

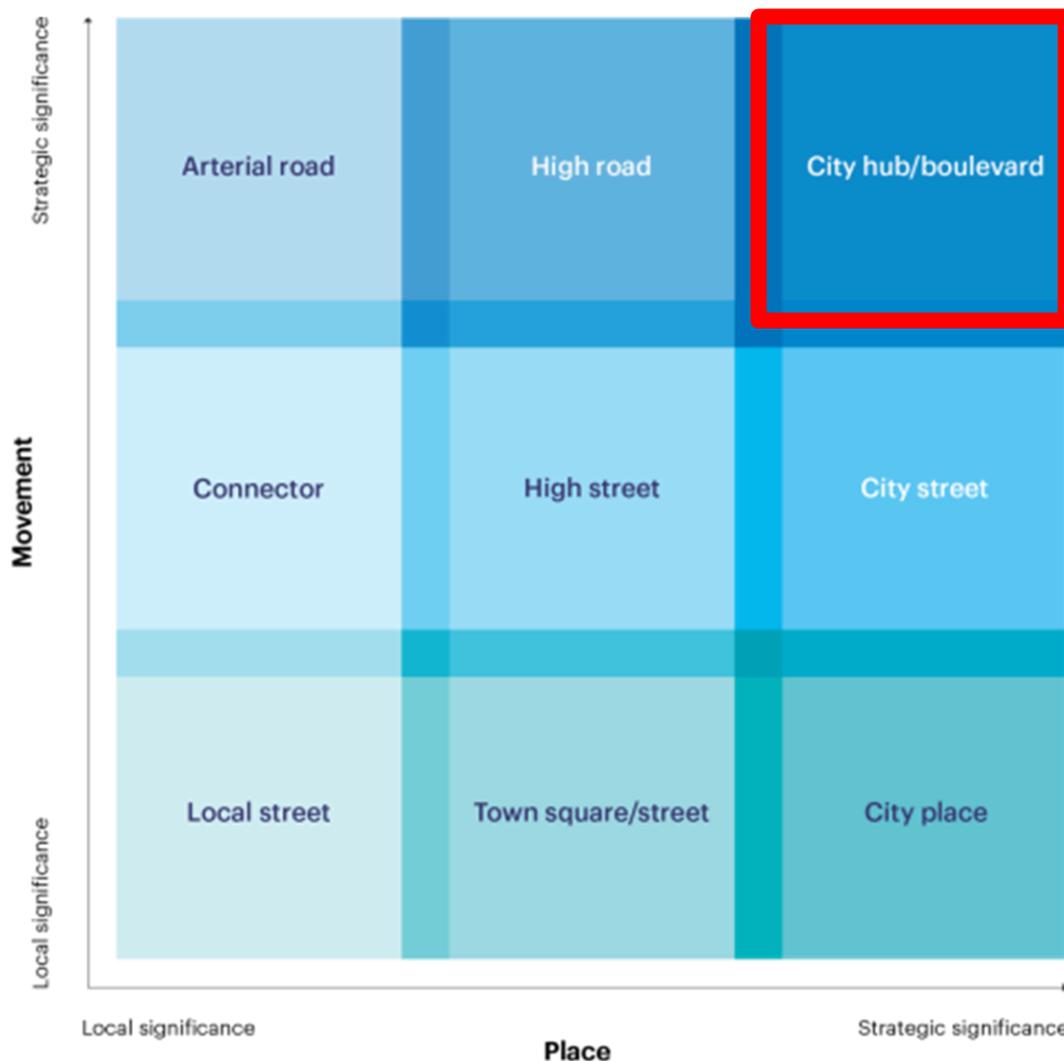
3.3. City hubs/boulevards

Introduction

Successful city hubs/boulevards should provide vibrant focal points for business and culture. They should reduce the impact of high traffic volumes while accommodating high pedestrian flows, bus access and essential traffic.

Four case studies were undertaken to understand the challenges and potential solutions to achieve the aim for city hubs/boulevards. These case study locations were:

- Euston/Marylebone Road
- Elephant and Castle
- Victoria
- Kingston Town Centre



Note that this case study is designed to illustrate the challenges and potential solutions of its designated street-type. It is not intended to set out confirmed improvements to this study area.

Study: Euston/Marylebone Road

Inner Ring Road; Camden and Westminster

Summary

Context:

As part of London's Inner Ring Road, circumventing the Congestion Charging zone, Euston/Marylebone Road is a vital corridor for many vehicular modes. This results in conflict for road space, particularly between motorised traffic and cyclists. With Underground stations and rail termini along its length (including the proposed terminus for High Speed 2), it is also a key transport interchange. The road has a high place value as it hosts a number of internationally renowned attractions.

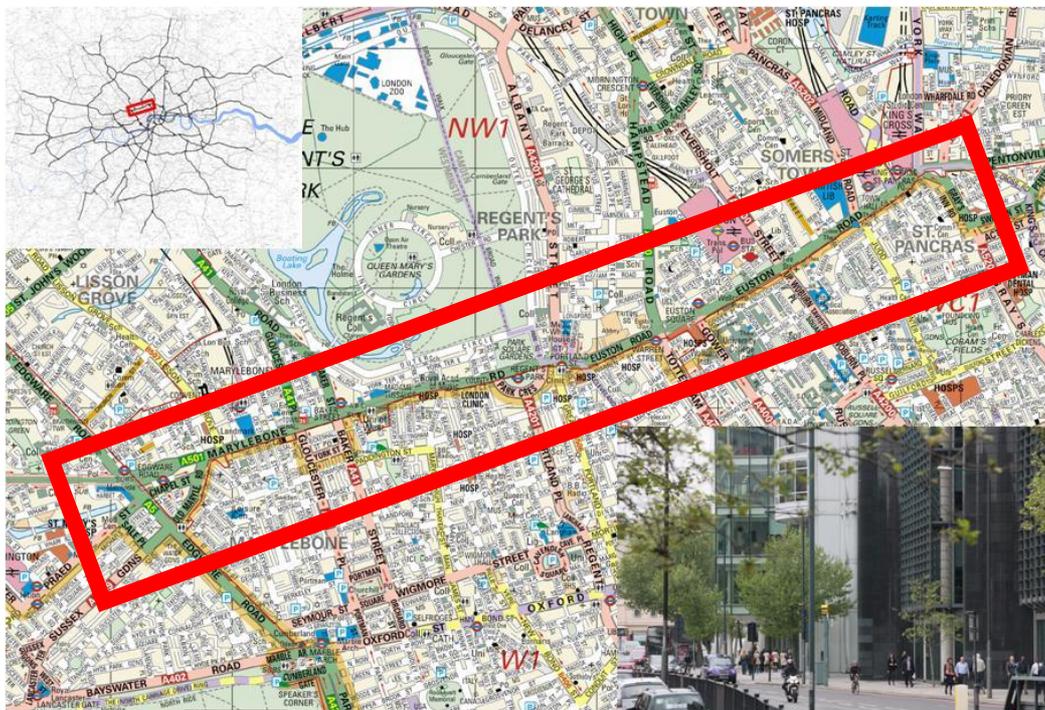
Specific findings and short-term recommendations:

The road is noisy, polluted, dominated by traffic, and forms a barrier between central London and the area immediately north, causing severance of local communities. Development and intensification of the area north of the road will exacerbate the conflict between traffic movements along and across the road.

Short-term interventions should focus on calming traffic speeds while actively managing traffic flows to maintain journey time reliability, and improving crossing opportunities for pedestrians and cyclists.

Importance of strategic and long-term measures:

More significant improvements on the road itself (eg tunnels) have been dismissed as having limited impact – much of the traffic only travels a short distance on the road. Daytime vehicle restrictions would reduce demand on this corridor, as would the provision of alternative capacity elsewhere. Both should be explored further.



Road users and functions

Euston/Marylebone Road

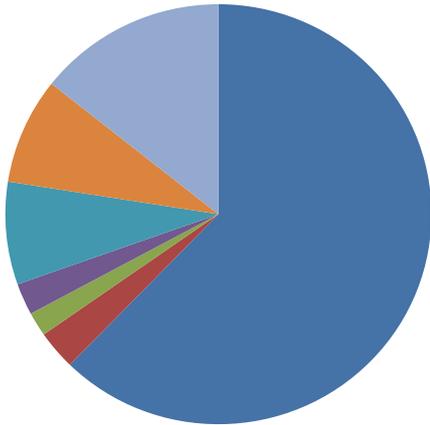
Euston Road and Marylebone Road form part of the northern section of the Inner Ring Road. The road has two lanes and a separate bus lane in each direction, and an underpass at Warren Street underground station. The Central Activities Zone (CAZ) crosses the study area, with Regent's Park and London Zoo major trip attractors in close proximity. The number of Underground and National Rail termini in the study area (nine Underground stations, and four major rail termini – Euston, King's Cross, Marylebone and St Pancras) also attract a large volume of pedestrians to the area, as do a number of hotels, pubs and businesses that sit within the study area.

