





# Key points

## Chapter 3

The RTF recommends that TfL and the boroughs jointly develop and implement the street-types approach – but this must be accompanied by a wider strategy.

A bolder approach is needed, using the full range of tools in the toolbox. Wider interventions must be explored to deliver the aspirations for better places, walking and cycling, while maintaining acceptable levels of service for vehicular movement and tackling the background growth in congestion.

**A major and sustained programme of investment will be required, at least £30bn over 20 years.**

This means managing demand and changing the way we use roads: the way and time goods are delivered, shifting to more efficient modes, embedding new travel patterns, using parking policy effectively and smarter charging for the use of road space.

This also means creating new space for communities and development, providing new capacity for more sustainable modes, enhancing junction capacity, providing new connectivity to unlock growth areas, and re-locating capacity underground for 'strategic' motorised traffic.



It is only in this way that the improvements needed across **all** the functions that are fundamental to the future competitiveness of London can be delivered.

It is not possible to cherry-pick: if we're not prepared to change the way we use roads and to provide more space, we will need to review our ambitions.

Achieving the vision across London will take time – but will only be possible if the decisions made now are focused on it. Each decision must be a step towards achieving the overall ambition.

A major and sustained programme of investment will be required, at least £30bn over 20 years in addition to basic maintenance and renewals. But this compares extremely well in value for money terms with other investment.

Meanwhile competitor cities are committing to long-term investment programmes, each seeking to underpin confidence in the future of their city.

# Achieving the vision

## Locally and London-wide

The aim is to secure London's ongoing status as a world city by delivering greater improvements to the quality of places and peoples' quality of life as well as supporting changing aspirations for more sustainable movement.

Equally, it is vital that the efficient functioning of the road network is maintained and improved to support business productivity and economic growth.

Making improvements at a local level should make a difference to people whether they are travelling to work or spending time in their local high street.

The primary aim should be for win-wins (for example, schemes such as Britannia Junction).

However, in many cases, achieving the full aspirations locally would have implications (either individually or cumulatively) for the functioning of the road network and must be delivered as part of a wider strategy.

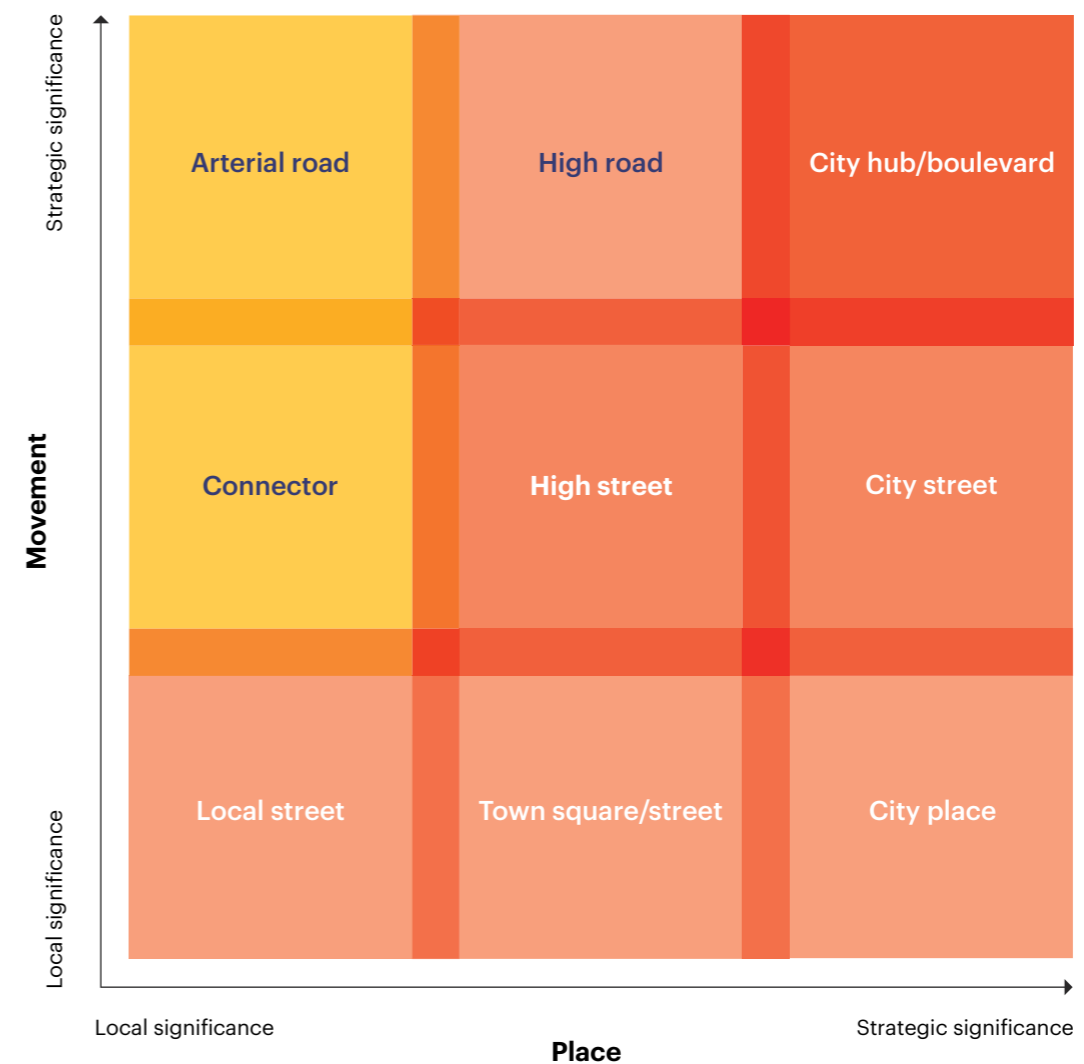
It is assumed that some of the street-types would deliver better performance on the movement side for motorised traffic (in particular, arterials and connectors). This would be achieved through the application of different tools, particularly from Compartment 1 (infrastructure and assets fit for the future) and Compartment 3 (intelligent systems and management).

The implications of desired changes within other types (for example city hubs and high streets), however, could be negative for motorised traffic and overall network outcomes – in the absence of more strategic interventions.

Figure 19 highlights where changes to improve 'place' functions would potentially be most significant (darker orange) and – in the absence of wider mitigations – impact on network functioning.

**The RTF recommends that TfL and the boroughs jointly develop and implement the street-types framework...**

**Figure 19: Potential network impact of realising place function**







Changes to reduce the impact of current road layouts can help transform places – such as potential changes at Old Street imagined in these illustrations –

but they will have knock-on impacts on the road network, particularly when combined with changes at other locations



The aim at city hubs is for major ‘place’ improvements and intensification of development. This could involve potentially significant changes to the way road space is used, but these streets are also crucial to network functioning.

It is assumed that the aspirations for city streets and high streets could also involve significant improvements in terms of the quality of place and conditions for walking and cycling. This is the case for high roads too, albeit to a lesser extent. City places, town streets and local streets have less impact on network functioning.

Delivering the aspirations in these places would involve applying many of the tools, particularly in Compartment 1 (infrastructure and assets fit for the future), Compartment 2 (more efficient/flexible use of space) and Compartment 3 (intelligent systems and management) of the toolbox.

TfL has assessed the potential implications of applying the desired place-making changes and more significant re-allocation of space to more sustainable modes across the network – that is, the cumulative impact of many such changes locally in the absence of any wider measures to mitigate network impacts.

## Figure 20: Assessed scenarios

TfL undertook high level assessments on a series of scenarios:



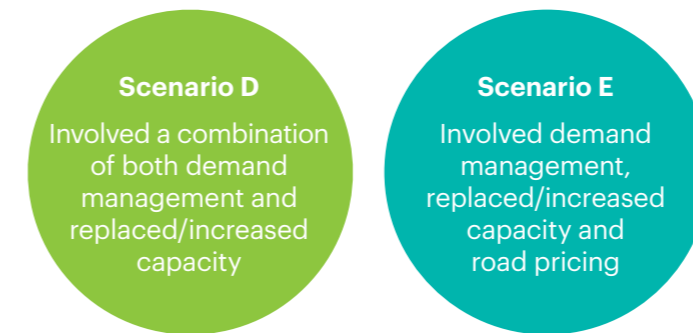
In effect this represents Scenario A, in Figure 20. This would have significant adverse implications for reliability and congestion across different parts of London – over and above the baseline.

Even if the system is managed and operated better, and greater performance is squeezed from the network by using the full range of tools available in Compartment 3 (intelligent systems and management), this will not be sufficient to avoid deterioration in journey times and congestion for motorised traffic. The first three compartments of the toolbox can only take us so far.

Figure 21 on pages 152 to 153 shows TfL's initial high-level assessment of the outcomes currently assumed under the MTS, and then the impacts of Scenario A.

The assessment criteria relate to the different functions of roads and streets outlined in Chapter 1, with circles in green indicating positive change and red, negative. The size of the circles indicates the relative numbers of people affected directly by that particular outcome.

In Scenario A there would be improved outcomes across a range of the assessment areas such as conditions for cycling and walking, road safety, and supporting higher value development areas which have good public transport access. These improvements contribute towards many of the MTS goals.



These scenarios build on what is already included in the Mayor's Transport Strategy (MTS), such as:

- Seventy per cent increase in peak rail-based public transport capacity and selected bus priority improvements
- Some 'place' improvements
- Some walking and cycling improvements
- Network management improvements and smaller-scale capability enhancements, for example junction improvements
- Previous GLA population and employment forecasts (ie not based on latest projections)

## Over the last 10 years, congestion has increased by around 10 per cent, even with 10 per cent less motorised traffic and less road space reallocation than the RTF considers is needed.

A very indicative assessment suggests that this could have some significant monetised benefits for outcomes such as urban realm and health. However, there would be some significant disbenefits, mainly in terms of an increase in the cost of congestion of around £1.2bn a year by 2031, compared to today. This reflects the costs to freight, car users and bus passengers. This would mean that congestion would be even worse than currently forecast.

This would have serious implications for the attractions of development in London and more widely for the city as a place to do business or to live.

This clearly is not acceptable. As highlighted in Chapter 1, a well-functioning road network is essential for business and for many Londoners who rely on it to access jobs, family and friends, and essential services.





### Finding a way to deliver the ambitions: the need for more strategic interventions

The RTF believes that a way must be found to deliver these ambitions for change while keeping London moving.

In many places development is already happening and it is important to make sure it happens in the best way. As densities increase, so too must urban and environmental quality.

It is important to maximise the potential of areas across London and to meet the very real aspirations for more vibrant town centres, better places and a higher quality of life, and to provide the right environment for walking, cycling and buses.

This is vital to attracting business and mobile employees, offering the quality of life and liveability increasingly demanded from a world city.

**In effect, therefore, the RTF believes that the strategy must be to move to Scenarios D and/or E in Figure 20 in order to achieve these ambitions while also tackling congestion and ensuring that the road network functions efficiently into the future.**

**This will require a bolder approach, using the full range of tools in the toolbox set out in the previous chapter.**

Wider interventions must be explored to mitigate these impacts, tackle the background growth in congestion and maintain acceptable levels of service for motorised traffic.

It is only in this way that all the aspirations – which are fundamental to the future competitiveness of London – can be met.

By itself, demand management (without pricing) would not be sufficient (Scenario B) and, if pushed too far, would tend to be indiscriminate or blunt in its impacts adversely affecting high value journeys. Capacity measures by themselves would induce motorised traffic and not deliver the overall benefits sought (Scenario C).

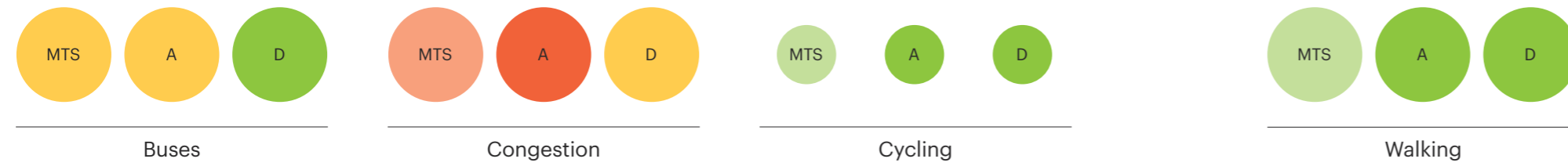
Recurring congestion, caused by an excess of demand over supply is responsible for 75 per cent of congestion in London – the only way of addressing this is by better balancing demand and supply.

