ANALYSIS OF EQUIPMENT THE BUS STOPS ABROAD

Hana Jurkovičová[1]

Introduction

Abroud is the quality of the stops and their equipment at a much higher level than in Slovakia. Great emphasis is also placed among other things on the design stops, passenger information, comfort and ensure accessibility for people with disabilities and reduced mobility.

The Intelligent stops in the Czech Republic

The Intelligent Stop bringing further improve the quality of bus services. In Pilsen were the end of 2012 the public transport bus stops placed information boards that provide date information from the operation (fig.1).

Fig. 1 Intelligent stop in Pilsen [2]

[1] Ing. Hana Jurkovičová, Ministerstvo dopravy, výstavby a regionálneho rozvoja Slovenskej republiky, Námestie slobody č. 6, P. O. BOX 100, 810 05 Bratislava, e-mail: hana.jurkovicova@mindop.sk

Electronic information system is connected to the dynamic dispatching and provides passengers at the stop "live" text and audio traffic information. Information tables show the number of lines, the direction in real time to the next departure boards and in addition, the dispatching text messages informing passengers about changes in the operation. Times the expected departures dispatcher sent directly through its own radio network and passengers are informed of the current delays of connections.

Intelligent system of stops is the most important in situations, when the traffic flow is disrupted such as traffic accidents or traffic condensed. In this case, the stops become the only immediate communication channel who can all passengers at the stop to inform about the current situation.

The system is also equipped with acoustic equipment for the blind and visually impaired passengers. Panels with information boards can read information about connections from the stop just when a key of special driver is pressed blind. Sound system will be used for notification in the event of serious situations or endangering safety of passengers. In this case the dispatcher can talk directly through a speaker to passengers.

The Intelligent stops are also located for example in Olomouc. All vehicles are equipped with radiomodems that when it closed the door sends a signal to the equipment of passengers to electronic information system at the stop. After receiving the signal about the stop equipment it on display of information board clears the connection. Information board sends the information to the next intelligent stop on the route of lines where updated departure time of the line. At the same time, this information can be recorded in the information boards given at the stops and the dispatching.

The Intelligent stops can also be found in other European countries, such as Germany, Switzerland, England, etc.

Stops in Dubai

First bus stops, which are air-conditioned are located in Dubai (fig. 2). Stops are equipped with display which displays the temperature outside and inside the stop. Currently underway a pilot project in which the bus shelters handle wifi connection.

Fig. 2 Air-conditioned bus stop in Dubai [3]

Solar Bus Stop

Solar bus stops are a great combination of bus connections and power production. It also provides a way to ensure better service to passengers. Lighting at bus stops gives passengers a greater feeling of security. Lighting can be used not only to illuminate the space of stop but also to the lighting timetable which can improve its readability at night. Solar systems depend on light intensity direct sunlight is not necessary. Advantages of solar lighting are especially cost effective, use of renewable energy sources, use of energy-saving LEDs, better visibility of the bus stops at night, comfort and safety of passengers at bus stops, long service life and low maintenance costs.

Solar bus stops are in Germany, for example (Fig. 3), in California, England and etc.

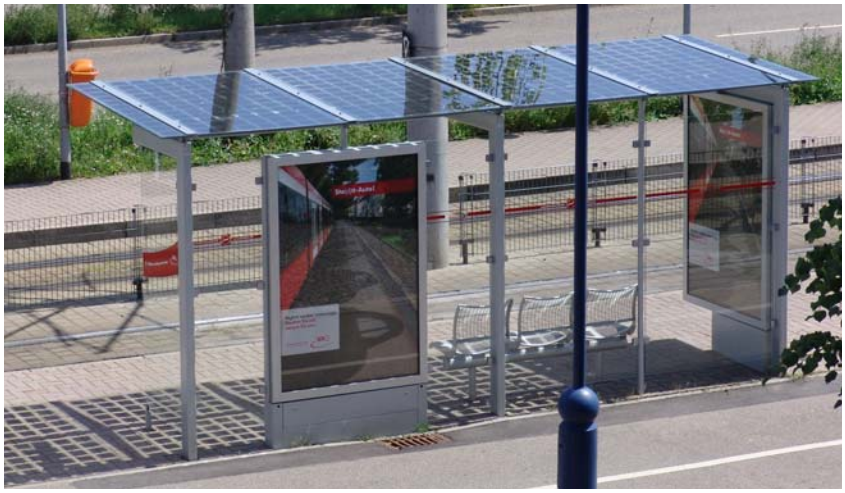

Fig. 3 Solar bus stop in Freiburg in Germany [4]

Barrier free at bus stops

The stops are wheelchair adapted in various ways. They are used the increased boarding islands, in England at certain stops is used the system BusPad (Fig.4). BusPad system has high durability, high visibility platform edge and is made from recycled material (rubber).

