

**Decision Maker:** Portfolio Holder for Transport, Highways & Road Safety

**FOR PRE-DECISION SCRUTINY BY THE ENVIRONMENT AND  
COMMUNITY SERVICES POLICY DEVELOPMENT AND  
SCRUTINY COMMITTEE ON:**

**Date:** 29 June 2023

**Decision Type:** Non-Urgent Executive Key

**Title:** **COMPREHENSIVE REVIEW OF ROAD SAFETY IN L. B.  
BROMLEY**

**Contact Officer:** Angus Culverwell, Assistant Director Traffic and Parking  
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**Chief Officer:** Director of Environment and Public Protection

**Ward:** (All Wards);

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1. Reason for decision/report and options

This report sets out the Council's approach to road safety and casualty reduction in the Borough, identifies future challenges and recommends priorities for action.

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2. **RECOMMENDATION(S)**

- 2.1 **Members of the Committee are asked to note the Council's approach to road safety and casualty reduction as set out in Section 3.**
- 2.2 **The Portfolio Holder is recommended to confirm the Borough's approach to road safety and casualty reduction as set out in Section 3.**

## Impact on Vulnerable Adults and Children

1. Summary of Impact: Transport improvements take account of the needs of vulnerable road users.
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## Transformation Policy

1. Policy Status: Existing Policy: The recommendations in this report are in line with the Borough's current Transport Plan – "Bromley's Third Local Implementation Plan – Bromley's transport for the future" published in 2019.
2. Making Bromley Even Better Priority:
  - (1) For children and young People to grow up, thrive and have the best life chances in families who flourish and are happy to call Bromley home.
  - (2) For adults and older people to enjoy fulfilled and successful lives in Bromley, ageing well, retaining independence and making choices.
  - (4) For residents to live responsibly and prosper in a safe, clean and green environment great for today and a sustainable future.

Further Details: Transport has a key role to play in delivering these MBEB objectives, for example, projects to enhance walking and cycling infrastructure will be used to improve the public realm of town and local centres providing a quality environment and creating places that people want to spend time in thereby supporting vibrant, thriving town centres. By providing attractive walking and cycling infrastructure, residents will be able to undertake exercise as part of their everyday routine, improving their health and reducing the chance of illness. Infrastructure such as benches and improved walking routes help to ensure that older residents can remain active, thereby supporting independence and also promoting a healthy Bromley. Above all, the safety of road users on our streets needs to be enhanced as far as is possible.

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## Financial

1. Cost of proposal: All schemes rely on the Council identifying a suitable budget to take them forward.
  2. Ongoing costs: n/a
  3. Budget head/performance centre: Traffic and Road Safety (not just road safety schemes)
  4. Total current budget for this head: £1,650,000 (TfL) plus £388,580 (LBB)
  5. Source of funding: TfL LIP funding and Bromley Core Funding
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## Personnel

1. Number of staff (current and additional): 25 FTE
  2. If from existing staff resources, number of staff hours: n/a
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## Legal

1. Legal Requirement: The 1988 Road Traffic Act, Section 39, puts a "statutory duty" on the local authority to undertake studies into road traffic collisions, and to take steps both to reduce and prevent them.
  2. Call-in: Applicable
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## Procurement

1. Summary of Procurement Implications: n/a

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Property

1. Summary of Property Implications: n/a
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Carbon Reduction and Social Value

1. Summary of Carbon Reduction/Sustainability Implications: Projects to support sustainable transport are a priority
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Customer Impact

1. Estimated number of users or customers (current and projected): All road users
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Ward Councillor Views