Both demand and capacity measures are needed, including the more strategic interventions. The RTF believes that the approach should focus on Scenarios D and/or E.

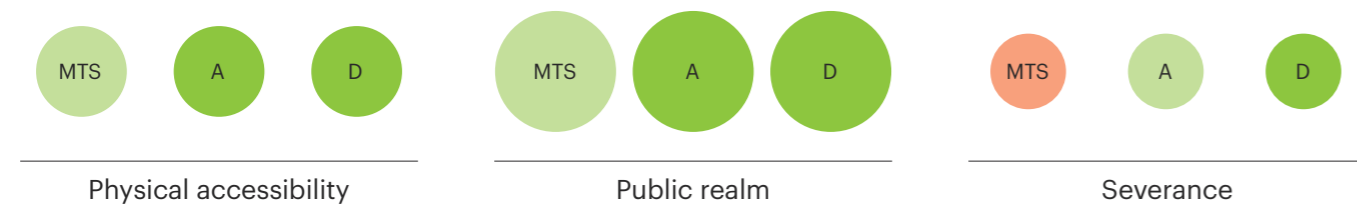
**Figure 21: Scenario assessment**

The diagram shows the impact of the MTS and Scenarios A and D towards achieving key outcomes sought by the RTF (grouped by function), compared to today's conditions.

**Moving**



**Living**



**Key**

The colour of the circles indicates whether the impact is positive or negative.  
 ● Highly negative ● Negative ● Neutral ● Positive ● Highly positive

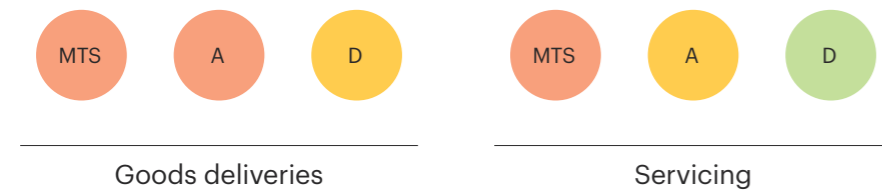
The size of the circles represents the number of people directly affected by the particular outcome.



**Unlocking**



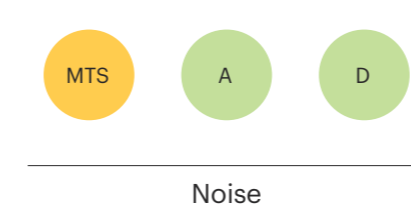
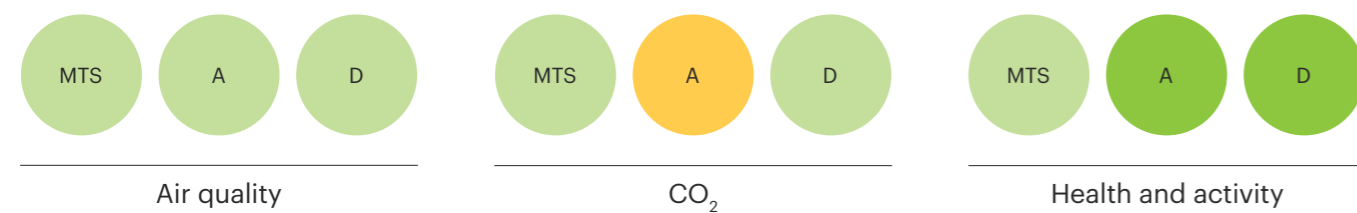
**Functioning**



**Protecting**



**Sustaining**



Each of the scenarios illustrated is explained on pages 150 to 151.



**‘Whatever course you decide upon, there is always someone to tell you that you are wrong... To map out a course of action and follow it to an end requires courage.’ Ralph Waldo Emerson**

Figure 21 on pages 152 to 153 illustrates the potential impact of Scenario D, which includes some conceptual measures both to manage demand and replace or enhance capacity. This can be compared to the outcomes for the MTS and Scenario A.

TfL’s indicative assessment indicates that this could deliver significant benefits beyond what either B or C could do alone and compared to Scenario A.

The most significant extra benefit is for congestion. Compared to Scenario A, Scenario D could reduce the costs of congestion by up to £1bn a year by 2031.

Congestion in London in the morning peak, under Scenario D, could be close to current conditions (compared to around 20 per cent worse under Scenario A). This means it is not only mitigating the additional impact of delivering better places and transformed conditions for sustainable modes, but also tackling much or most of the forecast congestion that the MTS left unresolved.

In other words, future conditions would be significantly better than currently forecast. However, there would be some variations across different areas, as discussed in Section 3B.

Scenario D also retains and enhances benefits across the other functions, with major potential benefits in terms of urban realm and health in the order of hundreds of millions of pounds per year.

### **Developing potential ‘strategic’ interventions**

In order to achieve these outcomes, demand needs to be reduced, and/or improved/new infrastructure needs to be provided.

For example, TfL’s indicative analysis suggests that if road space reallocation was applied only within the area bounded by the Inner Ring Road, then full mitigation would require demand to be reduced by approximately 10 to 15 per cent, or substitute capacity provided of a similar order of magnitude to mitigate the impact. This is difficult to quantify and it will vary across London but it is fundamental to understand – **the RTF recommends that TfL conducts further analysis of this issue.**

This would clearly involve considering using some of the larger scale, and potentially more controversial or complex, tools from Compartment 4 (changing behaviour/managing demand) and Compartment 5 (substitute/re-located/enhanced capacity) of the toolbox.

Some of the potential options are explored further on the following pages.



### **Managing demand and changing behaviour**

With a growing population, as much of the demand as possible must be absorbed by public transport and other efficient modes (re-modelling). The network must be better used across the 24-hour period (re-timing); while the need for journeys can be minimised, for example, through new technology or land use planning (reducing). This will also help contain urban sprawl and reduce London’s carbon footprint.

There are opportunities for increasing choices for Londoners across all spheres of life including work, shopping, and how goods are delivered.

### **An Olympic Legacy for London’s transport network**

Team GB athletes weren’t the only ones impressing the world with their performances – London’s transport system also excelled. As well as the physical legacy in many boroughs, it is important to capture a behavioural legacy from this.

The challenges required innovative approaches on the road network, eg use of Games Lanes, and there were vital lessons in how working with the freight industry and businesses can achieve change.

There are other approaches that can be applied in the future including better travel information, and encouraging the re-timing and re-modelling of trips, particularly around ‘hot spot areas’.





The 2012 Games showed some of the possibilities. For example 35 per cent of Londoners made some form of change to their commuting or essential journeys on a typical weekday during the Games. While the 2012 Games offered a particular imperative, there are significant opportunities to secure ongoing change.

### Changing the way goods are delivered

A particular success during the Games was the re-timing of freight movements. The logistics sector played an essential role, continuing to supply the Capital smoothly and efficiently in a very demanding operating environment.

The success of out-of-hours deliveries during the Games, combined with the results from Quiet Deliveries Demonstration Scheme trials, shows that greater use of night-time deliveries should be possible.

This could have significant benefits in terms of congestion. There can be benefits for operators too. Data from night-time deliveries during the Games show a reduction of fuel consumption of between three and six per cent, and reductions in driver hours of up to 20 per cent, while business customers benefited through more reliable deliveries<sup>70</sup>.

<sup>70</sup> CILT, Maintaining Momentum: Summer 2012 Logistics Legacy Report, 2013

### MIRACLES project, Barcelona

This project has been changing the way that deliveries are managed.

The project consisted of the introduction of variable, multi-use lanes for freight

at different times, conversion of on-street parking spaces into unloading spaces between peak hours, night-time delivery trials, roadside delivery management involving local delivery/

logistic businesses, and a web-based information service providing locations and numbers of loading spaces available.

A more widespread and sustained shift to out-of-hours deliveries could also improve safety by reducing congestion and interaction between goods vehicles and vulnerable road users, for example, cyclists.

This must, however, recognise some concerns, for example, potential noise implications or costs for business. Advances in technology (for example, silent refrigeration units) and measures such as training can help reduce impacts, the regulatory environment (for example, planning policy and the London Lorry Control Scheme) should reflect this changing context and possibilities.

Consolidation can help coordinate deliveries and provide a range of delivery options for the last leg of the journey. Consolidation centres vary in size from 500 square metres serving a city centre, to a small delivery operation in a hospital.

Although only 25 per cent of the operators surveyed by CILT for their study of freight during the 2012 Games used consolidation as a means for offsetting the impact

of the Games on supply chains, the impacts were significant<sup>71</sup>.

For example at Westfield Stratford City there was a more than 80 per cent reduction in the number of supply vehicles with the introduction of a consolidation centre.

Wider use of consolidation should be supported through public sector planning and procurement policies – for example, by championing the use of consolidation centres in development plans.

### Changing people's behaviour

With the continuing increase in population, innovative means must be found to de-couple economic and social activity and regeneration from car ownership and use. This includes changes in land use planning, car sharing, schemes to persuade and support people to walk more, shifting freight to powered two-wheelers and bikes, using technology to give people the best information about travel conditions and alternatives, and getting children enthused about cycling.

<sup>71</sup> CILT, Maintaining Momentum: Summer 2012 Logistics Legacy Report, 2013





### Walking our way towards a vibrant and active capital

For four days each year, the city of Nijmegen in Holland bursts into life as it hosts the world's largest walking event and city festival (pictured). Around 40,000 people participate in the event, walking up to 50 kms each day. Hundreds of thousands of people line the route to cheer on participants and the event is showcased on Dutch television.

London could host a similar annual event attracting participants from across the city, the UK and from all over the world. This would raise the profile of walking in the way Ride London is for cycling, enhancing London's international reputation on the back of the Olympic legacy as a city determined to improve levels of walking and health.

<sup>72</sup> TfL attitudes to walking and cycling survey 2011

<sup>73</sup> This is out of 3.7 million car driver trips (London residents, driver trips) which formed the basis for this analysis – this is different to the total number of car trips in London of around 10 million per day which includes car passenger trips and trips by non-Londoners

<sup>74</sup> TfL research into car ownership

Every day, Londoners make around 0.7 million trips under one kilometre and more than two million trips between one and five kilometres by car.

If the right measures are provided, more people may be willing to change. For example, around 75 per cent of Londoners say they would walk more if the walking environment was improved and the same proportion would walk more if they knew it would be quicker than other modes<sup>72</sup>.

TfL has undertaken some analysis for this report to try to understand the potential scope for change in car use. This takes a range of factors into account (for example, length and time of journeys, constraints such as carrying heavy baggage, and the availability of public transport options).

The initial estimate suggests that there are potentially 2.4 million car trips per day<sup>73</sup> that could feasibly be made by another mode. This is shown in Figures 22 and 23. This represents trips that in theory may be able to be made by a different mode, it is not saying that these are all actually possible to switch in practice. For some trips, there would not be a significant impact on journey time or convenience. For others the journey may be slower or much less appealing.

A key consideration is clearly the willingness of the driver to change his/her behaviour. Feelings about driving go beyond the functional and most car owners cannot easily envisage an alternative.

This analysis does not imply that change can easily be achieved. Change is not likely to happen unless there is an extra reason or incentive and there may still be some (real or perceived) disbenefits for people involved.

However, some people find that going without a car is stress-free and leads them to discover alternatives. Providing flexibility in alternatives (for example, car sharing) is likely to be particularly valuable in outer areas where access to a car will continue to be important<sup>74</sup>.

Meanwhile, the practicality of alternatives may change, for example, as Crossrail and other public transport improvements take effect.

