Bus stop bypass safety review 2024

Second edition

MAYOR OF LONDON

TRANSPORT FOR LONDON
EVERY JOURNEY MATTERS

Contents

Executive summary

Our review has improved our understanding of bus stop bypass use among a range of customers

If London is to become a greener and more inclusive city, then walking, cycling and public transport must be safe and accessible for all, including children, older and disabled people. Our Healthy Streets Approach, which is central to the Mayor's Transport Strategy, sets out how to enable more people to enjoy the benefits of active, sustainable travel. In turn, this helps us meet the transport demands of the city as we move towards a zero-carbon future for London.

Balancing the needs of different people and different forms of transport within limited space can be challenging on London's busy streets. Protected cycle infrastructure, which can feature bus stop bypasses on bus routes, reduces road casualties and enables a wider range of people to cycle. Women, children, older and disabled people are more likely to cycle when they don't have to mix with motor vehicles. A safe cycle network means that, together with the boroughs, we can get closer to the Mayor's Vision Zero ambition for all deaths and serious injuries to be eliminated from London's roads by 2041.

These schemes must not exclude anyone from using the streets and any negative impacts must be balanced against the benefits. Some customers and stakeholders say they feel anxious when using bus stop bypasses. Following concerns about the unintended impacts of bus stop bypasses on older, disabled and vulnerable pedestrians, the Mayor asked us to carry out a review to understand how many people have been injured at a bus stop bypass and whether they present a danger to pedestrians.

Reviewing the results

This review has shown that the risk of pedestrians being injured at bus stop bypasses is very low. There were five pedestrian casualties involving cyclists and one involving an e-scooter rider on bus stop bypasses over a three-year period. One of these casualties appears to have happened on the zebra crossing, where the user must give way to the pedestrian. To put this in context, 11,400 pedestrians were injured in collisions with motor vehicle drivers over the same timeframe.

The analysis of bus boarding patterns for older and disabled people found that the construction of a bus stop bypass did not subsequently affect overall numbers using that same bus stop. However, some disabled people were concerned about inconsistent bus stop bypass designs across London, which can cause confusion. This was reflected in our design audit, which found more than a third of bus stop bypasses vary significantly from our best practice design guidance. For example, several bus stop bypasses have incorrect tactile paving, no zebra crossing or the bus stop island is too narrow.

The video observations showed that when a pedestrian was at the zebra crossing, it was rare this coincided with a cyclist nearby on the track. Nevertheless, when there was an interaction, a significant proportion of cyclists did not yield to pedestrians at the zebra crossings as they should. Although not statistically significant, these observations align with concerns raised about people cycling not giving way at the bus stop bypass zebra crossings.

As part of this review, we engaged with more than 50 stakeholder groups and listened to people's experiences of using bus stop bypasses. Themes that emerged included fear and anxiety of a collision, difficulties accessing bus stops with bypasses, poor cyclist behaviour, inconsistent street design and concerns about under-reporting of collisions to the police.

Our review
As of May 2024, our bus stop bypass review has involved:

- analysis of casualty data at all 164 bus stop bypasses in London identified in the review
- analysing bus boarding data for disabled and older people
- carrying out a design audit of bus stop bypasses
- observing video at eight bus stop bypass sites
- engaging with accessibility and active travel stakeholder groups, the London boroughs, bus operators and our Independent Disability Advisory Group

Introduction

We are working to better understand the safety of bus stop bypasses across London

Bus stop bypasses, which are sometimes called floating bus stops or bus islands, involve routing a cycle track behind the bus passenger boarding area. This helps to keep people cycling separate from motor traffic and avoids conflict with buses and other drivers when they are navigating bus stops. Bus users need to cross the cycle track between the pavement and bus stop island, with the option to cross on a zebra crossing.

The Mayor requested this review to understand how many people have been injured at a bus stop bypass and whether they present a danger to pedestrians. This is the first time this type of casualty data analysis has been done in relation to the 164 bus stop bypasses identified on our roads and Cycleways.

Cycle routes are planned strategically across London considering things such as proximity to schools and work places. Criteria including volume and speed of motor traffic on streets are used to decide if protected cycle routes, such as kerb-separated lanes, are needed. Where potential cycle routes run along bus routes, we review all the route options, including parallel streets without buses travelling on them. Where bus routes and cycle routes co-exist, bus stop bypasses are an integral feature of protected cycle networks. They are one of the common technical solutions used by successful cycling cities cited in the International Cycling Infrastructure Best Practice, which we commissioned and was published in 2014. Bus stop bypasses originated in the 1950s in the Netherlands to separate types of traffic with large differences in speed and mass. They have been used in other cities such as Amsterdam, Utrecht, Copenhagen, Stockholm, Munich, and Seville. They are increasingly seen beyond Europe in cities such as Chicago and Portland in the USA, as well as other UK towns and cities such as Cambridge, Manchester, Leeds, Bournemouth, Birmingham and Brighton.

In 2013, six bus stop bypasses were introduced as part of a trial along the extension of Cycle Superhighway 2 in Stratford. The design was informed by off-street bus stop bypass trials run by the Transport Research Laboratory international best practice, as well as road safety audits, equality impact assessments, and engagement with user groups. Surveys were carried out in 2013 and 2014, which showed support for the design from cyclists, bus users and pedestrians.

Bus stop bypasses can include cycle tracks and crossings

Bus stop bypasses help protect people cycling

19,800+

bus stops across London

1%

of bus stops in London have bus stop bypasses

Following the initial roll out of bus stop bypasses, a number of concerns were raised, particularly by older and disabled people, about the safety and accessibility issues that they can create for bus passengers who now had to cross a cycle track to access a bus stop. In response to these concerns, we formed a Bus Stop Bypass Working Group in 2015, which included the RNIB, Guide Dogs, Transport for All, Age UK London, London TravelWatch, Living Streets and cycling campaign groups.

In June 2016, we commissioned the Transport Research Laboratory, as well as engaging with our working group, to run on-street zebra crossing trials for six bus stop bypasses, which involved video monitoring and shadowing people as they used the trial infrastructure. There were a number of benefits seen from these trials, which led to us publishing a best practice guidance note in 2018 and adding zebra crossings to more than 40 existing bus stop bypasses on Cycle Superhighways and our road network.

In 2020/21, we developed an Inclusive Streets engagement programme to make London's streets more inclusive and accessible. This was largely in response to concerns about the rapid and widespread delivery of new walking and cycling schemes during the pandemic. A cycling and bus stop design workshop was held in which concerns were raised about cyclist behaviour, particularly with regard to speed and yielding, the lack of consistent street design across London, and the need for more pedestrian priority.

In response to feedback, we took further measures to improve bus stop bypasses. We created Cycleway safety videos as part of our online cycle training, which includes information on giving priority to pedestrians at zebra crossings at bus stop bypasses. We have worked with bus operators to include on-bus alerts, and we continue to update on-bus alerts to highlight the presence of cycle tracks near bus stops.

