

The cargo bike, a tool for replacing the family car?

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SVI research day

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E4S

CONTEXT

- Cargo bikes are bicycles with two or three wheels and **extra cargo capacity** (at the front or rear) for transporting goods or children.
- The addition of **electric assistance** makes it easier to pedal uphill (weight: 30-60 kg) and transport loads.
- From July 1, 2025: new **legal category** of *heavy moped* (up to 450 kg and travel on areas reserved for bicycles).



Longtail



Bakfiets



Tricycle

CARGO-BIKE SALES

- **Sales of electric cargo bikes¹ have been rising in Switzerland.**
 - +244% in 5 years, between 2019 and 2024
 - 23'000 units sold since 2017
 - 3.4 % of total e-bike sales (2024: 151'772 units)

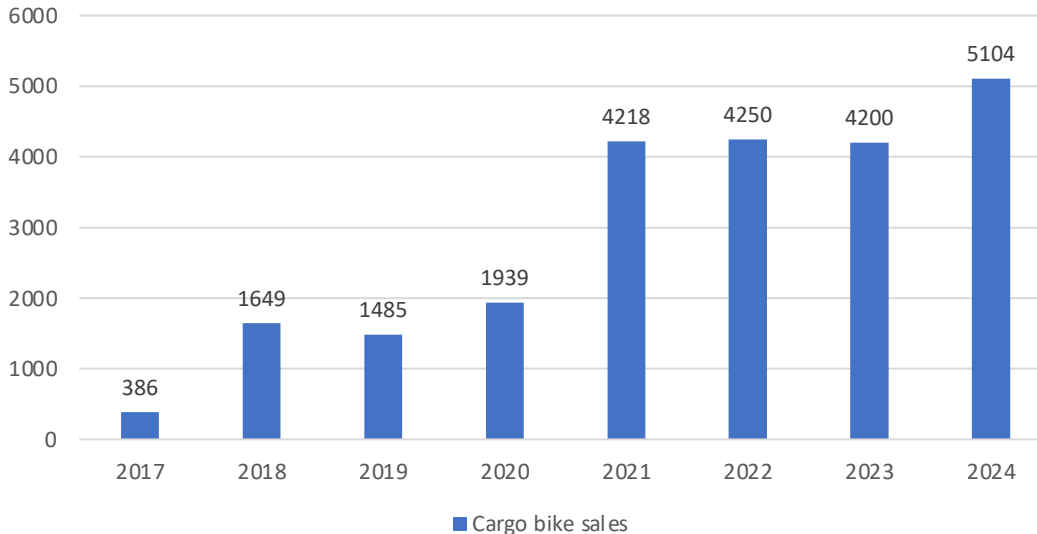


Figure 1 : Sales of e-cargo bikes in Switzerland (source : Velosuisse)

¹Note : no sales data exists for unassisted cargo bikes in Switzerland.

RESEARCH QUESTIONS

1. **Who** adopts a cargo bike, **why**, and for which **trips**?
2. Which **modal shift effects** does owning a cargo bike have for:
 1. Household's mobility portfolio
 2. Substituting trips made by other transport modes
 3. Giving up ownership of transport modes