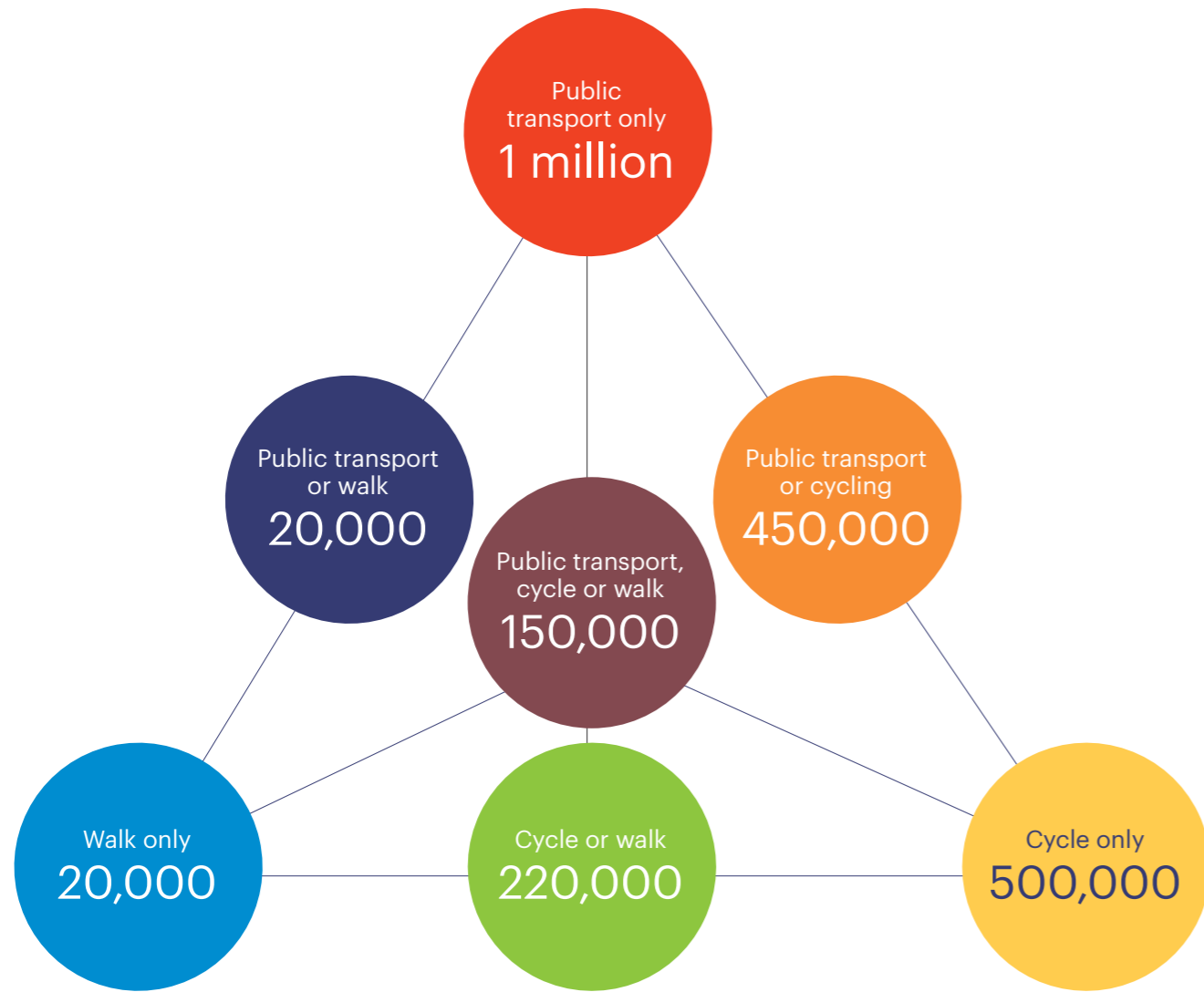
Some of this potential change was assumed within the MTS – there should be further scope if additional measures are put in place.

**The RTF recommends that this analysis is developed further. This should include establishing the extent of barriers, understanding what measures (and where) might be most effective in facilitating change, and considering the potential of powered two-wheelers as an alternative for some journeys.**

This analysis should be combined with new data sources (for example, telecoms) and linked to new forms of tailored communication with customers, enabling a new generation of smarter travel demand management programmes – and supporting change where there is most potential and it is most 'reasonable' to promote it.

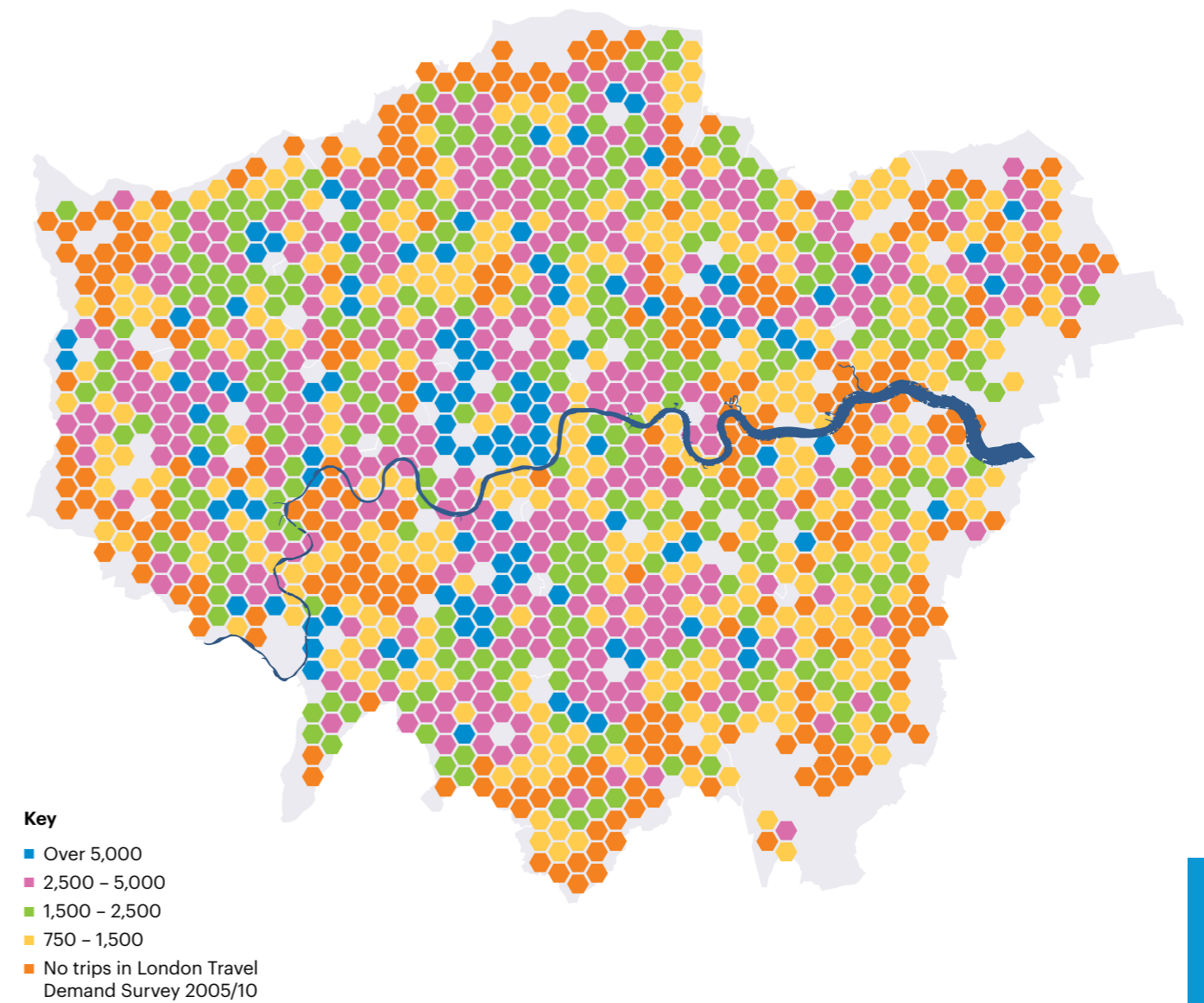


**Figure 22: Car driver trips that could feasibly be made by another mode**  
 Trips made on average day by London residents in London



Powered two-wheelers are an alternative for some trips but these were not included in this initial analysis.

**Figure 23: Distribution of switchable car driver trips**  
 Trips made on average day by London residents in London





**Embedding new travel patterns**  
**For new development, the RTF recommends a greater focus on embedding more sustainable travel patterns from the outset.**

London could benefit from a car-lite<sup>75</sup> development framework seeking to replicate the success of schemes such as Vauban and Hammarby (outlined on page 127).

This could tie restrictions on parking to positive incentives such as high-quality travel alternatives and more liveable streets.

There is scope within larger developments to integrate a new approach and provide more direct benefits for local residents who may forego owning a car.

This can actually enhance values and saleability.

New ways of working and organising activities can also offer benefits economically as well as individually. For example, new smart work centres can reduce travel, and provide greater flexibility and work/life balance, but with more opportunity to share ideas and increase productivity than working from home. And there are new ways to match changing lifestyles with services like ‘shop and collect’ at local Tube or rail stations.

**Parking**

Parking policy can play an important role in helping to encourage more sustainable modes and support lower levels of car ownership and

use where levels of public transport accessibility are high.

Parking will be a specific issue considered in the context of the different street-types and the balance between different aims in particular places.

**More widely, the RTF recommends that the London Plan must retain the principle of relating car parking in town centres and residential developments to levels of public transport accessibility, while standards for cycle parking should be further enhanced.**

In some other cities there has been a reduction in on-street car parking as part of the overall strategy to manage demands on road space. In London, this is an issue largely for boroughs and circumstances clearly vary.

It is important to note, however, that there is no such thing as ‘free’ parking. There are costs in developing, maintaining and enforcing parking spaces as well as opportunity costs associated with that space and wider impacts on traffic flow.

The RTF would therefore suggest that London Councils reviews the role of parking further, building on its own recent report and also on the work of the Outer London Commission, but recognising the different needs and opportunities within Inner London and some outer town centres. These may also be themes that should be addressed in any review on London Plan parking policy.

Research suggests that where parking is insufficiently managed, vehicles searching for a space can make up a significant proportion of town centre motorised traffic, causing additional congestion and pollution<sup>76</sup>.

A starting point should therefore be the introduction of dynamic parking management systems, as in San Francisco (page 121), to provide real time information on available spaces which should help to reduce searching vehicles and congestion and emissions. There should also be closer working with private sector operators to ensure an integrated and coherent approach overall and in particular areas.

**Smarter charging**

The RTF believes that more could be achieved if London was willing to consider charging more widely – Scenario E.

London has had a Congestion Charging scheme since 2003 which has reduced the number of vehicles entering the central London zone by around 70,000 per day.

This has enabled various benefits such as more space for sustainable modes, delivery of public realm schemes (for example, Trafalgar Square) and safety improvements, while maintaining motorised traffic speeds at pre-charging levels. It has also provided funding for investment in transport.

In the absence of charging, the impacts on congestion of various changes to network capacity in central London would have been far greater.

<sup>75</sup> Car-lite is an approach that seeks to replicate many of the features of car-free schemes in Europe but to avoid the sometimes negative connotations that car-free has within the London context (Lucinda Turner, 2011)

<sup>76</sup> Bates J and Leibling D, Spaced Out: Perspectives on parking policy, RAC Foundation, July 2012



**While the Mayor has ruled out wider use of congestion charging in his term, 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 the road space.** Peak pricing, for example, is commonly used in other industries and on rail.

In any respect, some charging is included within Scenario D, with the RTF's presumption that, as a minimum, any significant additional capacity for general motorised traffic (for example, a new river crossing, or a tunnel) must be subject to tolling – to 'lock in' the benefits of new capacity and avoid simply inducing demand and seeing the capacity fill up, with no benefits for congestion.

Tolling of new infrastructure is a tried and tested mechanism and has been used in many other cities, including Paris, Tokyo and New York. As well as being a means to manage levels of demand, it also offers a means of helping to finance and fund delivery. It can also be applied selectively to support particular aims, for example in Dublin, the new port tunnel is toll-free for HGVs and coaches but tolled for other vehicles.

The Mirrlees Review (Institute of Fiscal Studies) considered current arrangements for motoring taxation as badly targeted policy levers, which fail to properly address the problem of congestion. They are also ultimately unsustainable sources of revenue if petrol and diesel use reduces as a result of increases in fuel efficiency and a switch to electric vehicles, for example.

The review recommended that charging should be introduced nationally to replace other motoring taxes, even in spite of the clear difficulties associated with a task of this scale. More recently, the London Finance Commission has proposed that London government should be responsible for administering any introduction of road charging that may replace Vehicle Excise Duty (VED), and receipts should be retained locally.

The Road Charging Options for London (ROCOL) research which presaged London's Congestion Charging scheme found that of the ways to raise monies to pay for improved transport, respondents preferred road user charging over other suggested means such as increased income, car, fuel or council taxes, or increased fares.

