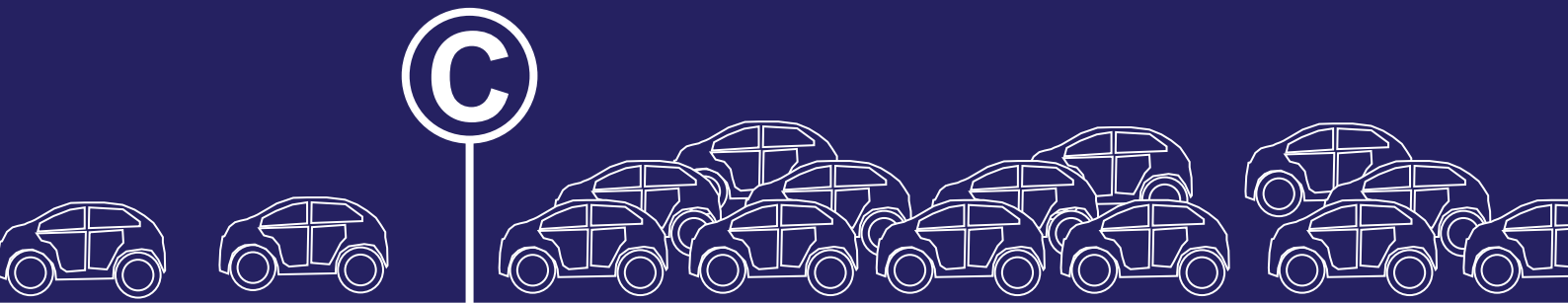


# JAMS TODAY, JAMS TOMORRÓW

HOW SMARTER CONGESTION CHARGING CAN KEEP  
LONDON MOVING



*London First*

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# EXECUTIVE SUMMARY

Anyone who has taken to London's roads - be it by car, taxi, bus or bicycle - will be acutely aware of the congestion that blights many of the city's highways and byways.

The introduction of a Congestion Zone in 2003 offered a brief respite for the very centre of the city. But a reduction in congestion and an increase in traffic speeds soon disappeared as freed-up road space was given over to other modes of transport, in particular buses and cycling, as well as to better quality public space.

Without radical intervention congestion will only get worse and risks bringing London to a standstill. The capital's population is growing by 100,000 a year and that means more people and more vehicles, causing greater delays and more unpredictable journeys. On top of this, there remains a strong demand for better public spaces, which will further limit existing road capacity.

Increasing congestion is also likely to have a detrimental impact on the health of the city's inhabitants. Road transport accounts for around 60% of London's particulate emissions and nearly 50% of emissions of nitrogen oxides (two of the most hazardous air pollutants to health). Air quality is particularly poor in areas with high densities of slow-moving or congested traffic.

The Mayor's recent commitment to examine the feasibility of new underground roads is welcome, but, given the scale of demand, even the most ambitious programme of road-building would by itself be inadequate to meet London's congestion challenge.

Therefore, on top of road building plans, the Mayor must champion more effective management of demand - and that will mean moving to a more sophisticated system of congestion charging in the capital.

The current situation is bad news for London's competitiveness and for Londoners' overall quality of life meaning something has to be done above and beyond current plans. This is why smarter congestion charging should be at the heart of the battle of ideas for City Hall – both now and post May 2016.

Polling undertaken for this study found Londoners are well aware of the problem – 79% of those asked by YouGov thought traffic on the capital's roads will increase in the next five years, with 40% believing it will increase a lot.

But there is no consensus on how to solve the problem. The most popular solution – introducing a higher congestion charge during rush hour – garnered support from less than one in three respondents (29%).

Across the different solutions, support was on average around 20%. However, fewer than one in ten (8%) said they were against any new measures designed to cut congestion.

This points to there being a political mountain to climb, but it is not a Sisyphean task if certain steps are taken. The key is to convince the public and the business community that if they pay more, they will get something in return.

Motorists and passengers must enjoy swifter and more reliable journey times, while freight transporters and the businesses they serve must see any extra cost off-set by the increased efficiency in deliveries.

To achieve this, any future congestion scheme has to be better targeted than London's existing one, with charges varying according to those roads and times of day where congestion is worst.

Furthermore, the revenues from any scheme should be reinvested in the capital, ensuring those paying enjoy the benefits of new charging. This could be through investment in roads, managing the network better, or through reductions in existing taxes and charges.

If we are to keep London moving there is a tough journey ahead that will require vision and leadership to win over understandably cautious public and business communities. But the alternative is greater congestion, more unpredictable journey times, and greater delays on deliveries.

The sooner Londoners and London government come to terms with this reality, develop and agree practical solutions, and implement them, the better.

## THE CHALLENGE FACING LONDON'S ROADS

Each day London's road network caters for nearly 10 million car trips, more than four million bus trips, 500,000 cycle trips and 300,000 taxi or minicab trips. It carries 80% of passenger journeys and 90% of freight movements. The road network also accounts for some 80% of London's public space<sup>1</sup>.

One inevitable consequence of the growing - and conflicting- demands for road space is congestion. London has around 20% of the UK's traffic congestion. Three quarters of this congestion is on roads managed by Transport for London (TfL) or London boroughs (the rest is on those motorways and 'A' roads managed by the Highways Agency).

This means that around 15% of all the UK's overall traffic congestion is concentrated on less than 0.5% of the country's 400,000 km of roads<sup>2</sup>.

