



Safe Cycling

Contents

Introduction

Bicycle use in Denmark

Accident Statistics

Cycling and health

Anecdotes on Accidents

A more Systematic Approach to Safe Cycling



About Myself

Grew up in a no car family

Learned to cycle when I was 7 years old (which is late)

Cycled to school (2 x 11 km)

Interested in bicycle technique and bicycle lights

Chemical Engineer

Worked for better cycling conditions for >30 years

CEO of Danish Cyclists' Federation 1986-2000,
lobbying on Danish and EU level

Consultant in Mobility 2000-



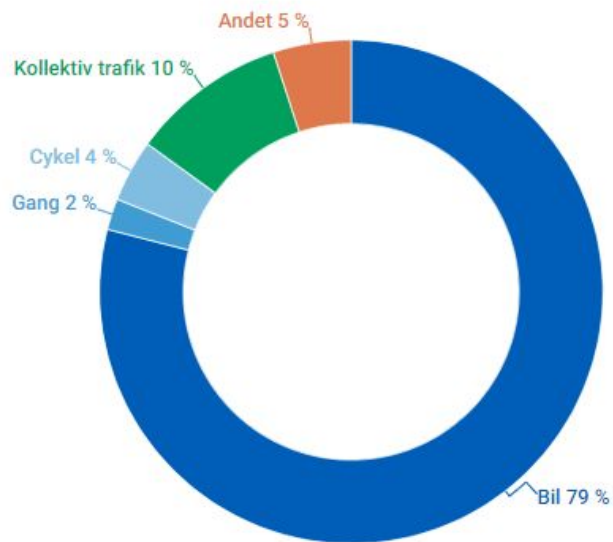
Bicycle demonstration 1979

- I was present.

