures for public transport mirror this trend: its mode share rose from 34 to 45 per cent. The mode share of cycling doubled from 1 to 2 per cent, while walking remained stable at 21 per cent.[43]

5.3 Encouraging people to work from home could also help to reduce the number of journeys taken on the road network at peak commuting times. Whether this is achievable depends to a large extent on organisational cultures, although the Mayor can support this trend, for instance by taking steps to improve high-speed broadband coverage throughout the city.

Behaviour change

5.4 Road pricing could help encourage further modal shift among Londoners. As discussed in Chapter 3, about half of the drivers responding to our survey said that new road charges would encourage them to switch to another transport mode for their regular journeys. Figure 8 below displays the preferences they expressed.

Figure 8: Drivers switching modes would prefer the Tube, bus and walking



Source: Transport Committee survey, September 2016

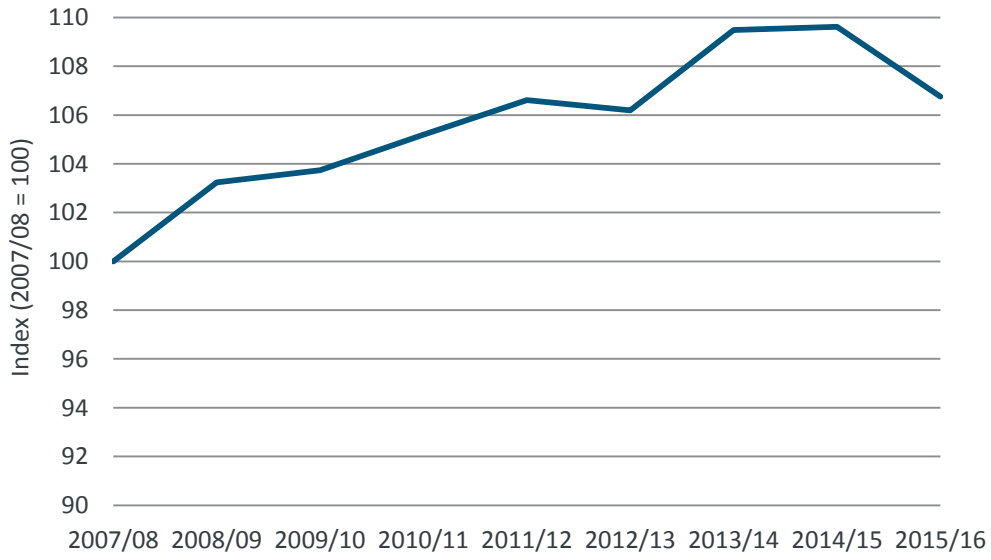
5.5 These figures reveal one of the major challenges of achieving modal shift: most drivers in our survey would choose to switch to public transport. Although the number of drivers saying they would walk or cycle more is encouraging, most would choose public transport options, particularly the Tube. Yet, at the busiest times of the day, these transport modes are already very crowded.

5.6 TfL is investing heavily in increasing public transport capacity, particularly on the Tube. For instance, the New Tube for London programme is set to deliver capacity increases of between 25 and 60 per cent on four lines. However, the Tube is already heavily overcrowded, and is likely to remain so as London's population grows even with TfL's upgrade programmes. TfL will therefore need to redouble its efforts to encourage more people to use active travel options.

Buses

5.7 London's bus network must be a major part of the solution to traffic congestion. Buses are potentially the most space-efficient vehicle on the road, considering the large number of passengers they can carry. Encouraging people to switch from private transport modes to buses would help relieve congestion. Bus usage has fallen in the past year, after growing strongly for a many years (see Figure 9 below). TfL has stated that traffic congestion has caused this drop in usage, because bus journeys have become less reliable.

Figure 9: Bus usage has fallen in London following a long period of increase



Source: Transport for London, 2016

5.8 TfL invests in bus priority schemes – such as bus lanes, bus-only turns, and selective vehicle detection at junctions – which are designed to ensure the effect of congestion on buses is minimised. In November 2016, the Mayor

announced a number of measures aimed at tackling congestion, including an expansion of TfL's bus priority programme.[44]

5.9 In some ways, buses are also a contributor to London's congestion problem. On certain routes, for instance Oxford Street, bus-on-bus congestion is a significant issue. Where many buses are travelling on the same road simultaneously, with relatively few passengers aboard, this cannot be considered an efficient use of road capacity. TfL is currently consulting on proposals to reduce the number of buses in central London, particularly on Oxford Street, as we have previously recommended.[45]

5.10 The committee is currently undertaking a specific investigation into London's bus network.[46] This will explore in more depth how changes to the bus network can both improve service performance and address congestion problems.