We have worked with our partners to assess our bus stops

Background information

Our policies and plans for London's streets aim to make them safer, cleaner and greener for everyone

Mayor's Transport Strategy

The Mayor's Transport Strategy, published in March 2018, outlines the Mayor's vision for transport in London. Its overarching aim is to reduce Londoners' dependency on cars and increase walking, cycling and public transport mode share of trips in London to an ambitious 80 per cent by 2041.

Healthy Streets Approach and indicators

The Mayor's Transport Strategy is underpinned by the Healthy Streets Approach, a system of policies and strategies aimed at enabling people to walk, cycle and use public transport. It supports the more efficient use of street space with fewer private motor vehicles, so they are cleaner, greener and fairer. The Healthy Streets Approach puts people and their health at the centre of decisions about how we design, manage and use public spaces. It is based on 10 Indicators that focus on the experience of people using streets. Healthy Streets are more inclusive, safer and more pleasant for everyone, including older and disabled people.

Our Vision Zero ambition

We have adopted the Mayor's ambitious goal of Vision Zero, which aims to eliminate all deaths and serious injuries from London's streets by 2041. It is a goal we share with the boroughs and the Metropolitan Police Service. London has made huge strides in reducing road risk, with deaths and serious injuries falling faster than the national average. Despite the progress we have made, we are not currently on track to meet our Vision Zero goal.

In 2022, 102 people died on our roads and 3,859 were seriously injured. STATS 19 collision data is publicly accessible on our Road Danger Reduction Dashboard. People walking, cycling, and driving motorbikes are at the greatest risk of road danger – accounting for around 80 per cent of people killed or seriously injured – with cars being the main other vehicle involved. In 2022, cars, excluding taxis and private hire vehicles, were involved in 61.4 per cent of incidents were pedestrians were killed or seriously injured, 72.2 per cent for cyclists being killed or seriously injured, and 78.7 per cent for powered two-wheeler drivers being killed or seriously injured.

Reducing road danger is one of our top priorities and we have a range of programmes and projects to help make our streets safer for everyone that uses them.

This includes:

Safer Junctions programme
This has reduced danger at locations with higher than average collision rates. Improvements have been delivered at 45 high risk locations, resulting in 19 per cent fewer pedestrian collisions.

Lowering speeds
Speeding is the most common cause of collisions resulting in death or serious injury. We have introduced 264km of 20mph speed limits on our road network, and are on track to meet the target of 220km by May 2024. Collisions have been reduced by 25 per cent on our roads where speeds have recently been reduced, against a background trend of a 10 per cent reduction.

Lorry safety
We are improving safety for people walking and cycling through our Direct Vision Standard.

Bus Safety Programme
Our bus safety target is for nobody to be killed on, or by, a bus by 2030 and for nobody to be seriously injured on, or by, a bus by 2041. Our world-leading Bus Safety Programme is one way that we will achieve this, by helping to reduce collisions involving a bus.

Boroughs
We work in partnership with boroughs on initiatives to make it safer to walk and cycle.

Walking action plan

Walking is the most common form of active travel in London. The proportion of trips made on foot has remained at around 24 per cent since the 1990s. The proportion of trips made on foot was around 24 per cent between the 1990s until 2020, when walking mode share increased to 33 per cent during the pandemic. In 2022, it accounted for 27 per cent of travel.

Our 2018 Walking action plan highlights two main goals. Firstly, we want to increase the number of walking trips by more than one million per day by 2024, from 6.4 million to 7.5 million.

Studies indicate that reducing road danger is key to increasing people's willingness to walk. Reducing motor traffic volumes reduces risk of injury. Measures to make streets better for walking also include widening and enhancing footways, building more priority pedestrian crossings, operating traffic signals to reduce pedestrian delays and increasing time given to pedestrians at crossings.

In addition, our Leisure walking plan, published in 2022, outlines a range of actions to better connect communities with green spaces.

181
new signalised pedestrian crossings installed since 2016

254
sites across London have had pedestrian countdown displays installed since 2016

43
locations have had innovative pedestrian green person priority technology since 2016

Cycling Action Plan 2

Published in 2023, our Cycling Action Plan 2 sets out measures to increase cycling levels and diversify and broaden the range of people cycling. For cycling to become a realistic choice for most Londoners, we need to transform our streets to make cycling more attractive. Reducing road danger and the dominance of motorised traffic is essential to achieving this.

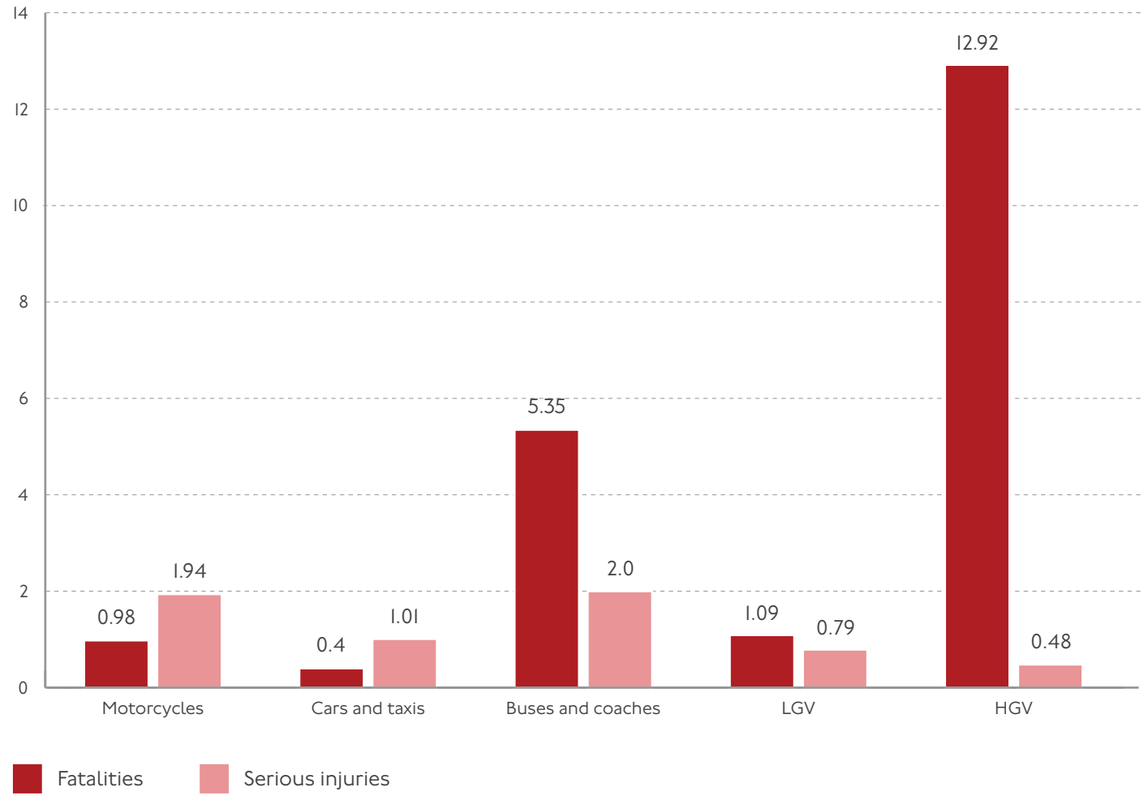
Cars are the dominant source of road danger for people cycling, making up 72 per cent of vehicles involved in collisions resulting in the death or serious injury of someone cycling in 2022. Drivers of heavy goods vehicles, buses, coaches and motorcycles also pose significant risks to people cycling.

