

The Toolbox

TfL and other agencies planning and managing London's roads already have a range of tools or techniques at their disposal to deliver improvements across the different functions.

However, if the overall vision is to be achieved, London needs an expanded toolbox and a greater willingness to use the full range of tools within it. There is no magic wand.

The tools range from short-term relatively cheap interventions to more cutting edge technologies and long-term capital investment.

Many of the tools are already in use – but their application needs to be intensified or broadened in scope. Other tools are untested and may need to be trialled to understand their effectiveness in the London context – but there must be a willingness to give this a go. London must also be innovative in its approach to designing and using roads and streets, ensuring they are as flexible as possible in terms of time, function and future adaptability.

The RTF has identified five toolbox 'compartments' which must all play a role if the vision for London is to be achieved.

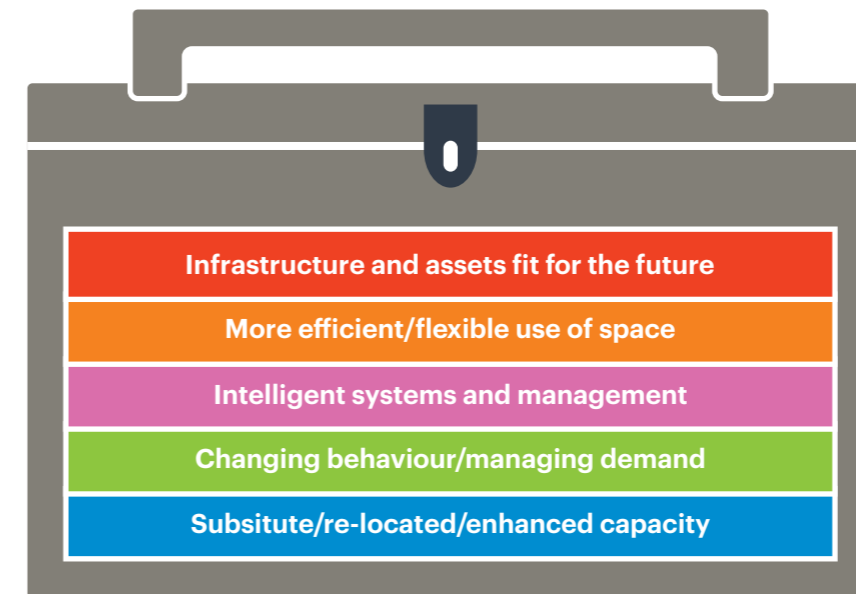
Each compartment contains tools that support the different functions, namely living, unlocking, functioning, protecting and sustaining – as well as moving (this is reflected through this section by the symbols used in Chapter 1).

These are not exhaustive – it does not include all modal policies or all the business as usual measures which help keep our roads and streets working. Rather, these tools are some key examples of the range and type of measures needed to bring London's streets and road network fully into the 21st century.

Part of the RTF process has been about challenging preconceived ideas and there are some potentially controversial tools within the different compartments. The RTF believes that all these will need to be considered if the aspirations and the balance between local and network requirements are to be achieved.

The starting point must be better maintaining London's assets as well as allocating and using the space available as effectively and efficiently as possible.

There must also be a focus on using the latest technologies and techniques to squeeze extra performance from the existing network.



But the approach must go further. The strategy must include managing demand (whether by shifting from car to more efficient modes, making better use of the network at less crowded times and reducing the need to travel).

The RTF believes that the approach must also include providing substitute or enhanced space (whether for particular users such as buses, cyclists or pedestrians; in specific areas to unlock growth, or potentially tunnels to reduce motorised traffic impacts and free-up space on the surface in key places).

For each compartment, there are some innovative examples from other cities which the RTF believes offer exciting possibilities within London. And there are some example schemes within different parts of London which could be more widely applied.

There is also a look at the different areas within each compartment and some examples of how the tools might be applied.

Some of the specific measures within the compartments will need further study and individual schemes will need to be properly assessed. Specific proposals must be feasible, effective and good value for money.

The shape of interventions in particular locations will be informed by the street-type, the gap between current performance against expected service standards, as well as network parameters.

The RTF recommends that TfL and the boroughs work with local communities and other stakeholders in developing and implementing the tools, helping to shape them, provide local context and secure wider buy-in. This will be critical, for example for night-time deliveries, high street schemes or cycle to school initiatives.

Compartment 1

Infrastructure and assets fit for the future: improving the foundations of the system

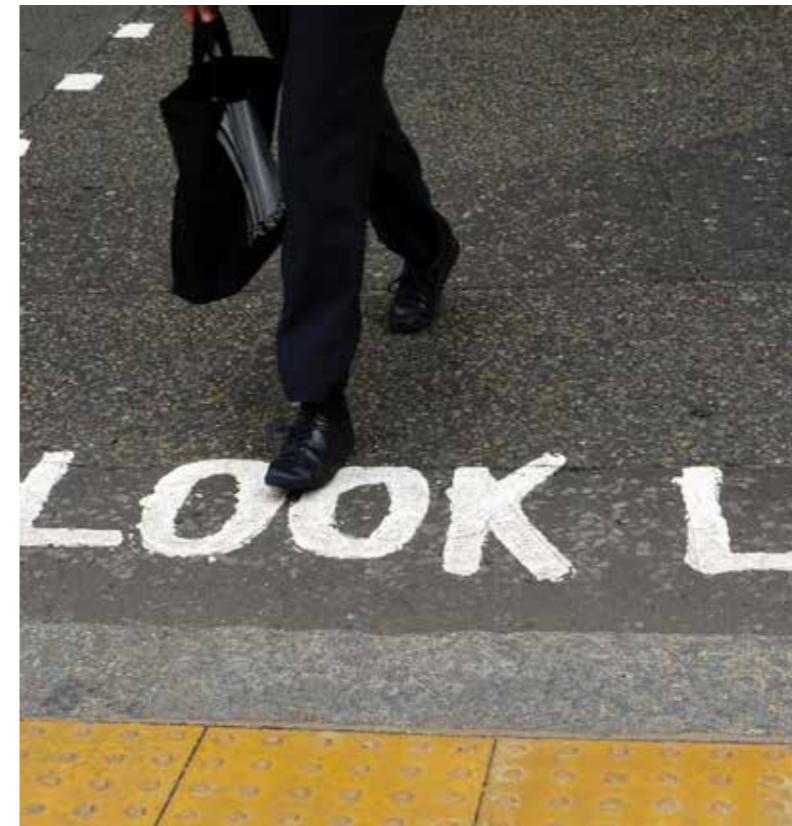
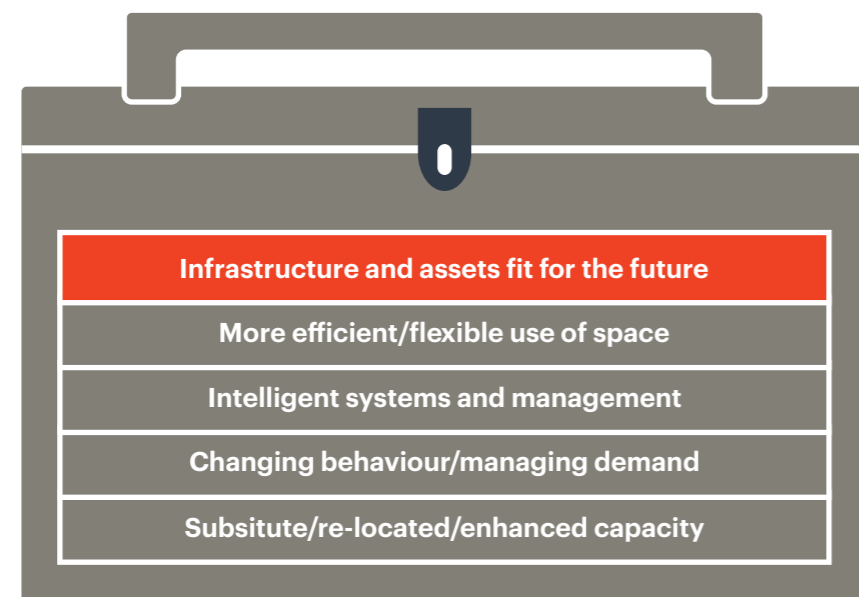
This compartment of the toolbox is focused on managing existing assets (including urban realm, pavements, street furniture, carriageways, bridges, tunnels and signals) to ensure they are in a good condition, resilient and that vehicles are as clean, quiet and as safe as possible.