Notwithstanding this, it is clear that there are significant challenges in getting wider charging embraced by politicians and the public, and it is not therefore a short-term option.

In any event, the RTF urges the Mayor to lobby for a greater share or control for London over motoring taxes, for example fuel duty or VED. London's annual contribution to the Treasury in the form of fuel duty, based on vehicle kilometres travelled in the Capital, is estimated to be £1bn per year, while VED revenue from London is estimated at around £500m.

## The RTF urges the Mayor to lobby for a greater share or control for London over motoring taxes.

### Improved/new infrastructure

There have been significant uplifts in rail capacity over recent years, helping London to grow more sustainably and supporting the economy.

However, the capacity of London's road network has not really been considered in the same way. London has relatively high levels of population per kilometre of road space and this is set to increase further with the city's population growth.

It is inevitable that the pressures on road space will increase. More people means more demand for travel on many different modes, for new and better public spaces, for new development and for servicing.

A greater shift to public transport, walking and cycling, and demand

management measures, must be a core part of the strategy but the RTF believes that capacity measures (like those below) must **also** play a role.

The RTF's international review showed that such measures are an integral part of the strategies in many other cities as they grow and adapt.

### Creating new public spaces for communities and development by mitigating motorised traffic impacts

**The RTF recommends a review of opportunities to roof over existing major roads in order to create new 'surface space'.** This would reduce the impacts of motorised traffic in terms of severance, air quality and noise, for example, while maintaining movement on strategic roads.



**A potential bridge at Vauxhall Nine Elms Battersea**

As assets reach life expiry this may offer particular opportunities for innovative solutions to be tried more cheaply, and there may be new development opportunities created which provide an opportunity to capture values and help fund schemes.

Some other major cities are doing just this – reducing the impact of busy roads and creating new public spaces and development opportunities by covering them.

The A7 Autobahn green canopy project near Hamburg will involve covering a total of 3.5km of the motorway in three sections.

The green canopy will be 34 metres wide and planted with parks, trees and space for allotments and will ‘fill in’

the gap between neighbourhoods on either side.

The project has recently commenced. Some of the forecast impacts include air quality improvements and around 2,000 new houses built alongside.

**New capacity for more sustainable modes**  
Measures to support ‘efficient modes’ themselves require capacity. **In addition to the increased capacity for more sustainable modes from reallocation linked to some of the street-types and through application of tools in Compartment 2 of the toolbox, the RTF also recommends a review of the potential to create new space for walking and cycling and for simply enjoying the city.**



For example, in new developments, new streets will be created (see the section on unlocking growth areas below). Bus transit schemes can also create additional capacity along existing or new corridors.

Pedestrian and cycle bridges can help overcome severance and provide great new facilities (for example, a potential bridge at Vauxhall Nine Elms Battersea, above and a ‘living’ bridge at Brent Cross) and even create new destinations in themselves (for example, a new ‘garden bridge’ in central London – artist’s impression above). Or boardwalks and floating walkways can create new capacity along waterways.

New forms of separation should also be considered, particularly in locations where the issues such as severance are difficult to resolve any other way.

Floating roundabouts for cyclists are being used in the Netherlands for example, although there have been some criticisms that this has improved one sustainable mode at the expense of another.

Some cities have managed to make underpasses feel like vibrant, safe and attractive places to be while, in London, Mile End Bridge has created an attractive crossing and pleasant place to be above the road.



### Enhancing junction capacity

The performance of some junctions has a disproportionate impact on network functioning.

**The RTF recommends that key pinch points on the network are addressed, building on experience from schemes such as Fiveways, Bounds Green and Henlys Corner.**

This should target the most disruptive junctions and help deliver not only benefits for road users in terms of reliability but also potentially in emissions reductions, place enhancements and safety improvements.

The approach will need to be careful not just to shift problems elsewhere, but evidence from schemes to date suggests benefits can accrue both to particular corridors and the wider network.

### Unlocking growth areas

Road connections to, and new streets within, major development sites are fundamental to unlocking the potential of some of London's growth areas for new homes and jobs.

Additional river crossings have been identified as necessary to support the ongoing regeneration and growth of east London, while a number of junction or corridor improvements for motorised traffic may be critical to unlock specific growth areas (for example, the A13 for London Riverside).

**The RTF recommends that targeted capacity enhancements for all modes of traffic (including freight, buses, cars, walking and cycling)**

**to unlock growth areas should be considered as part of the overall strategy – but any significant new capacity must be subject to tolling.**

Creating capacity within sites is also important and new attractive public spaces must be secured as part of developments. King's Cross development area for example has involved the creation of 20 new streets.

The street layout and balance of provision for different users will have a fundamental impact on the resulting travel patterns and 'feel' of these new neighbourhoods. Their success will also be dependent on reflecting an increasing quality of place and encouraging more sustainable modes.

The focus of new streets created within major developments in most cases should be on supporting more sustainable modes and access for goods and services rather than for all traffic – the concept of **'village-style street'** (artist's impression opposite). **The RTF recommends that new capacity within developments should reflect urban realm priorities and help create an accessible, liveable environment which encourages walking, cycling and public transport use.**

This has been implemented to an extent in some developments in London but the approach should be more ambitious.







Paris: An extension of the Paris Plage was made possible by providing capacity for motorised traffic elsewhere

**Maintaining/re-locating capacity underground**  
 The RTF recommends that, as part of the strategy, consideration is given to targeted substitute or re-located space underground for motorised traffic, in order to maintain capacity for vehicular movement while increasing surface capacity for sustainable modes and delivering transformed places.

This would enable more significant changes to the nature of existing streets and places on the surface. This is most certainly not about road building programmes of the past – but the desired changes to the nature of existing streets and places cannot be at the expense of ever more unreliable and/or longer journeys.

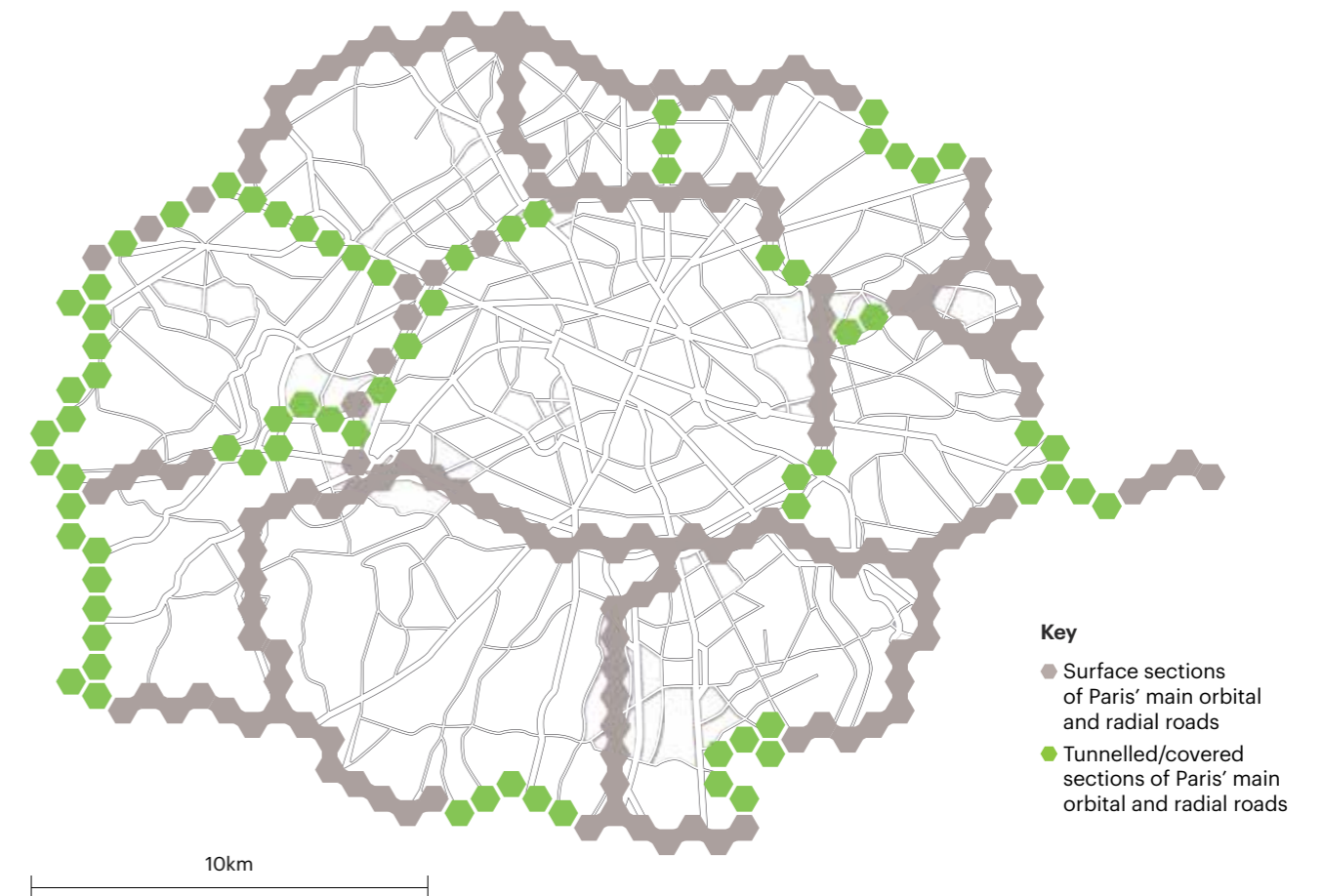
A continued reduction in capacity for motorised vehicles would otherwise have serious implications in terms of

increasing congestion and reduced network functioning for vital freight and bus journeys, as well as increasing delays for Londoners and businesses reliant on their cars and vans.

In each case, of course, there would need to be clarity about how and by who the space will be used, that it doesn't simply generate new private motorised traffic or move a problem elsewhere and that it represents value for money. Given that this is largely about replacing/re-locating capacity rather than creating new capacity per se, it should avoid simply inducing demand. Tolling could also help to 'lock in' benefits.

Other cities have done this. For example, the Mayor of Paris committed to reducing car use in the city centre and making ambitious improvements to public transport, walking and cycling.

Figure 24: The Paris road network



In September 2012, a plan to permanently transform both banks of the Seine was approved, with a 2.5km car-free zone along the left bank and a shared space on the right bank with a narrower road for cars, and wider routes for pedestrians and cyclists.

At the same time, Paris has also invested heavily in its orbital road network which helps relieve pressure on city centre links and the périphérique, supporting the transformation of the streets within central Paris.

The final section of the A86 super-périphérique, the A86 West duplex toll tunnel (one of the longest urban road tunnels in the world), was completed in 2011.

This provides an outer orbital route and helps reconnect many of the outer suburbs of the city, reducing suburban journey times for freight/cars. In effect, they have 'balanced' the city centre interventions in part with replacement capacity for vehicles further out.

They have also roofed over sections of major roads to reduce their impacts and provide new public spaces. Figure 24 shows these tunnelled and roofed-over sections on Paris' périphériques.





**It is essential that cherry picking is avoided. The RTF believes this strategy overall has the right level of ambition and the right balance.**

Meanwhile, in Oslo, re-locating the main E18 road from the surface to underground has removed the main barrier between the city and the fjord, and created newly available waterside surface space with approximately one million square metres of additional floor space and around 5,000 new homes (pictured).

The project includes new surface roads. With through-traffic being moved below ground, the main focus of the new road network is to create an efficient public transport system and walking and cycling routes. The new development will also consist of 40 per cent parks, walkways and public squares.

Surface motorised traffic in Bjørvika has reduced by 70 per cent since the E18 was moved underground

<sup>77</sup> Roads – International Case Studies, produced for TfL by SDG, 2012

and it is estimated that noise pollution will be halved<sup>77</sup>.

**The RTF recommends an investigation of the opportunities in London for re-locating capacity underground, including a potential orbital tunnel to relieve pressures on the Inner Ring Road and North/South Circular, and free up surface space for the other objectives.** This option seemed to offer potential benefits in the (very) initial work undertaken by TfL.

**Smaller scale ‘flyunders’**  
**The RTF also recommends consideration of the potential for smaller-scale ‘flyunders’ (appropriately located, scaled and fitted to traffic types – that is more Strand Underpass in size than Euston Underpass).**

This should focus on particular locations where the balance between different objectives is most difficult to achieve and the potential benefits, and values that could be unlocked, significant – for example at city hubs.