Expanding the Cycleway network is integral to reducing road danger in London as well increasing the number of cycle trips made by children, women, disabled and older people, who are disproportionately put off cycling if it means mixing with motor traffic.

As of 2023, 24 per cent of Londoners live within 400 metres of the strategic cycle network. Our ambition is to expand the network so that it reaches 40 per cent of Londoners by 2030 and 70 per cent of Londoners by 2041.

To understand the risk posed by vehicle type, it is helpful to compare the number of fatalities and serious injuries to their share of traffic. Buses, coaches and motorcycles pose the greatest risk to people cycling as they have the highest number of cyclists killed or seriously injured relative to the amount of kilometres they travelled. Heavy goods vehicles are 13 times more likely to be involved in a collision resulting in a person cycling being killed, relative to their share of traffic.

Risk of motor vehicles being involved in cycling fatalities and serious injuries relative to their share of traffic (in vehicle kilometres) between 2017 and 2021



‘For cycling to become a realistic choice for most Londoners, we need to transform our streets to make cycling more attractive’

Bus stop bypass design guidance

Our guidance and advice helps to ensure that our infrastructure meets certain standards of safety

Protected cycling infrastructure

Across the world, protected infrastructure is a vital tool for enabling cycling among more diverse groups including women, children, disabled and older people in heavily trafficked environments. A 2020 study by the University of Westminster on the impacts of infrastructure in London found protected cycle infrastructure reduces risk of injury by 40-65 per cent for people cycling, as opposed to where there is no infrastructure.

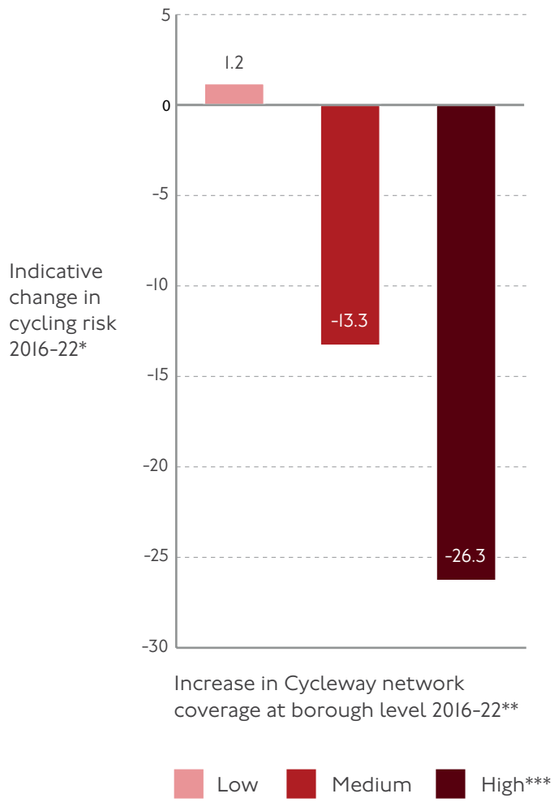
Our design guidance aims to ensure bus stop bypasses are safe and accessible

Our 2019 New cycle route Quality Criteria helps designers decide when and where protected cycle infrastructure is needed. It establishes what conditions are needed for people cycling mixing with motor traffic using six criteria: volume of motor traffic, speed of traffic, available road width, collision risk at side roads and junctions, kerbside activity, and levels of heavy goods vehicles.

For example, the design of new cycle routes should ideally only mix people cycling with motorised traffic where there are fewer than 500 motor vehicles per hour in both directions at peak times, and preferably fewer than 200.

To be integrated into our Cycleways network, cycle routes must meet this quality criteria. Cycleways have been effective in reducing road danger for people cycling, with cycling risk reducing most where boroughs and TfL have built new Cycleways.

Relationship between the expansion of the strategic cycle network at borough level and change in cycling risk (2016-2022, all cycling injuries)



* Difference between relative increase in cycling injuries and relative increase in cycling levels between 2016 and 2022

** Increase in the proportion of residents living within 400m of the strategic cycle network between 2016 and 2022

*** There are 11 boroughs in each category. Low is between zero and six percentage point increase in population within 400 metres of the strategic cycle network, medium is between seven and 22 percentage point increase, high is between 30 and 76 percentage point increase

The indicative change in cycling risk is based on the change in the number of slight, serious and fatal injuries and change in cycling levels at borough level. The indicative change in cycling levels is based on annual cycle counts within each borough.

Current design guidance

In 2018, we published a design guidance note for accessible bus stop design to outline best design practice for bus stop bypasses. It was developed in consultation with a range of disability and other user groups and establishes 'standard layouts' for bus stop bypasses with one-way and two-way cycle tracks. Among the recommendations are:

- There should be one bus flag on an island at least 2.5 metres wide
- The cycle track runs at least 50mm below the footway and bus stop island or is delineated from the footway and the bus stop island
- One crossing point is provided in the form of a zebra crossing, but without zig zag lines or Belisha beacons

Zebra crossings

These should be provided on a raised table, which should be local to the crossing-point but in some instances the raised table may extend further. Zebra crossings should be aligned with the position of the rear doors of a two-door bus correctly stopped at the bus stop.

Blister tactile paving

This should be provided at the crossing point, with tails indicating to users that it is a controlled crossing. The tails extend into the island and footway in a way that makes them detectable for any user walking along either the island or footway. It should be an appropriate colour and tonal contrast to be distinguishable from the footway material in all conditions.

Our approach is in line with 2020 Government guidance produced by the Department for Transport. We expect this guidance to be implemented on all schemes designed, delivered and funded by us. In exceptional circumstances, where a fully compliant design is not possible, any deviation from this advice should be discussed and agreed with us.