Ensuring assets are in good repair (from small-scale assets like manhole covers, lighting and seating to major structures such as bridges and tunnels) is fundamental to high-performing streets and network.

Many streets can be enhanced with relatively light-touch measures – the accompanying report Better Streets shows some examples of what can be achieved.

This is also about delivering best practice design and equipping London's streets and road network for the future, making the most of new materials, technologies and innovations.

Applying the tools in this compartment will reduce disruption, improve safety, deliver enhanced customer experience, support better places and save money.



Tool 1a

Improved asset management tools

Higher levels of management and maintenance across all assets (carriageways, tunnels and footways etc), proactive lifecycle renewals programme and roll-out of new core features (eg LED, tactile paving) saving money as well as other benefits.

Applying this in London:

An intensified Asset Investment Plan: enhanced street maintenance and integration of new core features including use of tactile paving, rotating cones, LEDs and improved lighting.

Key functions



Tool 1b

Enhanced safety features

New safety features are emerging or being used elsewhere which should help reduce the dangers for vulnerable users – London must take a lead in implementation.

Applying this in London:

Roll-out of Trixi mirrors at all junctions, the introduction of low-aspect and early-start signals for cyclists, junction re-design, the use of Intelligent Speed Adaptation and the use of procurement to improve HGV safety.

Key functions





Tool 1c

21st century roadworks

Seize opportunities to embed new methods and materials such as plating and bridging to allow traffic to use the road at peak times, quicker-setting reinstatements, and micro-surgery techniques and shared utility ducts.

Applying this in London:

Roll-out of best practice, incorporate shared ducts at key locations/ in new developments, improve reinstatement and extend lane rental powers to boroughs (to enable application where appropriate).

Key functions:



Tool 1d

Innovative materials and kit

Drive innovation in materials used and review regulations which stifle innovation.

Applying this in London:

Trials and roll-out of new materials eg photo-luminescent paint, iceberg bins, Talking Tags, new noise reducing barriers/materials and solar-powered infrastructure/lighting.

Key functions:



Tool 1e

Future flexibility

Street design to be more flexible and incorporate passive provision to cater for varying levels and modes of movement over time, as well as respond to new challenges as they emerge.

Applying this in London:

Embed adaptable design principles in new schemes/development areas.

Key functions:



Tool 1f

Basic street improvements

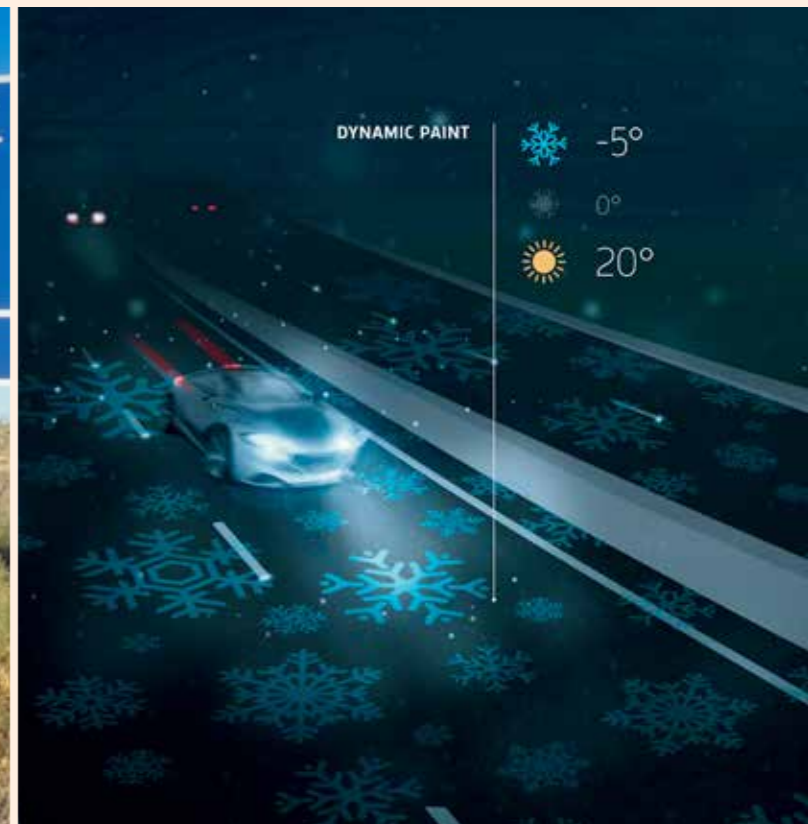
Doing the basics would make a big difference to many London streets. High streets should have good quality pavements to stop walking being a battle and a range of facilities eg good seating and lighting.

Applying this in London:

Wider roll-out of better streets (all high streets to be 'better streeted' to levels 1-3 within 10 years), review of street furniture and an adopt-a-London-street scheme.

Key functions:





Tool 1g
Greener streets

Enhance the environmental quality of streets and reduce the footprint of the infrastructure through the use of recyclable materials and drainage improvements.

Applying this in London:

Greater use of pocket parks, tree planting, planters, green walls, trial green corridors, roll-out of edible bus stops, integrated drainage planters and seating.

Key functions:



Tool 1h
Cleaner vehicles

Reduce vehicle emissions across both public and private transport fleets.

Applying this in London:

Trial electric induction charging for vehicles, zero-emissions taxi (with licensing incentives), greener vehicle incentives, Ultra-Low Emissions Zone, alternative fuels for HGVs and quiet vehicle technology.

