Appendix B

Royal Greenwich Transport Strategy

Road Safety Policy Framework Action Plan

September 2022

ROYAL borough of GREENWICH

Contents

Cover image: Woolwich New Road (Brian Aldrich Photography)

ROYAL borough of GREENWICH

Road safety in Greenwich

Romney R(Brian Aldrich Photography)

Our road safety vision

The aim of this Road Safety Policy Framework Action Plan is to outline a five-year program of schemes and interventions for the Council to implement or take forward for further development or consultation.

In establishing **a clear approach to achieving zero Killed and Seriously Injured (KSI) casualties on the Royal Greenwich road network by 2041**, in line with TfL's 'Vision Zero' approach, the Action Plan directly supports the delivery of the vision of our Royal Greenwich Transport Strategy that:

> *"Our transport system will be one that our residents and communities can be proud of, providing the safe, reliable and future-ready connections needed for living, learning, working and playing. It will be easy for everyone to walk, cycle or to use public transport, helping us all to be healthier, tackle our carbon emissions and manage congestion.*
>
> *The transport system will help people and goods to flow freely into, around and through the borough, without harmful emissions. It will help us to welcome new residents, businesses and visitors to our beautiful, historic borough."*
>
> Royal Greenwich Transport Strategy 2022-27

In particular, this Policy Framework Action Plan aligns with two key objectives of the Transport Strategy:

- *Objective 2.1: Improve the safety of our streets and public places for everyone, especially people walking and cycling*
- *Objective 2.2: Help everyone to feel safe on our streets and in our public places, especially people walking and cycling and using public transport*

Continual Monitoring

Schemes delivered under this Policy Framework Action Plan should include a monitoring strategy to allow for assessment against our objectives.

Moreover, collaboration with partners will be crucial in measuring the impact of certain actions (for example, collaboration with the Metropolitan Police will be required in monitoring and enforcement of speed restrictions; liaison with TfL will be needed on schemes that include the Strategic Road Network and/or the Transport for London Road Network).

There is scope for greater public involvement in the monitoring of success against each objective, particularly in the relation to the 'sense of safety' in Objective 2.2.

As well as engaging with Councillors as residents' elected representatives, the Council will liaise with community safety groups (e.g. Greenwich Safer Neighbourhoods) and will provide opportunities for residents to provide their feedback and insight where possible.

Policy Framework Action Plan Themes

Based on an analysis of collision data undertaken in advance of developing the Policy Framework Action Plan, to address these objectives, **interventions are considered under four themes**.

The following sections provide further detail on each theme and set out the recommended interventions to be implemented in the next five years to tackle the emerging road safety issues.

Theme A: **Vulnerable Road Users**
Targeting interventions for those road users most at risk to significantly reduce overall number of collisions, in particular those resulting in fatal and serious injuries.

Theme B: **Education and training strategies**
Supporting measures around behavioural change and smart travel to increase awareness of road dangers and improve individual interactions with other road users.

Theme C: **Enforcement and speed management**
Reducing the number of collisions and their severity by limiting opportunities for vehicles to travel at unsafe speeds and reducing speeds where possible.

Theme D: **Priority locations for interventions**
Specific collision 'hotspot' locations to be considered in more detail to assess what type of intervention would be more appropriate and effective.

Links to other strategies

This Road Safety Policy Framework Action Plan has been developed to support the overall vision and objectives outlined within the Royal Greenwich Transport Strategy. In addition to the Transport Strategy, there are a number of additional strategies which are complementary to this Plan.

Royal Greenwich Transport Strategy (2022)

The Transport Strategy supports the wider London and Royal Greenwich ambitions through its alignment with the Mayor's Transport Strategy, the Mayor's Environment Strategy as well as Royal Greenwich's Corporate Plan and the Carbon Neutral Plan.

Having declared a climate emergency in June 2019, the purpose of this strategy is to support Royal Greenwich's goal of becoming carbon neutral by 2030, and supporting a green post-pandemic recovery.

Royal Greenwich Third Local Implementation Plan (2019)

This Local Implementation Plan is a statutory document and sets out how the Royal Borough will deliver the Mayor's Transport Strategy (MTS). The document contains the Royal Borough's transport objectives which provide the context for, and help to establish, the Delivery Plan and the Performance Monitoring Plan. The Local Implementation Plan was published in 2019 with timescales to 2041.

Royal Greenwich Active Travel Action Plan (2022)

The intention of the Active Travel Action Plan is to increase the number of people in Royal Greenwich undertaking regular walking, cycling or wheeling trips, and to enable people to leave their private motor vehicle at home. It include actions that Royal Greenwich will take to improve the active travel network to deliver the objectives set out within the Royal Greenwich Transport Strategy. Several of these actions will have a great impact on road safety, particularly in relation to vulnerable users.

Kerbside Management Plan (2022)

The Kerbside Management Action Plan is focused on Parking Design and Parking Enforcement, and how the Royal Borough can improve. A well-planned and managed kerbside plays a pivotal role in the delivery of active travel schemes.

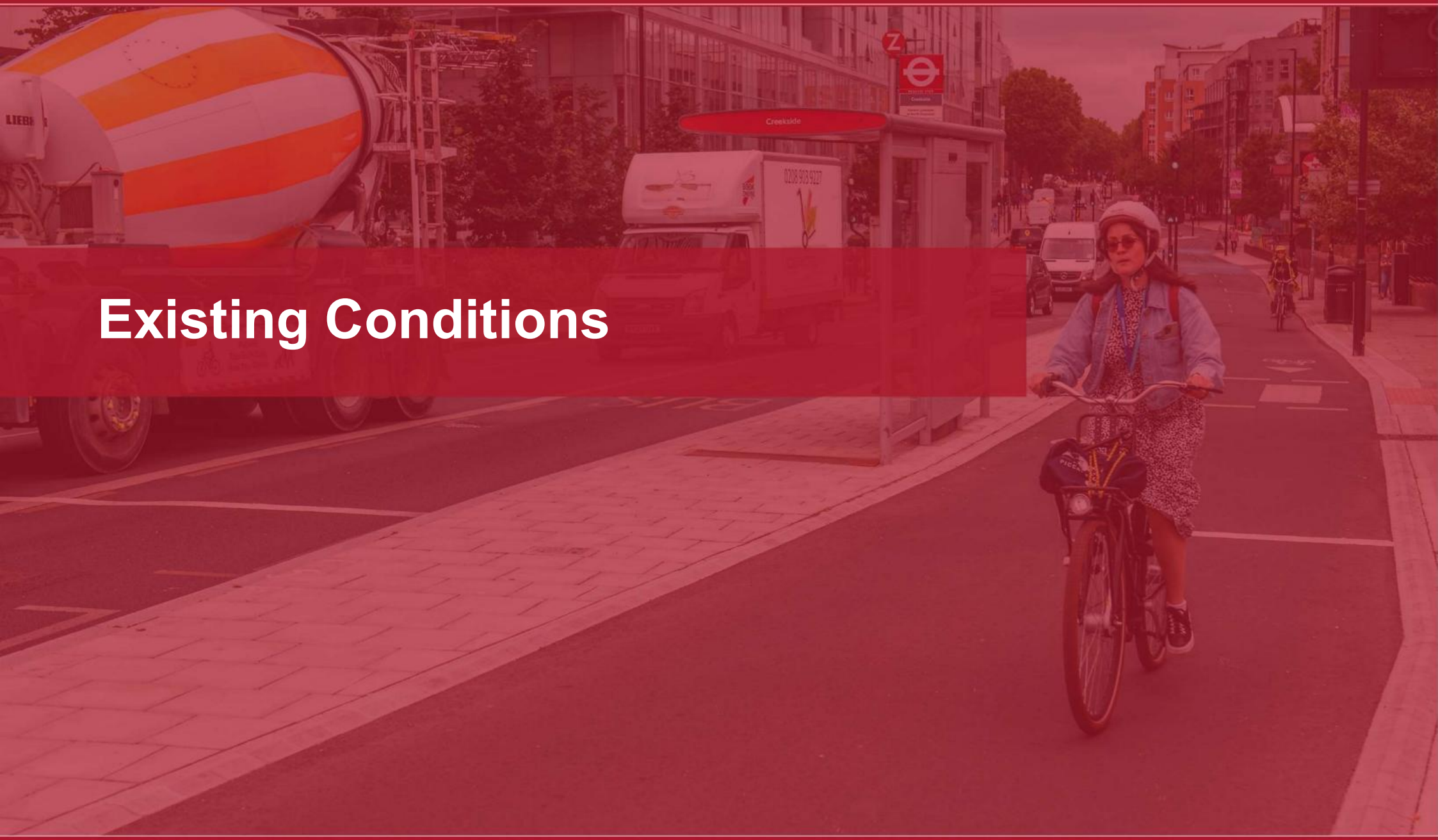
Streetscape Guidance and Asset Plan (2022)

The Streetscape Guidance and Asset Plan presents a practical and concise overview of the Royal Borough's requirements for its streets. The ambition is to ensure that all investment in the Royal Borough's streets and public realm consistently achieves a high quality, forms part of a cohesive whole, contributes to the Royal Borough's wider objectives.

