

ARUP



London Borough of Waltham Forest  
Transport Topic Paper

Supporting Waltham Forest's New Local Plan

Report  
January 2021



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# Introduction

## Setting the scene in Waltham Forest

### Introduction

This Transport Topic Paper has been prepared to support the Waltham Forest Local Plan (2020-2035) and aims to summarise existing transport conditions in Waltham Forest, reflecting pre-Covid-19 conditions and some interpretation of the potential future changes to these.

Given continued uncertainty relating to the Covid-19 pandemic and future transport conditions this Topic Paper uses the most up to date information available to provide a professional assessment of the Council's proposed transport interventions and their ability to meet the aspirations for housing growth in the Borough.

This Transport Topic Paper considers the following:

- The Local Plan context
- Transport context pre-Covid-19
- Transport changes related to Covid-19
- The transport vision and aims for the Borough
- Proposed transport schemes and an assessment against the vision.

Waltham Forest has undergone a significant transformation since the last local plan, as movement networks have changed dramatically through a range of different measures and interventions, with the Enjoy Waltham Forest programme being a key catalyst in changing the direction towards a focus on walking and cycling since its establishment in 2013. Significant progress has been made since then in creating a safer and more pleasant environment for people to walk and cycle in their neighbourhoods and across the Borough more broadly.

The Covid-19 pandemic has reinforced the need for the Borough to fully embed the principles that underpin the 15-minute neighbourhood in all of their planning. This will enable residents and visitors to Waltham Forest to meet most, if not all, of their needs within a short walk or cycle (Figure 1). This will support residents and visitors to live a healthy and sustainable life.

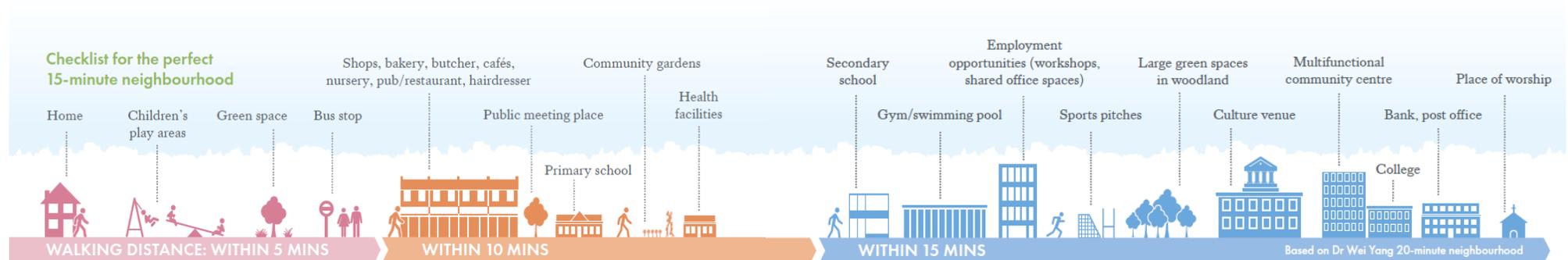


Figure 1 – Checklist for the perfect 15-minute neighbourhood (source: Waltham Forest Public Service Strategy)

## Introduction

### Setting the scene in Waltham Forest

#### Draft Local Plan (2020-2035)

Significant population growth targets for Waltham Forest are set out in the Intend to Publish London Plan (2019), which outlines a target for 27,000 new homes to be delivered in Waltham Forest by 2035. This is supported in Waltham Forest's Local Plan by identifying key growth locations as shown in Figure 2. To facilitate this growth Waltham Forest will need to continue to develop and support sustainable travel across the Borough.

To accommodate and promote growth in a sustainable way, as well as support existing residents, the Borough has developed their Local Plan (2020-2035), which sets out three overarching priorities for the Borough:

- I. Safer cleaner streets,
- II. Ensuring a decent roof over the heads of our residents,
- III. Improving the life chances of all our residents.

To support these overarching objectives the Draft Plan sets out 6 Golden Threads (Figure 3) which will guide all activities within the Borough.

These principles have informed this Transport Topic Paper, and are used as a basis to assess the potential for sustainable growth within the Borough.



Figure 3 - 6 Golden Threads

Specific transport objectives have also been set to

- *Improve active and sustainable transport choices across the Borough and beyond, building on the success of the 'Enjoy Waltham Forest programme', and encouraging wider integrated walking and cycling routes.*
- *Ensure timely, strategic and local infrastructure investment and delivery to support good sustainable growth for communities both now and in the future, through working with residents, partners, investors, developers and providers.*

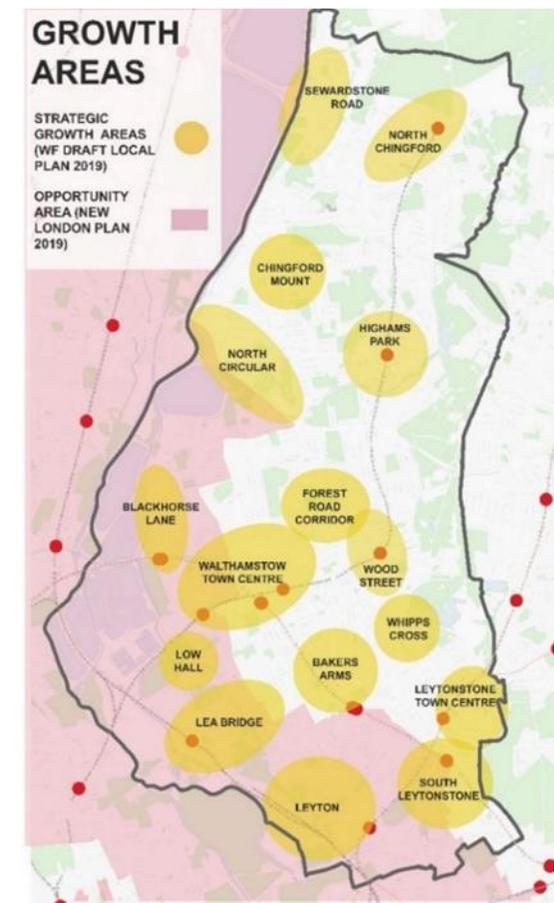


Figure 2 – Strategic Growth Locations

## Introduction

### A new policy context

#### A renewed focus on active travel

Nationally and within London there is a renewed focus on how we can enable more people to walk and cycle safely. Waltham Forest has been at the forefront of progressing an approach focused on active travel through their Enjoy Waltham Forest and Mini-Holland programmes, and again has the opportunity to embed active travel through the development of their new Local Plan.

Recent policy updates include the Department for Transport's 'Gear Change' which sets out a vision and the actions required to make England a walking and cycling nation.

Whilst not new policy, the Streetspace for London programme has been established to provide funding and guidance to Local Authorities to enable London to reopen and adapt to Covid-19 challenges. This has placed an even greater emphasis on funding schemes that enable trips to be made by walking and cycling wherever possible.

This new policy direction needs to be considered alongside the current Mayors Transport Strategy (MTS, 2018) and the goal set out within it for 80% of all trips in London to be made on foot, by cycle or using public transport by 2041. These targets build upon a requirement for all transport interventions to be aligned with Healthy Streets principles.

To support achievement of the overarching MTS target, nine key supporting outcomes have also been developed. The outcomes and objectives are included in Table 1 and further information including Borough specific targets are included in Waltham Forest Local Implementation Plan 3 (LIP3).

Together these policy, guidance documents and temporary delivery programmes provide a strong basis for developing a healthier and more sustainable transport network in Waltham Forest.

Table 1 –Mayors Transport Strategy Targets, full detail provided in LIP3

Outcome	Objective
<b>80% walking cycling and public transport</b>	Londoners' trips to be on foot, by cycle or by public transport
<b>1. London's streets will be healthy and more Londoners will travel actively</b>	Londoners to do at least the 20 minutes of active travel they need to stay healthy each day  Londoners have access to a safe and pleasant cycle network
<b>2. London's streets will be safe and secure</b>	Deaths and serious injuries from all road collisions to be eliminated from our streets
<b>3. London's streets will be used more efficiently and have less traffic on them</b>	Reduce the volume of traffic in London.  Reduce the number of freight trips in the central London morning peak.  Reduce car ownership in London.
<b>4. London's streets will be clean and green</b>	Reduced CO2 emissions.  Reduced NOx emissions.  Reduced particulate emissions  Reduced particulate emissions
<b>5. The public transport network will meet the needs of a growing London</b>	More trips by public transport - 14-15 million trips made by public transport every day by 2041.
<b>6. Public transport will be safe, affordable and accessible to all</b>	Everyone will be able to travel spontaneously and independently.
<b>7. Journeys by public transport will be pleasant, fast and reliable</b>	Bus journeys will be quick and reliable, an attractive alternative to the car
<b>8. Active, efficient and sustainable travel will be the best options in new developments</b>	No objective specified
<b>9. Transport investment will unlock the delivery of new homes and jobs</b>	No objective specified

## Scene setting Waltham Forest population

### Waltham Forest population

The Greater London Authority (GLA) Population Projections (2017) outline that Waltham Forest currently (2020) has a younger average population than other London Boroughs, with 22% of residents between ages 0-15 years old. Having a younger than average population provides an opportunity to develop active travel habits at a young age, which are then more likely to be maintained into adulthood.

The existing spatial distribution of 0-15 year olds and 65+ is shown in Figure 4. This shows that there is a significant difference in age profile between the north and south of the Borough, with a greater proportion of young people living in the south of Waltham Forest and the converse true in the north.

TfL research on Understanding Diverse Communities (2019) provides an insight into travel patterns for different age groups. In general, older Londoners tend to travel less by all means of transport apart from bus and car where they have higher use rates compared to other age groups.

Considering the spatial distribution of age groups across Waltham Forest will be important in ensuring the future transport network is responsive to residents specific need to enable an increase in use of sustainable modes of travel.

