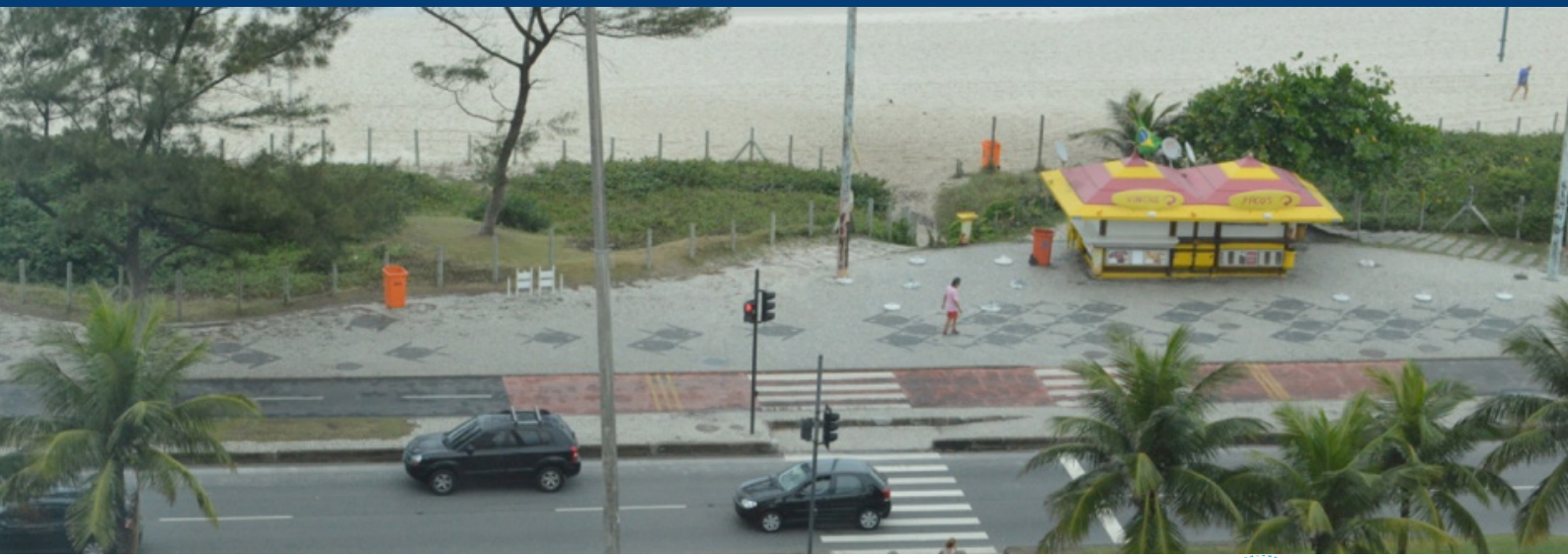
UEMI
www.uemi.net

Factsheet

Bus priority measures



Wuppertal Institut

UN HABITAT
FOR A BETTER URBAN FUTURE

UEMI
www.uemi.net

This paper was prepared by:
SOLUTIONS project
This project was funded by the Seventh Framework Programme (FP7) of the European Commission

Berlin, 2017

This publication is part of the UEMI project

The graphic design was prepared by Barbara Lah

Berlin, 2017

UEMI Secretariat

www.uemi.net
secretariat@uemi.net

Oliver Lah
+49 (0)30 2887458-16

The project has received funding from the European Union´s Seventh Framework Programme and Horizon 2020 under the grant agreements no 604714 (SOLUTIONS) and no 723970 (FUTURE RADAR)

Solutions project

UEMI SOLUTIONS

Supported by

UEMI

Urban Electric Mobility Initiative (UEMI) was initiated by UN-Habitat and the SOLUTIONS project and launched at the UN Climate Summit in September 2014 in New York.
UEMI aims to help phasing out conventionally fueled vehicles and increase the share of electric vehicles (2-,3- and 4-wheelers) in the total volume of individual motorized transport in cities to at least 30% by 2030. The UEMI is an active partnership that aims to track international action in the area of electric mobility and initiates local actions. The UEMI delivers tools and guidelines, generates synergies between e-mobility programmes and supports local implementation actions in Africa, Asia, Europe and Latin America.

