

Inequality in road danger in London

Wednesday 19 October 2022

Zoë Cotton

Safety Strategy Manager – Road Risk, Transport for London



The Mayor has a vision for a safer, fairer, greener, healthier and more prosperous city

The Vision Zero Action Plan progress report details how we will investigate how unequal road outcomes manifest among different demographics and communities

- Ambition for no deaths or serious injuries by 2041
- Safe system approach – Post collision pillar
- Important to investigate risk posed to different groups and seek to narrow road traffic injury inequalities
- Share with boroughs and stakeholders to work together
- Previous work carried out raised awareness

**VISION
ZERO**
Travel Safe. Save Lives

The aims of this work are to contribute to a better understanding of road danger, informing investment in schemes and communications,

- **Targeting scheme investment**, including understanding how this can contribute to prioritisation
- **Targeting education, marketing and behaviour change** most effectively to the audience
- Contributing to a fully **rounded understanding** of road danger

Using Stats19
casualty data from
2017-2021 we
sought to
investigate
inequalities further

We used 2017-2019 average data as our baseline

Categories of data

- All modes
- Multiple Deprivation Index
- Age
- Gender
- High risk communities

By combining multiple characteristics and modes, this is more comprehensive than single issue analyses we have done previously, however it still has challenges

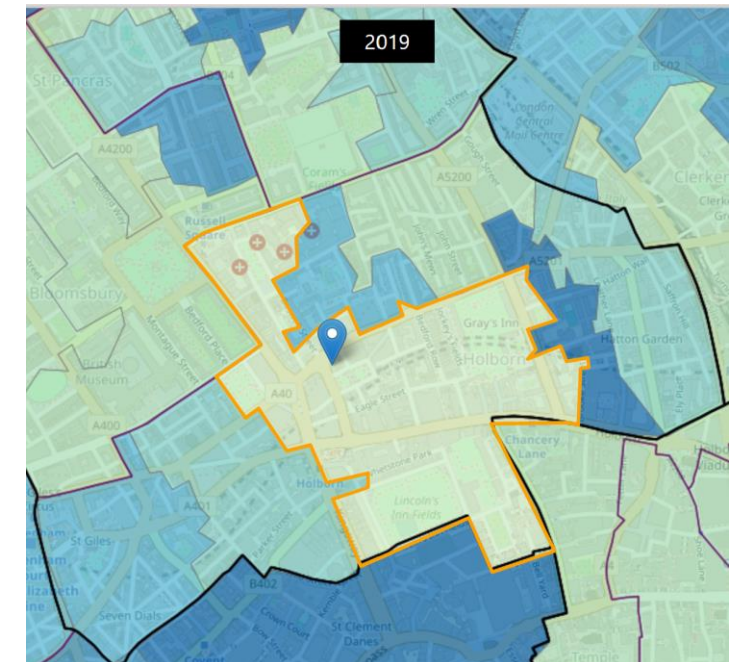
Challenges

- Ethnicity data
- Disability data
- Exposure (i.e. how many people are travelling, by which mode)
- Population changes
- Missing information
- Self reporting
- Involvement in collisions which injure others

The Indices of Multiple Deprivation (IMD) is a measure of relative deprivation of a small local area level called Lower Super Output Areas (LSOA)

The Index of Multiple Deprivation (IMD) ranks every small area in England from most deprived area to least deprived

- To simplify, deprivation '**deciles**' are published alongside ranks.
- These deciles are calculated by ranking the small areas from most deprived to least deprived, and dividing them into 10 equal groups.
- Decile 1 being the most deprived and decile 10 being the least deprived area.
- LSOAs are a standard geography designed to be of a similar population size, with an average of approximately 1,500 residents or 650 households.



There are **4,835** Lower Super Output Areas in London

We looked at two aspects of inequality in road risk

We looked both at Killed and Seriously Injured (KSI) and at all casualties

1. **WHERE** people are injured

Includes anyone injured in Greater London.