Mayor's Transport Strategy (2018)

The Mayor's Transport Strategy sets out the Mayor's policies and proposals to reshape transport in London over the next two decades.

Existing Conditions



Creek Road (Brian Aldrich Photography)

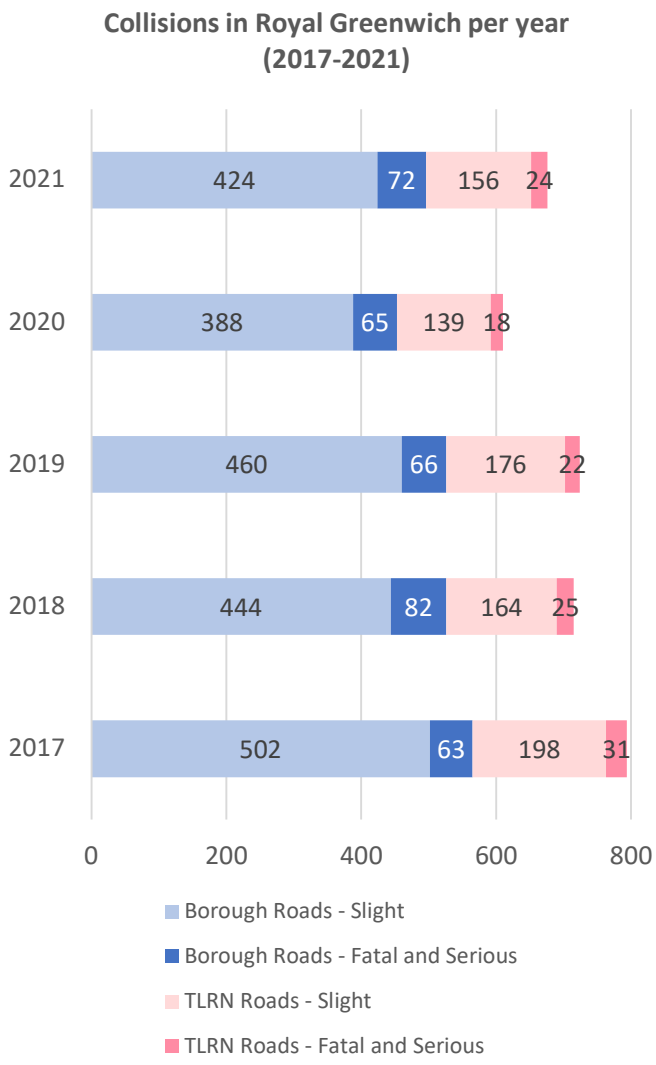
Existing conditions

An analysis of historical collision data recorded in the five years between 2017 and 2021 has been undertaken in advance of the preparation of this Policy Framework Action Plan. The analysis highlighted road safety trends and patterns identifiable on Royal Greenwich's road network.

Below are some of the key findings of the analysis:

- The number of collisions occurring per year has decreased slightly in the 2017-2019 period, with a substantial plateau in the proportion of fatal and serious collisions;
- Whilst the overall number of collisions occurring yearly during 2020 and 2021 has decreased, by effect of the lockdowns and perturbations in movement patterns, the number of fatal and serious collisions has remained stable, and the number of collisions involving vulnerable users (particularly cyclists) has increased;
- Collisions involving vulnerable road users (pedestrians, cyclists, motorcyclists) are those resulting in the highest number of fatalities and serious injuries: 87% of all KSIs are vulnerable road users; Motorcyclists are the group of vulnerable road users most involved in fatal and serious collisions across Royal Greenwich (42% of all KSIs);
- Young road users are a large proportion of pedestrians, cyclists and motorcyclists involved in collisions: 52% of fatal and serious casualties involving young road users aged between 16 and 24 are motorcyclists;
- 10 of the 15 most common causational behaviours recorded in fatal and serious collisions are directly or indirectly linked to speed.

In addition to informing the identification of actions, these patterns and trends have informed the prioritisation of sites across the Borough, focusing on areas where the risk of collisions has been identified as highest (included in Theme D).



Theme A: **Vulnerable road users**

Harrow Manorway, Abbey Wood (Brian Aldrich Photography)

Vulnerable road users

Borough-wide analysis noted that 52% of all collisions result in casualties among vulnerable road users (VRUs). If only fatal and serious collisions are considered, then the proportion increases to 81%. Targeting interventions at VRUs, therefore, has the potential to significantly reduce both the overall number of collisions, but will also disproportionality reduce those resulting in fatal and serious injuries.

Additionally, a focus on protecting vulnerable road users will result in lower number of collisions among children and young people: as shown in the figure below, the proportion of KSI casualties involving vulnerable road users is particularly high in the 16-24 age group.

Figure 1: **Proportion of collisions involving VRUs**

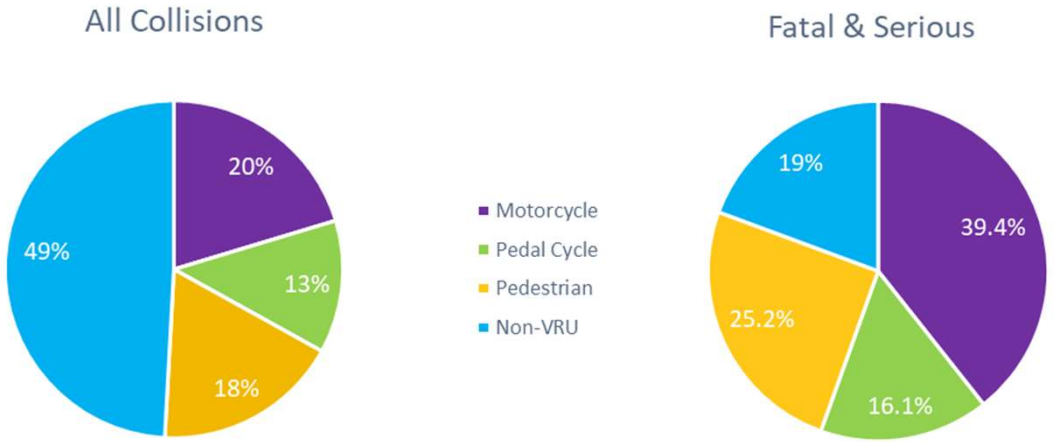
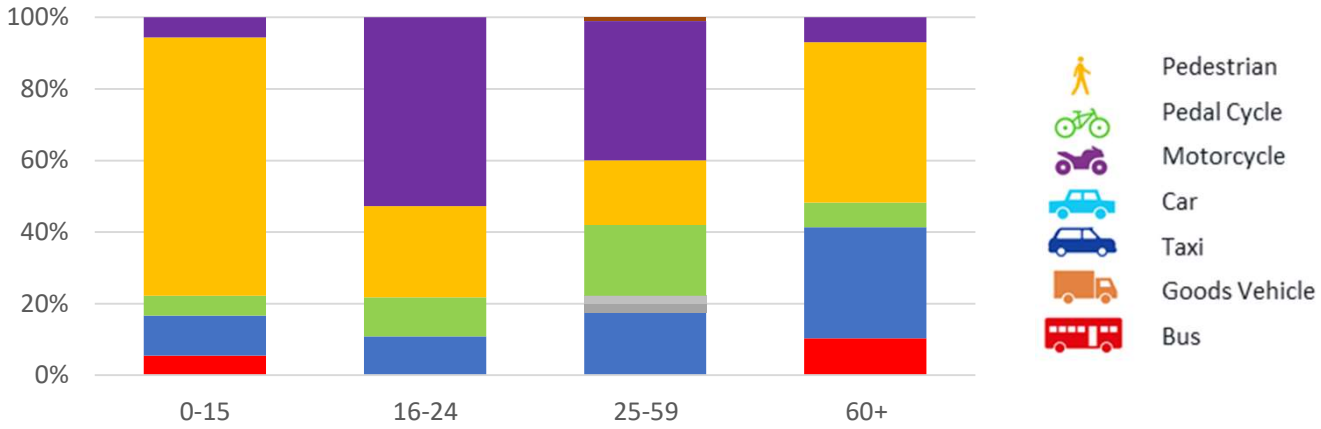


Figure 2: **Correlation between age and mode of travel**



Pedestrians

Pedestrians are involved in 18% of collisions resulting in a casualty in Royal Greenwich and in 25% of collisions resulting in a fatal or serious casualty. In particular, a very high number of collisions involved pedestrians being hit by vehicles at/near signalised crossing facilities.

