National Office for Traffic Medicine

PUBLIC HEALTH PERSPECTIVE

Traffic Medicine

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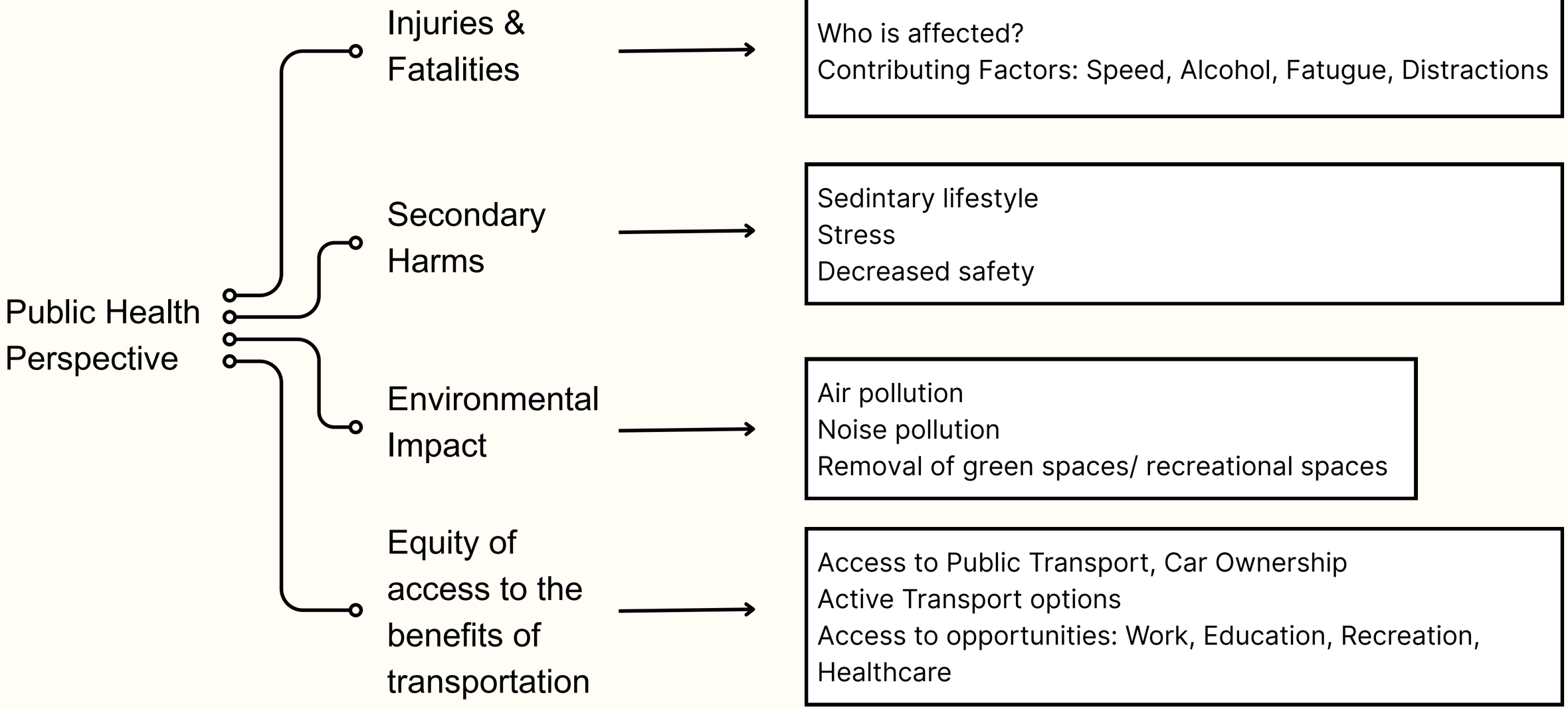
INTRODUCTION