1. Have Ward Councillors been asked for comments? n/a
2. Summary of Ward Councillors comments: n/a

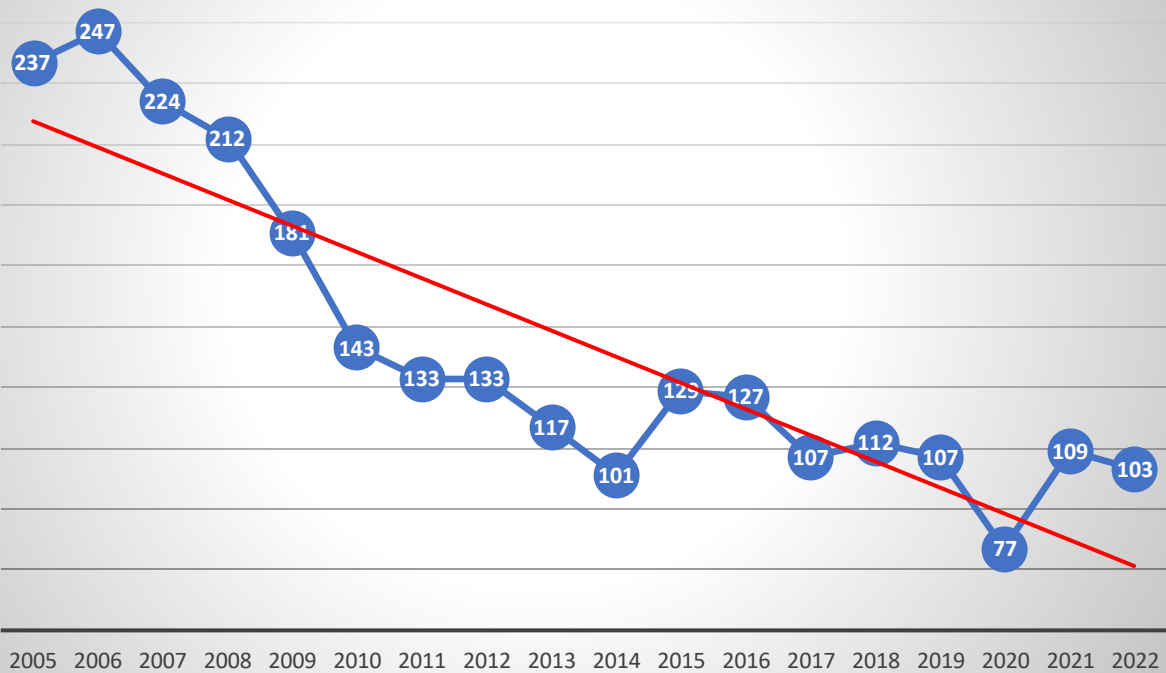
### 3. COMMENTARY

- 3.1 Traffic congestion, road safety and parking problems are a significant challenge for the Borough. Due to the potential for considerable growth in the local population, changing travel patterns and a desire to support active travel, we must have sound policies for managing the traffic and parking demands that will arise in the future. There is a dilemma at times in this work area, as we encourage people to consider “active travel” – walking and cycling – when we know that they will be more vulnerable as road users if they are not in a car.
- 3.2 Many of Bromley’s transport policies are set out in the Council’s transport plan, LIP3, published in 2019. However, this report offers an opportunity for Members to specifically reflect on the current approach to road safety and to offer comments in respect to policy development in this work area.
- 3.3 There are finite resources to improve and adapt the Borough’s streets to support the travel needs of our road users and to reduce the number of road casualties. Therefore, it is important that the resources are directed to where they will achieve best value.
- 3.4 The traditional approach to road safety at both a local and national level has been to use what is known as the three Es: **Engineering, Education and Enforcement**. In a London borough the Council has much of the responsibility for engineering and education, with the majority of road safety related enforcement being the remit of the Metropolitan Police.
- 3.5 Bromley has always made road safety a priority, with the Road Safety team undertaking a focused programme of road safety education and training, and the Traffic team prioritising much of its work to implement road improvement schemes targeted at “treatable” cluster sites.