In terms of vehicular traffic, cars account for 62 per cent of the vehicle count. The mode share for buses is low (three per cent), but there are a large number of buses serving the area, particularly the major rail termini – Euston bus station is served by 127 buses between 08:00 and 09:00 on weekdays. Pedestrian flows are very high along and across Euston Road, with over 5,000 pedestrians using crossings south of Euston station between 17:00 and 18:00 on weekdays. The cycle mode share is approximately eight per cent, and is higher between Euston and King's Cross stations. There are also a significant number of taxis and powered two wheelers that use the road, with mode shares of 14 per cent and eight per cent respectively.



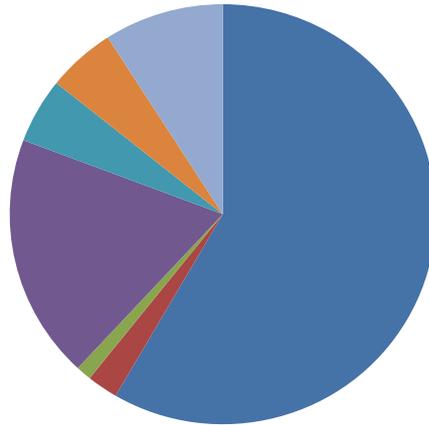
Based on the analysis of this study area, Euston/Marylebone Road should be considered as an example of the 'city hub/boulevard' street-type. It is important to note that this definition may change over time as users and functions of the road change.

Vehicle mode share



People movement mode share*

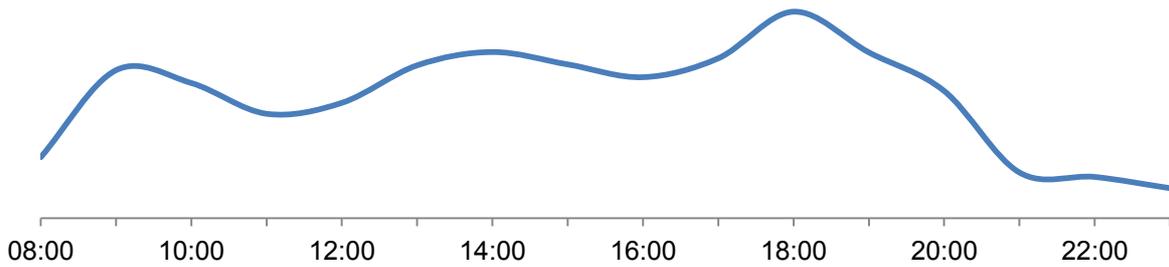
*based on vehicle occupancy



Mode share data is taken from manual classified counts over the course of a full day.



Pedestrian profile



Pedestrian profile data is taken from pedestrian counts.



Street-type priorities

Euston/Marylebone Road

The main priorities for city hubs/boulevards are:

- Access for buses
- High-quality environment for pedestrians and cyclists
- Urban realm to support revitalised city quarters
- Improved safety and environmental quality
- Sufficient movement for network functioning

Fulfilling the street-type priorities

Both the living and moving functions of Euston Road and Marylebone Road are under stress. This busy section of the Inner Ring Road suffers from high congestion and high rates of traffic collisions, particularly involving pedestrians and cyclists. The pedestrian environment is severed and crossing facilities are inadequate and over-capacity. Air quality and urban realm are also poor.

Development growth is likely to improve the urban realm but will also place additional movement pressures on the corridor, including higher pedestrian crossing volumes from the HS2 terminus at Euston.

Challenges maps





Moving:

- Limiting increases in congestion and improving journey time reliability for vehicular traffic, especially buses
- Relieving bus pinch-points and delays to bus services crossing the road
- Preventing decline in pedestrian Levels of Service, and alleviating pedestrian crowding and congestion at crossings. Footway congestion is expected to deteriorate below minimum standards with increased pedestrian numbers from HS2
- Improving provision for cyclists along the corridor, especially for cyclists crossing the road
- Maintaining strategic freight movements along the corridor
- Improving pedestrian movement across the road



Living:

- Improving the urban realm at Euston station as part of the HS2 development
- Reducing the severance effect caused by the road
- Improving conditions for visitors and tourists, particularly in the vicinity of major trip attractors such as the British Library, Madame Tussauds and Regent's Park
- Improving the public realm at major junctions and gyratories, such as Marylebone Flyover, Euston Circus, and King's Cross gyratory



Protecting:

- Reducing the pedestrian collision rate which is over four times the TLRN average. The lack of formal crossing facilities leads to many informal pedestrian crossings being made
- Reducing the cycling collision rate which is over three times the TLRN average
- Reducing the collision rate for motorised vehicles, especially buses



Functioning:

- Maintaining access to stations and other local destinations
- Servicing the growing number of businesses and major developments in the area



Sustaining:

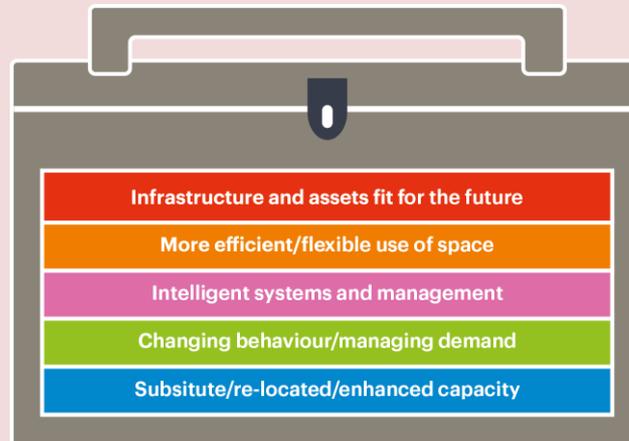
- Reducing exposure to noise – noise levels exceed 75 dB(A)
- Improving air quality – the road is a priority location for reducing PM₁₀ emissions and exceeded EU limits on NO₂ emissions in 2012)



Unlocking:

- Supporting growth as part of the Euston Area Plan, which has a target of 1,000 new homes and 5,000 new jobs
- Supporting increased user demand at Euston (HS2) and King's Cross (King's Cross development, King's Cross Square)

The Roads Task Force has identified five key toolbox compartments. TfL, the London boroughs and others have a range of 'tools' at their disposal to deliver improvements, examples of which are listed below.



Short-term specific measures (pre-2016):

- Continuing Better Junctions reviews to improve safety and the public realm
- Improving pedestrian and cycle crossing opportunities to facilitate easier north-south movement. The Central London Grid will also be decided which will influence future cycling levels on Euston Road
- Urban realm improvements at Euston Circus, together with other local schemes
- Creating a lower speed environment through the introduction of a 20mph limit

Medium-term specific measures (2016-2020):

- Completing the Central London Grid and the King's Cross Gyratory Study
- Agreeing the impacts of the HS2/Euston Road interface and potential solutions

Long-term specific measures (beyond 2020):

- Providing additional road crossings, streetscape enhancements and increased provision for cyclists to cope with the increased demand from HS2

Potential strategic measures:

In order to ensure the correct balance between movement and place on this road, a combination of local and strategic measures is required. Potential strategic measures include:

- Further demand management to reduce flows on Euston Road and enable it to increase its place function
- Providing alternative routes elsewhere for through-traffic
- Implementing an Ultra Low Emissions Zone in central London to improve air quality

Note that this case study is designed to illustrate the challenges and potential solutions of its designated street-type. It is not intended to set out confirmed improvements to this study area.

Study: Elephant and Castle

Elephant and Castle; Southwark

Summary

Context:

Elephant and Castle northern roundabout is a key public transport interchange and major bus network hub on London's Inner Ring Road. It is also densely populated with significant people attractors.

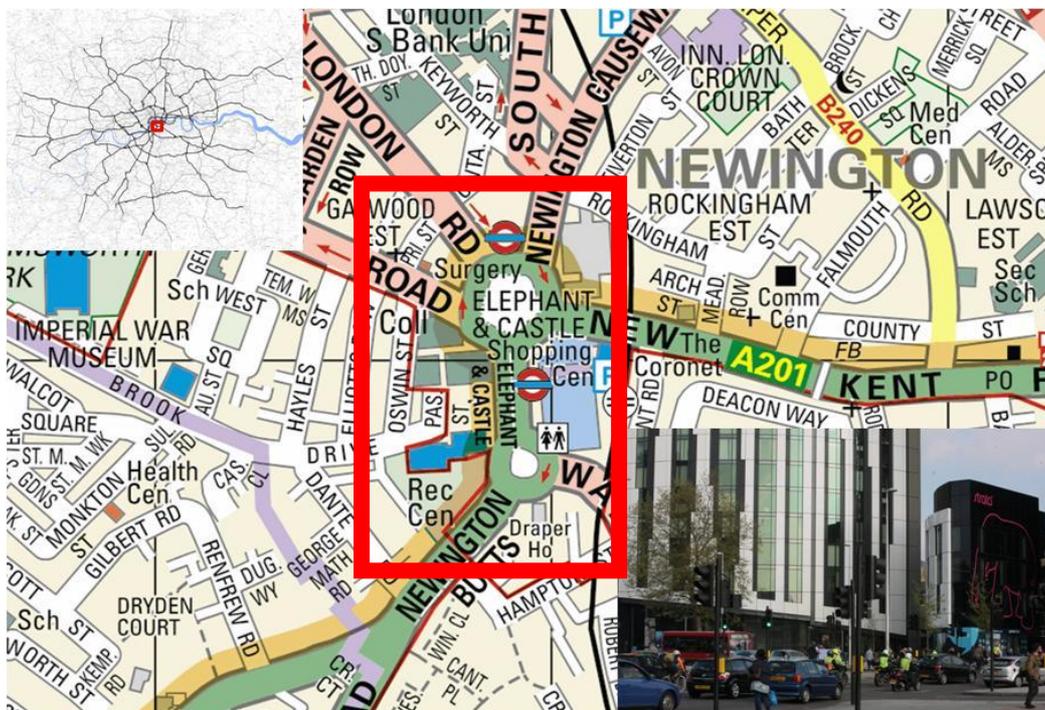
Specific findings and short-term recommendations:

Motorised traffic dominance causes local severance, decreases the quality of the public realm, and creates noise and air pollution. The roundabout has the worst collision record for all comparable junctions in London, experiences significant levels of bus congestion, and has poor facilities for pedestrians and cyclists. There is also an above-average crime rate in the vicinity.