During the RTF process, a number of specific locations for potential flyunders have been put forward by boroughs and other stakeholders (for example, Hammersmith and Kingston) which warrant further examination, although clearly the timescales for delivery of any such scheme would be relatively long, and the costs high.

The scope may be limited given possible knock-on impacts further along a particular corridor but there may be some locations where they could deliver win-wins. While flyunders have the potential to deliver benefits

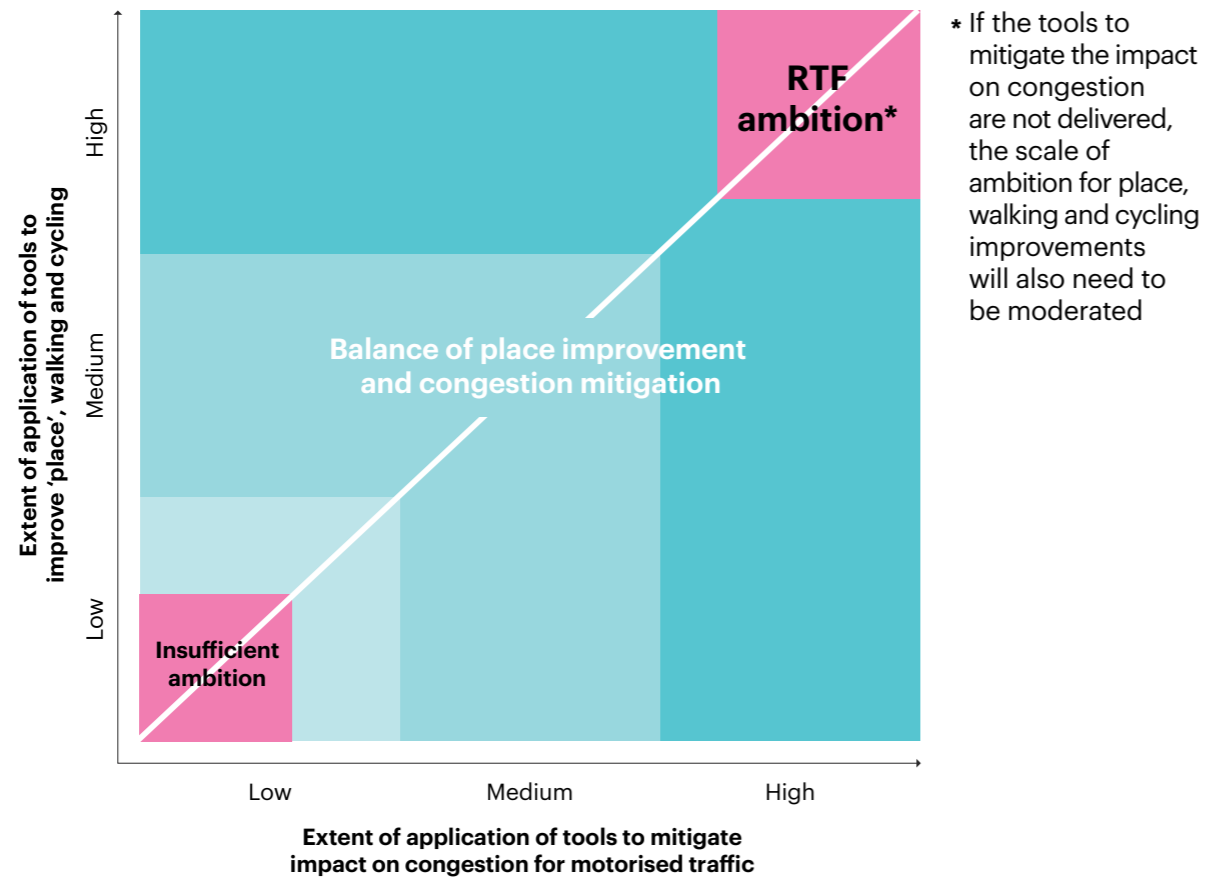
for both movement and place, flyovers have unacceptable impacts on the quality of place – and as such are not included in the RTF toolbox.

### Summary

It is essential that the strategy is coherent overall – all elements are important. The RTF believes its proposed approach has the right level of ambition and the right balance. It has the potential as London grows not only to deliver better places with reduced impacts from motor vehicles and to transform conditions for more sustainable modes, but also to support the vital functioning of the road network and tackle congestion.

However, there is a distinction between the strategy and individual projects or schemes. Specific schemes will clearly stand or fall on

**Figure 25: The RTF direction**



their own merits. It has not been within the scope of the RTF process to undertake detailed work on the various options to enable any firm conclusions about specific schemes to be drawn.

There are clearly major challenges involved and proper assessment is needed of the potential costs and feasibility of different options. **The RTF therefore recommends that TfL undertakes high-level feasibility studies of the more 'radical' strategic measures supported by more detailed analysis of where and how the pressures are likely to intensify on the road network over the next 20 years.**

Crucially, if measures such as these to mitigate potential impacts are not seen as feasible or acceptable and if road pricing were ruled out, the ambitions in respect of the other dimensions – transformed places and reallocation of space to more sustainable modes – would need to be revised, whether in scale or geographical scope.

London needs all, rather than just some of these elements to compete and to become better, not just bigger. Fundamentally, it requires a balancing act in terms of the willingness to make strategic interventions to unlock bigger and better aspirations for places, quality of life and walking and cycling, while keeping London moving.

The RTF's proposed overall approach is summarised in Figure 26. The next section then looks at the potential approach in particular areas of London.

**Extent of tools to mitigate impact on congestion for motorised traffic:**

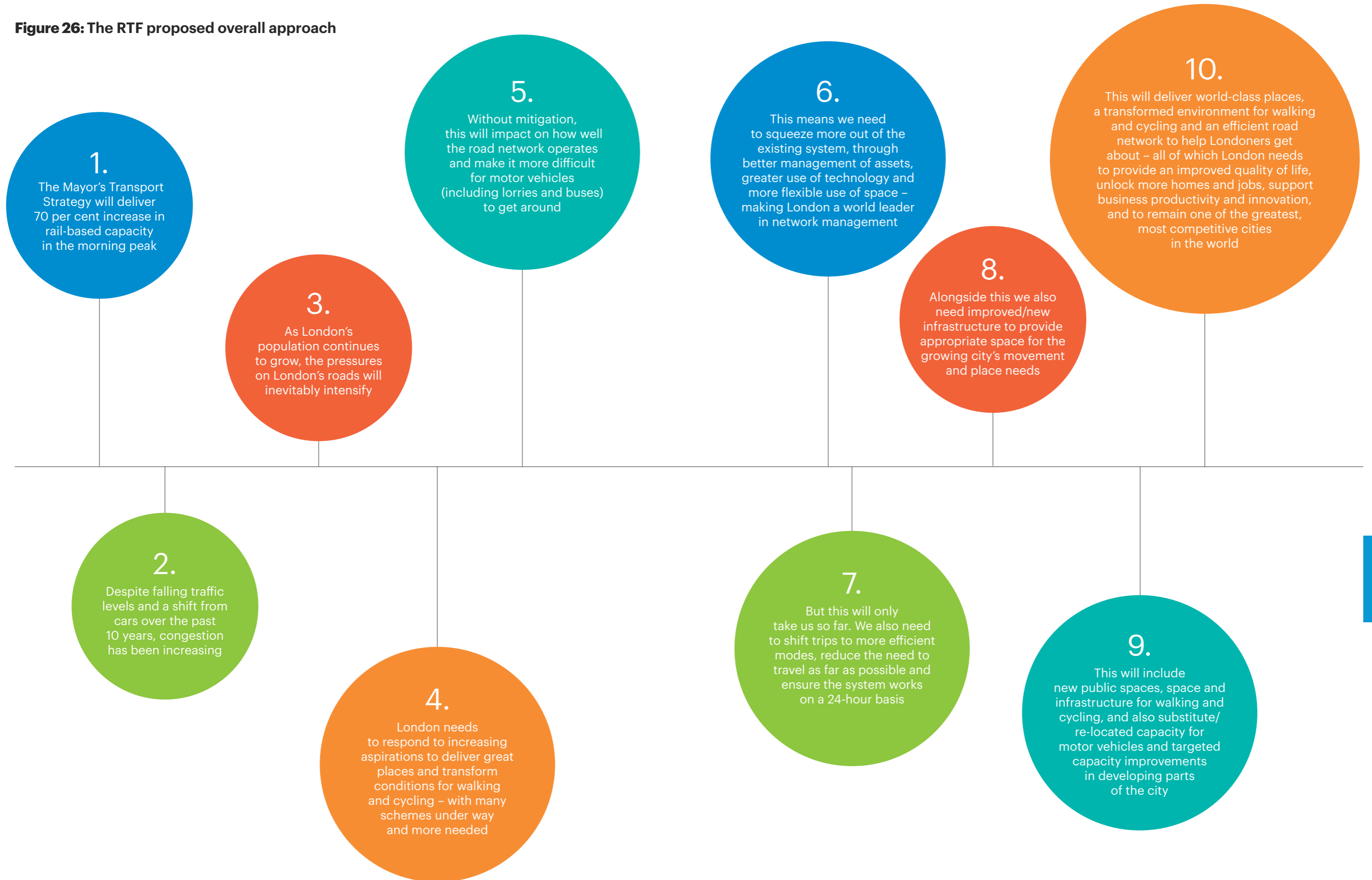


**Extent of tools to improve 'place', walking and cycling:**





Figure 26: The RTF proposed overall approach



# The balancing act

## Making it work in different areas

The aims and the need for mitigation/interventions are not uniform across London and more detailed plans will be needed to support particular areas. Figure 27 also summarises the scale of potential increases in congestion to 2031, including the additional impacts of the place ambitions – and the potential effects of possible mitigations.

### Achieving a world-class city centre

The aspirations for central London would set a new standard for the delivery of world-class spaces for people. Proposed measures include:

- Wider pavements and more pedestrian space, for example, outside stations, and greater pedestrian priority in particular areas
- Iconic schemes for streets and places, such as Tottenham Court Road, Victoria, Waterloo, London Bridge, Oxford Street and Kings Cross
- 20mph zone
- New high-quality cycling infrastructure
- Roll-out of lane rental to footways in major visitor/shopping areas

- Innovative uses (for example, summer streets, temporary plazas and weekend closures)
- Ultra-Low Emissions Zone to ensure vehicles are cleaner
- Increased freight consolidation

However, the impacts of this cannot be allowed to undermine network performance more widely and, crucially, there is the need to maintain efficient access into and movement within central London for vehicles such as freight, buses, coaches and taxis that are essential for its ongoing success.

Introducing some of the potential measures, without mitigation, would create significant additional congestion, both on particular routes and across central London generally.

Central London and the Inner Ring Road alone accounted for around 40 per cent of the economic cost of additional congestion generated in Scenario A.

As opposed to other areas, some decline in conditions for private motor vehicles may be an acceptable outcome given the lower reliance on car, the alternatives available,



Top right: a beach created on one of central Paris' busiest streets during summer months – could London create its own distinctive brand?



Left: active network management could be used to manage vehicle flows into central London and provide priority for particular vehicles



as well as the specific character of, and aims for, the unique central core. However, this cannot be unchecked and some mitigation measures must therefore be identified and implemented alongside.

Given that there is already a Congestion Charging scheme in place and limited scope within the area to eke out extra capacity, the strategy will need to address the remaining vehicles in some other way.

Mitigation could potentially be achieved by intensively managing motorised traffic coming into central London. This could be done through a wider network of advanced traffic signal technology to reduce peak flows and spread peak time demand, in a similar way to how the road network was managed during the 2012 Games.

This could enable some of the changes in the shorter-term – but the implications for other parts of the network and users must be properly understood. This is not a long-term solution by itself.

Freight makes up more than 20 per cent of the kilometres travelled in the central area, in the morning peak around eight per cent of vehicle kilometres are made by HGVs.

An initial estimate suggests that shifting HGV movements to out-of-hours (and assuming limited replacement of HGVs with Light Goods Vehicles (LGVs) during the daytime) could reduce motorised traffic volumes in the central zone by up to six per cent during the day (or eight per cent in the morning peak).