Bus stop bypass design

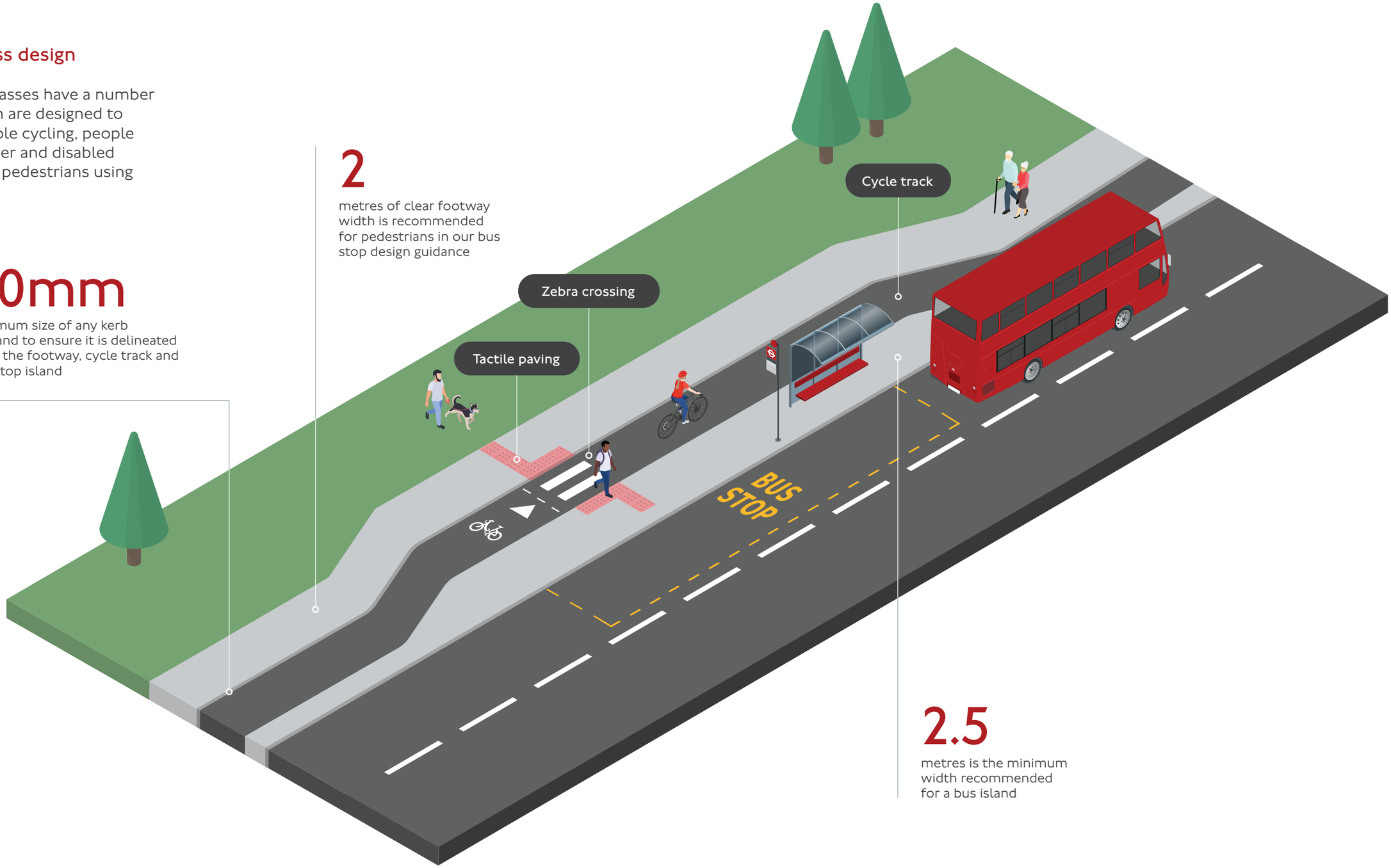
Our bus stop bypasses have a number of features, which are designed to help protect people cycling, people using the bus, older and disabled people and other pedestrians using the footway.

50mm

minimum size of any kerb upstand to ensure it is delineated from the footway, cycle track and bus stop island

2

metres of clear footway width is recommended for pedestrians in our bus stop design guidance



2.5

metres is the minimum width recommended for a bus island

Bus stop bypasses review

We are reviewing the safety of our bus stop bypasses to better understand the concerns raised by our stakeholder partners

In March 2023, the Mayor asked us to review the safety of bus stop bypasses. This was in response to concerns from stakeholders representing older and disabled people about the impact that bus stop bypasses are having on their ability to travel by bus.

A petition from the National Federation of the Blind of the UK (NFBUK), which was signed by 164 supporting organisations, 35 of which are based in London, was sent to the Mayor in November 2022. Concerns were raised about bus stop bypasses and the safety and accessibility barriers they may create for some blind, visually impaired, and older people, and other vulnerable groups of bus passengers who now have to cross cycle lanes to get on and off a bus. In particular, it states that expecting people who cannot see, who cannot move very fast or who are using mobility aids to step on and into a cycle lane with speeding cyclists and people using e-devices is simply not safe.

Our ongoing engagement with accessibility stakeholders shows that there are concerns about various new walking and cycling schemes, which are felt to have created barriers for older and disabled people. The main causes of these barriers are fear and anxiety of a collision with cyclists, speed and behaviour of cyclists, and a lack of consistent design across London.

In 2021, the RNIB published 'Seeing streets differently: How changes to our streets and vehicles are affecting the lives of blind and partially sighted people'. This report explains that bus stop bypasses create additional barriers for blind and partially sighted people who have to navigate fast-moving silent cycle traffic to reach the bus stop. This is made worse when they are installed without detectable kerbs or accessible crossing facilities.

In August 2023, The Guide Dogs for the Blind Association published 'Making the built environment inclusive – guidance on ensuring regeneration schemes are accessible for people with sight loss'. It states that floating bus stops, bus stop bypasses and bus boarders are intended to prevent conflict between cyclists and buses. It acknowledges that the 'design tends to confuse and, in some instances, pose barriers for people with a vision impairment who have to navigate across a cycle track to access bus stops; especially as it is difficult or impossible to detect the presence of bicycles. The conflict and fear of conflict makes it unsafe and stressful for people with sight loss as it creates anxiousness, fear and, for some, can lead to them avoiding certain areas'.

Wheels for Wellbeing is a charity that works to ensure disabled people can access the physical, emotional, practical and social benefits of cycling. It has published a series of guidance sheets that set out some key issues and questions to consider when designing a bus stop bypass. This includes a call for an 'inclusive consultation with disabled people to ensure public space designs are accessible for everyone'.

Our approach

In response to stakeholder concerns, we wanted to establish the risk posed to pedestrians, which led us to analyse casualty data at bus stop bypass sites. We also studied eight bus stop bypasses to try to establish the scale of the problem of cyclists not giving way at zebra crossings on the bypass, and to better understand how people walking and cycling interact at bus stop bypasses more broadly. This was because some stakeholders explained that even if the risk of being physically injured by someone cycling was low, they were still anxious about using bus stop bypasses and afraid to cross over the cycle track because cyclists were not giving way to them.

During our discussions with stakeholders, questions were raised about whether disabled and older people might be avoiding bus stops with a bypass, which would impact our risk analysis. To address this, we studied bus boarding patterns for older and disabled passengers at bus stops with and without bypasses. We also reviewed boarding patterns to see if older and disabled people avoided bus stops once a bypass had been built at a bus stop.

Stakeholders also pointed out that some bus stop bypasses had zebra crossings on them while others did not. We were aware that, as some bus stop bypasses had been constructed before the best practice design guidance was published, not all bus stop bypasses complied with the guidance. We therefore did a design audit of all the bus stop bypasses in London to establish how many complied with our design guidance, where they fell short in design terms, and what remedial work would be needed to bring them all up to current standards.

We recognise that analysis of this kind does not reflect individual experiences on our network. Nevertheless, it does provide a useful overview of the trends and helps to inform our next steps following the review.

