



## **Introductory material for private users on the use of cargo bikes**

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# 1. THE CARGO BIKE AND THE OPPORTUNITIES IT OFFERS TO THE USER

## 1.1 What is a cargo bike?



A family who gives up their car for the weekend and uses a cargo bike instead. Dave Hoverman, Abbey Smith, and their four children. Source: New York Times. Author: Jason Henry

### Names in English:

box bike, freight bike, cargo bike, transport bike.  
The well-known bike-taxis seen on the streets of Tallinn are also cargo bikes.

A cargo bike is a bicycle that is designed to carry more than the luggage rack or basket found on a regular bicycle. With a cargo bike, you can transport heavy shopping bags from door to door, bring a

Christmas tree home for the holidays or new soil to the garden in spring. A cargo bike is equally suitable for transporting people and pets. It can be said that the possibilities for using a cargo bike are limited only by the user's imagination. Depending on the user's needs, the load capacity, design, mechanics, and accessories of the cargo bike, along with the price, vary.

## 1.2 Advantages of a cargo bike

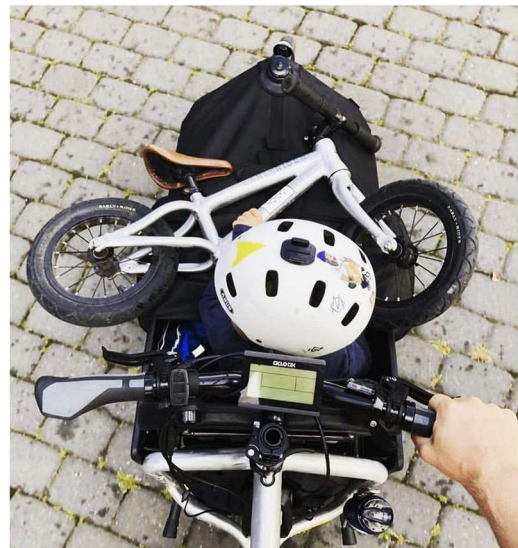
Cargo bikes are available as both regular and electric. Electric bicycles make moving about convenient, even if you want to transport a heavy load or if the journey is not level.



Out of town. The photo shows a Trike type cargo bike. Author: Wout Verlinden

The deployment of a cargo bike creates added value in several ways:

**Speed and accessibility.** You can ride the cargo bike from door to door, there is no need to search for a parking space or pay for parking. For example, users have pointed out that going to the playgrounds with children is more convenient with a cargo bike than when driving a car, because you can drive directly up to the sandbox and you can also bring along what you need in the cargo box. You can also buy soil from the garden centre and drive straight to the door of your greenhouse. If proper infrastructure is available, the cargo bike is a fast and flexible means of transport; however, even without the presence of ideal infrastructure, the cargo bike is competitive with the car in many Estonian cities in terms of speed. This is especially true for shorter distances (up to 2.5 km). When cycling, there is no risk of congestion and you can use shortcuts in many places, such as riding through a park.



The child got tired of cycling and the journey continued with the child now seated in the box of their parent's cargo bike.

Source: Instagram, user Kastiratas

**Health and well-being.** Several studies have revealed the positive effect of cycling on the prevention of cardiovascular diseases and cancer, as well as on mental health<sup>1</sup>. Cargo bike users note that moving about on a cargo bike allows you to enjoy the time it takes to move from one place to another. Usually, children also like riding with cargo bikes, which means that they can be transported to the fresh air, kindergarten, and school in a good mood. When riding a cargo bike, you will also notice new and interesting things in the urban space. Noticing the urban space offers interesting experiences, social contact, and a connection with the community – all of which contribute to people's overall well-being. Exercise with a cargo bike is a good option for keeping yourself in good general physical health while at the same time carrying out your necessary daily activities.



Summer get-together in the park. With a cargo bike it is convenient to bring everything necessary and pleasant along with you. The photo shows *Trike* and *Long John* type cargo bikes. Source: Instagram, user Kastiratas

**Cost savings.** Cargo bike users notice cost savings because they travel less with private car or taxi. Compared to a car, riding a cargo bike is significantly cheaper, mainly due to

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<sup>1</sup>Bauman, A., De Geus, B., Kohlberger, T., Oja, P., Reger-Nashh, B., Titze, S., Krenn, P. (2011). Health benefits of cycling: A systematic review. *Scandinavian Journal of Medicine and Science in Sports*. Available on the web: [https://www.researchgate.net/publication/51054095\\_Health\\_benefits\\_of\\_cycling\\_A\\_systematic\\_review](https://www.researchgate.net/publication/51054095_Health_benefits_of_cycling_A_systematic_review)



the lack of fuel costs, parking fees, and car maintenance costs. Electric cargo bikes need to be charged, but this is much cheaper than petrol or diesel.