The previous section highlighted the achievements of the logistics industry during the 2012 Games – ways must be found to deliver these outcomes in the future. The RTF believes that detailed consideration should be given to the potential to re-time freight out of the daytime in central London using both positive incentives alongside potential restrictions.

While there are key challenges (for example retailers relying on numerous deliveries during the day, construction site constraints, noise concerns, planning conditions or potential costs for business) there would also be significant benefits, including potentially for operators and businesses themselves.

**The RTF recommends that TfL, the boroughs and industry work together with local communities to develop a proposal for how a shift to out-of-hours freight could be achieved and a ‘new deal’ established with benefits/mitigations for all involved.**

Consideration should also be given – as recommended by the West End Commission – to reviewing the potential for time-based access for other vehicles (for example, taxis) in particular locations.

Measures beyond central London could also help support the delivery of the aspirations here, with substitute capacity elsewhere potentially helping mitigate impacts within the centre and on the Inner Ring Road. This is considered further in the next sections.

## Introducing some of the potential measures, without mitigation, would create significant additional congestion.

Figure 27 summarises the scale of potential increases in congestion to 2031. This includes the additional impacts of the proposed ‘place’ changes and allocation of space to more sustainable modes sought over and above the forecast increases left unresolved by the MTS.

The different mitigation measures are shown on right-hand side.

Darker sections indicate greater confidence in the precise scale of impact. Further work is needed focusing on increasing the understanding of the lighter sections – which potentially provide significant additional mitigation.

### Inner London

Proposed measures for Inner London include:

- Wider pavements, more pedestrian space, and better crossings – for example in town centres and residential roads
- Improved facilities and space for cycling
- Improved and better-targeted bus priority measures to help maintain journey time reliability
- 20mph zones, especially in residential areas and town centres
- Car clubs/car share schemes

- Continuous, high-profile promotion of sustainable and space-efficient means of travel for people and freight

The potential impacts of place improvements on congestion are somewhat less than for central London, but still require mitigation. It is estimated that network management and smaller scale schemes to eke out greater efficiency from the network, for example, junction re-design and optimised traffic signals, could deliver an increase in effective network capacity of between five and ten per cent.

As with central London, changes to the way goods and services are delivered could help – for instance, re-moding of freight/services (to powered two-wheelers or bikes) and re-timing in some areas (for example from the morning peak).

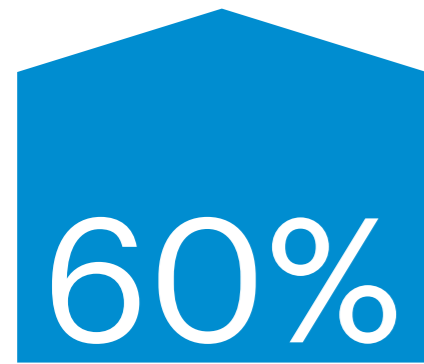
Alongside this a range of behaviour changes, for example a shift to cycling for journeys to work (as seen in Hackney), a switch to walking for journeys such as the school run, and other reductions in car use from targeted travel demand management programmes and improved public transport, could reduce the impacts. Overall, it is assumed that this could help deliver reductions in peak period motorised traffic volumes of around five per cent.

**Figure 27: Changes in AM peak period congestion**

Between 2007 and 2031

**Central London\***

Potential increase in congestion in the morning peak period for Scenario A.



\* 3% of total motorised road vehicle kilometres in London

20%

of this increase in congestion is due to population and employment growth to 2031

40%

of this increase is due to changes to unlock development potential, create more active and attractive places, increase levels of walking and cycling and improve bus priority

**Inner London\***

Potential increase in congestion in the morning peak period for Scenario A.



\* 27% of total motorised road vehicle kilometres in London

15%

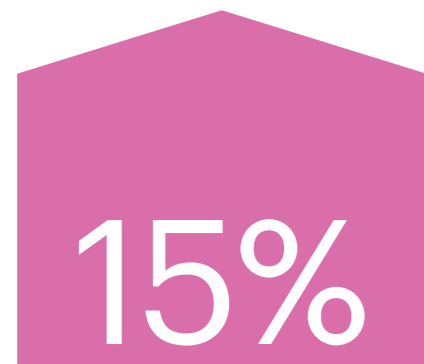
of this increase in congestion is due to population and employment growth to 2031

10%

of this increase is due to changes to unlock development potential, create more active and attractive places, increase levels of walking and cycling and improve bus priority

**Outer London\***

Potential increase in congestion in the morning peak period for Scenario A.



\* 70% of total motorised road vehicle kilometres in London

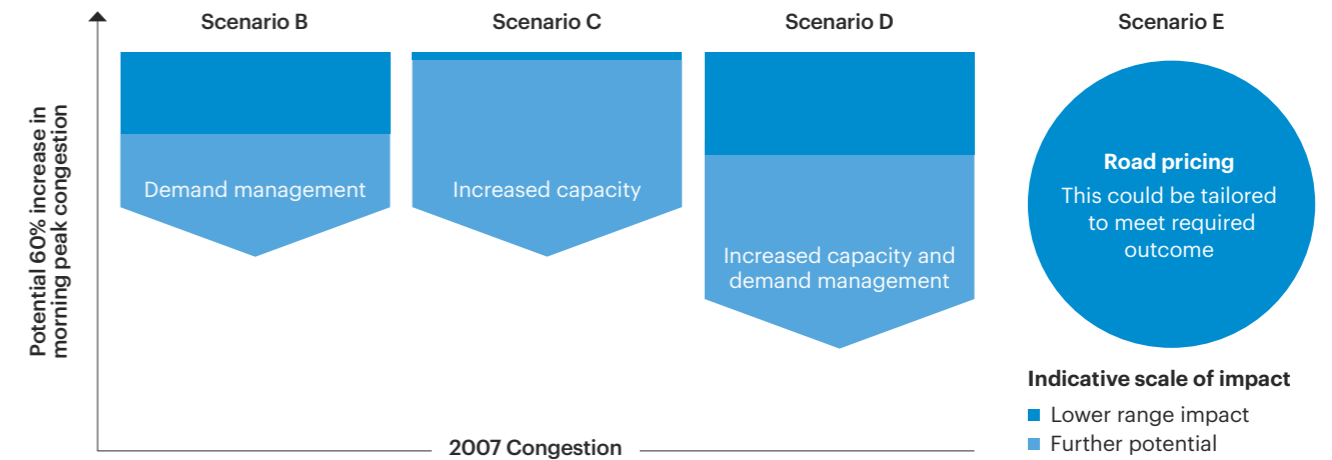
12%

of this increase in congestion is due to population and employment growth to 2031

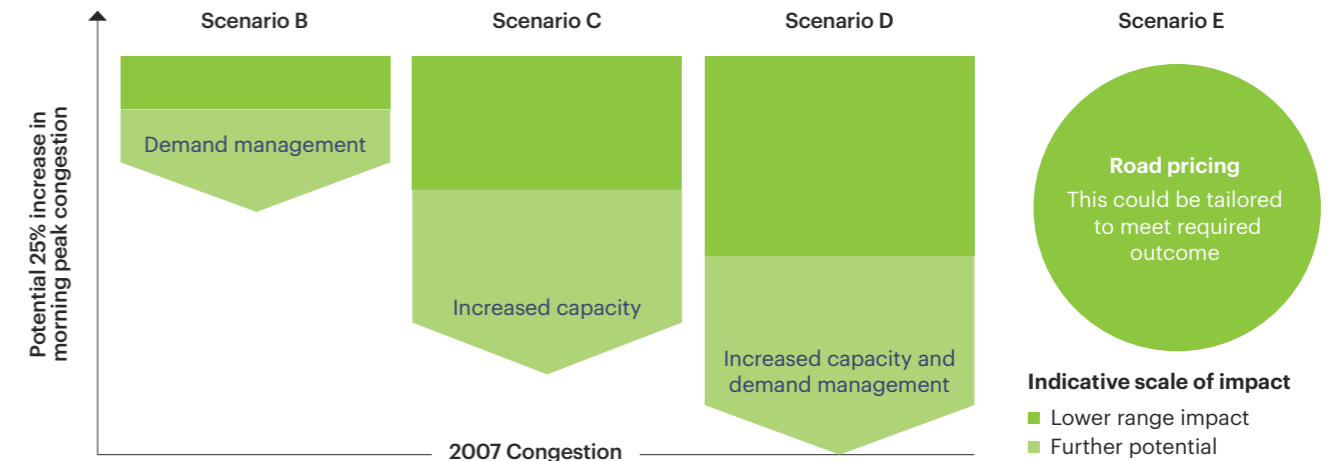
3%

of this increase is due to changes to unlock development potential, create more active and attractive places, increase levels of walking and cycling and improve bus priority

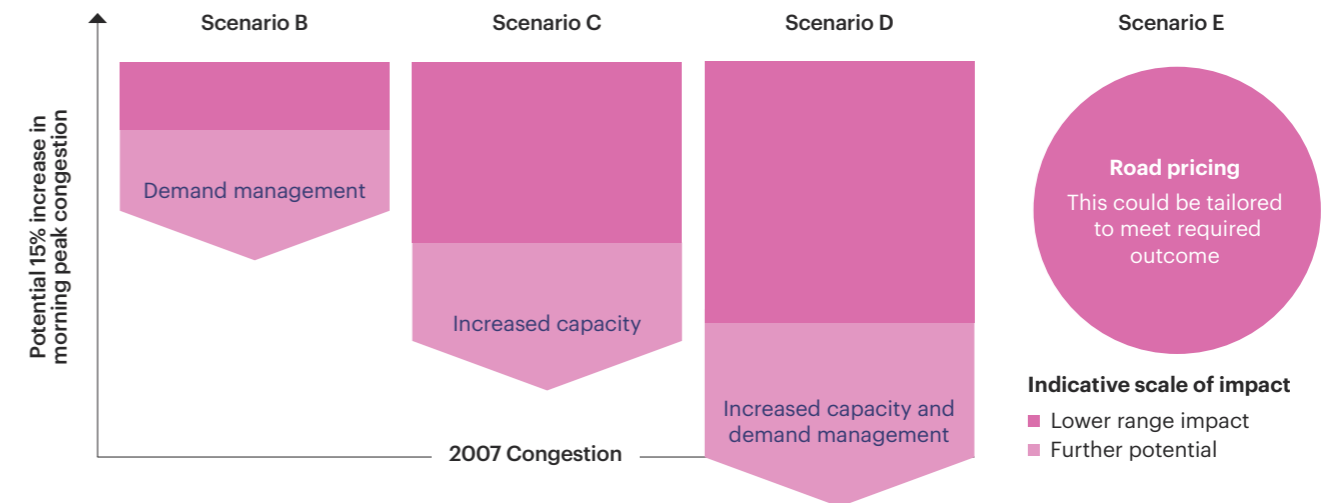
We can mitigate this congestion impact by:



We can mitigate this congestion impact by:



We can mitigate this congestion impact by:





This still leaves a gap. For Inner and Outer London, very initial and high-level modelling suggests that a new tunnelled and tolled London orbital route between the Inner Ring Road and North/South Circular (in effect replacing motor vehicular capacity displaced from the Inner Ring Road and some radial routes) could mitigate the additional impacts from changes proposed. It could also help tackle congestion increases left unresolved in the MTS.

### Outer London and town centres

Modelling suggests that the impact across Outer London from additional measures would be relatively small, with potential increases of around three per cent in congestion.

However, this masks some more significant changes in town centres and the already poor and increasing levels of congestion and unreliability in many parts of Outer London.

As for central and Inner London, Figure 27 summarises the scale of potential increases in congestion to 2031.

Given the importance of efficient movement – and the greater reliance on cars in Outer London – the RTF believes that the approach should not only seek to mitigate the impacts of additional pressures but also try to tackle the background increase in congestion as well.

There should be a clearer focus on tackling the worst congestion hot spots and de-congesting arterials, connectors and ensuring reasonable journey times on key corridors.

Proposed measures include:

- Roll-out of traffic signal technology to optimise flows
- Re-designing key junctions as at Henlys Corner
- Improvements along key corridors to support journey time reliability
- Targeting enforcement to tackle congestion hot spots
- Shifting some shorter journeys from car to cycling and walking
- Further enhanced public transport
- Stronger focus on reducing the need to travel in new developments
- The potential for an orbital tolled tunnel as replacement capacity

For some outer town centres, the aspiration for more intensive residential development, vibrant commercial hubs and an enhanced environment for walking and cycling is likely to entail some changes to the way road space is used.

