

Cargo bikes and electric cargo vehicle work together in novel city logistics solution in Gothenburg, Sweden



As the cyclelogistics project has shown, cargobikes can replace a huge share of motorised goods transport in cities. 32 % of the professional transports and a whopping 51 % if also private goods transport (such as grocery shopping) is included.

This is without any change in infrastructure, regulation or logistic solutions whatsoever, it is just the potential when looking at the weights, volumes and distances that goods are transported. 51 % of motorised goods transport could just as well be transported by cargobikes, with and without electric assist.

But if changes are made, the potential is even higher. One example is to introduce consolidation centres. Big vehicles deliver to consolidation centres and let smaller vehicles, for example cargobikes, do the last mile delivery.

In 2012, the shop owners and the municipality of Gothenburg joined forces and introduced a new way to deliver goods to the busiest shopping streets in the city. Instead of having big trucks

from the freight companies (such as Schenker, DHL, PostNord, DSV etc.) deliver to each store, they leave their goods at a closeby consolidation centre. The goods is sorted, loaded onto a small electric cargo vehicle and delivered on a daily route. And as if magic, a lot of the heavy traffic that nor shoppers or truck drivers enjoyed was replaced with a smaller, quieter electric cargo vehicle.

In the summer of 2013, the number of connected businesses had risen to 200, and the amount of goods had increased so much that distribution capacity had to increase. And to our content, it became MoveByBikes job to increase that capacity with cargobikes.

Our experience so far is that the combination of anelectric cargo vehicle and our cargobikes is a powerful one. The electric cargo vehicle can transport the biggest and heaviest loads, while we can bring the medium and small deliveries. Sometimes, we also use the electric vehicle as a mobile depot to refill the cargobike. This way, we achieve both high capacity and high speed in delivery, with a minimum of vehicles and employees.

The vehicles used are a Melex electric cargo vehicle with trailer, a Nihola cargobike with trailer and a prototype four-wheel cargobike from Velove.



The Melex 390 with custom trailer has a 5000 watt motor and a total cargo capacity of 2000 kg and 6 m³. Energy consumption: 1,8 kWh/10 km. Width: 125 cm.



The Nihola is equipped with a 250 watt 8fun assist. The trailer from Bikes at Work has a 280 kg capacity, but we do not load it to more than 150 kg due to that Gothenburg is a hilly city. The trailer has a 2.3 m³ weatherproof and lockable cargobox from Velove. Energy consumption: appr. 0,4 kWh/10 km. Trailer width: 109 centimeters.



The Velove cargobike prototype has four wheels and is equipped with a 250 watt Sunstar iBike crank assist. It has a 0,9 m³ weatherproof and lockable cargobox. Energy consumption: appr. 0.2 kWh/10 km. Width: 87 centimeters.

Still, this novel city logistics solution is supported by external funding. But if freight companies, store owners and municipality join forces, there should be no reason for why this successful and popular solution could not survive without external financial support.