2. **WHO** was injured

Home postcode deprivation ranking, age, gender, and mode of travel.
London residents only.



Methodology:
We looked at casualties per head of population in order to understand the relative risk rate

Casualty Risk Rate



- **WHO** was injured. Combining the road casualty data with relevant population data.
- Combining data on the deprivation of the casualty's home postcode, with population information such as age and gender to standardise the casualty numbers into a casualty risk.

$$\text{Casualty risk} = \frac{\text{Number of casualties}}{\text{Number of relevant population}} \times 1000$$

“Risk” Rate

We have used the term “risk” as a shorthand to describe the number of injuries per head of population, or per kilometre of road

Methodology:
We looked at casualties per km of road in order to understand the relative risk rate

Collision Risk Rate



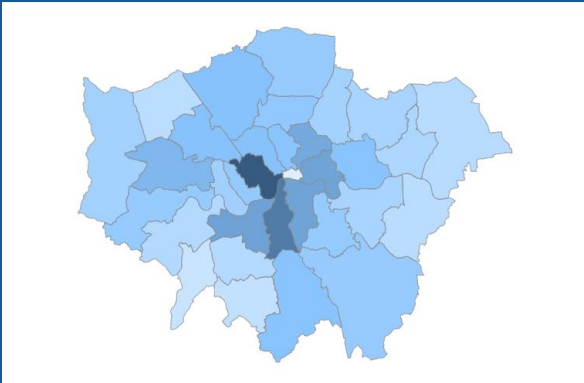
- **WHERE** people are injured. Combining road casualty data with location information.
- Combining **Indices of Multiple Deprivation (IMD)** location information with **road length**.

$$\text{Location risk} = \frac{\text{Number of casualties}}{\text{Road length (m)}} \times 1000 \text{ to represent per km}$$