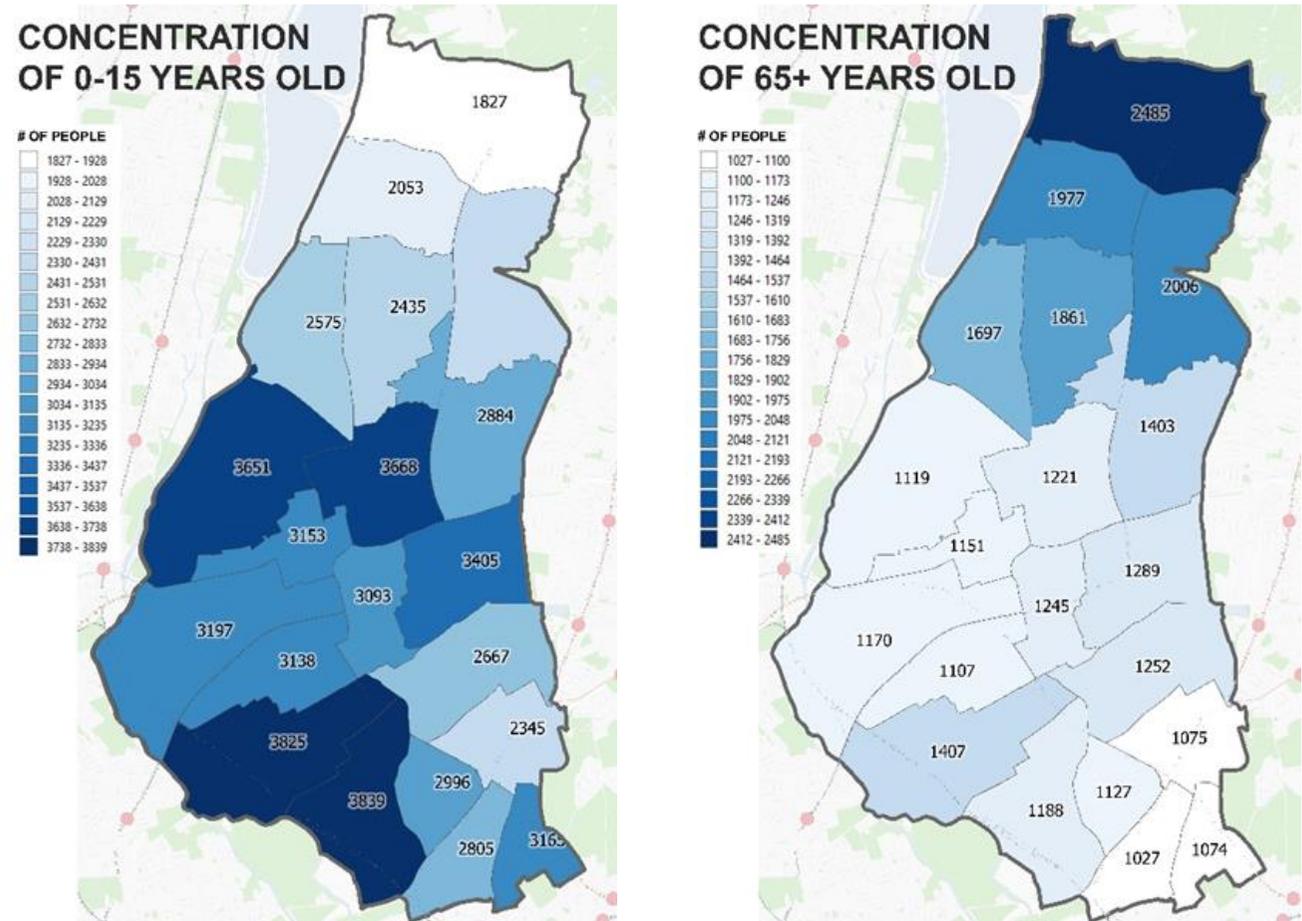


Figure 4 – Waltham Forest resident age distribution 0-15 and 65+

## Scene setting

### Waltham Forest transport context (pre-Covid-19)

#### Enjoy Waltham Forest

The 'Enjoy Waltham Forest' programme combines a series of transport and public realm improvements, as well as complementary culture change initiatives, to promote active travel and increase liveability within the Borough.

This has had significant success to date, delivering the **3<sup>rd</sup> highest mode share for active and sustainable travel in outer London** accounting for **67% of all journeys**, and it is also the only outer London Borough where **walking and cycling** combined has a **greater** mode share than private car (38%).

The Council has invested heavily in walking and cycling over the past five years. As shown in Figure 5, the cycle network is denser in the south of the Borough where the majority of the Enjoy Waltham Forest projects have been concentrated. Segregated cycle routes have been delivered along some of the Borough's main roads towards town centres to provide safety and convenience to cyclists.

Within residential areas, the Enjoy Waltham Forest programme has focussed on liveability - improving the overall environmental conditions to make cycling and walking safer and more enjoyable, in line with the 15-minute neighbourhoods concept.

This has included introducing modal filters, one-way

systems, time road closures, improved pedestrian infrastructure, SUDS (Sustainable Urban Drainage Systems) and public realm improvements which reinforce priority for people walking and cycling, by slowing motorised traffic.

So far, these have been implemented in the residential areas between Forest Road and Lea Bridge Road and around the Francis Road/North Leyton areas, where a significant proportion of the Borough's new housing growth is planned. These holistic schemes have a multitude of benefits beyond transport including reducing flood risk, enhancing local community spirit and improving overall wellbeing.

The 'Town Centres' schemes cover large areas around the Borough's main shopping districts which have targeted reducing motorised traffic, improving key crossings and pedestrian routes, and delivering public realm improvements. Connectivity to these centres has been improved through protected cycle routes.

Further expansion of the Enjoy Waltham Forest programme has potential to support sustainable housing growth within the Borough, by embedding 15-minute neighbourhood principles which will enable an increase in local walking and cycling trips and reduce demand on the highway and public transport networks.

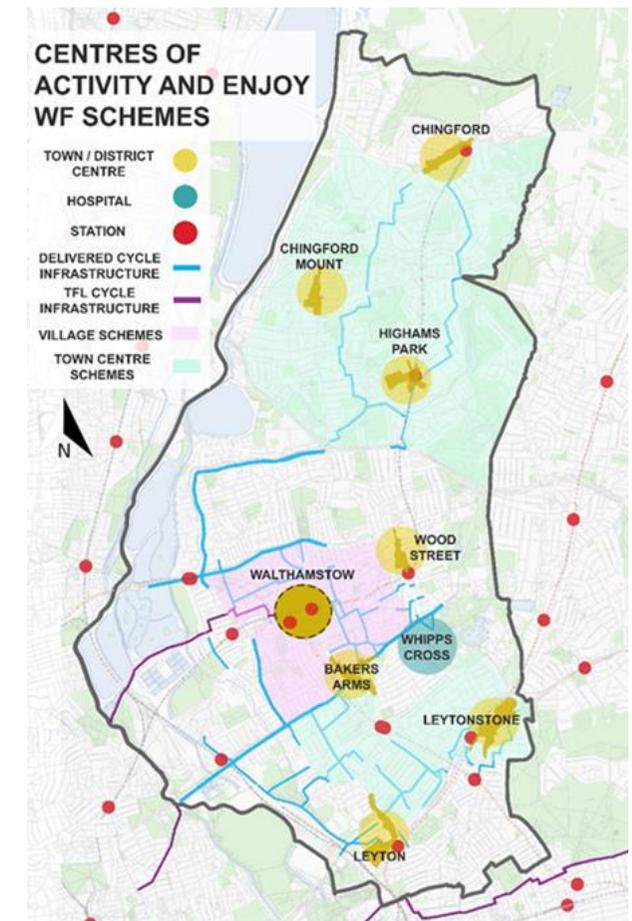


Figure 5 – Location of centres of activity in Waltham Forest

## Scene setting Waltham Forest transport context (pre-Covid-19)

### Walking

The MTS highlights the potential for walking and cycling to replace short car-trips in Outer London. Figure 6 demonstrates that the centres of activity correlate with areas of higher population density, particularly in the south of the Borough. Higher population densities around centres of activity highlight that key services can be accessed by the majority of residents within short distances, and therefore initiatives to support movement by sustainable transport should be prioritised here.

Residential densities in the north of the Borough are generally lower than those in the south, reflecting the suburban character found north of the A406. As such, there are fewer centres of activity, which are generally located adjacent to rail stations.

There are north-south permeability issues caused by the strategic road network, especially the A406, which can only be crossed in six places. This can create highway congestion around bottlenecks during busy periods impacting on the environment in these locations. Additionally, these connections are made via underpasses or pedestrian footbridges, both of which are not well overlooked, which can lead to intimidation and discourage walking.

Waltham Forest received funding from the Road Safety Trust produced to undertake a consultation on perceived safety across Waltham Forest's roads. The results of these surveys are shown in Figure 7. People walking identified traffic, crossing points, road layout and speed limits amongst the main issues. These will need to be addressed to encourage uptake of walking.

Future housing development can be accommodated more sustainably when it is within walking distance from local transport hubs and local centres in turn increasing the viability of services.

Figure 7 – Road Safety Trust Consultation response

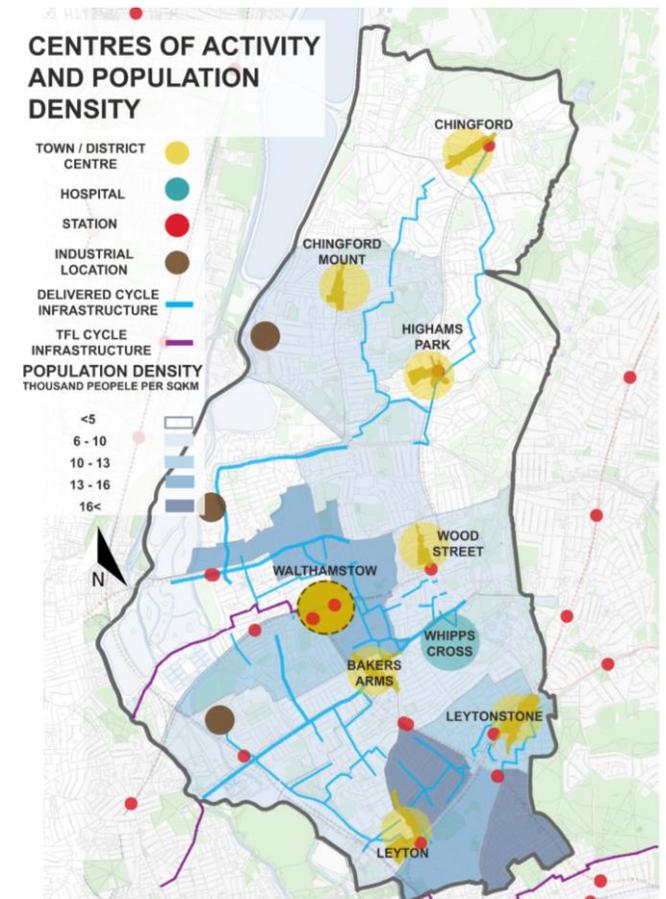
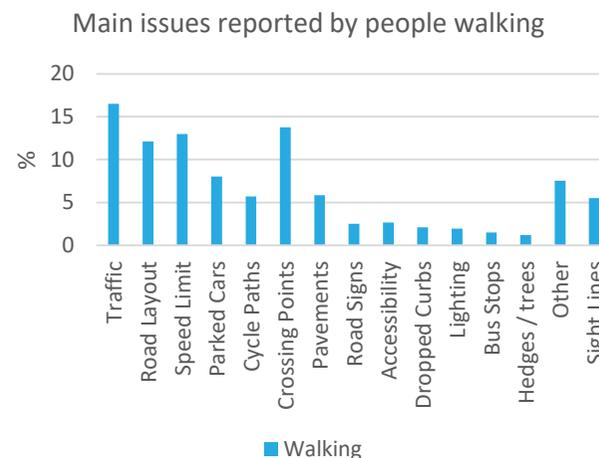


Figure 6 – Centres of activity and ward population density 2018 (source: GLA ward atlas data)

## Scene setting

### Waltham Forest transport context (pre-Covid-19)

#### Cycling

Cycling has the potential to replace both short and longer-distance car based trips, relieving pressure on congested parts of the highway network. The existing and proposed cycle network is shown in Figure 8. The majority of the existing and proposed cycle network is concentrated in the south of the Borough, with only two cycle routes through the north of the Borough with only one of these providing a continuous connection south of the A406 towards transport hubs and larger town and district centres.