### The performance of London's roads: some key facts<sup>3</sup>

- Across London between 1980/82 and 2006/09, average weekday traffic speeds fell by 18% in the AM peak, by 14% in the inter-peak, and by 12% in the PM peak.
- Current average traffic speeds in central London are around 14kph, in inner London around 20kph and those in outer London vary between 30 and 35kph.
- Congestion is defined as an excess travel rate (minutes per km) compared to that which would be expected under uncongested conditions. In the AM peak in central London, delay on average is 1.4 minutes per km, in inner London 1.2 minutes per km, and in outer London 0.7 minutes per km.
- Journey time reliability is measured as the percentage of journeys completed within five minutes of a standard 30 minute journey. According to this metric at least one in ten journeys in London is unreliable, with particular problems on congestion hotspots such as the Inner Ring Road and Blackwall Tunnel.
- Recurring congestion, caused by an excess of demand over supply, is responsible for 75 per cent of congestion in London.

Long and unpredictable journey times have an economic, social and environmental cost. It is estimated that London's road congestion costs the UK economy £4bn per year, with an average cost of around £17 per hour delay to a vehicle in London.

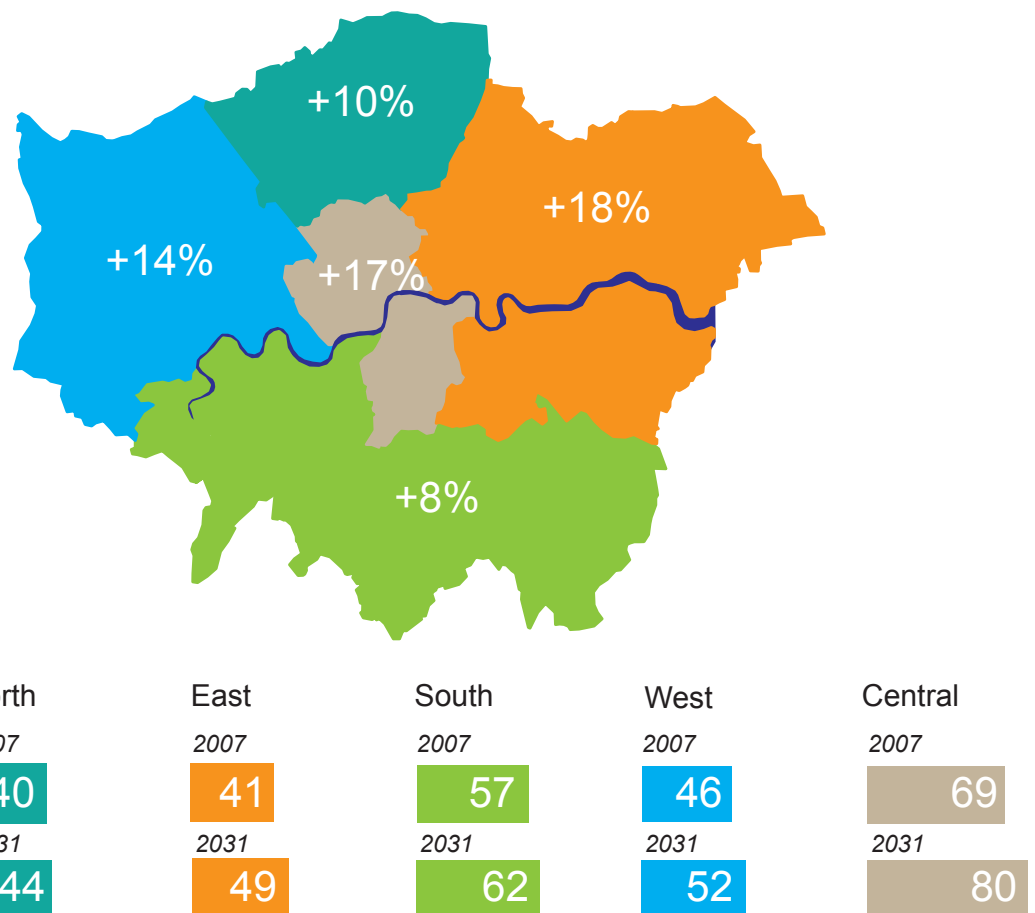
<sup>1</sup> Roads Task Force final report, July 2013

<sup>2</sup> Ibid

<sup>3</sup> Ibid: Technical Note 9. How does the road network perform in terms of speed, congestion and journey time reliability.

Roads and traffic can also have a detrimental impact on Londoners' quality of life. Road transport accounts for around 60% of particulate emissions in London and nearly 50% of emissions of nitrogen oxides. Pollution levels in congested parts of London frequently breach EU limits, with areas such as the Marylebone Road showing pollution levels double the EU maximum<sup>4</sup>.

With London's population due to rise from 8.3 million today to 9 million by 2020 and 10 million around 2030, the demands on London's road space will only increase as a result of more people, more jobs and more goods movements. TfL forecasts suggest that every five years the transport system will need to cater for more than one million extra trips per day. Many of these will be catered for by the planned expansion of rail capacity with schemes like Crossrail, but a significant number will need to be provided for on London's roads. Figure 1 below shows the likely increase in delay for motor vehicles by 2031. This will have a particular impact on central London, where congestion is already worst, but all areas of London will be affected<sup>5</sup>.



