

THE IMPACT OF DENMARK'S HELMET LAW ON E-SCOOTERS

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Rådet for
Sikker Trafik

OUTLINE

- 1) Background
- 2) The helmet law on e-scooters
- 3) Helmet use before and after the law
- 4) Implications and discussion



Background

HOW COMMON ARE E-SCOOTERS IN DENMARK?

- Not uncommon, but *far* less used than bicycles
- Danish National Travel Survey 2024:
 - E-scooters: 0.1 % of all travel time and less than 0.1 % of travelled km per person
 - Bicycles: 9.9 % of all travel time and 3.8 % of travelled km per person
 - Same figure for e-scooters from 2019 to 2023

Source: DTU, Danish National Travel Survey (+10,000 respondents annually)
<https://www.man.dtu.dk/myndighedsbetjening/transportvaneundersogelsen-tu-/udgivelser-original>



THE LEGAL FRAMEWORK FOR E-SCOOTERS IN DENMARK

- A "pilot scheme" legislation: rules can be changed by the Minister of Transport
- E-scooters were legalized in January 2019
 - **Helmet requirement:** None (was introduced in 2022)
 - **Age requirement:** 15 years old (unless accompanied by an adult)
 - **Speed limit:** 20 km/h
 - **Bicycle rules** must be followed
 - **Lights** must be turned on at all times
 - **BAC limit** (alcohol): 0.5
 - **Technical requirements** (size, weight etc.)
 - **Fines:** Min. 1,000 DKK (app. 134 €)

<https://www.retsinformation.dk/eli/lta/2019/40>



WHY A HELMET LAW FOR E-SCOOTERS MAKES SENSE

Higher accident risk compared to cycling

- Interim evaluation of e-scooters in Denmark: app, 7 times higher accident risk per vehicle miles travelled (VMT) in comparison to cycling (*Færdselsstyrelsen, 2020*)
- Study on road user risk in Denmark 2016-2023: app. 5 times higher accident risk per vehicle miles travelled (VMT) in comparison to cycling (*Anderson et al., 2024*)
- Roughly similar estimates from Norway when comparing accident risks on e-scooters to cycling: 5-7 times higher risk (*Fyhri et al., 2022*) and 10 times higher risk (*Statens Vegvesen, 2021*)

Head injuries and prevention

- Studies have found higher proportions of head and face injuries among injured on e-scooters compared to cyclists (*Høyve & Milch, 2023*)
- Most recent systematic review and meta-analysis on the effects of bicycle helmets on head injuries among cyclists: 60 % reduction of risk of serious head injuries (*Høyve, 2018*)

Public health

- Probably no or negative public health impact of e-scooters due to high injury risk and substitution of active transport, i.e. walking and cycling (*Fyhri et al., 2022*)



Photo: Mike Blake



Photo: Allan Andersen

The helmet law on e-scooters

THE HELMET LAW ON E-SCOOTERS

Legislation

- End of 2020: Minister of Transport announces that helmet requirement will be introduced from beginning of 2022
- From January 1, 2022: Mandatory to wear a helmet on e-scooters
- Fine of 1,500 DKK (app. 200 €) for failing to wear a helmet

Enforcement

- New rules visibly enforced by the police in Denmark

Awareness campaign on new legislation in 2022



NYHEDSARTIKEL
NÆSTEN 200 HAR FÅET BØDE FOR AT KØRE PÅ EL-LØBEHJUL UDEN HJELM

SKREVET DEN 01/02/2022

LISA LINDING & SIMON SANDEMUND

SKS@RADIO4.DK

AWARENESS CAMPAIGNS: POSTERS TO SCHOOLS, MUNICIPALITIES, PARENTS, AND THE POLICE + SOCIAL MEDIA CAMPAIGNS

Rules for riding an e-scooter in Denmark

- You must be at least 15 years old
- Children under the age of 15 must be accompanied by an adult
- Only one person on the scooter
- Speed limit: 20 km/h
- You must wear a helmet
- Bicycle rules must be followed
- Lights must be turned on – at all times
- BAC limit (alcohol): 0.5
- Fines: Min. 1000 DKK



POLITI

Rådet for Sikker Trafik
Danish Road Safety Council



Kender du reglerne for el-løbehjul?

Vi mødte Magn...
det der med at k...
- og du kan...