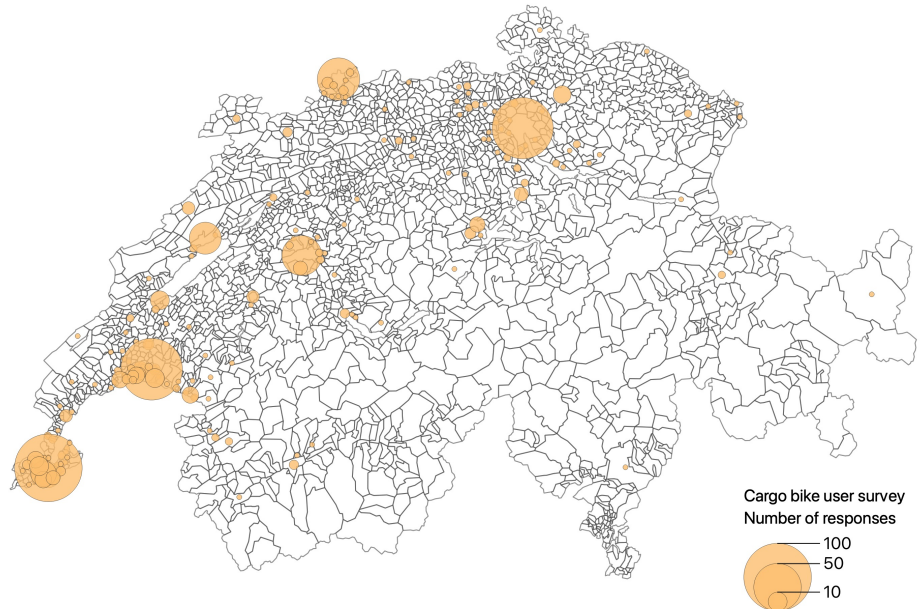
METHODOLOGY

National online survey among cargo-bike users (French and German), N=955 respondents, of which 696 owners

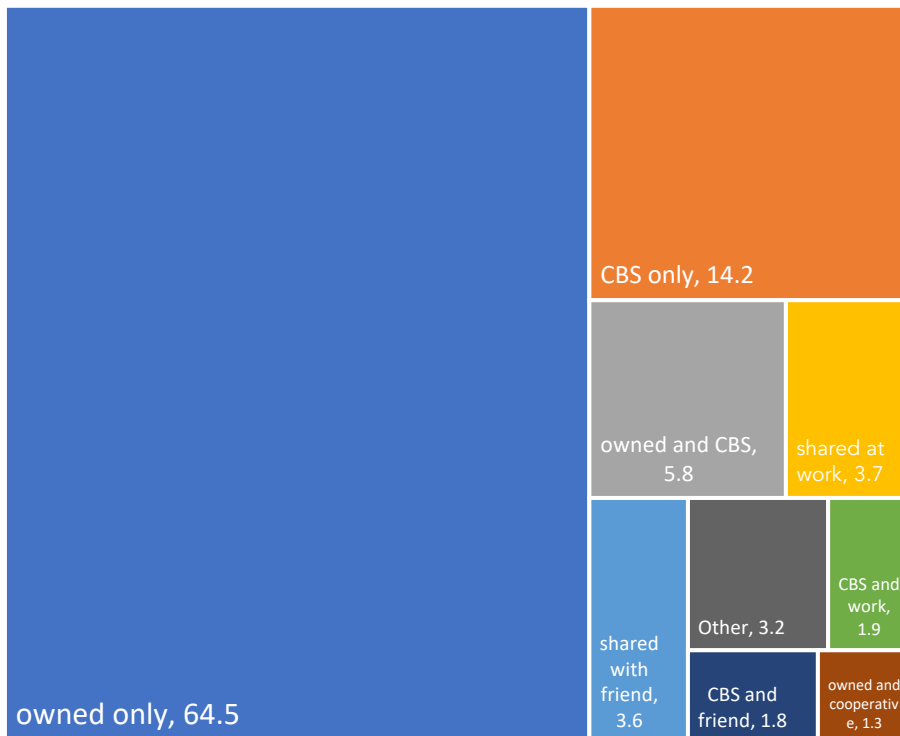
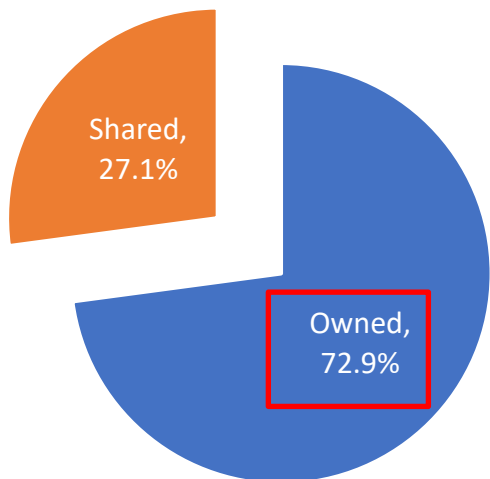
Diffusion : 13 june – 18 september 2022

- Newsletter OUVEMA, Velojournal
- Regional sections PRO VELO and ATE/VCS
- Social networks: Twitter / LinkedIn / Facebook
- Mailing list Carvelo2go
- Bike shops : Tandem (Lausanne, Vevey), Obst & Gemüse (Basel)
- Flyers on parked bikes (Bern, Basel, etc.)