Solutions

SOLUTIONS aims to support the exchange on innovative and green urban mobility solutions between cities from Europe, Africa, Asia and Latin America. The network builds on the SOLUTIONS project and brings together a wealth of experience and technical knowledge from international organisations, consultants, cities, and experts involved in transport issues and solutions.

The overall objective is to make a substantial contribution to the uptake of innovative and green urban mobility solutions across the world by facilitating dialogue and exchange, promoting successful policy, providing guidance and tailored advice to city officials, fostering future cooperation on research, development and innovation.

Aims

SOLUTIONS_UEMI supports urban mobility implementation actions that contribute to the Paris Agreement and the New Urban Agenda.
Sustainable energy and mobility can make positive contributions to a number of policy objectives, nationally and locally. In particular in cities there is a great potential to create synergies between for example safety, air quality, productivity, access and climate change mitigation. A UEMI resource centre will provide opportunities for direct collaboration on projects focusing on sustainable urban mobility and the role e-mobility can play in it. The UEMI will pool expertise, facilitate exchange and initiate implementation oriented actions.
UN-Habitat, the Wuppertal Institute & Climate Action Implementation Facility jointly host the resource centre for the Urban Electric Mobility Initiative, aiming to bridge the gap between urban energy and transport and boosting sustainable transport and urban e-mobility.

In brief

Bus priority measures are low-cost, highly efficient traffic management solutions that suit cities with high traffic congestion. They keep buses moving, boosting mobility in areas that attract many people. Due to their flexibility, measures can combine, but their success depends greatly on effective law enforcement. Because of their low construction and operation costs, cities can apply bus priority measures anywhere, and they are a great option for urban communities of all sizes.

Examples

There is a wide range of bus priority measures, and their implementation depends on the problems that a city might have. The main aim is to improve the movement of buses, while protecting access to bus stops. Introducing exclusive bus lanes on streets with heavy traffic is one option, and can save commuters time. This also makes the service more reliable, attracts more passengers, and reduces costs because fewer buses are required to run the service.

Other related measures include bus priority signals, contra ow bus lanes, bus-only streets, parking restrictions and enforcement cameras. Great examples of cities with bus priority measures are London (UK), Brisbane (Australia), Edinburgh (UK) and Mexico City (Mexico). However, to have a comprehensive and coherent strategy for most urban areas, it is important cities introduce improvements to public transport together with measures to discourage the use of private vehicles.

Results

Bus priority measures allow some bus services to increase their speeds. In some cases, buses using a mix of exclusive lanes and bus priority signals may reach up to 30 km/h - similar to a metro system. Cities that introduced bus priority measures have reduced travel times by up to 10%, optimised their services and attracted more passengers. Exclusive lanes and special signal phases also help bus services have more control over times and frequencies.

To ensure bus priority measures are successful, cities should apply them with other priority measures, spreading the benefits to wider bus services. If these measures are linked to other improvements - such as more frequent services, improved waiting facilities, passenger information systems, and even Park-and-ride facilities - the results may be even better. In combination, these measures improve the image of bus services and attract more passengers.

In brief

Examples

Results

Technical and Financial considerations

The costs of bus systems are significantly lower than other public transport systems. This applies to most aspects, such as construction, operation and vehicles. Maintenance and fuel represent the highest long-term costs. While public rail can cost from $20 million to $180 million per kilometre, bus systems cost between $1 million to $10 million. In cities in developing countries, prioritised bus systems are very appealing due to their ability to recover the money invested in them, and because they take a relatively short time to construct.

The infrastructure required for a bus line or system is much lighter than other public transport systems. Although the stations, exclusive lanes and fare collection systems require a special design, they are simpler than other transport modes'. The infrastructure is also flexible, allowing the routes to be expanded or modified.

