Amsterdam University of Applied Sciences

EUROPEAN CYCLE LOGISTICS CONFERENCE
20-21 March 2017
VIENNA

ESTIMATING THE CURRENT, EXPECTED AND POTENTIAL MARKET FOR CARGO BIKES

Lessons from The Netherlands

Providing a better understanding of the variety of urban freight transport

Susanne Balm (AUAS)
Walther Ploos van Amstel (AUAS)
Bas Hendriksen (Loendersloot Groep)
Jos Sluijsmans (Fietsdiensten.nl)

LEVV LOGIC

LEVV NL

Loendersloot groep verkeer & meer

Fietsdiensten.nl

Amsterdam University of Applied Sciences

Connekt

Topsector Logistiek

Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

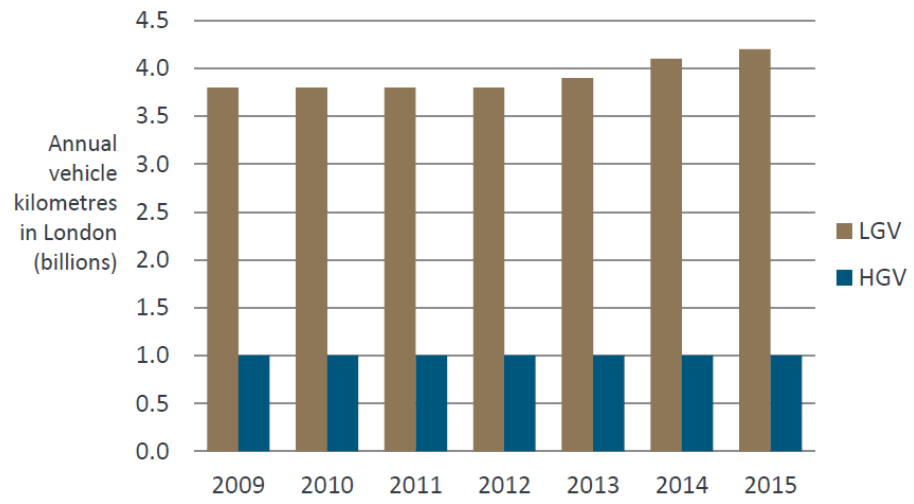
NUMBER OF DELIVERY VANS IS GROWING

ACEA

"In January, new registrations of vans totalled 142,864 units, 9.3% more than in January 2016"

London Assembly, Transport Committee (2016)

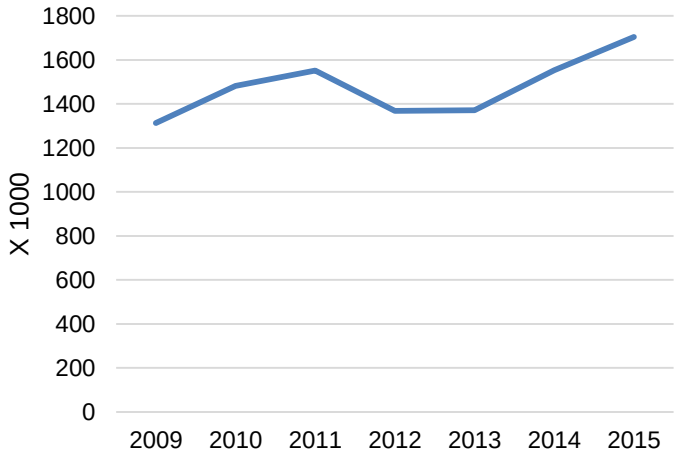
Figure 6: Van traffic has increased while lorry traffic has remained stable



Source: Road traffic statistics, Department for Transport, 2016

European vehicle market statistics

Registrations light commercial vehicles in Europe



Source: ICCT

Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

CARGO BIKES CAN BE A SOLUTION

- Though still <<1 % of freight movements in cities is done by cargo bike
- The potential of cargo bikes is often associated with:
  1. Increase of e-commerce parcel deliveries
  2. Development of city hubs

But to assess its potential we need a better understanding of the following:

- *Who are driving around freight vehicles in cities?*
- *What do they deliver? And is this suitable for using cargo bikes?*
- *What share can be decoupled at a city hub?*

Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

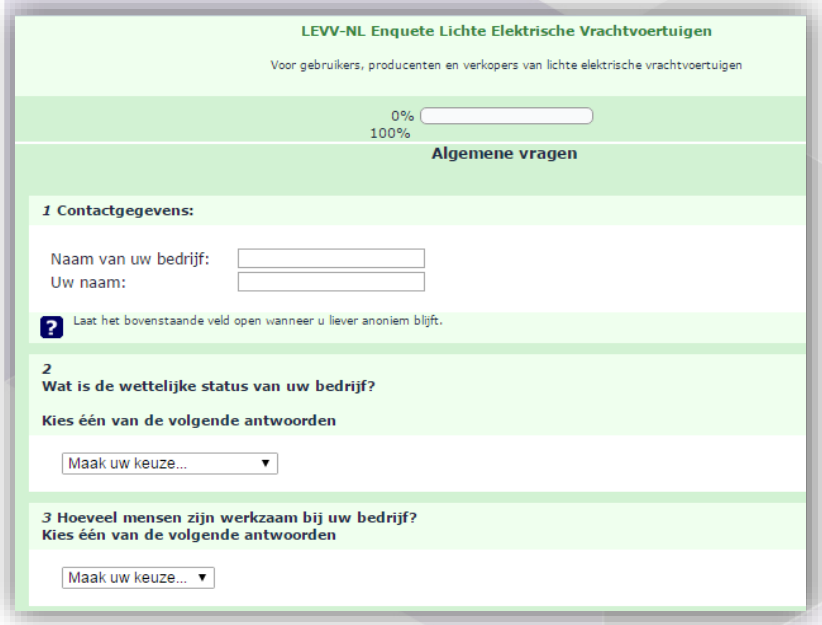
HOW DID WE COLLECT OUR DATA?

- LEVV-NL survey

70 respondents

- Traffic observations

2200 freight vehicles



LEVV-NL Enquete Lichte Elektrische Vrachtvoertuigen

Voor gebruikers, producenten en verkopers van lichte elektrische vrachtvoertuigen

0%
100%

Algemene vragen

1 **Contactgegevens:**

Naam van uw bedrijf:
Uw naam:

Laat het bovenstaande veld open wanneer u liever anoniem blijft.

2
Wat is de wettelijke status van uw bedrijf?

Kies één van de volgende antwoorden

Maak uw keuze...

3 **Hoeveel mensen zijn werkzaam bij uw bedrijf?**
Kies één van de volgende antwoorden

Maak uw keuze...

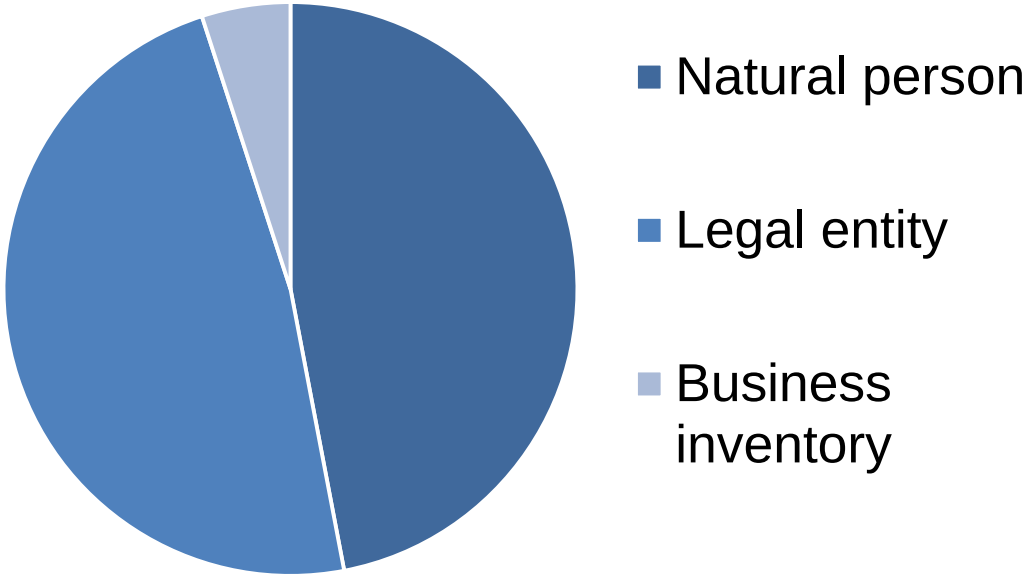
Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

WHO OWNES THE VEHICLE?