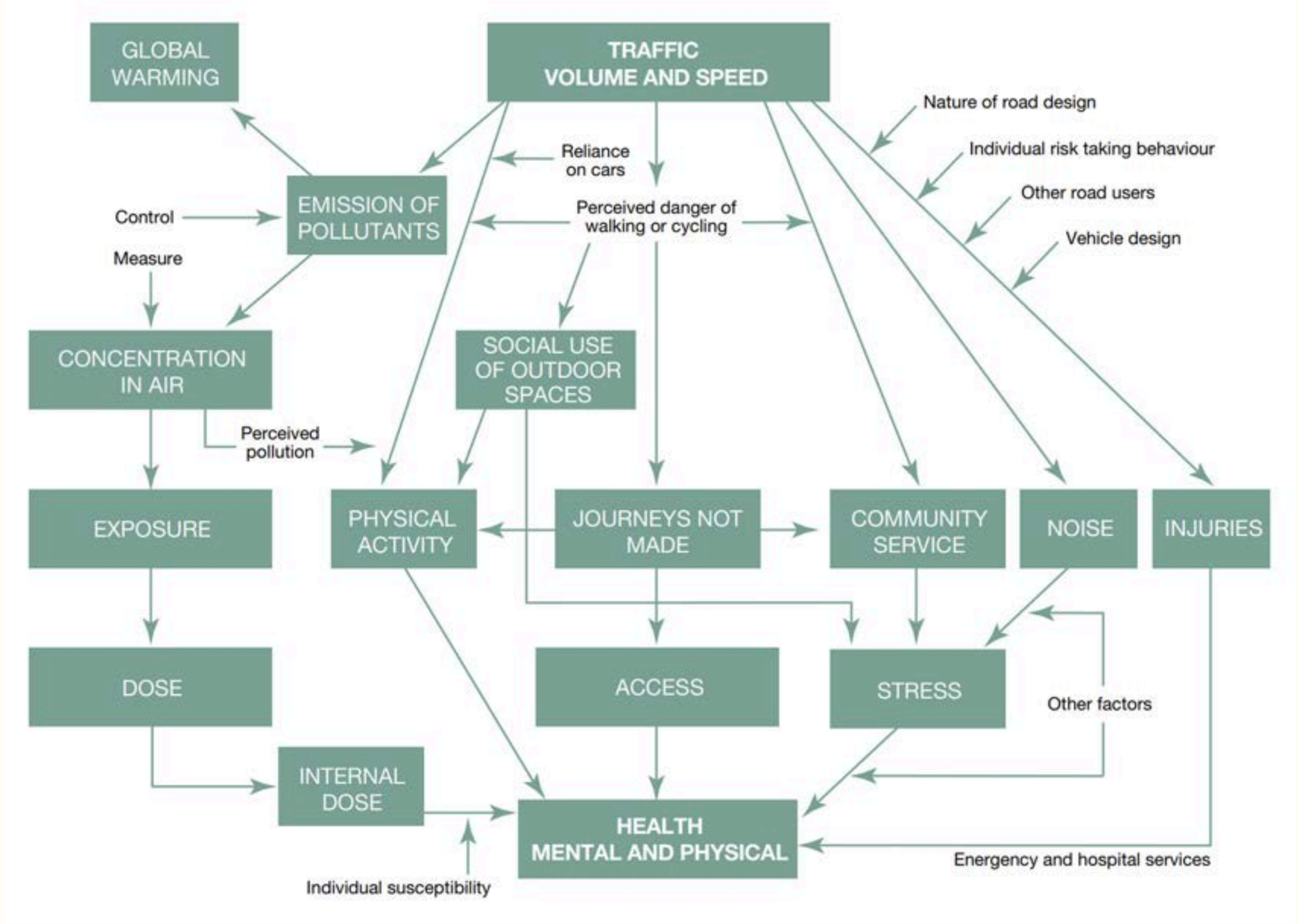
The public health perspective on road use and transportation recognises that **transport systems are a major determinant of population health**, influencing injury rates, chronic disease, environmental quality, and health equity.

This perspective extends beyond individual behaviour, emphasising systemic, policy-driven, and multidisciplinary approaches to create safer, healthier, and more equitable transport environments.

PUBLIC HEALTH PERSPECTIVE



TRAFFIC AND HEALTH



BURDEN OF DISEASE AND INJURY

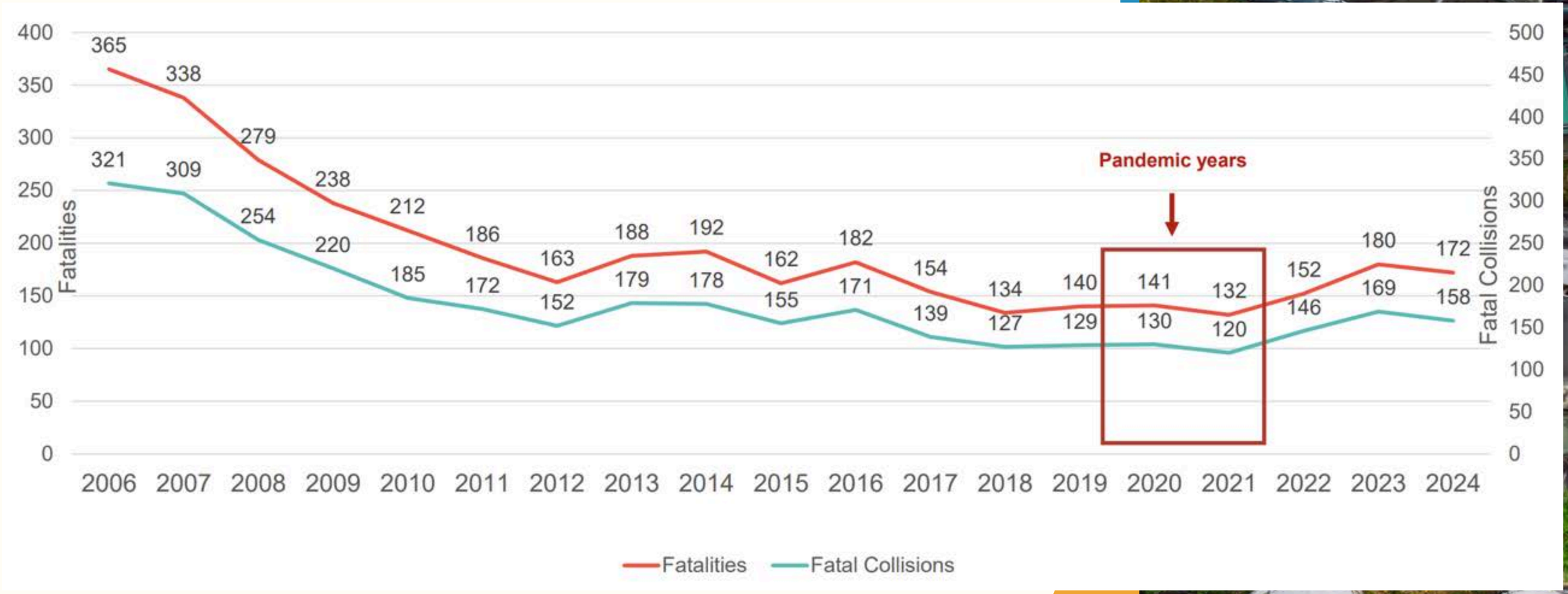
- Road traffic injuries are a leading cause of death and disability worldwide, with the World Health Organisation European Region reporting approximately 127,000 deaths and 2.4 million injuries annually. Globally, over 1.35 million people die and up to 50 million are injured on the roads each year.

