Inequality in road danger in London

Wednesday 19 October 2022

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

VISION ZERO
Travel Safe. Save Lives

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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

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 as a small local area level called Lower Super Output Areas (LSOA)

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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

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.

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

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

"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

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.

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

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

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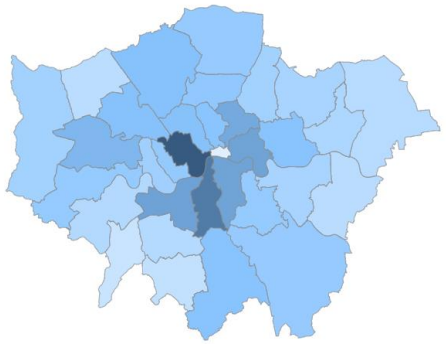
Collision Risk Rate

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

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

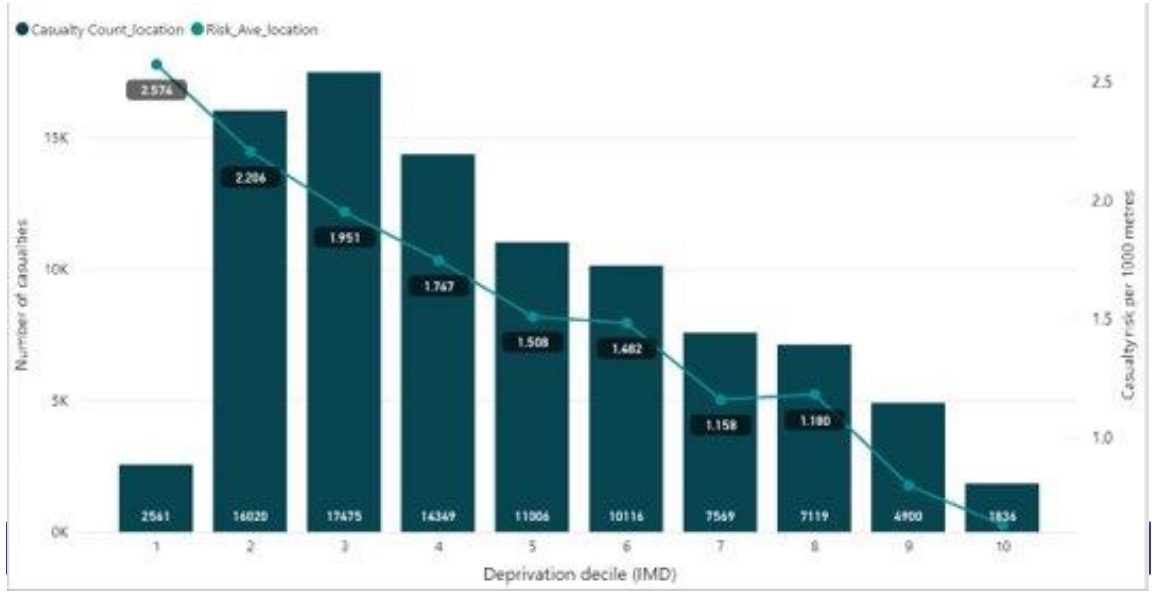
DEPRIVATION: The 30% most deprived areas showed double the risk of injury compared to the 30% least deprived areas in London