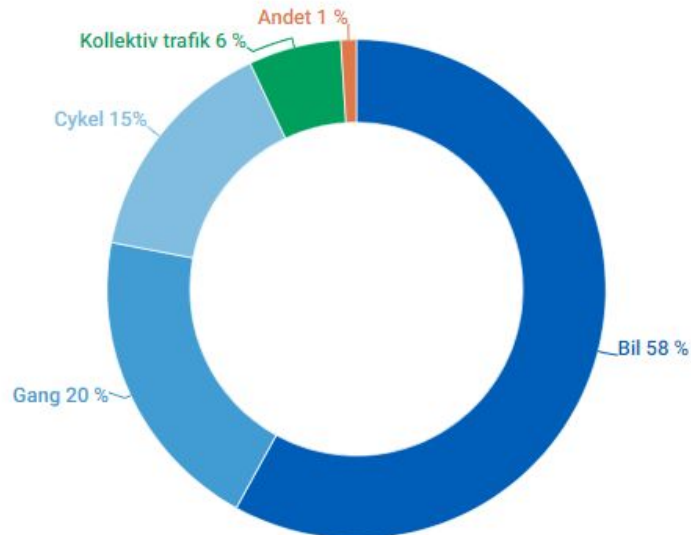


Figures about Transport in Denmark

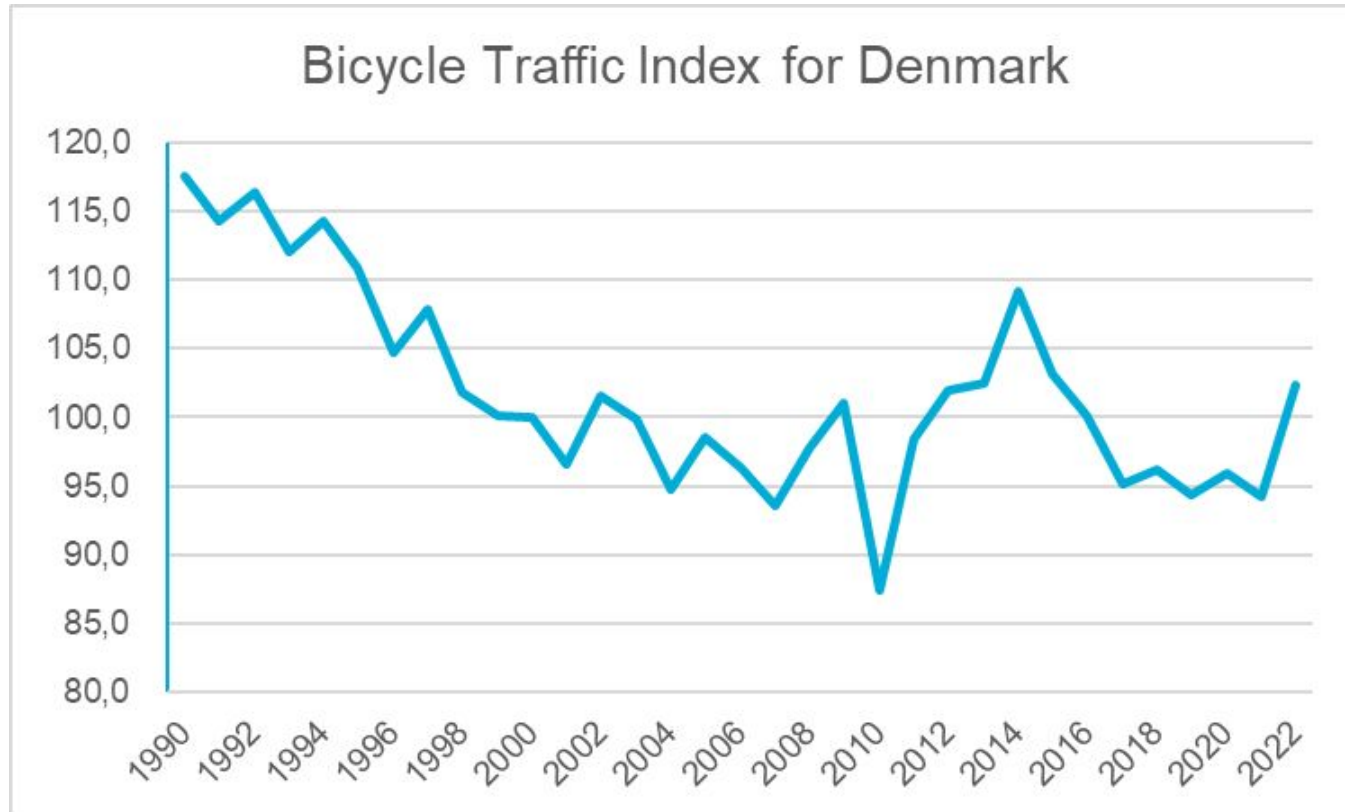
Means of Transport distributed by kilometers