- Vulnerable road users: pedestrians, cyclists, and motorcyclists bear a disproportionate burden, accounting for more than half of all road traffic deaths.

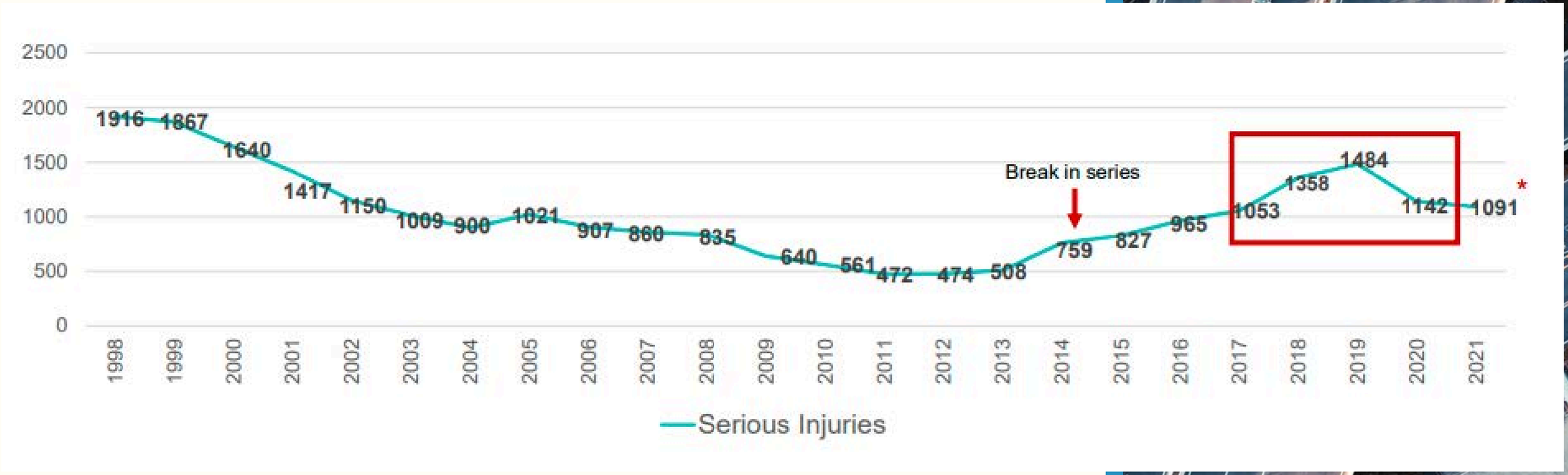
- There is a clear social gradient: the poorest and most socially disadvantaged groups suffer the highest rates of road traffic injuries and fatalities.

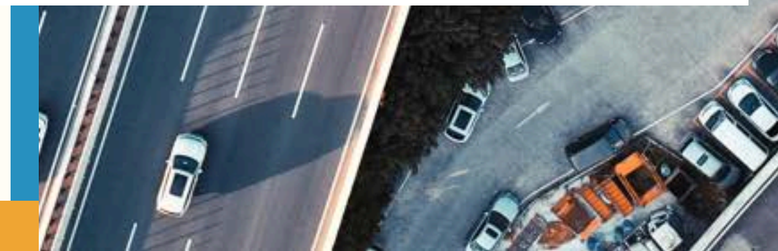
FATALITIES

This graph from RSA shows that while there has been a decrease in the number of fatalities and fatal collisions over time, there has also been an increase in fatalities in 2023 and 2024 compared to pre-pandemic years.



SERIOUS INJURIES





HIGH-RISK GROUPS

- **Gender:** Males account for a disproportionate percentage of fatalities, representing 78% of all road deaths in 2023.

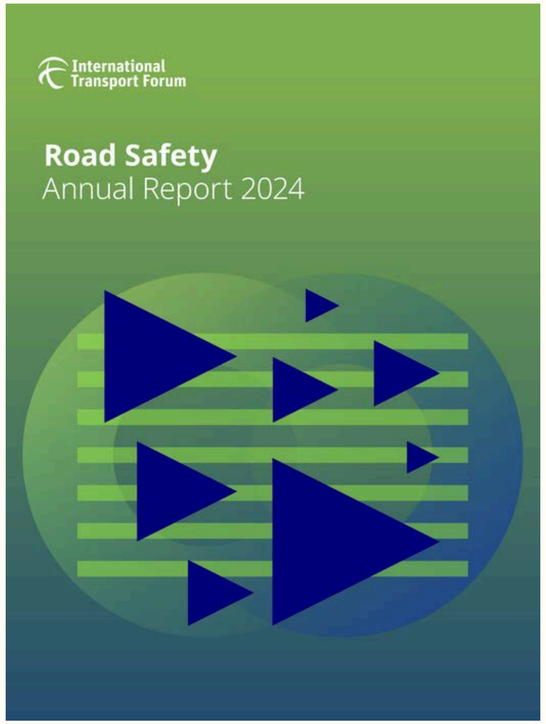
- **Age**: Young people face elevated risks, with approximately 35% of 2024 fatalities involving people aged 25 years or younger.

