

# Comparison of road safety and related factors in Finland and Norway

Markus Pöllänen

Tampere University, Transport Research Centre Verne

# Background

- In the 2000s, Norway has become the leading country in road safety in terms of the number of road traffic fatalities per population
- In Finland, road safety development has lagged behind Norway and the other Nordic countries, especially in the 2010s
- The study was commissioned by the Finnish Transport and Communications Agency Traficom, the Finnish Transport Infrastructure Agency and Liikenneturva (Finnish Road Safety Council)
- The report is available as [Traficom's online publication](#) in Finnish, with abstract in Swedish and English

## Change in number of road fatalities 2011-2021

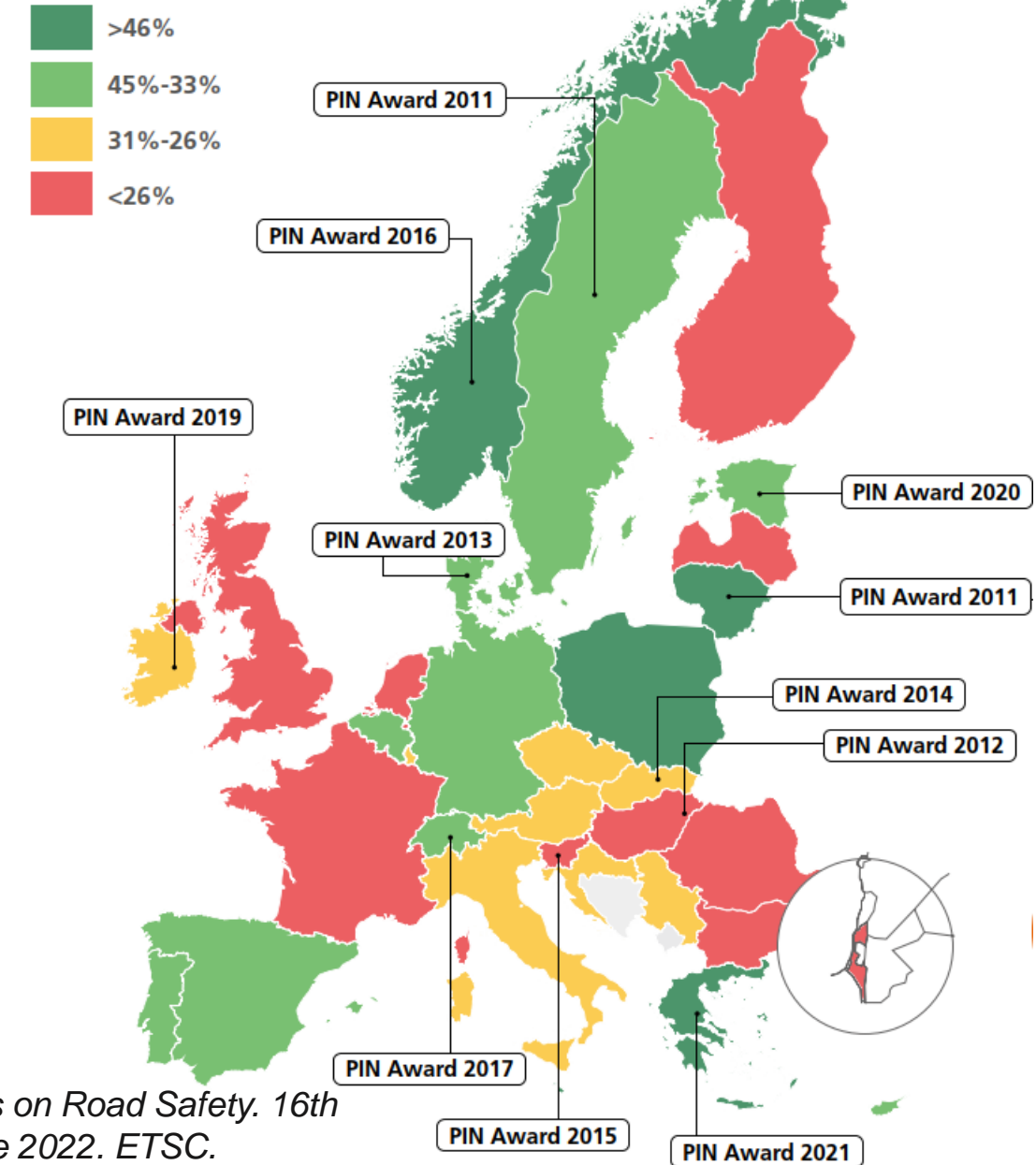
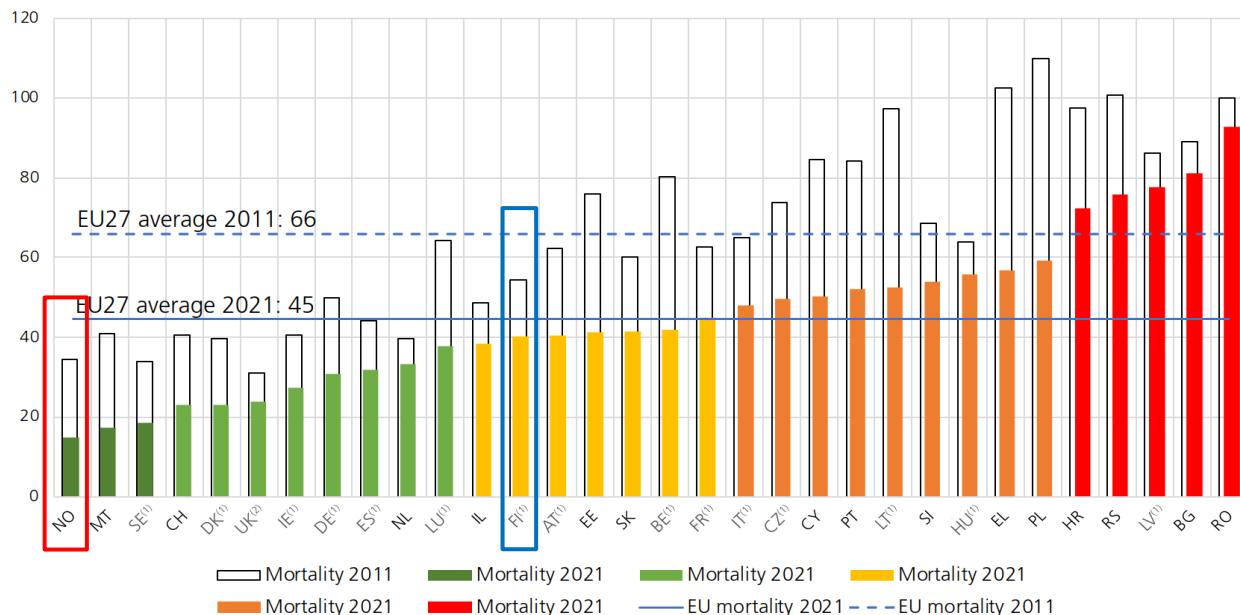