A review of factors influencing pedestrian safety, commissioned by TfL, highlighted how crossing improvements are the most effective measures.

New pedestrian crossings should be designed in line with the following principles (and existing crossings should be reviewed if flagged as collision hotspots):

- Pedestrian crossing locations should meet pedestrian desire lines and be of an appropriate type of crossing for location;
- Appropriate visibility levels should always be considered at crossings and junctions: raised treatments and surface treatments improve visibility and encourage vehicles to lower their speeds. Planned carriageway maintenance shall prioritise the approaches to pedestrian crossings and signalised junctions where the skidding resistance reaches the intervention level stated in DfT publication CS 228 Skidding Resistance;
- Seek a commitment from TfL to set the lag between the pedestrian demand being called and the green man being shown to be appropriate to the traffic conditions.

Similar considerations apply to the design of footways and other pedestrian links:

- Footway widening, decluttering and traffic calming measures should be considered at locations with high pedestrian volumes or with vulnerable pedestrians (i.e., children);
- Traffic restrictions help minimise conflicts at locations with high volume of pedestrians or with vulnerable pedestrians (i.e., children);
- Where highway improvements are being undertaken for reasons other than to address a road safety issue, the council will consider side road entry treatments to enhance pedestrian priority;
- Appropriate lighting levels (including footway level lighting) should always be provided at footways, crossings and bus stops.

What we will do:

1. Target and prioritise interventions on nodes and links with a high number of collisions involving pedestrians

How we will do it:

2. Monitor recent collision data for pedestrians to inform the selection of the most critical sites to be improved
3. Where highway improvements are being undertaken for reasons other than to address a road safety issue, the TfL's publication 'Streetscape Guidance' will be used to inform the provision and design of pedestrian facilities

Cyclists

While cyclists are involved in a lower percentage of collisions resulting in a serious or fatal casualty than other vulnerable users, there are still more such incidents involving cyclists than any mode other than pedestrians and motorcyclists. Moreover, in parallel with a growing number of cyclists on the network, the number of collisions involving cyclists is likely to increase in the future (as demonstrated by the analysis of 2020-21 data).

What we will do:

4. Target and prioritise intervention on nodes and links with a high number of collisions involving cyclists

How we will do it:

5. Where highway improvements are being undertaken for reasons other than to address a road safety issue, LTN 1/20 and the London Cycle Design Guidance will be used to inform the provision and design of cycle facilities

Infrastructure improvements

Where highway improvements are being undertaken for reasons other than to address a road safety issue, Cycle Infrastructure Design Guidance LTN 1/20, and TfL's London Cycle Design Standards (2014) shall be used to inform the design. In particular, the following steps will be followed:

- Undertake Cycle Route Quality Criteria assessment (or similar assessment based on guidance tools) as part of all new highway improvement schemes;
- In line with this assessment and depending on considerations such as cycle/traffic flows and road geometry, routes should be provided with segregated facilities or with traffic calming features that encourage cycles and drivers to travel safely;
- Measures to reduce conflicts at junctions (i.e., dedicated signal phases for cyclists, 'hold the left' arrangement, banned turning movements for general traffic) and measures that provide cyclists with an advantage over general traffic at signalised junctions (i.e., early release signals, ASLs)
- Measures to improve safety for cyclists related to kerbside activity (i.e., provision of a buffer zone between the cycle facility and parking/loading bay)

Motorcyclists

Motorcyclists are the group of vulnerable users involved in the largest number of total collisions (20%) and also the group involved in most fatal and serious collisions (40%).

Motorcycle training has a significant influence on the number and severity of such collisions and this will be covered in the following chapter. There are however design/infrastructure measures that can also be considered to support a reduction in collisions involving motorcycles.

What we will do:

6. Target and prioritise interventions on nodes and links with a high number of collisions involving motorcyclists

How we will do it:

7. Monitor recent collision data for motorcyclists to inform the selection of the most critical sites to be improved

8. TfL's Urban Motorcycle Design Handbook to inform the design of all highway improvement schemes. This should specifically look ensure that highway schemes are taking into account the needs of motorbikes

Infrastructure improvements

TfL's Urban Motorcycle Design Handbook, published in 2016, is the most up to date guidance on designing infrastructure that is safe for motorcyclists. A comprehensive summary of the guidance is provided in Table 1.

Key design elements that need to be carefully considered are:

- Changes of road surface (including paving treatments and road markings), particularly around bends;
- Lane widths and opportunities for motorcyclists and other vehicles to overtake each other;
- Vertical deflections (such as cushions) and obstacles (such as kerbed islands).

It is important to note that any design decision has to balance the needs and requirement of all users, and as such, some of the solutions that are beneficial for motorcycle safety might not be optimal for pedestrians/cyclists and vice versa.

For example, continuous footways constitute a significant improvement on pedestrian permeability, but they involve changing the surface treatment in an area of the carriageway where vehicles perform turning movements. Similarly, islands, central reservations, and other low-level segregation strategies for cycle lanes and pedestrian crossings can represent a hazard for motorcyclists.

The design process should take into account, location by location, the benefits and disbenefits for all users, considering the number of users by mode, historical data on collisions and near misses; and appropriate mitigation strategies should be sought (such as, for example, choosing materials with adequate skid resistance on continuous footways; making any island/segregation visible through colours and vertical signage).

Table 1: **Key design issues and considerations when designing motorcycle infrastructure**

Key design issues	Issues	Key design considerations
Factors affecting grip	• Surface material choice and surface conditions • Large areas of thermoplastic road markings • Unexpected road markings or surface treatments • Worn High Friction Surfacing • Location, design and maintenance of service covers • Surface Debris in areas used by motorcycles	• Avoid locating different materials at turning points or places where individuals are likely to brake • Consider how many markings are required and where they are positioned • Minimise the number of surface types used • Regular inspection routine to examine surface suitability • Install suitable service covers (applies to cyclists)
Visibility	• Restricted sideways and forward visibility at junctions	• Ensure appropriate visibility splays are provided and unobstructed by street furniture
Roadside features	• Inconspicuous, poorly delineated kerbs/islands • Design and location of highway infrastructure and street furniture • Light segregation cycle facilities	• Consider the need for roadside features in the first instance. If necessary, ensure they are clearly visible • Use ‘motorcycle friendly’ infrastructure where possible (Including in the design of Bollards, segregation and crash barriers)
Traffic calming	• Speed Cushions • Material Choice at side road entry ramps treatment • Proximity of side-road entry ramps/treatments to junctions	• Consider need, spacing and shape • Material should be similar to carriageway where possible • Consider locating ramps away from junctions / turning movements
Filtering	• Constrained traffic lane widths • Filtering within advisory cycle lanes	• Clear lane geometry that aids motorcyclists choosing whether to ride in primary or secondary position (also applies to cyclists)

Shared micro-mobility

Shared micro-mobility services (such as bikes, e-bikes, e-scooters) have rapidly gained popularity in the past few years and their share among modes of travel is growing sharply. As expected, their involvement in collisions is also increasing year on year.

However, it is often difficult to extract accurate data on the number of collisions involving shared micro-mobility services as they do not always get reported separately from private cycles and powered two-wheelers. For examples, currently e-scooters are classified in STATS19 as 'Other vehicles' – with the police officer or person self-reporting able to enter a free text field. In 2024 the DfT will be adding a new vehicle category of Personal Powered Transporter which will include e-scooters.

There are currently no cycle or e-scooter hire providers operating in Royal Greenwich, however, given the rapid uptake of such services, it is expected that shared vehicles will soon become part of Royal Greenwich's road network users. Moreover, private e-scooters are already circulating within the borough's public highway illegally.

Policy 3f in the Transport Strategy comprises several actions towards harnessing the benefits of emerging transport trends such as shared mobility services, including 'monitoring the outcomes of the London e-scooter trials including the safety record of e-scooters'.

The following recommendations should be considered and potentially translated into specific actions in parallel with the future roll-out of any shared micro-mobility services.

Infrastructure improvements

Any improvement to the cycle network delivers benefit to both people who cycle and shared mobility users. Infrastructure improvements that would support the safe use of this services are:

- Provision of high-quality well-lit segregated cycle lanes
- Support the identification of slow- and no-go zones (specifically for e-services)
- Make sure the views and needs of underrepresented user groups are included into the design of shared micro-mobility operations, not just serving more affluent areas.

High quality and convenient parking/docking areas are crucial in ensuring service uptake as well as in preventing fly parking and footway clutter. Key actions in this direction are:

- Provision of high density micro-mobility bays for shared e-scooters and e-bikes;
- Micro-mobility bays should be visible with clear signage, well-lit areas and CCTV.