Ownership of delivery vans

Source: TNO, Buck (based on RDW)



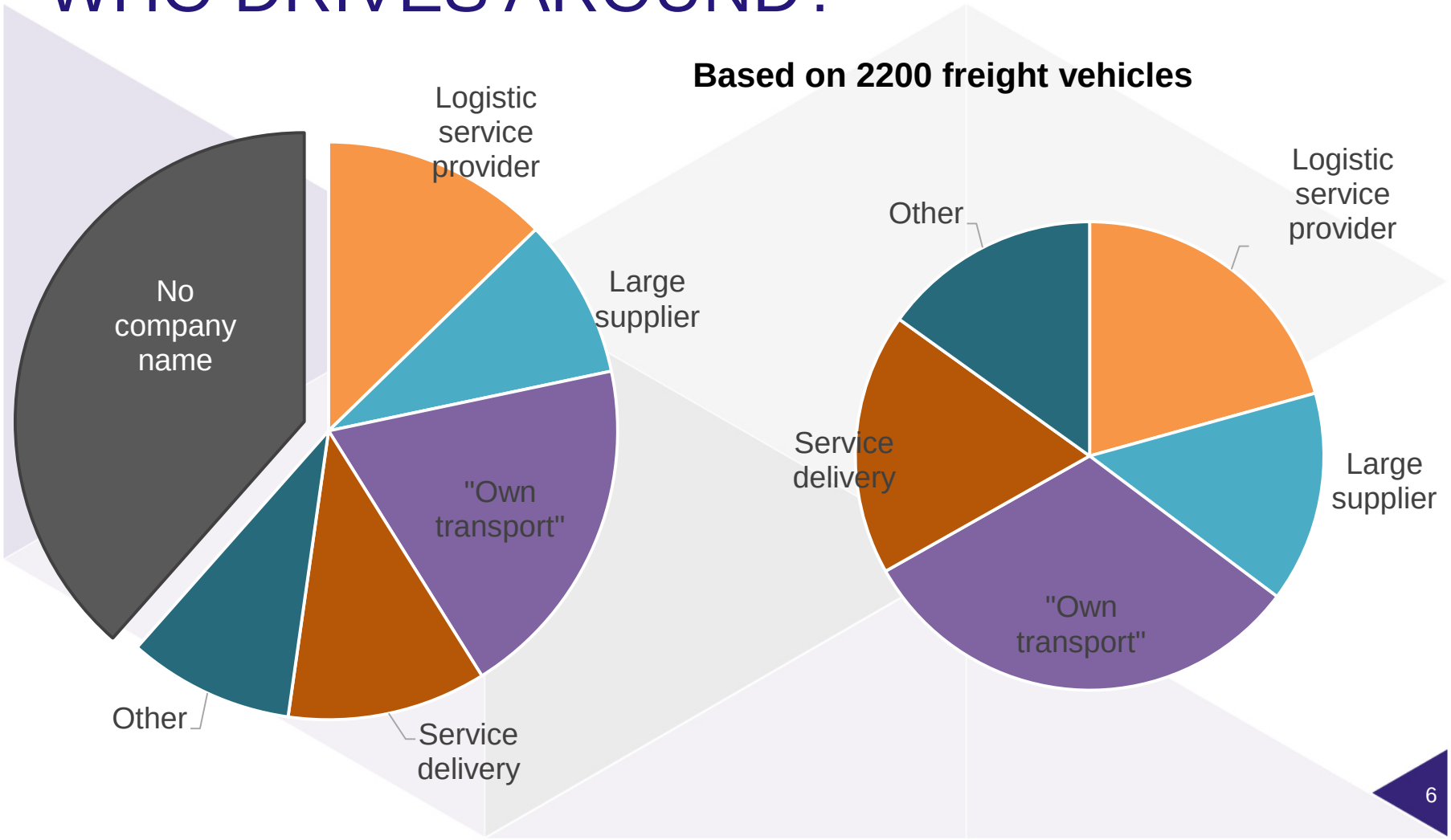
Almost half of the delivery vans are owned by a "natural person"

(e.g. private use or self employed)

Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

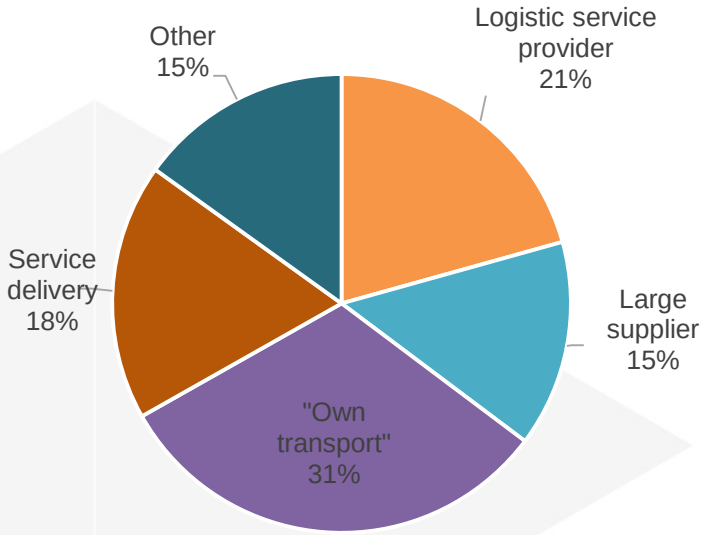
WHO DRIVES AROUND?



Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

WHAT DO THEY DELIVER?



Logistic service providers (21%)

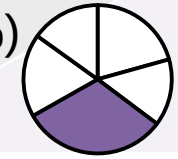
- Parcel (10%)
- General cargo (10%)

Large suppliers (15%)

- HoReCa and food services (9%)
- Retail food (2%)
- Construction/installation (2%)

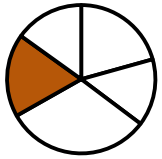
Own transport (32%)

- HoReCa and food services (13%)
- Construction/installation (12%)



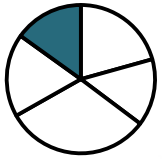
Services (18%)

- Service at customer's premises



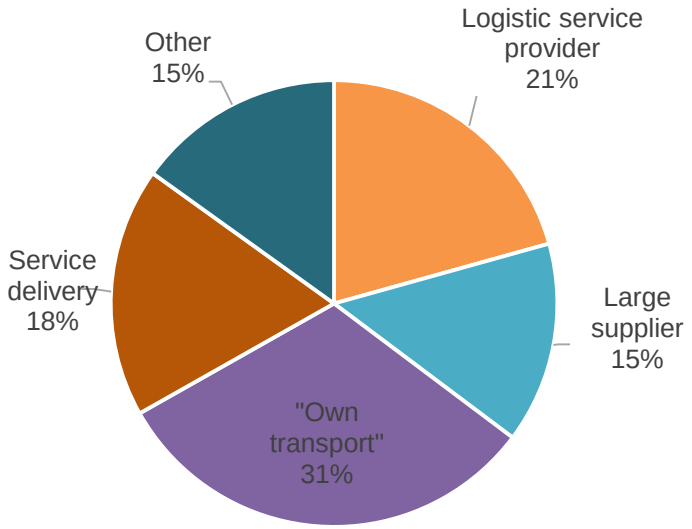
Other (15%)

- Waste
- Municipal services



Amsterdam University of Applied Sciences

CAN IT BE DECOUPLED AT A CITY HUB?



Logistic service providers (20%)

- Parcel (10%)
- General cargo (10%)

Many already use hub or warehouse

Large supplier (15%)

- HoReCa and food services (9%)
- Retail food (2%)
- Construction (2%)

Both supplier and freight need to be at the location

Services (18%)

- Service at customer's premises

Other (15%)

- Waste
- Municipal services

Majority is not suitable

Own transport (32%)

- HoReCa and food services (13%)
- Supplier (10%)

Potential, but often local supplier who values customer intimacy

Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

WHICH CHARACTERISTICS DETERMINE POTENTIAL OF CARGO BIKE?