Figure from publication *Ranking EU Progress on Road Safety. 16th Road Safety Performance Index Report. June 2022. ETSC.*

# Aim of the study

- Investigate what are the differences in the development of road safety and related factors in Norway and Finland during the 2000s, and especially in the 2010s
- At the same time, it is possible to identify areas for development in Finland's road safety work



MAP 2:

Road deaths per million inhabitants in 2021 (Fig.5, Table 2 in the annexes)

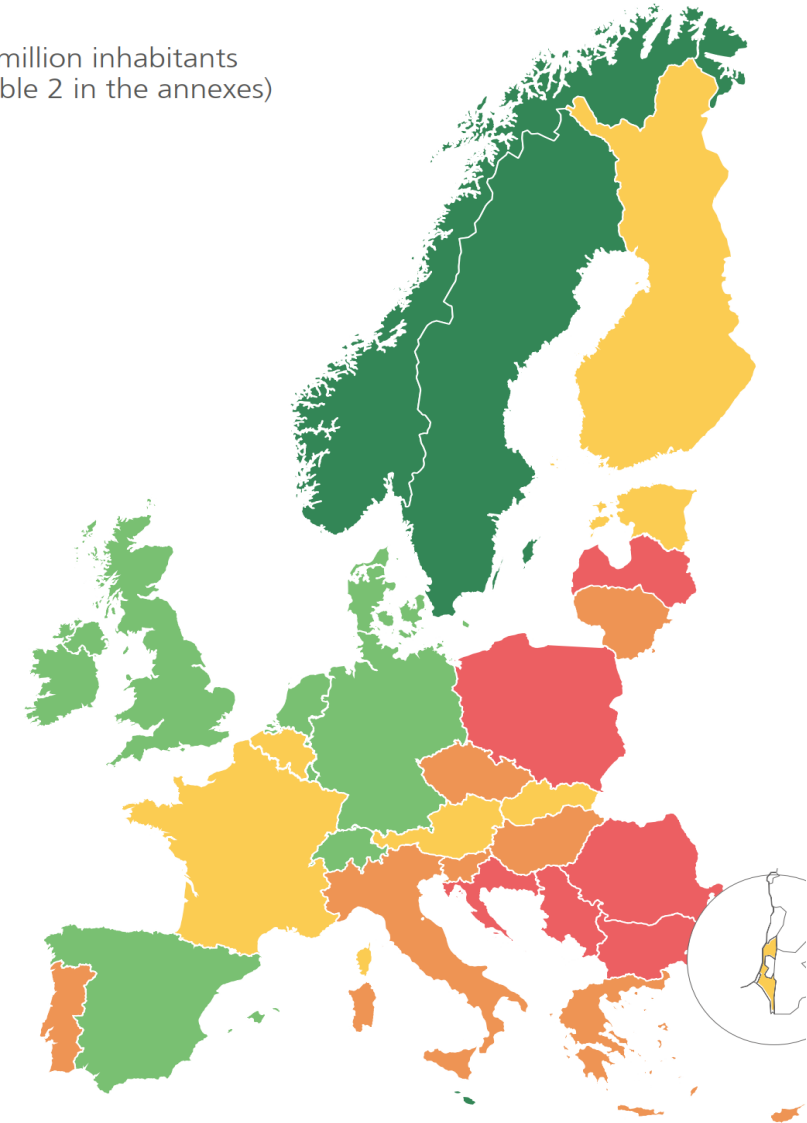
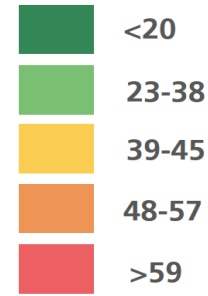
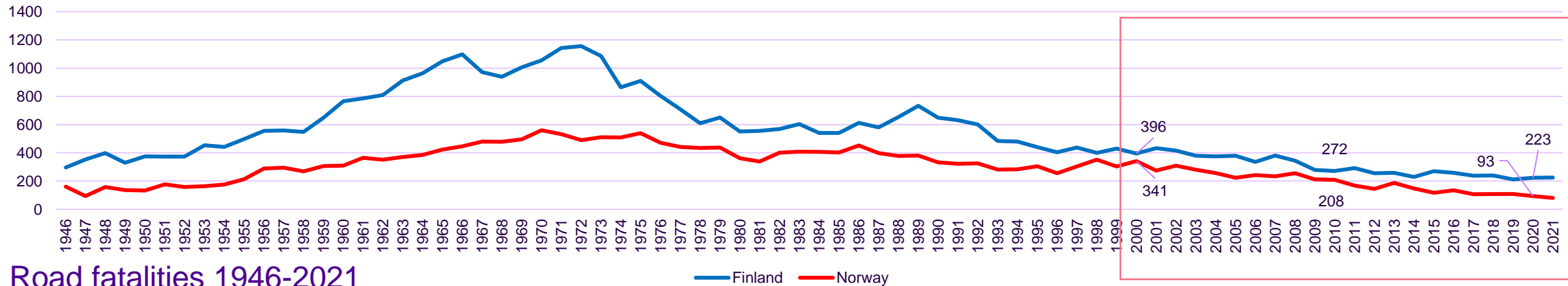


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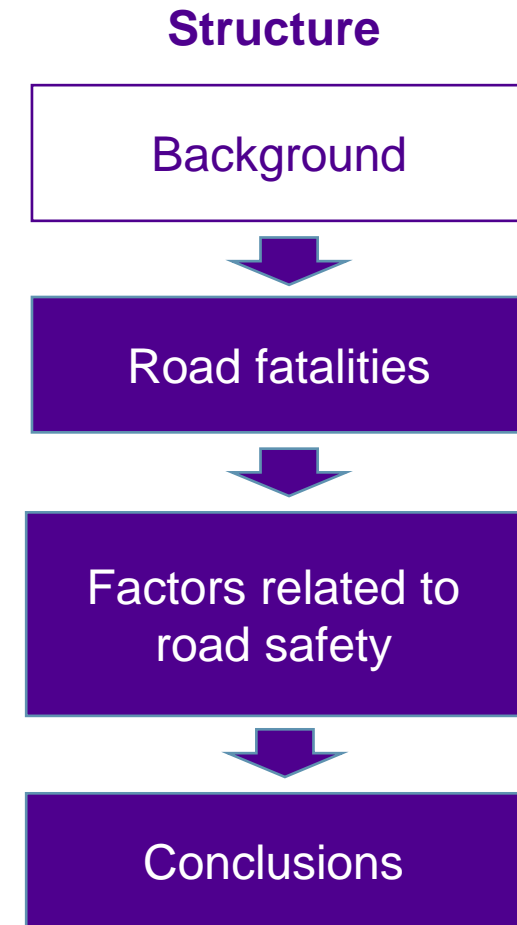
# Research methods and data