In addition, bike share services are available in the south of the Borough, but not in the north. This combined with fewer formal cycle routes makes casual cycling much less attractive north of the A406. To supplement cycle share schemes Enjoy Waltham Forest allows residents to hire cycles including cargo and electric cycles for up to three weeks with the Community Bike Scheme.

Work is continuing to identify the aspirational cycle network in the north of the borough to make it more interconnected and cover strategic links to regional opportunities such as Meridian Water. It is expected that when complete, the existing cycling network, in conjunction with TfL and Waltham Forest proposals will connect key destinations by fully protected lanes, improving journey times and safety for cyclists.

Figure 8 shows destinations which will be accessible from Walthamstow Central via formal, protected routes. This also shows that cycling from Walthamstow to Westfield Stratford will take 15-20 minutes through a network of protected cycle lanes, once proposed works are complete, linking the Borough to a large metropolitan centre which is frequently accessed via private car.

The existing and proposed cycle network in Waltham Forest enables people to travel safely within the Borough and to key destinations externally without use of a car or public transport. This is particularly true in the south of the Borough where infrastructure is concentrated.

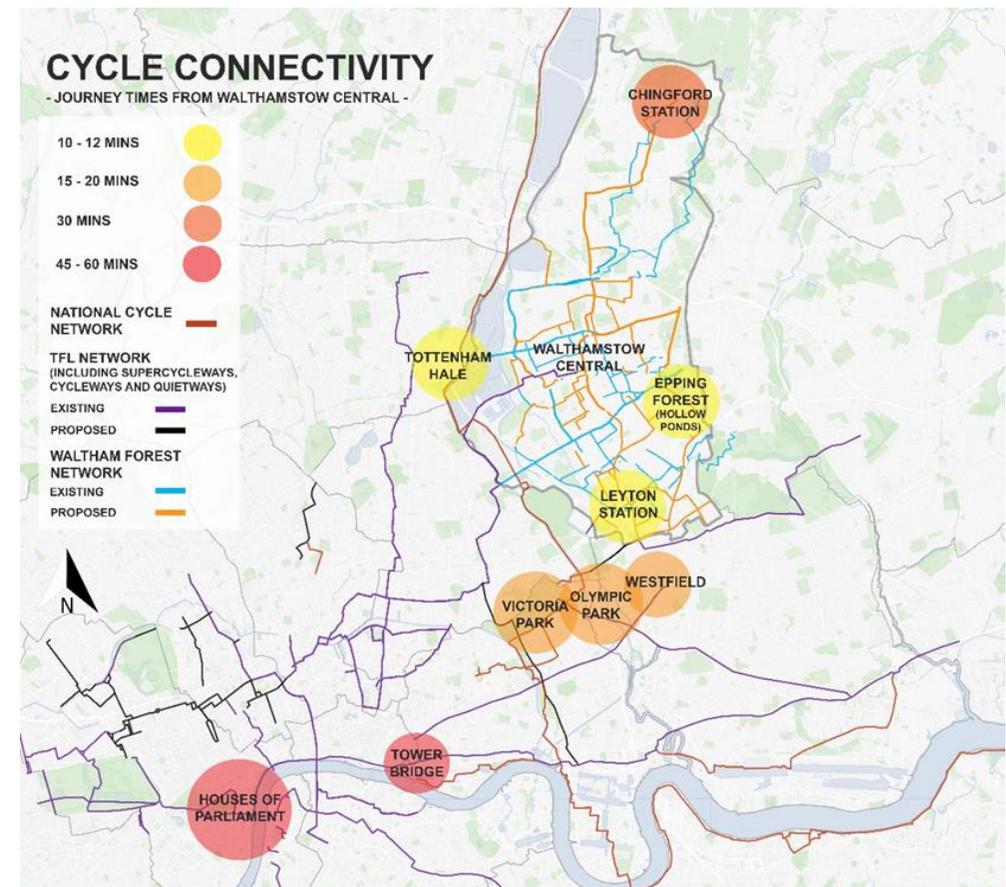


Figure 8 – Cycle Connectivity

## Scene setting Waltham Forest transport context (pre-Covid-19)

### Buses

Bus services play an important role in deprived communities where cost of travel is a key consideration, where there isn't access to rail services and where journey lengths mean active travel is not feasible to reach local services or transport hubs. This is particularly relevant in the north of the Borough where there are fewer rail services making buses a core part of the public transport network.

Managing the efficiency of the system must be a priority to ensure that bus services are competitive compared to private car travel. Figures 9 and 10

respectively show average bus speeds between 2013 – 2019 and bus speeds across the Borough in 2016/2017. This suggests that average bus speeds in Waltham Forest have decreased between 2013-2019 and lower speeds are concentrated through the centre and south of the Borough and at key junctions.

This is likely to be caused by a number of factors including:

- Increased boarding times associated with increased usage;
- Reduced speed limits on some roads;
- Improved pedestrian/cycle priority on strategic roads; and
- Increasing traffic volumes and rising levels of congestion.

Given these challenges, it is key to ensure that, where possible, buses are prioritised over other forms of motorised traffic in order to avoid any further increases in journey times for users.

The generally low speeds at junctions indicate that bus priority measures could have a significant impact on improving bus speeds and therefore overall journey times which would make bus travel a more appealing option for movement within and outside of the Borough.

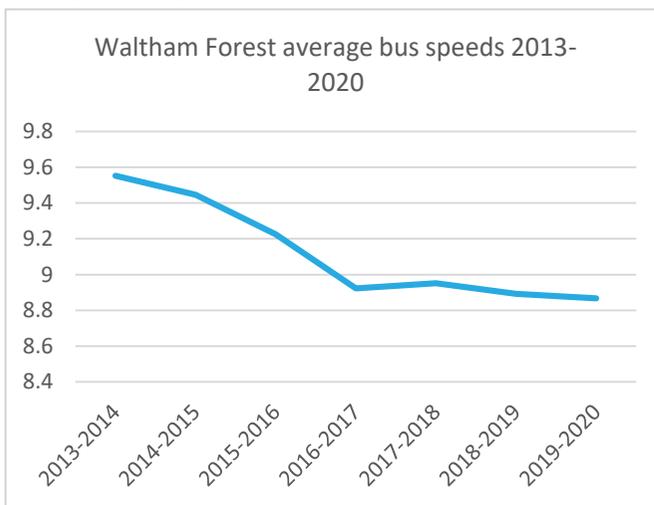


Figure 9 - Average bus speeds in Waltham Forest (2013/14 – 2019/20)

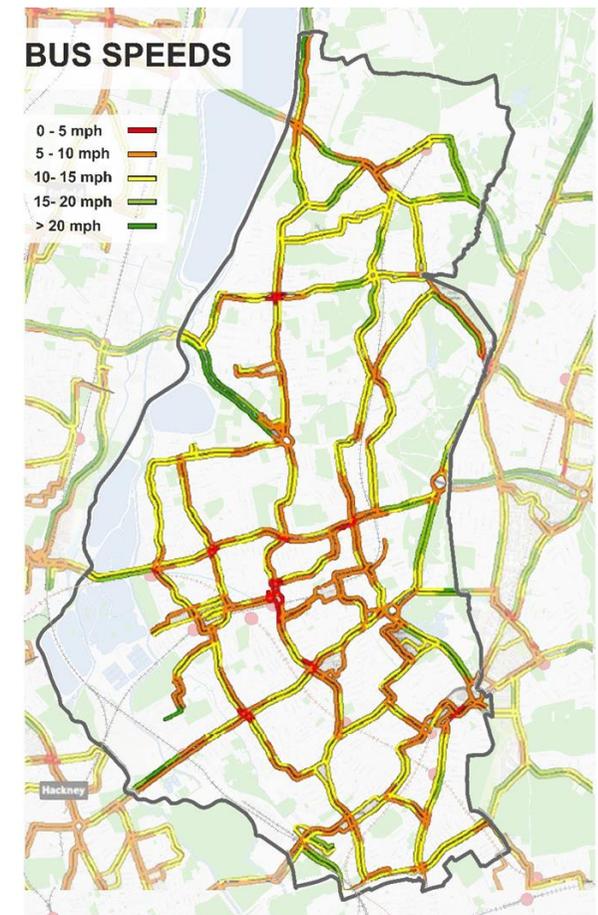


Figure 10 - Monday - Friday am bus speeds 2016/2017 (LIP, 2019)

## Scene setting

### Waltham Forest transport context (pre-Covid-19)

#### Underground and Overground

The majority of the Underground and Overground stations in Waltham Forest are concentrated in the south of the Borough. In 2018 the busiest stations were Walthamstow Central (generating 27,000 trips per regular weekday), Leyton (20,730), Leytonstone (17,320), and Blackhorse Road (16,040).

All stations experienced an increase in entries and exits between 2013-2016, with Walthamstow Central and Blackhorse Road, which provide access to the Victoria Line, experiencing an average 39% increase in entries and exits between 2013 and 2016. The increase in passengers at Central Line stations (Leyton and Leytonstone) was 11% over the same period.

Recent data shows that overcrowding at stations and along the Victoria and Central Lines was a significant issue during weekdays at peak hours. On weekdays, approximately 40% of all trips departing from Waltham Forest were to central London during the morning peak, with the same proportion returning during the evening peak, showing a clear commuting pattern.

The main stations people travelled to on weekdays in 2018 were Liverpool Street, Oxford Circus and Kings Cross St. Pancras. On the weekends, travel patterns are more distributed, with a greater number of trips to locations such as Stratford and Seven Sisters. The primary destinations from Underground/Overground stations in Waltham Forest for a combination of weekdays and weekends are shown in Figure 11.

There was significant demand at stations within Waltham Forest, with a focus on commuting towards central London on weekdays and more evenly distributed towards retail destinations on weekends. Increasing development within the Borough could increase these demands, however, the effect is likely to be dampened given increased levels of working from home as a result of the current Covid-19 pandemic, which is discussed further later in this report.