Means of Transport distributed by trips

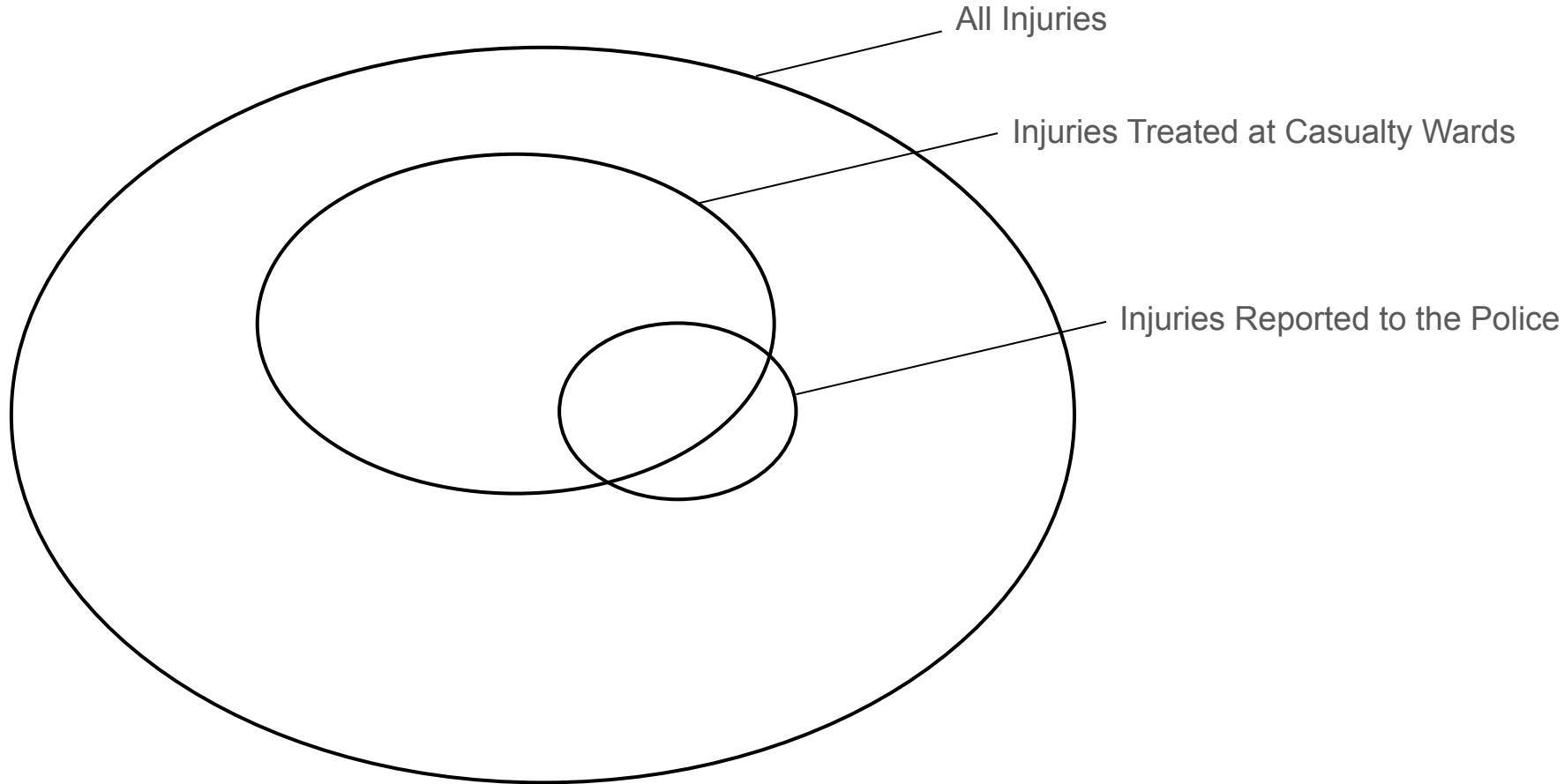


Figures about cycling in Denmark

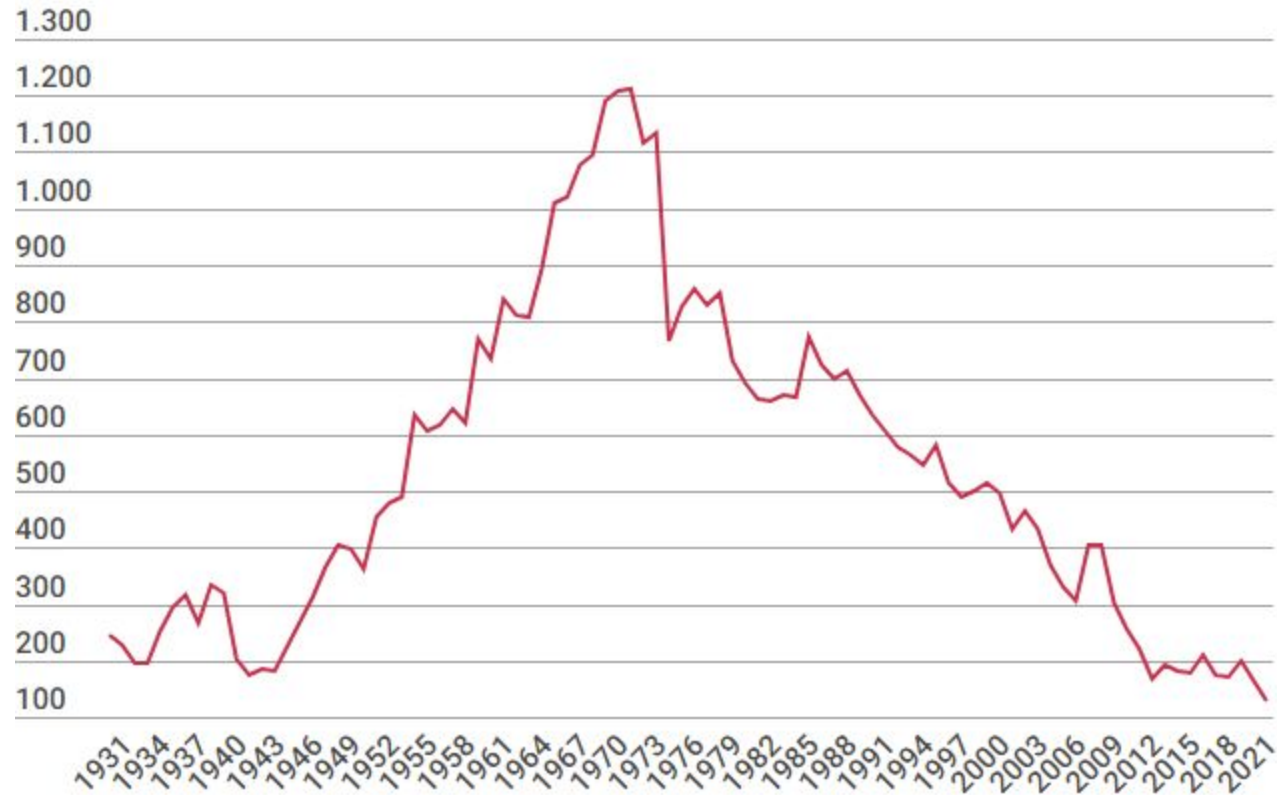


Source: The Danish Road Directorate