- Statistical analysis: **Road accident data from the 2000s**
  - Data from national statistical offices as well as supplementary data from the Finnish Crash Data Institute OTI, the Finnish Transport Infrastructure Agency and Statens Vegvesen, as well as data from the Norwegian accident investigation teams
  - Best comparability in **road traffic fatalities** when **suicide cases were removed from the Finnish data** using OTI data
- Literature study, including long-term national transport system plans and road safety action plans, as well as the international ESRA study on road users' attitudes
- Expert views from the steering group



# Population, economy and transport

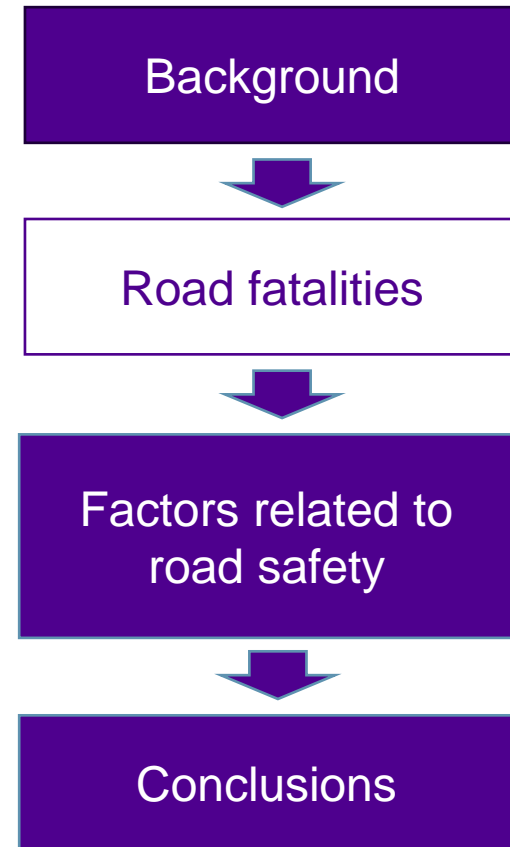
- **Finland** and **Norway** are very similar countries in terms of population and main features of mobility.
- **In Norway**, population growth is faster, and the population is slightly younger than in Finland .
- Measured by GDP, **Norway's** national economy is clearly larger. **Norway** invests considerably more in the development of the transport network than Finland.
- **In Norway**, the passenger car fleet is larger, and its average age is younger than in Finland. The newer passenger car fleet is reflected e.g., in the higher prevalence of driver assistance systems.
- **In Finland**, the vehicle mileage of passenger cars is slightly higher than in Norway.
- **In Finland**, somewhat more pedestrian and cycling trips are made and people travel more as passengers in cars, whereas in **Norway** people do more often public transport trips and as car drivers



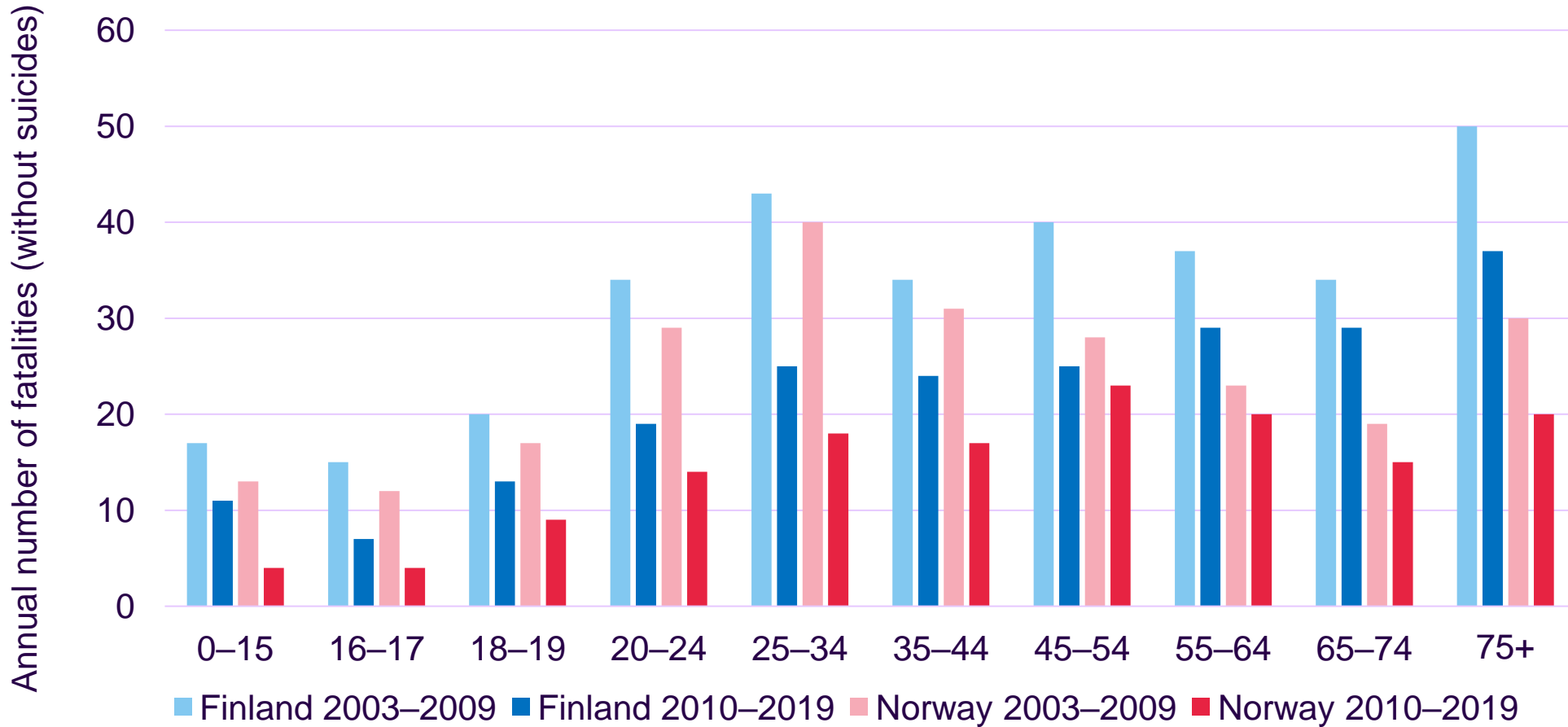
# Comparison of road traffic accidents 1/2