Casualty analysis

We can use data to better understand the risk posed to pedestrians at bus stop bypasses

All road traffic collisions that result in a person being injured that are reported to the police within 30 days are recorded in a national database, called STATS19. In London, the collision data is collected by the Metropolitan Police Service and the City of London Police. This is provided to us so that we can process the data and provide it in the required standard to the Department for Transport (DfT) for inclusion in the STATS19 database as a national statistic.

We use STATS19 to track progress against our Vision Zero goals, as it is the most detailed, complete and reliable source of information on road casualties available within London and nationally.

While STATS19 data has been used for this review, we recognise it has limitations that affects our ability to fully understand injury risk. For example, there is an issue with under-reporting, especially minor injuries, and that the actual number of injuries is likely to be higher. We also know the injured person is often unable to self-report their personal information, such as disability and ethnicity, which means the attending police officer will record details based on their best judgement or information available to them at the scene. Therefore, many protected characteristics, including disability, are unable to be collected within STATS19 data.

Our approach

We identified 164 bus stop bypasses on our road network and Cycleways. Further sites that were not funded by us and/or are not part of the Cycleways network may exist. Of the 164 sites, 87 were on our roads and 77 were on the borough road network. Some of the bus stop bypasses were on busy Cycleways, and others were on quieter routes. We carried out geographic information system (GIS) analysis at these sites to identify any pedestrian casualties involving cyclists.

We identified casualties that occurred within 50 metres of the bus stop bypass between 2020 and 2022 inclusive. We then identified any casualties that occurred on the bus stop bypass itself and whether those casualties were on the pedestrian crossings.

Our results

During 2020, 2021 and 2022, five pedestrian casualties involving cyclists and one involving an e-scooter occurred within the extent of the bus stop bypass, based on the collision descriptions. One of the six appears to have been at the designated zebra crossing, as far as we can tell from the collision descriptions.

Three of the five pedestrian casualties involving cyclists were serious and two were slight. The pedestrian casualty involving an e-scooter rider was slight.

We analysed casualty data at all 164 sites identified

Balham High Street

At stop H on Balham High Street, which is on our road network, there was one serious casualty and one slight casualty.

The serious casualty occurred when a person was crossing the cycle track to board a stationary bus and a cyclist collided with them. On a separate occasion, a person was crossing the cycle track after getting off a bus collided with an e-scooter rider, resulting in a slight injury. This site, which had a temporary layout at the time of the two collisions, does not comply with our design guidance as the bus shelter is on the footway and there are no cycle demarcation kerbs.

Marble Arch

At Stop W in Marble Arch, which is on our road network, there was a serious casualty. A person on an electrically assisted cycle collided with a person crossing the cycle track, which resulted in a head injury. The design of the bus stop does not comply with our guidance as the bus shelter is on the footway.

Stratford High Street

At Stop M on Stratford High Street near Warton Road, which is on a borough road, there was a casualty that was classified as slight. A person crossing the cycle track after getting off a bus collided with a person cycling in the cycle lane. This bus stop bypass does not comply with our guidance, owing to the flag location.

Bow Church
There was a serious casualty involving a person boarding a bus and a cyclist at a bus stop bypass in Bow Church on the A11, which is on our road network. A pedestrian stepped into the cycle lane and collided with a cyclist, resulting in a fall and head injury. This site does not comply with our design guidance as the flag is sited incorrectly and the island is too narrow.

Lea Bridge Road
There was a slight casualty at Emmanuel Parish Church on Lea Bridge Road, which is a borough road. A pedestrian was intending to board a bus when a cyclist collided with them. This site does not comply with our design guidance as there is no zebra crossing or tails on the tactile paving.

Our findings
There were five reported pedestrian casualties involving cyclists and one involving an e-scooter on bus stop bypasses over the three year period studied. Only one appears to have occurred on the zebra crossing where the cyclist must give way to a pedestrian who is crossing. This represents 0.8 per cent of a total of 623 pedestrian casualties involving collisions with cyclists during the three-year period, and 0.05 per cent of all 12,069 pedestrian road casualties during this time.

Every casualty on London's streets is unacceptable and needs to be prevented. However, The chance of being injured by someone cycling at a bus stop bypass is very low compared to the chance of being injured by a driver on the wider network. There were more than 11,400 pedestrian casualties resulting from collisions with motor vehicles and more than 15,000 cycle casualties resulting from collisions with vehicles in the same period.

'The chance of being injured by someone cycling at a bus stop bypass is very low compared to the chance of being injured by a driver on the wider network'

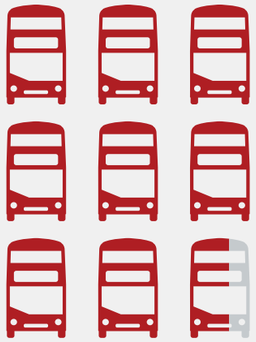
Design audit

We audited bus stop bypasses across London to see whether they were in line with design guidance

In 2018, we worked with disabled and older people to produce design guidance for bus stop bypasses. Many bus stop bypasses were introduced before this guidance was published. As part of our safety review, we have audited all 164 bypasses on our road and Cycleway networks to see whether they are in line with this guidance. Around two thirds of all sites either fully comply or have minor design issues, which can be easily rectified. The sites that do not fully comply have issues such as incorrect island geometry, road markings or kerb delineation.

We also found that around one third of sites vary significantly from our best practice guidance, owing to the absence of a crossing, or, where there is a crossing, there are design issues such as missing tactile paving tails, incorrect zebra stripe markings, and bus shelters and flags sited incorrectly. We shared the findings of our design audit with all relevant London boroughs.

Bus stop bypasses on our road network

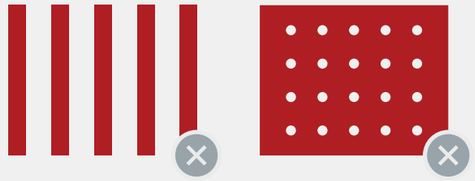


87
bus stop bypasses on our road network

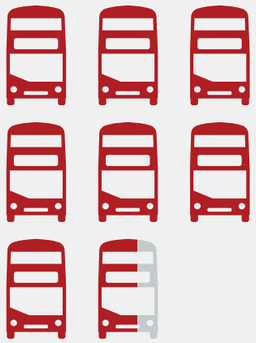
39
bus stop bypasses are fully compliant with best practice guidance

35
bus stop bypasses have minor design issues, such as the location of the bus stop shelter and/or flag within the boundaries of the bus stop bypass island

13
sites have significant design issues, such as no zebra crossing, incorrect tactile paving, insufficient bus stop island width, or shelter and flag missing from the island



Bus stop bypasses on borough roads



77
bus stop bypasses on borough roads

16
bus stop bypasses that fully comply with best practice

18
sites have minor design issues, such as needing to relocate the bus stop shelter and/or flag within the boundaries of the bus stop bypass island

43
sites have significant design issues, such as no zebra markings, incorrect tactile paving, or insufficient bus stop island width