Monitoring and evaluation

- Given the novelty of shared micro-mobility in the urban transport landscape, monitoring and evaluation of any implemented strategies is extremely important in the early stages, in order to assess emerging trends and issues and verify the effectiveness of adopted mitigation measures. In this case, operators can support the Royal Borough with a wealth of data on usage/behaviour. It is recommended that the Royal Borough should:
- Establish data sharing requirements with the operators;
- Work with police and hospitals to harmonise the way e-scooter accidents are recorded (TfL).

Active travel strategies with positive impacts on road safety

One of the objectives of the Transport Strategy is to prioritise active and sustainable travel: promoting walking, cycling, and wheeling results in more vulnerable users on the road network, with the potential risk of increasing the incidence of serious and fatal collisions.

The Active Travel Action Plan developed in parallel with this Road Safety Policy Framework Action Plan includes strategies and actions that can bring road safety benefits while encouraging more people to choose to walk, cycle or wheel, supporting Vision Zero.

School Streets

Areas outside schools are natural hotspots for potential VRU collisions at specific times of the day, when children crowd footways and crossing points, increasing the risk of conflicts with motorised vehicles. The primary goal of School Streets is to reduce congestion by limiting motor vehicle access to schools. In turn, this will improve air quality in the vicinity of schools and also encourage individuals to walk and cycle to school. In addition, implementing School Streets can also have a positive effect on road safety in the vicinity of schools as the number of motor vehicles is drastically reduced.

Low traffic neighbourhoods

Low traffic neighbourhoods (LTNs) create areas that are easier to walk and cycle through by removing or limiting access to motor vehicles in the areas they encompass. Implemented correctly, they create a safe environment for active travel and remove those vehicles seeking to use residential areas as ‘rat runs’. LTNs have already been implemented across a range of boroughs in London, and recent research has shown how they have been effective in reducing the number of casualties: pedestrian related collisions appear to have decreased by 50% in areas where LTN measures have been introduced when compared to the London average.*

*Impacts of 2020 Low Traffic Neighbourhoods in London on Road Traffic Injuries https://findingspress.org/article/25633-impacts-of-2020-low-traffic-neighbourhoods-in-london-on-road-traffic-injuries

Theme B: **Education and behaviour change**

Woolwich Arsenal Park (Brian Aldrich Photography)

Introduction

As well as introducing physical interventions, the Policy Framework Action Plan should include supporting measures involving behavioural changes and smart travel programmes, increasing people's awareness about road dangers and interaction with other road users. Based on the analysis of collision data, it is recommended that two categories of road users should be specifically targeted in the next few years: children (through training delivered in schools), and motorcyclists (through awareness campaigns and training opportunities for residents/workers).

The Royal Borough already employs some of the strategies listed below, but it is important to emphasise that they should continue and form a fundamental part of this Policy Framework Action Plan. Most of the training opportunities normally introduced to tackle road safety focus on school children/youths, as communication channels are easier to set up through schools and educational institutions.

Focus on children and youths

School Travel Planning

There are currently 44 schools with an active travel plan in Royal Greenwich. All of these schools comply with Transport for London's (TfL) STAR framework (School Travel Accredited and Recognised).

Efforts and resources should focus on supporting mainstream primary and secondary schools. The target should be for all mainstream schools in Royal Greenwich to have a travel plan by 2027 (there are 82 mainstream schools across the borough), with the Travel Planning Officer to work closely with remaining schools. The travel plans should be used to inform the prioritisation of measures to improve road safety near schools.

School crossing patrols

The Royal Borough has a team of School Crossing Patrols helping children to cross busy streets on their journey to/from school.

Their importance is widely recognised in the borough, and research demonstrates that increased crossing guard presence is most likely to influence safe behaviour as indicated by the increased numbers of children engaging through their use of supervised routes.*

Limited funding has prevented the Royal Borough from increasing the number of routes to schools where such service is provided.

Cycle training

The Royal Borough should continue to support cycle training programmes (Bikeability) within schools and for families, to teach essential bike riding skills, hazard awareness and safe road habits. Research has proved the positive impact of cycling training on cycle-related behaviours and accidents.*

Pedestrian skills training

The Royal Borough should seek to introduce training programmes within schools and for families, to teach children about road hazard awareness, safe walking behaviours and essential skills to make safe independent journeys. These training programmes have been proven by research to rapidly increase children's awareness, and that skills are maintained year-on-year.***

*Gutierrez, C. et al 2014 Crossing guard presence: Impact on active transportation and injury prevention, Journal of Transport and Health.

**Yeaton, William & Bailey, Jon. (1978). Teaching pedestrian safety skills to young children: An analysis and one-year follow-up. Journal of applied behaviour analysis.

***McLaughlin, Karen & Glang, Ann. (2009). The Effectiveness of a Bicycle Safety Program for Improving Safety-Related Knowledge and Behaviour in Young Elementary Students. Journal of paediatric psychology.

Focus on motorcyclists

The preliminary analysis of collision trends highlighted that the majority of motorcycle casualties affect young/adult males between 16 and 59, who make up the largest group of cycle and powered two-wheelers users. As such, targeted strategies should look for alternative ways of communicating with these age groups. These could include:

- Supporting TfL work to establish a best practice safety code for delivery couriers;
- Organising pop-up events near collision hotspots to raise awareness;
- Providing incentives (working in partnership with local businesses) to encourage powered two-wheelers owners to maintain their vehicles and to use appropriate safety equipment;
- Working with Business Improvement Districts (BIDs) and business owners (particularly those employing cyclists/motorcyclists for deliveries) to ensure that vehicles and equipment meet legal requirements.

Motorcyclist skills training

Training is demonstrated to increase the use of personal protective equipment among motorcyclists. The Royal Borough is already raising awareness through a partnership with 2wheels London, a campaign providing motorcyclists with basic tips on how to stay safe while riding on the road network. In addition, the 2wheels platform promotes 1-2-1 free motorcycles skills sessions funded and organised by TfL.

Bike Safe is another TfL funded course ran by police forces nationally which focuses on improving motorcycle road safety providing motorcyclists with behaviour focused training and encourages riders to take on further post-test training, it costs £45 to the individual for a one-day course.

Motorcyclist risk training

Risk training is different from standard skills training because it does not make riders more confident in their motorcycle skills. ‘Risk training’ is aimed at timely perception and recognition of traffic hazards and adaptation of riding behaviour to deal with them. In the training, factors such as congestion, speed, distractions, risk perception and risk acceptance all play a role.

While such sessions are not yet available in the UK, the Royal Dutch Motorcyclists Association has introduced risk training sessions comprising theoretical lessons and motorcycle rides. Their effectiveness has been monitored with very positive results.

Shared micro-mobility

Shared micro-mobility users can sometimes be occasional cyclists/riders, and as such be less proficient than regular cyclists/riders. It is important that training opportunities are provided to those that are going to use the service for the first time or very occasionally:

- Work in collaboration with micro-mobility operators to hold in person training/trial events;
- Get involved into the promotion activities and campaigns by the operators.

What we will do:

9. Work with partners to ensure that everyone living, studying or working in the Royal Borough of Greenwich is given the appropriate road safety training and awareness opportunities.

How we will do it:

10. Review high priority locations across the Borough with clusters of casualties in the 0-15 age band, and consider improvements
11. Assist borough schools with developing, maintaining or updating their School Travel Plan. Efforts and resources will focus on supporting mainstream primary and secondary schools.
12. Monitor school sites to ensure that the satisfy the national criteria for establishing School Crossing Patrol sites
13. Work with schools to deliver Cycle Training Programme
14. Work with schools to deliver Pedestrian Skills Training in Schools
15. Motorcyclists Skills Training – support and promote TFL's programmes
16. Organise pop-up events near collision hotspots;
17. Provide incentives (working in partnership with local businesses) to encourage motorcycle owners to maintain their vehicles and to use appropriate safety equipment
18. Work with Business Improvement Districts (BIDs) and business owners (particularly those employing cyclists/motorcyclists for deliveries) to ensure that vehicles and equipment meet legal requirements

Theme C: **Enforcement and speed management**

Vanbrugh Hill, Greenwich (Brian Aldrich Photography)