- In Norway, the **number of road traffic fatalities** decreased by **48.1%** between 2010 and 2019, while in Finland the comparable decrease was **29.1%**.
- **Norway** had **2.0 road traffic fatalities per 100,000 inhabitants**, while the corresponding figure in **Finland** was **3.2** in 2019.
- Age groups: **Norway** is ahead of Finland especially in the **safety of young people**, but the difference is also **significant among the elderly**.
- Genders: In **Norway**, safety is significantly better for **men**, especially **young men**.
- Road user groups: **Norway** has a better safety situation especially for **cars and cyclists**, but Norway is also ahead in safety of **pedestrians and moped riders**.

## Structure



# Road traffic fatalities by age group



## Structure

Background

Road fatalities

Factors related to road safety

Conclusions

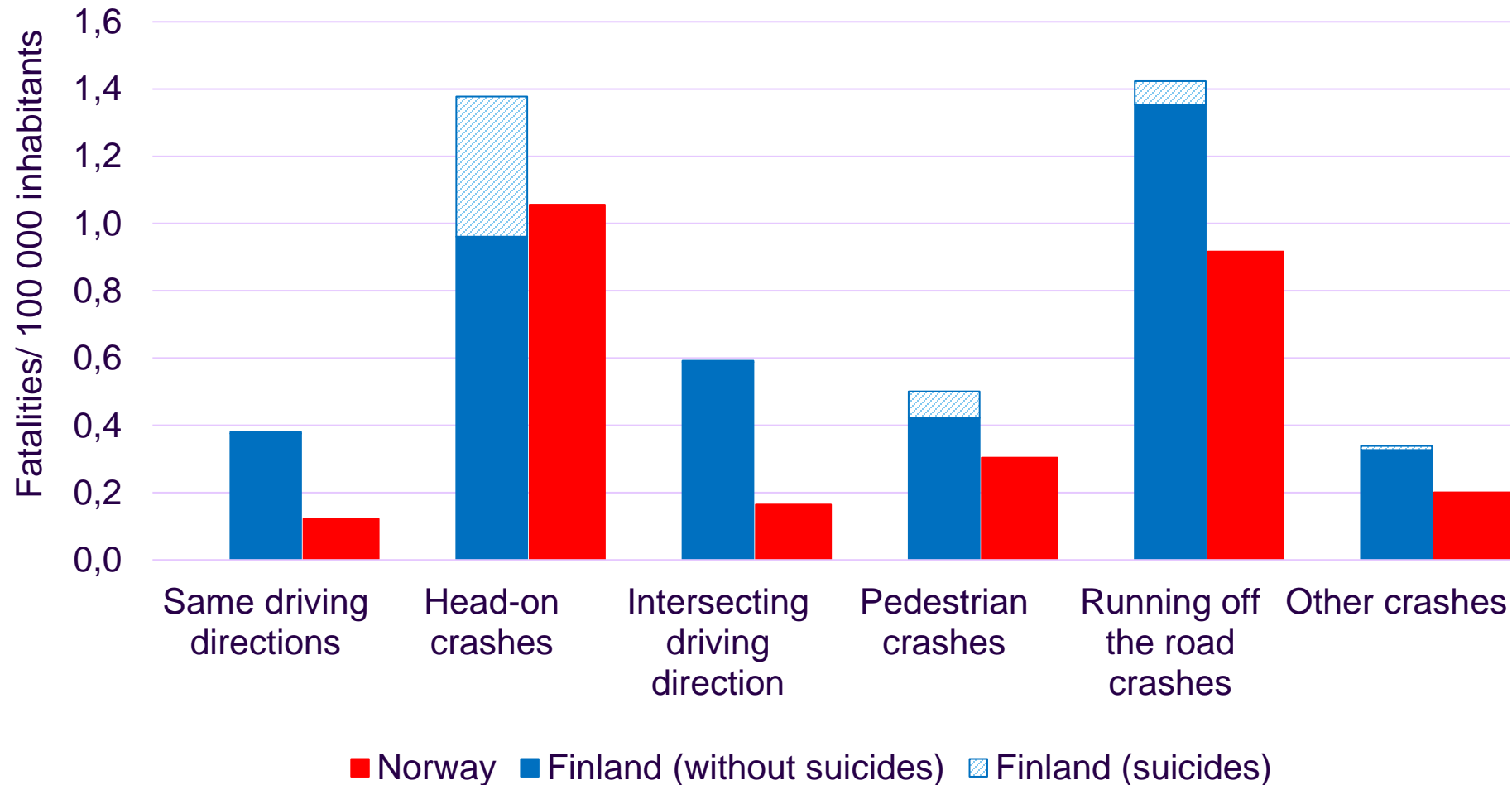
# Comparison of road traffic accidents 2/2

- Among the different **accident types** there are differences in favour of **Norway**, especially in **running off the road** crashes and crashes with **intersecting driving directions**.
- In **Norway**, the biggest quantitative decrease in road traffic fatalities has been in **head-on collisions** in the 2010s.
- In **Finland**, a higher proportion (19.2% vs. 9.8% in Norway) of road traffic fatalities occur on **municipal street networks**.
- The number of road traffic fatalities has decreased **especially outside built-up areas in Norway**.
- In **Finland**, accidents when **driving under the influence (DUI)** are more common than in Norway.