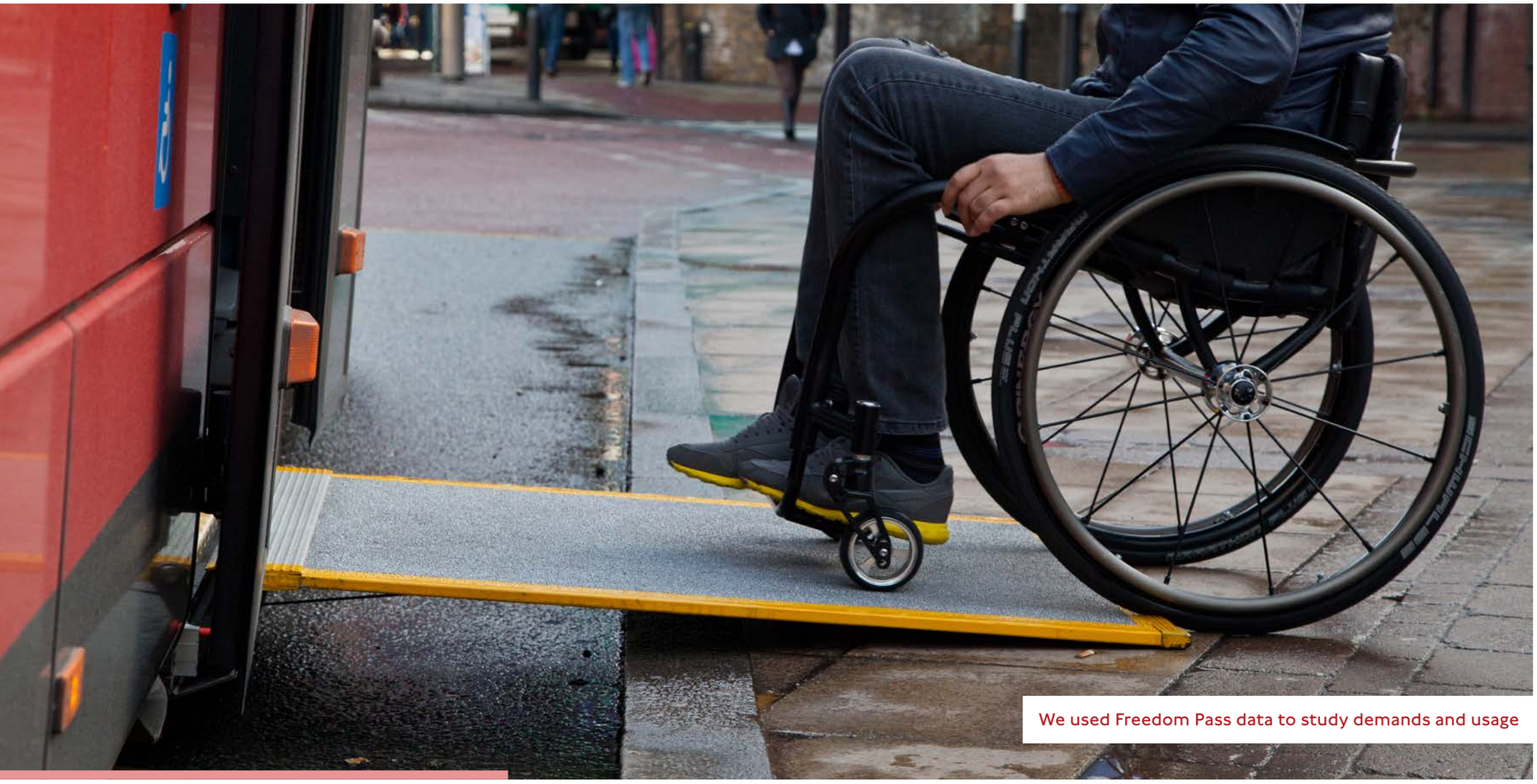
Bus boarding patterns

We wanted to understand how bus stop bypasses affect the use of buses for different user groups

Some of our stakeholders raised concerns that bus stop bypasses have led to some passengers avoiding travelling by bus or having to use different bus stops. We used London-wide data to help us understand the trends.

We looked at whether bus stop bypasses affect the number of disabled and older people boarding the bus at a stop, and whether the introduction of bypasses at bus stops impact the levels of older and disabled people using that stop.

We want to engage with all of our bus stop bypass users



We used Freedom Pass data to study demands and usage

‘There were slightly more disabled or older boarders at bus stops with bypasses, compared to bus stops without bypasses’

Disabled and older people boarding the bus

We compared boarding levels at bus stops with bypasses to those without bus stop bypasses. We studied disabled and older passengers, separately. This data came from Freedom Pass ticket and railcard information for disabled and older people.

We compared the 121 bus stop bypasses that were estimated to have been introduced between 2019 and 2022, to 19,682 bus stops without bypasses. We excluded the bypasses that were constructed outside of this timeframe, owing to limitations in our bus boarding data. We used Google Maps images to estimate construction dates.

We analysed six months of boarding data from March to August 2023. We conducted a Mann Whitney U test, which is a non-parametric statistical test, the most appropriate and robust method to use with the available data.

While there were no lockdown restrictions in place during this time, ridership was still lower than pre-pandemic levels. Between 2018 and 2023, bus usage fell by around 10 per cent for all London bus boarders, with around 16 per cent for all these being disabled Freedom Pass customers and around 14 per cent being older person’s Freedom Pass customers.

There were slightly more disabled or older boarders at bus stops with bypasses, compared to bus stops without bypasses, which is statistically significant. Further research would be needed to establish why there are more disabled and older bus boarders at bus stops with bypasses. The higher levels might be a result of geography, such as proximity to services that disabled and older people want to access.

2,048

median number of disabled people boarding a bus at bus stop bypasses per day

7,305

median number of older people boarding a bus at bus stop bypasses per day

422

median number of disabled people boarding a bus at a site without a bus stop bypass per day

2,249

median number of older people boarding a bus at a site with a bus stop bypass per day

Bus stop bypass construction

We compared boarding levels at bus stops before and after bypasses were introduced. We studied disabled and older passengers separately. We compared bus boarding data for March to August 2018 and March to August 2023 at the 121 bus stops with bypasses with estimated implementation between 2019 and 2022.

We did a statistical test on the 121 bus stops alongside a test on the 19,572 bus stops without bypasses, comparing 2018 and 2023 boarding figures, to understand background changes, which occurred largely due to the coronavirus pandemic. We then considered the results in the context of the London-wide changes to boarding over the same period.

We used a Wilcoxon Signed Rank test, a non-parametric 'before and after' test that is used when data is not normally distributed, which is the case for the boarding data.

The number of disabled people boarding at a bus stop with no bypass fell by 14.5 per cent between 2018 and 2023, which is greater than the 11 per cent drop seen over the same period at bus stops with a bypass. This indicates that the construction of the bypass did not lead to fewer disabled people boarding there, with it having the opposite effect in that there was a smaller reduction where bypasses were constructed. This may be for geographical reasons, such as proximity to services.

The fall in older people using bus stops was consistent with the wider fall at all the other bus stops in London between 2018 and 2023. There was a 17.5 per cent drop in the median value at bus stops without bypasses, which is similar to the 17.6 per cent drop in use at the 121 bus stops with bypasses. This indicates that older people were as likely to use the bus stops after bypasses had been constructed as they were before.

