



FRANCE

Bus with a High Level of Service: the Busway of Nantes

Background/context

In order to improve sustainable and affordable mobility in urban areas, France launched in 2005 buses with a high level of service (BHLS), a concept of its own that borrowed from the bus rapid transit system developed in the United States as well as experiences from several French authorities, including those of the Île de France and Rouen (the TEOR project). Similar systems have been implemented elsewhere in Europe, including the trunk network in Stockholm and the quality bus corridors in England and Ireland.

Case description

Nantes Métropole is a conurbation in the west of France with nearly 600,000 inhabitants. Three tram lines have been re-introduced since the 1980s.

Line 4, dubbed the Busway, is the fourth tram line. Having entered into service November 6, 2006, this 7 km route has 15 stations. It connects the ring road to the centre of Nantes, a trip that takes 20 minutes, with vehicles departing every four minutes at peak hours.

Though it is a bus route, Line 4 incorporates the best elements of tramways: dedicated lanes, well-designed and equipped stations, priority at intersections, high frequency and extended hours and four park-and-ride facilities.

The operator Semitan and the urban authority Nantes Métropole are the main stakeholders.

Cost and Financing

INVESTMENT COSTS

Infrastructure: €50 million (without tax) for 7 km, which includes studies, designs, running ways, park and rides, stations, road works joining the project, and system and operating tools.

Rolling stock: €9.2 million (without tax) for 20 natural-gas fuelled articulated buses.

The average cost per kilometre reaches at €8 million/km, about a third as much as for a tramway project.

OPERATING COST

Operating costs are about €3.6 per vehicle per km, just a little less than the €3.9 for a tram line.

Results

REGULARITY AND SPEED

The line reaches the same very good regularity as the tram lines due to the high-level infrastructure. The operating speed is a little higher, from 21 to 23 km/h during off-peak hours.

RIDERSHIP

The line quickly attracted substantial ridership, increasing from 17,000 users/day when it went into service to 21,000/day after four months and 23,000/day after one year. As the park-and-ride lots are always full, extension projects are under way.

SAFETY

Drivers of private cars respect the dedicated lane, and they also understand and respect the traffic signals. No accidents have been registered to date.

Due to problems of crowding at peak hours, the frequency was increased to a departure every 3.5 minutes in September 2007. The next step may be the introduction of larger capacity vehicles, such as 24.5 metre long, bi-articulated vehicles. The route may also eventually be converted to a tramway line.

Transferability and success factors

In all countries, buses have an important share of urban public transport but they are increasingly caught in congestion which leads to slow journey times, unreliability, increasing costs, dissatisfied customers, declining market share and a deteriorating image. Moderate bus priority schemes, new buses and marketing efforts cannot overcome the basic perception among customers that buses do not meet their needs.

BHLS systems can and should be adapted to various contexts. They can help:

- provide rapid bus systems that complement metro and tram systems;
- greatly improve the operating speed, reliability and image of the bus; and
- reduce operating costs.

However the capacities of BHLS are limited, due to the size of vehicles.

Lessons learnt

BHLS is a type of public road transport designed for main network services, which meets specific requirements in terms of efficiency and performance. The comprehensive approach of the system is very important and implies that vehicles, stations, traffic lanes, line identification and operating methods are dealt with in a coherent and sustainable manner.

Some difficulties in implementing such systems include:

- persuading stakeholders of its merits (even more difficult than for a tramway project);
- settling on a design that is as attractive as for a tramway system, one that includes grass running ways for example (The Nantes and Rouen projects have shown that good results can be achieved.); and
- persuading the road safety ministry to apply tramway signalisation to a busway in order to maintain a high level of safety (In Nantes, a safety impact assessment should be delivered by end 2008).

References and contacts

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