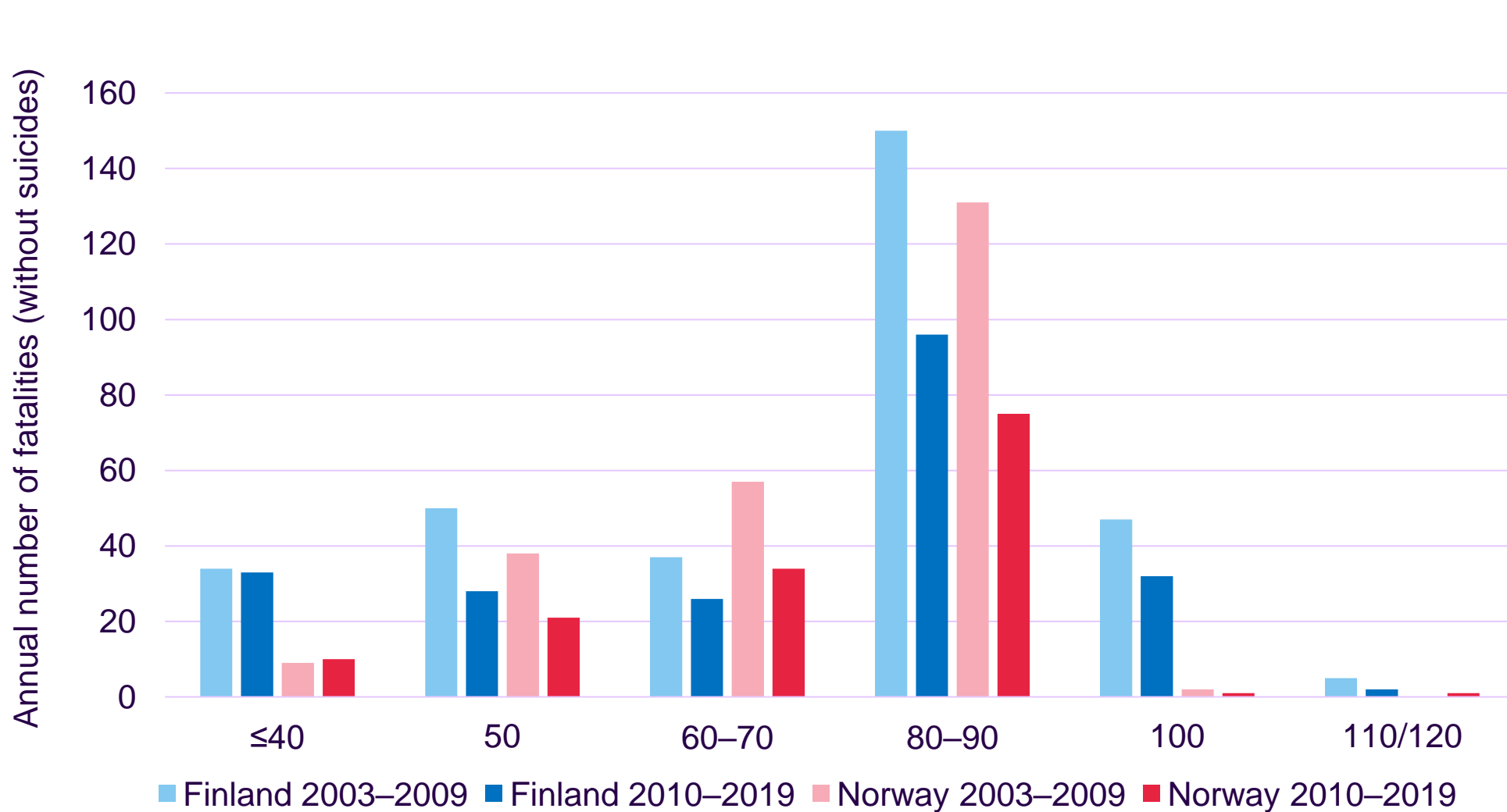
# Road traffic fatalities by crash type 2010-2019



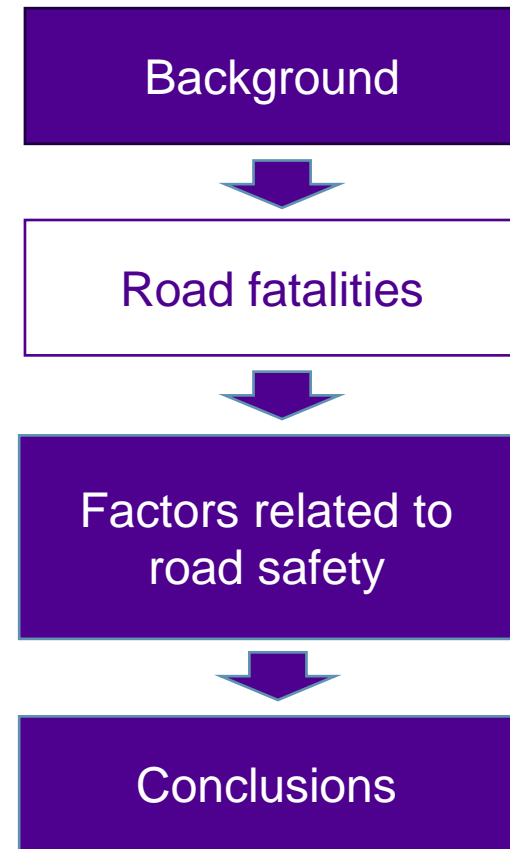
Other crashes include e.g., animal accidents and collisions with a parked vehicle or an obstacle