Our findings

The analysis suggests that the presence or construction of bus stop bypasses has not led to a reduction in use by older or disabled customers. The results of both bus boarding studies are statistically significant. We are aware that some disabled people board in the middle of the bus and do not swipe in with their railcard or Freedom Pass, so their boarding patterns would not be reflected in our data, but this would not impact the overall results.

The study is based on data for people with all types of disability, therefore it does not isolate or identify any bus boarding changes according to a specific disability, such as blind or partially sighted people.

The data does not, and cannot, reflect individual passenger experiences. Some stakeholders have changed their travel behaviour after the introduction of bypasses, but other bus users might continue to use bus stops with bypasses, despite finding them difficult or frightening because they still need to access that location.

Median number of disabled customers using bus stops without bypasses

2018 **497▲**

2023 **425▼**

Median number of older customers using bus stops without bypasses

2018 **2,731▲**

2023 **2,254▼**

Median number of disabled customers using bus stops with bypasses

2018 **2,301▲**

2023 **2,048▼**

Median number of older customers using bus stops with bypasses

2018 **8,860▲**

2023 **7,305▼**

Observational study

We studied several locations to better understand how pedestrians and cyclists interact at bus stop bypasses

It was important that we looked at cyclist behaviour and interactions at bus stop bypasses, as some stakeholders had raised concerns.

Our approach

We observed video footage of cyclists and pedestrians at eight sites. There was three hours of footage recorded at each site during busy times on Wednesday 7 June, 2023. We received complaints about two of the sites and two were sites with recorded casualties. Three sites had no casualties or complaints and were included as control sites. One site had additional features, such as rumble strips and slow markings.

St Thomas Hospital
Bus stop D and E, both eastbound and westbound, which is on our road network, was chosen as there had been complaints about the location. It complies with our design guidance.

Marble Arch
Bus stop W on Park Lane, which is on our road network, was chosen as there has been a casualty at this site. The bus stop does not comply with our design standards, as it has a very large island with shelters on the footway, as well as a coach stop.

Warton Road
Bus stop M, which is on a borough road, was selected as there was a casualty at this bus stop bypass. It does not comply with our design guidance, owing to the flag location.

Colliers Wood
Bus stop A, on our road network, was selected as a control site. It does not comply with our design guidance as the shelter is on the footway and the island is two-metres wide.

Camden Park Road
Bus stop M on York Way, which is a borough road, was chosen as it has additional features of rumble strips and slow markings. The site does not comply with our design guidance as there is no delineation between the footway and cycle track.

Southwark
We selected two control sites, one at Southwark Station bus stop SA and one at Southwark Park, but stop C. Both sites are on our roads. Both bus stop bypasses comply with our design guidance.

We looked at the ways people interact at bus stop bypasses

To comply with our design guidance, bus stop bypasses should have zebra crossings and tactile paving. This is where someone cycling should give way to pedestrians crossing the cycle track. Therefore, this point was the focus for this observational study. We counted the number of people cycling along the track and defined the different interactions they had.

No interaction
Someone cycled along track and there were no pedestrians nearby or nobody wanting to cross on the zebra crossing.

Yield
The pedestrian was on, or very near, the tactile paving and intending to cross and the cyclist gave way, either by slowing down or stopping.

No yield
The pedestrian was at the crossing and cyclist did not give way by slowing or stopping, or the pedestrian was in the process of crossing and the cyclist manoeuvres round the back of the pedestrian.

Contact
Physical contact occurred between the pedestrian and cyclist.

For this study, 'no yield' included cyclists failing to give way to a pedestrian who was either on the crossing or had a foot on the crossing. It also included a cyclist who failed to give way to someone standing on or near the tactile paving in front of the zebra crossing, which is advisory. In some cases, the pedestrian was standing on the tactile paving in front of the crossing but did not intend to cross as they subsequently walked away from the bus stop. This was still counted as a no yield if the cyclist did not give way. The footage was silent, so reviewers could not hear any of the communication that took place between users. The footage was twice the speed of normal time and could not be slowed, which made it more difficult to observe and count the interactions.

Our findings

Our findings are not statistically significant but provide some insight into how people interact at bus stop bypasses. Levels of interaction between people getting on or off a bus and people cycling were generally low. There were 6,303 pedal cyclists counted using the bus stop bypass cycle tracks over the course of 24-hours of footage. Of these, 6,098 were classified as having no interaction. There were 205 interactions, of which 83 were categorised as a yield and 122 as a no yield. There were no cases of contact between a cyclist and pedestrian. During that time 4,571 people boarded or alighted a bus.

Overall, three per cent of people cycling had an interaction with people boarding or alighting buses using the crossings, which is four interactions per 100 people boarding or alighting a bus. In all but one location, the percentage of people cycling having interactions ranged from zero to six per cent in each hour period. At the eastbound bus stop at St Thomas's Hospital, the levels of interaction was higher, with three to 18 per cent of the people cycling interacting with someone walking using the bypass depending on the hour, reflecting lower numbers of people cycling at this site and higher bus use.

Across all eight sites, 40 per cent of the interactions involved a person cycling yielding, while 60 per cent did not yield. There was considerable variation in the number of people cycling that yielded or didn't, which can be partly attributed to the very low number of interactions recorded at some of the sites. At site 1 at St Thomas's Hospital, 11 per cent of cyclists yielded to pedestrians, while at site 3, at Marble Arch, 86 per cent of people cycling yielded to pedestrians. The number of cyclists not yielding to pedestrians ranged from 14 per cent at Marble Arch to 89 per cent at the eastbound stop at St Thomas's Hospital.

Study limitations

The small sample size limits our ability to draw reliable conclusions. At half of the sites, the interactions counted on the zebra crossings during the study were in single digits, with only one yield or no yield occurring at some sites. There were also difficulties defining what constitutes a yield or no yield as there are no zig zag markings on bus stop bypass zebra crossings, which are usually used on standard zebra crossings to indicate the distance required to stop in time to give way.

Given these uncertainties, we were not able to draw reliable conclusions in the way that we could for our statistically robust studies. Nevertheless, we did find that it is common for cyclists not to give way. More data would be needed to draw statistically significant conclusions.

Engagement and feedback

Given the limitations of our data, we talked to key stakeholders and reviewed previous engagement and correspondence

The insight and feedback we receive shapes the design of bus stop bypasses in London, as well as the information and education initiatives we deliver. Following the data analysis, Will Norman, London's Walking and Cycling Commissioner, chaired a roundtable event with active travel and accessibility stakeholders to discuss the findings and explore next steps. After the roundtable event, we invited stakeholders to submit further evidence or comments.

In January 2024, the GLA's Deaf and Disabled People's Organisations forum brought together various stakeholders to provide advice on inclusive practices and discuss the issues faced by deaf and disabled Londoners. The forum enables deaf and disabled people to share their views and experiences, which in turn helps to inform the design and delivery of the Mayor's strategies, policies, projects and programmes.