“Risk” Rate

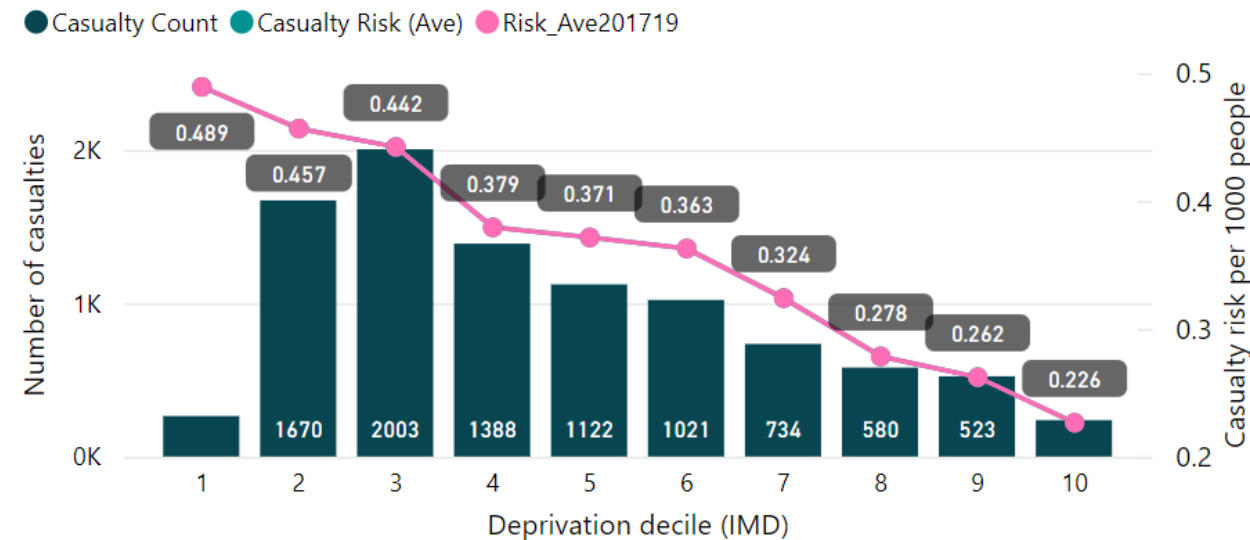
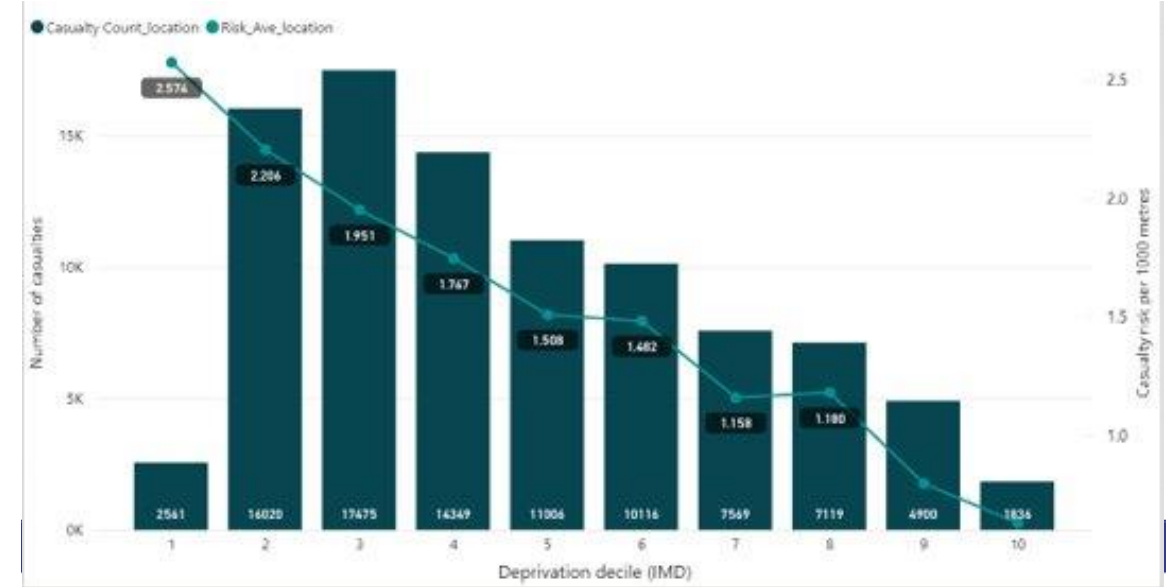
We have used the term “risk” as a shorthand to describe the number of injuries per head of population, or per kilometre of road

DEPRIVATION:
The 30% most
deprived areas
showed double the
risk of injury
compared to the
30% least deprived
areas in London



The more deprived an area, the more at risk someone is to injury and death

- The same result is true of where people live.
- People from the 30% most deprived home postcodes have nearly double the risk of people from the least deprived 30% (3.7 compared to 1.9)
- People from the most deprived 30% of London have a higher risk across all modes