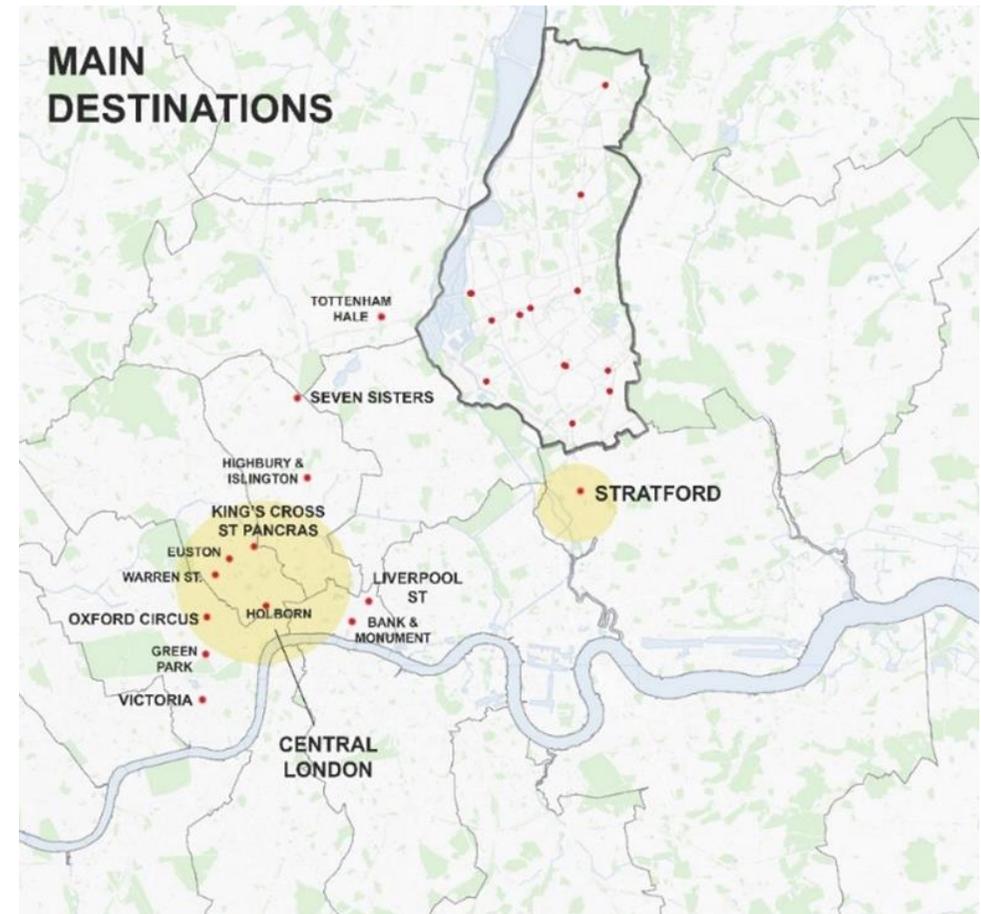


Figure 11 - Main Underground and Overground destinations (Source: TfL Crowding Data, 2018)

## Scene setting Waltham Forest transport context (pre-Covid-19)

### Highways

Waltham Forest contains a number of strategic roads which provide vehicular access into and out of the Borough as well as providing wider links across London. These are utilised by residents and visitors travelling in the Borough. The A406 and A12 are designated red routes in the Transport for London Road Network (TLRN) and carry the greatest volumes of traffic.

The A406 runs east-west through Waltham Forest, and the A12 bisects the south east corner of the Borough. Both routes create severance as they are grade separated, with the North Circular specifically contributing to the north-south divide in the Borough.

This higher rate of driving in the north of the Borough contribute to traffic congestion experienced towards the M25 and M11 in Epping Forest District, which was clearly identified through transport modelling (utilising the VISUM (v14) Highway Assessment Model to assess the Epping Forest District Council (2019) Local Plan Submission Version (LPSV).

This work identified that a number of routes are operating severely over-capacity, specifically the Wake Arms roundabout within the Epping Forest SAC, which provides a link from Waltham Forest to the M25 J26. The A121/A104 links through Epping Forest are also identified as experiencing high levels

of congestion, queuing and delay. This is anticipated to deteriorate further if planned growth occurs without appropriate provision of sustainable transport alternatives.

Vehicle usage within the Borough, particularly in the north, has potential to adversely affect the protected habitats in Epping Forest Special Area of Conservation (SAC). The impacts of which have been reviewed in the Habitats Regulation Assessment (HRA) and supplementary documents.

The HRA assessed vehicle traffic and associated emissions which would be generated by committed growth in London (including the Local Plan) between 2019 – 2041, as shown in Figure 12. This study found that the impacts on air quality due to increases in vehicles on identified routes in the Borough cannot be classed as insignificant. It concludes that an Air Quality Monitoring Strategy should be developed and implemented alongside the Local Plan.

Car use for commuting is much higher in the north of the Borough than the south, which may impact on Epping Forest. To support sustainable growth and improvements to air quality in the Borough alternative transport initiatives to encourage people out of their cars will need to be implemented north of the A406.

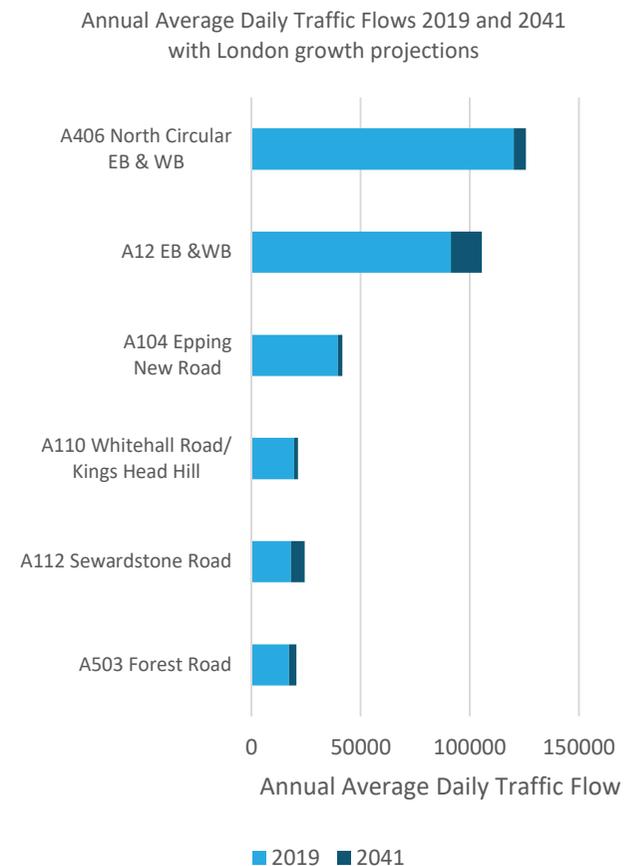


Figure 12 – Annual Average Daily Traffic (AADF) flows 2019 and 2041 with London growth projections (HRA Air Quality Modelling, 2020)

## Scene setting Waltham Forest transport context (pre-Covid-19)

### ULEZ (Ultra Low Emission Zone)

The ULEZ has been operational in central London since 2019, with the aim of reducing air pollution and improving the health of Londoners. The ULEZ imposes emissions standards on all vehicles entering the zone and requires payment to enter for those that don't meet these standards. The ULEZ is expected to be extended in October 2021 to include the entire area within the north and south circular roads.

There are likely to be numerous positive impacts from extending the ULEZ to cover the majority of Waltham Forest including improved air quality, potential reduction in traffic volumes, congestion and the potential subsequent effect of less road traffic collisions. This may also lead to further positive effects such as creating a more pleasant environment for people walking and cycling, further embedding active travel.

However, commuters from outside the Borough seeking to avoid paying the ULEZ charge could choose to park outside the ULEZ boundary in the north of the Borough and take public transport to their final destinations. This would cause significant pressure on parking and additional strain on the public transport system, exacerbating the current differences in travel patterns between the north and the south.

### Parking

The existing Controlled Parking Zones (CPZ's) are shown in Figure 13. These are concentrated south of the A406, with only a few north of the A406.

The difference in concentration of CPZ's (Figure 13) reflects the difference in households who have access to a car across the Borough. With approximately 35%-75% of 2011 Census respondents in the south of the Borough not having access to a car or van compared to 0%-37.5% of respondents in the north of the Borough (shown in Figure 14).

Greater proportions of the population with access to a car in the north reflects the suburban character when compared to the south. Higher levels of car ownership are exacerbated by commuter parking in the north of the Borough.

CPZ's could be used as a tool to manage demand for parking at stations in the north of the Borough which may be impacted by increased commuter parking related to ULEZ implementation.

Overall, the greater levels of car ownership and car dependency in the north represent a challenge in achieving modal shift in line with MTS targets and a significant need to manage parking demand. There is a significant opportunity to reconsider parking policy to favour sustainable transport in light of the planned ULEZ extension.



Figure 13 - Controlled Parking Zones (CPZ) in Waltham Forest

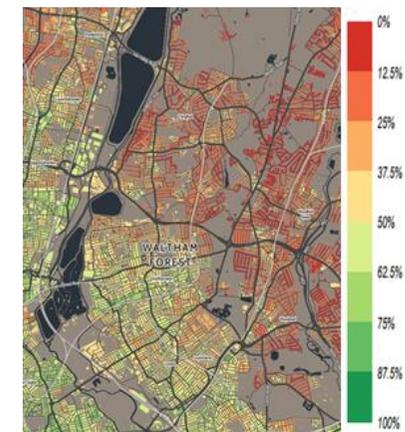


Figure 14 - Percentage of all households at MSOA level without access to a car or van Census, 2011

## Scene setting Waltham Forest transport context (pre-Covid-19)

### Road traffic collisions

Road traffic collisions reported in Waltham Forest between 2017-2018 are shown in Figure 15. The collisions are generally concentrated along the key routes and strategic junctions through the Borough. Specifically, there is a concentration of collisions along A104 (Lea Bridge Road) which has recently undergone significant works to install a protected cycleway.

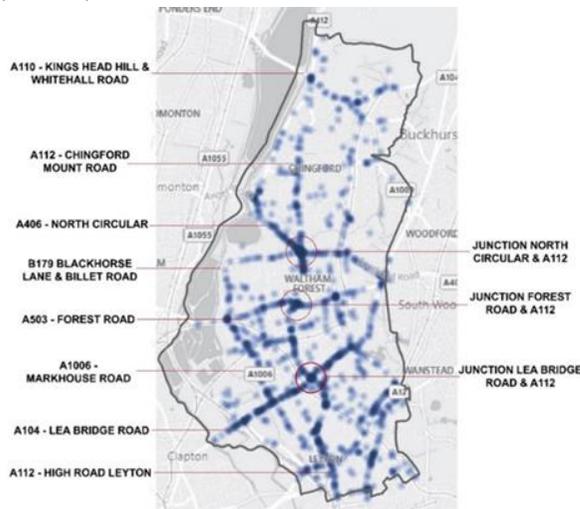


Figure 15 - All registered road accidents between 2017-2018

The high rate of collisions along key routes between vehicles and cyclists is a key challenge to encouraging

modal shift. Measures to address this have already been taken through the designation of 20mph speed limits across some streets in the Borough and the delivery of infrastructure that protects and prioritises cyclists and pedestrians.

This focus on providing protected space along key routes will need to continue in order to embed active travel and contribute towards the London-wide Vision Zero target.

### Servicing

Light Goods Vehicles (LGV's) and Heavy Goods Vehicles (HGV's) are key to moving goods around the Borough, and account for a significant proportion of road traffic. The LIP (2019) identifies that between 2013 and 2016 there was an 23% increase in LGV's and HGVs on the Borough's road network. This can be attributed to the rise in online shopping and construction, which are likely to put additional strain on the road network and contribute to air and noise pollution.

As the area south of the A406 becomes part of the expanded ULEZ area, industries and businesses operating in this area will need to be supported in preparation for the new regulations ahead of implementation in order to maximise the benefits

without effecting operations. Similarly, attention must also be given to the housing and employment growth areas concentrated south of the A406, as these will likely generate a significant number of construction related vehicle trips.

Waltham Forest has already started tackling the increasing demand for deliveries in a sustainable way, by implementing a Zero Emission Delivery (ZED) programme. The ZED programme is a last mile cargo bike delivery service between local businesses and their customers. To date 53 businesses have participated in the scheme, achieving a total of 52,241 deliveries and saving over 5,000kg CO2e emissions as shown in Figure 16.