Key functions:



Example schemes and innovations in London and beyond

Adopt-a-highway programmes, USA

Aims to deliver clean, high-quality roads through adoption by individuals, companies, or organisations, or in memory of an individual. This is a tax-deductible scheme. A sign acknowledging the sponsor is placed on the adopted segment, but it is not a forum for advertising.

Glow in the dark roads, Netherlands

Netherlands is trialling photo-luminescent paint which charges up during the day and can glow for 10 hours at night, potentially replacing street lighting. The dynamic paint can also respond to changes in temperature and a pattern of snowflakes appears when it is cold and slippery – alerting drivers to changing road and weather conditions.

Green wall, Edgware Road

A 200 square-metre ‘green wall’ on the side of Edgware Road Tube station was installed in 2011, aiming to green and soften the urban landscape and mitigate the effects of air pollution on Marylebone Road.

Streets that communicate

Talking Tags offer the potential for a new wayfinding system for blind and partially sighted people. These can be installed along streets and use technology to communicate pre-recorded messages about each tag’s location. A prototype has been tested on Oxford Street.

Electric induction charging for buses

Milton Keynes is introducing wirelessly charged electric buses on one of its main bus routes. The new vehicles will be able to recharge their batteries wirelessly. Ten minutes parked over a coil buried in the road will replenish two-thirds of the energy consumed by the bus’s route.

‘Iceberg’ bins

The main waste collection receptacle is largely hidden below ground, while waste is placed into it through a smaller-sized looking bin. When it needs to be emptied, the driver of the waste collection vehicle is able to remotely access the underground bin. This reduces street clutter and disruption through fewer collections.

Compartment 2

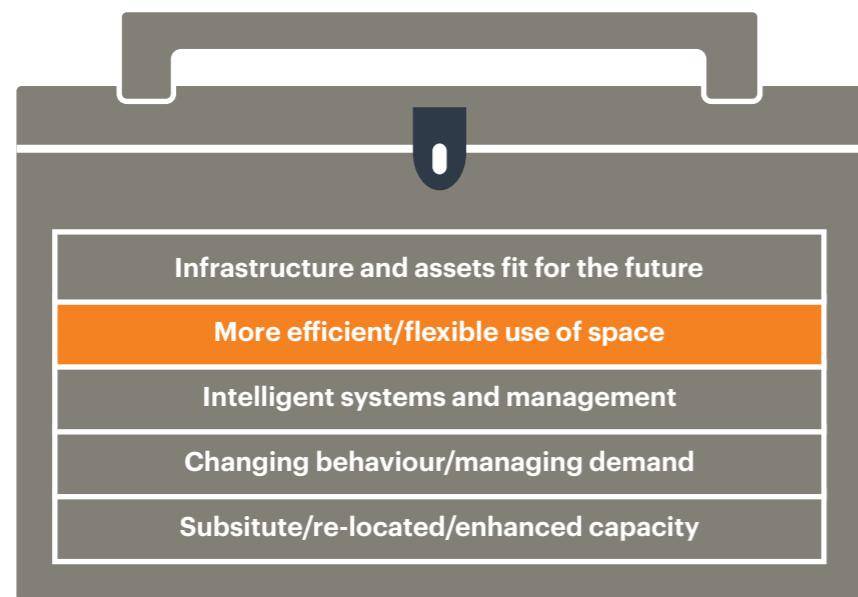
Making more efficient and flexible use of space: optimising movement and delivering successful places

This compartment of the toolbox is about designing and allocating the available space to support efficient movement and other key objectives such as ensuring vibrant places, improving quality of life across London and improving safety for vulnerable users (for example, pedestrians, powered two-wheeler riders and cyclists).

Optimising the capability of the network to move people will be vital, alongside ensuring good access for freight and servicing. This compartment is not to duplicate individual modal strategies but to bring together some of the key

and cross-cutting measures. This also includes different ways of thinking about, designing, managing and sharing space – whether through formal design solutions, informal adaptations or different uses at different times.

Streets need to be more ‘elastic’, for example with inset loading bays in footways, shared parking, and informal segregation of under-used space for cafés or community uses. Space should not be assumed to be fixed. An innovative approach to shaping and showcasing the city will also enhance London’s reputation as an exciting and creative place to be.



Applying the tools in this compartment will support key centres of activity, increase walking and cycling, and improve safety and the environment.



Tool 2a
More efficient people movement
 A focus on supporting efficient modes and providing attractive alternatives for journeys.

Applying this in London:
 Continue a range of policies including high-quality bus priority, bus transit schemes, more permeable streets and enhanced infrastructure for cycling, town centre walking/cycling exemplars, active design, improved strategic interchanges and wayfinding.

Key functions:

Tool 2b
Safe speed environment
 A focus on limiting speeds through road design and speed limits is particularly important for cyclists and pedestrians (90 per cent of people hit by a vehicle at 40mph die, compared to 2.5 per cent at 20mph).

Applying this in London:
 Implement a 20mph zone for central London (plus bridges), roll out 20mph limits linked to key street-types (for example, high roads/high streets/city hubs), and introduce average speed cameras.

Key functions:



Tool 2c

Fun and active streets

Use simple, powerful ideas and showcase events for bringing streets to life, boosting tourism, local economies and community interaction.

Applying this in London:

Roll out programme of Very Important Pedestrians (VIP)-type days and showcase events, trial weekend and one-off closures to motorised traffic in parts of London (eg Embankment as a weekend boulevard, London Ciclovía), roll out London-wide application of Hackney's Play Streets scheme, and a start a programme of street art and performance.

Key functions:



Tool 2d

Providing space for stopping

Need to ensure kerb access for goods and services, and support more efficient modes with good-quality parking. Parking for cars in centres should reflect local characteristics.

Applying this in London:

Greater provisions of inset loading bays for freight, parking for cycles and powered two-wheelers, shared parking (eg workspace parking at weekends), greater use of bike hangars and parking exemptions for 'greener' scooters.

Key functions:



Tool 2e

Re-imagined streets and places

More ambitious re-shaping of iconic areas of the city in central London and town centres and a wider programme of urban realm schemes across London. New forms of design and traffic management to support change, for example shared-space schemes like Poynton and Exhibition Road (ensuring they address concerns about inclusion).

Applying this in London:

Roll out programme of high street schemes, develop a London adopt-a-street approach, programme of major transformational schemes (including shared space and iconic locations) and trial a Poynton-style scheme in different boroughs.

Key functions:



Tool 2f

Re-design of gyratories

A review and identification of opportunities to implement changes to road layout in key locations where there are major impacts on town centre vitality/development potential.

Applying this in London:

Implement gyratory review and action plan focusing on key centres (eg Old Kent Road, Stoke Newington and Wandsworth).

Key functions:





Tool 2g

Better crossings

Enable people to get across the road safely and easily at key locations. Default solution for direct crossing except on arteries. Ensure focus on needs of older and disabled people.

Applying this in London:

Roll out provision of diagonal crossings, Pedestrian SCOOT at 500 locations, activation LED lighting in pavements at signals and at zebra crossings, more median strips and audio signals.