#### Progress in recent years

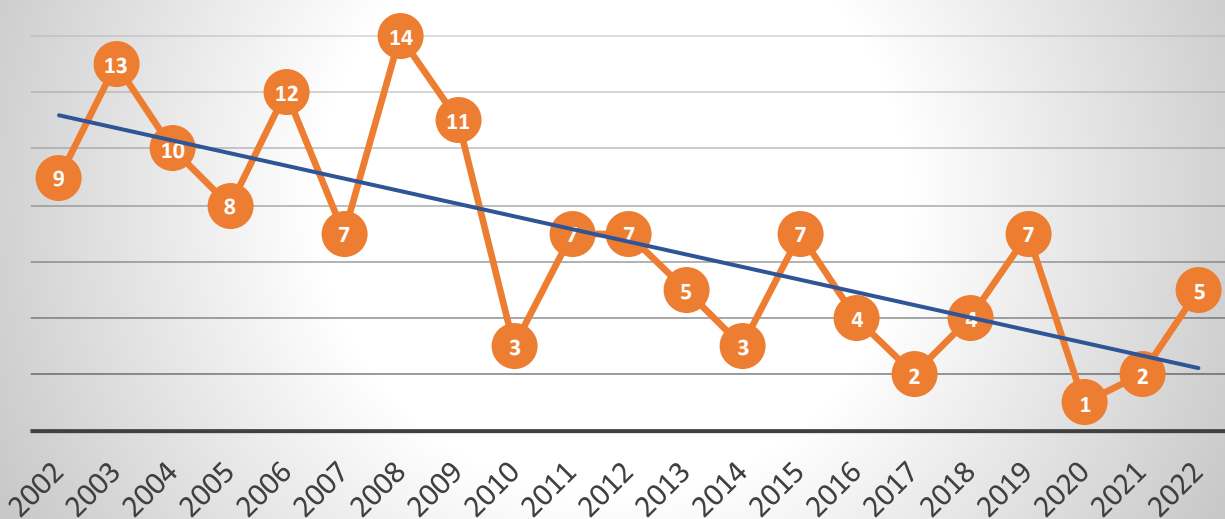
- 3.6 The Borough’s transport plan, *LIP3: Bromley’s transport for the future*, sets out the Borough’s aspiration to focus on reducing the number of deaths and serious injuries, with targets being set for various time points to 2041. There are a range of variables that affect the number of road casualties, many of which are not under the influence of a local highway authority. These include the economy, the number of people using the streets (lower during the pandemic for example), the weather, the level of Police enforcement, etc. which is why year on year data is not always the best to use to monitor progress. But over a period of years, progress can be tracked and comparisons with other LAs can be made.
- 3.7 Bromley’s approach to road safety and casualty reduction has evidently been effective as, coupled with national road safety improvements, it has resulted in serious and fatal road casualties falling by nearly 50% from the 2005-2009 baseline to 2022 (provisional number of those killed or seriously injured, KSI, of 103). Bromley has not reached its very ambitious KSI reduction figure for 2022 of 65% (as set out in LIP3) but 50% is still commendable. Looking at comparative data for the 2018-2022 average for all London Boroughs, compared to baseline data, Bromley saw the largest decrease in KSIs.
- 3.8 Another way to compare performance between local highway authorities is to look at the number of casualties per miles travelled on borough roads, i.e. the casualty rate, as some boroughs have considerably more road length and road use than others. Bromley had the 9th lowest rate of KSIs per mile across the 33 London authorities in 2021 (comparative data for 2022 is not available at the time of publication of this report).
- 3.9 The chart below shows the progress made in reducing the number of KSIs since the baseline year of 2005.

### KSI Road Casualties in L.B.Bromley (2022 data is provisional)



3.10 Members have expressed an interest in looking separately at the number of fatalities occurring. Although the numbers are thankfully fairly low and the decrease over the years is not statistically significant, there are on average fewer deaths on the roads of the Borough over the last decade than ever before. The average number of annual road collision deaths in the last decade is about half of what it was in the previous decade.

### Road Fatalities L.B.Bromley



More information about fatal road collisions in the Borough is given later in this report.