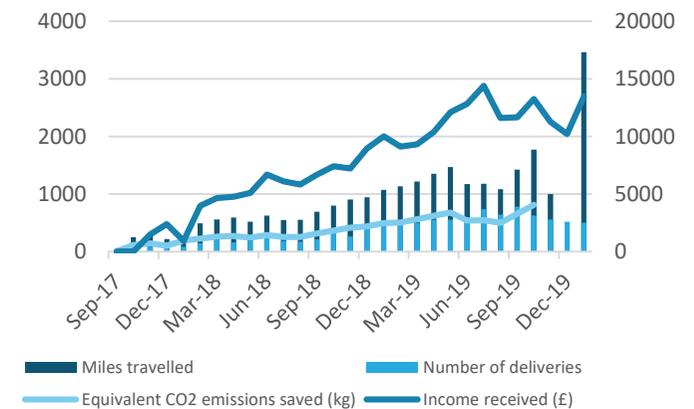


Figure 16 - ZED Quarterly Report Data (2017-2019)

## Scene setting Waltham Forest transport context (pre-Covid-19)

### The north – south divide

There are currently significant differences in travel patterns and provision between the north and south of the Borough, which are exacerbated by A406 severance. This is related to the difference in population density, age profile and existing transport network between the north and south of the Borough.

**Only one cycle route** provides a continuous connection beyond A406 towards larger town and district centres in the south (Figure 6). The cycle routes in the north do not provide sufficient network density, or good links between centre of activity and residential areas and travel distances generally exceed a reasonable walking distance. This contributes to higher car dependence in the north of the Borough. This demonstrates the importance of creating walkable 15 minute neighbourhoods.

**Public transport** accessibility is shown in the Public Transport Accessibility Level (PTAL) scores in Figure 17 which show a maximum score of 4 in the north of the Borough, compared to 6 in the south. Improvements to public transport accessibility in the north of the Borough, particularly through bus route improvements will be essential to addressing the existing divide in travel patterns and preferences.

**Commuting by car** presents an additional challenge in the north of the Borough. Up to 40% of commuting journeys from locations in the north of the Borough are made by car, whereas the same figure is less than 10% in parts of the south (Census, 2011). Commuting patterns are shown in Figure 18. These images demonstrate that commuting from the north to the south of the Borough represent a large proportion of driven trips into Walthamstow for work. Commuters driving towards Chingford Mount generally travel from further north outside of the Borough. There is potential to convert trips for work from the north to the south of the Borough to more sustainable modes of transport through improved public transport service frequency and increased active travel network density.

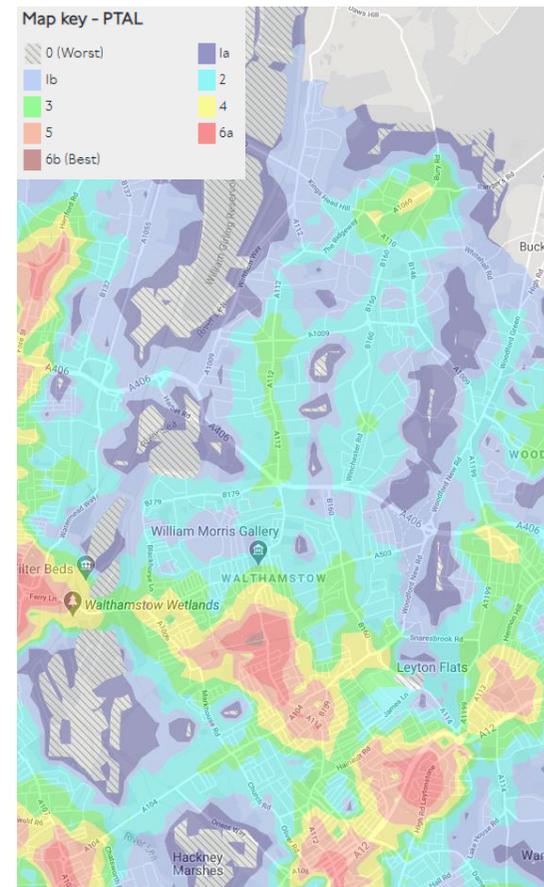


Figure 17 – Public Transport Accessibility Level (PTAL)

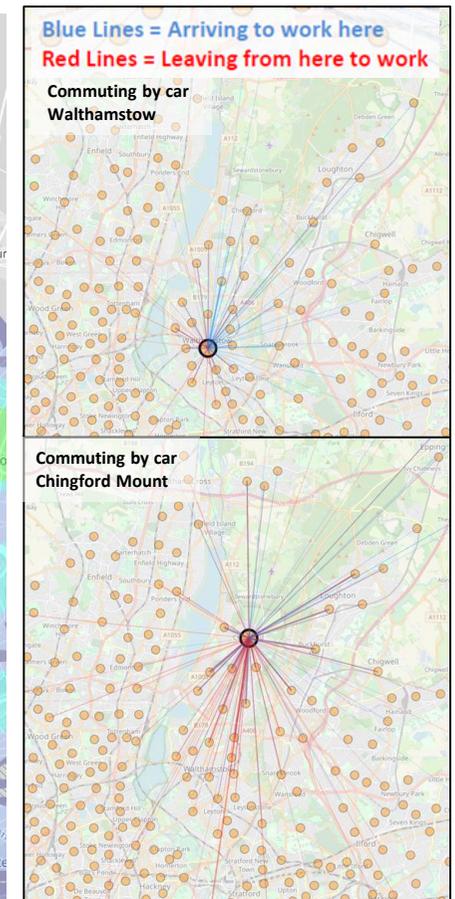


Figure 18 - Car trips to/from work from Walthamstow and Chingford Mount

## Scene setting Waltham Forest context (post-Covid-19)

### Changes to travel patterns and behaviour

Since the Covid-19 pandemic and subsequent UK lockdown in March 2020 there has been a significant decrease in travel overall and a shift in how people are choosing to travel across the UK and in Waltham Forest, as outlined below:

- London Underground and bus use down by 81% and 90% in March 2020 compared to 2019;
- Increased walking and cycling, Figure 19 shows an increase in people cycling on roads in Waltham Forest in 2020 compared to 2019; and
- Roughly stable levels of driving at 10% below pre-lockdown levels (Figure 20).

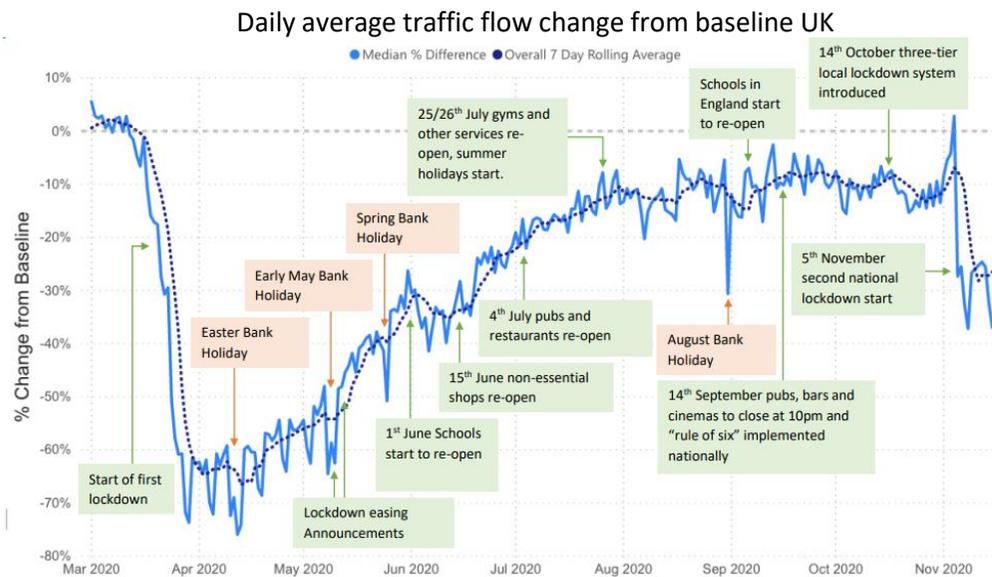


Figure 20 - Change in national daily average traffic volumes since 1st March across all sources compared to the baseline (first week of February 2020) (DfT, 2020)

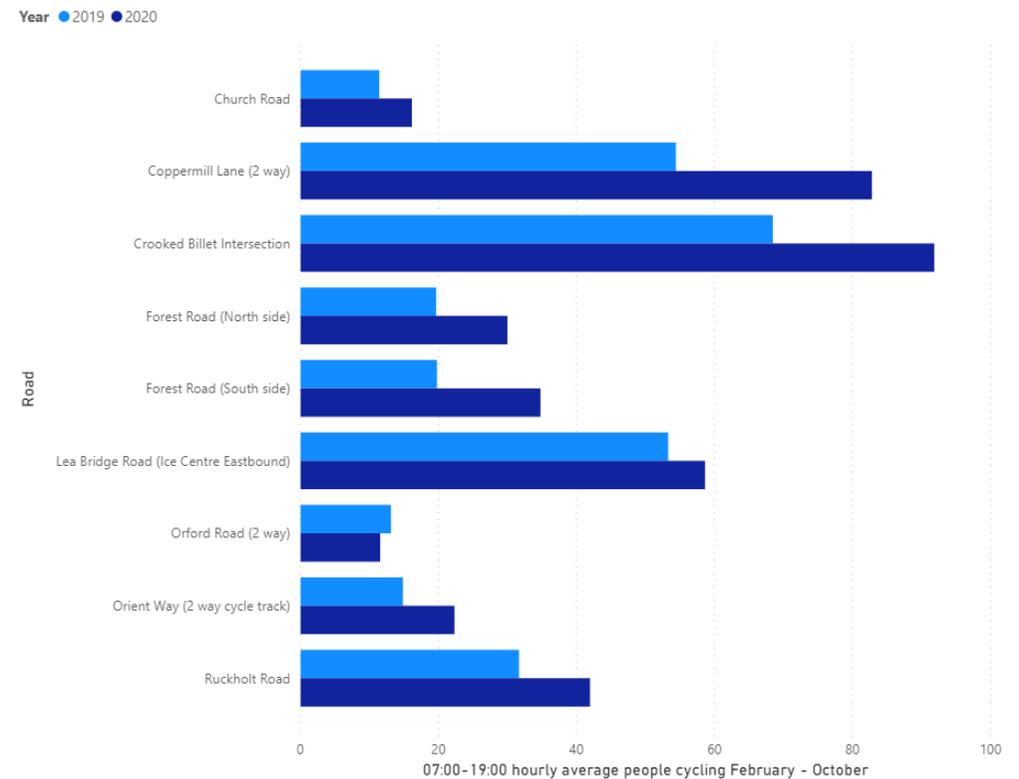


Figure 19 – 07:00 – 19:00 hourly average number of cyclists (February – October) change from 2019 – 2020

## Scene setting Waltham Forest context (post-Covid-19)

### Covid-19 mitigation measures

To enable people to travel safely during the Covid-19 pandemic and going forward Waltham Forest have brought forward schemes using low cost or interim interventions which enable people to walk and cycle safely. Measures brought forward or confirmed include:

- Diversion of Quietway 2 (soon to be renamed Cycleway 27) through Argall Business Estate;
- Markhouse traffic management and modal filters;
- Connecting gaps in the protected cycle network at the Temple Mills Lane/Northwall Road junction;
- South Leyton/Leytonstone experimental/ temporary Low Traffic Neighbourhood (LTN) introduced (Figure 21);
- Coppermill Liveable Neighbourhood, LTN component of the Scheme has been delivered, but it has not been possible to introduce many of the supporting and accompanying measures yet;
- Hilltop Area LTN;
- Woodford New Road building on existing scheme to provide continuous protected cycle route to the Borough boundary with Redbridge;
- Schools Streets implemented at six new locations in addition to the existing four schools;
- Temporary parking suspensions and carriageway suspension to allow footway widening around areas with high footfall in centres of activity.

