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# **Comparing the procurement and tendering process for electric buses in the Utrecht and Hamburg region**



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## Summary

*In Germany, public transport organizations are mainly owned by public authorities. Procurement in Hamburg involves the buses and infrastructure instead of transport services. The procurement process for buses and infrastructure is performed by the transport companies. Such processes must meet German and European public regulations. Therefore, public tender and procurement procedures for buying buses by German Public Transport Operators (PTOs) can be more complex and lengthier than procurement by private PTOs in other countries. As a result, the public transport companies are not primarily driven by profitability, but also by obligations towards the public and political aims. Obligations can comprise to provide affordable, environmentally-friendly transport services for the citizens. In Hamburg, the public authority incorporates obligations (requirements) for the e-buses in their tendering documents.*

*In Utrecht, as well as most of the rest of the Netherlands, public transport is carried out by private companies, under an operating contract (concession) with a public transport authority. In Utrecht, this authority is the province of Utrecht. The e-buses are the operators' private property and they are obliged to account to the province of Utrecht for their implementation of public transport. When the province of Utrecht procures the operation of public transport services by means of a European tendering process, private transport companies can offer a bid for this tender. Both, the authority and operators, want to provide good public transport for their customers, but they both have different goals. The operators want to earn a reasonable profit margin on public transport, while the authority wants to fulfil certain public policy goals. The tendering process is where these two come together. It is a strong mechanism to get the best 'value for money' out of the market – for example, the most public transport, or the highest number of e-buses running in the area, within the available budget of the public transport authority.*



## Introduction

In Europe, the majority of citizens live in urban areas. Urban transport systems are vital to the functioning of cities through their provision of accessibility for goods, commuters and social activities (EC, 2017). However, the transportation sector has a major impact on air quality, energy consumption and CO<sub>2</sub> emission and noise. The large-scale introduction of electric buses is the solution to these sustainability problems. Therefore, the Hamburg region in Germany decided to procure only emission-free buses from 2020 onwards. In the Netherlands, the Utrecht region has set an even more ambitious target that aims at changing its bus fleet towards a completely emission-free (from tank-to-wheel) public transport system in 2028. This thematic article compares the procurement and tendering process for electric buses in the Utrecht and Hamburg region.

We look into three different topics. First, we continue our earlier discussions on the ownership structure of the public transport value chain (see, de Boer et al., 2020). Second, the way ownership is managed also affects the entire procurement process. And third, in the end, everything comes down to financing. Fourth, we sum several benefits and difficulties that can be distinguished in both regions related to procurement and tendering. Finally, we have a quick view on the ambitions from Hamburg and Utrecht regarding public transport with e-buses.

*Heuliez electric buses in Utrecht (Copyright U-OV)*



## **Ownership structure**

First, we look into the ownership structure of the public transport value chain. In Germany, public transport organizations are mainly owned by public authorities. There are two transport operators in Hamburg that operate e-buses: Hochbahn (HHA) and Verkehrsbetriebe Hamburg-Holstein (VHH). Hochbahn is 100% owned by the City of Hamburg, while the city owns approx. 94% of VHH. The remaining shares are owned by four adjacent districts. As a result, these companies are not primarily driven by profitability, but also by obligations towards the public and political aims. Obligations can comprise to provide affordable, environmentally friendly transport services for the citizens. Some aims of PTOs are given by the Hamburg Senate, which in turn are influenced by EU-level aims, such as the envisaged transition to zero-emission bus fleets in Hamburg by 2030. As to the pros and cons of publicly owned operators, they can (theoretically) be a little more courageous when it comes to experiments like introducing e-buses. They cannot go bankrupt, but they have to justify their annual balance. On the other hand, public companies might have a lower intrinsic pressure to innovate due to the lacking competitive situation. This depends a lot on company culture and political aims.