Fig. 4 Increased boarding islands – system BusPad [5]

Bus stop EBSF

French carrier RATP from May 2012 experiments on the pilot bus stop of future near Gare de Lyon, in Boulevard Diderot in Paris. The experiment is part of the project EBSF coordinated by UITP. Scheme of EBSF bus stop is shown in figure 5.

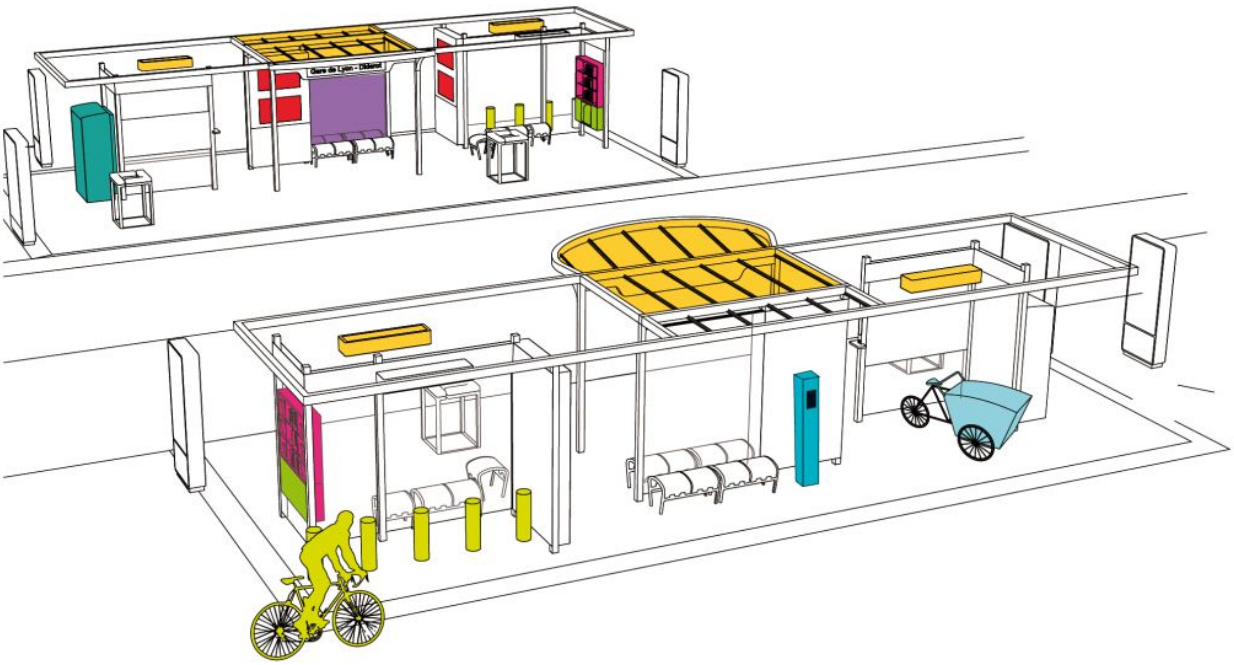

Fig. 5 The bus stop EBSF – scheme [6]

The bus stop is equipped [6, 7]:

- automatic vending machines for transport tickets of the latest generation with environment designed for the visually impaired,
- information panels with maps and timetables that are equipped with an acoustic system for the visually impaired and blind persons,
- screens with traffic information (information about the positions of buses, the current delay, traffic accidents in the vicinity of stop, historical sites and attractions in the area, etc.),
- heated glass that radiates heat at low outside temperatures,
- heated benches,
- mini space for mobile sales (coffee, cigarettes, etc.),
- dynamic lighting that changes color and intensity,
- speakers, from which are streamed harmonic melodies,
- screens with commercials related to the City of Paris,
- self-service docking station for electrobikes,
- wifi connection,
- defibrillator.

Conclusion

The quality of stops and their equipment is currently very topical issue. In Slovakia the quality of the stops is on a very low level compared to stops in abroad. It is important to provide the passengers access to the stop, safety, comfort and of course, information about each connections, delays, etc. The Intelligent stops providing sufficient quality to information for passengers, passenger has updated information about connections, delays and possible exclusions.

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Referee: prof. Ing. Marián Šulgan, PhD.,University of Žilina.
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