Key functions:



Tool 2h

Informal spaces

Create 'reversible' new city living spaces and support local initiatives to give streets a makeover in low-cost imaginative ways, and bring back under-used or blighted spaces to life (eg underpasses and future development sites).

Applying this in London:

Trials of informal new city spaces, DIY streets and container clusters.

Key functions:



Example schemes and innovations in London and beyond⁶⁶

Bike zone, New York

A bike lane is being trialled on Ninth Avenue across seven blocks. Concrete dividers and a row of parked cars shield it from motorised traffic. Low-level mini-traffic lights show when cyclists have the right of way.

Paris urban street design project

This comprised initiatives to encourage more sustainable travel around Paris, including creating widened bus lanes and allowing larger delivery vehicles to operate only between 19:30 and 07:30. On-street parking was removed, creating space for bus lanes and cycle-docking stations.

Re-designed junction, Poynton, UK

Traffic lights and highway clutter have been removed at Fountain Place, a major crossroads carrying 26,000 vehicles a day through the village centre. The aim was to create an attractive, open streetscape in which free-flowing vehicular traffic interacts sociably with pedestrians. Reports say that not only have delays dropped markedly but trading activity in local shops has doubled.

Ciclovia, Bogota

Every Sunday and public holiday between 07:00 and 14:00, 120km of central Bogota's roads are given over to pedestrians and cyclists attracting up to one million participants. Research suggests that each peso invested generated three pesos in health benefits.

New community spaces, New York

The DUMBO scheme in Brooklyn used planters to cordon off a new public plaza in a burgeoning residential and commercial district. And on other streets even the smallest and most 'unpromising' spaces have been turned into seating and café areas which New Yorkers have embraced and are actively using.

Play Streets, Hackney

Residents can apply for temporary street closure orders to close local streets to through-traffic, except pedestrians turning them making them into play streets for children.

⁶⁶ All data on international examples from Roads-International Case Studies, produced for TfL by SDG, September 2012

Compartment 3

Intelligent systems and management: delivering world-class network operations

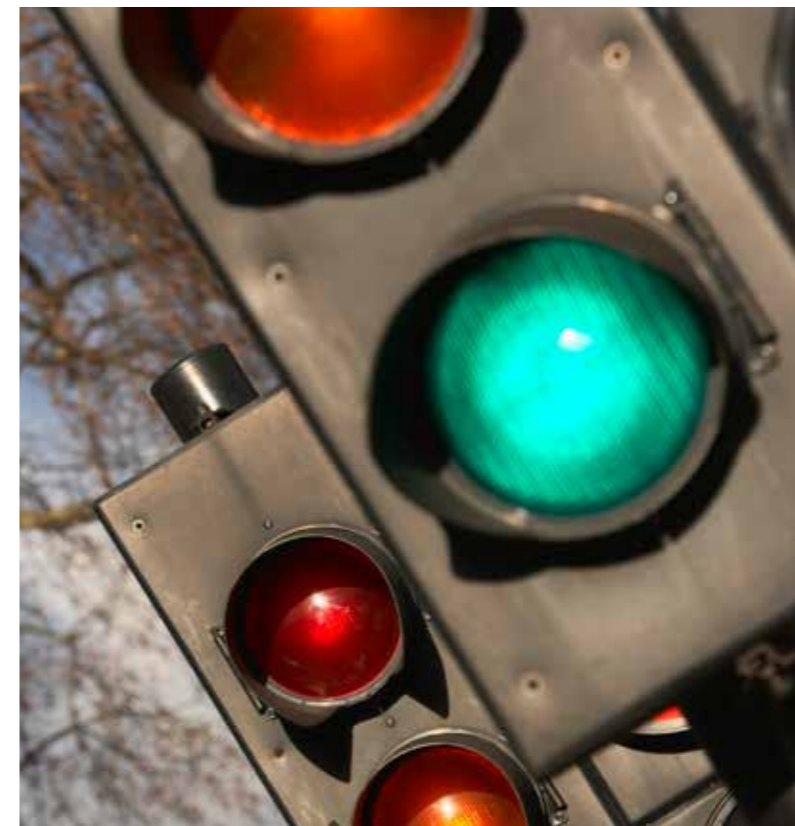
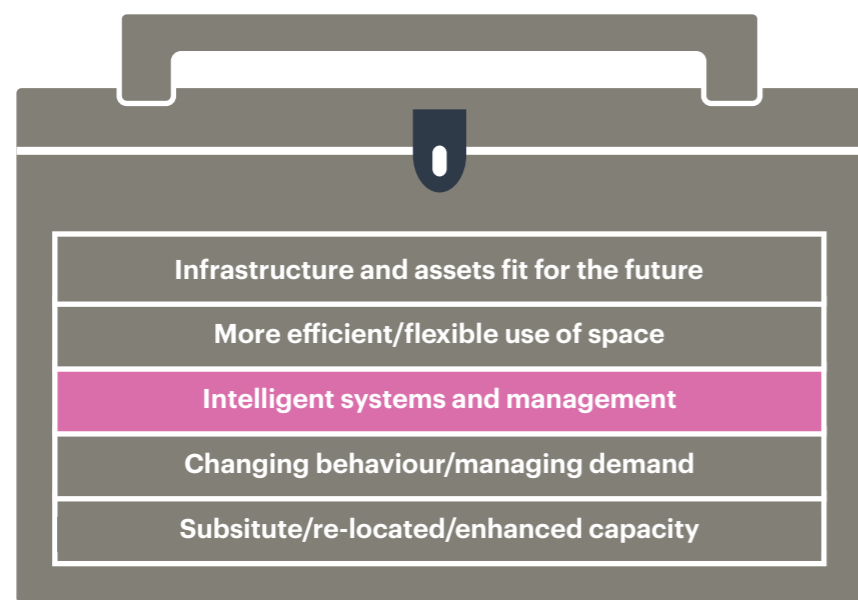
This compartment of the toolbox is focused on developing and implementing smarter systems and using new techniques and technologies to get more out of the network than has been possible before, and deliver more reliable journeys.

While there is no technological solution to managing the co-existence of different users, these tools can enable some win-win solutions.

This is about an enhanced customer-focused approach – with new tailored and real-time information – so that even when things don't go right, at least people know why, what is happening and the best alternative for them.

Exciting new possibilities are opening up all the time. Experts suggest that it should be possible even now to predict traffic conditions in the next 30 minutes and take action to manage the effects almost immediately. London should become a world leader in intelligent systems, not only delivering benefits for road users but also helping to drive innovation more widely.

Applying the tools in this compartment will make better use of the network and improve conditions for road users.



Tool 3a

Optimised traffic signals

Roll-out of signals technology to reduce delays and enable priority for different vehicles as appropriate, for example, buses.

Applying this in London:

Roll-out of SCOOT and pedestrian sensors on request crossings.

Key functions:



Tool 3b

World-leading real-time traffic management system

Technological and operational advances to provide major new capability to manage network operations, and inform and support drivers.