5.11 To reduce congestion, London needs to continue encouraging people to shift toward more sustainable transport modes. Our survey results suggest road pricing will encourage modal shift, but further investment in public transport capacity and cycling and walking infrastructure is also needed. We will seek to identify further measures to increase usage of the bus network in our forthcoming investigation into this topic.

6. Managing the road network

Key points

- TfL is upgrading its traffic management technology to enable more effective responses to congestion-causing incidents.
- An on-street presence supplements TfL's traffic management technology. However, there are no plans for TfL to expand its small team of enforcement officers despite its early success.
- Roadworks are a major cause of congestion, including those works being conducted by TfL such as the installation of Cycle Superhighways. These need to be planned more efficiently.
- Communication with drivers about expected road disruptions can help prevent congestion. A new pilot project displaying traffic information on buses could be rolled out.

6.1 Although it is clear that today's congestion problem requires strategic interventions, we have also considered how the day-to-day management of congestion can be improved. TfL has a vital role managing London's road network, including planning for and responding to incidents that cause congestion, and developing new road infrastructure.

Ensuring smooth traffic flow

6.2 TfL monitors traffic in London from a central hub, the Surface Transport and Traffic Operations Centre, and can respond to incidents on the road to help prevent the build-up of congestion.[47] The key tool TfL has in this task is the management of traffic signals; TfL controls all signals in London, numbering around 6,200, including those on borough roads.

6.3 The sophisticated technology behind TfL's signal traffic control system consists of the Urban Traffic Control (UTC) system and Split Cycle Offset Optimisation Technique (SCOOT) traffic signal optimiser. The UTC system allows TfL to monitor and deliver strategic control of the road network. The SCOOT system detects traffic approaching junctions – with sensors buried in carriageways – and minimises congestion through real-time optimisation of the traffic signal timings. SCOOT is installed at over half of all junctions in London, and over 90 per cent in central London.[48] TfL told us that SCOOT reduces traffic delays by an average of 12 per cent at each junction where it is installed.[49] The system does, however, increase waiting times for pedestrians when it is used to smooth traffic flows.

6.4 TfL is currently upgrading and replacing the UTC and SCOOT system, which will not be supported beyond November 2020. TfL is developing a Surface Intelligent Transport System (SITS), consisting of a number of programmes. The objectives of this upgrade have been described by TfL:

> "[SITS] will replace and upgrade TfL's current systems and data capabilities for traffic signal control and incident management across London's road network. In addition to replacing systems which will no longer be supported from November 2020, the programme will use an integrated suite of new systems and tools to transform TfL's capability to understand and manage operations on the road network. This will not only enable TfL to respond quicker to unplanned incidents, reducing delays, but will also allow customers and stakeholders to make informed and timely travel decisions."[50]

Road and Transport Enforcement Team

6.5 Supplementing the technological management of traffic, in August 2015 TfL created a new Road and Transport Enforcement team to tackle road congestion. This team of 80 TfL officers undertakes a range of activity to tackle congestion, initially focused on 10 key routes.[51] The team's role includes moving unlawfully stopped vehicles, issuing Penalty Charge Notices

to illegally parked vehicles and clearing unnecessary or poorly set-up roadworks. Officers use real-time information on road conditions to direct traffic.

6.6 A recent example of where this team have had a positive impact followed a major fire on Finchley Road, where officers controlled pedestrian crossings to ensure people could cross safely, and enforced a temporary ban on parking to ensure traffic could run smoothly. Alan Bristow, director of road space management at TfL, explained the benefits of the team:

> "They are a very effective operational capability in that they can be tasked directly from our control room to attend incidents on the street. I would say their effect is mostly in enabling us to put a presence on the ground to make sure that what is happening down there is controlled safely. They can also stop individuals – they have those powers – from being in the wrong place, parking in the wrong place and that sort of thing. They have a local effect on what might cause congestion in an area."