### How collision data is acquired

- 3.11 The data used to investigate and help us know what and where on our streets collisions are occurring is that derived from the “STATS19” database, which is a collection of all road traffic collisions that resulted in a personal injury and were reported to the police within 30 days of the collision. The data is collected by the police at the roadside or when the collision is reported to them by a member of the public in a police station. It is a legal requirement to report all injury collisions on the highway to the Police.
- 3.12 Although research has shown that there is a degree of under-reporting of injury collisions, which varies in degree by mode of travel, there is agreement that the STATS19 data is the most reliable way of comparing: collision hotspots/cluster sites, risk of injury by mode of travel, time of day, age, cause of collision etc. Historic collisions are accepted as being the best way to predict future collisions, although a degree of discernment is needed before leaping to conclusions (more on this later). The use of other data to compare risk of future collisions has been investigated, e.g. residents reporting a junction or road seeming dangerous to road users, or reports of non-injury collisions. However, it is not possible to compare such reports as there is no consistent and reliable way to record the data. Such anecdotal reports can be useful to a highway authority but cannot be used to justify and prioritise an intervention on the grounds of casualty-reduction.
- 3.13 Once a location has been identified for a possible remedial scheme, all available information is then used to help the investigating engineer to be able to paint a picture of what is causing the collisions, so anecdotal reports or non-injury collisions and near misses can then be very helpful in developing a design solution.

### **Who is getting injured**

- 3.14 Looking more deeply at the data it can be seen that some modes of travel make the road user more vulnerable to serious injury than other modes do. Although cycling makes up about 1% of journeys travelled in Bromley, roughly 25% of those seriously injured are cyclists. Motorcycle journeys make up about 5% of all journeys but the proportion of motorcyclist KSIs in Bromley is over 20% of all KSIs; the majority of these involved small capacity motorcycles.
- 3.15 Younger children are less likely to be killed or seriously injured in Bromley, with very few primary aged children being seriously hurt (none in the last three years). Children of this age travel with parents, but as children get more freedom when they enter secondary school, the number of KSIs go up markedly, particularly as pedestrians and motorcyclists.
- 3.16 The table below shows KSI casualty numbers in the three years to November 2022 by mode of travel:

Age	Total KSI	Car	Pedestrian	Cyclist	Motorcyclist	Other
0-10	1	1				
11-20	40	7	14	5	11	2
21-30	52	9	10	15	18	
31-40	44	6	9	14	13	2
41-50	55	7	9	23	13	3
51-60	45	17	13	8	4	3
61-70	25	7	6	10		2
71-80	14	5	8		1	
81-90	10	5	4			1
91-100	0					

- 3.17 Of these 289 serious or fatal casualties, 206 were male.

## **Where are people being injured in Bromley**

- 3.18 Perhaps unsurprisingly the majority of collisions happen on the busier roads, with most collisions being at junctions. We must be careful not to jump to the conclusion that busier roads are more dangerous as the rate of collisions there may in fact be lower than on some more minor, less busy roads. As the resources available to make roads and drivers safer will never be sufficient to prevent all injury collisions, the skill of a road safety engineer is to detect locations where an abnormal number of collisions are regularly happening, and then to work out if there is an aspect of the road layout that might be improved.
- 3.19 According to Police data, the majority of injury collisions are caused by driver error and not by the road environment. That does not mean that where there is a pattern of collisions the road layout cannot be adapted to reduce the likelihood of crashes.