Statistics on Cyclists' Injuries



Number of People Killed in Traffic in Denmark

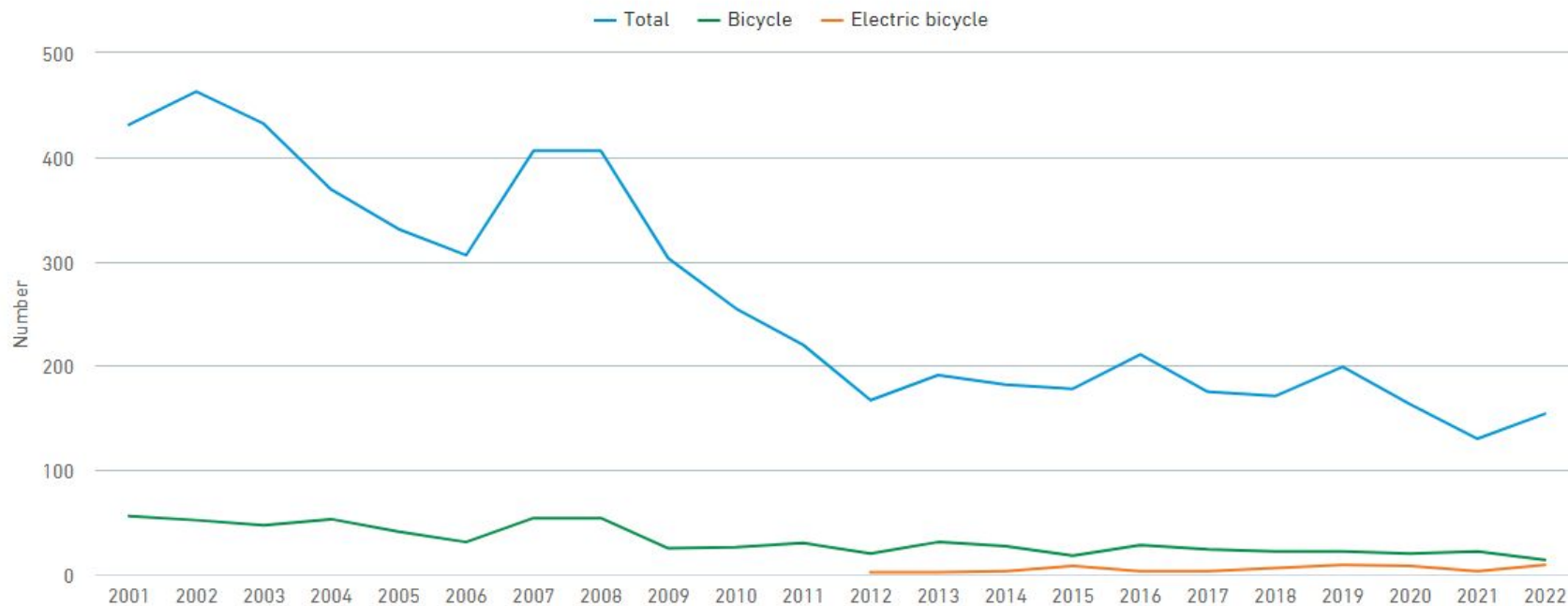


Source: Statistics Denmark (from <https://sikkertrafik.dk/presse/tal-og-statistik/trafikulykker>)