In the Netherlands, public transport is often carried out by private companies, under an operating contract (concession) with a public transport authority. This is the case in Utrecht, where the public authority is the province of Utrecht. When it procures the operation of public transport services by means of a European tendering process, private transport companies can offer a bid for this tender. The winning operator is selected by a pre-defined set of evaluation criteria and has then the obligation to carry out the public transport in this area for a predefined period (mostly 8–10 years). Both, the authority and the operators want to provide good public transport for their customers, but they both have different goals. The operators want to earn a reasonable profit margin on public transport, while the authority wants to fulfil certain public policy goals. The tendering process is where these two come together: based on their policy goals, the authority defines the minimum standards for public transport services in the tender documents. The tendering process itself is a strong mechanism to get the best ‘value for money’ out of the market. It can be, for example, the most public transport, or the highest number of e-buses running in the area, within the available budget of the public transport authority. So, the e-buses are the operators’ private property and they are obliged to account to the province of Utrecht for their implementation of public transport.

## **Tendering and procurement of transport service and e-buses**

Procurement in Hamburg involves the buses and infrastructure instead of transport services. Due to the public ownership, the City of Hamburg can award a contract directly without having to procure transport services. Instead, the procurement process for buses and infrastructure is performed by the transport companies. Such processes must meet German and European public regulations. Therefore, public tender and procurement procedures for buying buses by German PTOs can be more complex and lengthier than procurement by private PTOs in other countries. In Hamburg, the public authority incorporates obligations (requirements) for the e-buses in their tendering documents.

In the Utrecht region, the province tenders transport services rather than buses and infrastructure. With the tender process, the province of Utrecht selects a private operator to operate the transport services in the area. As part of the operating contract (concession), the operator is responsible for procuring buses and charging infrastructure to meet the demands of the operating contract. Because the operating contract between the province and operator was already publicly tendered, the European and Dutch tendering rules do not apply to the procurement of buses by the operators. The operators are free to buy buses and charging infrastructure from any manufacturer, without any complex tender procedures. Of course, the buses have to comply with the minimum standards as laid out in the operating contract, and the tendering of the operating contract makes sure that operators have a strong incentive to get an affordable price for the buses – especially the buses offered in their original bid for the operating contract. If the authority wants to introduce more e-buses than originally specified in the operating contract, it is possible to make additional agreements about that with the operator, but the authority cannot force the operator to do anything more than specified in the operating contract. So new developments beyond the operating contract are possible only when the authority and the operator agree on it – which means that if it leads to higher costs, the operator will only do so when these costs are compensated by the authority. In Utrecht, the public authority also includes obligations (requirements) of the e-buses in their tendering documents in addition to several operational matters.

## Financing public transport

*Table with key figures<sup>1</sup> for public transport by bus:*

	<b>Number of passengers per year</b>	<b>Number of buses running in the region</b>	<b>Governmental funding</b>
Hamburg	323.3 million <sup>2</sup>	2,335 <sup>3</sup>	138.2 million <sup>4</sup>
Utrecht <sup>5</sup>	57.1 million	586	152.2 million

Financing public transport in Hamburg is depending more on political aims and agendas rather than the strict best value for money principle. Due to the public ownership of public transport in Hamburg, the costs of the public transport operators are represented in the budget planning of the senate of Hamburg. Overspending of

<sup>1</sup> Numbers for 2019

<sup>2</sup> Passengers in public bus transport for VHH and HHA

<sup>3</sup> Area covered by Hamburg transport association (HVV), i.e. Hamburg and adjacent districts

<sup>4</sup> Source: Publication in relation to Art. 7, para. 1 Regulation (EC) No 1370/2007, compensation payments for HHA and VHH for bus services in the City of Hamburg, plus compensation payments in relation to § 45 a PBefG (for students' season tickets), does not include national or EU funding

<sup>5</sup> Source: JAAR- EN TRENDRAPPORTAGE 2019 OPENBAAR VERVOER PROVINCIE UTRECHT



public transport operators will be balanced according to the regulations of the direct contract (compensation payment). The cost recovery rate of public transport operators lies between 83% to 90%. Additionally, in Germany, various possibilities for federal funding exist. For example, by the Federal Ministry of Transport and Digital Infrastructure, or the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. Also, EU-funding is being used, such as Horizon2020 or Interreg programmes, or via the European Investment Bank.