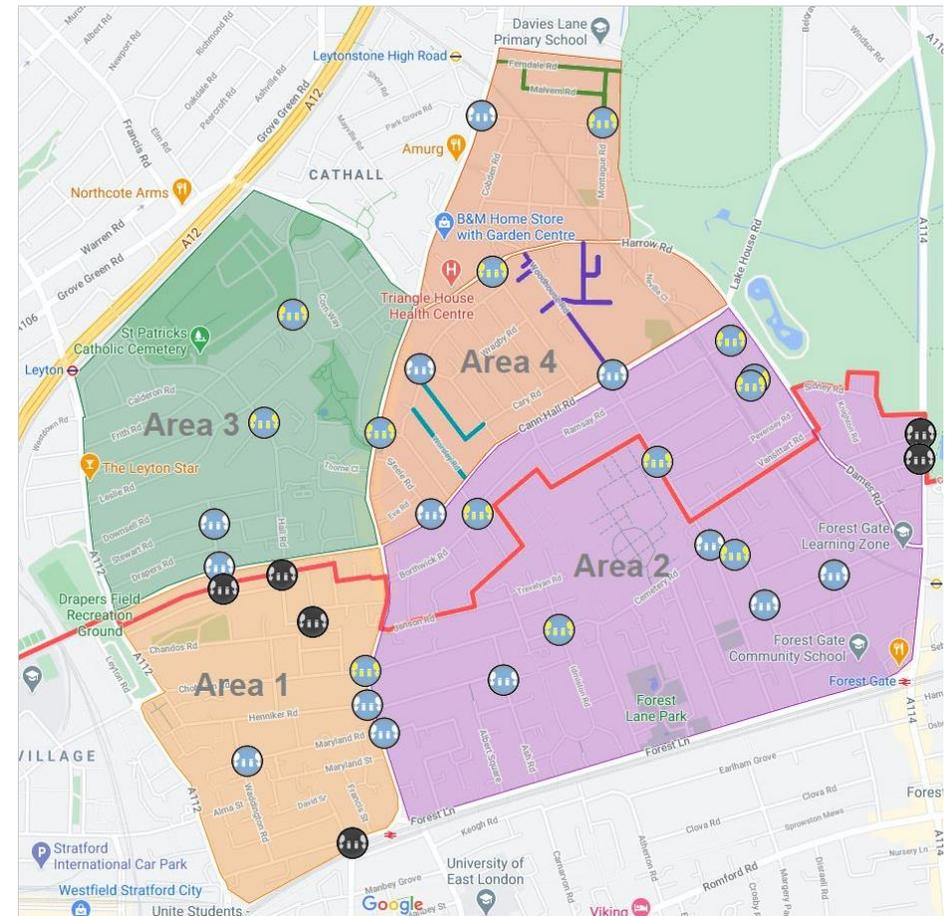


Figure 21 - South Leyton/Leytonstone Newham/Waltham Forest joint experimental Low Traffic Neighbourhood

## Scene setting Waltham Forest context (post-Covid-19)

### Covid-19 long-term changes

There have been significant changes in transport patterns across the UK as a result of the Covid-19 pandemic, which has been acutely reflected within Waltham Forest. As a result there is significant uncertainty around the long-term impacts and effects this will have on movement and transport. However, early indications from data available suggests that:

- 85% of people report wanting to see some of the personal and social changes they have experienced during lockdown continue; and
- 40% of Londoners say they will use public transport less once lockdown measures are relaxed, with 50% of those saying they will walk instead, 17% saying they will cycle instead.

This suggests that there is are further opportunities to establish walking and cycling as the mode of choice through expansion of the Enjoy Waltham Forest programme and Liveable Neighbourhood schemes. This could have significant benefits for residents health, as well as bringing local economic benefits, such as been already experienced in Waltham Forest, including:

- People that walk to a high street spend 40% more than those who drive; and
- High street walking, cycling and public realm improvements can increase retail sales by up to 30% (London Streetspace plan).

Waltham Forest can build on existing Liveable Neighbourhoods success, and enable a sustainable transport recovery while also reducing pressure on highways and public transport infrastructure which was consistently under strain pre-Covid-19. This will need to be undertaken alongside long-term upgrades to the strategic public transport network to prepare for a possible longer-term return to previous travel patterns.



## Scene setting

### Waltham Forest Transport challenges

#### Transport challenges

This section details several transport challenges that have been identified in the Borough. The key challenges we have identified are outlined below and shown in Figure 22:

- 1 Lack of internal connections north-south through the Borough
- 2 Concentration of transport infrastructure developments south of the A406
- 3 Station capacity constraints
- 4 Reducing road danger so that all deaths and serious injuries from road collisions are eliminated by 2041
- 5 Existing bus network and services which a large proportion of the Borough rely on do not provide a viable alternative to private car use
- 6 Harnessing the effects of the ULEZ expansion

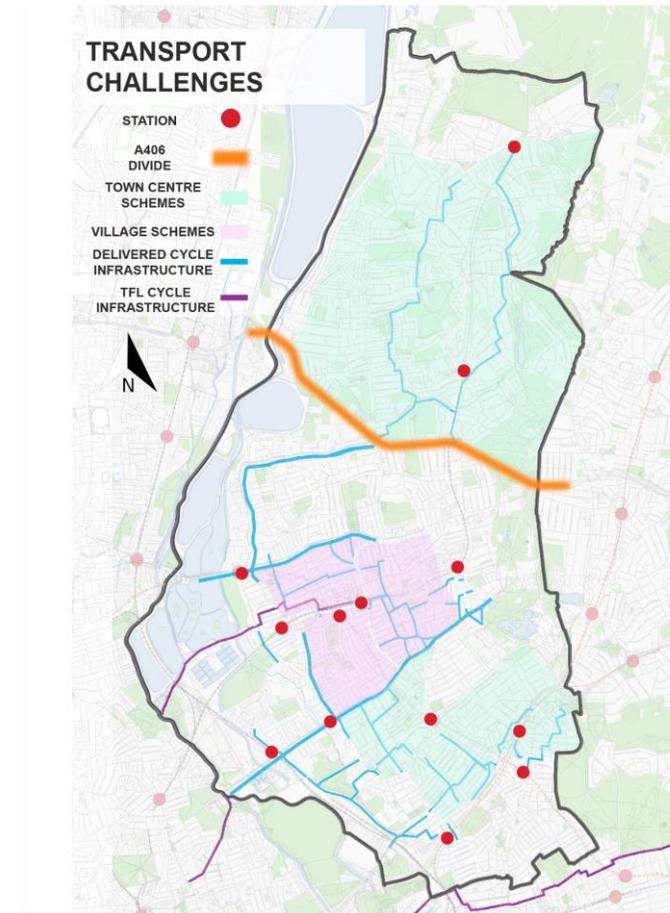
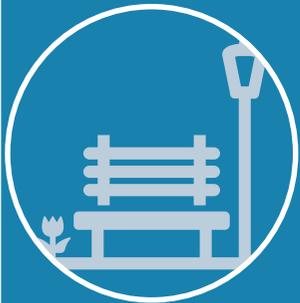


Figure 22 - Transport challenges

## Route map to the Local Plan Setting the Transport Vision

### Transport Vision for Waltham Forest

The transport vision for the Borough is set out through the objectives outlined below:

					
<p><i>Ensuring transport supports sustainable housing and economic growth</i></p>	<p><i>Creating liveable and safe 15 minute neighbourhoods by enhancing placemaking and maximising the unique strengths of the Borough</i></p>	<p><i>Ensuring transport is accessible for all</i></p>	<p><i>Enabling access across the Borough by reliable and efficient alternatives to private car use</i></p>	<p><i>Supporting economy of local town centres, by enabling travel by active modes through the delivery of 15 minute neighbourhoods</i></p>	<p><i>Contribute to improved health and wellbeing of those who live, work and study in the Borough, by supporting active travel</i></p>

## Route map to the Local Plan Transport Schemes to support Local Plan Delivery

### Transport proposals

This section outlines the key transport interventions that are proposed to be delivered in Waltham Forest to 2035. These schemes have been developed to address existing constraints on the transport network and to support the future growth of sustainable development in the Borough.

Walthamstow Central	<ul style="list-style-type: none"> <li>Step Free Access (SFA) and a new entrance to the Victoria Line</li> <li>Active Travel Hub providing a centre for walking, cycling and behaviour change</li> </ul>
Leyton Underground Station	<ul style="list-style-type: none"> <li>SFA, a larger ticket hall, new footbridge over the tracks, public realm improvements around the station towards Leyton Town Centre and Growth Area</li> </ul>
A new Ruckhold Road Station	<ul style="list-style-type: none"> <li>Unlock large scale redevelopment in Leyton and provide direct access to Stratford, relieving local bus routes and the Central Line</li> <li>Long-term aspiration for development of Hall Farm Curve</li> </ul>
Station Gateways, Interchange and Step Free Access (SFA)	<ul style="list-style-type: none"> <li>Improve public realm and interchange facilities at all stations for people walking and cycling</li> <li>Provide SFA at all stations, provision at St James Street is a priority</li> </ul>
Lea Bridge Station	<ul style="list-style-type: none"> <li>Improvement works to allow Lea Bridge station to support significant planned housing growth in the area</li> </ul>
Liveable Neighbourhoods for Everyone	<ul style="list-style-type: none"> <li>Coppermill Village – review and upgrade emergency funded infrastructure</li> <li>South Leyton/Leytonstone – experimental low traffic neighbourhood to be made permanent alongside additional</li> <li>Higham Hill and Lloyd Park – already developed to feasibility</li> <li>Further Liveable Neighbourhoods across the Borough</li> </ul>
Primary Cycle Network	<ul style="list-style-type: none"> <li>Deliver high quality, segregated cycle facilities across a number of main roads, expanding on the Enjoy Waltham Forest Network, as well as Cycle Hubs at all stations in the Borough</li> <li>Planned locations include, Forest Road, Hoe Street, Woodford New Road/Snaresbrook Road junction, Forest Road to Chingford Mount, and Lea Bridge Road to Leyton</li> </ul>
Leyton Green	<ul style="list-style-type: none"> <li>Improve public realm, cycling and walking infrastructure and bus reliability and journey times</li> </ul>
Leytonstone Gytratory	<ul style="list-style-type: none"> <li>Develop long-term changes following initial funding</li> </ul>
Secure cycle parking	<ul style="list-style-type: none"> <li>Provide secure cycle parking at all stations, design for parking at Blackhouse Junction is complete</li> <li>Provide on-street residential bike hangars across the borough, catering to demand</li> </ul>
Chingford Mount Town Centre	<ul style="list-style-type: none"> <li>Improve walking, cycling and public realm and links towards Walthamstow, Chingford north and Meridian Water</li> </ul>
Residential 20mph Zones	<ul style="list-style-type: none"> <li>Expand 20mph zones into residential areas in the north of the Borough</li> </ul>