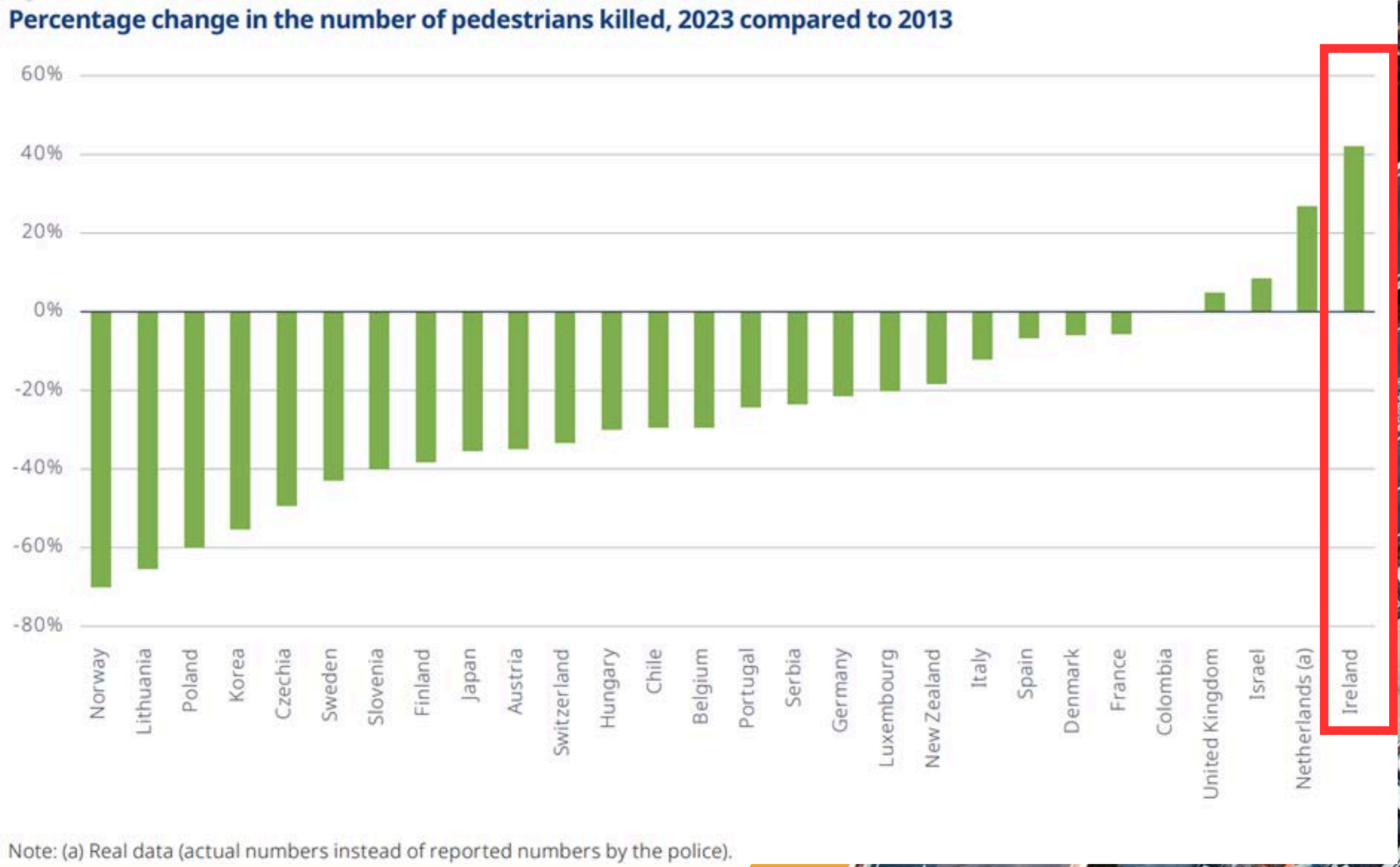
- **Road user type**: Pedestrians are particularly vulnerable, accounting for 22% of all road deaths between 2019-2023.

- **Location:** Road fatalities are not evenly distributed across Ireland. In 2024, Dublin (23), Cork (19), Mayo (19) and Donegal (17) recorded the highest number of deaths, collectively accounting for 45% of total fatalities

PEDESTRIAN DEATHS

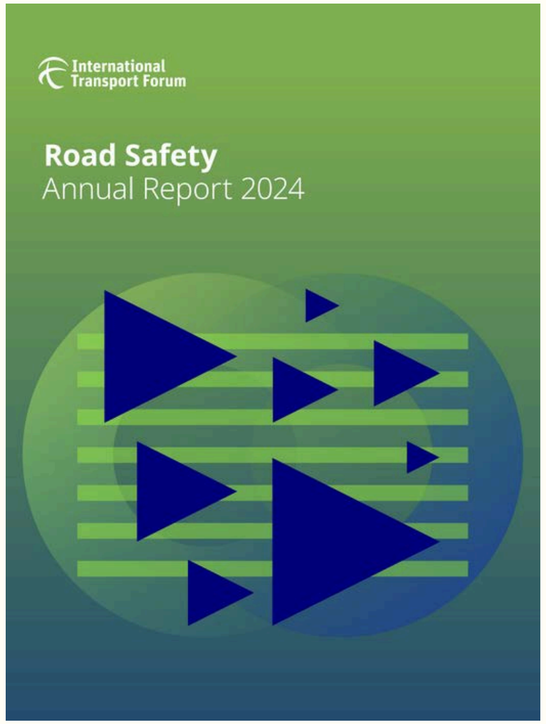
- 269 pedestrians killed between 2013 - 2020

