

Gothenburg



A rapid electrification of Gothenburg's bus fleet

Electrified buses have become a common sight in the streets of Gothenburg, a city on the western coast of Sweden and a Mission city for the 100 Climate-Neutral and Smart Cities by 2030. Over 300 electric buses operate in Gothenburg, but just a decade ago there were little to none. Gothenburg's city buses are almost all electric. By 2030, the aim is for all city buses in the region to be 100% electric – that's more ambitious than the national goal. Although the city is not involved in eBRT2030, members of the project team travelled to Gothenburg to learn more about the city's transformation and how change is possible at such a rapid pace.



Collaborate, trial, learn – repeat

For Marie Albihn, a strategist on the electrification at Västtrafik, the regional public transport authority, this success lies in working together. Through the “ElectriCity” partnership, local stakeholders in the industry, research and the public sector had the experimental space to partner together and test innovative electric transport solutions. The collaboration started in 2015 with the introduction of electric buses on a new line in Gothenburg. Then, “the collaboration was so successful that in the project we wanted to continue. We made another project to electrify two buses on another more high-capacity transport bus line” stated Gunnar Ohlin, coordinator of the ElectriCity Partnership at Lindholmen Science Park.

Where did this collaboration stem from? A common vision from the top management such as Volvo’s CEO, the Mayor of Gothenburg and the director of the region. Although some of their goals varied, they reached a united commitment to make urban mobility more sustainable. Integral to this success was Volvo’s HQs being in Gothenburg – the OEM put a lot of time, funds and energy into ElectriCity.

Gothenburg’s collaborative mindset extended beyond its borders, especially as it had completed the biggest procurement of electric buses in Scandinavia. “All these projects and interactions with other cities like Copenhagen, Helsinki, Oslo, Reykjavik– together we have an e-bus Nordic group made of PTAs – has been beneficial. Having deep confidential discussions with representatives from other cities about our challenges, which are similar, like for procurement requirements, and solutions was essential. It gave us the courage to be bold” underlines Marie Albihn.



Procuring electric buses

Public transport users of Gothenburg and Västra Götaland were also lucky. In 2019, Västtrafik started a new procurement process for city buses – the timeframes of the ElectriCity pilots and the PTAs procurement processes were in line. The Västra Götaland region, who owns Västtrafik, also required from the latter to implement e-buses into existing contracts in a diversity of locations and scenarios with different types of buses and public transport operators. Electric buses were integrated into a heavy line in Gothenburg and all bus lines of the small town of Lidköping, for example. The goal was to learn more about the electrification of buses into contracts with PTOs and the management of these contracts.



Same ambitions, different challenges

Västtrafik is electrifying both Gothenburg, Sweden's second biggest city, and smaller cities and rural areas. The challenges are immensely different. Peter Lindgren, an Innovation Strategist on Electrified Transport at the City of Gothenburg, explained that the city's grid is increasingly pressurized, and spatial constraints pose hurdles to establish well-located bus depots for charging and parking. The layers of decision-making are complex in a city the size of Gothenburg's, with changes requiring long processes of negotiations. In smaller towns and rural areas, the electrification process is generally more straightforward, but comes with its own unique challenges.



What about Bus Rapid Transit (BRT)?

Gothenburg's buses are electric, yet its bus network remains largely unchanged. It has a star-shaped configuration with many tram and bus lines converging in the city, leading to congestion. Efforts to revamp the public transport system into a more efficient one are underway, but this is no easy task due to the Göta Älv, a river that divides the city and lacks adequate bridges and tunnels. Gothenburg also has a rapid population growth.

With these challenges in mind, could BRTs support Gothenburg's public transport system? Discussions have taken place, but BRTs have largely been dismissed as a viable solution. For Peter Lindgren, the city simply lacks the necessary space and the funds to implement BRTs. While dedicated bus lanes exist on the main roads leading to the city and many roads within the city, a full BRT system within the city's narrow road network is unfeasible. However, buses and trams have priority at all traffic light intersections.

The shift from private cars to public transport has been slow, and congestion is still high. To tackle this, Västtrafik is prioritizing the enhancement of the rail networks and improving connections between the region and Gothenburg.

All aboard!

After the successful electrification of buses, the ElectriCity partnership is embarking on the electrification of other modes including waterborne public transport, heavy duty vehicles for construction sites (Electra), electrification of regional bus lines (DREEMER) and advancements in IT systems in public transportation (BaaS).

As Gothenburg unveils its Sustainable Urban Mobility Plan (SUMP) and strategic plan for the electrification, digitalisation and automatization of traffic, keep an eye on Gothenburg's transformative journey towards a more sustainable transport network!

While this city profile was created as part of eBRT2030, the activities and advancements as mentioned were not conducted in the framework of the project.



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