The anticipated intensification of development at Elephant and Castle will further increase pressure on the area. Previously, proposed measures have concentrated on improving road safety and reducing severance but have done little to improve the sense of place. A recent peninsularisation concept could have transformative impacts on public space, road safety, and facilities for pedestrians and cyclists. Refined designs should balance these improvements with the movement needs of buses and other motorised traffic.

Importance of strategic and long-term measures:

To effectively reduce conflict in this area, a reduction in motorised traffic is necessary. The future role of the Inner Ring Road also needs to be agreed to determine whether alternative orbital capacity may be required.



Road users and functions

Elephant and Castle

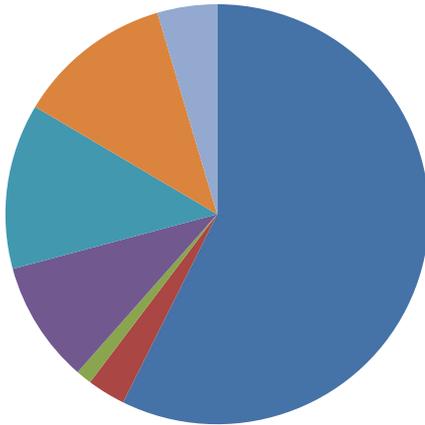
Elephant and Castle is a key strategic transport interchange on the Inner Ring Road, circumventing the Congestion Charging Zone. It is dominated by a five-arm roundabout that also incorporates two Underground ticket halls, eight bus stops and seven pedestrian subways. The dominance of the roundabout means that there is very little activity that takes place around it. There is some street trading in the shopping centre moat area, but only a few shops front onto the street. The shopping centre provides an entrance to Elephant and Castle rail station, but has a relatively small catchment area.

Of the vehicular traffic using the Elephant and Castle roundabout, private cars and taxis make up two-thirds of the total, with a combined flow of up to 4,000 in the peak hour. Elephant and Castle is also a major bus hub: 37 bus routes serve the eight bus stops around the northern roundabout, with 135,000 passengers boarding and alighting each weekday. It is also a key cycling corridor, with flows of over 1,300 cycles at peak hours. Barclays Cycle Superhighway 7 is on a parallel alignment to the west, but many cyclists prefer the more direct route over the roundabout. There is little need for any on-street servicing provision, as the shopping centre has its own delivery/loading area. There is still however a notable proportion of LGV and HGV traffic using the Inner Ring Road.



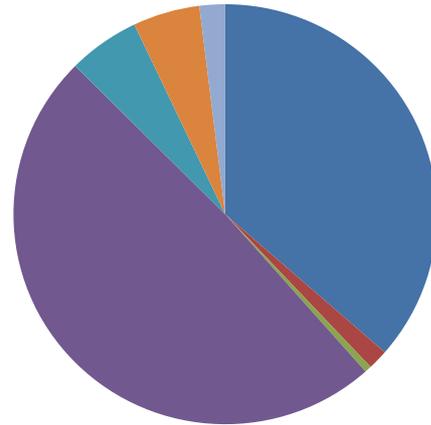
Based on the analysis of this study area, Elephant and Castle should be considered as an example of the 'city hub/boulevard' street-type. It is important to note that this definition may change over time as users and functions of the road change.

Vehicle mode share



People movement mode share*

*based on vehicle occupancy



Mode share data is taken from manual classified counts over the course of a full day.



No pedestrian counts were conducted at this location. The area has high pedestrian activity with flows of up to 16,000 pedestrians per hour, and high demand for crossing the arms of the roundabout. This is due to the interchange function of the area and the presence of significant trip attractors including the shopping centre and London South Bank University. Most pedestrian movement across arms of the roundabout is limited to narrow subways.



Street-type priorities

Elephant and Castle

The main priorities for city hubs/boulevards are:

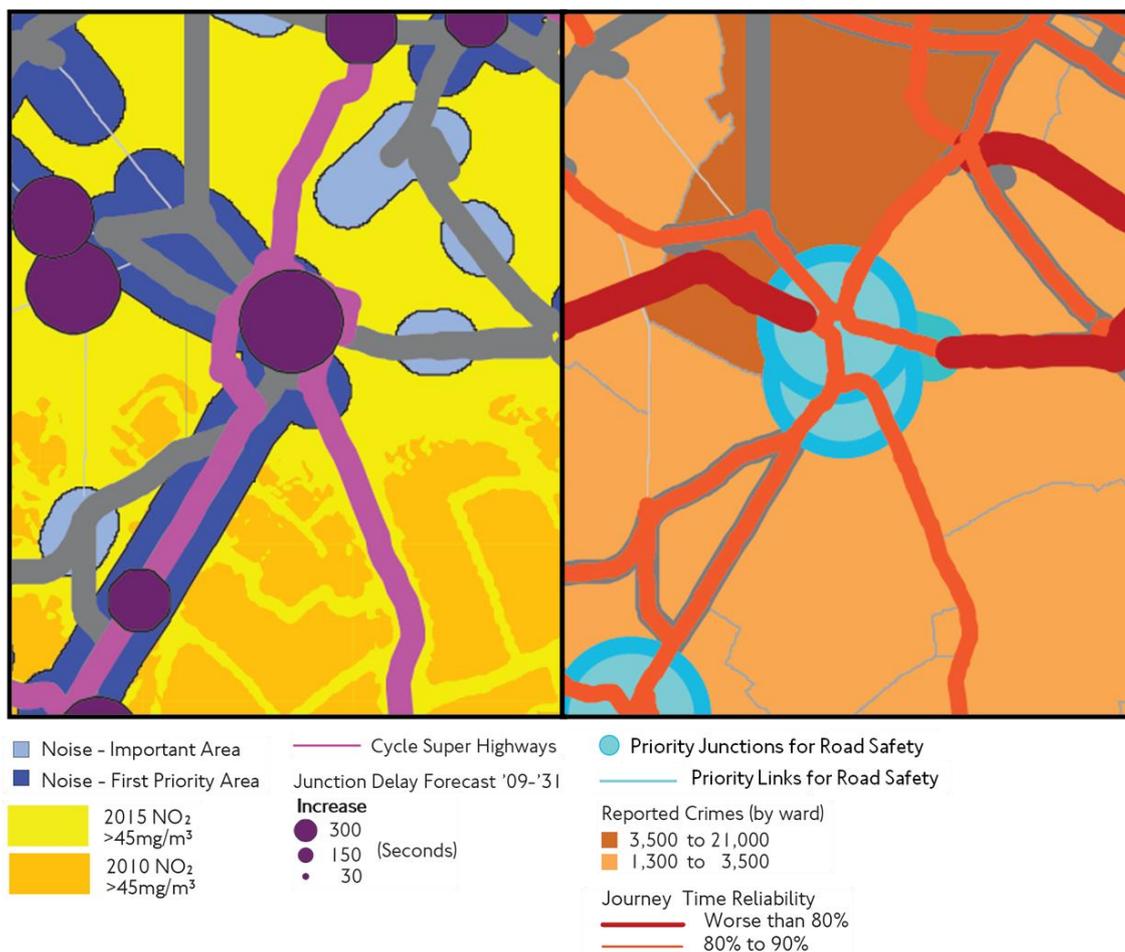
- Access for buses
- High-quality environment for pedestrians and cyclists
- Urban realm to support revitalised city quarters
- Improved safety and environmental quality
- Sufficient movement for network functioning

Fulfilling the street-type priorities

The impact of high vehicular traffic volumes at Elephant and Castle is detrimental to the area's aspiration for increased place function. The low quality public realm is completely dominated by vehicular traffic, creating a severed pedestrian environment and causing pedestrians to feel unwelcome and vulnerable. There are high numbers of collisions, especially involving cyclists, and there is poor on-street provision for cyclists. High levels of noise and air pollution also impact negatively on the place function of this area.

The continued investment and growth of the area will increase the attractiveness of Elephant and Castle as a destination. Any significant changes in capacity or travel behaviour need to be managed and mitigated at a strategic level.