French-speaking regions overrepresented (60 %) compared to German-speaking (40 %).



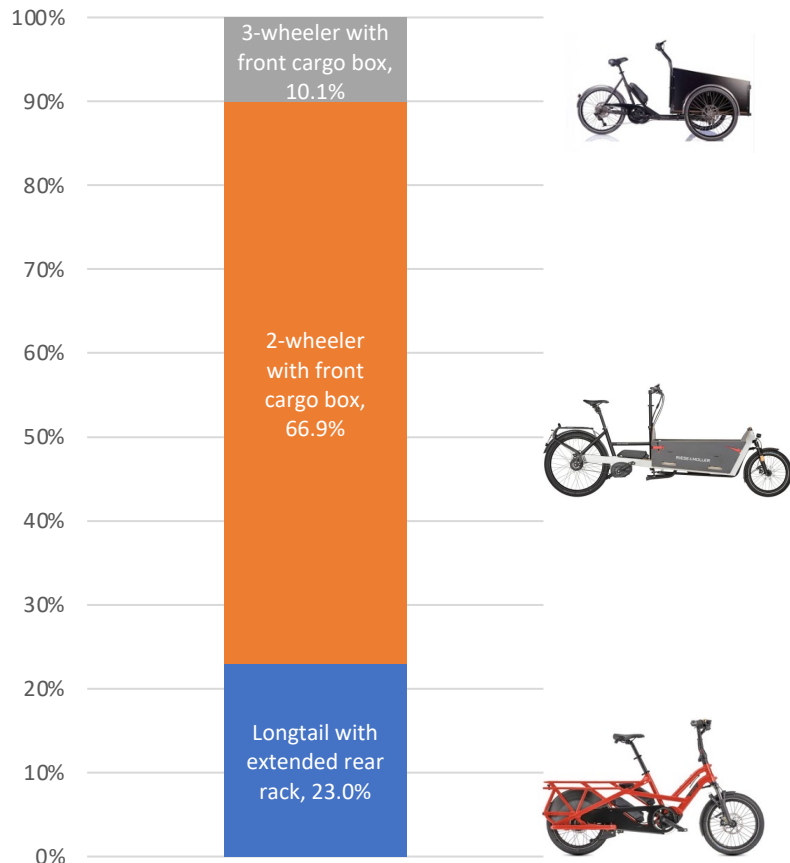
TYPE OF ACCESS TO CARGO-BIKE



PURCHASE AND MODEL

Diffusion of cargo bikes is still recent

- 78% bought their cargo in 4 preceding years (2018-2022)
- 35% benefitted from a subsidy
- 88 % electrically-assisted (77% 25 km/h, 10.6% 45 km/h) vs. 12 % unassisted
- 84% bought new, 16% used



PROFILE AND VEHICLE EQUIPMENT

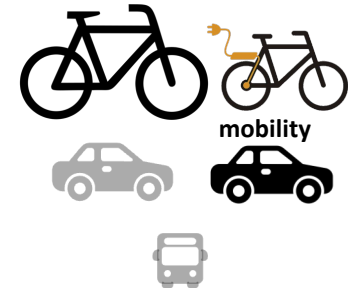
Cargo-bike users are typical "early adopters"

- 81% young adults (30-49 years), 96% employed
- High education (81% Uni) & income (52% over 9k/month)
- 65% men but 79% share cargo bikes with other people in the household
- 77% families, 94% of whom transport children by cargo bike
- 88% Urban residents