**Figure 1: Indicative increase in delay per kilometre travelled by motorised traffic\***  
Seconds delay per km

\*Forecast by TfL's strategic models based on committed transport investment and forecast growth to 2011

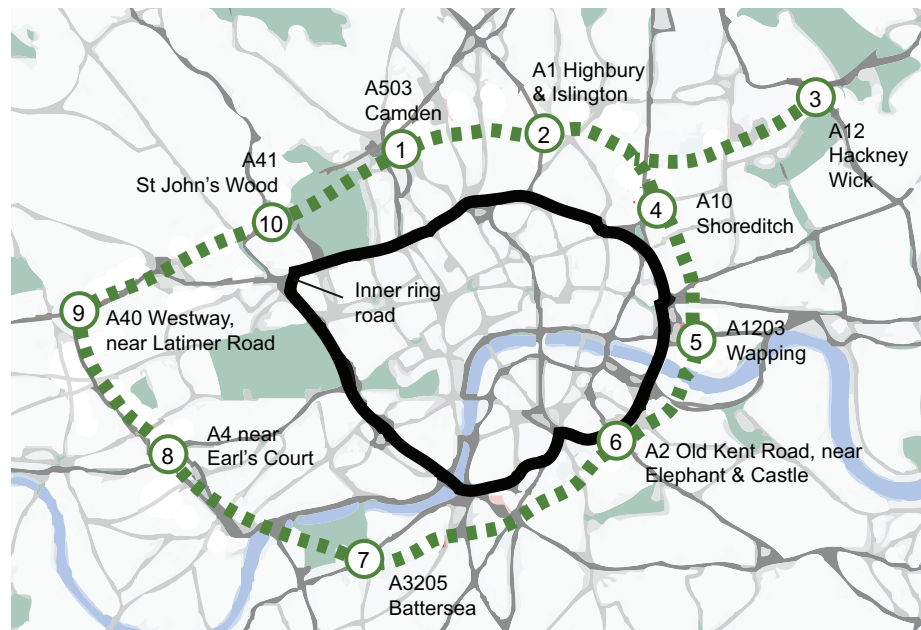
4 Roads Task Force final report, July 2013  
5 Ibid

## THE MAYOR'S ROADS TASK FORCE

In recognition of the challenges facing London's roads, the Mayor of London set up an independent Roads Task Force (RTF) in 2012 - on which London First sat - to identify potential solutions. Its report, published in summer 2013, set out a future vision for London's roads and made a number of recommendations. The Mayor's response committed TfL to a ten year, £4 billion investment programme. This covers improved use of new technologies (such as traffic signalling and network control rooms) as well as junction improvements in areas like Elephant & Castle and Old Street to tackle congestion hot spots and improve traffic flow, while also improving the quality of public space.

For the first time in a generation, TfL also committed to assess the case for adding capacity to London's road network, launching feasibility studies into the scope for new underground road tunnels in London. One proposal, set out enthusiastically by the Mayor (see figure 2 below), would be for a new 22 mile underground ring road, potentially costing some £30 billion to construct.

European cities such as Paris and Oslo have successfully built major new underground roads in recent decades - providing both better journeys for motorists as well as freeing up existing road space on the surface for other uses. Such an approach is radically different to the now discredited road-building plans of the 1960s and 10s which required large scale surface demolition and saw communities like Hammersmith cut in half. Building new underground roads is an idea whose time has come for London. The Mayor should now set out firm proposals over the coming year so as to inform the inevitable jockeying for resources at the post-election spending review.



**Figure 2: Proposed Orbital Tunnel**

Possibly entrance/exits to the tunnel  
Locations are approximate, only indicators at this stage  
Source: Evening Standard, 12 May 2014

The RTF was, however, clear that taken together these measures would be inadequate to meet our long-term ambitions for London's roads (particularly given the challenges around pursuing a large scale road-building programme under the capital thanks to its likely cost and the scope for opposition in directly affected areas).

The RTF therefore called on London to consider smarter charging more widely, beyond London's existing congestion charging scheme: "The RTF recommends that proper consideration is given to the wider use of smarter charging in the longer-term as a means to manage demand and make more efficient use of road space"

Indeed, the existing Mayoral Transport Strategy, as updated in 2010, is clear that demand management may have a role to play if other policy tools prove insufficient. Proposal 130 states:

*"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 scheme). 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 The Mayor will also consider imposing charges or tolls to support specific infrastructure improvements, such as river crossings."*<sup>6</sup>

While the current Mayor has been explicit that he has no plans to consider wider charging during his current Mayoral term, the absence of any credible strategy for bridging the gap between the demand for London's road space and likely supply means that this is a challenge that the next Mayor must grip swiftly post May 2016.