# Road traffic fatalities by speed limit area



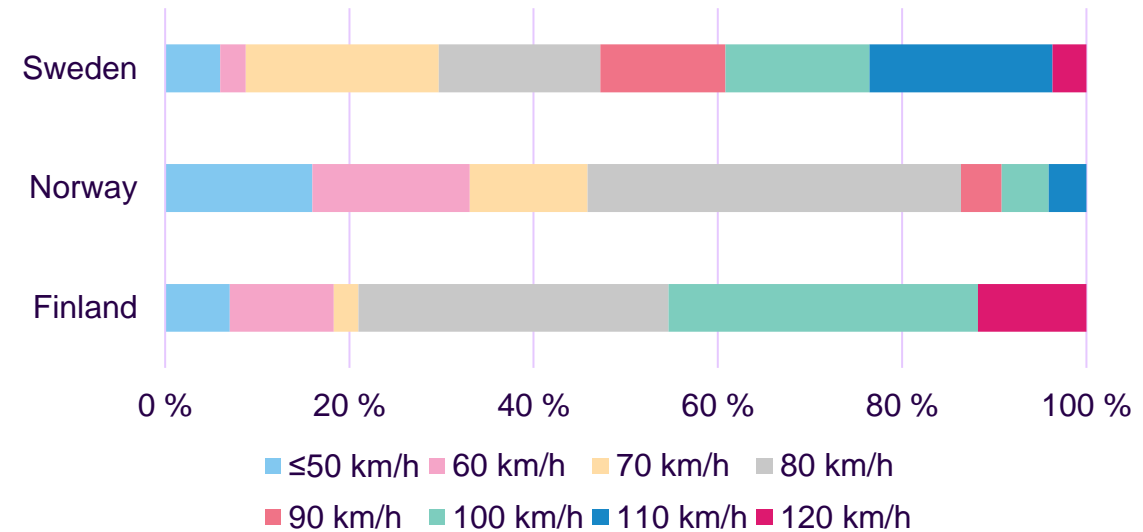
## Structure



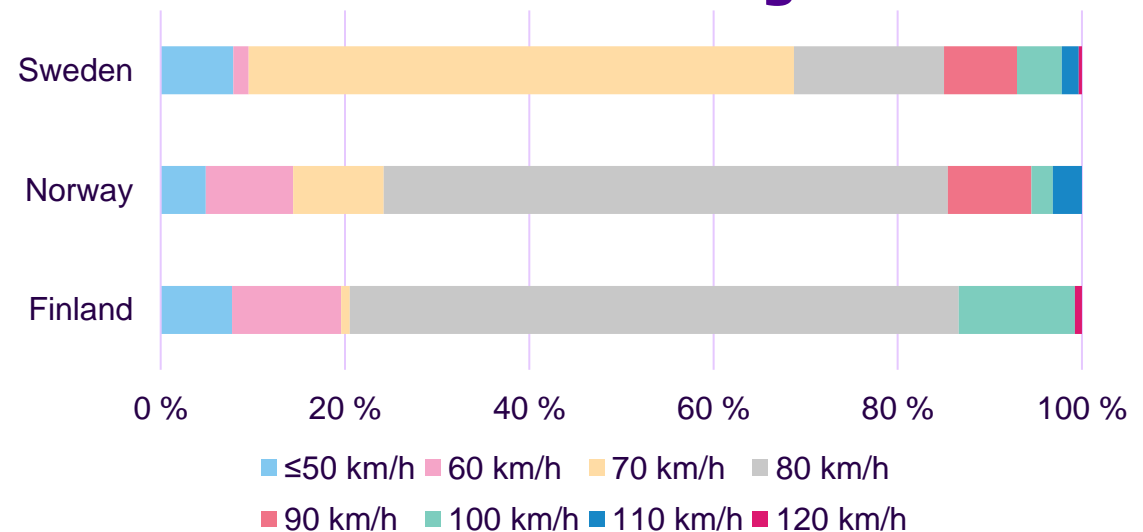
# Speed limits in Finland, Norway and Sweden

- In terms of built-up speeds, there is no big difference - a shift towards 30 and 40 km/h limits is ongoing.
- Outside built-up areas, the general speed limit in Norway and Finland is 80 km/h and in Sweden 70 km/h
- In Norway, speed limits of 100 and 110 km/h were introduced in the 2000s and are only used on high-quality motorways
- In Norway, the speed limit was lowered in 2001 (90 -> 80 km/h, 80 -> 70 km/h)
- In Sweden, there is a transition towards speed limits with the interval of 20 km/h (40 - 60 - 80 - 100 km/h)
- In Finland, the speed limit guidelines are currently being revised