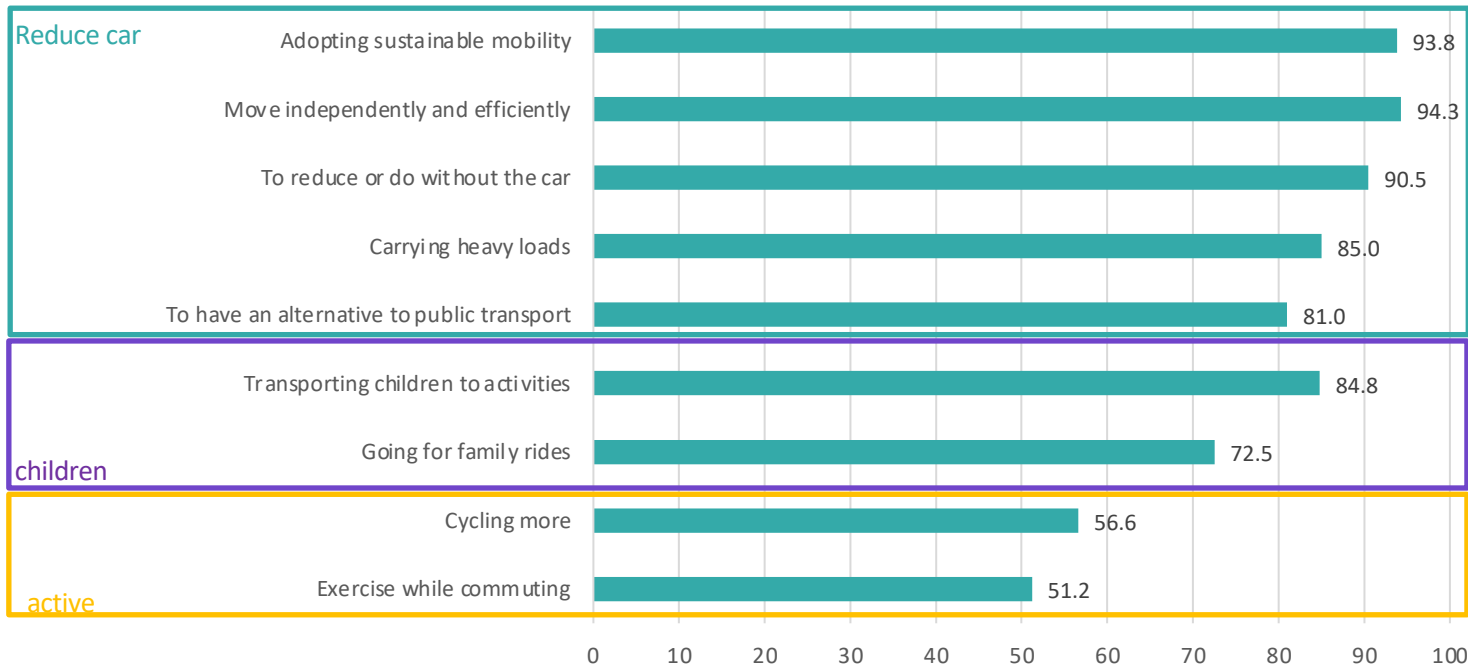
They are a population of cyclists

- 88% own bicycles, 30% e-bikes, 11% fast e-bikes
- Very few cars (48%) but many carsharing subscriptions (43%)
- Few public transport passes (27%)