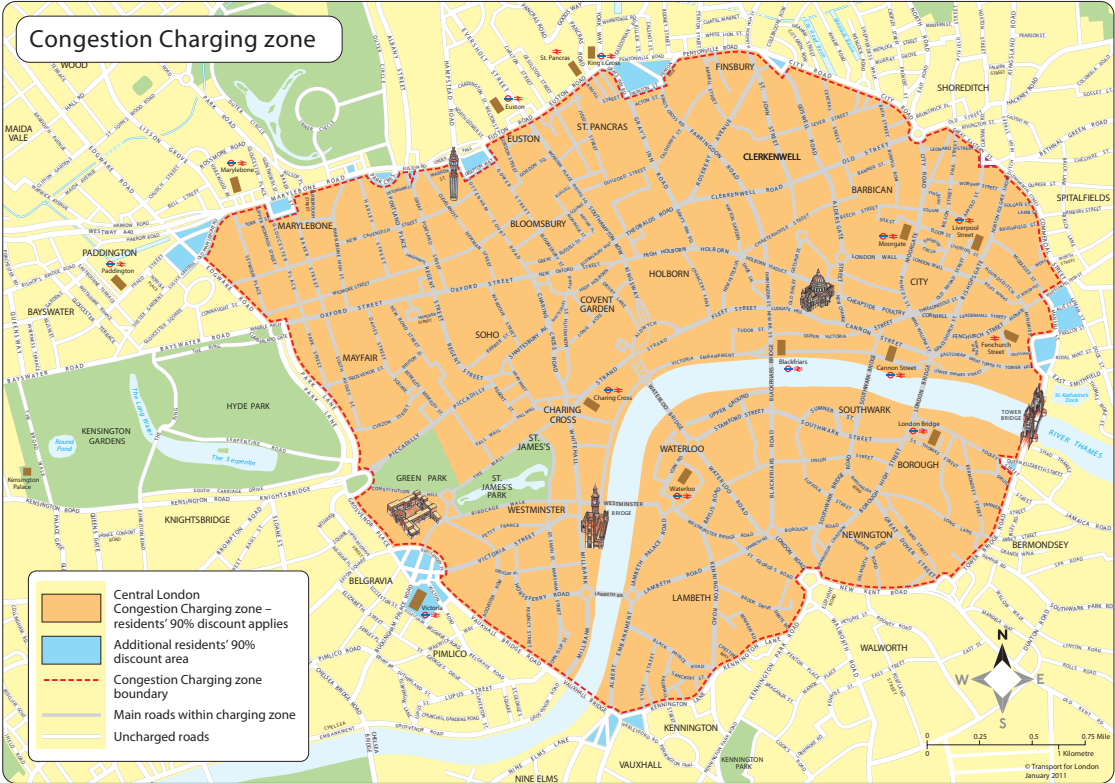


# LONDON'S EXPERIENCE OF CONGESTION CHARGING

London has had a congestion charging scheme since 2003, as championed by London First to the then incoming Mayor Ken Livingstone (see box for details). The scheme has brought significant benefits to the capital.

**London's congestion charging scheme**

An £11.50 daily charge applies for driving a vehicle within the charging zone (see figure 3 below) between 07:00 and 18:00, Monday to Friday. There is no charge on weekends, public holidays, between Christmas Day and New Year's Day inclusive, or between 18:00 and 07:00 on weekdays. There are a range of exemptions and discounts available to certain vehicles and individuals, for example residents within the zone. Enforcement is based primarily on automatic number plate recognition (ANPR).



**Figure 3: Congestion Charging Zone**

Source: Transport for London

Debate continues around which users have benefited most from the scheme, but the general consensus is that the charge reduced the number of vehicles entering the central zone. This led to a short term reduction in congestion and increase in traffic speeds, which then dissipated as freed-up road space was consciously re-allocated to other modes of transport, in particular buses and cycling as well as to better quality public space. As a result, congestion in central London now is no better than when the charge was introduced, but of course it would now be significantly worse if the substantial improvements to buses and cycling had been introduced with no charge in place.

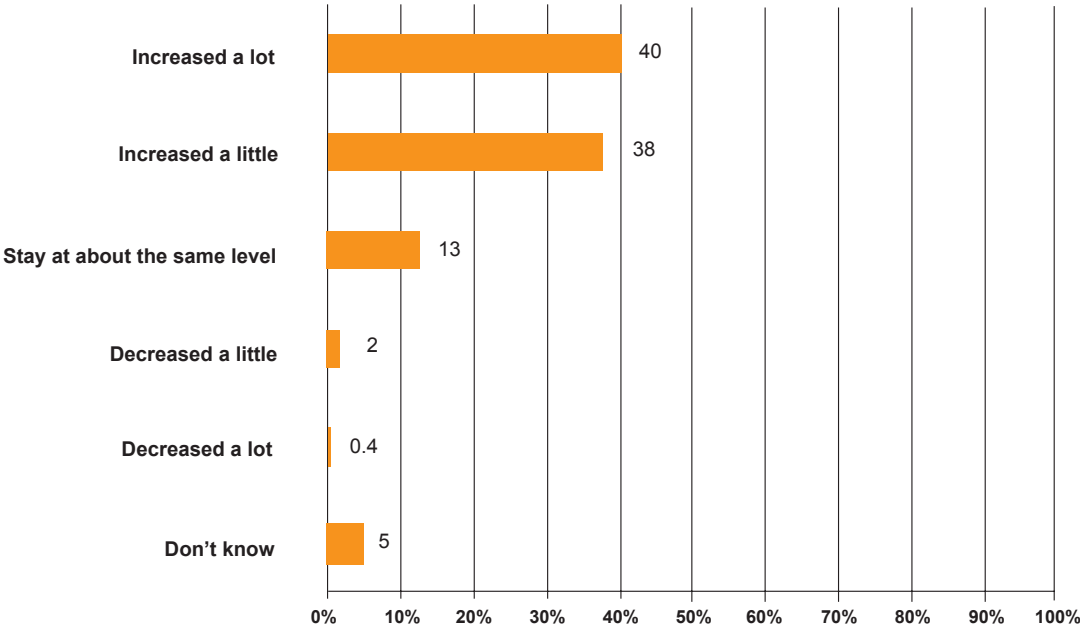
This conclusion is supported by recent TfL statistics which show that whilst the population and total trips increased by around 13% between 2001 and 2011, car driver trips in London dropped by a similar amount. In contrast, rail trips increased by just over 40%, bus trips by 60% and cycling trips by 66%. So while total trips increased, the number of car driver trips decreased. Average traffic speeds in the central zone increased when the charge was introduced but then fell away and are now lower than in 2003. Improvements to public transport have been supported by net revenues of over £1 billion generated by the scheme which have been reinvested in transport in the capital.

The current congestion charging scheme appears now to be broadly accepted by all political parties in London. The proposed Western extension was opposed by the current Mayor at the 2008 election and scrapped following his victory, but in the 2012 election congestion charging was not a political issue.

However, the current received political wisdom is that introducing additional congestion charging would be controversial and high risk.