Applying this in London:

Enhanced London traffic control centre, create London centre of excellence and trial driverless car technologies.

Key functions:






Tool 3c
More dynamic on-street information
 Use the latest technology to understand and communicate with drivers in real-time eg warnings for headroom in tunnels using water curtains, more use of Variable Message Signs (VMS), live parking space availability.

Applying this in London:
 Introduce dynamic parking systems to reduce circling traffic, bookable loading bays, use of new signs and communications, and roll-out of VMS.

Key functions:



Tool 3d
Effective incident management
 Reduce the 10 per cent of network disruption caused by incidents through use of new technologies and techniques.

Applying this in London:
 Wider use of laser scanners for rapid evidence collection, more traffic police and better real-time information for drivers.

Key functions:


Tool 3e
A strong customer focus
 Improved focus on customer service and more tailored information – ensuring road users feel more ‘valued’.

Applying this in London:
 Enhance one-stop-shop website/ call centre, new customer apps, freight journey planner and tailored customer information.

Key functions:


Tool 3f
Congestion hot spot busting
 Use enhanced data to review and prioritise pinch points (including buses). A scheme at Fiveways in Croydon achieved an eight per cent improvement in journey reliability in the morning peak.

Applying this in London:
 Roll out a pinch point action plan, including signal review, simplification of junctions/road layout, review of bus stops, redesign of kerbside activity and targeted enforcement activity.

Key functions:




Tool 3g

Better targeted enforcement

Target places and times that matter most (disruption/safety hot spots) with a lighter touch elsewhere or at other times. Improve information available and ensure effective enforcement of speeds.

Applying this in London:

Borough action plans, single information source about restrictions in different boroughs, positive incentives linked to enforcement (eg no enforcing against loading/unloading at night in bus lanes), single point of contact in boroughs for freight operators, upgrade of speed cameras and use of average speed cameras.

Key functions:



Tool 3h

Flexible lanes and management

Use space 24/7 with digital age innovations to help manage and implement this, eg tidal flow or flexi-lanes with LED lighting and VMS to communicate changing use.

Applying this in London:

Trials of tidal flow/flexi-lanes.

Key functions:



Example schemes and innovations in London and beyond

Pedestrian crossing sensors

TfL is trialling technology that allows the traffic signal controller box to cancel the request to cross at a pedestrian crossing if nobody is waiting to cross the road. This will maintain vehicle flow without disadvantaging pedestrians.

Average speed cameras

Average speed cameras can help enforce speeds along a length of road rather than a single point. Research from DfT has shown them to be particularly effective in reducing excessive speeds, and each reduction by 1mph in average speed reduces collision frequency by five per cent⁶⁷.

Laser scanners to help clear up incidents

The Metropolitan Police have five laser scanners used by collision investigators. These enable rapid collection of evidence at scenes and material for use in court cases. A pilot study concluded these deliver an on-site time saving of 50 per cent, helping cut road closure times by up to 90 minutes⁶⁸.

⁶⁷ Taylor MC, Lynam DA and Bariya A, The effects of drivers' speed on the frequency of road accidents, prepared for Road Safety Division, Department of the Environmental, Transport and the Regions, TRL Report 421, 2000

⁶⁸ RIEGL Laser Management Systems

Driverless cars

Analysts predict that autonomous cars could help to cut congestion (eg through road trains, collisions and emissions). The State of Nevada has licensed Google to test its prototype driverless car on public roads.

Reversible lanes

In Madrid, reversible, segregated, high-occupancy vehicle lanes provide access into the city centre, shared with buses. The lane is reversible depending on vehicle flows. This has resulted in a 10 per cent mode shift to buses, while journey times have fallen.

Dynamic parking management

SFpark is an advanced parking management system in San Francisco which uses sensors, new meters and demand-responsive pricing. Drivers can get real-time information on availability and price. Parking is easier to find and reduces circling time and congestion. This is being tested with 7,000 of the city's 28,800-metered spaces and in 15 of 20 city-owned garages.

Compartment 4

Changing behaviour/managing demand: enabling different choices

This compartment of the toolbox is focused on re-moding, re-timing and reducing journeys where possible, as well encouraging people and businesses to make small changes to how, when or whether they travel.

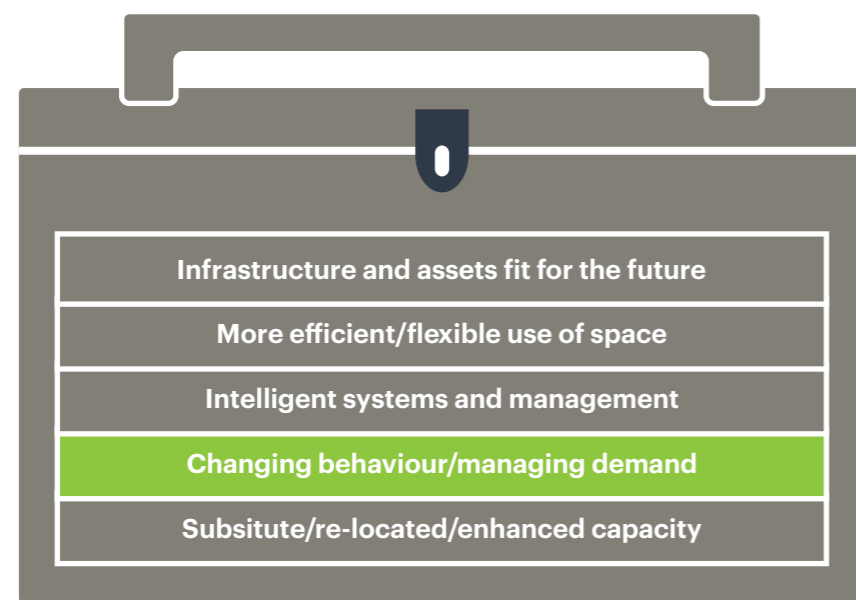
This will not only reduce pressures on the network but also help reduce emissions and support London's development.

Some of the elements within this compartment are potentially challenging. The 2012 Games showed that changes can be made, although monitoring suggests that most of these are not continuing post-Games in 'normal' circumstances.

Additional measures are therefore needed to capture an ongoing legacy and help tackle the challenges of a rapidly growing city⁶⁹.

Partner organisations will play an important role in working with local communities and helping deliver change, and building on successful initiatives to date such as Living Streets 'walk to school' or Sustrans' Cycle Streets.

Applying the tools in this compartment will achieve a more efficient network and deliver improvements across all the functions.



Tool 4a Re-timing freight

Shift to out-of-hours deliveries allied with better loading facilities, booking systems and tackling existing barriers to achieving this.

Applying this in London: Roll-out successful lessons from the 2012 Games at scale, borough pilots of out-of-hours deliveries linked to roll-out of quiet vehicles and training; TfL, boroughs and industry to develop a proposal for out-of-hours access in central London.