## Distribution of traffic volume

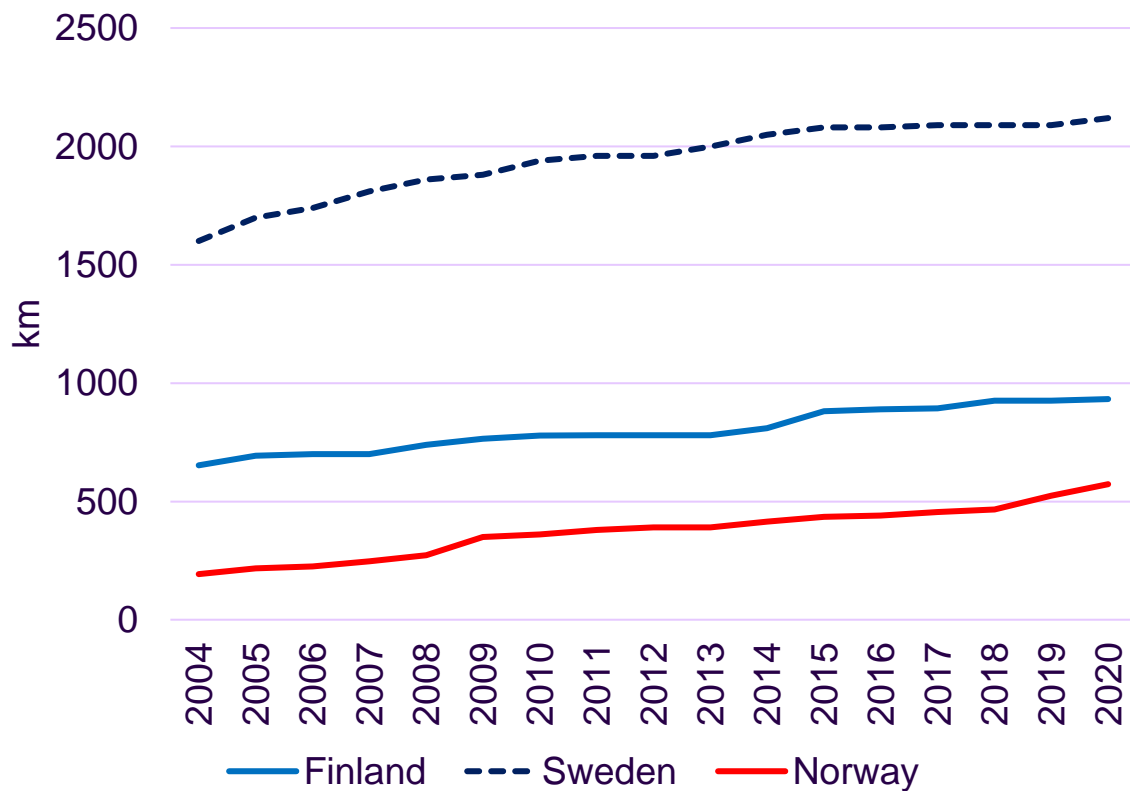


## Distribution of road length

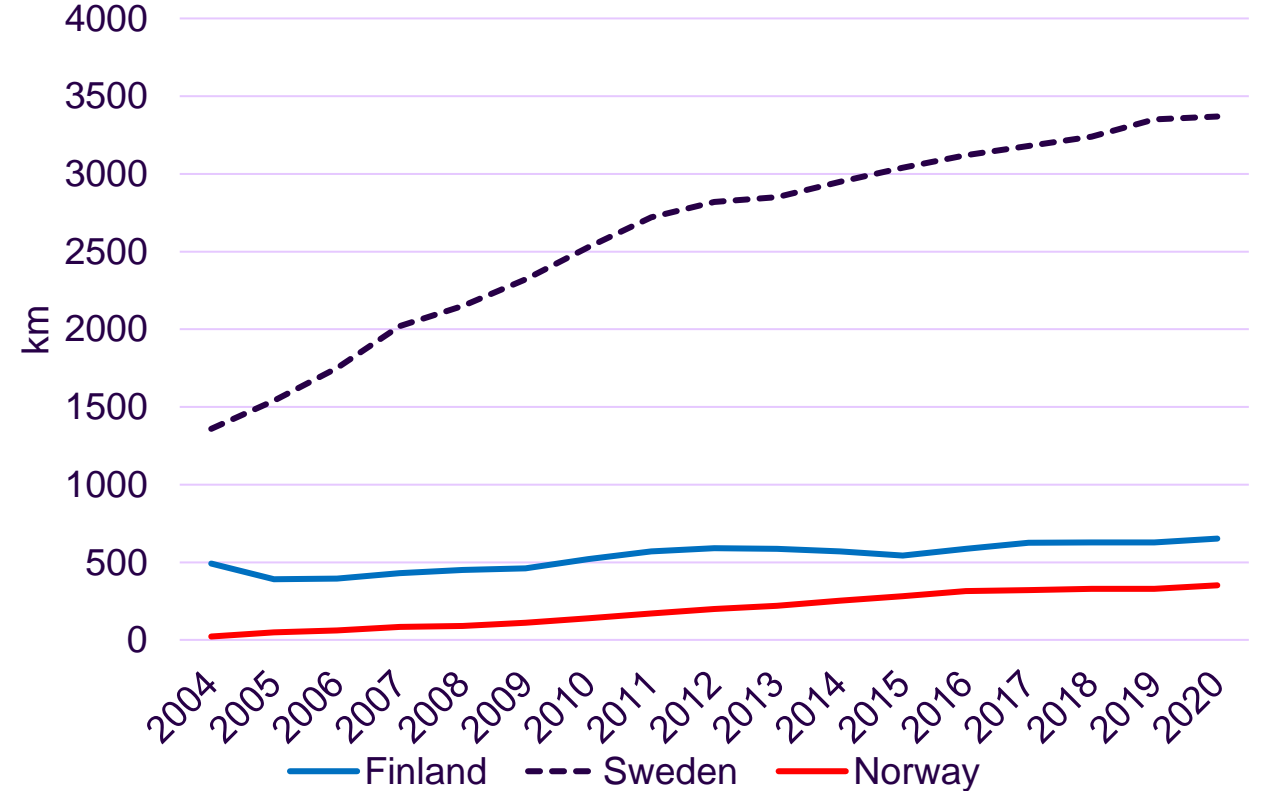


# Road network with separated directions of traffic

In Norway and Sweden, traffic is more concentrated on roads with separated directions of traffic than in Finland. Both Norway and Sweden have set targets for the share of road traffic volume that should be on roads with separated directions of traffic, in Norway for roads with speed limit  $\geq 70$  km/h and in Sweden  $\geq 90$  km/h



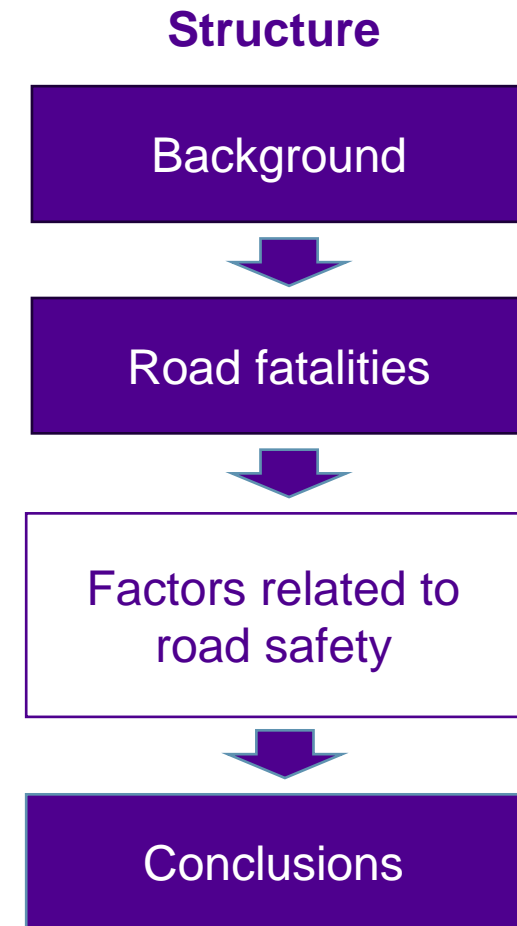
**Motorways**



**Other roads with separated directions of traffic**

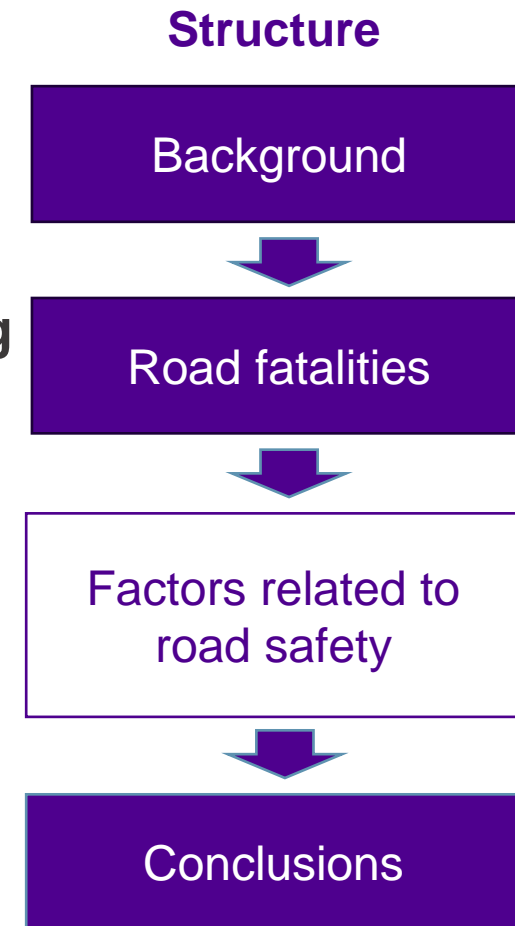
# Factors affecting safety of road traffic

- The main factors contributing to the decrease in the number of road fatalities and serious injuries in Norway in the 2000s\*: **lower speeds, better roads and safer passenger cars.**
- In Norway, road safety has been improved by, for example:
  - **Lowering speed limits**
  - **Point and medium-speed automatic camera surveillance**
  - **Increase of financial penalties (fines) for speeding**
  - **Increased use of seat belts and bicycle helmets**
  - **Limit for drunken driving of 0.2 per mil and decree on limit values for punishability of various intoxicating substances**
  - **Smaller road network measures**
  - **investment in roads with structurally separated directions of travel**
  - **vibration stripes between the directions of travel.**
- In **Norway**, road users **comply with speed limits** better than Finnish road users, and **average speeds** are lower in the 80 km/h speed limit zone. There is a particularly big difference in **compliance with speed limits in built-up areas.**
- In Finland, we can learn about Norway in all these factors.