**Contributing to better public space and climate change mitigation.**

People are increasingly appreciating the impact of their lifestyle on the surrounding environment. In addition to being an environmentally friendly vehicle, the cargo bike also takes up less space than the main alternative, the personal car.

As a result, there are more opportunities to create a safer, more exciting and greener public space, which in turn increases social cohesion, improves business turnover, and motivates people to move about more and thus maintain their health.



Transport of construction materials on a *Long John* type cargo bike. A trailer is also connected to the bicycle. Author: Hannes Lents



Bringing home the family Christmas tree ... The photo shows a *Trike* type cargo bike. Source: Instagram, user Kastiratas

Cyclists also save on healthcare costs. Cycling on a daily basis helps you maintain your overall physical shape and saves money spent on infrastructure, as the costs of building and maintaining cycle paths are more favourable in the long run than developing a car-centric urban environment.

**Symbolic and visual values.** Daily cycling to school, a café, a cinema, or a grocery store can also provide an opportunity for artistic expression through style. Why not ride in heels or creased trousers, exactly the way that you want to express yourself through style that day. The bike itself can also be an element of style. Many users have noted that being able to use a cargo bike leaves them with a sense of freedom. In the Netherlands, for example, cargo bikes are associated with independence and professionalism, especially for women.



Photo from an article in the fashion magazine Vogue about cycling style and suitable clothes. Source: [vogue.com](https://www.vogue.com). Author: Cass Bird

### 1.3 Cargo bike user experiences

'I use the cargo bike to take my children to kindergarten and training practice, to simply move around the city, to transport bigger things (e.g. shopping bags). The cargo bike is faster than walking, more exciting and healthier than driving a car.'

'I use a cargo bike to comfortably transport my small children, of whom there are too many to fit on a regular bicycle. I prefer a bike to a car, considering the environment and a sedentary lifestyle.'

‘The advantage of the cargo bike over the car is that you can drive to the playground or the park right away, and you don't have to walk there from the parking lot with children and your bags.’

‘I can take all three of my children with me and move according to my own schedule, and do so cheaply.’

‘It is nice to be outside and move around during activities; I enjoy the fact that it replaces a car, which is good because it is a much cheaper, a free workout.’

‘The cargo bike also allows you to transport the family's weekly shopping bags or plants and bags of soil home from the garden centre. In short, you do not have to think about what and how much to buy and how to get home when you are in the store.’



In a flower shop with pets. Source: Instagram, user Junithedoodle



To the playground with a cargo bike. Depicted in the photo is a Trike type cargo bike. Author: Wout Verlinden

## 1.4 Growth trends in the use of cargo bikes in Europe

According to a survey on cargo bike sales, sales of cargo bikes in Europe have increased. The results of the survey, conducted during the CityChangerCargoBike project, are based on anonymous sales data from 38 cargo bike brands. The results of the survey show a 60% increase in cargo bikes sales in 2019 and, despite the coronavirus crisis, continued growth was expected in 2020. In 2018, survey participants sold 17,800 cargo bikes, in 2019 they sold 28,500 bikes, and the expected sales number for 2020 was 43,600 bikes. The study will continue and new results will be presented in spring 2021<sup>2</sup>.

Cargo bikes are also popular in Finland and Sweden. In recent years, various projects related to cargo bikes have been launched, which have received a positive response and brought cargo bikes to the streets. A similar initiative was carried out in Finland and Sweden, where apartment associations were given the use of cargo bikes with electric support. The Finnish participants noted that it is convenient to take care of their daily activities with a

Examples of cargo bike communities and influencers on social media:

- Instagram @cargobike\_living (Estonia)
- Instagram @kastiratas and a Facebook group called Kastiratas (Estonia)

cargo bike, but also to travel further to places where they may not end up on a daily basis. Participants also valued their contribution to CO<sub>2</sub> reduction<sup>3 4 5</sup>. The Box Bike Helsinki initiative gave the teenagers of Helsinki the opportunity to design and build their own cargo bike, with the young people being able to learn the basics of bicycle mechanics and create bikes that are eye-catching to ride<sup>6</sup>.