Number of People Killed in Traffic in Denmark

Injured and killed in road traffic accidents

Casualty: Killed | Means of transport:

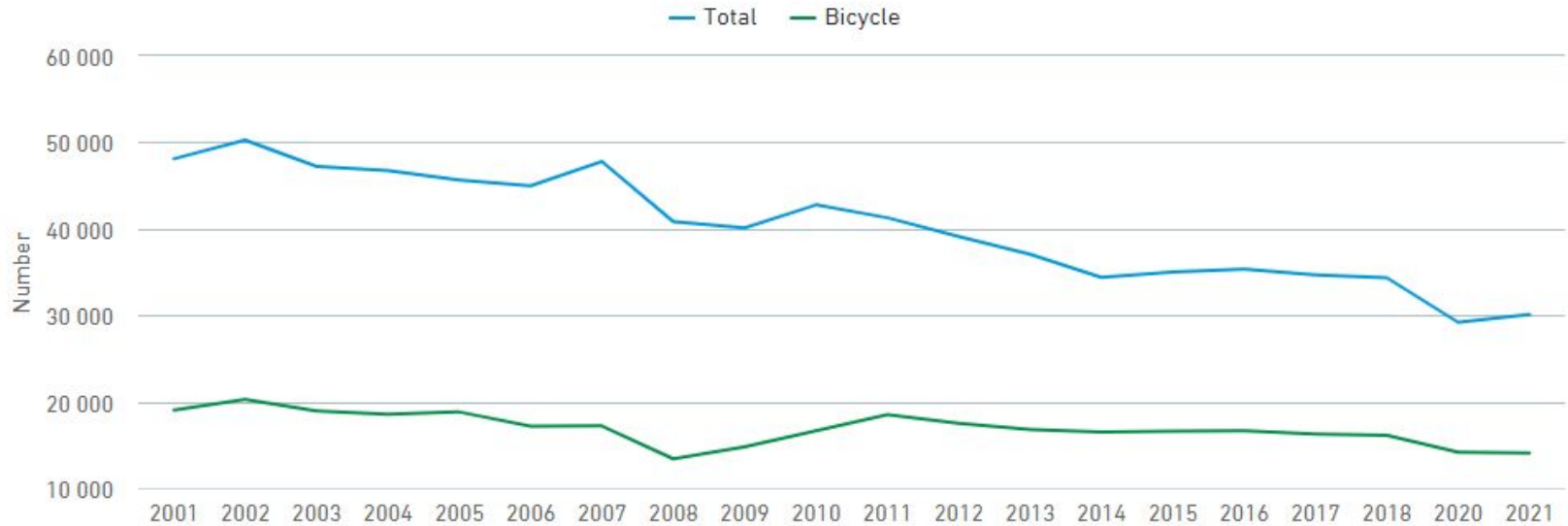


Source: Statistics Denmark

Number of People Injured in Traffic in Denmark

Injured in road traffic accidents reported by the police and casualty wards

Means of transport:

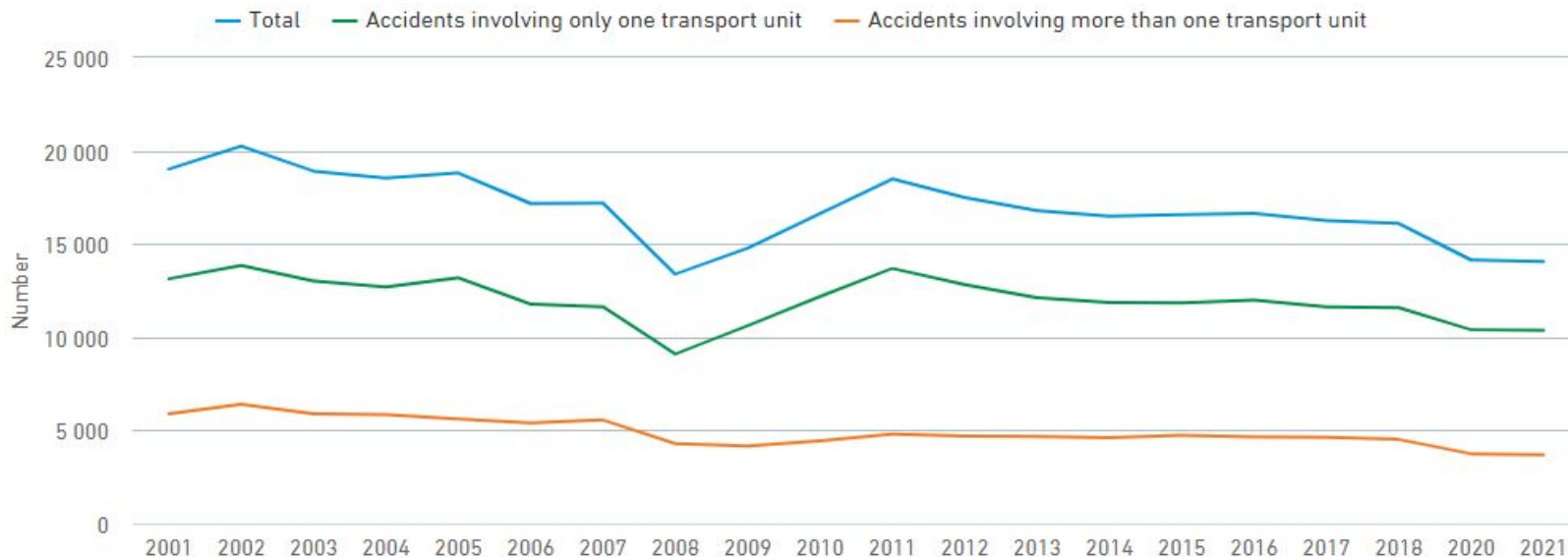


Source: Statistics Denmark

Number of People Injured when Cycling in Denmark

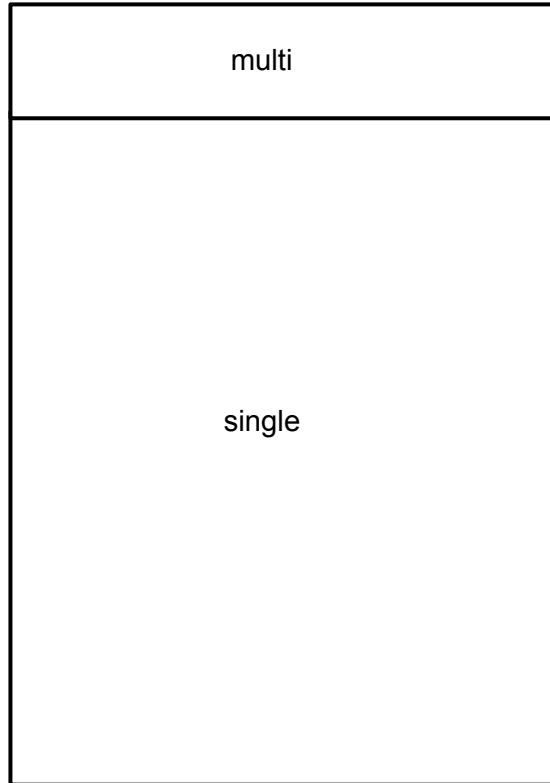
Injured in road traffic accidents reported by the police and casualty wards

Means of transport: Bicycle | Accident situation:



Source: Statistics Denmark

Single and Multi Part Cycling Accidents



Speaking about **numbers** the majority is single part.

Speaking about **severity** multi part accidents are the worst.

Different sources of statistics give different numbers - the single part bicycle accidents are almost absent in the statistics based on police reports.

Multi Part Cycling Accidents

intersections



Holme Östing, Arkitekt
Foto: reginor.se

Most multi part cycling accidents occur at **intersections**, where the cyclist typically is hit by a car turning right or left.

road



Alleud.dk

The remainder multi part accidents occur at **roads without cycle tracks** where the cyclist typically is hit by a car coming from behind.