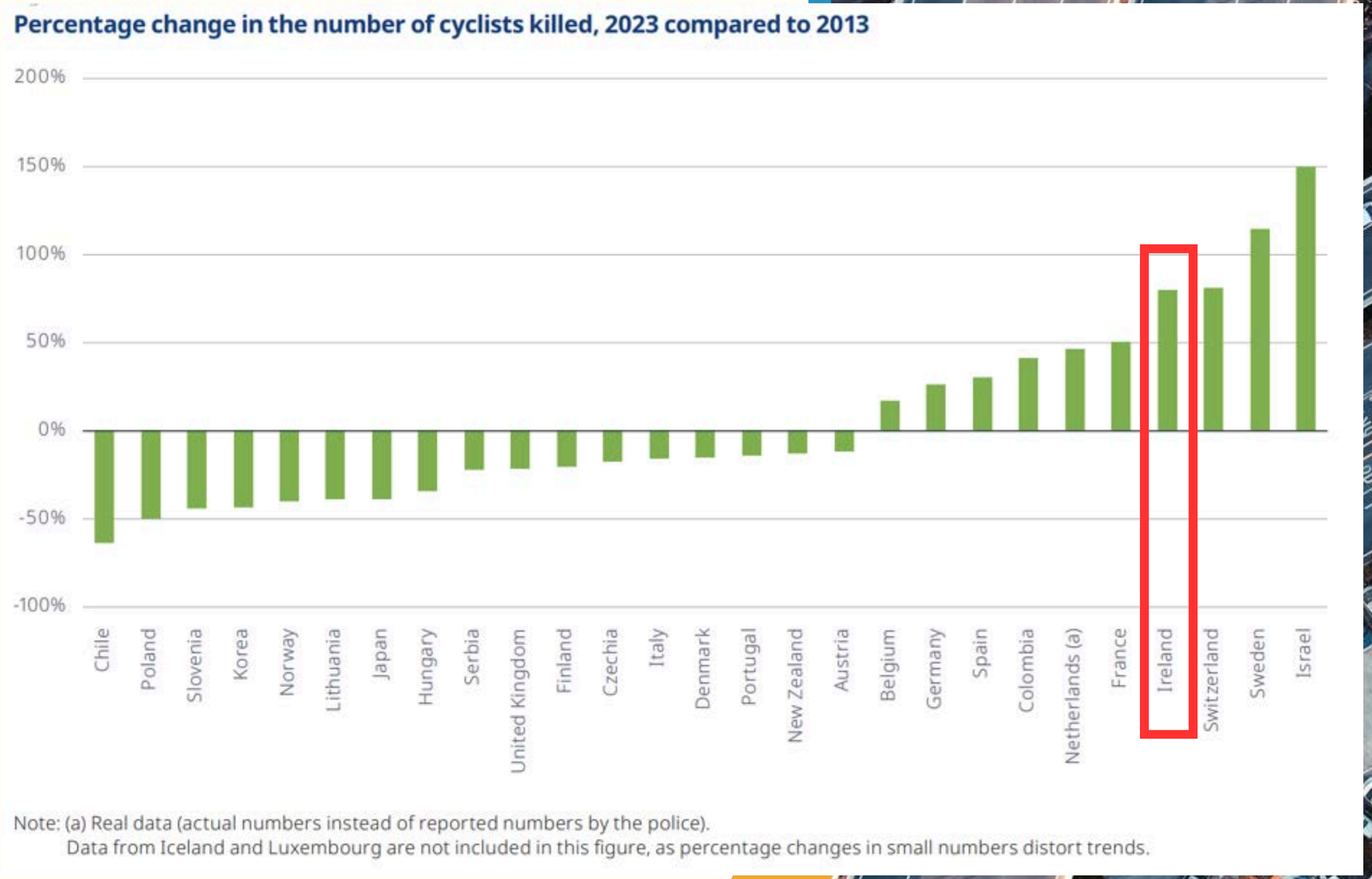




CYCLISTS DEATHS

- 79 cyclists killed between 2013 - 2020

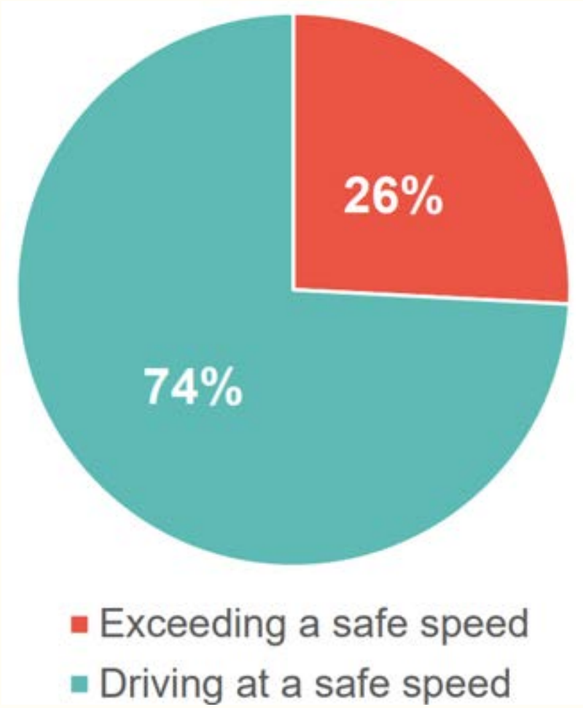




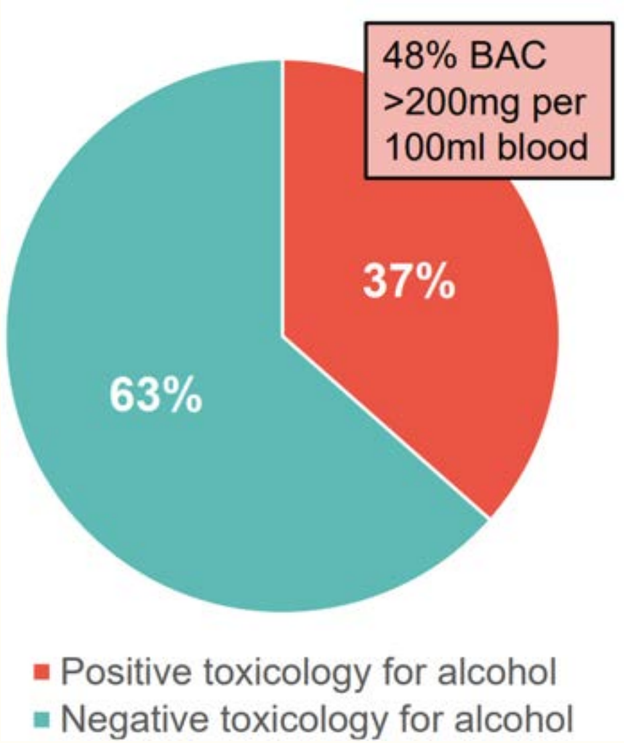
CONTRIBUTING FACTORS

Driver Fatalities (2015 - 2019)