# PUBLIC PERCEPTIONS OF CONGESTION IN LONDON

London First commissioned YouGov to undertake opinion polling to better understand Londoners' views of congestion in the capital. The results were striking. Significantly, nearly four out of five Londoners polled thought that congestion would increase either a lot (40%) or a little (38%) over the next five years. Just 2% thought congestion would decrease a little – and a negligible 0.4% thought it would decrease a lot. (See figure 4 below)<sup>7</sup>



**Figure 4: Do you think congestion on London's roads will have increased or decreased in 5 years' time (i.e. in July 2019), or do you think it will stay about the same level?**

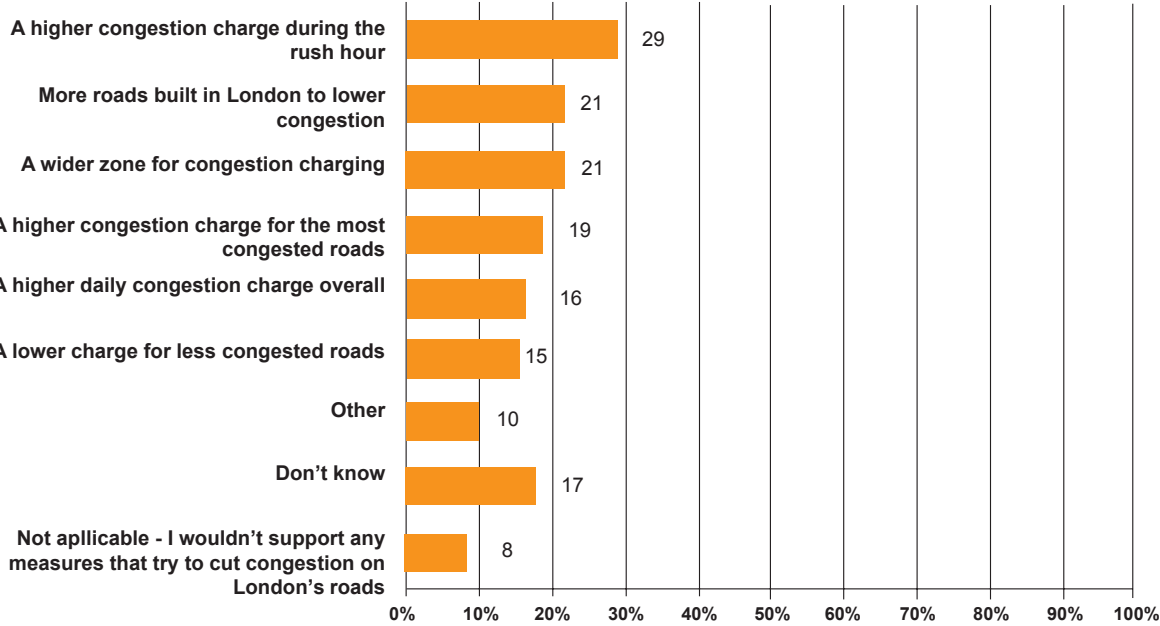
Source: YouGov survey  
Base: All London adults (1050)

The fact that Londoners recognise that roads congestion in the capital will worsen is an important and necessary – if not sufficient – condition for additional action on congestion charging.

<sup>7</sup> All polling figures, unless otherwise stated, are from YouGov Plc. Total sample size was 1,055 adults. Fieldwork was undertaken between 1st - 3rd July 2014. The survey was carried out online. The figures have been weighted and are representative of all London adults (aged 18+)

We asked Londoners' for their views on some of the many potential options for cutting congestion on London's roads. The response was extremely mixed (see figure 5 below). While only a small minority of people (8%) said they would support none of the measures, no single measure commanded more than 30% support.

The challenge is therefore to better articulate how any new scheme could benefit Londoners as a reasonable and proportionate response to the congestion challenge we face.



**Figure 5: Which, if any, of the following measures would you support in order to try and cut congestion on London's roads?**

Source: YouGov survey  
Base: All London adults (1050)

## LEARNING FROM OTHER CITIES

While seeking to change the way people consume and pay for an everyday good or service, such as using the roads, undoubtedly carries complexity and risk, it is instructive to look at how other cities around the world have responded to congestion. The successful examples of Singapore and Stockholm show us how things could be done differently in London.

### Singapore

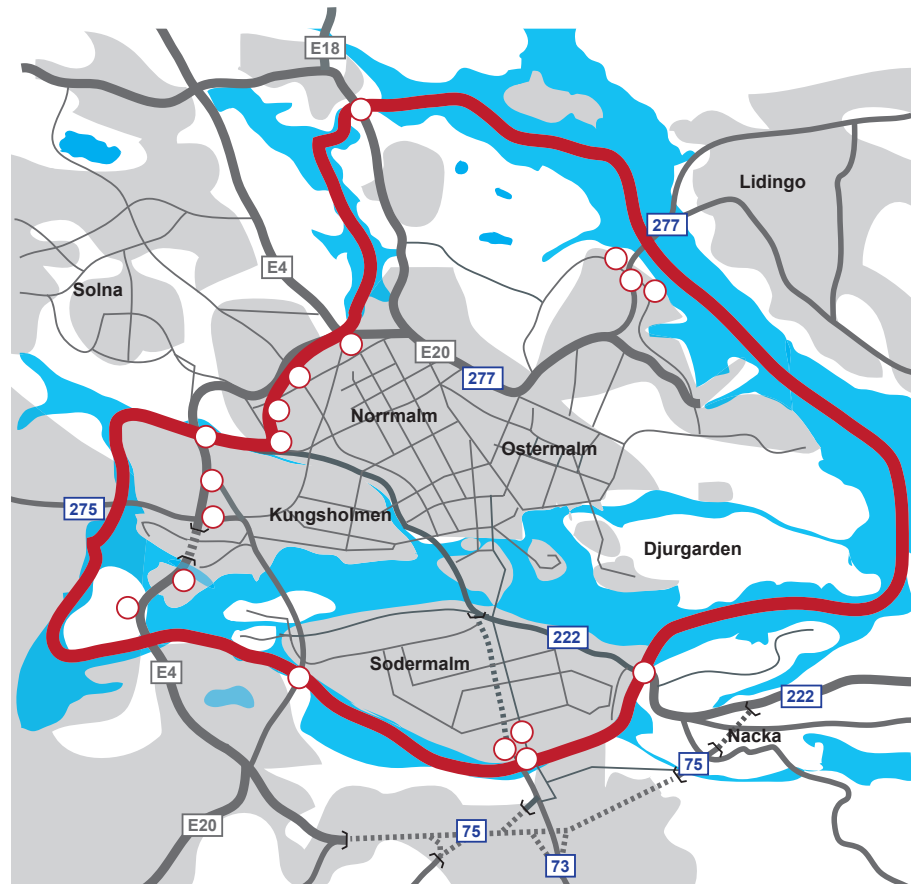
Singapore has one of the oldest and best known congestion charging schemes. A scheme was originally introduced in 1975, which was then replaced by a fully automated Electronic Road Pricing (ERP) scheme in 1998<sup>8</sup>. The ERP operates as a cordon in central Singapore as well as on expressways and outer ring roads. Charges are very responsive to demand, changing every half hour in peak times, and are reviewed every three months to maintain efficient traffic flow.