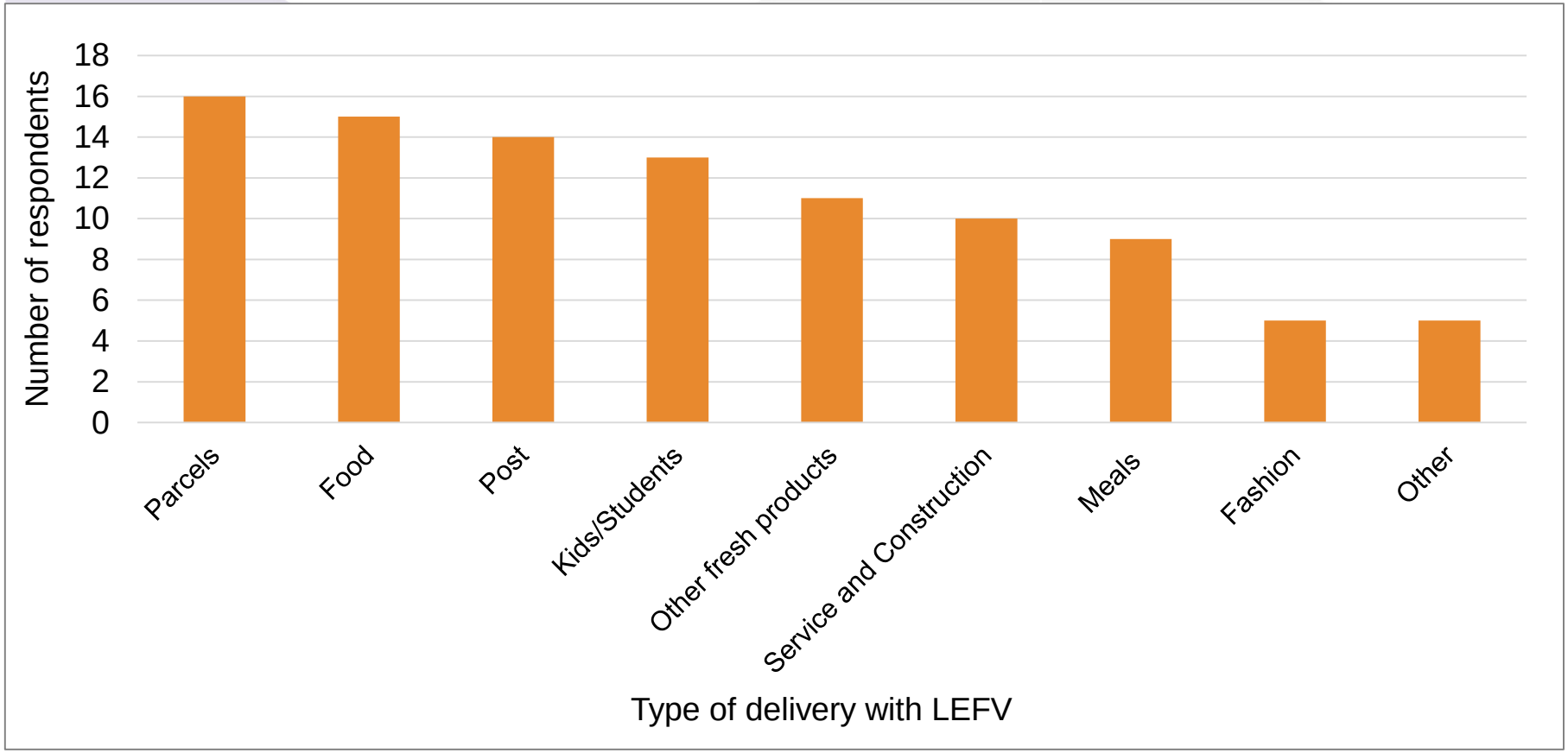
	Network density	Parking time	Type of shipments	Market
Parcel	High	Short	Small and medium size	Very competitive
Horeca/food	Medium/high	Medium	• Heavy • Time critical • Controlled	Customer intimacy
Construction and installation	Low	Medium/Long	• Diverse • Time critical	Scattered
Services	Low/medium	Long	Small	Operational excellence

Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

CURRENT USE OF CARGOBIKES

Use of LEFVs in The Netherlands, based on LEVV-NL survey (n=40)