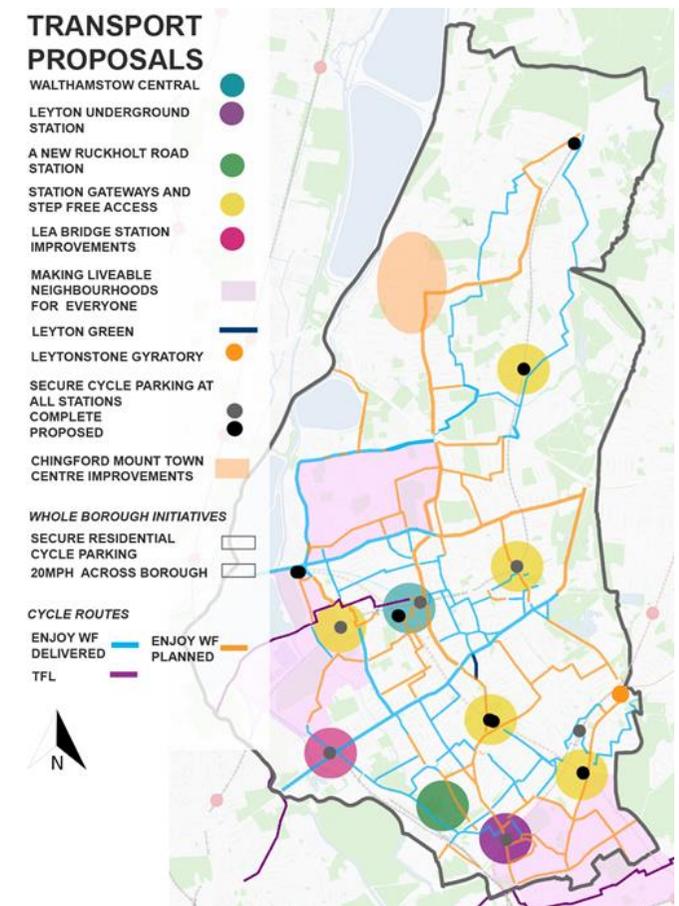


Figure 23 – Proposed Transport Schemes in Local Plan Period

## Route map to the Local Plan Assessment of proposals and schemes

### Transport proposal appraisal

This section outlines a high-level appraisal of the transport proposals to be delivered within this Local Plan period and scores them against the Transport Vision objectives.

Walthamstow Central					
Leyton Underground Station					
A new Ruckholt Road Station					
Station Public Realm, Interchange and Step Free Access (SFA)					
Lea Bridge Road Station Improvements					
Liveable Neighbourhoods for Everyone					
Leyton Green					
Leytonstone Gyratory					
Secure cycle parking					
Chingford Mount Town Centre					
Residential 20mph Zones					
Primary Cycle Network					

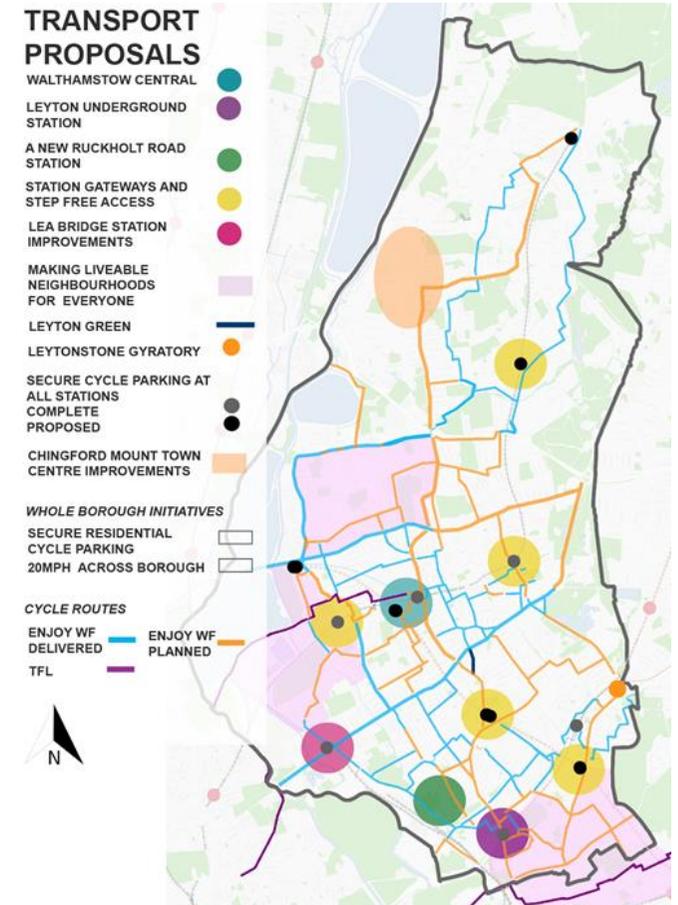


Figure 24 – Proposed Transport Schemes in Local Plan Period

## Route map to the Local Plan Establishing the hierarchy

### Road user hierarchy

Implementing a road user hierarchy in Waltham Forest as shown in Figure 25, will also contribute towards the delivery of the Boroughs Transport vision. This gives people travelling by active or sustainable modes priority. As well as ensuring road users who can do the greatest harm have the greatest responsibility to reduce the danger or threat they pose to others.

For future developments this would mean developments which are accessible to people walking and cycling are encouraged, and those encouraging private car use, such as drive-throughs will be viewed negatively.

A hierarchy such as this has been consulted on as part of updates to the Highway Code. This update is also looking to provide a greater level of advice on pedestrian and cyclist priority at junctions, as well as introducing into the code safe passing speeds and distances. As a leader in walking and cycling provision in the UK, early adoption of this hierarchy in Waltham Forest will put a strong focus on promoting sustainable development within the Borough encouraging and enabling people to make their local trips by walking and cycling.

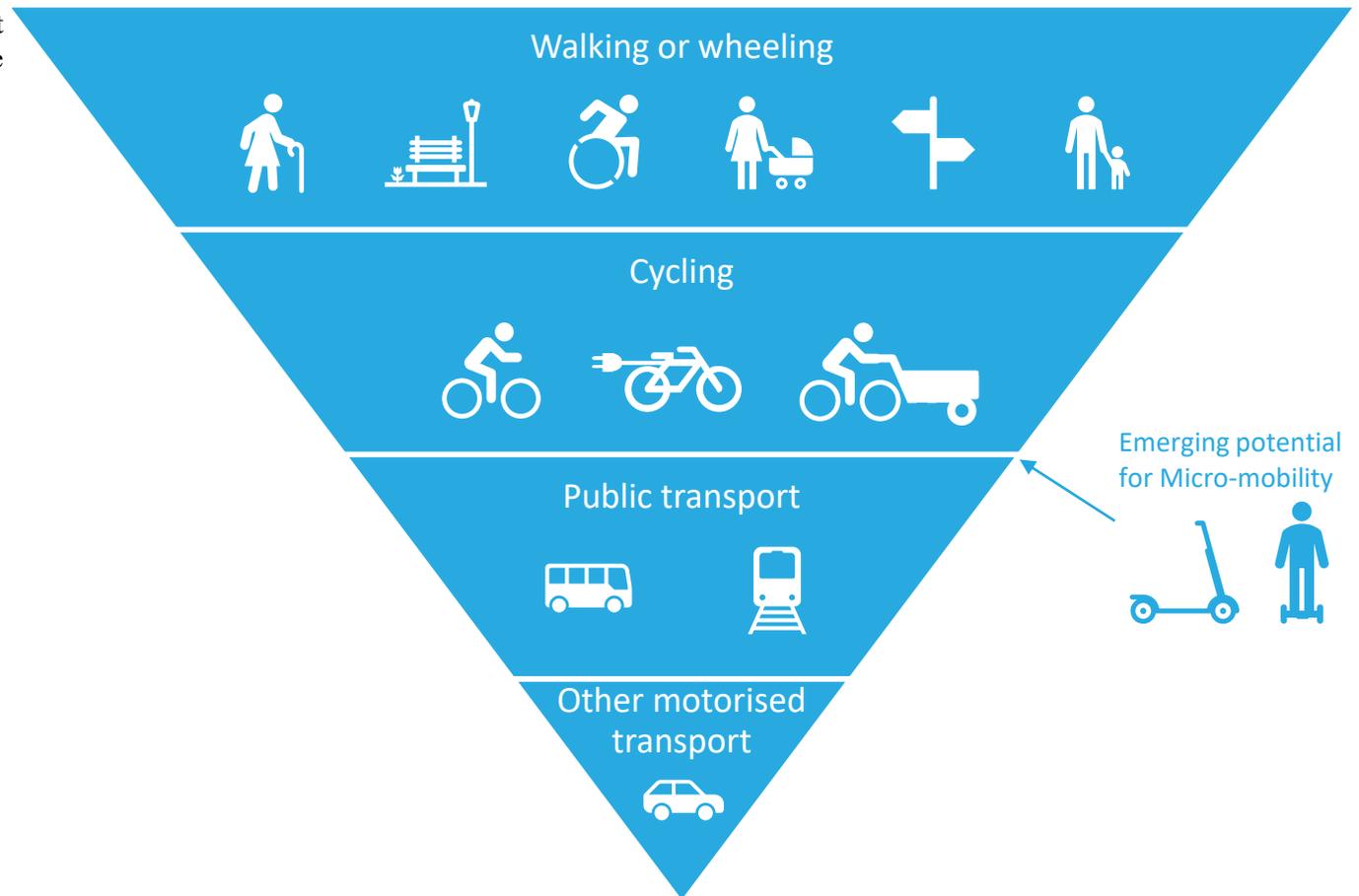


Figure 25 - Road user hierarchy

## Route map to the Local Plan Addressing Car Dominance

### Parking policy

To ensure development within the Borough is as sustainable as it can be, all new residential developments will potentially be subject to ‘Car Free’ or ‘Car Capped’ agreements, and new residents will be unable to purchase a permit for any existing CPZ. This will set a more stringent restriction on parking than the maximum standards in the Intend to Publish London Plan. These standards have been proposed in line with the desire to take into account NPPF (National Planning Policy Framework) para 122.

Both standards are included in Tables 2 and 3, and further information on the Borough Parking standards is available in the Proposed Submission Document (Regulation 19) version of the Local Plan. In locations where no CPZ is in place at the time of planning consent, residents in the immediate vicinity of the consented development will be given the opportunity to decide whether a CPZ should be introduced prior to occupation of the development.

The Council have also developed an Electric Vehicle (EV) Charging Point Strategy (2020 – 2025) to support uptake of EVs. This focuses on installing infrastructure that meets the Borough’s local needs and doesn’t negatively impact pavement users. With an overarching target of 80% residents and businesses being within 250m of a charging point by 2025.

Considering the negative impacts and effects of a dominance of private cars (particularly non-EV’s) on resident’s health, wellbeing, air quality and reliability of the transport network. It is imperative that the Council uses all tools at its disposal to limit the use of private cars, especially for new developments in the Borough.