## **Process of selecting sites for possible Local Safety Schemes**

- 3.20 Bromley is careful not to respond to pressure to react in a knee-jerk manner to individual collisions that occur, however tragic the outcome. Often the cause of a collision is a random mistake made by a road user, where no changes to the road layout and no education campaign would prevent a reoccurrence of the collision. However, where patterns of collisions occur it is possible that the highway authority can intervene in a meaningful way to prevent either further collisions at that specific location or collisions with the same cause. A pattern can mean similar injury collisions at one location (e.g. pedestrians crossing the western arm of the junction), or a theme developing in the causation of collisions across the Borough (e.g. young motorcyclists).
- 3.21 With finite resources, even for an absolute priority such as improving road safety and reducing the numbers of those killed and seriously injured (KSI) on the Borough's roads, remedial action needs to be prioritised. Prioritisation of remedial schemes takes place approximately biennial to deliver the greatest benefit and quickest reductions of KSIs. The Council continues to investigate road collisions and maintain a rolling programme to identify, prioritise and implement casualty reduction schemes and to prioritise collision hotspots for remedial action as part of its annual LIP programme, especially those where KSIs have occurred.
- 3.22 To prioritise investment, Bromley examined a list of locations where there have been 5 or more personal injury collisions within a 50-metre radius, using the latest 3 years of available data. The collisions at these locations were analysed to identify if there were any common patterns between the collisions and if so whether there were any measures which could be implemented to prevent similar collisions occurring in the future. As there are limited funds available to carry out interventions, schemes must be prioritised using a cost-benefit analysis, with a higher weighting given to collisions that led to serious or fatal injuries.
- 3.23 Bromley will usually undertake a Borough-wide review of all injury collisions every two years. This involves a thorough study of all collisions to identify cluster sites and to then study the details of the collisions at those locations. As part of Bromley's last biennial cluster site analysis, 101 cluster sites were identified in the 36-month period up until the end of April 2020 (the data became available about 8 months after that date). Bromley is working through the sites identified for action at that time, as funding permits. (A study was not undertaken in 2022 as the funding for road safety schemes had been suspended for the last two years due to TfL funding cuts to boroughs, but has been reinstated since April this year, although at a lower level. If a location has a sudden spate of collisions in the short term, this cannot be identified using the STATS19 data as the information doesn't come to the highway authority until about six months after the event.)
- 3.24 As stated, each review of cluster sites flags up about 100 locations where the number of casualties occurring might suggest a pattern to those collisions – i.e. a cause that might be

treated. This long list of ~100 locations is analysed against the following criteria to produce a short list of sites for more detailed investigation:

- Locations are excluded if they occurred on the Transport for London Road Network (TLRN) – i.e. the A21, A20 and part of the A232.
- Locations where the number of collisions showed a significant decline over the 36-month period are excluded with a note to monitor annually.
- Locations where recent changes to the road layout had occurred were excluded while awaiting the 3 years of data post completion to re-analyse, however the location would continue to be monitored yearly to identify any spikes which may trigger immediate investigation (and may be subject to a Stage 4 Road Safety Audit).
- Locations were excluded where collisions appeared to occur randomly with no obvious patterns which could result in remedial actions (i.e. there was no apparent solution).
- Consideration was given to excluding locations where the number of collisions at that location were at or below what may be expected for similar locations, however consideration was given to any low-cost improvements which could be made (such as refreshing the road markings or adding a new sign).
- Measures taken to address collision cluster sites vary on a case-by-case basis and are determined on the basis of careful analysis of previous collision patterns. Interventions may vary from low-cost measures such as revised road markings to completely redesigned junctions. Where major interventions are undertaken to address cluster sites, designs were developed to also improve conditions for walking and cycling, to unlock the potential for active travel.
- Further to the initial analysis locations identified were short-listed for more detailed analysis. Further analysis on these locations involved producing stick diagrams to identify whether there were any patterns in the collisions that could potentially be reduced by implementing remedial measures. Any potential schemes were selected based on a good First Year Rate of Return (FYRR), local priorities and added environmental value.

3.25 Example costs to install traffic engineering measures are set out here:

- a) Zebra crossing - £25k to £50k, depending on location, necessity for anti-skid road surface, kerb realignments, presence of statutory services etc.
- b) Signal controlled crossing - approximately £75k to £100k, depending on location
- c) Mini roundabout - £10k to £100k, depending upon location, need for deflection, existing road surface etc.
- d) Full size roundabout - £120k+ according to size and location
- e) Speed table - £20k to £100k, depending on junction, need to raise or change footways etc.
- f) Traffic island or pedestrian refuge - £7k to £15k, depending on size
- g) Bike lane - these can vary hugely in cost depending on if they are set out simply with signs and road markings or are segregated from traffic, requiring changes to the infrastructure and possible relocation of utilities.
- h) Flashing warning sign - £3k to £10k depending upon size, vehicle-activated or timed etc.



i) Road marking – can be just in the £100s

The presence of utility providers equipment, usually under the footway or carriageway, can greatly affect the cost of a scheme and may render it unviable. For example, relocating one telecommunications chamber can easily cost well over £100k.

High-cost schemes are sometimes justified if any discernible collision savings are to be delivered. However, the cost/benefit of the investment needs to be calculated, to help determine the priority of the location.