<sup>2</sup> First European Cargo Bike Industry Survey. 2020. CityChangerCargoBike project. Available on the web: [http://cyclelogistics.eu/sites/default/files/downloads/Survey\\_market\\_size\\_results.pdf](http://cyclelogistics.eu/sites/default/files/downloads/Survey_market_size_results.pdf)

<sup>3</sup> Housing association's cargo bike initiative. Feedback. Available online: <https://www.youtube.com/watch?v=ppmpsSRI2sQ> (in Finnish)

<sup>4</sup> Updates from Helsinki's E-bike promotion campaign. 2019. BSR Electric. Available online: <https://www.bsr-electric.eu/news/updates-from-helsinki-se-bike-promotion-campaign>

<sup>5</sup> Housing association's cargo bike experiment in Stockholm. Available online: <https://www.mitti.se/nyheter/test-med-cykelpool-ska-minska-bilresorna/reptau!NkxEoeRb7IweZWVmhTjA/?fbclid=IwAR0KH9oqzlc6ymG4-LEqXW3JWDy9QtAls2x6-Pz7X3HLE0sq18S1ODnQnwE> (in Swedish)

<sup>6</sup> Seppälä, M. Bof Bike Helsinki: Cargo Bikes Made by Youngsters. Available online: <https://www.bikecitizens.net/box-bike-helsinki-cargo-bikes-made-by-youngsters/>

Cognitively, there are more cargo bikes on the street in our neighbouring countries as well as in Tallinn and Tartu. A number of social media communities have been formed around the world, who share their daily activities on a cargo bike, discuss problem areas, and share tips with other users. In Estonia, such communities include a Facebook group called Kastiratas, and an Instagram user with the same name.



Summer day at the Baltic Station Market. Author: Hannes Lents

## 2. ON THE STREETS (of TARTU) WITH A CARGO BIKE

### 2.1 The most common barriers and solutions

Users of cargo bikes are exposed to various obstacles on a daily basis, which hinder the comfortable use of the cargo bike. Also common in society are assessments and perceptions that paint a more negative picture of reality. Bottlenecks can be alleviated by sharing practical user experiences and resolved through urban planning and policy measures that are bicycle-friendly.

#### **The price of the cargo bike justifies itself.**

Often cited are the expensive price of a cargo bike and the lack of purchase support. The prices of cargo bikes vary between 2000–12,000 euros.

When considering the price, users are advised to keep in mind that the cargo bike is not expensive compared to the available alternatives and its maintenance costs are much lower. Users recommend renting a cargo bike first to help you reach clarity regarding the desire to make a purchase.

#### **Appropriate infrastructure is important.**

Several users have cited the lack of a sense of security when riding a cargo bike. The need for a sense of security increases even more when transporting children. Roads in green areas, physically separated cycle

#### **Practical tips and tricks from cargo bike users**

- Winter slipperiness is not a problem with a tricycle cargo bike, but it can be inconvenient to drive on streets with deep snow tracks, because the bike does not fit into a single track and tends to lean. If possible, choose cycle paths, or cycle and pedestrian tracks, or well-maintained carriageways.
- The size of the cargo bike makes it difficult to use shortcuts or to 'cut' from the pavement. If you are accustomed to performing such manoeuvres with a conventional bike, it may be unfamiliar to strictly keep to the infrastructure designed for the cargo bike and streets. Advance route planning is helpful.
- Care must be taken when cornering with a tricycle cargo bike. If you are travelling at a high rate of momentum and there is some unevenness (curb, pile of snow, etc.) under the front wheel on the inside of a curve, the cargo bike may overturn. It helps to reduce momentum when cornering and tilt your body towards the curve.

paths, or wide cycle and pedestrian tracks are preferred for cycling. The cargo bike is also more sensitive to curbs.

Cargo bike users recommend planning a route in advance. Over time, a network of suitable roads and a familiar trajectory will develop. It is also recommended to sound the bicycle bell before turning a corner. When transporting children, they are protected from jolts by accessories and winter tires in the case of slipperiness. Some local governments (for example, Tartu) have also prepared a map of cycle paths or even a map of routes that are specifically suited to cargo bikes, which are worth examining when planning a route. In addition, suggestions and information on inappropriate solutions or inadequate road maintenance can be forwarded to the city government to signal the importance of the issue.