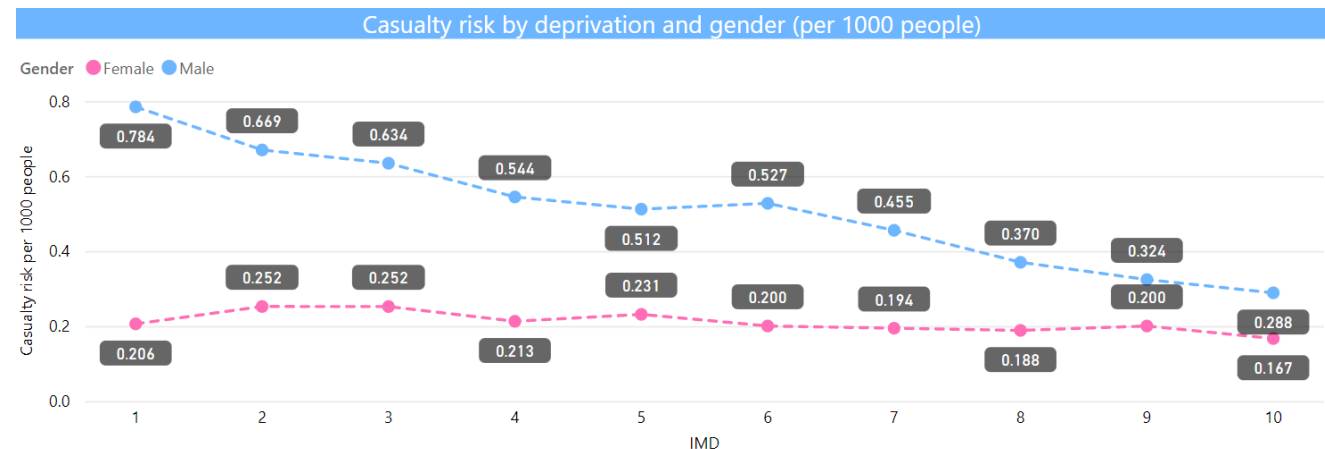
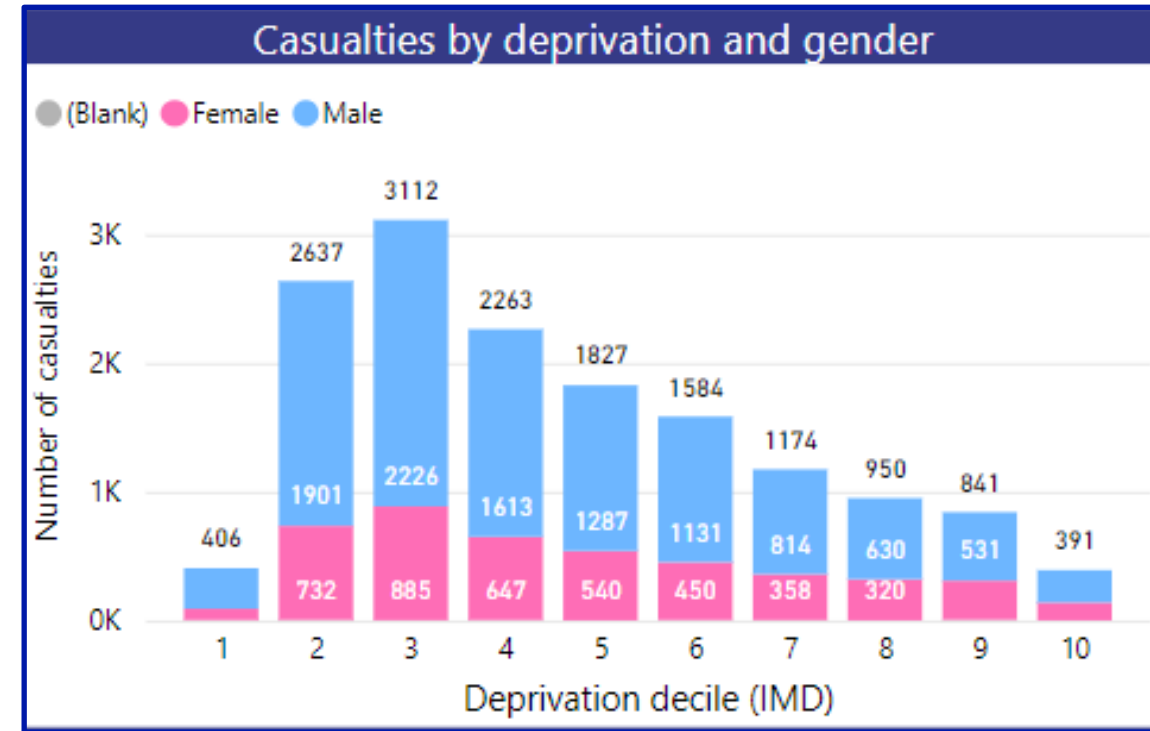
GENDER:

Men living in the most deprived postcodes are nearly three times more likely to be killed or seriously injured than women

The impact of living in a deprived postcode is far greater for men than for women.