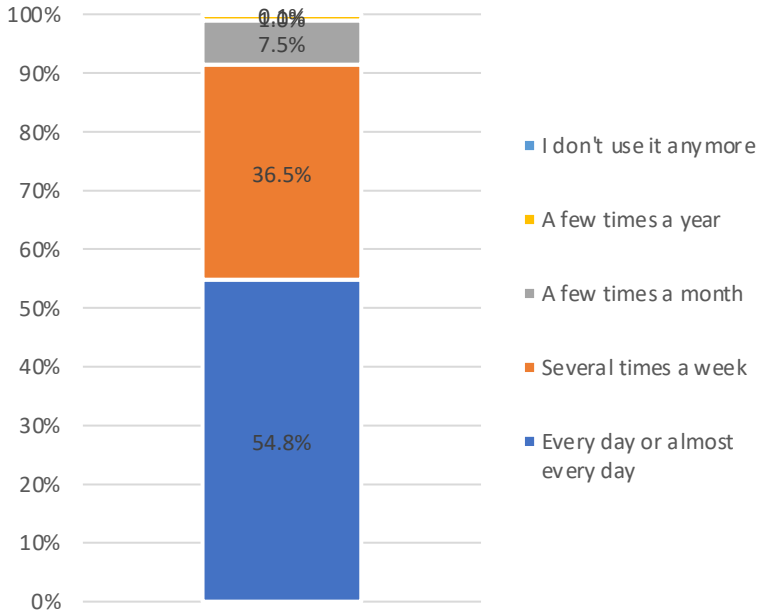


MOTIVATIONS

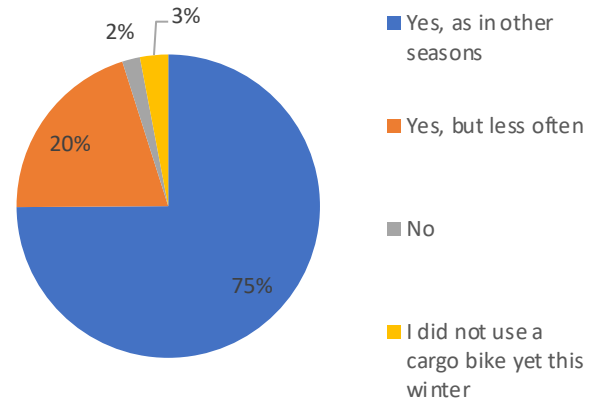
Motivations for using cargo bike (% agree or rather agree)



Overall, how often do you use a cargo bike?

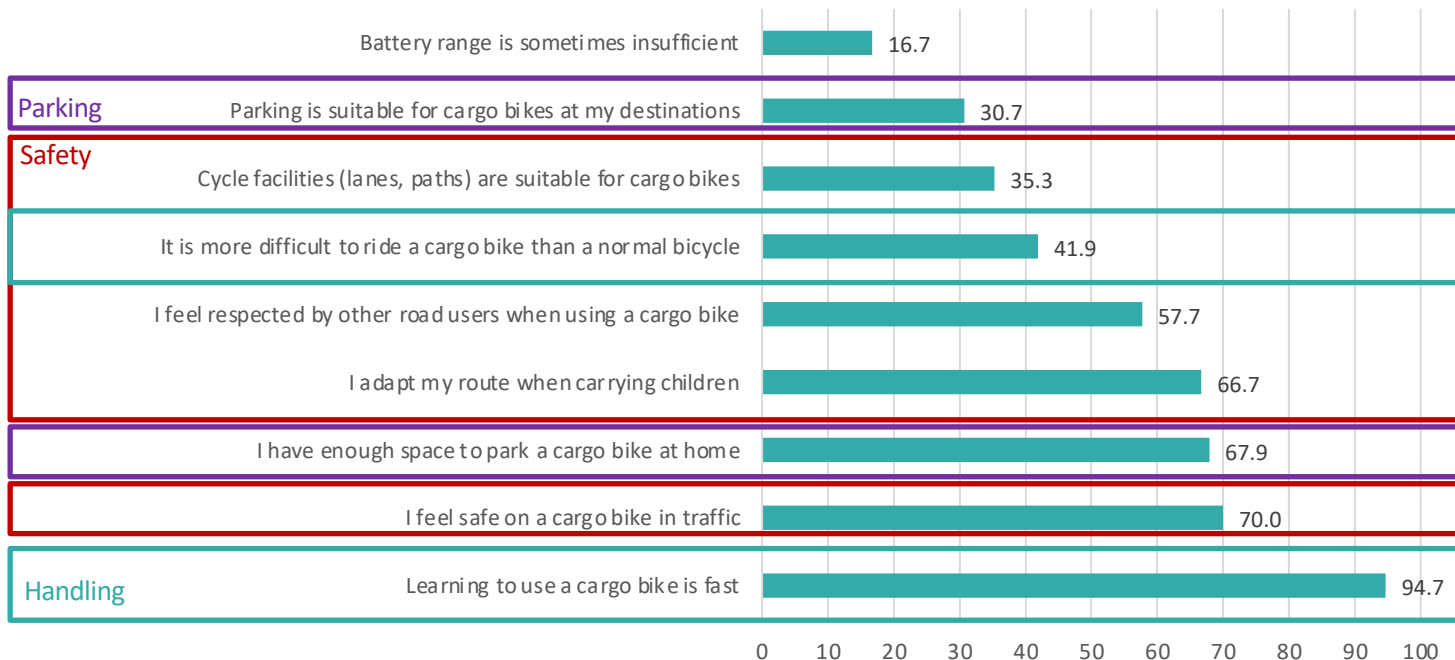


Do you still use the cargo bike in winter?