Key functions:



Tool 4b Re-moding freight/services

Shift freight and servicing activities to other modes, including powered two-wheelers, cycle and walking (as seen by paramedics, BT etc).

Applying this in London: Trial last-mile logistics schemes and consolidation, provision of motorcycle/scooter loading bays and review of companies who have changed the way they deliver.

Key functions:



⁶⁹ TfL reports summarising the impacts of the Games on longer-term travel choices



Tool 4c

Smart charging

Continued operation of the Congestion Charge, review the potential to use charging beyond this to manage demand and make more efficient use of the road space.

Applying this in London:

Continued operation of central London scheme (potential revisions to maintain/enhance effectiveness), use of tolls for new infrastructure, trial London out-of-peak incentive scheme, price incentives for low-emission vehicles, London vignette, potential future town centre schemes and a potential London-wide scheme.

Key functions:



Tool 4d

Smart work centres and practices

Centres in Amsterdam provide a high-spec state-of-the-art office near to residential communities funded by various employers and providing space to workers in individual or group settings.

Applying this in London:

London smart work centre pilot, trial delivery pick-up in or around stations, internet conferencing.

Key functions:



Tool 4e

Next generation travel demand management schemes

New smarter travel initiatives linked to enhanced analysis, data and new forms of communication to target support and information about alternatives more effectively.

Applying this in London:

Implement a new generation travel demand management programme, marketing campaigns and, new apps linked to enhanced alternatives (eg car sharing).

Key functions:



Tool 4f

Active network management

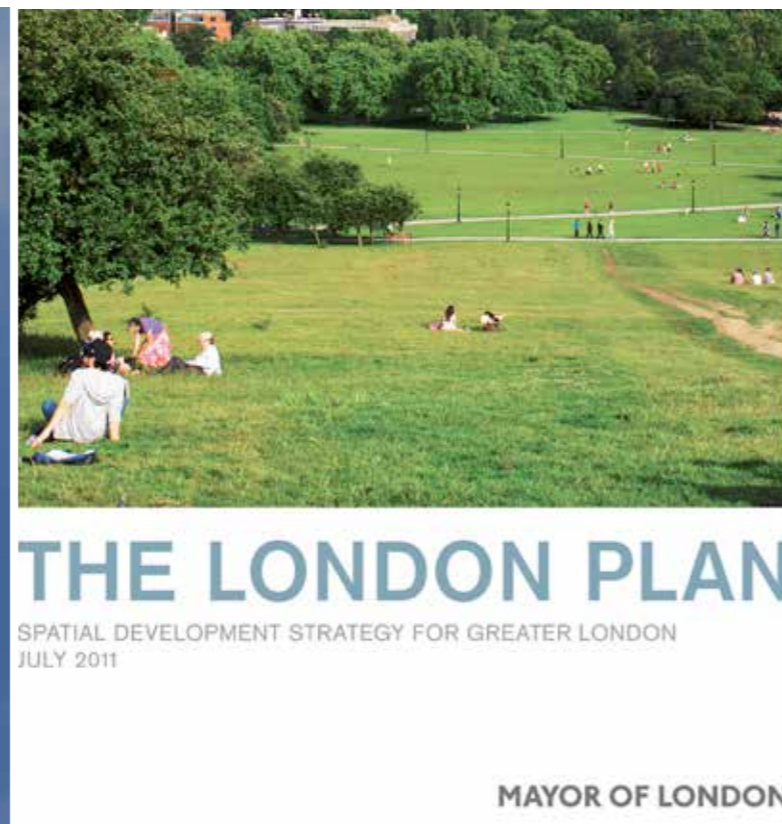
Use of traffic signals and new techniques to support defined priorities in particular areas, avoiding congestion in network-critical locations by holding traffic elsewhere, plus helping to prioritise certain vehicles eg buses, cycles and freight.

Applying this in London:

Review potential for active network management to support central London and some outer town centres, learning from the 2012 Games.

Key functions:





Tool 4g

Parking policy

Different parking strategies for Inner and Outer London reflecting public transport accessibility levels. Need to provide better quality spaces and management of them – good quality, turnover, flexibility, pricing. Seek to minimise parking with new developments through high levels of public transport/alternatives.

Applying this in London:

Continued parking restraint in accessible areas, provision of better-quality parking in centres more reliant on car for access, shared parking and a dynamic parking management system.

Key functions:



Tool 4h

Land use planning

High density, mixed-use development with walking and cycling infrastructure embedded and attractive alternatives to car ownership/use. Linking of planning policies to street-types.

Applying this in London:

Implement car-free and car-lite development, drop boxes in residential schemes for deliveries, no-car pledges and incentives, separate parking and car clubs.

Key functions:



Example schemes and innovations in London and beyond

SpitsScoren, Rotterdam

Rotterdam turned congestion charging on its head. The SpitsScoren (meaning profit from the peak) programme rewards drivers for not travelling on congested roads at busy times. It has achieved an eight per cent reduction in motorised traffic levels, while 60 per cent of participants have changed their travel behaviour by reducing, re-modifying or re-timing trips.

Car-free development, Vauban

This uses some 'restraint' measures (eg 5mph speed limit on the streets, with parking separate and access to homes for loading/unloading only) allied with convenient alternatives. It delivers benefits for residents in terms of liveable streets.

Car sharing

Research suggests that one car club vehicle can 'replace' up to four private vehicles. There is increasing flexibility in car club models (A to B and to C journeys not just A having to return to A). In Amsterdam, the world's largest fully electric car sharing scheme has no fixed rental stations and therefore flexible journey options.

The 2012 Games

The Travel Demand Management (TDM) programme encouraged road users to avoid congested times and locations. The freight programme achieved up to a 20 per cent cut in daytime and peak freight activity and a substantial increase in out-of-hours deliveries.

Weekend Walks, New York

Weekend Walks is a partnership between local business and community groups and the Department of Transportation (DOT) to create temporary pedestrian spaces in commercial districts city-wide and encourage people to walk their city.

Reduced impact development, Stockholm

The Hammarby Sjöstad development of 11,000 apartments has been designed to have the greenest credentials from the outset and a transport network characterised by car sharing, bike sharing, good transit access and high quality bicycle infrastructure. Only 21 per cent of trips are made by car, compared to 32 per cent for Stockholm as a whole.