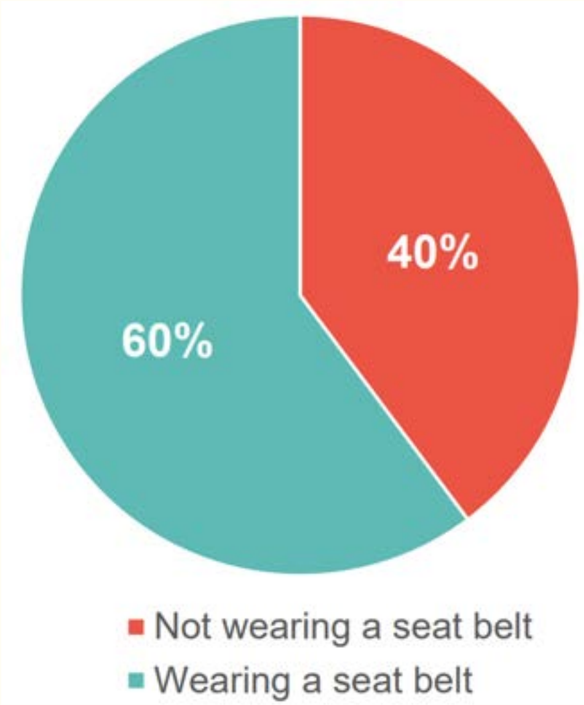
Speeding



Alcohol



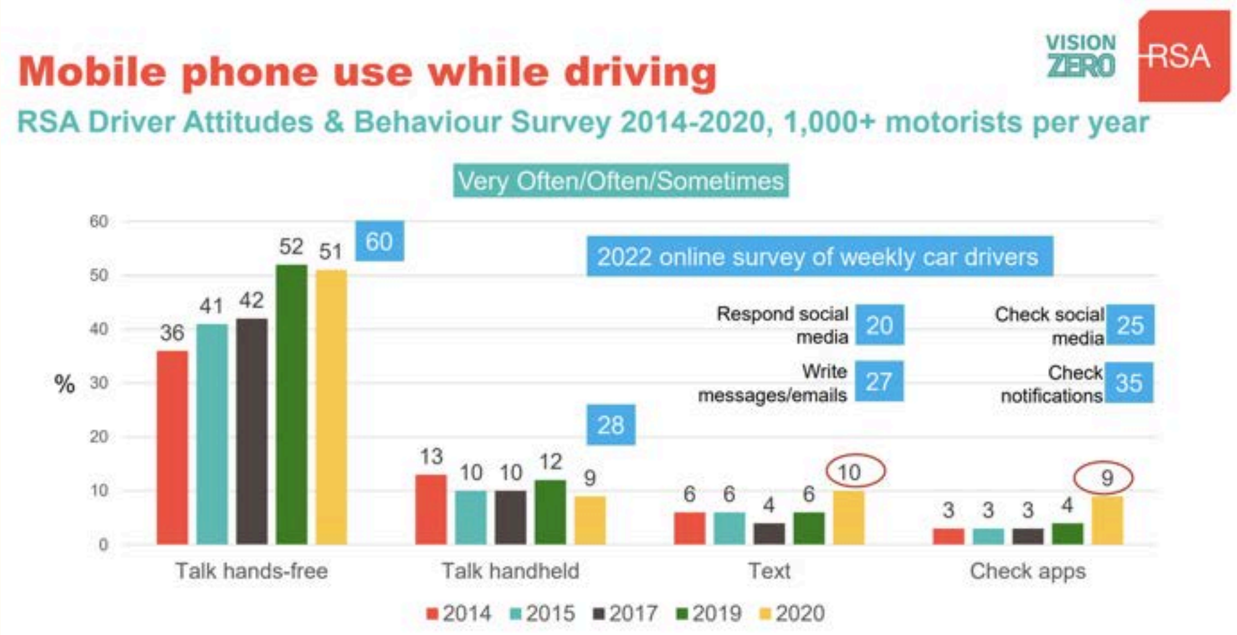
Seatbelt

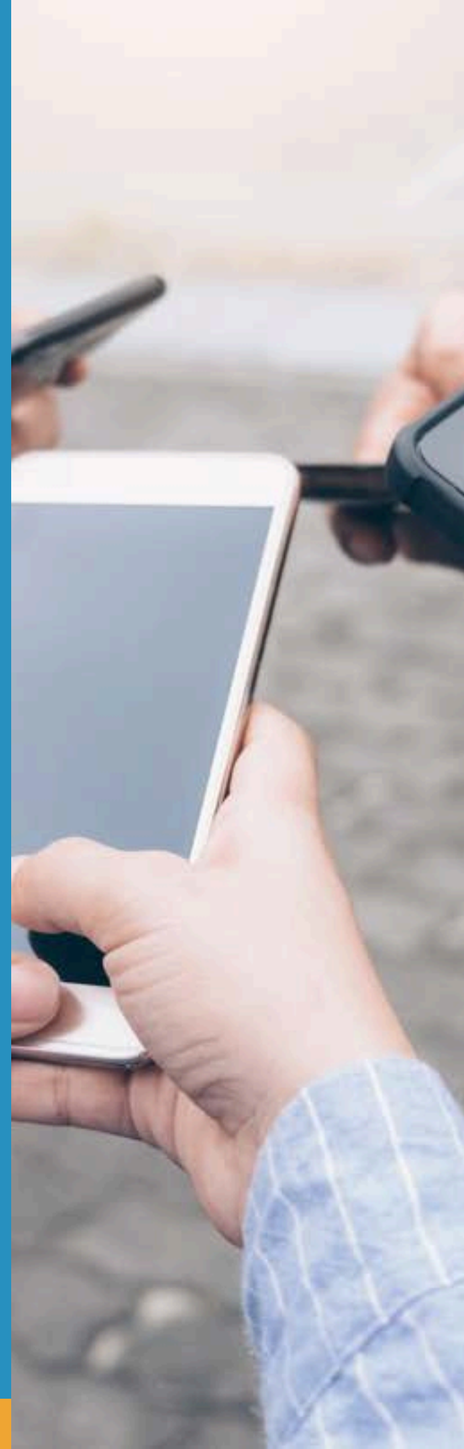


MOBILE PHONE USE

- According to the World Health Organisation (WHO, 2022), drivers using a mobile phone are 4 times more likely to be involved in a collision.

- A 2022 roadside observational study, commissioned by the RSA, found that 5% of drivers observed on urban roads were using a mobile device, rising to 7% on rural roads, and 12% on motorways.





FATIGUE

- Fatigue is estimated to play a role in up to 20% of road traffic collisions, and is associated with increased crash risk (European Road Safety Observatory, 2018).

- A 2021 survey of motorists in Ireland, commissioned by the RSA, found that 24% had ever ‘fallen asleep or nodded off, even if only for a brief moment’ when driving.

EQUITY AND SOCIAL DETERMINANTS