6.7 We asked TfL during this investigation whether there are any plans to expand this team beyond its current size of 80 officers. Despite the reported success of the scheme, TfL said it has no expansion plans.

6.8 Implementing the next generation of traffic management technology will help TfL tackle incidents causing congestion on London's roads. Recently TfL has supplemented this approach with an on-street presence, with a team of officers dedicated to ensuring smooth traffic flow. This is a relatively small team, yet despite the reported success of the scheme, TfL has no plans to extend it. This decision should be revisited.

Recommendation 8

TfL should conduct and publish an analysis of the impact of the Road and Transport Enforcement Team and, if it is proven to be cost-effective, set out plans to expand the size and coverage of the team. We ask that TfL writes to the committee by the end of April 2017 with an update.

Reducing the impact of roadworks

6.9 Roadworks are a source of huge frustration to many road users. While much of this work is essential, it has to be managed effectively to minimise the disruption caused. Many roadworks are planned in advance as part of upgrade work, such as TfL's Road Modernisation Plan. Others are unplanned, such as recent emergency works to address a spate of burst water mains around London.

6.10 In recent years, while the number of roadworks on major roads has fallen, the amount of disruption has grown:[52]

- In 2011/12 the total number of roadworks – including TfL's own works – on the TfL Road Network (TLRN) was 36,021. In 2015/16 there were 33,652 works.
- In 2011/12 the number of hours of severe and serious disruption on the TLRN was 1,994. In 2015/16 it was significantly higher, at 3,661 hours.
- The average length of severe and serious disruption per roadwork has therefore increased by over 80 per cent in just three years.

6.11 TfL operates two main schemes to minimise roadwork disruption:

- Under the London Permit scheme, which was introduced in 2010, TfL monitors and regulates roadworks taking place, and can prosecute companies breaching the terms of the permits. By June 2016, TfL had successfully prosecuted companies breaching conditions on 99 occasions. This included repeated prosecutions of some offenders, such as BT (37 prosecutions), Thames Water (13) and Infocus (11).[53]
- The Lane Rental scheme was introduced in 2012. Under this, companies conducting roadworks on much of the TLRN are required to pay a charge of up to £2,500 per day, depending on the time and location. In 2016, TfL highlighted how the scheme had encouraged cooperation between companies, claiming that 1,200 roadwork sites in 2015 were shared.[54]

6.12 In November 2016, the Mayor announced a series of new measures to help minimise the disruption caused by roadworks. These included:[55]

- Connecting temporary traffic signals at roadworks to central traffic control so they can respond to traffic conditions, rather than being set on static timings.
- Working with the London Infrastructure Delivery Board to improve planning of major infrastructure works.
- Using cameras at roadwork sites to enhance enforcement against companies not complying with permits and agreements.
- Agreeing performance improvement action plans with local authorities, utility companies and developers.

6.13 TfL has been directly responsible itself for much of the work that has taken place on London's roads over recent years. This has primarily occurred because of the implementation of TfL's Road Modernisation Plan, which encompasses a wide range of schemes. Most prominent has been the installation of segregated Cycle Superhighways, with other schemes such as footway widening at Southall Broadway, removing the gyratory system at Tottenham Hale and junction alterations at Malden Rushett. TfL accepts that these works have significantly increased congestion in affected areas.[56]

6.14 Alan Bristow of TfL, told us that TfL would be considering whether the Superhighways programme should continue to be delivered in the same way:

> "We are currently looking at extensions to the North-South Cycle Superhighway into the City and also the Cycle Superhighway 11 programme is under debate for tying down in the future. The Cycle Superhighway programme will go ahead because cycling safety demands that we keep this process going, but probably the issue was the sheer scale and speed at which the current batch of Cycle Superhighways were put out there, which we intend to learn the lessons from."

6.15 TfL's existing roadwork schemes do not appear to be working. The Mayor's recent announcement of new measures to minimise the impact of roadworks on congestion was encouraging, and we will monitor what effect these have. However, the Mayor's announcement did not include any changes to the financial disincentives for organisations carrying out works through the London Permit and Lane Rental schemes. The repeated prosecutions of some companies for roadwork violations suggest that the penalties may not be strong enough.