- 3.26 One example of a relatively recent casualty reduction scheme is the installation of a double mini-roundabout and road realignment at the junction of Warren Road and Court Road in Chelsfield. From June 2005 to August 2016, a total of 15 collisions had occurred at this junction, including one fatal collision and three serious collisions. In view of their number and pattern, as well as safety concerns raised by Ward Members, the construction of a roundabout was proposed at the junction to improve road safety. After this scheme was scrutinised by Members of this committee a design was developed in more detail and the final double-mini-roundabout scheme was completed in mid-2021, since when there have been no injury collisions recorded at this location.
- 3.27 A more recent scheme to be approved for remedial action is the junction of Southend Road/Park Road/Foxgrove Road, which was supported at the last PDS in March. This location suffers from a very poor injury crash record and is one of the Authority's highest priorities for remedial action. In the latest 3 year period (up to 30<sup>th</sup> September 2022) there have been a total of 13 injury collisions, 11 of which were slight and 2 were serious; 6 involved pedal cycles and 1 a pedestrian, the remainder car occupants. Detailed design is now being finalised and road safety audits undertaken, before works are commissioned to install a casualty reduction scheme.
- 3.28 The junction with the highest number of casualties in the Borough at the time of the last review is the junction of Hayes Lane with Stone Park Avenue, South Eden Park Road, Wickham Road and Wickham Way (often known as Chinese Roundabout). Officers are developing a design which, if it can achieve a high enough First Year Rate of Return, will be presented to this committee later this year.

### **Area-wide Safety Schemes**

- 3.29 The Council often receive requests to reduce the speed limit on roads in the borough. Speeding and dangerous driving are offences punishable by law and enforced by the Police. However, the Council will investigate whether low-cost measures such as posters, vehicle-activated signs and road markings may be beneficial in discouraging speeding. It is known that if a collision occurs at a lower speed, injuries will be less serious for those involved, and this is especially the case for vulnerable road users in collision with motor vehicles. However, it is not easy to get all drivers to travel at speeds suitable for the local environment. There is evidence to show that vertical deflection will reduce speeds in locations where speeding is prevalent and has contributed to collisions. However, the police, fire brigade, ambulance service and London Transport have objected to the proliferation of road humps and raised tables because of the increase in attendance times for emergency calls and discomfort and possible injury to their passengers. Road humps and raised tables can also lead to complaints from residents about increased noise and vibration from traffic.
- 3.30 Installing signed-only 20mph limits has not been shown to reduce speeds sufficiently to have an impact on casualty rates. As a general rule, the Council will not install any new 20mph limit or zones. Since the Council is unable to enforce these speed limits, it is an ineffective use of limited resources. The Council will install part-time 20mph limits at the beginning and end of the

school day with flashing lights outside schools, decided on merit. In exceptional cases, full-time 20mph limits may be appropriate in certain locations such as High Streets.

### **Road Safety Education**

- 3.31 Road safety education programmes and campaigns can be harder to quantify in terms of cost/benefit, as savings are harder to predict. However, data can still be used to prioritise these road safety campaigns. As seen above, some age groups and modes of travel are more vulnerable to serious injuries than others.
- 3.32 Bromley has achieved success over the years, with the work of the road safety team being recognised in achieving awards. More importantly, a follow-up study conducted some 20 years back where young drivers who undertook a pre-driver training course in schools with Bromley's road safety officers showed that they were subsequently less involved in injury collisions. Although the data to conduct another long-term follow up study is not available now, the Council still believes that targeted and hard-hitting road safety education programmes are effective.
- 3.33 The priority for road safety education campaigns is to target secondary age pedestrians, cyclists, motorcyclists and drivers. More information about road safety education interventions carried out in Bromley are set out in Appendix A.