- Transport-related health risks and benefits are not distributed equally. Social status is a strong predictor of both health and risk of traffic injury, with disadvantaged communities facing higher exposure to hazardous environments and fewer resources to mitigate risk.

- In Northern Ireland, preventable mortality was almost 3 times greater among those from most deprived areas compared to the least deprived areas (2015-2019).

- Public health strategies must address these inequalities by targeting interventions towards vulnerable and marginalised groups.

BROADER HEALTH IMPACTS

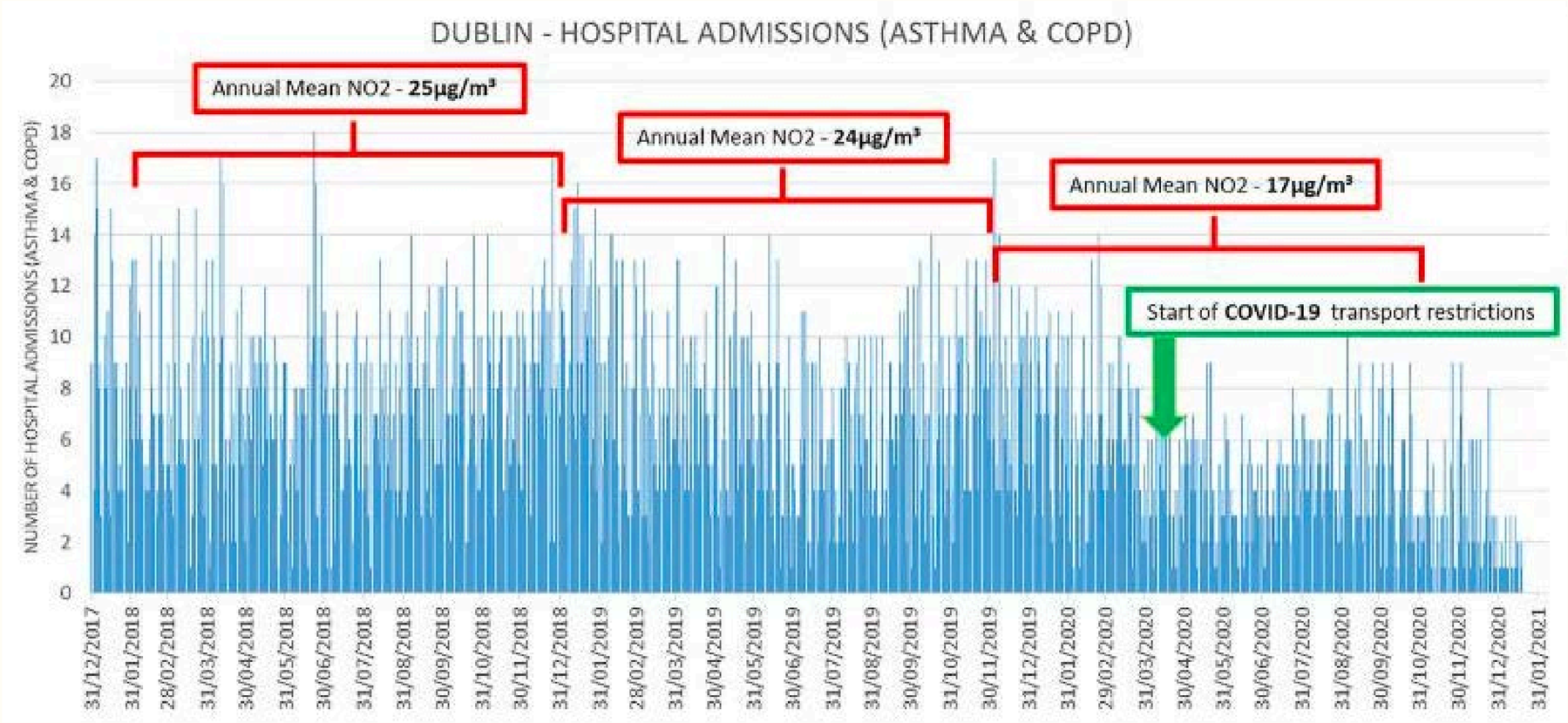
- The way people travel affects not only injury risk but also chronic disease patterns. Transport systems that discourage active travel (walking, cycling) contribute to sedentary lifestyles, increasing rates of obesity, diabetes, and cardiovascular disease.