6.16 However, closer attention should also be paid to TfL's own contribution to disruptions on the road. Cycle Superhighways and other schemes are vital to improving the safety of cycling in London, and therefore tackling congestion through modal shift, helping a growing population to get around the city and improving health. It should continue. It is inevitable that road improvements on major roads will lead to some disruption. Yet TfL does need to learn the lessons from the introduction of the first segregated Superhighways and other Road Modernisation Plan projects, to help ensure there is no unnecessary contribution to traffic congestion during the construction phase.

Recommendation 9

The Mayor and TfL should carry out an assessment of the effectiveness of the London Permit and Lane Rental schemes for roadworks. This should be aimed at ensuring the cost of delayed roadworks on London's road users is reflected in the amount companies must pay. We ask that TfL write to the committee by the end of April 2017 with an update.

Recommendation 10

TfL should continue to implement its Road Modernisation Plan schemes including the proposed network of safer cycling routes such as Cycle Superhighways and Quietways. It should report back to the committee by the end of April 2017 on how the construction of additional Superhighways and other major projects will be planned more effectively to minimise traffic congestion.

Communicating with drivers

6.17 Making drivers aware of disruptions to the road network is an important part of TfL's role. This ensures drivers can plan ahead and avoid disrupted roads, and therefore avoid adding to congestion levels.

6.18 Paul Gerrard of the National Joint Utilities Group told us there is a noticeable impact when roadwork information is posted on social media, with drivers avoiding disrupted routes.[57] TfL has a large following for its Traffic News Twitter account. In the Mayor's recent announcement of new congestion measures, he set out an objective to increase the number of followers. He also said TfL would work with app developers and sat nav providers to distribute more information about disruptions to drivers.

6.19 In August TfL started testing a new form of sharing information with drivers about road disruptions. On two bus routes, buses are showing 'real-time' information about disruptions on electronic display boards. For instance, buses on route 344 were publicising the part closure of Buckingham Palace Road. TfL describes the innovation as:

> "The buses have been fitted with electronic boards by Equitech IT Solutions, which use GPS technology to give accurate and up-to-date traffic information. The information is taken from the TfL Variable Message Sign network, which is fed by TfL's 24-hour traffic control centre."[58]

6.20 TfL should continue its efforts to give all road users as much information as possible, at the time they need it, about conditions on the road. We hope that growing TfL's social media streams and partnerships with the technology industry will enable this to happen. Displaying information on buses has the potential to reach more drivers; if successful this innovation should be rolled out more widely.

Recommendation 11

TfL should conduct and publish an analysis of the impact of the pilot scheme displaying traffic notices on buses and, if it is proven to be cost-effective, set out plans to roll out the programme more widely. We ask that TfL writes to the committee by the end of April 2017 with an update.

Road infrastructure

6.21 In recent years there have been a number of proposals to add new road infrastructure in London. For instance, in early 2016 the previous Mayor asked TfL to explore the feasibility of two new east-west road tunnels to relieve central London congestion.[59] Sadiq Khan is not taking forward these proposals, but is proposing a new road crossing the Thames in east London, the Silvertown Tunnel, alongside a number of other river crossings for public transport, cycling and walking.[60] Under the Mayor's plans, both the Silvertown Tunnel and nearby Blackwall Tunnel would be tolled, to help fund the infrastructure and restrict demand.[61]

6.22 Some stakeholders we have heard from in this investigation have backed the idea of new road infrastructure. Edmund King of the AA said that new tunnels around central London could remove traffic from congested areas.[62] Grant Davis of the London Cab Drivers Club further explained:

> "The tunnels would work because, if I get a job in the City or Canary Wharf and they want to go to Knightsbridge or Hammersmith, either I have to come along the Embankment… or I have to go up to the Euston Road. With the developments that are looking to go at Euston Station, again, that is going to be gridlocked and so I am really stuck. These big tunnels that could go from east to west and from south to north would be fantastic, another crossing to supplement the Rotherhithe [Tunnel]. If you go to Rotherhithe Tunnel, if anything happens, it is major gridlock all through the south-east; Blackwall Tunnel likewise."[63]

6.23 However, we have also heard that building new road infrastructure would encourage more people to drive. Dr Steve Melia of the University of the West of England highlighted the risk that building a new road-based river crossing would create congestion on either side of the crossing.[64] Dr Rachel Aldred argued:

> "I would very much caution against new road infrastructure because there is plenty of evidence that building new roads will lead to more use of motor vehicles and will lead to congestion going back up again. We do need to increase capacity, but we need to increase people-carrying capacity… We really need more river crossings for walking and cycling. We need more public

transport capacity. We do not need more roads, which will funnel traffic. The traffic has to go somewhere from those roads and so we need to be very cautious about it."[65]

6.24 There are bottlenecks on London's road network. TfL's Road Modernisation programme is seeking to address a number of these, for instance improving junctions to encourage a freer flow of traffic, and make them safer for all road users. There is also new housing development across London requiring links to the road network, such as the Barking Riverside development in east London, to allow access for buses, cyclists and pedestrians, as well as motorists.

6.25 In general, we take the view that building new road infrastructure for private traffic risks working against efforts to encourage a shift to more sustainable transport modes. This does not preclude the possibility of targeted investment in capacity to relieve bottlenecks, and some new infrastructure is necessary to link new housing development to the road network. Road pricing revenue could fund this work, while primarily acting as a constraint on demand and encouragement to use more sustainable modes.

Appendix 1: Views of David Kurten AM

The following statement is made by David Kurten AM, UKIP Group Lead on the Transport Committee.

The UKIP Group agrees with Recommendations 4, 5, 6, 7, 8, 9 and 11 of the report. It disagrees with Recommendations 2 and 3, and partially disagrees with Recommendations 1 and 10.

Lots of ideas have been mentioned as to why there has been a general increase in congestion in greater London over the last 25 years. We believe the ultimate reason however, is the increase in population from rapid mass immigration.

Between the census years 1991 and 2011 the British-born population in London was stable at around 5.2 million, but the foreign-born population doubled from 1.5 million to 3.0 million[66], an average of 75,000 per year. Net immigration to London from abroad has accelerated since 2011 averaging 97,000 per year between 2011 and 2015[67] and reached 133,900 in 2016.[68] The real figures are likely to be even higher as they do not include the unknown number of illegal migrants living in the capital.[69]

We believe that whatever plans are enacted, congestion will continue to increase while the population is growing at the current rate of 135,000 people per year, of which 133,900 is due to net immigration.[68] This has hugely increased the demand for public transport and goods deliveries. The only way to ultimately reduce congestion on all modes of transport is to get a grip on the uncontrolled immigration of the last 20 years and stabilise the population.

Recommendation 1: Congestion Charge reform, road pricing and Vehicle Excise Duty devolution

We agree with the need to reform the Congestion Charge in the central zone to better reflect the impact of vehicles on congestion, and the principle of replacing a daily flat rate with a scheme which charges lower fees for motorists who use the zone at times when it is less congested.

However, we do not support the implementation of road pricing across the Greater London area as envisaged in the report. The report mentions road pricing schemes in Stockholm and Singapore, but these schemes go nowhere near as far as what is being suggested for London.

Stockholm has a congestion charging system similar to London with different rates for different times of the day. Singapore has 77 toll gantries with different prices for passing them at different times of the day. The ultimate aspiration for London however is 'big brother' style total vehicle monitoring for the entire Greater London area. All vehicle movements would be monitored and charged by a government agency: probably TfL. This will destroy privacy and civil liberties for motorists in London.

Vehicle Excise Duty should remain national and in the power of HM Treasury and not be devolved to London. The purpose of devolving it would be to abolish it and integrate it into a single 'big brother' road pricing scheme, to which we are opposed.

There is a very good case to be made, however, for an annual lump sum payment to TfL from the Department of Transport for the upkeep and maintenance of the red routes for which it is responsible.

Two major reasons are given for a large increase in vehicles in the central zone since 2010: an increase in Private Hire Vehicles and an increase in Light Goods Delivery Vehicles. The Mayor should apply the Congestion Charge in the central zone to Private Hire Vehicles. He has the power to do so and this is an easy and simple way to reduce vehicle numbers in the central zone.

Recommendation 2: ULEZ technology

We do not oppose the introduction of ULEZ in the central congestion charging zone from 2020 as proposed by the previous Mayor; however any ULEZ zone should be restricted to monitoring vehicles by static ANPR cameras, similar to the current camera cordon of the central congestion charging zone. We do not support the blanket implementation of satellite or remote monitoring of vehicle movements by a government agency, due to the devastating impact that would have on privacy and civil liberties.