Challenges maps





Moving:

- Maintaining the strategic movement role as a road network hub close to central London and south of the river
- Maintaining high journey time reliability (above 90 per cent)
- Minimising the effects of congestion on bus performance
- Reducing pedestrian pinch-points, improving way-finding signage and providing more opportunities for pedestrians to cross at surface level
- Improving on-street cycle facilities and increasing the provision of cycle parking



Living:

- Improving the area's sense of place to reflect its position as a City Hub, and improving the attractiveness of the area for visitors and residents. This could involve improving footway materials, to help develop the area's identity
- Making pedestrians feel more welcome in the area
- Improving the provision and use of public space, and reducing the dominance of vehicular traffic in the area



Protecting:

- Reducing the perceptions of vulnerability in subways and at night-time
- Reducing crime levels in the area
- Reducing the number of road collisions, especially the high collision rate involving cyclists, and the perceptions of unsafeness and vulnerability on the roundabout



Functioning:

- Increasing footway space to ensure DDA compliance of all bus stops. Currently five out of the eight bus stops at Elephant and Castle are DDA compliant



Sustaining:

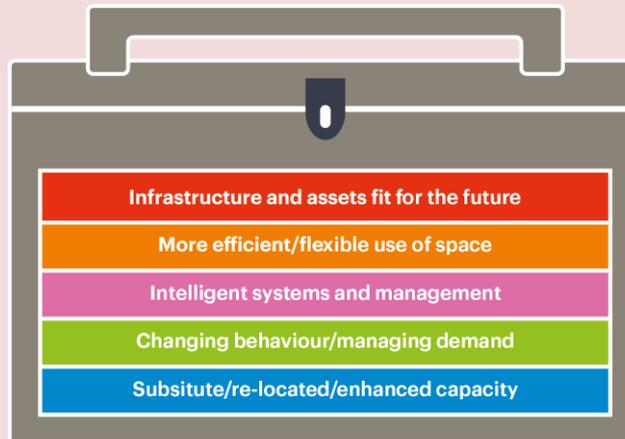
- Reducing exposure to noise (the area has been identified as a First Priority Location in DEFRA's Noise Action Plan; and noise levels exceed 75 dB(A))
- Improving air quality (the area suffers from moderate levels of PM₁₀ and very high concentrations of NO₂ along the main roads)



Unlocking:

- Realising the high growth potential of the town centre. Current plans include intensification of retail and residential activity with 4,000 new homes and 5,000 new jobs in the Elephant and Castle OAPF

The Roads Task Force has identified five key toolbox compartments. TfL, the London boroughs and others have a range of 'tools' at their disposal to deliver improvements, examples of which are listed below.



Short-term measures (pre-2016):

- Progressing design proposals for peninsularisation of the northern roundabout. This will provide the necessary improvements in road safety and facilities for vulnerable road users as required by the Better Junctions programme. It will also lower vehicular traffic speeds and provide a large area of public space linked to the shopping centre

Longer-term measures (post-2016):

- Ensuring that any development of the Elephant and Castle Opportunity Area engages with the road
- Maximising synergies with the new peninsula and a refurbished Northern line ticket hall

Potential strategic measures:

In order to ensure the correct balance between movement and place on this road, a combination of local and strategic measures is required:

- Discouraging private car trips in central London at peak times through active network management, for example corridor management, priority measures for sustainable transport modes, and encouraging behavioural change. This would help to increase the place function of Elephant and Castle
- Enhancing public transport provision and capacity to make its use more attractive, for example extending the Bakerloo line further into southeast London
- Re-timing freight deliveries and using consolidation centres to reduce conflict with other modes
- Providing alternative routes elsewhere for through-traffic

Note that this case study is designed to illustrate the challenges and potential solutions of its designated street-type. It is not intended to set out confirmed improvements to this study area.

Study: Victoria

Victoria; Westminster

Summary

Context:

Victoria is one of the busiest rail and Underground stations in London's Central Activities Zone. It also has a busy bus station and high pedestrian flows, with thousands of people using the hub every day.

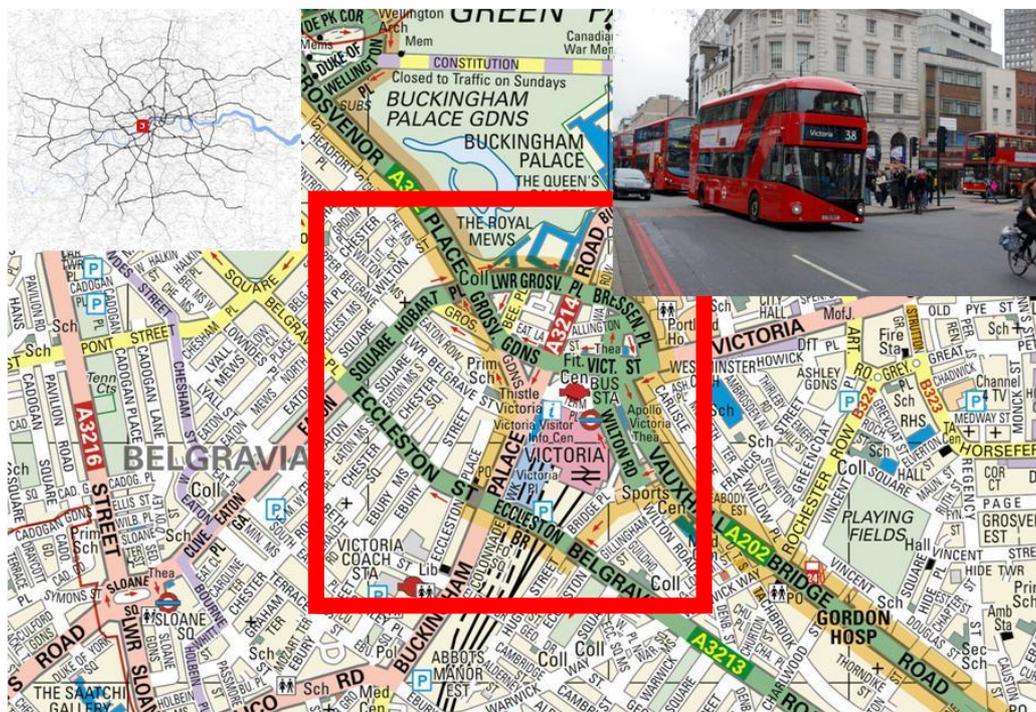
Specific findings and short-term recommendations:

Some of the roads in the vicinity are one-way, creating circuitous routes for vehicular traffic and severing key pedestrian movement corridors, including crossing movements to the rail and Underground stations located outside the Inner Ring Road. The bus station cannot contain all bus services, which increases pressure on adjacent streets.

Current work to extend the Underground station will provide pedestrian exits inside the Inner Ring Road, greatly improving access. Large-scale redevelopment of the area will dramatically enhance the area's place function and better cater for higher pedestrian numbers.

Importance of strategic and long-term measures:

Long-term options should consider diverting the Inner Ring Road outside the station hub. This could enable Victoria to be developed more coherently as a pedestrian-focused place without severance. Any plans must ensure appropriate access for buses, and be integrated with planning for the District and Circle line station, Victoria Coach Station and Crossrail 2. They must also consider the evolving pattern and intensification of uses in Victoria.



Road users and functions

Victoria

Historically, Victoria has been an important transport hub. It also has a large number of destinations and attractions located nearby, including Buckingham Palace, Westminster Cathedral, and a number of theatres and Government offices, and a thriving residential community. In recent years, new developments (including Cardinal Place) have been part of the regeneration of the area to become an attractive location for the international business community.

The Congestion Charging Zone has reduced the volume of cars in and around Victoria Street (inside the zone) in recent years. However, evidence suggests some of this may have been displaced to streets immediately around the station (outside the zone). Freight volumes have recently risen as the number of construction and redevelopment schemes has increased the demand for deliveries and servicing. Victoria is a major bus interchange, with 19 bus routes operating through the area. Many of these normally stop at the bus station/Terminus Place, but others rely upon Buckingham Palace Road, Victoria Street and Vauxhall Bridge Road. There are 21,500 passengers boarding and alighting at Victoria in the morning peak, many of whom are interchanging to and from rail and Underground services.

The interchange function of Victoria results in high volumes of pedestrians each day. These movements are split into three groups: passengers interchanging between public transport services; passengers walking to and from public transport within the local area; and pedestrians passing through the area. Some are carrying heavy luggage and face narrow crowded footways. There is high pedestrian demand for crossing the Inner Ring Road.

The volume of cyclists in Victoria is high, accounting for approximately 15-20 per cent of vehicular traffic at peak times, despite the nature of the road network (the Inner Ring Road combined with a series of gyratories and one-way routes) not being conducive to cycling.

Note: no manual classified counts or pedestrian counts were conducted at Victoria.



Based on the analysis of this study area, Victoria should be considered as an example of the 'city hub/boulevard' street-type. It is important to note that this definition may change over time as users and functions of the road change.