Mikkel Bentsen and his invented cargo bike, AsasarA, suitable for Greenland's conditions. Nuuk, Greenland.

Source: [cargobikefestival.com](http://cargobikefestival.com)

**There are different solutions for storage.** There is also a widespread concern that it is often not possible to store a cargo bike comfortably and safely in apartment buildings. A

cargo bike is convenient to store, for example, in an underground car park or in a shed located in front of the house, with bikes also often being stored in the basement.

#### Practical tips and tricks from cargo bike users

- If you are hesitant to buy a cargo bike because of its high price, borrow a cargo bike from a friend or try a short-term rental option before buying. This way, you can see whether and if a certain type of cargo bike is right for you.
- When driving on the street, drive safely in the middle of the lane. The cargo bike is so wide that, even when keeping to the edge of the road, there is not enough space for drivers to pass the cargo bike safely without leaving their lane. While keeping to the side of the carriageway, a reckless driver may try to 'squeeze' by you in a dangerous manner, but when driving in the middle of the lane, the driver can already see from afar that they can only pass if there is no vehicle approaching from the opposite direction. Do not be afraid of a situation in which the driver must reduce their speed behind you and wait for a moment to pass safely – the carriageway is intended for both cargo bike riders and drivers alike.
- Enjoy the attention and surprise of passers-by! Each time you ride a cargo bike, you will change the perception of many people about how to move around in the city, and at best, you will inspire some of them to try the cargo bike themselves.

If the above options are not available, the bike can also be kept outdoors by locking it securely and placing it under a cover. It is also worth proposing to the cooperative to build a shed at the expense of the yard or parking spaces where, in addition to cargo bikes, other things can also be stored.

In some municipalities, housing associations are offered support for the construction of bicycle houses, which is worth using. For example, in Tartu, such support can cover up to 50% of the cost of a bicycle house.

**The 'but in our climate ...' myth does not hold true.**

Weather is a common argument for not using a bike. In reality, the use of the bike is also very common in the cities north of us and in cities with more rain and wind. Here, users of cargo bikes point out

that with the availability of accessories and maintained streets, weather conditions do

not make the driving experience uncomfortable. A cargo bike can be fitted with a weatherproof cover that protects objects and children from the rain and also provides the rider with a windscreen.



Fireplaces do not remain unheated. A load of firewood on a cargo bike. Author: Hannes Lents

The majority of Estonia's local governments increasingly understand the need for winter maintenance and act accordingly. Information on road maintenance classes can help you choose a winter route. When cycling in winter, the city of Tartu recommends using streets where buses also operate, as the level of street maintenance is higher there (Level 3). An unmaintained road can be reported to the city government, which will also signal that the quality of the maintenance service is of importance to city residents. In addition, in the case of slipperiness, it is possible to use winter tires; it is common to install winter tires only on the front wheels.



Three children on a cargo bike. The cargo bike is fitted with weatherproof protection. Source: Instagram, user Kastiratas

**Awareness of the benefits offered by the cargo bike is gradually growing.** The cargo bike is not yet a common alternative to a car in Estonia. However, each user makes this option more visible, and as the number of users increases, so does speed at which barriers are resolved. For example, the use of cargo bikes in Finland has markedly increased in recent years.

The city of Tartu has taken the first steps to introduce the people of Tartu to the cargo bike.

From January 2021, Velorent, a bicycle library, has been operating in Tartu. Velorent offers three models of electric cargo bikes for rent: Urban Arrow Family Edrive, Bakfiets Trike Edrive, and Bakfiets Trike Edrive Cargo.

The first two models are suitable for transporting both goods and people, the third is only intended for transporting goods.

More information: <https://www.tartu.ee/et/velorent>

## 2.2 Map of cargo bike routes



Map of Tartu's cargo bike routes. Author: Patrick Joan Thomson

### 3. DIFFERENT TYPES OF CARGO BIKES, THEIR ACCESSORIES, AND PRICE RANGES

#### 3.1 List and parameters of cargo bike types

*Long John* – two-wheel cargo bike. The box for carrying things or people is located in front of the handlebars. Used to transport both people and cargo. In terms of capacity, it ranks second behind the *Trike* type cargo bike.