Recommendation 3: Workplace Parking Levy

We do not agree with the implementation of Workplace Parking Levies. These would be targeted mostly at outer London boroughs where there are fewer and less frequent transport links to many workplaces, particularly business and industrial parks. The introduction of a WPL would be a tax on business. It is unfair to employers, employees and workers who do not have the benefit of frequent public transport to their workplace and is likely to have the unintended consequence of discouraging new businesses, particularly industrial businesses, from opening in London.

Recommendation 10: Road Modernisation Plan and cycling infrastructure

We support sensible measures to improve cycle safety which do not increase congestion such as Quietways where they are supported by local communities.

Cycle Superhighways, while well intended, have led to increased congestion in central London. London does not have wide and spacious boulevards like Berlin or Perth and it is not possible to convert the small amount of vehicle space that it already has into dedicated cycle lanes in an era of rapid immigration and population growth without increasing road congestion. The implementation of new Cycle Superhighways will further increase congestion and this policy needs to be re-thought.

Appendix 2: Views and information

Committee meetings

The Committee held two meetings in public to discuss this topic with experts and stakeholders. On 8 September 2016 we met:

- Dr Rachel Aldred, University of Westminster
- Grant Davis, London Cab Drivers Club (LCDC)
- Paul Gerrard, National Joint Utilities Group (NJUG)
- Professor Stephen Glaister, Imperial College
- Stephen Joseph, Campaign for Better Transport
- Edmund King, The AA
- David Leam, London First
- Dr Aruna Sivakumar, Imperial College

On 11 October 2016 we met:

- Alan Bristow, Transport for London
- Councillor Feryal Demirci, London Councils & London Borough of Hackney
- Dr Steve Melia, University of the West of England
- Iain Simmons, City of London Corporation
- Alex Williams, Transport for London

Committee Members also undertook the following activities during the investigation:

- Site visit to the Go-Ahead iBus hub in Stockwell
- Site visit to TfL's Surface Transport and Traffic Operations Centre
- Informal meeting with representatives of High Speed Two Ltd
- Informal meeting with representatives of the Institution of Civil Engineers

Written submissions

In additional to 155 submissions from individual Londoners, the committee has received written submissions from the following organisations:

- The AA
- Addison Lee
- Advance Minibuses
- AICES

- The Alliance of British Drivers
- Barnes Coaches
- Battersea Society
- Better Bankside
- Brewery Logistics Group
- British Cycling
- Campaign for Better Transport
- Cargobike Life
- Carplus
- City of Westminster
- Confederation of Passenger Transport UK
- Connelly Coaches
- Cross River Partnership
- Delivered Exactly
- DriveNow UK
- Driver-Guides Association
- Ebdons Tours
- Federation of Small Businesses
- Freight Transport Association
- Friends of the Earth
- Gett
- GLH
- GMB
- Go-Ahead
- GreenRide Sharing
- Hackney Living Streets
- Hager Environmental & Atmospheric Technologies
- Hailo
- HubBox
- Imperial College London (Paul Fennell)
- Institute of Tourist Guiding, the Association of Professional Tourist Guides and the British Guild of Tourist Guides
- Institution of Civil Engineers
- InterCity RailFreight
- Islington Living Streets
- ITS United Kingdom
- John Lewis
- Kings College London (Gary Fuller)
- London Borough of Brent
- London Borough of Greenwich
- London Borough of Greenwich (Conservative Group)
- London Borough of Hackney
- London Borough of Kingston upon Thames
- London Borough of Lambeth
- London Borough of Redbridge

- London Borough of Richmond upon Thames
- London Borough of Sutton
- London Borough of Wandsworth
- London Cab Ranks Committee
- London Chamber of Commerce and Industry
- London Councils
- London Cycling Campaign
- London Forum
- London Living Streets Group
- London TravelWatch
- Licensed Private Hire Car Association
- Licensed Taxi Drivers Association
- National Express
- National Joint Utilities Group
- No to Silvertown Tunnel Campaign
- The Original Tour – LDN Sightseeing
- Phil Jones Assoc
- Royal Borough of Kensington and Chelsea
- RMT
- Safeguard Coaches
- Sense with Roads
- Sustrans
- Transport for London
- Transport Planning Society
- Uber
- Unite
- University College London (David Metz)
- University of Southampton (Terence Bendixson)
- University of the West of England (Steve Melia)
- Westminster Living Streets

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[7] Numbers in the chart differ to due rounding.