Street-type priorities

Victoria

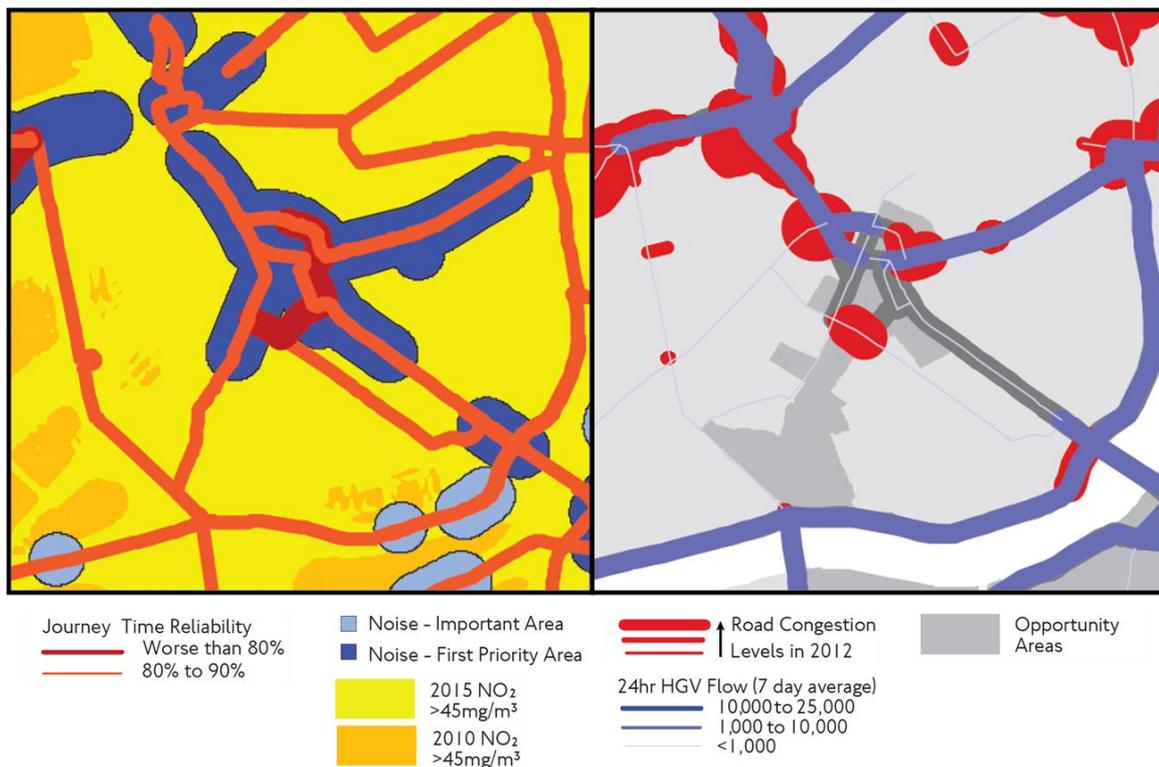
The main priorities for city hubs/boulevards are:

- Access for buses
- High-quality environment for pedestrians and cyclists
- Urban realm to support revitalised city quarters
- Improved safety and environmental quality
- Sufficient movement for network functioning

Fulfilling the street-type priorities

The priority of ensuring sufficient movement on the road network is currently being met; however this has been to the detriment of the pedestrian environment, the urban realm and provision for cyclists. The continuing shift to a broader mix of uses in the area through the opening of Nova and other new developments places a greater need to focus on the living function of Victoria, and thereby increase the appeal of the area as a centre for business, commerce and culture.

Challenges maps





Moving:

- Providing new, safer routes and facilities for pedestrians and cyclists, for travel both to and through Victoria
- Providing a route for motorised traffic with reliable and acceptable journey times
- Making bus services more legible – many passengers are currently required to board on a different street from the one on which they alighted
- Widening the footways on busy pedestrian routes such as Buckingham Palace Road
- Improving the quality and legibility of cycle routes around the station



Living:

- Improving the integration between sites in the area, such as the mainline station and Victoria Circle
- Facilitating safer pedestrian movement to better reflect pedestrian desire lines
- Reducing conflict between crossing facilities and bus and taxi movements
- De-cluttering street furniture, including removing guardrails at appropriate locations
- Improving the urban realm to match the sense of place of a City Hub



Protecting:

- Reducing the number of collisions, particularly involving cyclists
- Improving the perceptions of safety and personal security for pedestrians



Functioning:

- Ensuring that the needs of servicing and delivery traffic are adequately catered for without conflicting with the movement of other vehicular modes. This is a particular consideration for new developments



Sustaining:

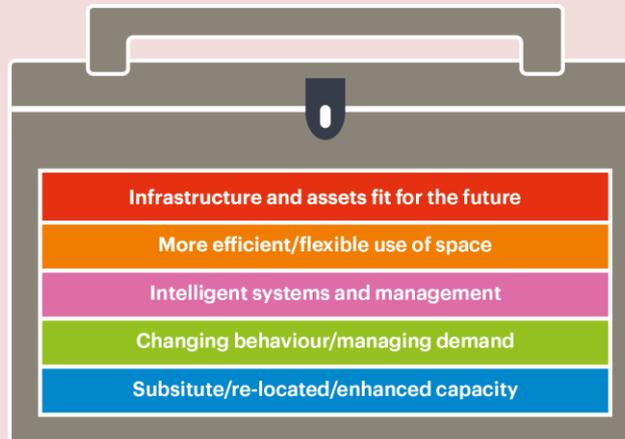
- Addressing the high noise and emission levels from both motorised traffic and the significant construction activity in the vicinity of Victoria



Unlocking:

- Ensuring that the roads and streets around Victoria help to maximise the area's development potential, for example at the Nova and King's Gate developments

The Roads Task Force has identified five key toolbox compartments. TfL, the London boroughs and others have a range of ‘tools’ at their disposal to deliver improvements, examples of which are listed below.



Short-term specific measures (pre-2016):

- Diverting the northbound arm of the Inner Ring Road to reduce severance for pedestrians and facilitate a smoother flow of buses and taxis
- Creating a more legible cycle network
- Creating a lower speed environment through the introduction of a 20mph limit

Medium-term specific measures (2016-2020):

- Introducing two-way working or contra-flows on key streets to improve legibility of bus routes, with services stopping on opposite sides of the street
- Creating a clear interchange spine at the front of the station that integrates all major transport modes, with a legible route towards Buckingham Palace Road
- Reconfiguring and/or rationalising bus routes, tour bus stands and the taxi rank to free up space for improvements to pedestrian movement and the public realm

Long-term specific measures (beyond 2020):

- Diverting the Inner Ring Road south of the station to allow for easier pedestrian movement to and from the station, and improve the flow of buses and cyclists. Re-alignment of the Congestion Charging zone to reflect the new road layout could further reduce private car use around the station and improve the place function

Potential strategic measures:

In order to ensure the correct balance between movement and place on this road, a combination of local and strategic measures is required. Potential strategic measures include:

- Reducing the emphasis on speed and vehicular efficiency on gyratories and one-way streets to improve the pedestrian experience (or removing gyratories completely)
- Reconsidering the Congestion Charging zone boundary and implementing an ultra-low emissions discount for the zone
- Reducing traffic flows through further demand management to enable increased place function, and providing alternative routes elsewhere for through-traffic

Note that this case study is designed to illustrate the challenges and potential solutions of its designated street-type. It is not intended to set out confirmed improvements to this study area.

Study: Kingston Town Centre

Kingston; Kingston-upon-Thames

Summary

Context:

Kingston is a major Outer London town centre with a strong retail and leisure-focused core. There are proposals for significant retail and leisure development with the aim of diversifying the town offer.

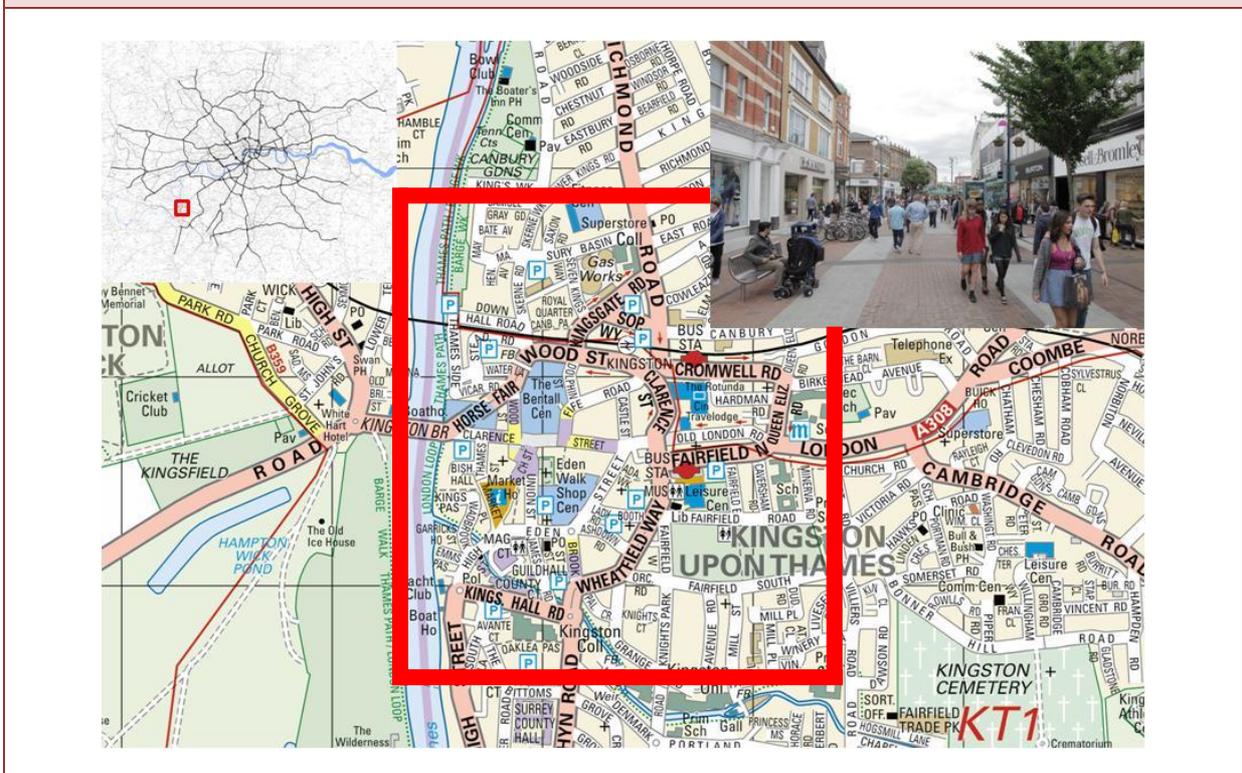
Specific findings and short-term recommendations:

Significant trip attractors including the railway and bus stations, library, and leisure centre, are segregated from the pedestrianised town centre by the wide, traffic-dominated road network.