Furthermore, given both the existing sustainable transport facilities within the Borough and the focus on delivering new sustainable transport as part of the new Local Plan, no parking provision in new developments in the Borough will establish sustainable travel behaviours for new residents from the outset, ensuring that this behaviour is embedded.

Table 2 - Waltham Forest Local Plan Regulation 19 residential parking standards

Public Transport Accessibility Level (PTAL)	Low PTAL (1-2)	Medium PTAL (3-4)	High PTAL (5-6)
Residential dwellings	No Parking (In the case of developments in less well-connected areas, a robust assessment must be provided in the Transport Assessment to justify the need for any car parking spaces for new residents)		

Table 3 - Intend to public London Plan (2019) residential parking standards

Location	Outer London PTAL 0-1	Outer London PTAL 2	Outer London PTAL 3	Outer London PTAL 4 Outer London Opportunity Areas	Central Activities Zone Major Town Centres All areas PTAL 5 - 6
Maximum parking provision	Up to 1.5 spaces per dwelling	Up to 1 space per dwelling	Up to 0.75 spaces per dwelling	Up to 0.5 spaces per dwelling	Car free

## Delivering the Local Plan Transport in Waltham Forest 2020-2035

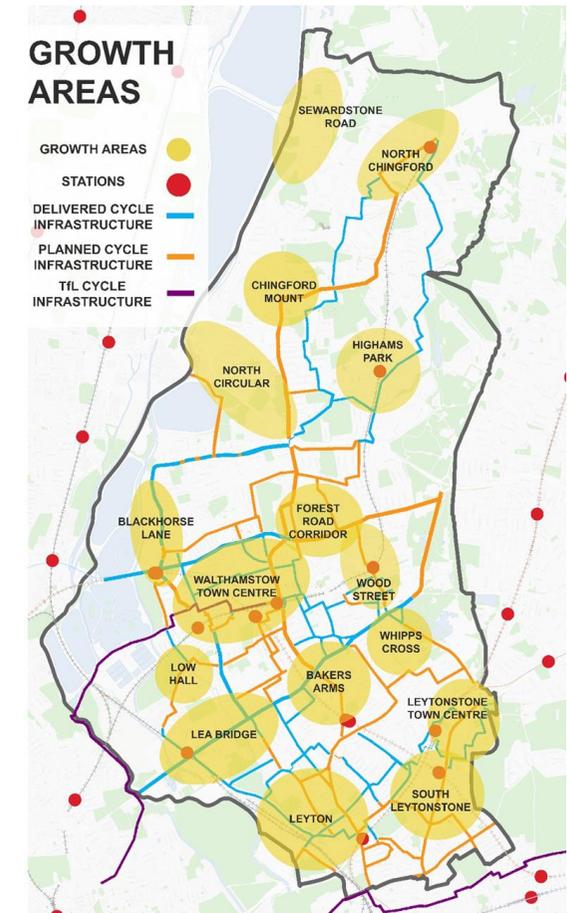
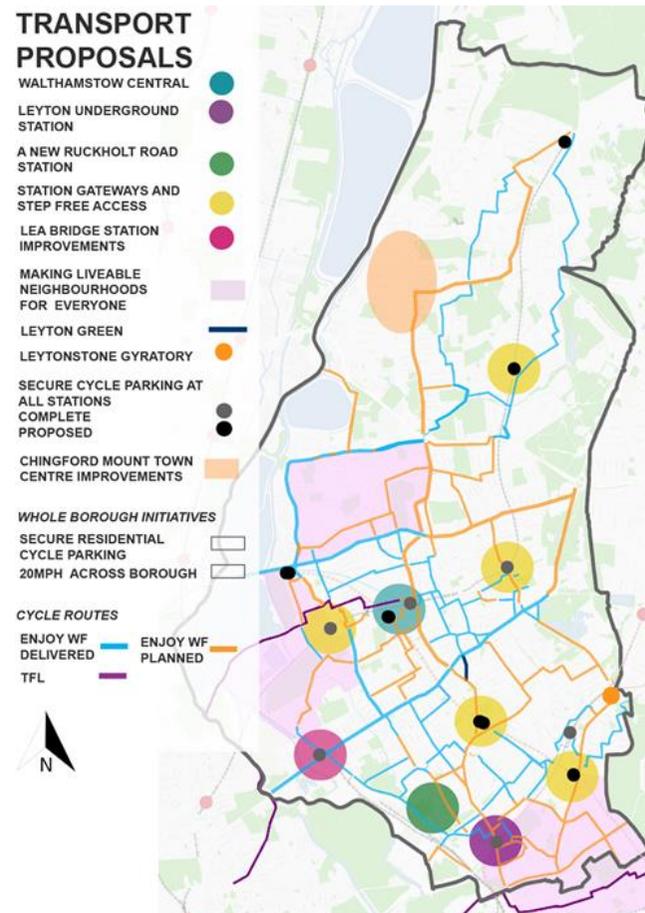
### Planned growth and transport proposals

The key transport interventions are shown in Figure 26, with the proposed growth locations alongside the existing and planned cycle infrastructure in Figure 27.

These demonstrate the Borough's approach to accommodating housing growth sustainably by increasing housing density around existing town centres, key transport interchanges and in areas of good transport connectivity to increase the viability of local retail centres and transport services, while minimising need for longer distance travel.

This is in line with the 15 minute neighbourhood principle embedded within the Borough's Corporate Strategy, the aim of which is to reduce pressures on the highway and public transport network by reducing the need to travel and providing services within easy walking and cycling distance for all residents.

The level of proposed growth has been matched to both the existing and planned transport proposals. The majority of growth and transport proposals are concentrated in the south of the Borough, enabling the maximum benefit to be derived from increased density and improved transport facilities.



Figures 26 and 27 – Transport Proposals to be Delivered in Local Plan period to 2035 Compared to Proposed Growth Areas

## Delivering the Local Plan Transport in Waltham Forest 2020-2035

### Planned growth and transport proposals

The Local Plan will delivery of the proposed growth and transport interventions through long-term incremental improvements which will improve the sustainable transport network in the Borough, improve conditions for walking and cycling and also make a significant contribution to achieving MTS targets for the Borough and London overall.

The Borough has been pursuing this approach over the decade and have been incredibly successfully in securing funding for a number of innovative transport schemes through various funding channels, opposed to relying on the private sector and developer contributions to meet any shortfall in funding from the Council.

However, it is clear that in constrained funding circumstances for both national government and the Council, developers and promoters of growth in the Borough will be need to financially support new transport infrastructure that is required as a result of their scheme through Section 106 agreements. As well as broader Community Infrastructure Levy (CIL) contributions, which may provide funding for sustainable transport infrastructure such as new cycle routes and low traffic neighbourhoods, or station capacity enhancement schemes all listed in the previous sections.

Borough-wide transport schemes will be supported by London wide schemes such as the extension of the ULEZ which will discourage polluting vehicles from travelling to the south of the Borough.

### Mitigating north/south divide

By focussing immediate attention on locations in the south of the Borough where there are existing higher densities and opportunities for active travel a strong network has started to form. Once this programme is tried and tested there will be further opportunities to expand the approach into the north of the Borough.

The different demographic contexts should also be considered between the north and south with a greater focus on enhancing existing public transport access, such as through proposals for Step Free Access at stations across the Borough.

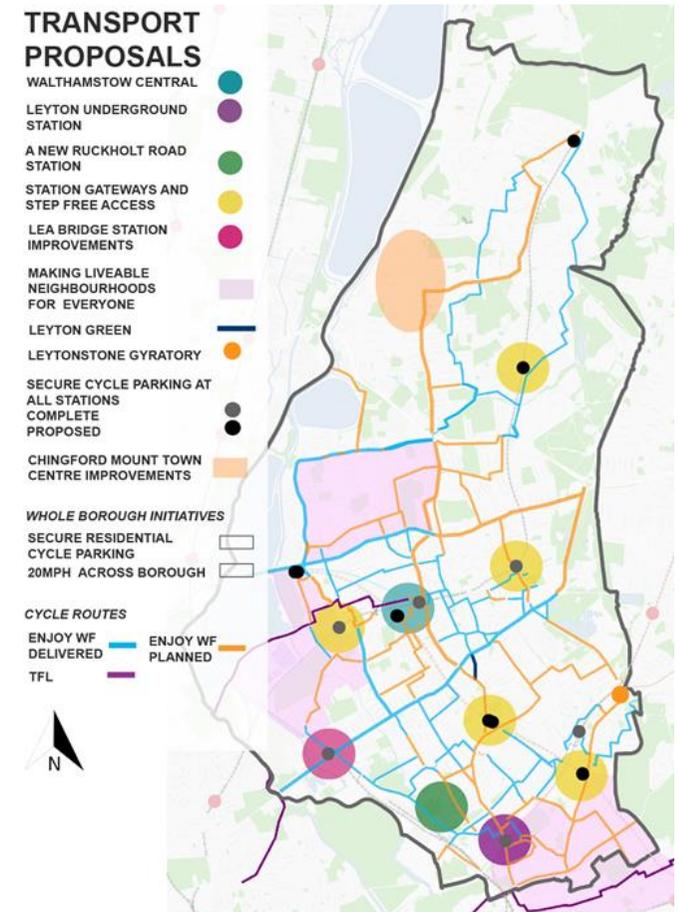


Figure 28 – Transport Proposals to be Delivered in Local Plan period to 2035

## Transport and the Local Plan

### Delivering sustainable transport-led growth

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#### Summary

This Transport Topic paper has considered the approach to delivering the transport interventions within Waltham Forest that will support and facilitate the proposed development and growth set out within the Local Plan. This will not follow the common (and frequently poorly performing) approach to strategic transport planning.

A 'predict and provide' approach to transport planning is unsustainable in the long-term, especially where densely populated centres in London are concerned. The further development of new highway infrastructure and additional capacity to provide more space for private motor vehicles, will not enable the sustainable growth that is desired within the Borough and will continue to produce negative effects of congestion, poor air quality and disconnected communities.

This Transport Topic paper has given a detailed contextual review of the operation of the Borough's transport network, whilst demonstrating that short to long term trends in transport and movement in the Borough are difficult to assess and analyse. The approach to transport scheme delivery within the Borough negates the need to undertake detailed and comprehensive transport modelling on a Borough-wide scale. Rather this is a top-down policy approach to transport planning which relies on the identification of sustainable transport schemes that will provide choice and enable those who wish to travel by walking and cycling. It builds upon the aim of working towards carbon neutrality, improved air quality, people-friendly streets and better health and wellbeing for existing and future residents.

The transport schemes identified through supporting plans to the Local Plan such as the Infrastructure Delivery Plan, The Local Implementation Plan and others have been considered in this document. An appraisal of these schemes against set vision and objectives has then been provided.

The combined impact of altered Covid-19 travel patterns, proposed transport interventions, implementation of the road user hierarchy and encouragement of car free developments is anticipated to minimise impact of proposed growth on the existing highways and public transport in the Borough. This Transport Topic paper sets out the context in the Borough, gives a commentary on emerging trends then summarises the schemes that will be delivered over the Plan period whilst scoring them against the vision and objectives for transport. This demonstrates that the key schemes that have been identified to be progressed up to 2035 align closely with the vision for transport in the Borough and will be progressed with the core aim of delivering sustainable growth in Waltham Forest.