[8] *Travel in London 8*, Transport for London, 2016

[9] *Travel in London 8*, Transport for London, 2016

[10] *Traffic volume – kilometres*, Department for Transport, 2016

[11] *Licensing information*, Transport for London

[12] Submission from Transport for London, September 2016. All submissions received by the committee are published on the London Assembly website alongside this report.

[13] Transport Committee meeting, 8 September 2016 (first panel). The transcript of this meeting is available at: https://www.london.gov.uk/moderngov/ieListDocuments.aspx?CId=173&MId=6152&Ver=4

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[38] *Sainsbury's and Tesco ditch Transport for London's Tube station Click & Collect scheme*, City AM, 17 June 2015

[39] Submission from Uber, September 2016

[40] Submission from Addison Lee, November 2016; Submission from Licensed Private Hire Car Association, September 2016

[41] *Private Hire Vehicles Regulation Proposals: Integrated Impact Assessment*, Transport London/Mott McDonald, January 2016

[42] Sadiq Khan, Mayor's Question Time, 16 November 2016. The minutes and transcript of this meeting are available at: http://www.london.gov.uk/moderngov/ieListDocuments.aspx?CId=183&MId=6040

[43] *Travel in London: Report 8*, Transport for London, 2015

[44] *Mayor of London vows to tackle London's road congestion*, Greater London Authority, 21 November 2016

[45] Transport Committee letter to the Mayor, London Assembly, September 2016. The TfL consultation is available at: https://consultations.tfl.gov.uk/buses/west-end-bus-changes/

[46] Further information about this investigation is here: https://www.london.gov.uk/about-us/london-assembly/london-assemblys-current-investigations/bus-services

[47] The committee visited the Surface Transport and Traffic Operations Centre in July 2016. Notes are available at: https://www.london.gov.uk/moderngov/documents/s59385/Appendix%202%20-%20control%20centres%20site%20visit.pdf

[48] *£4 billion road modernisation programme gets underway*, Transport for London, 25 March 2015

[49] Submission from Transport for London, September 2016

[50] *Surface Intelligent Transport System*, TfL Programmes and Investment Committee, 30 November 2016

[51] *Mayor and TfL launch new team to crack down on congestion*, Transport for London, 30 November 2015. Gracechurch Street, Bank; Eastcheap to Leadenhall, Bank; Gosport Street to Hoe Street, Walthamstow; Hackney Road to Ball Pond Road, Dalston; Ladywell to Loampit Vale, Lewisham; Highshore Road to Heaton Road, Peckham; Manor Park Road/Craven Park to Manor Park Road/High Street, Harlsden; Kensington High Street to Notting Hill Gate, Kensington; Columbia Avenue to Balmoral Road, Worcester Park; Gatton Road to Trevelyn Road, Tooting.

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[62] Transport Committee, 8 September 2016 [first panel]

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[67] *London population growth twice that of UK, official figures show*, The Guardian, 12 October 2016

[68] *Net migration pushes UK population over 65 million as London grows by 135,000 people*, Evening Standard, 23 June 2016

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Chinese

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Vietnamese

Nếu ông (bà) muốn nội dung văn bản này được dịch sang tiếng Việt, xin vui lòng liên hệ với chúng tôi bằng điện thoại, thư hoặc thư điện tử theo địa chỉ ở trên.

Greek

Εάν επιθυμείτε περίληψη αυτού του κειμένου στην γλώσσα σας, παρακαλώ καλέστε τον αριθμό ή επικοινωνήστε μαζί μας στην ανωτέρω ταχυδρομική ή την ηλεκτρονική διεύθυνση.

Turkish

Bu belgenin kendi dilinize çevrilmiş bir özetini okumak isterseniz, lütfen yukarıdaki telefon numarasını arayın, veya posta ya da e-posta adresi aracılığıyla bizimle temasa geçin.