In the short-term, the efficiency of car travel in Kingston could be slightly improved by using dynamic parking management and variable message signs displaying parking space availability. Severance could also be reduced through public realm enhancements and traffic calming, as well as improvements to pedestrian crossings from the railway and bus stations. However, this could impact negatively on traffic delays and congestion.

Importance of strategic and long-term measures:

Long-term measures to further reduce severance should be explored, including using commercial development to 'bridge' sections of the road network, and providing a more welcoming gateway to the town centre through station redevelopment associated with Crossrail 2. As a Biking Borough, there is significant potential to encourage mode shift from short-distance car trips. Opportunities to reduce through-traffic should be explored by decreasing the existing road dominance, potentially through restricting network capacity.



Road users and functions

Kingston Town Centre

Kingston is a thriving town centre, with over 700 employers providing 17,500 jobs across a range of sectors. Much of the town centre is pedestrianised (with vehicular traffic re-routed away from the town centre on a gyratory system), resulting in high footfall. Major trip attractors include the Bentall Centre, a large John Lewis store, the historic market place, the Rotunda entertainment complex, the Rose Theatre, and a number of civic buildings (Crown and County Courts, libraries and museums). Although the town centre is largely dominated by leisure and retail facilities, there are an increasing number of residential units.

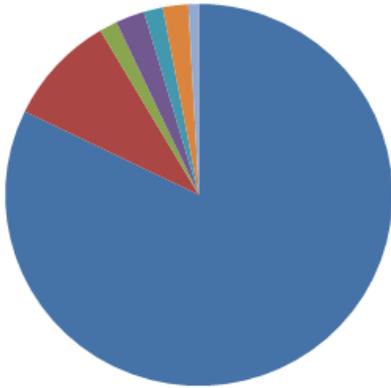
Consequently, the town centre catchment area is wide, attracting large numbers of visitors from across Surrey and south and west London, many of whom arrive on bus and rail services, and then make the short walk to the town centre.

The majority of road journeys are made by car, with flows of 3,800 cars per hour during the weekday evening peak. Vehicular traffic volumes remain high throughout the weekend as a result of the large number of leisure trip attractors in the town centre. There is also a significant volume of LGVs and delivery and servicing vehicles using the gyratory to access the shopping areas. Cycling volumes on the gyratory itself are low, with dedicated cycle routes provided in the pedestrianised areas away from the gyratory. As such, while the cycling mode share on the gyratory itself is low, the mode share more generally across the town centre is much higher, with one of highest cycle usage figures across London. Although buses represent a small proportion of vehicular traffic, Kingston is a key bus hub for southwest London, which is reflected in the higher proportion of person movements.



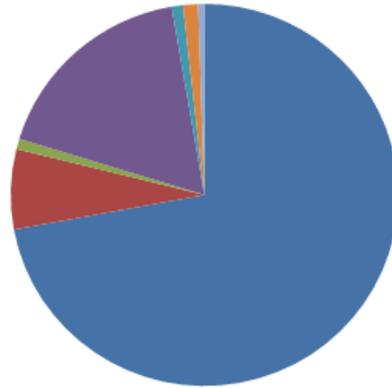
Based on the analysis of this study area, Kingston Town Centre should be considered as an example of the 'city hub/boulevard' street-type. It is important to note that this definition may change over time as users and functions of the road change.

Vehicle mode share



People movement mode share*

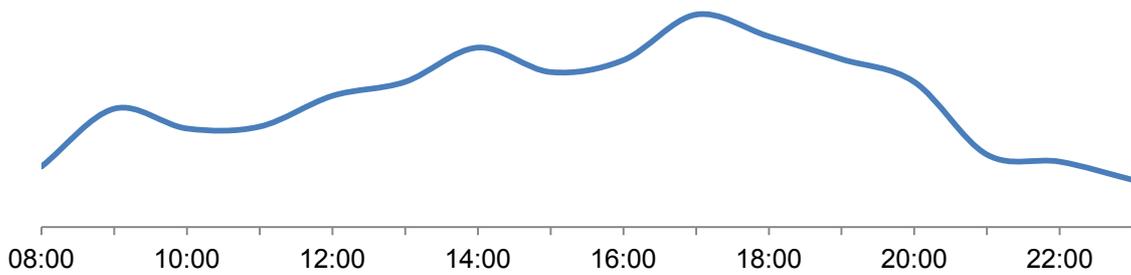
*based on vehicle occupancy



Mode share data is taken from manual classified counts over the course of a full day.



Pedestrian Profile



Pedestrian profile data is taken from pedestrian counts.



Street-type priorities

Kingston Town Centre

The main priorities for city hubs/boulevards are:

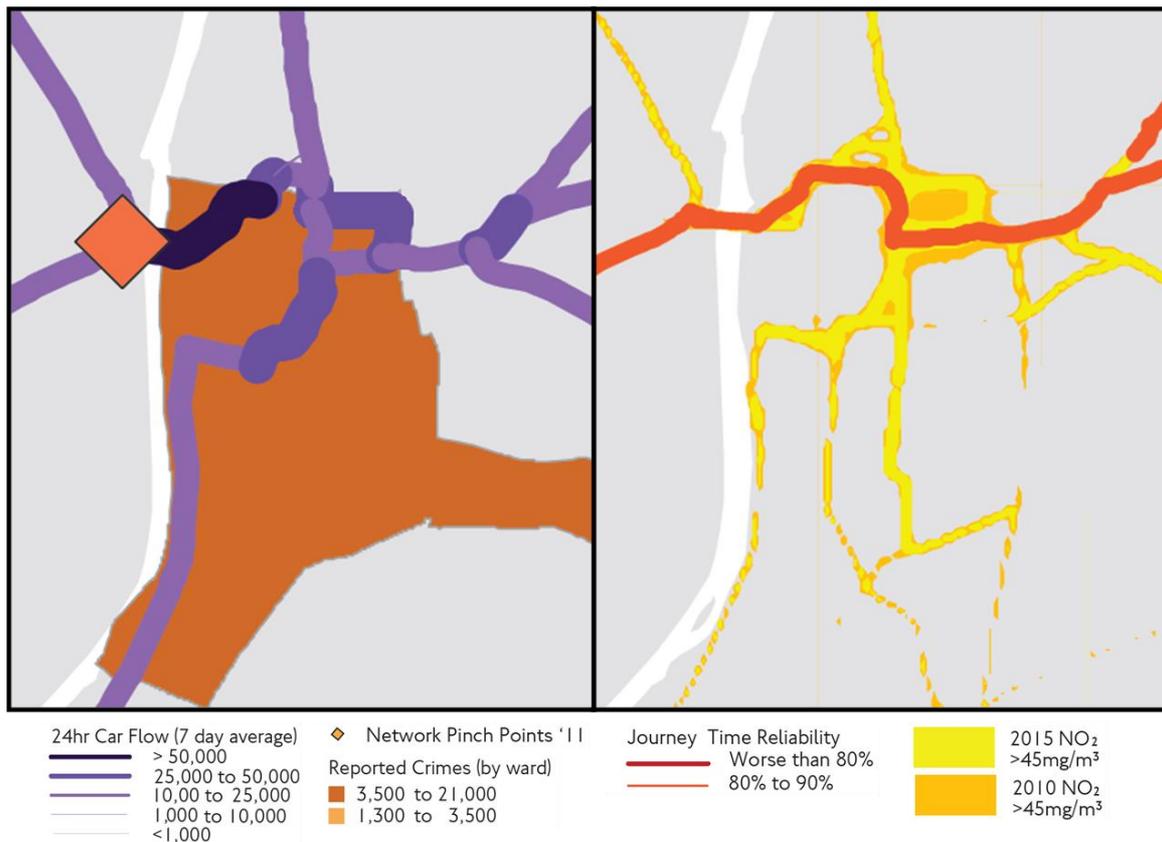
- Access for buses
- High-quality environment for pedestrians and cyclists
- Urban realm to support revitalised city quarters
- Improved safety and environmental quality
- Sufficient movement for network functioning

Fulfilling the street-type priorities

By pedestrianising the town centre area, Kingston has enhanced its reputation as a vibrant centre for commerce and culture, with generally good quality public realm, whilst also catering relatively sufficiently for the road network. There has also been a conscious effort to cater for cyclists.