Designations of Cyclists and Pedestrians

Before (and still):

Soft road users (“bløde trafikanter”)

Weak road users (“svage trafikanter”)

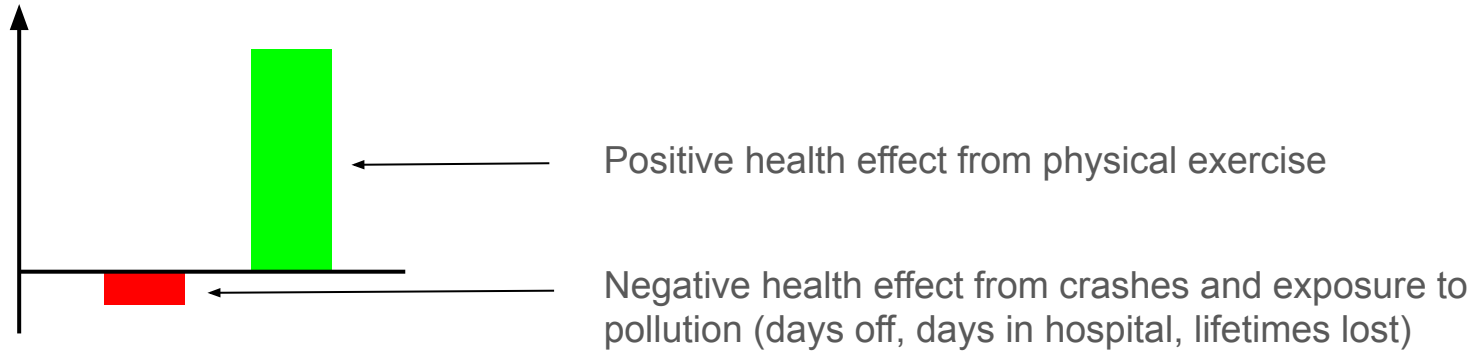
Now also:

Active transport (walking and cycling)

Neither “soft” or “weak”, however unprotected (and not encapsulated)

Health and Safety

Safety for cyclists ~ Accidents or crashes ~ Negative health



... “a median value of **nine times more benefits than risks** in 30 studies analysed by Mueller et al. (2015).”

Source: Improving the Quality of Walking and Cycling in Cities, OECD/ITF (International Transport Forum), 2024 (<https://www.itf-oecd.org/improving-quality-walking-cycling-cities>).

My own Bicycle Crashes

- 2019 Fell at 0 km/h due to bicycle shoe attached to the pedal
- 2002 Hit opening car door at 10-15 km/h
- ~1997 Lost pedal contact at 25 km/h due to mechanical failure
- ~1993 Lost pedal contact, fell and hit knee at 10 km/h due to mechanical failure
- ~1989 Crashed riding a tandem with heavy front load downhill on a gravel road¹
- ~1974 Hit separating fence when riding at night as the front person on a tandem²
- ~1972 Run down by car waiting at a sideroad²
- ~1970 Hit car which suddenly stopped in front of me in an intersection²
- ~1968 Fell when turning right on an icy morning²
- 1963 Fell on a gravel road when showing my family how well I had learned to cycle

1: Visited a casualty ward

2: Need for bicycle repair

Lessons Learned

- Avoid click-pedals or learn how to deal with them
 - Keep 1 meter distance to car doors
 - Make sure you have pedal-chain-gear-wheel contact before pushing hard
 - Be careful with alcohol and cycling
 - Never trust that a motorist has seen you and will keep the right of way (“holde sin vigepligt”)
 - Never believe that a green traffic signal guarantees against conflicts
 - Turn with care unless you know the surface is non-slippery
-
- Never trust a luggage carrier (“bagagebærer”)
 - Make extreme care or avoid transporting stuff on a handlebar
 - Don’t text when cycling
 - Show your own intentions
 - Try to communicate with other road users (eye contact, hand signs)



The Systematic Approach

- Get a bicycle
- Learn how to use it
- Accessories
- Learn how to deal with other road users

Learn how to Cycle

The Danish Model:

Your parents will help (age 4-7)

Train cycling while playing

Cycling test at school (if you are lucky)

Learn as an adult:

Find somebody to help

Train in non busy areas

Bicycle Training



EVERY WEDNESDAY FROM 3:30 PM - 5:30 PM



EVERY SUNDAY FROM 11 AM - 1 PM



EVERY SUNDAY FROM 10 AM - 12 PM

ADRESSE

Trafiklegepladsen i Fælledparken, Trafikken

Gunnar Nu Hansens Plads 10
2100 København Ø

☎ 30 50 14 05



<https://hovedstaden.rodekors.dk/red-cross-copenhagen/bicycle-training/>

Traffic Rules for Cyclists

Basic rule: Keep to the right hand side.

Use cycle tracks if they are present.



The indirect left turn for cyclists.

Though a helmet is not required by law, it is highly recommended.



Source: <https://visitorservice.kk.dk>

Traffic Rules for Cyclists



The Bicycle

- Good brakes
- Lights
- Mudguards

(it rains less than 5% of the time, but roads are often wet)



Accessories

- How to dress
- How to carry luggage

How to dress:

Normal outdoor clothing will usually work

A rain proof jacket is recommendable

Head, hands and feet should be protected at wintertime

Not getting (too) warm is as important as not getting cold

How to carry luggage:

Backpack

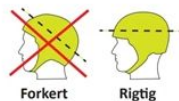
On bike

In bike (cargo bikes)



Photo: Mads Nissen (BT 03.10.2011)

More on how to Dress



Hjelmen skal dække panden

Ofte sidder hjelmen helt omme i nakken på cyklisten, så panden er blottet. På den måde er hjelmen ikke til ret meget gavn, hvis du tager turen ud over styret.

More on how to Dress



https://vbn.aau.dk/files/197570851/Projekt_cykeljakken_den_sikkerhedsm_ssige_effekt_af_en_gul_cykeljakke.pdf

More on Bicycle Lights



https://vbn.aau.dk/ws/portalfiles/portal/515256123/Projekt_Cykelliv.pdf

A Good Reason Not to Pedal...



Classic Luggage Carrying Gear



Recommendable Bicycle Panniers



How to Deal with Other Road Users

- Awareness
- Communication

How to Deal with Other Road Users

- Awareness
- Communication

Awareness:

Where are they?

What are their intentions?

May somebody else suddenly show up?

Could a car door suddenly open?

How are the road conditions?

Communication:

Don't "hide" yourself

Hand signals

Eye contact

How to Deal with Other Road Users



Photo: Christoffer Askman in Havarikommissionen for Vejtrafikulykker, Krydsulykker mellem cykler og biler, Rapport 5, 2008.

How to Deal with Other Road Users



(Campaign made by Rådet for Sikker Trafik <https://sikkertrafik.dk>)

How to Deal with Other Road Users



How to Deal with Other Road Users



Some Recommendations

- Train manoeuvring
- Keep to the right - but not too close to the kerb, and keep 1 meter distance to parked cars
- Orient yourself, especially in intersections and before overtaking
- Don't expect that other road users have seen you - be especially careful with lorries
- Communicate clearly your intentions
- Try to get eye contact with other road users
- Accept a loss of some seconds
- Smile or wave if possible

Some links

A group of cyclists are riding on a city street in Copenhagen. In the foreground, a woman in a light green quilted jacket and grey pants is riding a black bicycle with a blue basket. To her right, another woman in a black jacket and white helmet is riding a teal bicycle. Behind them, other cyclists are visible, including one in a blue and white plaid jacket. The street is paved with asphalt and has white and blue markings. In the background, there are several cars, including a blue one, a dark grey one, and a red one. Historic buildings with many windows line the street.

Short video (Copenhagen Bicycles) at <https://www.visitdenmark.com/denmark/things-do/cycling>

4 min video (DIS study abroad) at <https://www.youtube.com/watch?v=H42KjlkO8SA>

Cyklistforbundet <https://www.cyklistforbundet.dk/>

Rådet for Sikker Trafik <https://sikkertrafik.dk>

Cykelviden <https://www.vejdirektoratet.dk/cykelviden>

Thomas Krag <https://www.thomaskrag.com>