Men have a higher risk of injury than women (across all modes)

- Males have a risk rate of 3.8 compared to 2.2 for females
- Males: Highest risk of injury comes from car journeys, followed by powered two wheelers (ALL and KSI)
- Females: Highest KSI risk is from pedestrian journeys at 0.2, followed by car at 0.04








AGE:

The 16-30 age group has the highest risk for ALL casualties and Killed or seriously injured (KSI) casualties

Age Category breakdown

- 0-4
- 5-11
- 12-15
- 16-30
- 31-59
- 60-69
- 70+

Across all age groups, the highest risk of serious and fatal injury is found for the 16-30 age group with an average 2017-19 risk of 0.58 casualties per 1000 people.

Travel Mode	Highest risk group (Killed and Seriously injured)		Average Risk (2017-2019)
	70+	30% most deprived	0.29
	16-30	30% most deprived	0.28
	16-30	30% most deprived	0.13
	16-30	30% most deprived	0.12
	70+	30% most deprived	0.06

We found that, deprivation, gender, age and mode have a significant impact on risk rate

WHERE

- The **most deprived locations** were **twice as risky** as the least deprived locations

WHO

- People from **the most deprived home postcodes** have nearly **double the risk** of people from the least deprived postcodes
- **Men** living in the most deprived postcodes are nearly three times more likely to be killed or seriously injured than women.
 - The impact of living in a deprived postcode is far greater for men than for women.
- **Young adults (16-30)** face the highest risk of injury, and of death and serious injury.



We found that, deprivation, gender, age and mode have a significant impact on risk rate

Combining gender, deprivation, age and mode highlights which populations are most vulnerable to death and serious injury in London

1. **Young men (16-30)** from the most deprived postcodes (decile 1-3), riding motorcycles, are the group most likely to be killed or seriously injured in London, per head of population
2. **Young men (16-30)** from IMD deciles 4-7, riding motorcycles are the next most at risk
3. **Older men (70+)** from the most deprived postcodes, walking
4. **Young secondary school age boys (12-15)**, from the most deprived postcodes, walking, are almost at as great a risk of death and serious injury as older deprived men walking
5. **Older men (70+)** from IMD deciles 4-7, walking



Summary
inequalities factsheet
will be published in
2022. Core elements
of this analysis will
then be included in
our annual casualty
reporting from 2023

Engage with boroughs and stakeholders: how this information can assist in planning and prioritising road safety investment

- Publish open data to assist in self-service data requests
- Understand what is incorporated in annual reporting
- Discuss and consider possible next steps
 - Collaborative working
 - Local knowledge insights
 - Mapping functions
 - Data quality/ Missing data
 - Grant funding opportunities
- Stakeholder workshops will run in 2022 and 2023

Thank you

Zoe Cotton
zoe.cotton@tfl.gov.uk



SHE INSIGHTS & DIRECTION

Exec summary

- The Vision Zero Action Plan progress report (2021) commits us to investigate how unequal road outcomes manifest among different demographics and communities
- The aim of this work is to contributing to a better understanding of road danger, thereby informing investment in schemes and communications,
- Using Stats19 casualty data from 2017-2021 we sought to investigate inequalities further
- We looked at two aspects of inequality in road risk: WHERE people are injured, and WHO was injured
- Methodology: We looked at casualties per km of road and per head of population in order to understand the relative risk rate
- We found that deprivation, gender, age and mode have a significant impact on risk rate.
 - DEPRIVATION: The 30% most deprived areas showed double the risk of injury compared to the 30% least deprived areas in London
 - GENDER: Men living in the most deprived postcodes are nearly three times more likely to be killed or seriously injured than women
 - AGE: The 16-30 age group has the highest risk for ALL casualties and KSI casualties
 - Combining deprivation, gender, age and mode highlights which populations are most vulnerable to death and serious injury in London
- Summary inequalities factsheet will be published in 2022. Core elements of this analysis will then be included in our annual casualty reporting from 2023.
- Stakeholder workshops will be run to discuss