However, the presence of the gyratory and the severance it creates between some areas of the town centre means that the impact of vehicular traffic is greater and more detrimental than it should be.

Challenges maps





Moving:

- Limiting continued increases in congestion at evening peak times
- Reducing congestion on the gyratory at weekends, caused by traffic queuing at car park entrances and high volumes of through-traffic
- Improving cycling access to the town centre from the east and north
- Increasing provision for pedestrian movement across roads and on desire lines, especially from the station to the town centre



Living:

- Reuniting areas separated from the main shopping area by the gyratory, particularly Old London Road and the train and bus stations



Protecting:

- Improving road safety – 38 pedestrians and six cyclists have been killed or seriously injured in the study area over the past five years. Road safety is a particular issue at the bus stops on Eden Street, where pedestrian sight lines are limited
- Reducing the number of speeding violations on the gyratory outside peak times



Functioning:

- Achieving a better distribution of parking demand, to reduce reliance on the busiest car parks and consequently reduce motorised traffic delays, particularly at weekends



Sustaining:

- Reducing noise levels and air pollution in the areas close to the gyratory, where noise levels exceed 75dB(A) and NO₂ and PM₁₀ concentrations are high. The pedestrianisation of the town centre means that this issue is largely confined to the gyratory



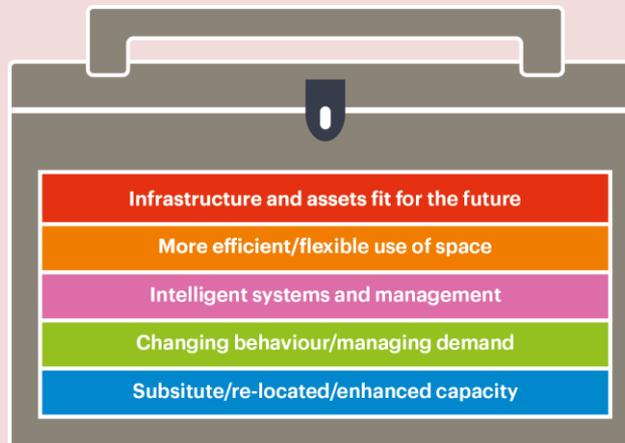
Unlocking:

- Reducing the severance caused by the gyratory between the main shopping areas and major development sites (such as North Kingston and the former gas works), to ensure that the growth potential of these areas is maximised

Addressing the challenges

Kingston Town Centre

The Roads Task Force has identified five key toolbox compartments. TfL, the London boroughs and others have a range of 'tools' at their disposal to deliver improvements, examples of which are listed below.



Short-term specific measures (pre-2016):

- Improving pedestrian access from council car parks
- Introducing variable messaging on car park availability to address car park congestion around the gyratory
- Implementing Pedestrian Countdown outside the rail station and at other at-grade crossings to improve access to areas cut off by the gyratory
- Traffic calming measures (such as a 20mph zone in the town centre)

Medium-term specific measures (2016-2020):

Kingston has been shortlisted as a potential 'Mini-Holland' borough, which aims to transform cycling opportunities. This could include:

- Active network management, to hold vehicular traffic back from entering onto the gyratory (particularly at weekends)
- Constructing new cycle routes north to Richmond and south on Portsmouth Road
- Improving the cycle route to Wimbledon

Long-term specific measures (beyond 2020):

- Providing a new bus station on Eden Street
- Creating an integrated interchange between Crossrail 2, other modes and the town centre, if proposals for the regional Crossrail 2 route are progressed

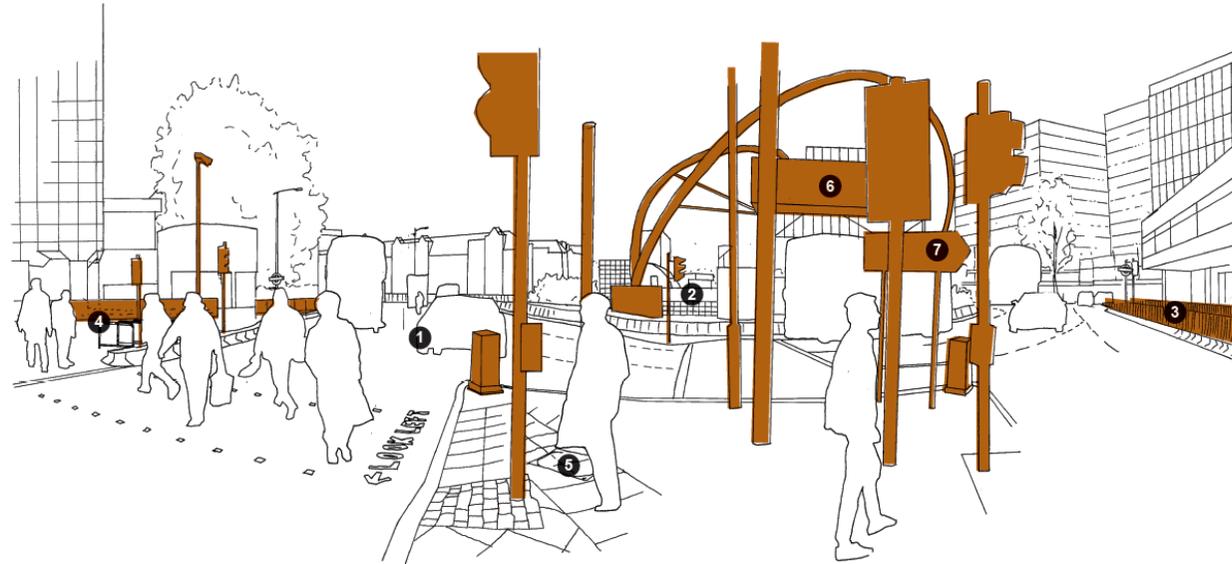
Potential strategic measures:

In order to ensure the correct balance between movement and place on this road, a combination of local and strategic measures is required. Potential strategic measures include:

- A targeted travel demand management programme, to reduce the volume of single occupancy car trips. This should involve encouraging behavioural change through promotion of car sharing schemes and public transport services
- Re-timing freight deliveries and using consolidation centres to reduce conflict with other modes

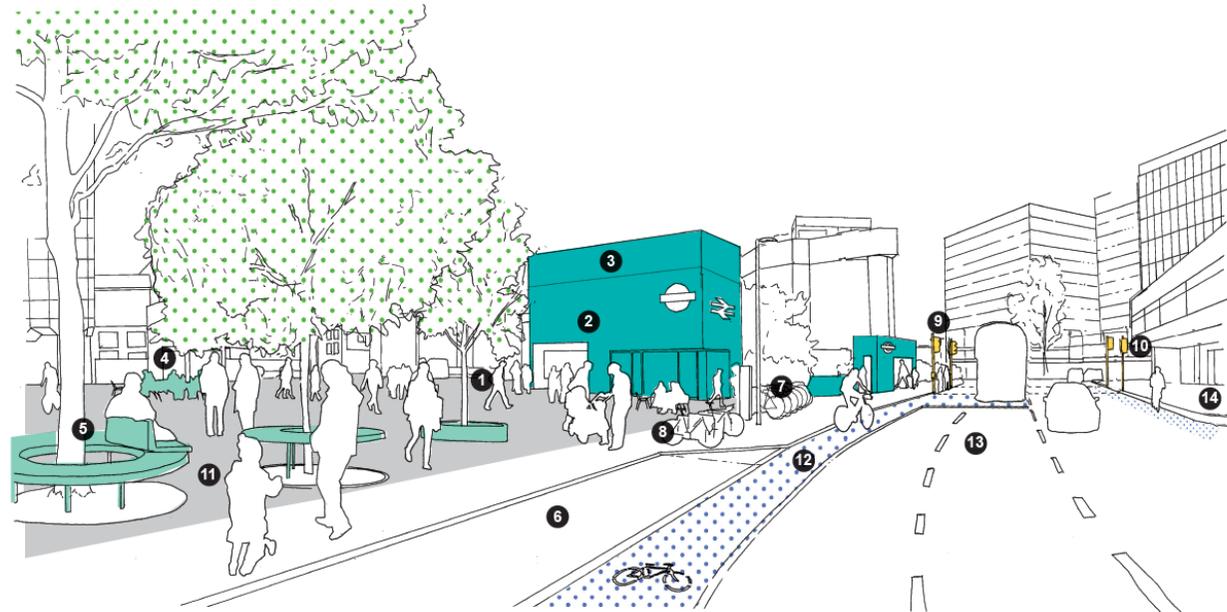
City hub/boulevard (peninsular) – typical issues (as found in the case studies)

- 1 Disorientating space and high motorised traffic flows result in an unwelcoming pedestrian environment
- 2 Pedestrian desire lines not reflected in the provision of routes
- 3 High number of collisions
- 4 Large area of inaccessible space in centre of roundabout
- 5 Guardrails obstruct pedestrian desire lines and create undesirable visual clutter, and can be a danger for cyclists
- 6 High levels of congestion during peak periods
- 7 Challenging junction layout for cyclists
- 8 Insufficient and poorly positioned cycle parking
- 9 Inconsistent and poor quality paving
- 10 Poorly placed and badly designed advertising boards
- 11 Cluttered streets with redundant and unnecessary signage



