



Volvo Bussar AB

Press Information

European Bus System of the Future

Tomorrow's bus tested today in Göteborg

Easier boarding, shorter journey time and a more comfortable trip. As the city bus of the future undergoes testing in Göteborg, passenger wishes are in firm focus.

Public transport plays a decisive role in solving urban congestion and air pollution. But what can be done to persuade more people to leave their cars at home and use public transport instead? A foretaste of what will attract tomorrow's passengers can be seen on the streets of Göteborg, where a new bus will be in regular service for three months on the city's busiest bus route, no. 16.

Within the framework of European Bus System of the Future (EBSF) programme, researchers, companies and public authorities are working together to create new solutions for tomorrow's bus-based public transport.

One of the sub-projects is taking place in Göteborg in the form of a cooperative venture between Volvo Buses, Chalmers University of Technology, public transport authority Västtrafik and transport operator Veolia. The aim is to develop and test a bus with properties designed to attract more passengers while at the same time offering the conditions needed for cost-efficient operation.

Focus on passengers

"The optimal city bus must be inviting and safe to ride in, it should be convenient to board and exit, and the journey should be quick. These are the main areas on which we have focused with the new bus we are currently testing in regular service," says Peter Danielsson, project manager at Volvo Buses.

The starting-point for the design of the new bus is a behavioural science study and various simulation exercises in which researchers from Chalmers investigated how passengers respond to different situations on a typical journey. The researchers also interviewed 300 passengers who regularly use route 16 to find out what they feel about using public transport. The result is an articulated bus that differs in many respects from the vehicles that normally operate on the streets of Göteborg.

Cutting journey time

In order to make it easier to get on and off the bus, the door openings at the front are much wider than normal and are located behind the driver so passengers walk straight into the bus. The doors open outwards so as not to encroach on passenger space and they open and shut with a quick sideways movement, somewhat like on a metro carriage. Boarding height adjusts closer to kerb height at the bus stop to make things easier for passengers with mobility difficulties and those with baby carriages.

“With these solutions, we can speed up passenger flow and reduce standstill times at bus stops by up to 25 percent. This means we shorten the overall journey time, which is a factor of considerable importance to passengers,” says Peter Danielsson.

Giving the bus a welcoming interior was another important consideration. For instance, the articulated ‘concertina’ section in the middle is made of a transparent material to admit more light. In addition, the interior layout has been changed to increase passenger capacity by 20 percent compared with a conventional articulated bus.

“By positioning the front axle as far forward as possible, the wheel housings do not take up any of the passenger space. And in order to accommodate more standing passengers during peak periods, the seats in the front part of the bus fold out of the way and can be electronically locked upright by the driver,” explains Peter Danielsson.

The most noticeable difference compared with a regular bus is the central driver’s seat, giving the driver better all-round visibility and thus also improving traffic safety. The front of the bus is designed to create a modern look.

Training in eco-driving techniques

“One important aspect of the project is to test and monitor how changes in driving style can help give passengers a more pleasant journey, for instance through gentle braking and acceleration. As part of the project, we have therefore equipped all the buses on route 16 with features that help the drivers drive gently. All the drivers on this route have also received training in docking at bus stops in such a way that passenger entry and exit is made easier,” relates Magnus Lorentzon, project manager at Västtrafik.

Follow-up in the spring

Both driver and passenger feedback will be monitored by Chalmers during the course of the project.

“For instance, we are starting up a focus group consisting of passengers who meet regularly to offer their views. In addition, we will conduct a large number of passenger interviews in February,” says MariAnne Karlsson, researcher at Chalmers.

The survey results will be presented in spring 2012 and will indicate whether tomorrow’s bus is here to stay.

EBSF facts

The sub-project in Göteborg is part of the European Bus System of the Future research programme which is supported by the EU. There are 47 partners in the research

programme, including Europe's five largest bus manufacturers. The total budget is 26 million euros. More information can be found at ebsf.eu

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