Det er lovpligtigt at bruge cykelhjelm på el-løbehjul

Regler for el-løbehjul:

- Du skal bruge cykelhjelm
- Du skal være fyldt 15 år
- Hvis du er under 15 år, skal du følges med en voksen
- Der må kun være én person på el-løbehjulet
- Hastighedsgrænsen er 20 km/t
- Du skal følge cykelreglerne
- Du skal have lys på hele døgnet
- Promillegrænsen er 0,5

POLITI Rådet for Sikker Trafik

556.284 Næste personer 29.824 Interaktioner 1,8 tusind delinger

6,7 tusind 1,8 tusind kommentarer 2,8 tusind delinger

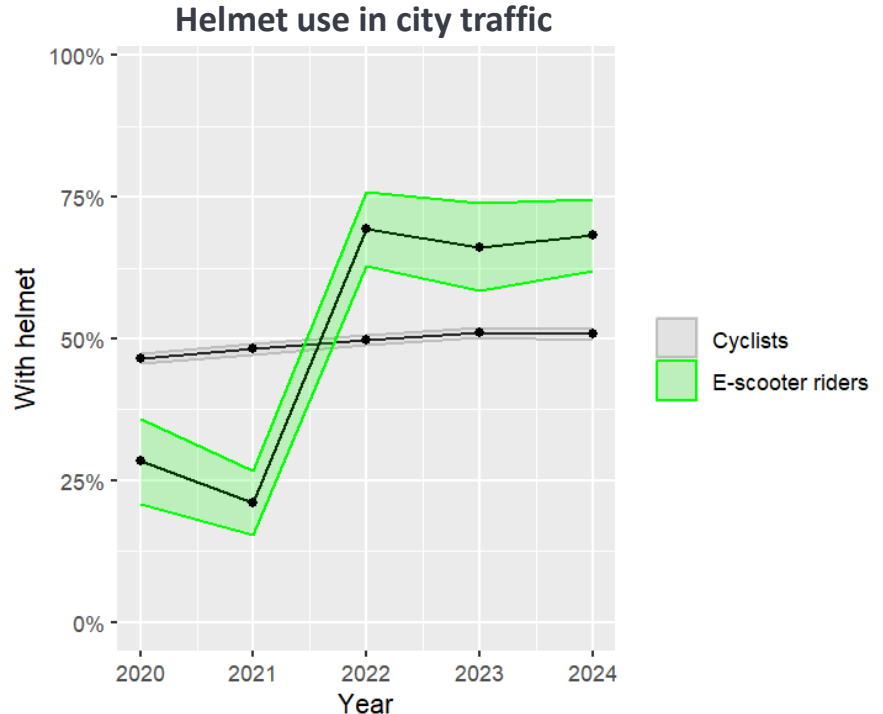
Synes godt om Kommenter Del

Helmet use before and after the law

NATIONAL BICYCLE HELMET OBSERVATIONAL STUDY

- Conducted annually at (almost) the same locations and same time every year using the same methodology
 - In 33 cities across the country
 - August-September
 - On weekdays in the morning, around noon, and afternoons

See Olsson (2023) and Pedersen & Olsson (2024) for more on methodology

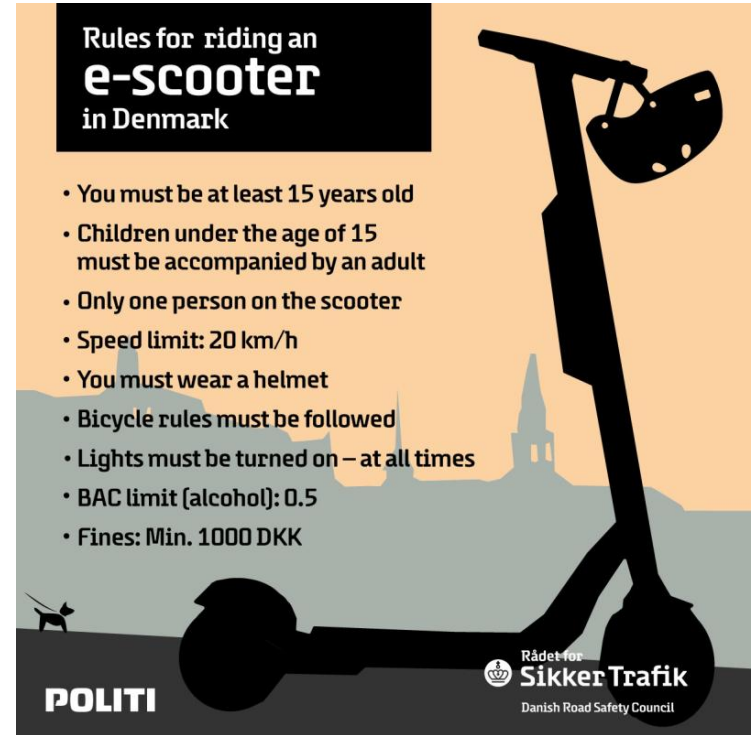


Notes: n for 2024: 208 e-scooter riders and 11,891 cyclists.
Shaded area represents 95% confidence intervals.

Implications and discussion

IMPLICATIONS AND DISCUSSION

- **Key take away:** Legislation with monetary sanctions coupled with visible enforcement and awareness campaigns can be very effective in increasing helmet use on e-scooters
- **Discussion:** Could helmet legislation on e-scooters be implemented in other countries with the same effect? And would there be public and political support for this measure?
- **Further research:** Evaluate the effect on injuries and other outcomes (e.g. travel patterns on e-scooters and potential substituted modes of transport)



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POLITI

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THANK YOU FOR YOUR ATTENTION

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