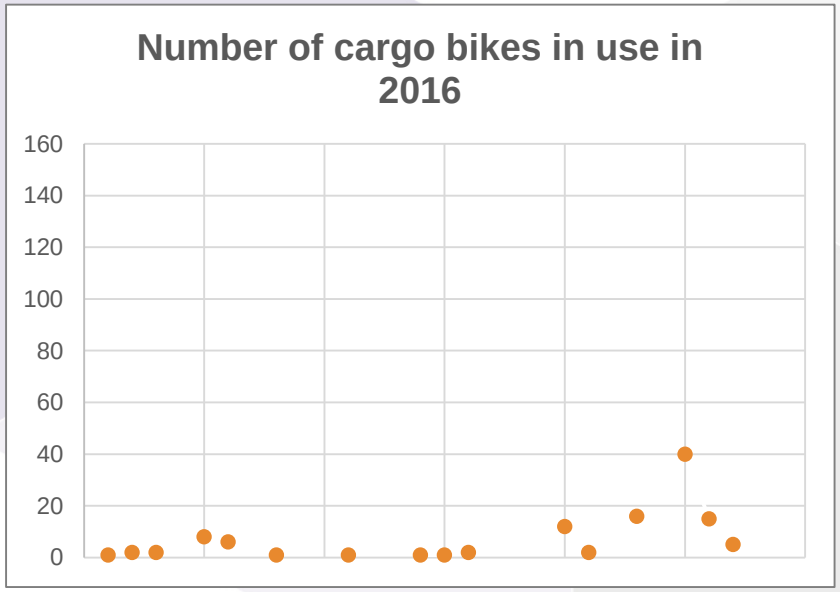


Amsterdam University of Applied Sciences

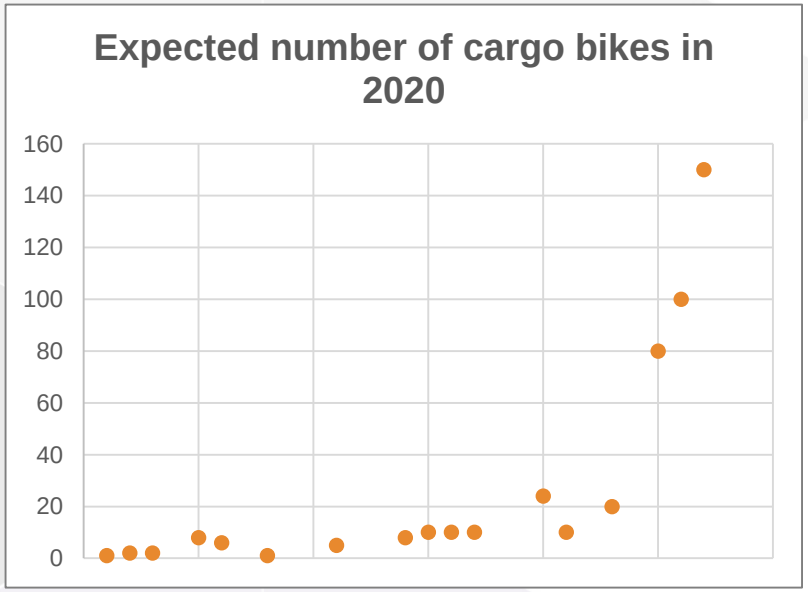
LEVV LOGIC LEVV NL

GROWTH IN CARGO BIKES PER USER

Expected growth of 300% for current users till 2020



average per respondent = 6