Drivers must install an 'in-vehicle unit' which enables automatic charges via either a debit or credit card. Prices can vary from zero to about SG\$3 (around £1.50) per cordon crossing and are in effect from 7am to 8pm on weekdays. A recent US Department of Transportation study concluded that the ERP successfully achieved target speeds of 45 to 65 km/h on expressways and 20 to 30 km/h on arterial roads, with net revenue of SG\$100 million (around £50m) in 2008.

The Singaporean Government has announced its intention to move to an even more sophisticated satellite based system in 2020 which will allow more dynamic and variable pricing by individual road and time of day. This would also do away with the need for a large and cumbersome network of gantries across streets.

## Stockholm

In central Stockholm, a congestion charge applies between 06.30 and 18.30 on weekdays. Each passage into or out of central Stockholm costs 10, 15 or 20 krona, depending on the time of day. The maximum amount per day and vehicle is 60 krona (or around £5).



**Figure 6: Stockholm congestion tax cordon map**

Source: The Swedish Transport Agency

- Congestion charge zone
- Congestion charge gate

The congestion charge was originally introduced for a six month trial period in 2006. A subsequent referendum saw it passed by 53% of residents and it was introduced as a permanent measure in 2007. In 2011 traffic remains 20% below the levels experienced ahead of its introduction, despite charges having stayed flat.

Moreover, support for the charge has steadily grown since the beginning of the pilot when 70% of people were opposed to it. Now those numbers have flipped and 70% of people in 2011 supported the charge. This can partly be explained by the fact that drivers have seen benefits to them in terms of reduced congestion. Also, all net revenues have gone to transport projects – particularly major highway improvements.

The experience of Stockholm and Singapore shows that congestion charging can bring beneficial impacts to major cities. Moreover, Stockholm's experience shows that the argument for introducing charging can be made and won provided users can see a benefit.

## WHERE NEXT FOR CONGESTION CHARGING IN LONDON?

So how might congestion charging in the capital evolve to address its recognised and growing congestion problem? We see three main sets of options, which are not mutually exclusive.

### OPTION 1

The first option would be to introduce additional charging schemes, beyond the existing central zone, targeted at particular centres of congestion. Under the previous Mayor, Transport for London explored the scope to introduce new congestion charging schemes in suburban centres outside central London. This isn't currently being proposed, but interest has emerged around the potential to introduce a new congestion charging scheme at Heathrow. (Figure 7 below shows the road network around Heathrow at present).

Heathrow Airport  
Overview

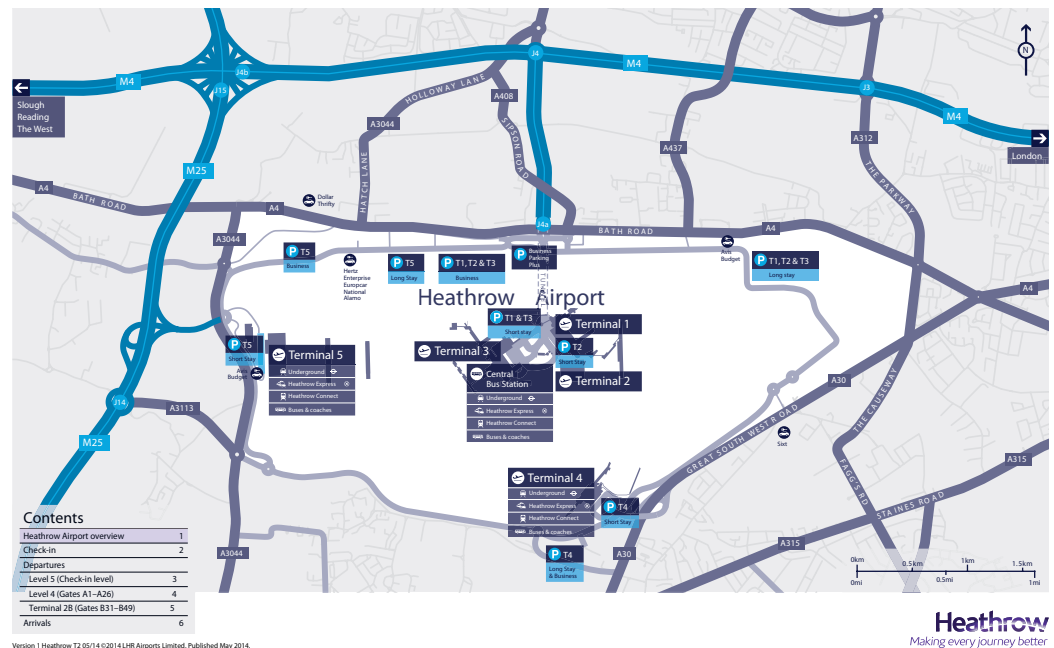


Figure 7: Road network around Heathrow Airport

Source: Heathrow Airport

As part of its submission to the Airports Commission, Heathrow Airport has signalled its intention to consult on a congestion charging zone around the airport to encourage the use of public transport and the more efficient use of cars. Heathrow has suggested that this should only be introduced once suitable public transport alternatives are in operation and that exemptions should be considered for certain types of user. Revenues would be recycled into transport infrastructure and initiatives<sup>9</sup>.