Introduction

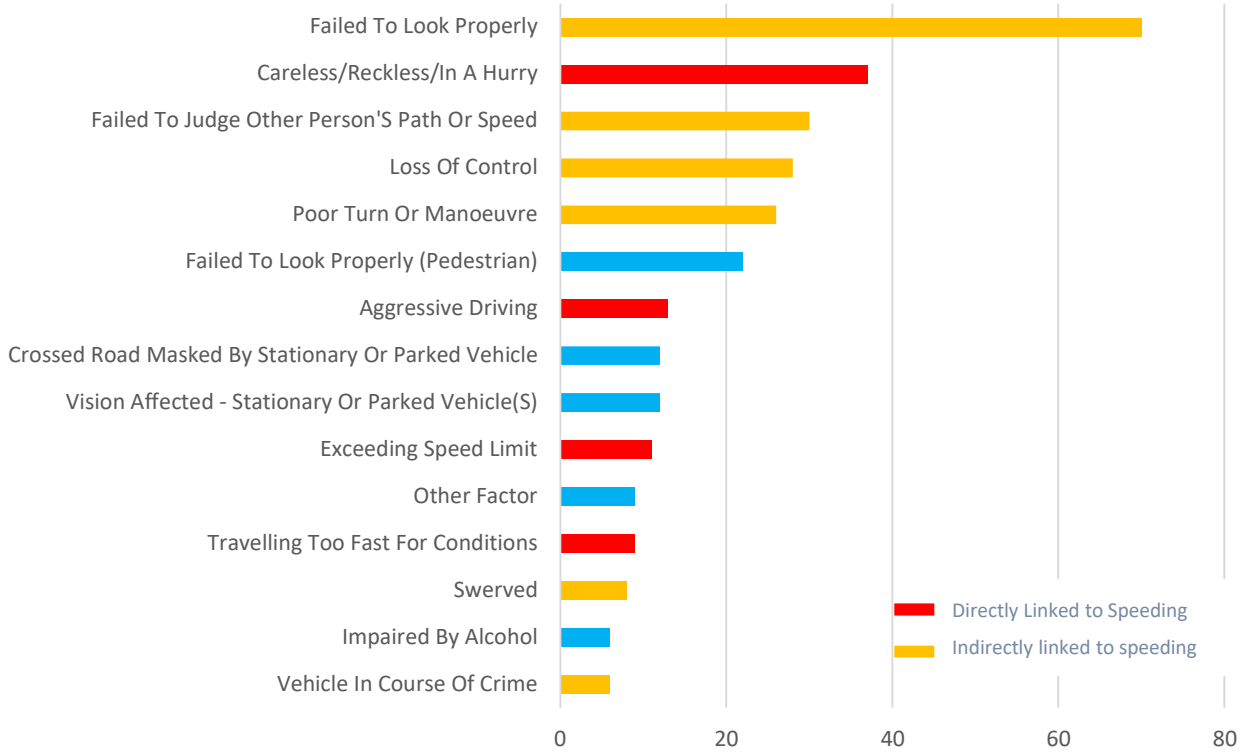
Enforcing existing rules aimed at improving road safety is an important element in ensuring success of all actions in this plan and the wider Transport Strategy. Most critical are those activities by the Council and other enforcement agencies relating to excessive vehicle speed.

Vehicle speed is one of the most important factors in determining the severity of collisions. This is all the more true for VRUs who cannot count on a vehicle body as protection and deceleration buffer. When struck by a car at 30mph, less than 50% of pedestrians or cyclists survive. At 20 mph, more than 90% survive, according to research by the European Transport Safety Council.

As such, targeting speeding behaviour and reducing speeds where possible are key steps towards achieving Vision Zero on the Royal Greenwich road network.

This is supported by the analysis of contributory factors shown in Figure 3 on the right, which clearly demonstrates the role speed plays in collisions across the Borough, with 10 of the top 15 contributing factors involved in F&S collisions being directly or indirectly linked to speeding behaviour. If average vehicle speeds throughout the road network can be reduced, then the number of collisions and their severity will reduce in turn.

Figure 3: **Collision Contributors – F&S Collisions Only (2017-2019)**



What we will do:

19. Review and update existing enforcement activities where the Royal Borough is responsible and work with other agencies including police and TfL to define appropriate enforcement strategy and locations across the Borough

The most effective and feasible approach to reduce speeds across the borough would be to identify locations where speed is a prominent issue and implement lower speed limits (e.g. 20mph zones). If problems persist or shift, further traffic calming measures should be introduced to support the restriction.

The benefits of 20mph zones are corroborated by several pieces of research: a 2007 review of half of the 20mph zones which had been implemented in London (78 zones) found that they reduced injury accidents by about 42% and fatal or serious accidents by 53%.* Research conducted across England and Wales has also highlighted how reduced traffic speeds encourage people to switch to active modes of travel, such as cycling and walking.

A suggested approach to identifying and implementing speed reduction measures has been outlined in the sub-sections that follow.

*Webster, D. and R. Layfield (2007), Review of 20 mph zones in London Boroughs, UK: TRL.

Other enforcement areas

CCTV traffic enforcement

The Royal Borough of Greenwich uses a network of CCTV traffic enforcement cameras to enforce bus lane, moving traffic and parking contraventions.

Moving traffic offences were previously enforced by the police and transferring this responsibility to the council will enable the police to focus more resources on combatting and reducing crime. Such offences includes things like making illegal turns, ignoring no entry signs, and illegally stopping in yellow box junctions.

Bus and cycle lanes protection

Effective operation of bus lanes helps to improve bus running times and journey reliability which encourages more people to travel by public transport and creates releases capacity on local roads for other users and uses.

Ensuring cyclists both are and feel safe when using roads in the borough is critically important, with enforcement of unprotected cycle lanes especially important (that is, those without kerbs or bollards separating cycles from vehicles).

Illegal parking

Parking on ‘keep clear’ markings outside schools poses a serious threat to child safety; and parking at bus stops means buses cannot get close enough to the kerb to allow people with mobility issues to get on the bus, severely impacting people’s ability to travel.

CCTV can also be used to enforce illegal parking outside schools and at bus stops.

Obstructions management

The Royal Borough of Greenwich has a number of teams whose work helps to ensure a safe road environment, including but not limited to:

- Ensuring construction sites avoid negative impacts on road users wherever possible;
- Addressing fly tipping and effectively managing hard rubbish collections; and
- Working with dockless mobility providers to ensure bikes and scooters do not obstruct paths, driveways or roads.

What we will do:

20. Ensure our highway network is free from obstructions that may negatively impact road safety.
21. Ensure that the priority for certain groups of vehicles set by highway design (bus and cycle lanes, bus gates, emergency access points, filtered permeability..) is enforced across our highway network

How we will do it:

22. Ensure CCTV enforcement is fit for purpose and consider where it may be necessary to expand or change coverage.
23. Work with stakeholders and other enforcement agencies to prevent illegal use of dedicated bus lanes.
24. Work across department and with relevant stakeholders to prevent obstructions that may negatively impact road safety, including from construction works.

Speed monitoring and selection of target locations

The following map in Figure 4: Speed Analysis – All-day average provides an analysis of the difference between speed limit and recorded speed along all road links in Royal Greenwich. Those streets where recorded speed is much higher than the speed limit are shown in red, those where recorded speed is lower are shown in blue.

This map is based on an all-day average of 85th percentile speeds recorded along each of the road links in the Borough using telematic data from Sat-Nav systems and GPS devices, extracted from the Active Street Assessment Tool.* Whilst this data only captures a sample of vehicles using the road network, it can provide an initial indication of movement and speeding patterns.

This analysis can be updated yearly, using new data, allowing the Council to:

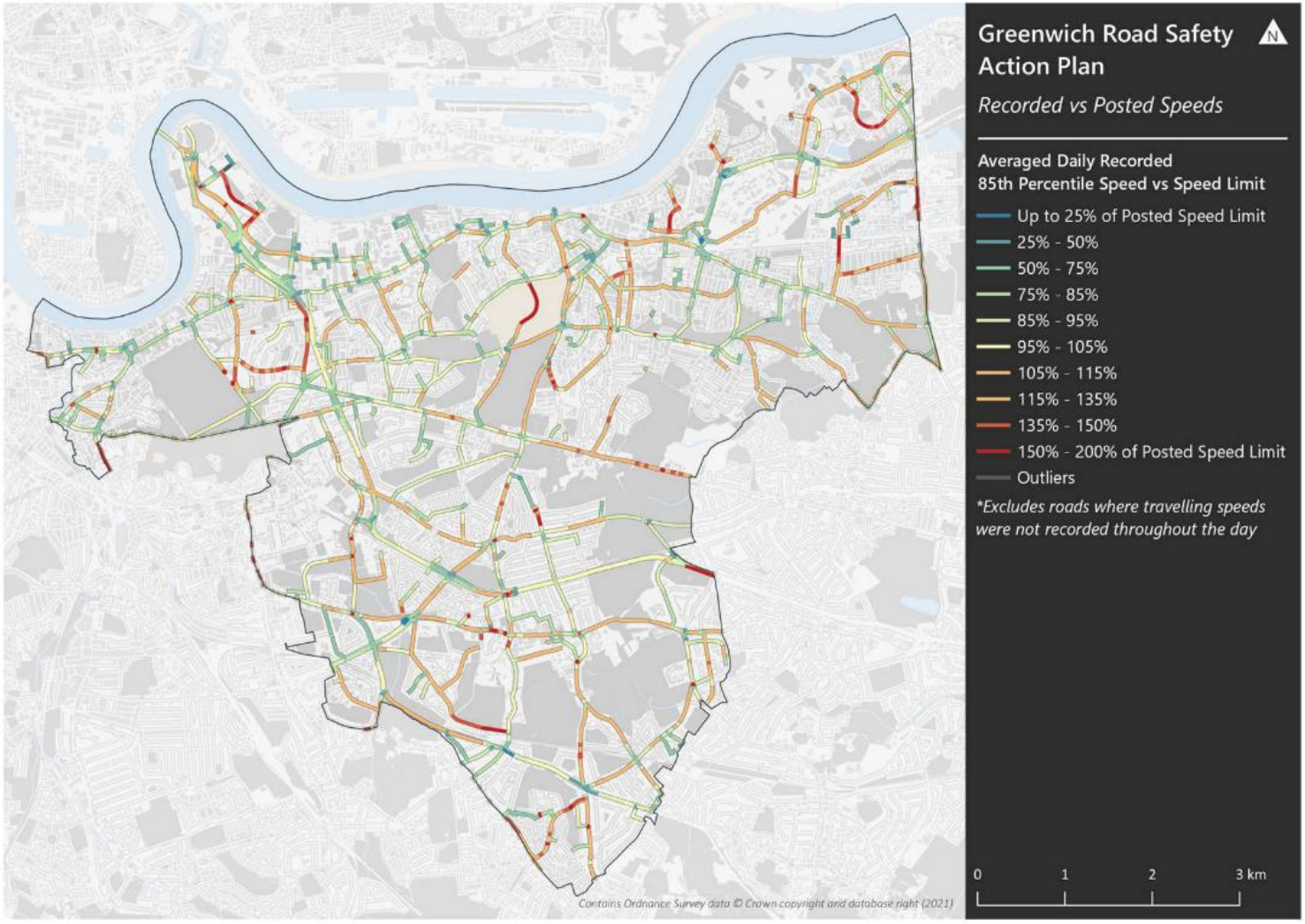
- Identify streets and zones where a reduction in the speed limit could be beneficial in order to improve road safety;
- Monitor the effectiveness of existing 20mph zones checking year-on-year variations;
- Investigate locations where speed limits need to be supplemented by signage, traffic calming features etc.;
- Identify locations for targeted periodical enforcement, in collaboration with the Metropolitan Police.

The following steps can be followed to identify target locations:

1. Identify areas/streets which should be investigated further, based on the number and severity of collisions as well as on the ASAT speed map below (e.g., links or areas with 85th percentile speed 10+% over limit);
2. Commission targeted speed surveys (ATCs) or undertake site visits to ascertain speeding issues;
3. Assess whether some of these locations would benefit from a reduced speed limit (i.e. place/movement function, proximity to schools and other community services, cycle routes..)

*Active Streets Assessment Tool - https://activestreets.uk

Figure 4: **Speed Analysis – All-day average**



New 20mph zones and corridors

Most streets within Royal Greenwich are already part of 20mph zones. However, there are several corridors, including some Principal Roads important both for their Movement and Place functions, which should be considered. Once target locations have been identified, the following stages should be followed in implementing new speed limits.

What we will do:

25. Introduce 20mph speed zones and corridors
26. Identify high priority locations across the Borough for reductions to speed limits

How we will do it:

27. Work with TfL to identify locations on the TLRN that would benefit from reduced speed limits
28. Assess the benefits of speed limit reduction in these locations through monitoring recorded speed and number of speed-related collisions (commissioning surveys or undertaking site visits to check issues)

Stage 1 - Implementation

- Identify areas and streets where a speed limit reduction would be beneficial, based on the number and severity of collisions (e.g., high priority nodes and links) as well as on speed surveys undertaken across the network;
- Undertake public engagement and consultation;
- Roll-out implementation strategy (signage and marking) - enhanced signage results in decreased speeds;
- Roll-out communication/awareness strategy to inform road users about the proposed changes and the rationale for them.

Stage 2 Actions - Monitoring

- The creation of 20mph limit areas is possible without traffic calming. However, this requires monitoring in order to prioritise locations where compliance is low and additional calming features are required;
- Identify survey locations across a range of the targeted locations (using the analysis detailed below) and undertake further investigations (surveys or site observations); and
- Sites with high number of collisions with ‘high speed’ as contributing factor should be targeted in this monitoring exercise.

Streets with outstanding speeding issues

The speed analysis can help identify locations where recorded speed is above the speed limit, even after speed reduction strategies have been implemented. In these cases, further measures can be considered in support of the speed reduction strategy.

What we will do:

29. Review monitoring data to identify streets or locations affected by speeding issues

How we will do it:

30. Based on results of monitoring, enhance signage and review 20mph signage provision at speeding hotspots

31. Based on results of monitoring, enhance road markings at speeding hotspots

32. Based on results of monitoring, install Vehicle Activated Signs at speeding hotspots

Stage 3 – Enhancing Signage

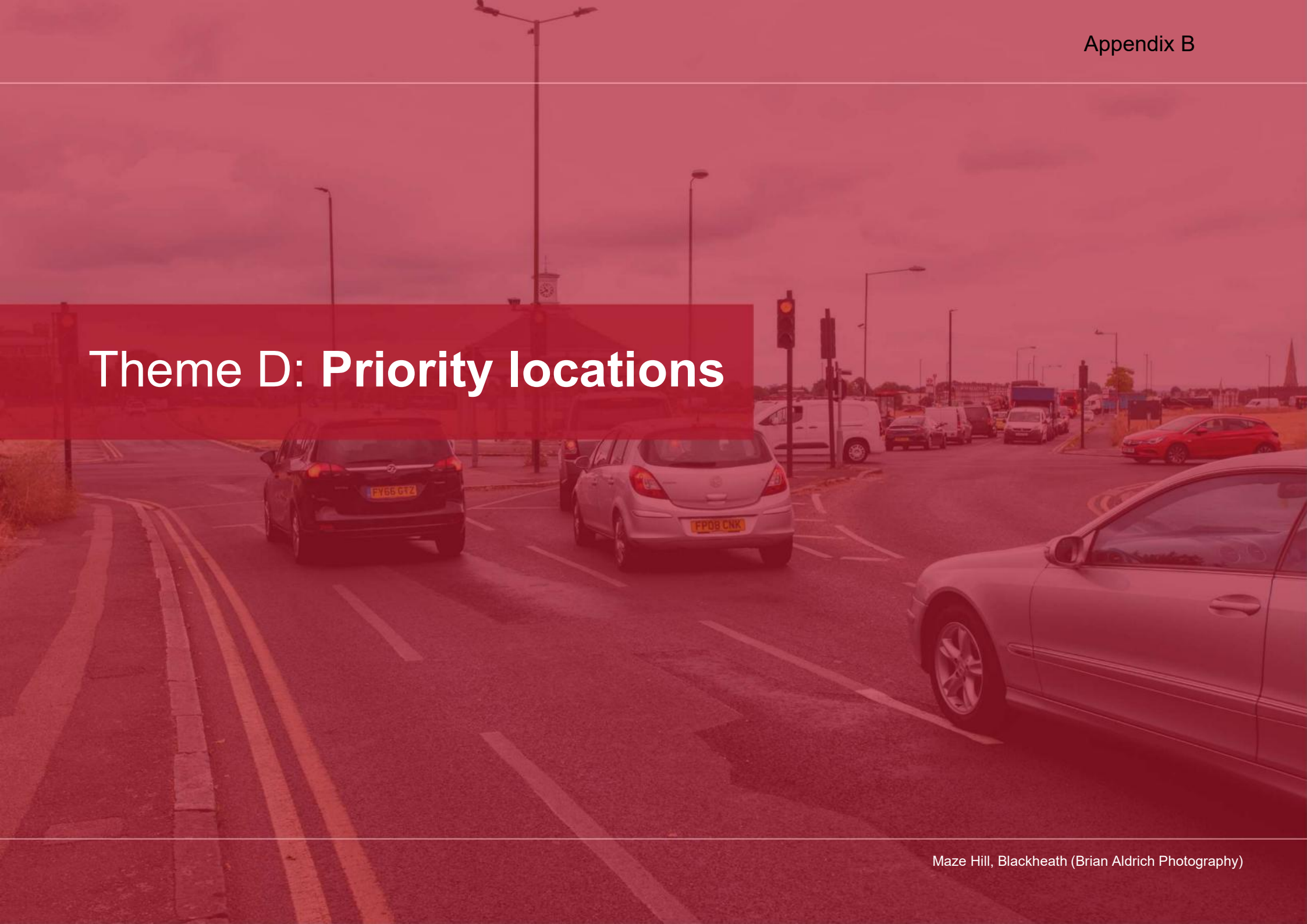
Where surveys highlight 85th percentile speeds above the limit, supplementary measures should be considered:

- Enhance signage, by increasing the number of signs and installing larger signs as well as enhancing road markings such as speed roundels; this is particularly useful in those zones where the 20mph limit has been previously implemented only by means of entry signs;
- Install Vehicle Activated Signs that warn drivers that they are exceeding the speed limit. It is understood that Royal Greenwich owns a stock of Vehicle Activated Signs that can be installed across the Borough on rotation, based on emerging issues;
- Enforcement – work with the Metropolitan Police to define appropriate enforcement strategy.