We also reviewed customer correspondence about bus stop bypasses that we received between January 2020 and June 2023, to build our understanding of peoples' experiences of this type of infrastructure.

Several themes emerged from this, which are fully detailed in the corresponding Equalities Impact Assessment.

'Our stakeholders want further engagement about future design, including alternatives that would avoid the need for pedestrians to cross cycle tracks, and behaviour change initiatives'

We have engaged with and listened to our key stakeholders

Summary of themes

Some disabled people, particularly blind and visually impaired people, remain concerned that bus stop bypasses are not safe for them to use and would prefer to see them removed, or only installed as a last resort once other design options have been explored. This is because bus stop bypasses mean they have to cross a cycle track to get to the bus.

There are also concerns about cyclists failing to give way to pedestrians at the zebra crossing, which creates fear and anxiety about knowing when the zebra crossing is clear to cross.

Stakeholders have suggested there is not enough information and education about how to use a bus stop bypass. They suggest there is a need to improve awareness of where bus stop bypasses are located, through audio announcements at all relevant bus stops. Our stakeholders also suggest bus stop bypass design should be enhanced to improve visibility of the crossing and bus stop location. They also want more consistent designs, and are particularly concerned about routes without delineation, locations where the shelter is on the footway rather than the island, and where islands are narrow.

Our stakeholders want further engagement about future design and behaviour change initiatives. There is a general desire for us to do more research on road user behaviour at crossings. Stakeholders suggested further research was needed on customer perceptions and cyclist behaviours. Stakeholders also queried whether there is adequate consideration of equalities impacts when deciding on individual schemes.

Stakeholders were concerned that the police's casualty data does include whether or not the victim is disabled and felt that pedestrian casualties involving people cycling were under reported.

Our stakeholders have raised concerns around reporting issues and collisions to police as they feel there is a fear of being believed, feeling intimidated or whether it could be deemed a hate crime. This limits our collision data.

Pedestrians should be the highest priority, according to the Highway Code, so the safety of cyclists should not be prioritised over the safety for pedestrians, especially disabled people and those with mobility needs.

Stakeholders also raised access issues for wheelchair users. For example, if there are parked cars near the bus stop then the bus doesn't align with the pavement and stops further out. There is also an issue for people using wheelchairs when there is no dropped kerb, preventing them from getting into the road.

Our disabled stakeholders explain that some people have no choice over what bus stop they can use and that the review of data doesn't capture the anxiety and fear they feel when using them.

Our next steps

We have reflected on the findings of our review to develop appropriate next steps

As part of our next steps, we will continue to engage with stakeholders and colleagues at Active Travel England and in other UK cities. Our proposed next steps, informed by the findings from this part of the review and stakeholder feedback, can be broken down into a number of themes.

Education

- We will develop a high-visibility education campaign, in partnership with the Metropolitan Police Service, aimed at making cyclists more aware of the correct behaviour at bus stop bypasses and improving compliance with the Highway Code
- We will publicise videos that include information on how to use bus stop bypasses
- We will include information on bus stop bypasses in relevant Travel for Life training modules aimed at younger people cycling to and from school independently

Design

- We will work with the boroughs to update non-compliant bus stop bypasses so that, where possible, they are in line with our existing design guidance
- We will review relevant design guidance, in collaboration with the London boroughs, as well as accessibility and active travel stakeholders, through an inclusive design approach to ensure appropriate changes reflect user needs

Information for bus customers

- We will update our Journey Planner information to make it clear when a journey involves a bus stop bypass
- We will review our bus driver training on bus stop bypass routes to see if additional announcements or assistance is needed
- We will develop a clear process for introducing bus announcements when new bus stop bypasses are constructed and share this with the London boroughs

Research and innovation

- We will explore innovative trials, such as using new crossing technology for visually impaired people at bus stop bypasses
- We will research cyclist behaviour to better understand why they don't always give way at the crossings on bus stop bypasses
- We will work with accessibility stakeholders to promote the ways that people can report collisions to the police and engage with the Department for Transport on the next STATS19 review to request that police record whether a person has a disability when they record a collision. This will help to improve our understanding of the links between disability and road casualties

We will continue to review and consider how effective these interventions are at addressing the issues and concerns raised by stakeholders. We will also review all relevant data and evidence as it emerges and ensure that this is taken into account as part of our decision-making on an ongoing basis.

About us

Part of the Greater London Authority family led by Mayor of London Sadiq Khan, we are the integrated transport authority responsible for delivering the Mayor's aims for transport. We have a key role in shaping what life is like in London, helping to realise the Mayor's vision for a 'City for All Londoners' and helping to create a safer, fairer, greener, healthier and more prosperous city. The Mayor's Transport Strategy sets a target for 80 per cent of all journeys to be made by walking, cycling or using public transport by 2041. To make this a reality, we prioritise safety, sustainability, health and the quality of people's experience in everything we do.

We run most of London's public transport services, including the London Underground, London Buses, the DLR, London Overground, Elizabeth line, London Trams, London River Services, London Dial-a-Ride, Victoria Coach Station, Santander Cycles and the IFS Cloud Cable Car.

We manage the city's red route strategic roads and are responsible for the maintenance, management and operation of more than 6,000 sets of traffic lights across the capital. The London boroughs are responsible for all the remaining roads within their boundaries. The experience, reliability and accessibility of our services are fundamental to Londoners' quality of life. Safety remains our number one priority and we continue to work tirelessly to improve safety across the network for both colleagues and customers.

Our vision is to be a strong, green heartbeat for London. We are investing in green infrastructure, improving walking and cycling, reducing carbon emissions, and making the city's air cleaner. The Ultra Low Emission Zone, and fleets of increasingly environmentally friendly and zero-emission buses, are helping to tackle London's toxic air. We are also improving public transport options, particularly in outer London, to ensure that more people can choose public transport or active travel over using their vehicles.

That is why we are introducing the outer London Superloop bus network, providing express bus routes circling the entire capital, connecting outer London town centres, railway stations, hospitals and transport hubs.

We have constructed many of London's most significant infrastructure projects in recent years, using transport to unlock economic growth and improve connectivity. This includes major projects like the extension of the Northern line to Battersea Power Station and Nine Elms in south London, as well as the completion of the London Overground extension to Barking Riverside and the Bank station upgrade.

The Elizabeth line, which opened in 2022, has quickly become one of the country's most popular railways, adding 10 per cent to central London's rail capacity and supporting new jobs, homes and economic growth. We also use our own land to provide thousands of new affordable homes and our own supply chain creates tens of thousands of jobs and apprenticeships across the country.

We are committed to being an employer that is fully representative of the community we serve, where everyone can realise their potential. Our aim is to be a fully inclusive employer, valuing and celebrating the diversity of our workforce to improve services for all Londoners.

We are constantly working to improve the city for everyone. This means using information, data and technology to make services intuitive and easy to use and doing all we can to make streets and transport services accessible and safe to all. We reinvest every penny of our income to continually improve transport networks for the people who use them every day. None of this would be possible without the support of boroughs, communities and other partners who we work with to improve our services. By working together, we are creating brighter journeys and a better city.

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