Further feasibility work is now due to take place on the geographical extent of the zone, charging levels and the legal powers required to implement a scheme. Targeted new schemes such as this could play a useful role in addressing localised hot spots of congestion, but given the scale of the congestion pressures across London, broader solutions must also be explored.

## OPTION 2

As highlighted above, the experience of Stockholm and Singapore shows that congestion charging can bring beneficial impacts to major cities. Drawing on such examples, a more sophisticated congestion charging scheme should be introduced to replace the existing central London one.

This could cover a broader area, with charges varying more in response to congestion levels at different times of day and in different places (for example applying to the North or South Circulars during rush hour, but not at other times, so as to reduce peak congestion while maintaining the accessibility of local high streets).

Since the London charge was introduced there have been significant advances in electronic payment, detection and surveillance technologies, meaning that more complex schemes are now possible and cost-effective.

While we have already noted divisions in Londoners' opinions on how to address the problem, Stockholm's experience shows that the argument for introducing charging in this way can be made and won provided users can see a benefit.

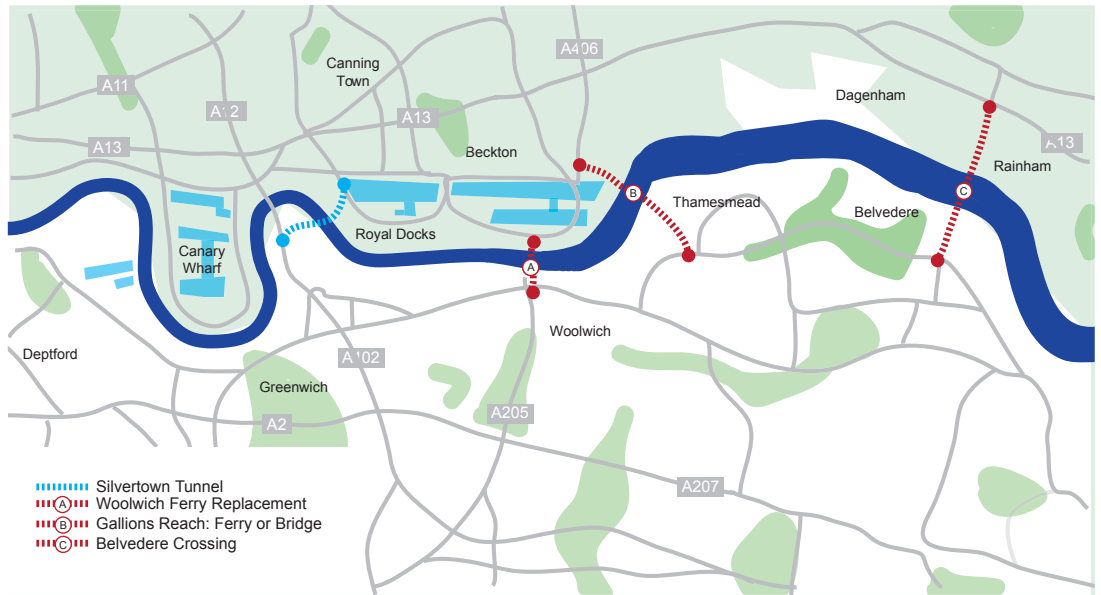
The Mayor should therefore ask TfL to conduct a study on the experience of other cities such as Stockholm and Singapore and set out proposals for smarter congestion charging in London, drawing on the lessons of those schemes.

## OPTION 3:

Another solution which should be explored under any scenario, would be to introduce charging where any significant new road capacity is built. As mentioned above, the Mayor is currently considering the feasibility of new underground roads in London, which TfL has suggested could be charged.

More immediate are the proposals for new river crossings in east London (see figure 8 below), starting with a new tunnel at Silvertown to relieve congestion on the existing Blackwall tunnel. TfL will consult on a detailed scheme in the autumn which will include charging of both the new crossing and also the existing one at Blackwall.





**Figure 8: East London tunnel options**

Source: Transport for London

It should be noted that, ideally, the funding of river crossings in east London would be met by central government, as it has been in wealthier west London. However, it seems highly unlikely the Treasury will meet this bill.

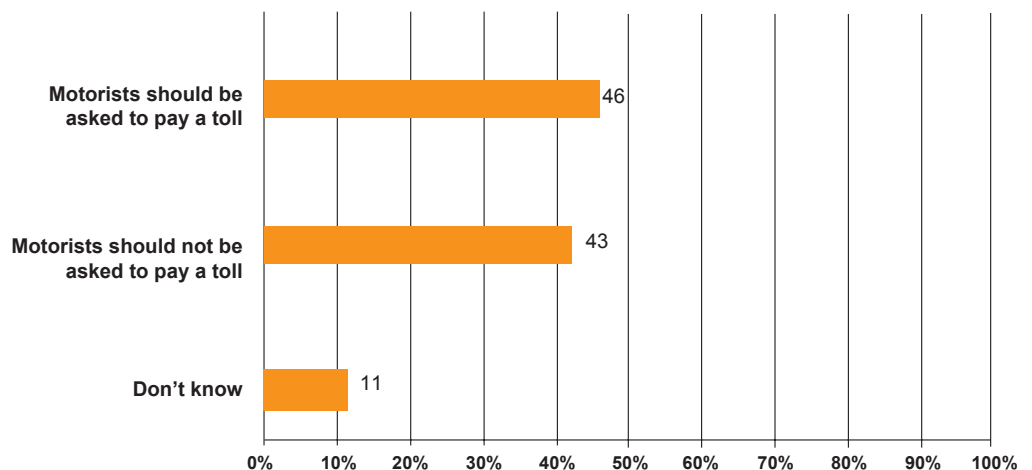
The reality is that introducing charging for new roads would help fund their construction and, crucially, lock in the benefits of new capacity so as to avoid seeing new space rapidly fill up with no enduring benefits to traffic flow. It would also help condition drivers to the reality that the ways we pay for road use will in future need to change.