The public transport operators in Utrecht are financed differently, i.e., on the basis of the operating contract. The province of Utrecht receives a yearly grant from the national government for public transport (as well as a range of other policy fields). The public transport operators are subsidized on a yearly basis for the operation of the public transport services. The price that the authorities pay for these transport services was determined by the tendering process, which guarantees that it is the best value for money. It is possible to award additional subsidies for new developments, which are not part of the original operating contract (e.g., the introduction of new e-buses during the operating contract – see above). In this case, there is not a strong incentive by a tendering process to keep the prices low.

*Charging of elexity e-bus called Elise at VHH  
Source: VHH/Wolfgang Köhler*



## **Advantages and disadvantages**

In Hamburg, publicly owned public transport has a number of advantages. The finances are secured, and the transport operator does not have the same economic pressure as a private company. There is Governmental support to drive with e-buses. Currently, 80% of the higher costs of e-buses compared to diesel buses are funded by the national government. Innovation requirements and zero-emission aims for PTOs can easily be set by the authorities. This is done with the opinion that the financial safety of PTOs can support the innovation and testing of novel concepts. Hamburg experiences disadvantages on the following levels. As a result of the ownership structure, public transport companies have generally less pressure or motivation to innovate and investments in the future are not rewarded that much. PTOs perceive the EU-procurement procedures for buses and infrastructure as complex. In addition, it is considered bureaucratic and lengthy to apply for federal funding for the e-bus transition. At last, the requirements for funding are sometimes contradicting the wish to procure innovative technology.

In Utrecht, one sees several advantages of the current tendering processes in the Utrecht Region (and the Netherlands in general). Clear financial arrangements are made between the authority and the operator. It is regarded that tendering the operating contract is a very strong incentive to get the most or best public transport out of the available public money. These incentives can include incentives to maximize the number of e-buses in the contract, which in several other Dutch areas has led to very large fleets of e-buses (>100 buses) being introduced at the start of the contract. The tendering of the operating contract can also include strong incentives to introduce innovations at the start of the contract to win the contract. Another advantage is seen in the procurement of the (e-)buses being carried out by the operator that has the most knowledge about the operation of the buses. This means that no complex tendering processes are needed when new buses are being introduced, which can make it easier or faster to introduce new buses.

However, there are also several drawbacks of the tendering process as organised in the Utrecht region. First, tendering of the operating contract (concession) is a lengthy and expensive process, with a team of 5–10 people working more than two years on it. Second, there is often less incentive to innovate after the start of the operating contract, and especially towards the end of the contract. When new buses are introduced during the contract, which was not specified in the original contracting documents, a price has to be agreed between the authority and the operator, in which case there is less incentive for a low price. And third, the incentives in the tendering process for the operating contract can be so strong, that the winning operator is not able to make a profit – which will make them less eager to innovate or invest during the operating contract.

## **Ambitions regarding public transport with e-buses**

The City of Hamburg aims to achieve zero emissions in public transport by 2030. After the first e-bus being in operation in 2014, the upscaling of e-mobility started in the years 2018–2019 when 46 vehicles began regular operation. In combination with

the plan to provide public transport in intervals of not more than 5 minutes, the e-bus upscaling will lead to a jump in procured e-buses in Hamburg in the coming years. The province of Utrecht is about to start with the introduction of zero-emission public transportation on a larger scale. In 2016, the province of Utrecht adopted the 'Energy Agenda 2016–2019', in which the energy and climate ambitions of the province of Utrecht are formulated (PU, 2016). The province's ambition is to become climate neutral by the year 2040. To be able to reach this ambition the public transport sector will need to change its fleet towards completely emission-free public transport in 2028. This goal is also formulated in the 'Provincial Coalition agreement' (PU, 2015).

[www.interregeurope.eu/ebused](http://www.interregeurope.eu/ebused)

*eBused project supports regions in the transition towards low-carbon mobility and more efficient public transport in Europe by promoting the use of e-buses.*