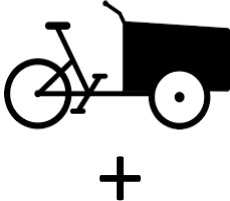
EXPERIENCES & BARRIERS

Do the following statements correspond to your experience of using the cargo bike?
(% agree or rather agree)



MOBILITY PORTFOLIO

Cargo-bike



Car + bike



41.7

Bike



30.5

PT +
bike



14.2



10.8

Multimodal with car

Car driver

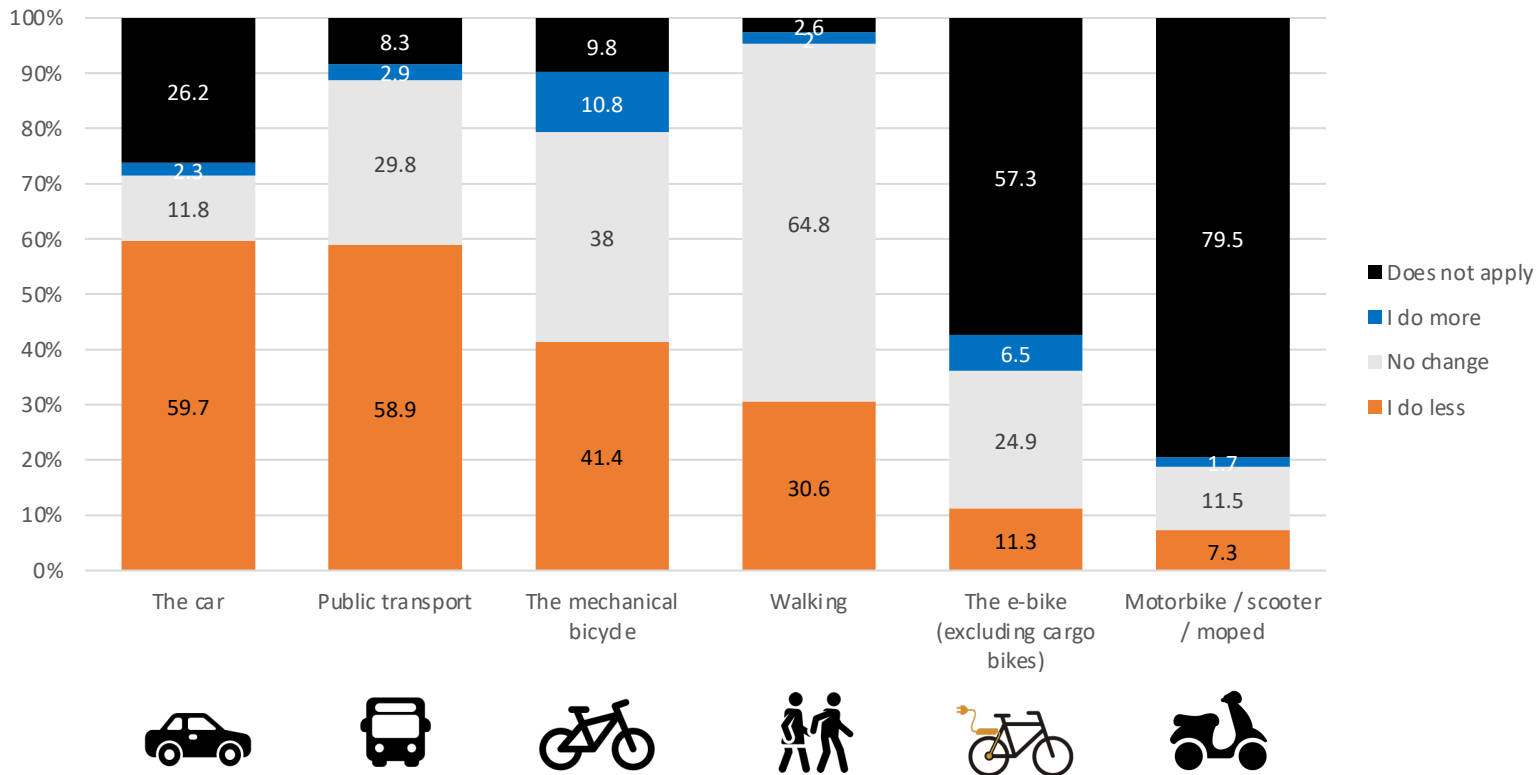


2.3

0.5

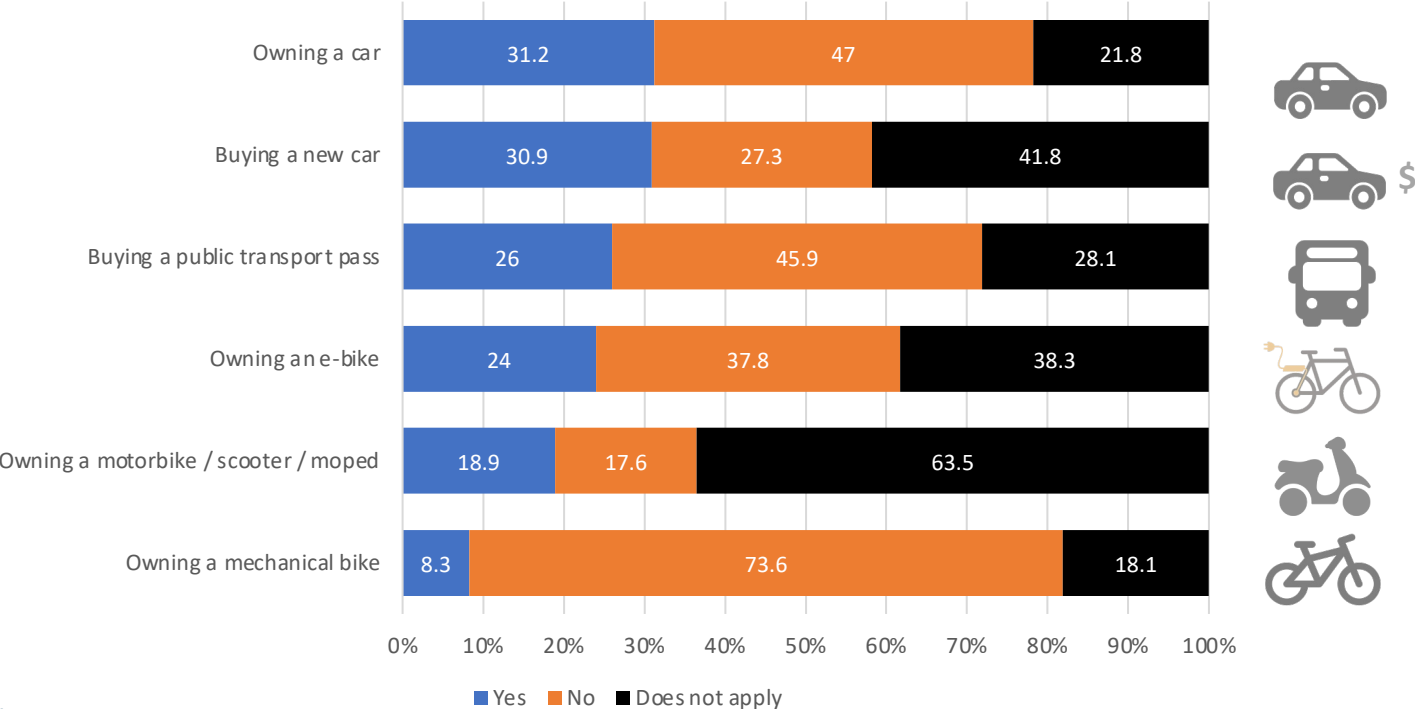
SUBSTITUTION EFFECT

What are the effects of using a cargo bike on your travel?