Stage 4 – Introducing Infrastructure measures

- Should the average speed remain above speed limit, consider further infrastructure measures such as traffic calming (road humps, pedestrian refuges, raised tables, buildouts).

Theme D: **Priority locations**



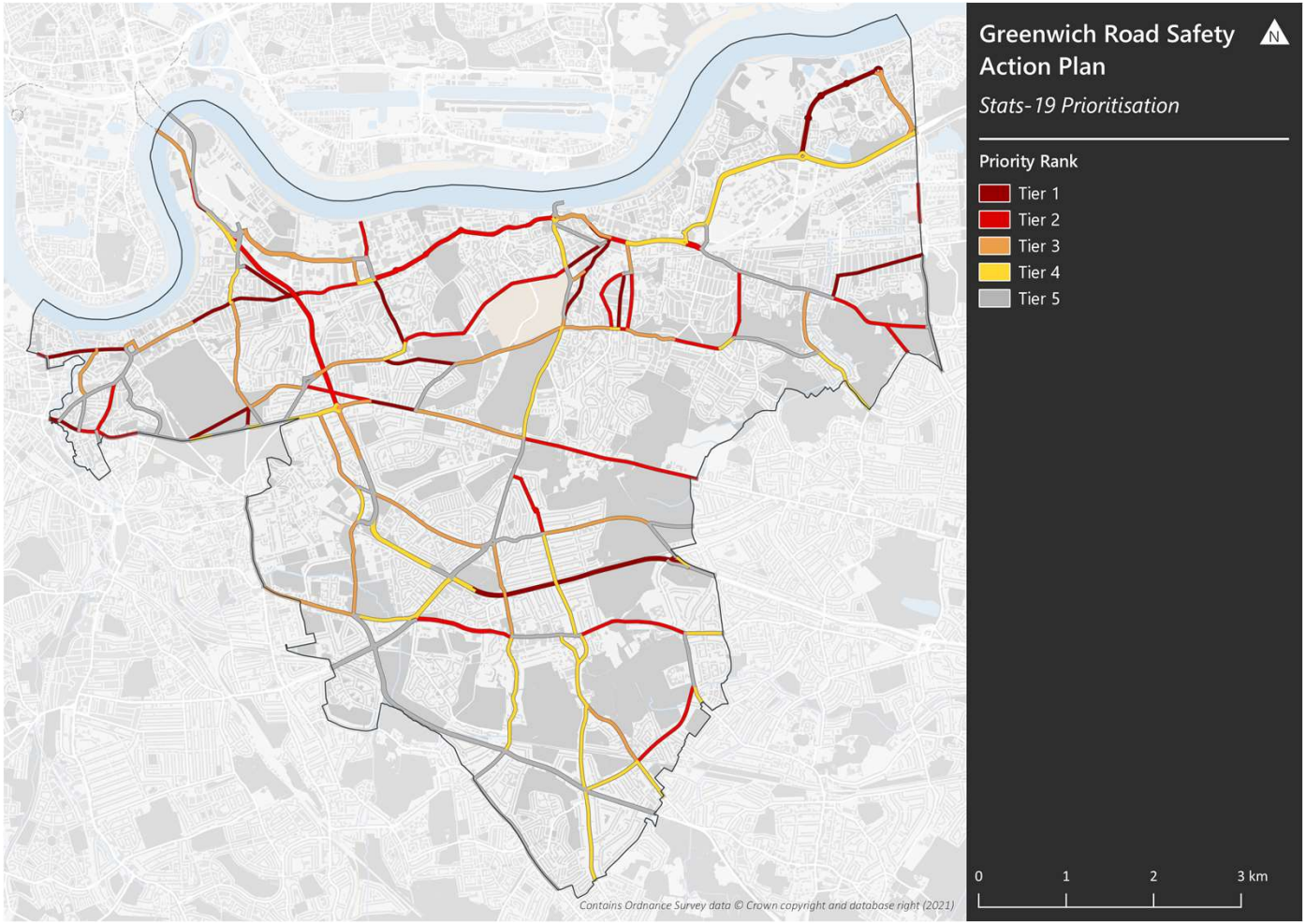
Maze Hill, Blackheath (Brian Aldrich Photography)

Introduction

The table in the next page identifies specific collision 'hotspot' locations to be considered and reviewed in more detail. These locations have been selected based on the outcome of a prioritisation exercise developed as part of the collision data analysis. The approach considers all injury collisions recorded within Royal Greenwich over three years (2017-2019 inclusive).

The map on the right shows all links in the borough road network, classified in Tiers 1 to 5 based on the number of collisions recorded, their severity and their characteristics.

Further investigation should be carried out on each of these priority locations to assess what type of intervention would be more appropriate and more effective, based on the existing road danger risks.



List of priority locations

What we will do:

33. Implement improvements in 5 high priority locations in the next 3 years

How we will do it:

34. Investigate in more detail the priority locations listed in the Action Plan and highlight areas for improvement

Location	Highway Authority
Link 2124 (Woolwich New Road)	The Royal Borough
Link 2130 (Plumstead High Street)	The Royal Borough
Link 2123 (Greens End-Wellington Street)	The Royal Borough
Link 2090 (Woolwich New Road)	The Royal Borough
Link 2092 (Bloomfield Road)	The Royal Borough
Link 2128 (Plumstead High Street)	The Royal Borough
Link 2110 (Tunnel Ave)	The Royal Borough
Link 2132 (Woolwich New Road.)	The Royal Borough

List of priority locations (Transport for London Road Network)

Some of the Tier 1 locations highlighted in the analysis are part of the Transport for London Road Network (TLRN). Those road are managed and maintained by TfL, and any proposal for improvement will have to be discussed and implemented by TfL in liaison with the borough.

The table on the right provides the list of sites: the Royal Borough will work with TfL to investigate the existing issues at those locations before agreeing a way forward for improvements.

Location	Highway Authority
Link 2144 (Rochester Way Relief Road)	Transport for London
Node 6023 (Sidcup Road/Westhorne Avenue)	Transport for London
Link 2054 (Deptford Bridge)	Transport for London
Node 6155 (Blackwall Tunnel Southern Approach/Woolwich Road)	Transport for London
Node 6163 (Woolwich Church Street/John Wilson Street)	Transport for London
Node 6031 (Westhorne Avenue/Eltham Road)	Transport for London
Node 6668 (Blackheath Road/Lewisham Road)	Transport for London
Node 6096 (Shooters Hill/Well Hall Rd)	Transport for London
Node 6092 (Shooters Hill Road/Rochester Way)	Transport for London
Link 2055 (Blackheath Road)	Transport for London
Link 2104 (Tunnel Avenue B.T.S.A.)	Transport for London
Node 6827 (Shooters Hill Road / Stratheden Road)	Transport for London
Node 6091 (Shooters Hill Road/Kidbrooke Park Road)	Transport for London

How we will do it:

35. Work with TfL to investigate in more detail the priority locations listed in the Action Plan which are part of the TLRN before agreeing a way forward for improvements

Action Plan update and review

Creek Road, Greenwich (Brian Aldrich Photography)

Policy Framework Action Plan update and review

It is important that this Policy Framework Action Plan is reviewed and updated regularly, to ensure that it reflects any changes to patterns of collisions over the coming years and any emerging hotspots. This Policy Framework Action Plan has been developed with a five-years prospect and it is recommended that it should be reviewed in full after five years.

The five-yearly update should consider the effectiveness of the measures introduced as a result of the current Policy Framework Action Plan, through monitoring and evaluation. If monitoring and evaluation reveals that the measures introduced have been effective, then new locations can be targeted, potentially with similar strategies. If current measures have not been effective, then new interventions should be considered to target the same hotspots.

Additionally, the prioritisation tool offers an opportunity to take a responsive and flexible approach to tackling collision hotspots. This can be done by updating the prioritisation tool provided alongside this Policy Framework Action Plan with new collision data every year and utilising it to determine relevant locations for interventions.