# Systematic and strategic road safety work

- **Norway has invested in long-term and systematic road safety research**
- **Research-based results and analysis methods have been utilised in the planning of traffic safety work and measures, as well as in the monitoring of targets.**
- **A strong knowledge base helps to identify how to achieve the challenging road safety targets.**
- **In the long term, the improvement in road safety is the result of a large number of factors.** In Norway, this doctrine has been successfully applied in the development of road safety.
- **Road safety has been a strong part of long-term planning and development of the transport system** throughout the 2000s in Norway.
- In Norway, **road safety action plans have been set up regularly** every four years.
- **Numerous very concrete targets** have been set as part of the prioritisation of road safety work and in relation to different safety issues in Norway

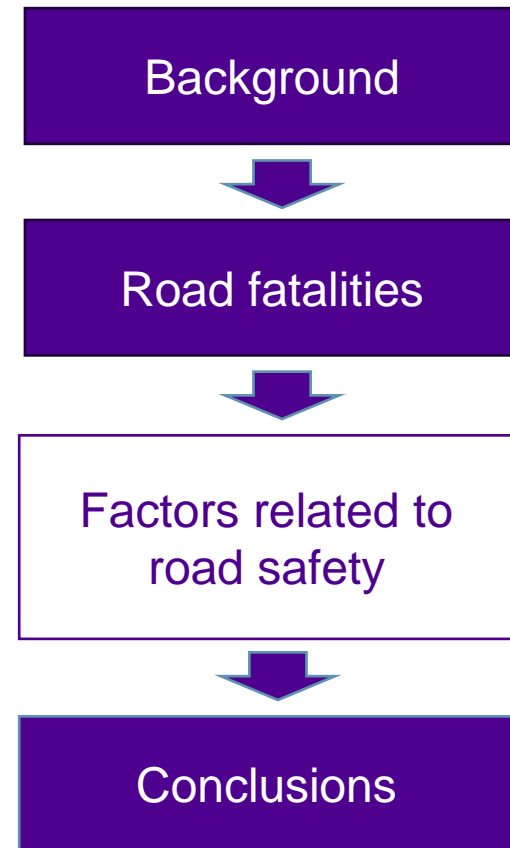


# Examples of priority areas and objectives in Norway

The Road Safety Action Plan for 2022-2025 includes a total of 15 priority areas and 179 measures

- **Speeds:** By 2026, 72% of vehicles will comply with the speed limit (2021 = 60.1%)
- **Intoxicants:** By 2026, no more than 1) 0.1% of traffic volume under the influence of alcohol (over 0.2 per mil) (2016/2017 = 0.2%) and 2) 0.4% of traffic volume under the influence of narcotics so that the liability to punishment limit is exceeded (2016/2017 = 0.7%)
- **Head-on and running off the road crashes:** By 1.1.2028, 60% of traffic volume on highways with a speed limit of 70 km/h or higher will be on structurally separated roads.
- **Systematic traffic safety work in public and private companies:** by 1.1.2026, 1) at least 200 municipalities must be approved as road-safe municipalities (31.12.2021 = 130 municipalities), 2) as many counties as possible must be approved as safe counties (31.12.2021 = 2 counties), and 3) organisations' road safety tools must be available, used and applicable to all private companies in which road travel is an important part of the company's activity.

## Structure



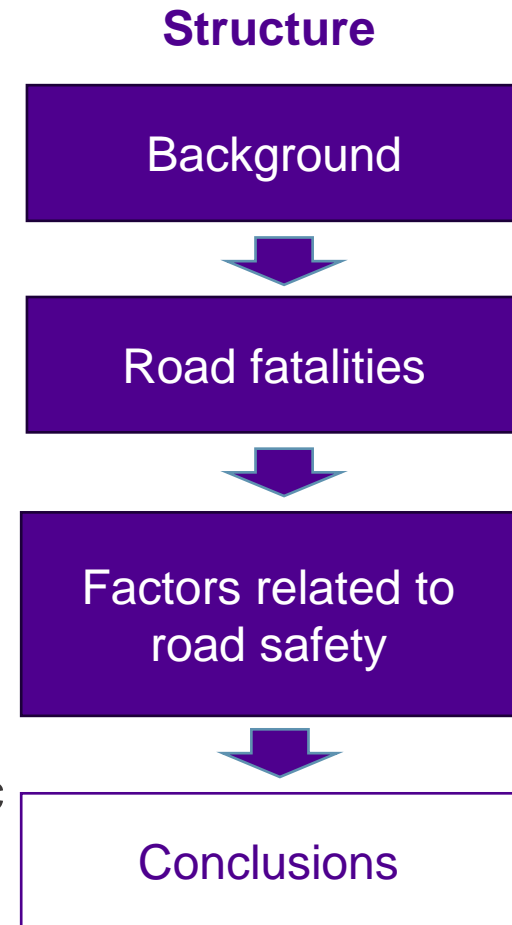
# Conclusions

## Recommendations for developing road safety in **Finland**:

- **Road safety as a key objective** for the development of the entire transport system
- **Strengthening the long-term, systematic, research- and knowledge-based and goal-oriented** way of working towards Vision Zero
- **Increasing number and more concrete goals** that guide the work and define measures.

## Lessons learned for Finland include, for example:

- **Lowering speeds and improving compliance** with speed limits
- Focusing **more attention on young people**, especially the safety of young men. E.g., related to driver education, it is possible to complete a 17-hour traffic course already at the age of 15 in Norway as a part of secondary studies.
- Exploiting the safety potential of **smaller measures that improve safety of the road network**.





# Future research

- In line with Vision Zero, in addition to fatalities, special attention should be paid to reducing **the number of seriously injured**. This would probably highlight **safety of cycling**.
- **Interviews** to collect more information on, for example, the practices of road traffic safety work in terms of influencing traffic behaviour.
- A **more extensive comparative study** with Sweden and possibly other countries from which Finland can learn in road safety work.
- A **closer look at Norwegian road safety action plans** and other countries - **what concrete operating models and measures could be applied to Finland?**
- A study on **how safety objectives guide the development and maintenance of road infrastructure** in different countries in comparison to Finland.