UK drivers have some experience of paying for new roads (such as the M6 toll) and new bridges (such as the Dartford Crossing), but paying for roads which have previously been free inevitably generates greater controversy.

New polling undertaken by YouGov on behalf of London First suggests that Londoners could be persuaded of the case for tolling new river crossings. First, we asked Londoners their views on the introduction of tolls for river crossings, given the absence of available funding to pay for their construction. The findings, set out in figures 9 below, show that there was a narrow majority in favour of tolling (yes 46%, no 43%, don't know 11%). Perhaps unsurprisingly, adults living in East London had the highest opposition rate (51%).

**Figure 9: Toll support/ opposition for new crossings**

It has been suggested that there should be new road crossings over the River Thames in East London to support economic development in the area. There is currently no funding set aside for these projects. If the crossings were to be built, do you think motorists who use these crossings should or should not be asked to pay a toll to help cover the cost of construction? (For reference, the toll fees are likely to be similar to the Dartford Crossing, which is £2 for a car, £2.50 for a van, and £5 for a lorry)



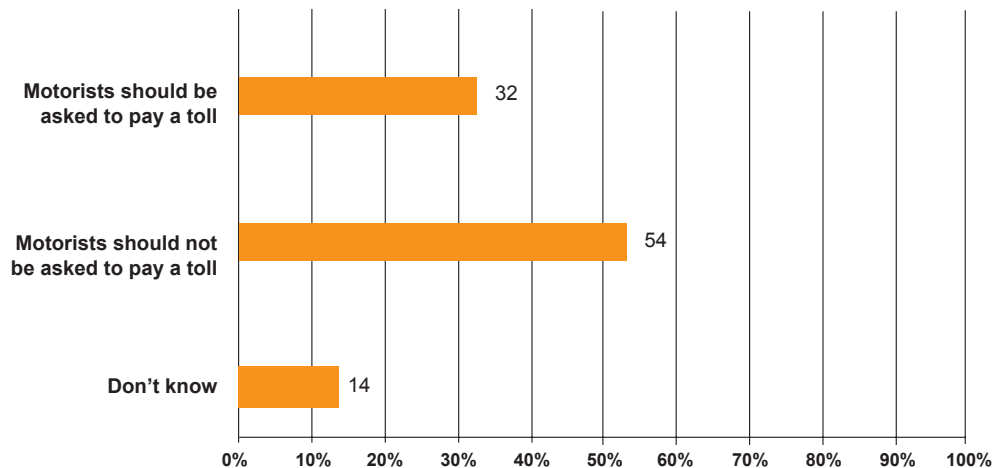
Source: YouGov survey  
Base: All London adults (1050)

We then asked how Londoners felt about tolls also being introduced for existing free crossings alongside proposed new ones (for example the Blackwall Tunnel, alongside the proposed new Silvertown tunnel). Unsurprisingly, Londoners were more resistant to paying for something they currently receive for free (with 54% against tolls and 32% in favour). This shows that TfL and the Mayor have more work to do to secure Londoners' backing for tolls as part of any funding package for new river crossings in east London.

**Figure 10: Toll support/ opposition for nearby crossings**

Please imagine these new crossings were built in East London and were subject to a toll... Do you think motorists on nearby existing crossings, such as the Blackwall Tunnel, should or should not also pay a toll to avoid potential delays caused by people switching to toll-free options close by?

Source: YouGov survey  
Base: All London adults (1055)



## CONCLUSION: A SOLUTION FOR LONDON

The case for smarter congestion charging in London – as in other major cities - is strong. But Londoners want to know the detail of what any scheme might mean for them in practice, not just in theory.

Drawing from previous experience both here and abroad, we propose 5 key tests which any new scheme must meet if it is to win sustained support from Londoners.

- 1.** Any future scheme should be better targeted than London's existing one, with charges varying more according to those roads and times of day where congestion is worst.
- 2.** Any scheme must be able to demonstrate that it is consistent with and contributes towards meeting our main objectives for London's roads - reducing congestion, benefiting bus passengers and cyclists, and supporting the creation of better quality public spaces.
- 3.** Those who pay the charge must themselves see some sustained benefits in the form of more predictable and reliable journeys for people and goods. It is neither equitable nor politically sustainable for benefits to accrue largely to those who don't pay, as is currently the case with London's existing congestion charging scheme.
- 4.** All net revenues from any scheme should be reinvested in transport in the capital. Again, road users who pay the charge should see at least some of the benefits, whether through investment in roads infrastructure and network management, or through offsetting reductions in existing taxes and charges.
- 5.** There will need to be scope for targeted discounts or exemptions where these may be justified for particular groups of users. These should, however, be limited so as not to undermine any scheme.

At the same time, sustained investment must continue in London's wider public transport system so as to ensure that Londoners continue to have a range of choices open to them for the journeys they choose to make.

We believe that these tests can be met and urge anyone aspiring to be London's next Mayor to embrace smarter congestion charging as a key policy for their first term. If we carry on as now, congestion on London's roads will inexorably get worse. Something must be done – and now.

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