Compartment 5

Substitute, re-located or enhanced capacity: maintaining space for different functions and unlocking growth

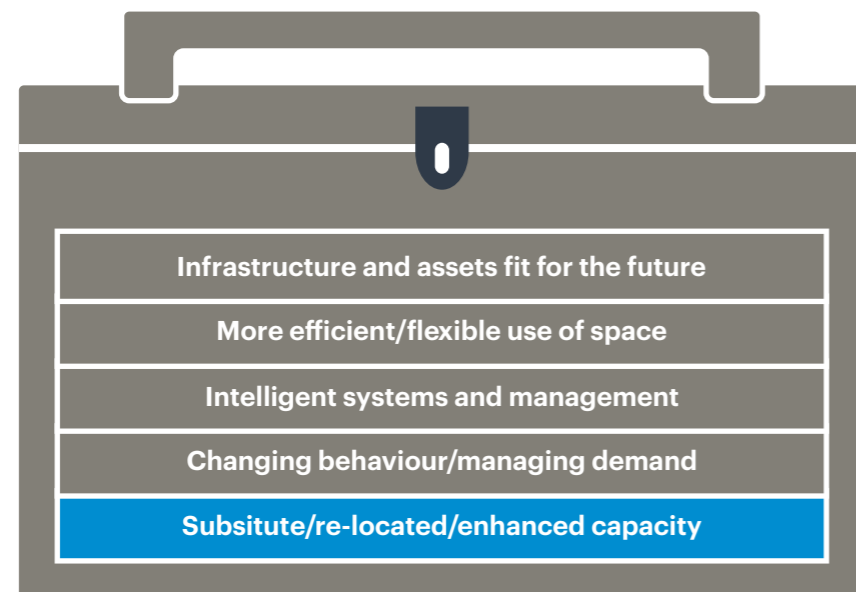
This compartment is about providing for more sustainable modes of travel and creating better places, while also maintaining an efficient road network that remains vital to support the functioning of the city.

The focus is on capacity for living, new development, and space for walking, buses and cycling, not just private motorised traffic. The simple fact is that there are lots more people so the pressures on existing road space are increasing.

New capacity for walking and cycling (for example new pedestrian routes and bridges) and unlocking blighted space for communities or development (for example roofing over existing roads) should be a key part of the strategy. Targeted schemes at problem junctions and to unlock key growth areas should also play a role.

Tunnelling could help to provide capacity to enable continued network functioning while freeing up space on the surface. The use of tolls could help pay for the infrastructure and prevent this simply inducing extra demand.

Applying the tools in this compartment will keep the network functioning while ensuring a better city for people.



Tool 5a

Junctions enhancement plan

A targeted programme to improve the junctions most critical for network functioning, and a wider programme of smaller-scale schemes to improve junction layout. An average increase of five per cent in vehicle flow was observed in the initial assessment of Henlys Corner.

Applying this in London:

Roll out a Henlys Corner-type programme for the 20 most important junctions for network functioning, and programme of smaller-scale enhancement schemes.

Key functions:



Tool 5b

New and improved separation

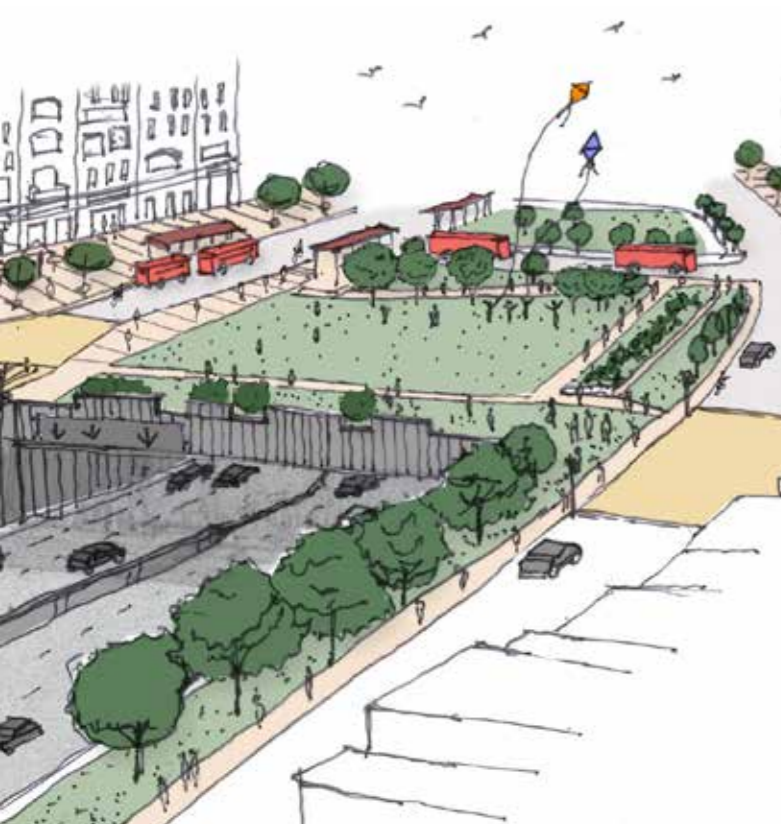
Identify opportunities for 'new layers' of space in particularly difficult locations. If people are moved above/below this must be seen as the preferred space by ensuring very high-quality design (open, lofty, light, green, no steps and active space). New access tunnels and space for goods/service vehicles should also be provided in new developments.

Applying this in London:

Review potential opportunities for 21st century versions of underpasses (lowlines), high-quality bridges over arterial roads, floating roundabouts for cyclists and underground service roads in new developments.

Key functions:





Tool 5c
Freeing space from motorised traffic impacts

Roofing over existing roads to create new community and/or development space above and reduce severance and other impacts. Unlocked values above could contribute towards the cost of schemes.

Applying this in London:
 Review of opportunities for cut and cover/roofing over existing roads, develop programme for life-expired assets.

Key functions:



Tool 5d
Substitute/relocated capacity
 Relocate or provide substitute capacity for motorised traffic to unlock surface space for 'living', more sustainable modes and development – enabling different use of space above and reducing impacts such as severance and noise, while maintaining network functioning.

Applying this in London:
 Review feasibility of tolled tunnels and smaller-scale flyunders to free-up surface space and reduce motorised traffic impacts.

Key functions:



Tool 5e
New public spaces and pedestrian/cycling facilities
 Create more public spaces and infrastructure for walking and cycling through innovative design, bringing under-used assets into greater use and maximising opportunities within new developments.

Applying this in London:
 Review potential opportunities for living bridges and garden bridges across the Thames, floating walkways, new plazas in new developments, reclaiming underused spaces (eg gyratories), new walking/cycling bridges (eg such as Vauxhall Nine Elms Battersea and River Lea).

Key functions:



Tool 5f
Connections to growth areas
 Better road links and bus services to unlock the reserves of under-used land for housing and employment, providing vital access (for freight, buses, pedestrians, cycling as well as cars) and tackling severance and congestion. New streets within major developments to enhance access and create sense of place.

Applying this in London:
 Implement targeted programme of junction improvements, enhanced access links, bus transit schemes tied to priority growth areas; and village ways plus additional river crossings.

Key functions:





Example schemes and innovations in London and beyond

Canning Town

A new junction released land for high density, mixed-use, accessible development to be fully integrated with the town centre. It opens 9,000 square metres of unused space for 10,000 additional homes and 3,800 new jobs. It also provides extra capacity for pedestrians without detriment to vehicular traffic, improves public transport interchange, bus journey times, cycling facilities and creates a new area of high quality public realm.

High Line, New York (above left)

The High Line created a one-mile linear park built on a section of former elevated central railroad spur. At a cost of £100m the initial phases have been seen as a huge success locally and internationally, and have spurred redevelopment in surrounding areas.