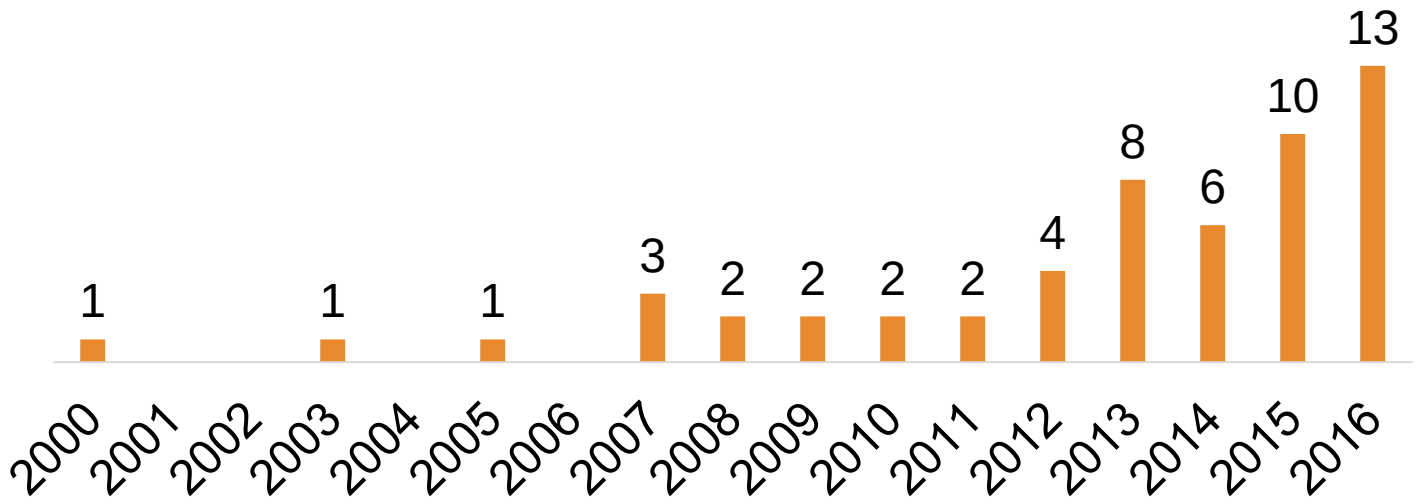
average per respondent = 27

Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

NEXT: MANY NEW USERS EVERY YEAR

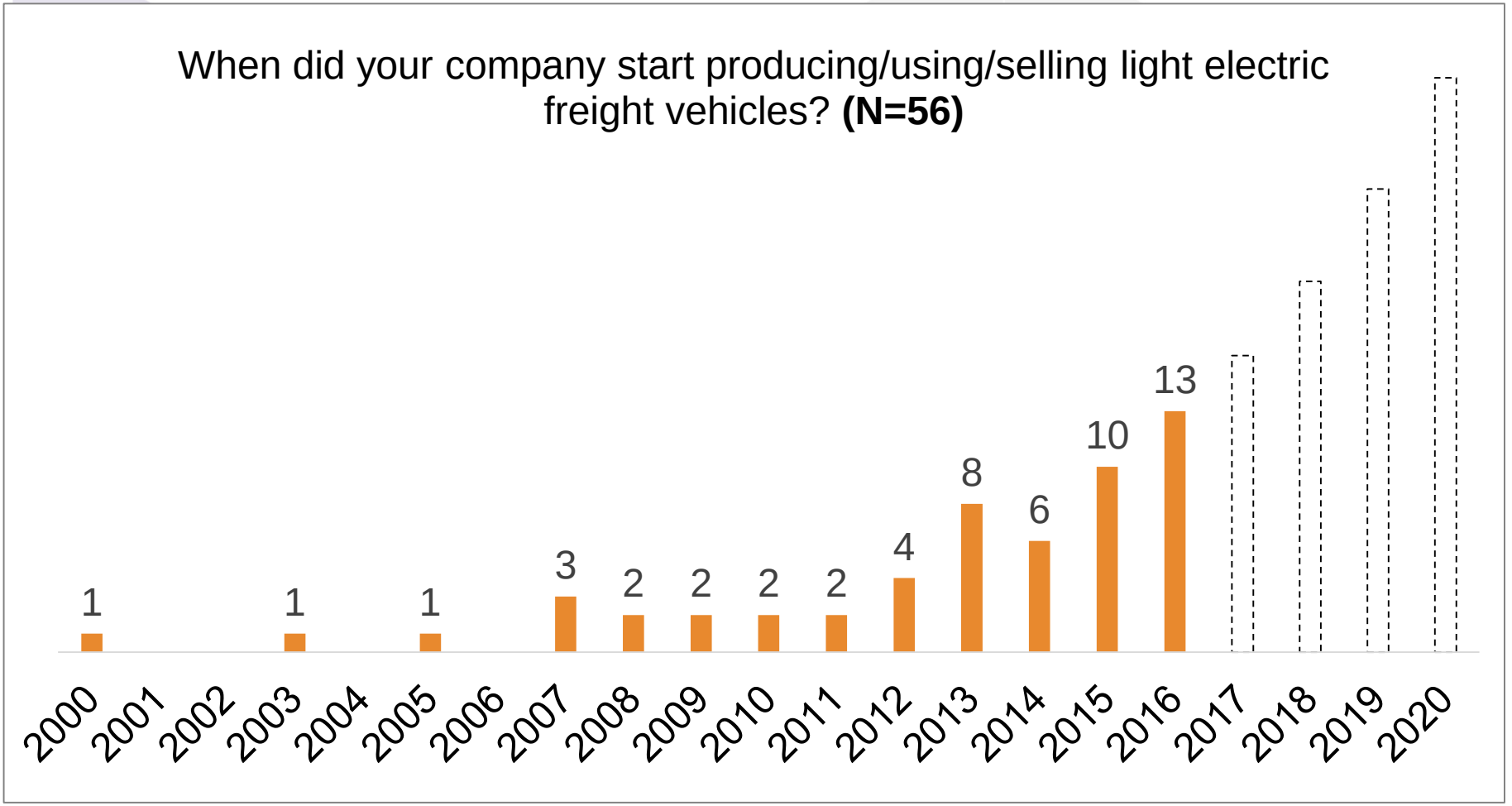
When did your company start producing/using/selling light electric freight vehicles? **(N=56)**



Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

THIS IS EXPECTED TO CONTINUE

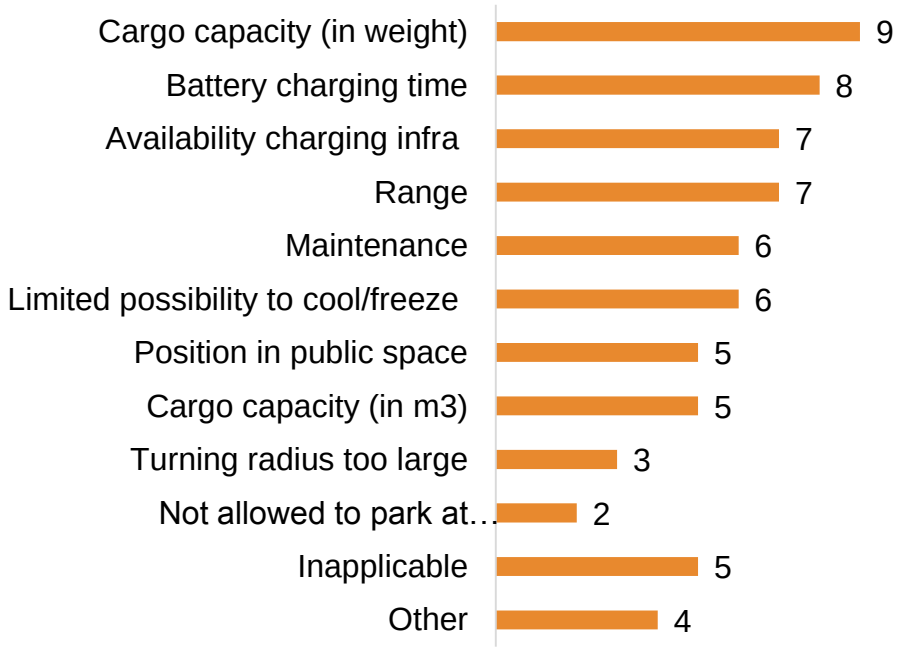


Amsterdam University of Applied Sciences

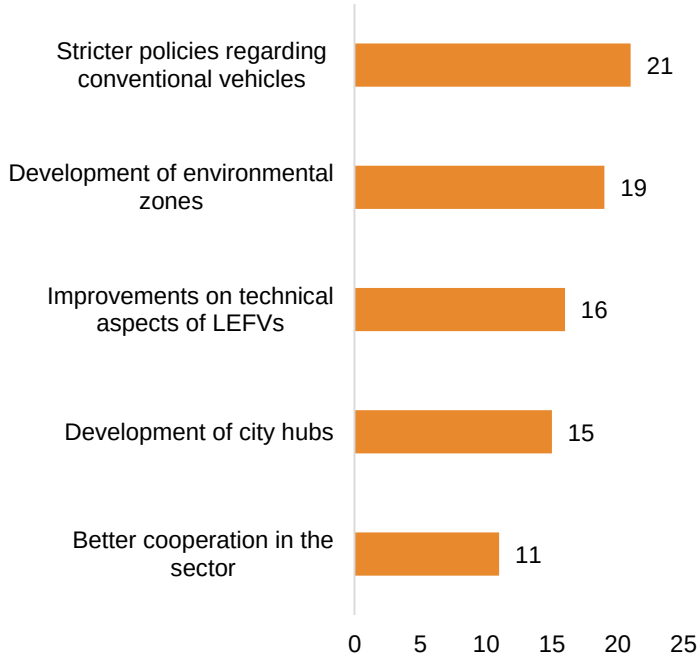
LEVV LOGIC LEVV NL

BARRIERS AND OPPORTUNITIES

What are the main problems with the LEFVs you currently use? (N=30)



Which opportunities do you see to increase the use of LEFV in the future? (N=28)



WHAT WE DO KNOW

1. City logistics is very diverse in term of delivery characteristics and type of operators. Large operators have their own hubs/warehouses.
2. Many freight movements take place within the network of a single supplier.
3. Many freight vehicles do not deliver parcels.
4. Many deliveries require the supplier to get over the customer's doorstep.
5. See 2, 3 and 4: these deliveries require a **different strategy and a different logistics concept** for selling or using cargo bikes.
6. Cargo bikes offer potential for many different deliveries, but current users experience problems with the loading capacity, range and maintenance.

WHAT WE DO NOT KNOW YET

- Detailed route characteristics per flow: including number of stops, number of deliveries a day, load factor, kilometres driven. 30-40% of vehicles is without company name: who are these operators?
- When will policies regarding conventional vehicles become more strict?

Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

QUESTIONS FOR DISCUSSION

- Do you have freight data from (camera) observations in your city? Do they give similar findings?
- Which critieria are most important in determining the potential of cargo bikes? (e.g. network density or parking costs)
- We collect different best practices in an online database. Can you provide examples for the various freight flows (food, services, construction)? See: https://levv-logic.shinyapps.io/dashboard/
- How do cargo bikes fit in the urban environment? Do local governments have specific policies regarding cargo bikes?

Amsterdam University of Applied Sciences

LEVV LOGIC LEVV NL

CONTACT DETAILS

Susanne Balm
Project leader E-mobility & City Logistics
Research Program Urban Technology

Amsterdam University of Applied Sciences
Hogeschool van Amsterdam | Faculty of Technology
Weesperzijde 190 | 1097 DZ Amsterdam
Postbus 1025 | 1000 BA Amsterdam

P: +31(0)6-21157771 | E: s.h.balm@hva.nl | W: www.hva.nl/levvlogic | T: @susannebalm

Loendersloot groep verkeer & meer

Fietsdiensten.nl

Amsterdam University of Applied Sciences

Connekt

Topsector Logistiek