Policy/legislation

Bus networks do not require great modifications to legislation. In most cases, the agency in charge of traffic management may also be the public transport regulator. In terms of the institutional framework, best practices clearly show the advantage of having single transport agency within a city that plans, manages, regulates and controls the different transport modes. Overall, cities must accompany public transport initiatives with regulations, programs and:

- Environmental standards (including fuel efficiency and technology)
- Public transport quality-of- service plans
- Fare regulations
- Public transport subsidy schemes

A city that wants to implement a bus network system should ideally develop a Sustainable Urban Mobility Plan linked to other land-use planning instruments.

Institutions

The institutions in charge of designing these kinds of measures are usually transport planning agencies such as mobility ministries, transport departments and/or planning institutes. The authority level (federal, state or local) depends on the existing institutional and legal frameworks. It is necessary to coordinate with entities such agencies responsible for the environment, urban development, public space, public works, and social and economic development agencies.

Some of the other stakeholders involved in the imple-

Technical and financial considerations

Policy/Legislation

Institutions

mentation of this solution might include bus operators, drivers unions, transport agencies and traffic police. Users' groups are also important in advising these agencies about improvements they believe will make services more attractive to commuters.

Transferability

Transferability

Bus priority measures are 100% transferable. They are a solution than can be implemented in small, medium and large cities, with a flexibility that meets different mobility needs: main or complementary trips, long or short trips, lineal or deviated routes, ordinary or express routes. When linked along a route, priority for buses can contribute towards an overall strategy for dealing with urban congestion, especially if supported by measures such as urban traffic control, new traffic management, parking control, and Park- and-ride services.

However, giving priority to buses can delay other traffic, something that cities should assess in the overall appraisal. However, environmental considerations and overall transport policy objectives may strengthen the case for providing priority for buses, even at the expense of delay to other vehicles. Bus priority measures can themselves be a component in a demand management strategy by reducing the road space available to cars.

Case Study: Bisbane Busway

Case study: Brisbane Busway (Australia)

Context

A great number of Australian cities are implementing bus priority systems, due to their low construction and operation cost and high efficiency rate. Brisbane, the third largest city in Australia, is one of them. It has a population of 2 million and between 2001 and 2006, it grew by 11%, the quickest rate in the country.

Economically, the city has grown considerably since the end of the last century and has attracted a large number of industries, technological companies and diverse universities. This forced Brisbane to consolidate and expand the public transport network, with a special emphasis on a dedicated expressway for buses, the Brisbane busway - which started operations in the mid-90s.

In action

The Brisbane busway began with 50 “green” buses that ran on natural gas. It now has a network of 25 kilometres that authorities can easily extend in the future. Currently it has three lanes (South East Busway, Northern Busway and Eastern Busway) that together moved more than 70 million passengers (2011).

The stations show real-time departure and arrival schedules thanks to data provided by Brisbane City Council. The stations have bicycle-parking facilities and are 100% accessible for people with disabilities. In 2007, at peak hours, 294 buses ran through the most critical section of the line, Woolloongabba station. In theory, the system can carry over 18,200 passengers per hour.

Context

Brisbane´s Busway is Australia’s largest prioritised bus system. In its first 6 months, the number of passengers on Brisbane’s buses increased by 12% compared to the previous year. The quality of the prioritised bus system convinced many private car drivers to shift to using public transport. After a year of operations, 27,000 people per week used the system.

The Busway transformed the Brisbane in a positive way, improving the image of the city and the quality of its public transport. A 2002 study showed that the value of real estate near Busway lines increased. Today, the transport network continues to grow, along with the number of users.

www.uemi.net

More Information

Implementing Partners

Supported by

The project has received funding from the European Union´s Seventh Framework Programme and Horizon 2020 under the grant agreements no 604714 (SOLUTIONS) and no 723970 (FUTURE RADAR)