- Road transport is a major source of air pollution, which is linked to respiratory and cardiovascular morbidity and mortality.

- Long-term psychological consequences, including psychiatric conditions, are observed in a significant proportion of road traffic injury survivors, both adults and children.

AIR POLLUTION

- In Ireland, the EPA estimates that fine particulate matter contributes to approximately 1,300 premature deaths annually, primarily due to air pollution from road transport.



ROAD SAFETY STRATEGY

- Ireland's fifth Government Road Safety Strategy outlines the national approach to road safety for the current decade. The primary aim is to reduce deaths and serious injuries by 50% by 2030. This ambitious target represents a critical milestone toward the ultimate goal of Vision Zero – achieving zero road deaths or serious injuries by 2050.

- The strategy was developed through extensive stakeholder engagement and public consultation, with over 2,000 submissions informing its content. Implementation is structured across three phases:
  - Phase 1: 2021-2024
  - Phase 2: 2025-2027
  - Phase 3: 2028-2030

- Phase 1 is backed by a projected €3.8 billion investment and includes 50 high-impact actions alongside 136 supporting actions.

ROAD SAFETY STRATEGY

- Traditional approaches focusing on education, enforcement, and individual behaviour are insufficient. The public health model advocates for a "Safe System" approach, which prioritises changes to the built environment, legislation, and policy to reduce risk for all users, regardless of individual actions.

- **The Safe System approach is based on four principles**

People make mistakes when using the roads, which can lead to collisions.

The human body has a **limited ability** to tolerate collision impacts.

There is a **shared responsibility** amongst those who design, build, manage and use the roads and vehicles to prevent or reduce collision impacts, and those who provide post-crash response to mitigate injury.

All parts of the traffic system need to be strengthened to multiply their effects and to ensure that road users are protected if one part in the system fails.

ROAD SAFETY STRATEGY

- **For the 2021–2030 road safety strategy, seven Safe System priority intervention areas have been identified**

- **Safe roads and roadsides**
  To improve the protective quality of our roads and infrastructure.
- **Safe speeds**
  To reduce speeds to safe, appropriate levels for the roads being used, and the road users using them.
- **Safe vehicles**
  To enhance the safety features and roadworthiness of vehicles on our roads.
- **Safe road use**
  To improve road user standards and behaviours in line with traffic legislation, supported by enforcement.
- **Post-crash response**
  To improve the treatment and rehabilitation of collision casualties.
- **Safe and healthy modes of travel**
  To promote and protect road users engaging in public or active transport.
- **Safe work-related road use**
  To improve safety management of work-related journeys.

RECOMMENDATIONS

VISION ZERO

- 50 high-impact actions
- 136 support actions
- 7 priority intervention areas
- partnership approach, shared responsibility

RECOMMENDATIONS

- Examples of High Impact actions

- 1000km of segregated walking and cycling facilities
- Increase length of divided road network

- Prioritise the General Safety Regulation (GSR)
- Develop national strategy for Connected and Automated Mobility (CAM)

- Implement trauma triage and bypass protocol
- Provide trauma care and rehabilitation pathways

- Review framework for speed limits (30km/h)
- Expand speed management measures

- Enforcement of dangerous behaviours
- Legislate for polydrug and drug and alcohol use

- Funding for active travel infrastructure
- Develop National Cycle Network plan

- Improve data sharing to support enforcement, policy development and evaluation
- Encourage sign-up to the European Road Safety Charter

ROAD SAFETY ACT 2024

- The recent Road Safety Act 2024 represents a significant legislative advancement in Ireland's road safety approach.

- Key provisions include reduced default speed limits:
  - National secondary roads: from 100km/h to 80km/h
  - Local roads: from 80km/h to 60km/h
  - Roads in built-up areas: from 50km/h to 30km/h

- This reduction in urban speed limits aligns Ireland with evidence-based international best practices seen in countries like the Netherlands, Spain, and Wales. Early evidence from Wales suggests a 23% reduction in killed and seriously injured casualties following the introduction of lower speed limits

CONCLUSION

From a public health perspective, road use and transportation are not merely matters of individual responsibility or engineering, but complex, systemic determinants of health and equity.

Addressing road safety and promoting healthy transport requires coordinated, evidence-based, and multisectoral strategies that prioritise the needs of the most vulnerable, reduce health inequalities, and create environments where safe and healthy mobility is accessible to all.