

The economic pillar: a case study

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INTRODUCTION TO THE TOPIC

The cities have become the heart of the economy in the last years. It is a phenomenon that will only grow in the years ahead. The majority of the gross domestic product is already being produced in big cities.

The demand for goods and services in cities continues to rise. At the same time, the transport user wants his environment to be, and remain, liveable, or even more than that. Sustainable, efficient, and responsive urban logistics is essential for the economic vitality and the attractiveness of cities. Urban logistics ensures home deliveries of internet orders, it ensures that restaurants can serve their guests with fresh food, and it ensures that stores have the right stock.

Ensuring harmony between the economic function of mobility and its environmental aspects is a significant trend. This trend is in accordance with Green Deal Zero Emission Urban Logistics. The end goal of the Zero Emission City Logistics Green Deal is to reduce harmful emissions – i.e. CO₂, NO_x and particulate matter – and noise from city logistics to zero by 2025. Local experiments are being undertaken to explore how effective contributions can be made to this reduction. A practical example of the application of this local experiment is inspired by a solution from the Netherlands.



PRACTICAL APPLICATION IN THE CITY

The general plan is practically applied in Amsterdam. A current plan by the Amsterdam's city authorities aims to ban all petrol and diesel vehicles by 2030. The ban is part of the Actieplan Schone Lucht, or Clean Air Action Plan, and covers cars, trucks, mass transit and boats within a large zero-emission zone. Part of the plan includes unspecified subsidies and exemptions to help ease the burden of transition for city residents and businesses and more investment in Amsterdam's electric vehicle charging network. Hydrogen fuel cell vehicles are also seen as a viable alternative.

Initiatives aimed at reducing emissions from urban transport have existed in Amsterdam for many years.

Already in 2015, the City of Amsterdam is one of the active participants in the European electrified freight transport project. As part of this project, the TNT delivery service and the world-famous Heineken brewery operated freight transport by electric vehicles here. For example, TNT deployed a total of seven electric 3.5t commercial vehicles on its delivery service in Amsterdam and Rotterdam at that time – four for Amsterdam and three for Rotterdam. These vehicles replaced standard diesel vans, saving 24,000 liters of diesel per year and thus emissions equivalent to 76 tons of CO₂.

The City of Amsterdam has actively promoted this emission-free logistics, mainly through exemptions from the traffic regulations applicable to conventional trucks. Since March 2015, a total of 20 electric vehicles have received exemptions from parking bans in designated areas from seven different operators, allowing the vehicles to be loaded and unloaded directly at the curbside. The exemptions also allowed electric trucks to enter designated areas outside of designated hours as well as to enter some pedestrian areas. The areas for which exemptions were granted depended on the preferences of the project participants and the traffic situation. Electric truck operators could apply for an exemption according to the needs of their business.



SOLUTION EVALUATION

These exemptions have produced very concrete operational and economic results for carriers (operators):

- The ability to park directly at the loading or unloading point has led to a reduction in the driver's walk from the parked vehicle to the destination, averaging between 15 and 45 minutes per driver per day. This had a direct impact on drivers' labour costs.

- The time for loading and unloading a vehicle is reduced by 4 - 5 minutes, or a daily average of 25 - 30 minutes per operator. This in turn led to a reduction in the cost of the entire logistics chain.
- Another consequence has been a reduction in the overall daily throughput of trucks, including the need to find a suitable place to park. This had a significant benefit for the productivity of the vehicles, which could make 5 to 6 more loadings or unloadings per day.

In addition to these operational and economic benefits, significant "soft" psychological and social benefits have also been recorded, both for the operators themselves and for other residents of the city:

- These exemptions put less stress on drivers, who make fewer mistakes. Normally, the driver pays the fine for incorrect parking out of their own money. In their haste and fear of fines, they naturally make mistakes. The number of such incidents has significantly decreased as a result of the exemptions granted.
- Another benefit was the reduction of aggressive behaviour of other road users towards vans stopping at unauthorised places for the rapid delivery of goods.

CONCLUSION

Both Amsterdam and Rotterdam present themselves as smart cities. This is also reflected in their approach to electrified urban logistics.

From its experience, the City of Amsterdam has drawn some useful recommendations for possible successors:

- In particular, it is advisable that the exemptions granted are sufficiently long, i.e. longer than one year. This will enable operators of electric trucks to organise their logistics chains accordingly in the long term and thus reap the full benefits of the exemptions.
- It is desirable to apply exceptions wherever it makes sense - not only in urban centres, but also outside them. In addition to allowing access to designated zones, it is advisable to allow electric vehicles to operate in designated lanes, e.g. tram lanes.
- At the same time, much stricter enforcement is needed from all road users who have not been granted exemptions. This will prevent a situation where a vehicle with an exemption cannot use it in practice because it is prevented from doing so by the non-compliance of other drivers.



All these measures naturally motivate urban logistics operators to operate electric vehicles, as the economic benefits compensate for their higher acquisition costs compared to comparable conventional vehicles in a situation where operating cost savings alone are not sufficient.

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