City hub/boulevard (peninsular) – ingredients

- 1 Peninsularisation of the roundabout to unlock a new public realm
- 2 New station entrance to enhance legibility and pedestrian access to public transport
- 3 Well-designed advertising integrated into built form
- 4 High-quality and well-located bus stop with a large shelter and live service information, to facilitate interchange
- 5 Café seating in new public space
- 6 Street trees with integrated seating
- 7 Inset loading bays to improve ease of servicing and deliveries
- 8 Well-located cycle hire docking station
- 9 High-quality cycle parking
- 10 Smart traffic signals to smooth vehicular traffic flow and reduce congestion
- 11 Improved formal crossings with pedestrian countdown
- 12 High-quality and well-maintained materials and finishes to present a world class public realm
- 13 Generous cycle lanes and advanced stop lines for cyclists
- 14 Low noise surfacing and anti-slip treatment where appropriate
- 15 Guardrails removed, and junction geometry redesigned

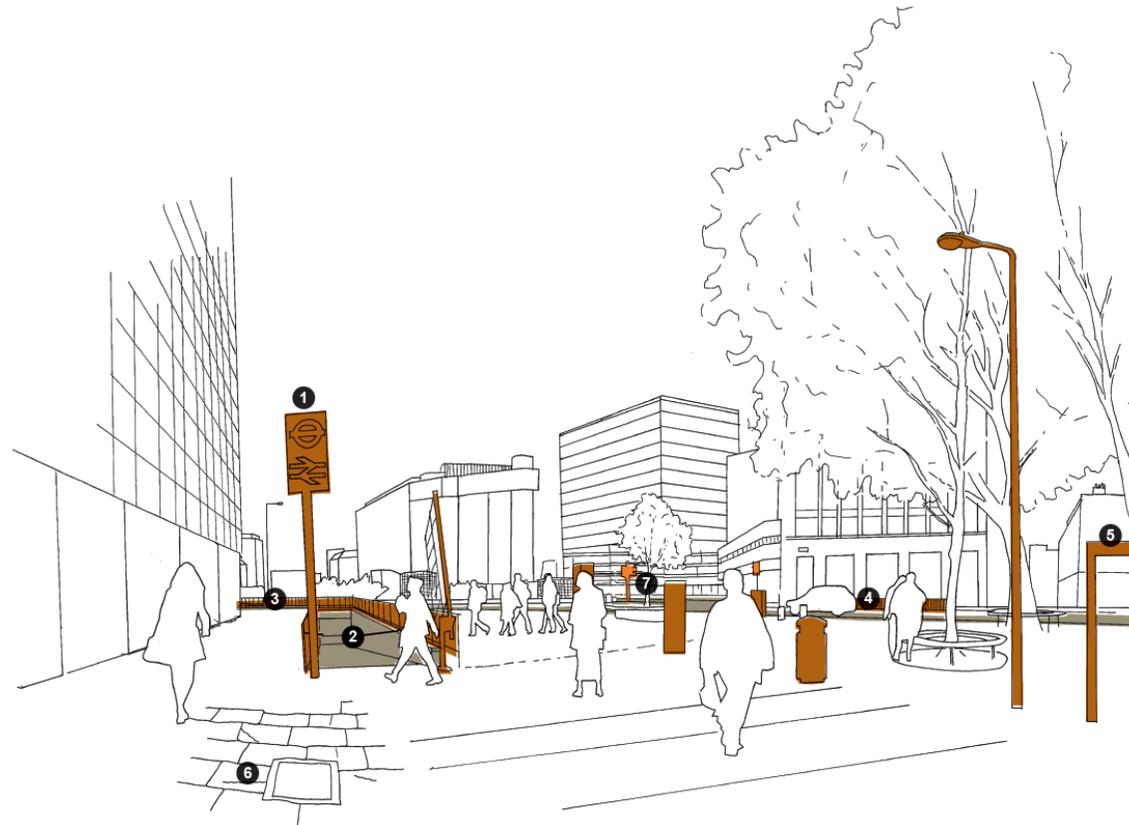


City hub/boulevard (peninsular) – aspirational view



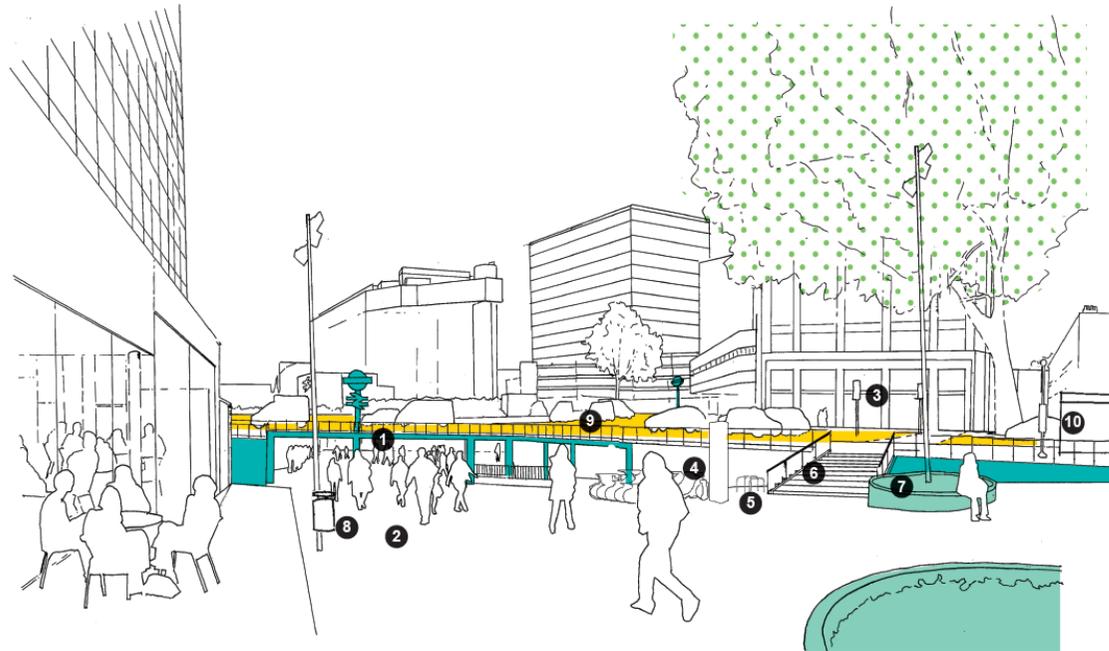
City hub/boulevard (undercroft) – typical issues (as found in the case studies)

- 1 Transport interchange has poor presence, legibility and access
- 2 Underpass is narrow and unpopular with a poor perception of safety
- 3 Limited ground level pedestrian connectivity across busy roundabout
- 4 Guardrails obstruct pedestrian desire lines and create undesirable visual clutter, and can be a danger for cyclists
- 5 Cluttered streets with redundant and unnecessary signage
- 6 Poor quality paving
- 7 Challenging roundabout layout for cyclists
- 8 High levels of congestion during peak periods



City hub/boulevard (undercroft) – ingredients

- 1 Spacious undercroft, with direct sight lines, and an improved station entrance, to replace narrow subway and serve as a through-route for pedestrians and cyclists under roundabout
- 2 Wide, gently sloping access route to create a new public space with seating and café areas
- 3 Smart traffic signals to smooth vehicular traffic flow and reduce congestion
- 4 Cycle hire docking station
- 5 High-quality cycle parking
- 6 Wheeling ramps to make stairs accessible to cyclists
- 7 Street trees with integrated seating
- 8 Consolidated street furniture, such as bins attached to streetlights, to reduce clutter
- 9 High-quality materials and finishes to present a world class public realm.
- 10 Cycle lanes incorporated into roundabout layout
- 10 High-quality and well-located bus stop with a large shelter and live service information, to facilitate interchange



City hub/boulevard (undercroft) – aspirational view



Summary

Successful city hubs/boulevards should provide vibrant focal points for business and culture. They should reduce the impact of high traffic volumes while accommodating high pedestrian flows, bus access and essential traffic.

Having considered the aims and undertaken the case studies, the following approach is suggested for city hubs/boulevards:

Functions

- Part of the strategic road network but with high aspirations for quality of place
- Often the location for new city quarters and major development plans/aspirations
- Important destinations for visitors and residents, with a wide range of leisure, retail, community and other services

Users

- A mix of all traffic and in high volumes
- Buses are particularly important for people movement
- Significant proportions of goods vehicles also passing through
- Pedestrian movement is high throughout the day (for example, modelling for the Southern roundabout at Elephant & Castle has forecast 13 million annual pedestrian crossings – equal to the forecast number of vehicles through the junction)

Challenges

- The volume, complexity and diversity of demands makes the balance hardest to strike here
- Many locations in this typology are currently under-performing against the 'place' functions

Priorities (key service standards)

- Access for buses
- High-quality environment for pedestrians and cyclists
- Urban realm to support revitalised city quarters
- Improved safety and environmental quality
- Sufficient movement for network functioning

Providing for other users

- Goods vehicles accommodated out-of-hours as much as possible
- Targeted demand management can help to ensure private vehicle trips are high-value/essential trips only