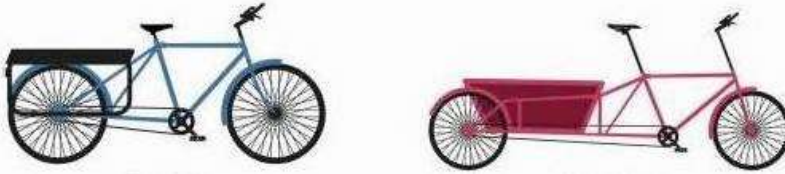
Long John type cargo bikes. Source: <https://www.bikecitizens.net>. Illustrator Karen Rike Greiderer.

*Trike* – tricycle cargo bike, which holds more and carries heavier weights than a *Long John* or *Long Tail* type cargo bike. The box is located in front of or behind the handlebars. Tricycles with a box in front of the handlebars are used for transporting people and cargo, as well as for business activities, such as running an outdoor café. *Trike* type cargo bikes with a rear box are used to transport heavy loads, they are widely used in the postal service, and a bicycle taxi also falls into this category.



Trike type cargo bikes. Source: <https://www.bikecitizens.net>. Illustrator Karen Rike Greiderer.

Long Tail – More modest in terms of capacity than *Long John* or *Trike* type bikes. Suitable for carrying both cargo and children.



Long Tail type cargo bikes. Source: <https://www.bikecitizens.net>. Illustrator Karen Rike Greiderer.

Hybrid bikes – Most similar to a regular bike, and in the street they may look like ordinary bikes, but hold more. The cargo rack or basket is located in front of the handlebars. Used mainly to transport cargo.



Hybrid bikes. Source: <https://www.bikecitizens.net>. Illustrator Karen Rike Greiderer.

### 3.2 Purchase, renting, and prices

The price of cargo bikes is formed by a combination of several factors, including load capacity, model, accessories, and the presence of an electric motor. A bike with a load capacity of up to 80 kg can cost between 1,000 and 2,000 euros. A bike with a load capacity of up to 350 kg can cost between 2,000 and 12,000 euros<sup>7</sup>.

#### Who sells and rents cargo bikes in Estonia?

- Tartu City bicycle library Velorent

Rental: <https://www.tartu.ee/et/velorent>

- KP Cyclery Estonia OÜ

OÜ KP Cyclery Estonia, a company that was founded by Estonian Kaspar Peek in Denmark, recently launched the *Nighthawk* cargo bike, which is assembled in Estonia.

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<sup>7</sup> A Mayor's Guide to Cargo Bikes. 2019. Cyclelogistics. Available on the web: [http://cyclelogistics.eu/sites/default/files/downloads/CCCB-Mayors-Guide\\_SCREEN.pdf](http://cyclelogistics.eu/sites/default/files/downloads/CCCB-Mayors-Guide_SCREEN.pdf)

Purchase: <https://kpcyclery.com/product-category/cargo-bikes/>

- **JOOKS Rattastudio, in Tallinn**

Rental: <https://jooks.cc/jalgrattad/kaubarattad>

Purchase: <https://jooks.cc/rattarent>

- **Kastiga Ratas website**

Purchase: <http://www.kastigaratas.ee/category/muuk/>

- **City Bike, in Tallinn**

Rental: <https://www.citybike.ee/teenused/29/transpordirattad>

Purchase: <https://www.citybike.ee/e-pood/cangoo-groovy-e-elektrisch-t19012>

### 3.3 Accessories and safety equipment – what to consider when transporting children and other passengers?



To a picnic. Depicted in the photo is a *Long John* type cargo bike and the items are secured with straps for safe transport.

Author: Hannes Lents

When buying a cargo bike, you can usually choose accessories and safety equipment that offer protection from the rain and opportunities to safely transport children, adults, and cargo. Accessories and safety equipment vary depending on the bike model and user needs, with the most common elements being the following.

- Rain covers for parking and storage.
- Bike lights and reflectors – when buying a bike, make sure whether the lights are included or not. If there are no lights, they must be purchased as an accessory so that riding in the dark would also be possible.
- Dome for the top of the bicycle box – domes are both opaque and transparent, with the latter creating a window effect. In addition to protecting the box from rain and wind, the dome also provides wind protection for the occupant.
- Car-seat mounting base – allows you to also use an existing car seat on the bike.
- Seat belts for the safe transport of children.
- Children's seats.
- Bike bell, mirrors, and a bike lock.
- Electric motor – can also be purchased later, if necessary.
- There are also different cargo bike boxes:
  - Sloping edge box – for two children;
  - Box with a straight edge – for four children.