Big Dig, Boston (above right)

The city replaced a deteriorating six-lane elevated artery (I-93) with a new eight-to-ten lane underground highway. While criticised for overrunning in time and cost, it has reduced journey times and emissions, created new space for development, improved local links, revitalised commercial activity, increased values and created 45 parks/public plazas. The area is now a major economic driver.

Mile End Bridge, London

As well as providing safe and uninterrupted pedestrian access from one green space to another, the 25-metre wide bridge, carries the park itself across the four-lane highway of the A11 with planting and trees making the structure an integral part of the park. The bridge also provides a six-metre-wide central pathway and cycleway with landscaped strips either side.

Cut and cover, Paris Boulevard Périphérique

This 35km dual-carriageway ring road encircles the city and is one of the busiest stretches of road in Europe. Part of a major infrastructure programme, three sections have been 'roofed' with the areas above the road landscaped to provide green spaces and to reconnect the city with the suburbs. This reduced noise and air pollution for residents and businesses, and contributed to urban regeneration.

Bjorvika Tunnel, Oslo

The 1.1km, €900m Bjorvika Tunnel buried a major road in the centre of Oslo allowing for the creation of Fjord City which will create 15,000-20,000 new jobs and 400,000 square metres of new residential space. The project has already accelerated transit journey times and includes 5,700 metres of new pedestrian and cycle paths, and 3,500 metres of public transport lanes. This has opened up development potential of the area.



The importance of improved processes and engagement

Getting the right processes and culture in place

It is pointless having the right tools if things can't be delivered in practice. Achieving the vision will require TfL, boroughs and partners to review and improve their delivery capability – ensuring that good-quality schemes, worthy of a 21st century world city, can be implemented in reasonable timescales.

Projects range in scope from simple kerb realignments to complicated gyratory removals or installing the next generation of superfast broadband. For many projects, TfL, boroughs, developers and utilities need to work collaboratively.

Members of the RTF highlighted that the processes and structures currently in place can be lengthy and difficult to navigate, and that the basis for decisions is not always clear.

The RTF considers that the implementation of the street-types approach should deliver significant benefits in terms of providing a framework for decision-making around individual schemes in the context of network objectives – with clearer priorities and criteria

to enable choices to be made and a shared understanding for the different parties involved of the opportunities and the constraints.

The RTF set up a sub-group to consider how to improve delivery in practice more widely, which has made a number of recommendations below – largely focusing on ensuring more efficient processes and clearer decision points, greater transparency and accountability, enabling innovation and a 'give it a go' culture, and enhanced monitoring and evaluation to understand better what works and what doesn't.

There needs to be:

- The provision of clear guidance for boroughs and developers responsible for bringing forward schemes, for example, pro-formas for different types of scheme, clearer guidelines of how long approval stages and processes take, and a 'one stop shop' on the TfL website for all guidance

- A set of performance metrics similar to the monitoring of UK planning time frames for the different stages of the process and decision-making, TfL should track performance against these and publish this on its website annually
- Clarity from the outset about the nature and purpose of a project, and any known limitations or need for mitigation to ensure projects can proceed on a single set of assumptions should be understood and maintained throughout. This should involve all relevant parties at the earliest opportunity (for example, TfL Network Performance) to get the design right
- Clear and transparent decision points so all stakeholders are aware of the process for decisions and the grounds on which they are made. Once decisions are made, they must not easily be re-opened (this should only happen if there are exceptional reasons for doing so)
- The assignment of a named, senior TfL lead (champion) for any major projects who is responsible for the progression of a scheme from inception to delivery and accountable to the TfL Board as well as a comparable senior lead in boroughs
- Focus on recruiting, training and retaining world-class staff in the fields of engineering, design and planning. London needs to grow its talent pool, for example, in new and emerging traffic management methods, technologies and traffic modelling, and to provide specialised support and advice to boroughs. This will ensure the highest quality of design and the best solutions as well as encourage innovation and new thinking
- A more receptive culture for innovation and trialling new approaches – avoiding setting insurmountable hurdles (for example, huge volumes of evidence for less tried and tested solutions), particularly where changes are relatively easy and cheap to reverse if necessary. TfL and boroughs should continue to monitor what other cities around the world are doing, and participate in national and international networks to share new ideas and best practice
- The opportunity for Government departments, TfL and boroughs to amend regulations/rules which may be out-of-date or inflexible and hindering innovation. TfL should establish an ‘innovation forum’ with DfT to champion new ways of doing things and identify key pieces of regulation that are currently barriers, and the Mayor should establish an innovation funding pot to trial some smaller-scale innovative ideas
- A review of how road assets are funded, managed and maintained – and how cost savings could be delivered (for example, supply chains and joint procurement). Pro-active lifecycle renewal and identification of opportunities for marginal additional investment should take place as schemes are planned (for example, roofing over as life-expired assets are being renewed, and integration of road and rail-based improvements)
- Greater flexibility in delivery models to enable, for example, third-sector, developers and community groups to help deliver change
- A more integrated approach with the GLA, borough planning objectives, policies, programmes and decisions, plus better coordination between and within borough highways, planning and regeneration teams, and TfL
- A clear focus on planning multi-modally, for example, opportunities for changes on-street with the delivery of Crossrail
- Enhanced monitoring and evaluation of measures implemented at a local and network level. This should include wider impacts, for example, the value of urban realm improvements, wider travel impacts, environmental impacts, changes to land values and town centre vitality. It should also include monitoring the wider network implications of schemes to assess, for example, if displacement of vehicles has caused any problems on the surrounding network. Alongside this should be improved monitoring of key aspects of the performance and use of the road network over the longer term to help shape network management and further interventions
- An annual review of progress against the RTF’s vision and recommendations



The need for continued debate and engagement with stakeholders and Londoners

In the RTF's work there has been a clear focus on sharing the thinking and emerging findings with a wider stakeholder group all the way through the process – marking a clear break from the 'black box' approach of the past.

As well as an informal consultation process, to which around 120 organisations responded, there were major events in October 2012, and January and May 2013 and a wide range of smaller scale meetings with interested groups and individuals.

This has been about discussing the issues and challenges as well as helping to shape the approach as the RTF's work has progressed. At each stage, wider buy-in has been sought on the emerging thinking and conclusions.

It is vital that there is a shared understanding of the challenges and constraints involved as well as the opportunities – and broad agreement of the need for a new approach.

For individual locations, there will be many views about the best way forward. The street-types provide a framework for more structured involvement of local communities and businesses. There must be innovative ways of involving the many different stakeholders in specific places to explore trade-offs and acceptable solutions that people can 'buy into'.

For example, working with groups using a 'street layout kit' to try different options and bring choices to life.

Or the DIY Streets approach, where Sustrans works with local communities to develop and trial local street designs using hay bales and other temporary materials.

The RTF recommends that, following this report, the Mayor and TfL continue a programme of engagement with boroughs, stakeholders and, more widely, with Londoners about the ambitions set out and the framework and potential options proposed.