Proposed measures for Outer London town centres include:

- More space for pedestrians
- Public realm enhancements

- Improved facilities for cycling, eg cycle parking
- Traffic calming in town centres, on residential roads and in other places such as near schools
- Provision of car parking reflecting local characteristics

More significant changes within a number of town centres (for example the Mayor’s aspiration for a number of ‘mini-Hollands’) could be supported through ‘mini active network strategies’ similar to those proposed for central London to ensure continued reliability for buses and other vehicles on key routes.

As highlighted for Inner London, a tolled tunnel between the Inner Ring Road and North/South Circular to provide replacement capacity would seem to have the potential to reduce congestion significantly and warrants proper investigation.

### Major growth areas

A key aim is to unlock the large-scale growth areas across London.

A higher-quality environment is important alongside measures to embed walking, cycling and public transport use from the outset but, fundamentally, many of them will require improved road connectivity.

Proposed measures to support the regeneration of east London and development of high-quality growth hubs across the rest of London include:

- Improvements to corridors and junctions in key locations, for example, A13, A12, A406
- Creation of new links to unlock development, for example, river crossings
- Enhanced town centre connectivity and public transport capacity to support intensification
- Urban realm and place-making schemes
- Potential for roofing over existing major roads to reduce community impacts
- Creation of village-style streets in new developments for buses, walking, cycling and freight access
- Embedding walking and cycling in new developments

There must be further work between TfL, the GLA and boroughs to identify a programme of targeted enhancements to help unlock priority growth areas.

### New Inner City quarters and the Inner Ring Road

Proposed measures to support the development of new inner city quarters include:

- Transformative walking, cycling and public realm schemes
- Traffic calming to provide a high-quality, green, clean environment

Under the analysis outlined earlier in this Chapter, the Inner Ring Road would be by far the most impacted corridor in London as a result of the proposed changes to accommodate major development and improve the street environment.

A number of major Opportunity Areas such as Vauxhall Nine Elms Battersea and Elephant & Castle are on the Inner Ring Road, and within a further one mile radius are five new cycle superhighways; the new east-west cycle route and 13 major development schemes.

But the corridor remains a key part of the strategic network and the boundary of the Congestion Charging zone – and it already operates at capacity. Under Scenario A, the changes assumed would result in an increase in the time taken to drive around the Inner Ring Road of approximately 40 per cent.

Decisions will need to be made in the very short-term about major development proposals and the scope for change at particular locations (for example, removal of gyratories and creating new civic space through peninsularisation of roundabouts) in light of the schemes and changes to traffic management that will be implemented alongside this and wider network impacts.

**The RTF therefore recommends that a comprehensive Inner Ring Road strategy be developed by TfL as a matter of urgency, setting out the plans for the different locations, their cumulative impacts and how this will be managed at the network level, including potential mitigations.**

This should consider targeted demand management, wider active network management, potential acceptability of more motorised traffic on other roads if necessary, restrictions of some entries on/turnings off to maintain flows along the corridor, some separation of users, and in the longer-term the potential for substitute orbital capacity to enable a more significant transformation.

### Supporting diverse employment and business across London

Businesses need efficient corridors to support movement. Measures to improve the place function on various parts of the road network can impact on the rest of the network's performance for better or worse, so the wider impacts of interventions at a local level need to be properly understood.

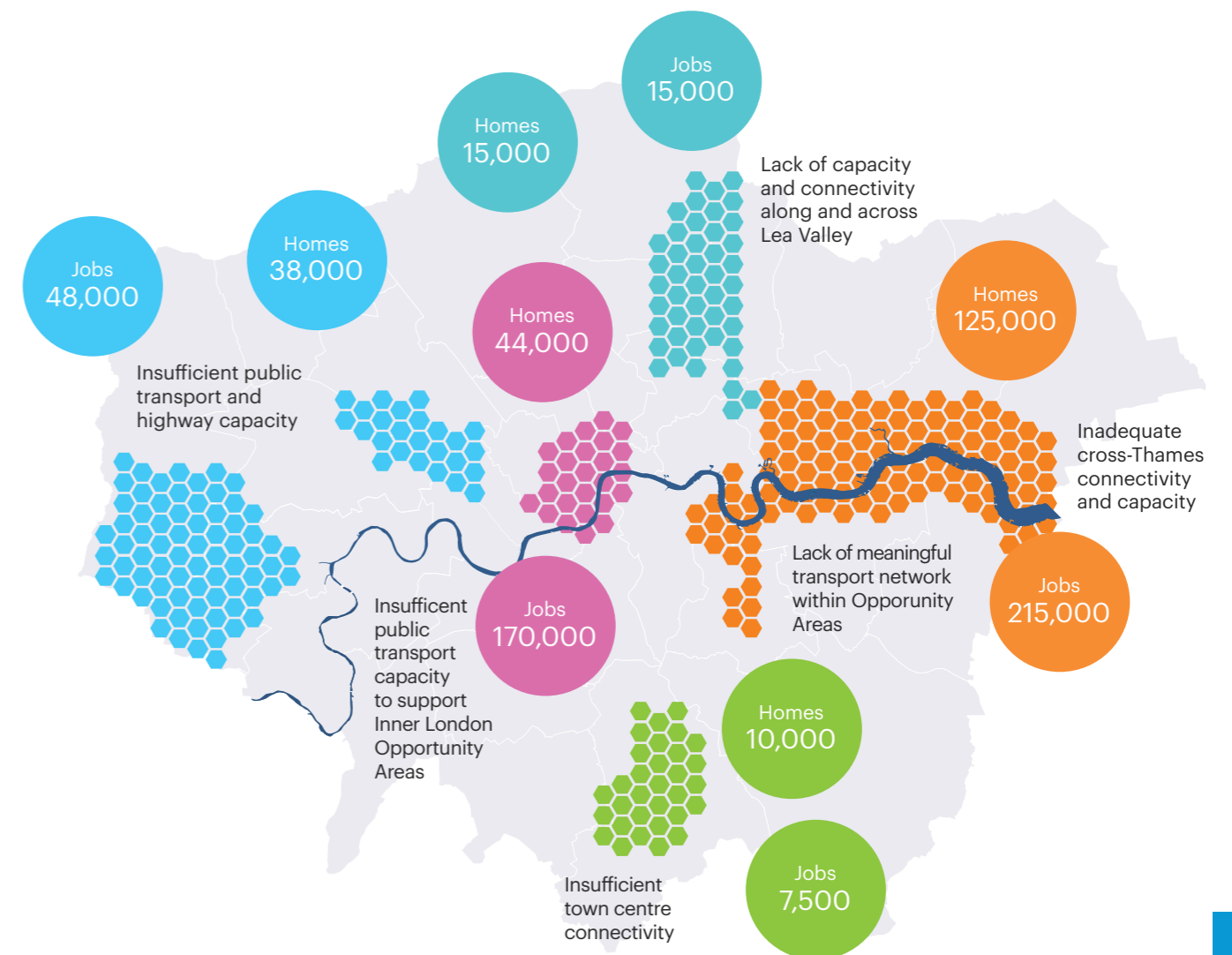
This will help to highlight what needs to be done across (or beyond) a corridor to unlock the aspirations of specific areas within it.

This might mean accepting worsening 'movement' performance levels along one road to accommodate higher 'place' aspirations, while improving 'movement' on an adjacent road or further along the corridor to maintain overall performance.

Or it may mean managing the network in such a way as to mitigate potential impacts along priority corridors.

In the longer-term it may mean providing substitute capacity to facilitate trips in a different way (for example, providing an orbital route to reduce pressures on radial corridors).

**Figure 28: Unlocking London's growth areas**



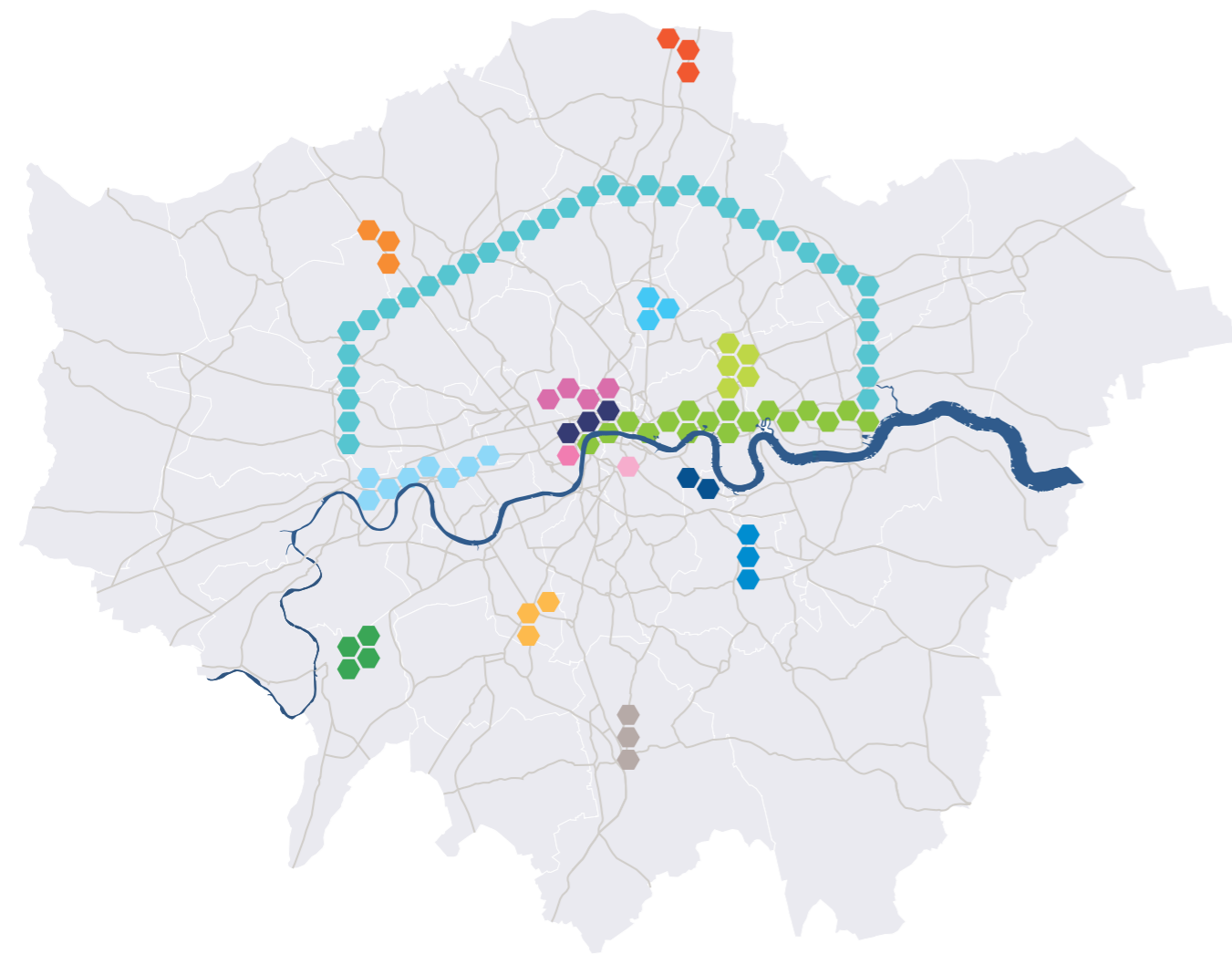
Movement along a corridor is not solely restricted to roads and streets. People (and some goods) travel by rail along that same corridor, and the approach to corridors must therefore be integrated across all modes.

Improvements to rail services, for example, may help provide new

opportunities or relieve some of the constraints on the road. For instance, when Crossrail opens it will provide a high-quality, reliable, east-west corridor – providing an attractive alternative for some existing journeys along the road corridor and also potentially relieving pressures on some bus services parallel to the route.