### **Fatal Road Collisions**

- 3.34 Obviously, the road collisions we all wish to see stopped more than any other are the fatalities. The causation of these is random and cannot be used to predict future collisions, as the number of fatal collisions is, thankfully, very small. This is why a wider data set of injury collisions is used to help us understand collision patterns and causation.
- 3.35 However, looking at the causes of the fatal collisions over the years in Bromley is of interest, as it tells the story of human tragedy more than the other collisions – in part because so much more information about fatal collisions is gathered, forensically, by the Police.
- 3.36 Since 2002, 141 people have died whilst travelling on the roads of Bromley Borough. More information about these fatalities is set out in Appendix B.
- 3.37 Although road collisions are often the result of a number of factors, a primary cause or causes can sometimes be suggested. Summarising the causes of the 141 fatalities on roads within the Borough since 2002, from information gleaned at the inquests, the following factors have been attributed as main causes (although there were often multiple causes):
- Pedestrian stepped out into the path of traffic x19
  - Rider/driver inexperience x12
  - Dangerous driving/riding x24
  - Excess speed x33
  - No seatbelt x10
  - Poor eyesight x2
  - Alcohol x9
  - Cyclist rode into the path of traffic x1
  - Rider/driver not paying attention x9
  - Vehicle involved was stolen x7
  - Driver or rider lost control x19
  - Driver/rider jumped a red light x2
  - No license x2
  - Poor condition of vehicle x1
  - Rider/driver error x2
  - Car door opened into their path x2.

- Careless, driving/riding x3
- No helmet or helmet came off x3
- Overcrowded/unsafe load x2

*These are not ranked as this is not a scientific study but does provide some insight into main factors leading to the fatal collisions. Note: murders, medical incidents and suicides are not counted in this data.*

3.38 What is certain is that without the efforts of local highway authorities, the Police, national government as they change laws and set out design standards, and other professionals, there would have been many more deaths, all of which are ultimately avoidable. Bromley must carry on trying to make sure it invests finite resources as effectively as it possibly can.

#### **4. IMPACT ON VULNERABLE ADULTS AND CHILDREN**

Consideration is given when designing all schemes to the needs of all road user groups, including of those with disabilities.

#### **5. TRANSFORMATION/POLICY IMPLICATIONS**

The recommendations in this report are in line with the Borough's current Transport Plan – "Bromley's Third Local Implementation Plan – Bromley's transport for the future" published in 2019.

Making Bromley Even Better Priority:

(1) For children and young People to grow up, thrive and have the best life chances in families who flourish and are happy to call Bromley home.

(2) For adults and older people to enjoy fulfilled and successful lives in Bromley, ageing well, retaining independence and making choices.

(4) For residents to live responsibly and prosper in a safe, clean and green environment great for today and a sustainable future.

#### **6. FINANCIAL IMPLICATIONS**

6.1 This report seeks Members of the Committee to note the Council's approach to road safety and casualty reduction as set out in Section 3.

6.2 There are no direct financial implications from this report, however funding must be in place for any road improvement or education scheme that is to be taken forward.

#### **7. LEGAL IMPLICATIONS**

The 1988 Road Traffic Act, Section 39, puts a "statutory duty" on the local authority to undertake studies into road traffic collisions, and to take steps both to reduce and prevent them.

The pertinent wording from the Act is:

*Each local authority must prepare and carry out a programme of measures designed to promote road safety and may make contributions towards the cost of measures for promoting road safety taken by other authorities or bodies.*

*Each local authority:*

- *Must carry out studies into accidents arising out of the use of vehicles on roads or parts of roads, other than trunk roads, within their area*

- *Must, in the light of those studies, take such measures as appear to the authority to be appropriate to prevent such accidents, including the dissemination of information and advice relating to the use of roads, the giving of practical training to road users or any class or description of road users, the construction, improvement, maintenance or repair of roads for which they are the highway authority and other measures taken in the exercise of their powers for controlling, protecting or assisting the movement of traffic on roads*

## 8. CARBON REDUCTION/SOCIAL VALUE IMPLICATIONS

All schemes proposed and education programmes run will be in line with the Council's agenda to promote active travel, support sustainable transport and reduce carbon emissions.

<b>Non-Applicable Headings:</b>	PERSONNEL IMPLICATIONS PROCUREMENT IMPLICATIONS CUSTOMER IMPACT WARD COUNCILLOR VIEWS
Background Documents:	LIP3: Bromley's transport for the future - <a href="http://bromley.gov.uk/local-implementation-plan-lip3/">local-implementation-plan-lip3-</a> (bromley.gov.uk)