RENOUNCING OWNERSHIP

Thanks to the cargo bike, have you given up ...



TYOLOGY OF MODAL SHIFTS FROM CAR TO CARGO BIKE

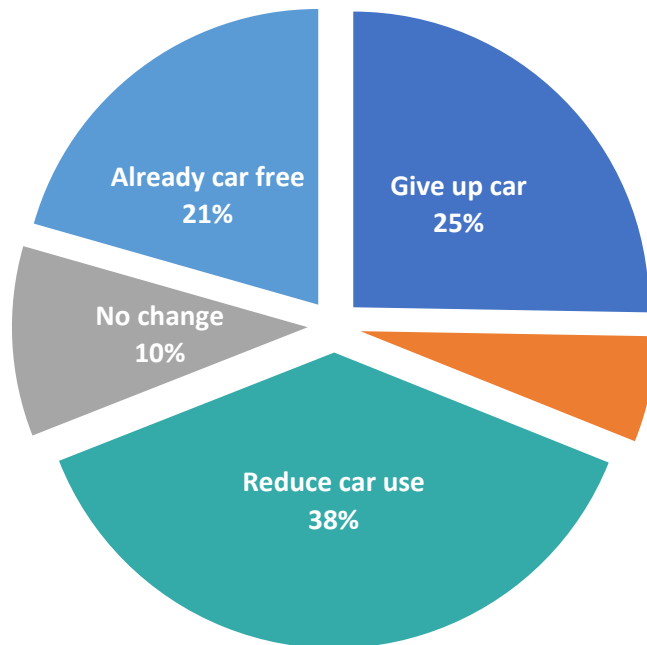
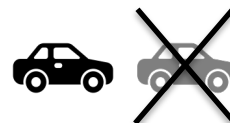
Non-motorisation



Demotorisation



Give up 2nd car or in the process of giving up car
6%



substitution

FACTORS LINKED TO DEMOTORISATION OR NON-MOTORISATION

Systemic (mobility equipment, trip habits)

Access to alternatives to car ownership (carsharing)

Previous use of public transport

Previous car use (negative)

Winter use of cargo-bike

Daily frequency of cargo-bike use (negative)



Biographical (profile and household)

Age >50 years (negative)

Family household (negative)

Urban residential location

German—speaking linguistic region



Lifestyle (Aspirations)

Motivation to reduce car use



MESSAGES

- Cargo bikes hold great **potential** to increase cycling at specific stages of life (e.g., young parents) where the car is traditionally the only choice.
 - BUT the practice of cargo biking remains **fragile** (safety, handling, parking)
- Owning a cargo-bike has important **modal shift** effects on households' mobility:
 - Short-term: **substitution** of car trips and complementing public transport, cycling and walking.
 - Long term: **renunciation** of car ownership (demotorisation) or continuing to live without a car (non-motorisation)

PUBLICATIONS

Research report: rapport études urbaines no 9 <https://iris.unil.ch/handle/iris/73669>

Pro Velo Info : Vélos cargo: une solution séduisante pour se passer de voiture en ville
<https://iris.unil.ch/handle/iris/95918>

Cargo bikes for personal transport: A user segmentation based on motivations for use.
Marincek Dimitri, Rérat Patrick, Lurkin Virginie, 2024. International Journal of Sustainable Transportation, 1-14. <https://doi.org/10.1080/15568318.2024.2402753> <https://iris.unil.ch/handle/iris/161846>

Cargo bikes and their modal shift effects: from substitution to car renunciation.
Marincek Dimitri, Rérat Patrick, Lurkin Virginie, 2024. Transportation.
<https://doi.org/10.1007/s11116-024-105693> <https://iris.unil.ch/handle/iris/134162>

Les effets des vélos-cargo sur la mobilité: une approche multidimensionnelle du report modal. Marincek Dimitri, Rérat Patrick, Lurkin Virginie, 2025 [Forthcoming]. Les Cahiers Scientifiques du Transport.