**Figure 29: RTF case study locations**



Key	
■ Oxford Street	■ Burnt Oak Broadway (A5)
■ Lower Road (A200)	■ Tooting High Street (A24)
■ Lewisham/Catford	■ Kingston town centre
■ Stoke Newington (A10)	■ Docklands – City corridor (A13)
■ Great West Road (A4) Chiswick Roundabout to Hammersmith	■ Lower Lea Valley area (A12)
■ The North Circular (A406)	■ Euston/Marylebone Road
■ Bullsmoor Lane, Upper Lea Valley (A1055)	■ Victoria
	■ Elephant & Castle
	■ Wellesley Road, Croydon

**RTF case studies**

As part of the RTF work, a number of streets and corridors were looked at in more detail to understand the issues in practice and help inform the development of the street-types. Each study aimed to understand:

- Who is using the road and for what purposes
- The functions of the road and its future role in the RTF’s vision
- The challenges and priorities
- Potential local and strategic measures required to achieve this – namely, what sort of tools are needed at these types of locations

The studies represent a range of central, Inner and Outer London locations in areas with a number of challenges (shown on Figure 29). In some cases these were selected because action plans are being developed there and the RTF could help shape the approach (for example Elephant & Castle) – in other cases they were chosen to be representative of a particular street-type and support the development of the street family.

The RTF recommends that the case studies are taken forward through TfL and borough investment programmes.

To support this there should be ongoing work between TfL, boroughs and stakeholders to build on the understanding gained to date here and in other locations, and to develop potential solutions in more detail – whether for implementation now or further in the future.

The case studies also identified the need for strategic interventions, which must be developed and applied in parallel to enable the local aspirations to be achieved.

Summaries of these case studies are included in Annex 3 and in an accompanying report.

# Developing a delivery programme

Having this vision provides the context within which choices should be made from local to strategic level

A coherent approach to improving London's roads needs to ensure that each decision is a step towards achieving the overall ambition.

This requires a balancing act between making choices reflecting the street-types, the constraints and opportunities in different locations, and the willingness to make strategic interventions to unlock bigger and better aspirations. Delivering this vision will be an iterative process.

In the shorter-term in some locations, it may not be possible to go as far as some stakeholders would like, but some significant benefits

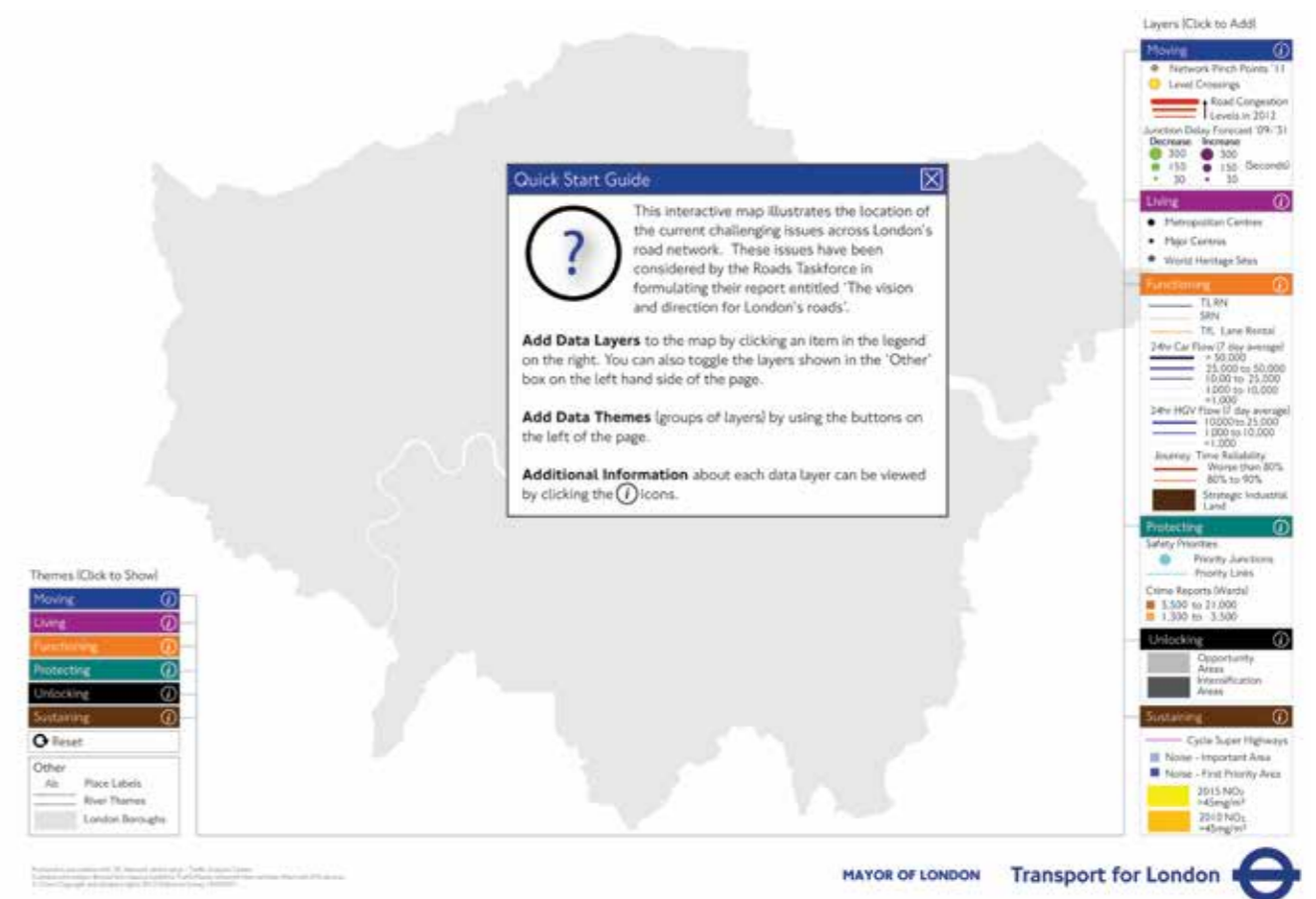
can still be achieved with lighter touch measures.

Enabling the fuller realisation of ambitions at particular/more locations will require the development of more strategic interventions and network strategies. The planning for this must be progressed now.

**In the meantime, the RTF recommends that TfL, boroughs and developers ensure that any interim options integrate the scope for further affordable change – for example through passive provision and more adaptable designs – as soon as wider mitigations are introduced.**

**Delivering this vision will be an iterative process – some things can be done quickly, others will take more time and we will need to learn as we progress.**

**Figure 30: Road network challenges map**  
Greater London







## The need for a 'system approach' may mean that other interventions are required to balance particular priority measures.

More adaptable design should also enable future uncertainties to be better accommodated (for example, in the context of rapidly changing technology, lifestyles and retail models).

With constraints such as funding and the need for strategic interventions, not everything can happen at once. Where to start can be a difficult decision.

Various factors such as congestion and bus reliability hot spots, town centre aspirations, development opportunities, priority areas for safety improvements and high pollution levels, can help to choose where to tackle first – that is, where interventions may be most needed.

The RTF website [tfl.gov.uk/roadstaskforce](http://tfl.gov.uk/roadstaskforce) includes interactive maps showing where some of the 'hot spots' in London are – across the six different functions.

**The RTF recommends that TfL and the boroughs set out a prioritised programme of improvements and schemes across London to deliver benefits for different users, and to address the challenges across the different functions.**

In this way, expectations can be managed about timescales and scope for change – with a clearer understanding of the trajectory for different areas and London as a whole.

This does not mean that other areas with recognised challenges won't be tackled; it will just take longer. **In areas which are not the first priorities, but face significant challenges, the RTF recommends that initial proposals should be developed building on the RTF case studies and other work, so that there is a 'pipeline' of schemes that can be implemented as and when funding is available and when the wider strategy is in place.**

The need for a 'system approach' may mean that other interventions are required to balance particular priority measures, meaning that something which may not otherwise be a priority needs to be done earlier.

There is a risk that TfL and boroughs 'default' to applying only the easier or more 'familiar' elements of the toolbox, or that they make changes locally while ignoring the gradual erosion of network performance that will accumulate over time.

This must not be allowed to happen. The longer-term competitiveness of London requires a strategy that delivers overall against **all** the aims of delivering better places, transforming conditions for more sustainable modes and maintaining the efficient functioning of the road network.

# The need for major sustained investment

## The RTF's vision for London's roads and streets is long-term and ambitious

If the Mayor accepts the recommendations of this report, a strategy drawing on all the different elements will not come cheap.

But it is certainly a prize worth having and is a prerequisite for London's continuing success. The case will be made in terms of the benefits which will accrue from the investment.

Such investment would unlock thousands of new homes and support jobs and economic growth for a generation to come, keep London moving and make the city better for all.

The starting point is one of a legacy of under-investment and there is significant catching up required – as has had to be done for rail.

There has been a general deterioration in the condition of road assets and there is a major collective maintenance shortfall across London boroughs and the TLRN that is thought to amount to

billions of pounds<sup>78</sup>. This position needs to be recovered as a matter of urgency.

If London is to achieve the ambitions set out in this report, the investment must go far beyond merely dealing with this backlog. Over and above this, at least a £30bn investment programme is needed in London's roads and streets over the next 20 years.

This is the magnitude of funding needed to help transform the face of London, keep it moving efficiently and ensure the city's ongoing reputation and success.

**The RTF recommends that the Mayor, TfL, boroughs and a wide range of stakeholders build a coalition of support to make the case for this investment in London's streets and roads.**

This may seem like a large number, but compared to the cost of building Crossrail (approximately £17bn),



which is forecast to carry around 800,000 passengers each day<sup>79</sup>, it represents excellent value for money given the 21 million person-trips already on London's road network each day. If these changes are not made, there will be major costs to health, business, tourism and lost inward investment.

The benefits of such a programme would be significant, even taking into account the costs. The value is likely to be even higher when the wider positive implications for London's future competitiveness are taken into account.

A sustained investment programme should also enable better value for money and support UK supply chains – as seen with the Tube upgrades.

**High-level cost estimates for implementing the recommendations set out by the RTF are at least £30bn over the next 20 years, or at least £1.5bn per annum.**

This compares to:

- Forecast capital expenditure of £1.5bn for London Underground and Rail by TfL in 2013/14
- Forecast capital expenditure of £335m for Buses and Surface Transport by TfL in 2013/14

The £30bn figure is equivalent to nearly £50m per annum for each of the 33 London boroughs.

It is estimated that every London borough also needs around £50m over 10 years just to clear the maintenance backlog<sup>80</sup>.

<sup>78</sup> London Councils 2013

<sup>79</sup> TfL Travel in London Report 5

<sup>80</sup> Asphalt Industry Alliance Annual Local Authority Road Maintenance (ALARM) Survey 2013



Fundamentally, the RTF considers that it would be a sound investment, and one that would pay back many times over.

Businesses currently making decisions about where to invest can see a series of funded improvements to the streets and roads in many other cities – as highlighted through this report.

Likewise, London needs this level of commitment from central government to enhanced and sustained investment in order to enable long-term planning and provide the certainty here that businesses need.

Some of this programme is funded, but clearly there is a large gap. This must not, however, deter the Mayor and others from committing to this vision. This level of ambition is essential if London's streets and roads are to be genuinely world class.

Given the scale of investment, the Mayor must also secure funding from other streams, helping TfL and the boroughs to access increased funding and affordable financing. **The RTF recommends – in light of the London Finance Commission – that the Mayor considers the ways both public and private funding can be better leveraged both locally and strategically.**

There are a number of options that should be considered as part of this, including:

- Developer contributions to deliver improved/new public realm and roads improvements
- Use of Community Infrastructure Levy (ensuring projects listed

in charging schedules reflect recommendations in this report)

- London controlling more 'road tax' – for example, share or control of fuel duty or VED
- The potential for a London Vignette, linked to national Lorry Road User Charging
- The tolling of new infrastructure (whether to be self-funding or to contribute to the build/operating costs)
- Creating and capturing new value, for example public-private partnerships for new development opportunities (for instance, on space freed by roofing over existing roads), and land value capture taxation
- Tax Increment Finance whereby local authorities could borrow against predicted growth in locally raised business rates as in Battersea
- Greater involvement of private finance markets, for example, sovereign wealth funds, major private equity houses
- Sponsorship, for example, of an innovation funding pot; junctions; streets (adopt-a-street), and revenues from advertising and branding opportunities
- Road user charging to secure an ongoing revenue stream to help fund an improvement programme – as is the case in cities such as Oslo and Tokyo – potentially linked to some reductions in other motoring taxation