In summary, **once a year** it is recommended that the team:

- Reviews the list of interventions in the 2022-2027 Policy Framework Action Plan. For each of them consider whether it has been completed, it requires further attention, or it is no longer relevant;
- Updates prioritisation table with new data and reconsiders lists of hotspots; if new locations jump to the top of the priority list, consider more detailed analysis of the causational factors.

After **two-three years** (mid-way through the duration of the Policy Framework Action Plan) the following steps should be taken:

- Update the analysis of trends and patterns in collision data using new STATS19 data;
- Update prioritisation table with new data and consider whether the focus on certain types of collisions is still relevant; reconsider lists of hotspots.

After **five years**:

- Collate monitoring results from schemes developed and implemented in the period and review the effectiveness of the measures introduced, comparing pre- and post-implementation data;
- Determine what measures have been successful and what measures have not had a visible impact on reducing the risk of serious collisions;
- Reconsider the Policy Framework Action Plan Themes and use the updated analysis of trends and patterns to inform any emerging new themes.

Summary of actions by theme

McLeod Road, Abbey Wood (Brian Aldrich Photography)

Table 9: **Summary of actions by theme**

#	Action	Timescale	Cost	Responsibility / Delivery partner(s)
Theme A: Vulnerable Road Users				
1	**Target and prioritise interventions on nodes and links with a high number of collisions involving pedestrians**	**Medium term (3-5 years)**	**Medium (£500k to £1m)**	**The Royal Borough, Transport for London**
2	Monitor recent collision data for pedestrians to inform the selection of the most critical sites to be improved	Short term (1-3 years)	Low (<£500k)	The Royal Borough, Transport for London
3	Where highway improvements are being undertaken for reasons other than to address a road safety issue, the TfL's publication 'Streetscape Guidance' will be used to inform the provision and design of pedestrian facility	Medium term (3-5 years)	Low (<£500k)	The Royal Borough, Transport for London
4	**Target and prioritise intervention on nodes and links with a high number of collisions involving cyclists.**	**Medium term (3-5 years)**	**High (over £1m)**	**The Royal Borough, Transport for London**
5	Where highway improvements are being undertaken for reasons other than to address a road safety issue, LTN 1/20 and the London Cycle Design Guidance will be used to inform the provision and design of cycle facilities	Medium term (3-5 years)	Low (<£500k)	The Royal Borough, Transport for London
6	**Target and prioritise interventions on nodes and links with a high number of collisions involving motorcyclists**	**Medium term (3-5 years)**	**Medium (£500k to £1m)**	**The Royal Borough, Transport for London**
7	Monitor recent collision data for motorcyclists to inform the selection of the most critical sites to be improved	Short term (1-3 years)	Low (<£500k)	The Royal Borough, Transport for London
8	TfL's Urban Motorcycle Design Handbook to inform the design of all highway improvement schemes. This should specifically look ensure that highway schemes are taking into account the needs of motorbikes	Short term (1-3 years)	Low (<£500k)	The Royal Borough, Transport for London

Table 9: **Summary of actions by theme (continued)**

#	Action	Timescale	Cost	Responsibility / Delivery partner(s)
Theme B: Education and behaviour change				
9	**Work with partners to ensure that everyone living, studying or working in the Royal Borough of Greenwich is given the appropriate road safety training and awareness opportunities**	**Ongoing**	**High (over £1m)**	**The Royal Borough, Transport for London, Schools, Local Businesses and BIDs**
10	Review high priority locations across the Borough with clusters of casualties in the 0-15 age band, and consider improvements	Medium term (3-5 years)	High (over £1m)	The Royal Borough, Transport for London
11	Assist borough schools with developing, maintaining or updating their School Travel Plan. Efforts and resources will focus on supporting mainstream primary and secondary schools.	Ongoing	Low (<£500k)	The Royal Borough, Schools
12	Monitor school sites to ensure that the satisfy the national criteria for establishing School Crossing Patrol sites	Ongoing	Low (<£500k)	The Royal Borough, Schools
13	Work with schools to deliver Cycle Training Programme	Ongoing	Low (<£500k)	The Royal Borough, Schools
14	Work with schools to deliver Pedestrian Skills Training in Schools	Ongoing	Low (<£500k)	The Royal Borough, Schools
15	Motorcyclists Skills Training – support and promote TfL's programmes	Short term (1-3 years)	Low (<£500k)	The Royal Borough, Transport for London
16	Organise pop-up events near collision hotspots	Short term (1-3 years)	Low (<£500k)	The Royal Borough
17	Provide incentives (working in partnership with local businesses) to encourage motorcycle owners to maintain their vehicles and to use appropriate safety equipment	Medium term (3-5 years)	Low (<£500k)	The Royal Borough, Local Businesses and BIDs
18	Work with Business Improvement Districts (BIDs) and business owners (particularly those employing cyclists/motorcyclists for deliveries) to ensure that vehicles and equipment meet legal requirements	Medium term (3-5 years)	Low (<£500k)	The Royal Borough, Local Businesses and BIDs

Table 9: **Summary of actions by theme (continued)**

#	Action	Timescale	Cost	Responsibility / Delivery partner(s)
Theme C: Enforcement and speed management				
19	**Review and update existing enforcement activities where they are responsible and work with other agencies including police and TfL to define appropriate enforcement strategy and locations across the Borough**	**Short term (1-3 years)**	**Low (<£500k)**	**The Royal Borough, Metropolitan Police, Transport for London**
20	**Ensure our highway network is free from obstructions that may negatively impact road safety**	**Short term (1-3 years)**	**Low (<£500k)**	**The Royal Borough, Metropolitan Police, Transport for London**
21	**Ensure that the priority for certain groups of vehicles set by highway design (bus and cycle lanes, bus gates, emergency access points, filtered permeability..) is enforced across our highway network**	**Short term (1-3 years)**	**Low (<£500k)**	**The Royal Borough, Metropolitan Police, Transport for London**
22	Ensure CCTV enforcement is fit for purpose and consider where it may be necessary to expand or change coverage.	Short term (1-3 years)	Low (<£500k)	The Royal Borough, Metropolitan Police, Transport for London
23	Work with stakeholders and other enforcement agencies to prevent illegal use of dedicated bus lanes	Short term (1-3 years)	Low (<£500k)	The Royal Borough, Metropolitan Police, Transport for London
24	Work across department and with relevant stakeholders to prevent obstructions that may negatively impact road safety, including from construction works	Short term (1-3 years)	Low (<£500k)	The Royal Borough
25	**Introduce 20mph speed zones and corridors**	**Medium term (3-5 years)**	**Medium (£500k to £1m)**	**The Royal Borough**
26	**Identify high priority locations across the Borough for reductions to speed limits.**	**Short term (1-3 years)**	**Low (<£500k)**	**The Royal Borough**
27	Work with TfL to identify locations on the TLRN that would benefit from reduced speed limits	Short term (1-3 years)	Low (<£500k)	The Royal Borough, Transport for London
28	Assess the benefits of speed limit reduction in these locations through monitoring recorded speed and number of speed-related collisions (commissioning surveys or undertaking site visits to check issues)	Medium term (3-5 years)	Medium (£500k to £1m)	The Royal Borough, Transport for London

Table 9: **Summary of actions by theme (continued)**

#	Action	Timescale	Cost	Responsibility / Delivery partner(s)
Theme C: Enforcement and speed management (continued)				
29	**Review monitoring data to identify streets or locations affected by speeding issues**	**Short/Medium term (1-5 years)**	**Low (<£500k)**	**The Royal Borough**
30	Based on results of monitoring, enhance signage and review 20mph signage provision at speeding hotspots	Short/Medium term (1-5 years)	Low (<£500k)	The Royal Borough
31	Based on results of monitoring, enhance road markings at speeding hotspots	Short/Medium term (1-5 years)	Low (<£500k)	The Royal Borough
32	Based on results of monitoring, install Vehicle Activated Signs at speeding hotspots	Short/Medium term (1-5 years)	Medium (£500k to £1m)	The Royal Borough
Theme D: Priority Locations				
33	**Implement improvements in 5 high priority locations in the next 3 years**	**Medium term (3-5 years)**	**High (£1m+)**	**The Royal Borough, Transport for London**
34	Investigate in more detail the priority locations listed in the Action Plan and highlight areas for improvement	Short term (1-3 years)	Low (<£500k)	The Royal Borough
35	Work with TfL to investigate in more detail the priority locations listed in the Action Plan which are part of the TLRN before agreeing a way forward for improvements	Short term (1-3 years)	Low (<£500k)	The Royal Borough, Transport for London

ROYAL borough of GREENWICH