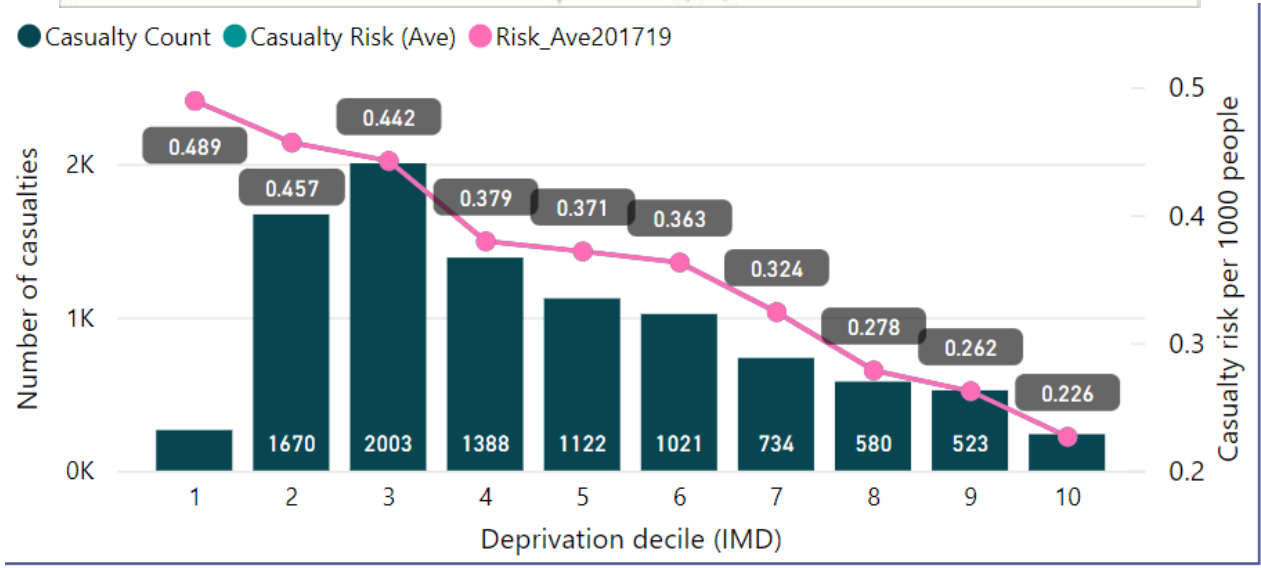


SHE INSIGHTS & DIRECTION

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



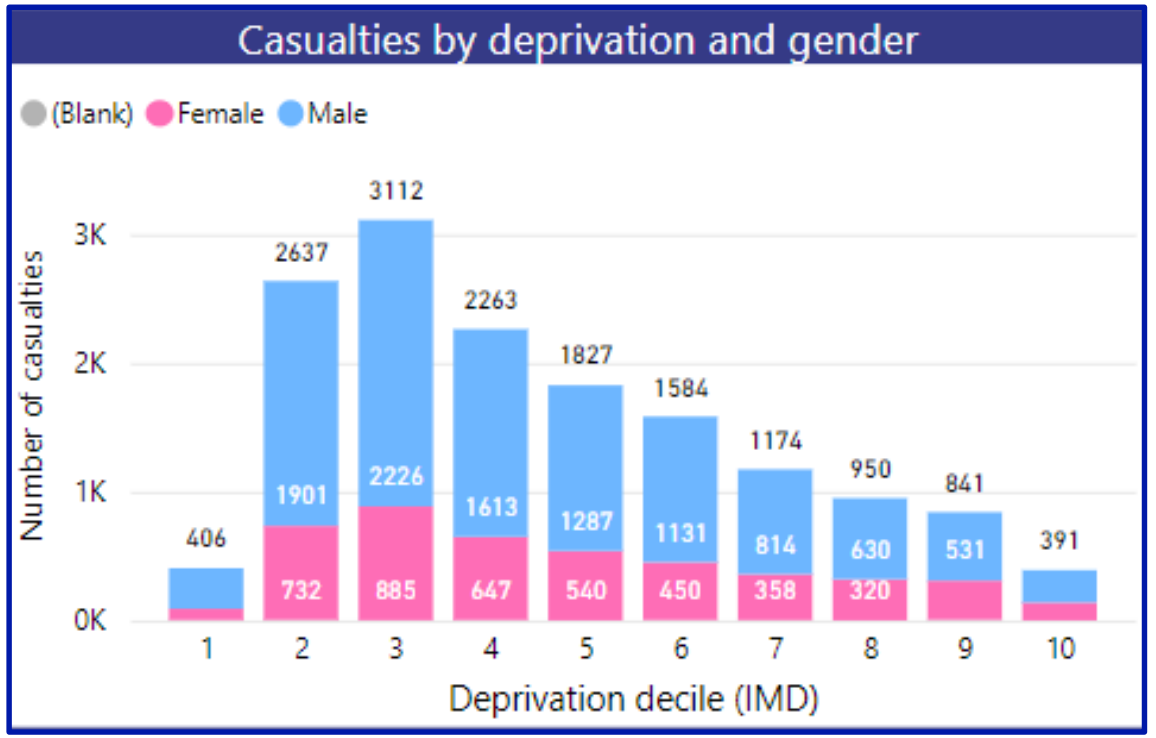


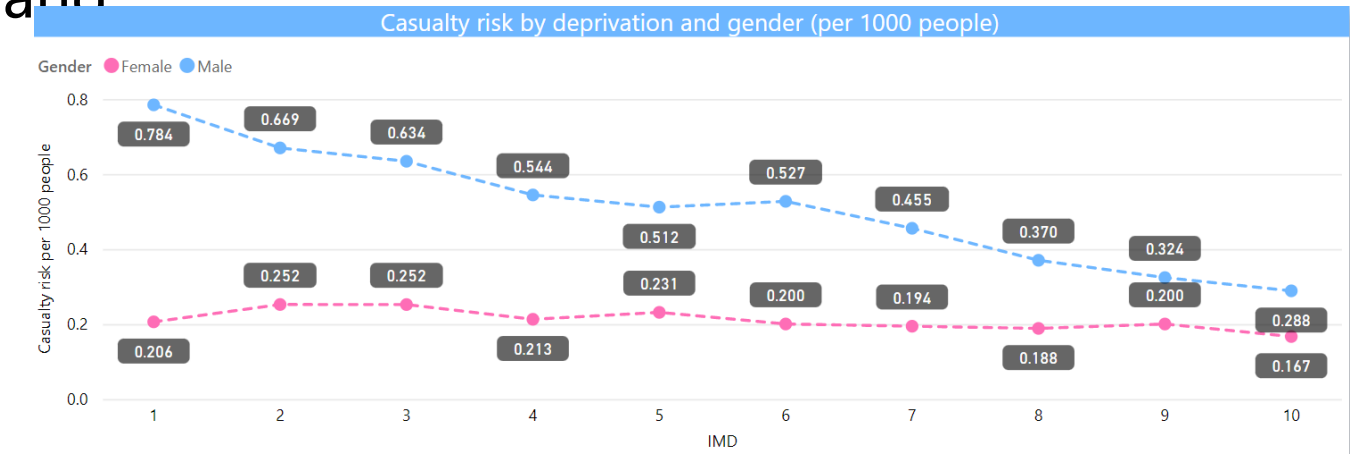
Men have a higher risk of injury than women (across all modes)

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.

- 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 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

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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