Punjabi

ਜੇ ਤੁਸੀਂ ਇਸ ਦਸਤਾਵੇਜ਼ ਦਾ ਸੰਖੇਪ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਲੈਣਾ ਚਾਹੋ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਇਸ ਨੰਬਰ 'ਤੇ ਫ਼ੋਨ ਕਰੋ ਜਾਂ ਉਪਰ ਦਿੱਤੇ ਡਾਕ ਜਾਂ ਈਮੇਲ ਪਤੇ 'ਤੇ ਸਾਨੂੰ ਸੰਪਰਕ ਕਰੋ।

Hindi

यदि आपको इस दस्तावेज का सारांश अपनी भाषा में चाहिए तो उपर दिये हुए नंबर पर फोन करें या उपर दिये गये डाक पते या ई मेल पते पर हम से संपर्क करें।

Bengali

আপনি যদি এই দলিলের একটা সারাংশ নিজের ভাষায় পেতে চান, তাহলে দয়া করে ফো করবেন অথবা উল্লেখিত ডাক ঠিকানায় বা ই-মেইল ঠিকানায় আমাদের সাথে যোগাযোগ করবেন।

Urdu

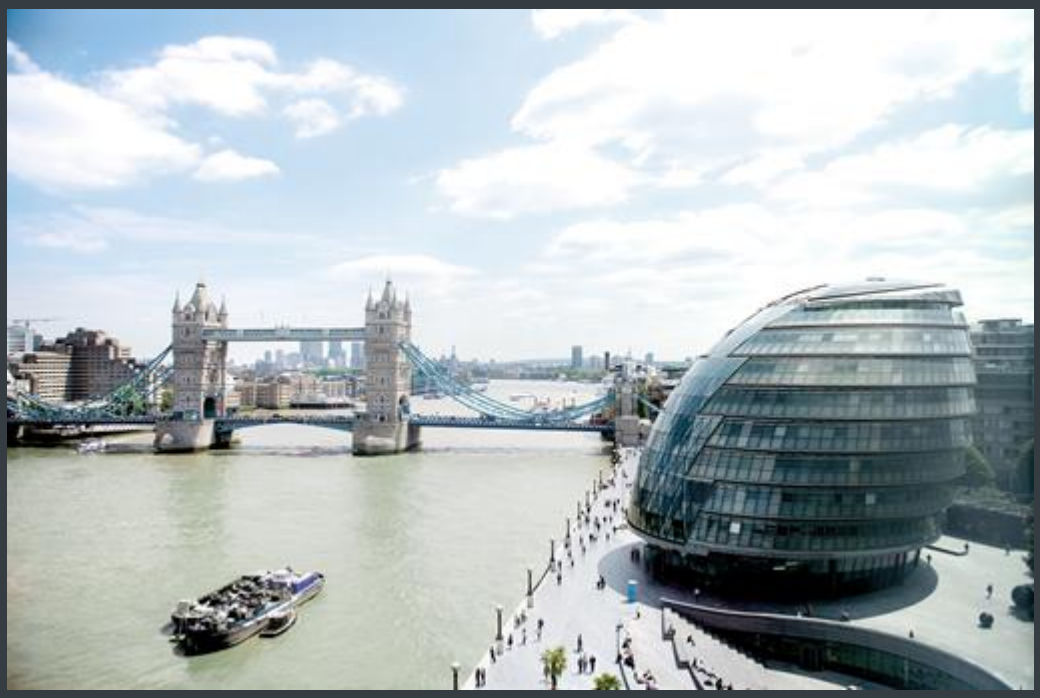
اگر آپ کو اس دستاویز کا خلاصہ اپنی زبان میں
درکار ہو تو، براہ کرم نمبر پر فون کریں
یا مذکورہ بالا ڈاک کے پتے یا ای میل
پتے پر ہم سے رابطہ کریں۔

Arabic

،الحصول على ملخص لهذا المستند بلغتك
فرجاء الاتصال برقم الهاتف أو الاتصال على
العنوان البريدي العادي أو عنوان البريد
الإلكتروني أعلاه.

Gujarati

જો તમારે આ દસ્તાવેજનો સાર તમારી ભાષામાં
જોઈતો હોય તો ઉપર આપેલ નંબર પર ફોન કરો
અથવા ઉપર આપેલ ટપાલ અથવા ઈ-મેઈલ સરનામા
પર અમારો સંપર્ક કરો.



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