



**CiViTAS**

Cleaner and better transport in cities



11

POLICY ADVICE NOTES

# Enhancing the quality of public transport services



The CIVITAS Initiative is a European action that supports cities in the implementation of an integrated sustainable, clean and energy efficient transport policy. Lessons learned during the planning, implementation and operation phases of the activities are summarised in twelve Policy Advice Notes and give an idea on how to cope with urban transport problems which cities of the European Union have to face in the future.



# Enhancing the quality of public transport services

Making public transport more attractive for citizens



Within CIVITAS II (2005–2009) several measures were implemented with the goal of enhancing the quality and increasing the attractiveness of the public transport system. The most important information about the implementation of the measures and experiences made by the cities are summarised in this Policy Advice Note in order to support and inform local politicians and other decision-makers interested in these actions.

## Overview

### DESCRIPTION OF THE MEASURES

To make public transport services more attractive and thereby reduce car use, cities as well as public transport companies should be keen to ensure a high quality of service on the public transport system, amongst others, by implementing the following measures:

1. Widening and simplifying the public transport network, e.g. by
  - Redesigning the network layout,
  - Enhancing the frequency and operating hours
  - Introducing Demand-Responsive Transport (DRT), which is a public transport service operated on demand only, e.g. passengers call the bus by phone
  
2. Modernising the infrastructure (especially at intermodal interchanges) and making the entire voyage by public transport more comfortable, e.g. by
  - Installing high quality waiting facilities (seats, shelters, convenience services)
  - Building secure bicycle stands, park and ride facilities, car sharing facilities, etc.
  - Easing access to stations (e.g. pedestrian and bicycle paths, signs, redesign of surrounding space)



- Modernising rolling stock to adjust it to requirements of potential customers by enhancing accessibility
  - Improving driver training for smooth and energy efficient driving
3. Enhancing the accessibility for all persons, especially for people with special needs, e.g. by
- Implementing different information tools that are adapted to people with disabilities (e.g. visual aid systems, vocal announcements)
  - Ensuring the physical accessibility of waiting facilities and vehicles (e.g. for prams, pushchairs, wheelchairs, walking frames)
4. Improving the safety and security at stations, at stops and on the vehicles for passengers and drivers, as well as for infrastructural equipment, e.g. by
- Implementing a security strategy, e.g. by installing cameras at stops and on the vehicles
  - Creating safer conditions at stations and their surroundings (e.g. better lighting)
  - Safety and security training, as well as awareness raising for drivers and passengers

## TARGET GROUPS

The measures are addressed to current as well as potential public transport users. In particular, mobility impaired people, the elderly, families with children and young people should all profit from the measures. Furthermore, security and safety measures should also be introduced for the protection of public transport drivers.

## IMPACTS AND BENEFITS

**The following benefits can be expected when the above measures are implemented to enhance the quality of public transport services:**

### For the public

By implementing the measures described, public transport becomes more convenient, comfortable, accessible and understandable for everyone. The number of passengers who use public transport will normally increase, disadvantaged people can be made to feel less excluded from society and the dependency of the citizens on their cars should diminish with consequential environmental gains.

### For individuals

The quality of life of individuals with reduced mobility and the independency of people who work or live in areas which were not previously connected to the public transport network can be enhanced. Demographic trends in Europe clearly show that the number of elderly persons will increase in the following years. Making public transport more accessible for this group of citizens is one of most important challenges for social development of European cities. Also people, who do not normally use public transport because of security concerns, will be reassured after the measure implementation.

### For companies

If public transport companies improve the quality of the service, then the image of this transport mode can be enhanced and the number of passengers increased. For example, in the CIVITAS II city of Malmö (Sweden) two main bus routes were redesigned, giving an increase in passengers of up to 20% in the first five months. Enhancing the accessibility to



increase the number of passengers on public transport vehicles does not necessarily require high investments.

By improving the security on vehicles and in stations, the costs of repairing damage caused by vandalism can be reduced. For example, in Malmo the costs of vehicle maintenance decreased by 30% in six months after the installation of cameras on trams and buses.

If the public network system is improved by implementing new infrastructure measures like separated bus lanes, the public transport operator can save money by improved time-keeping leading to a more efficient usage of the vehicles.

## FRAMEWORK CONDITIONS FOR SUCCESS

Coherency between parking policy and public transport infrastructure is essential to encourage the use of alternative transport modes. For example, a required pre-condition to ensure the successful introduction of a park and ride service is that no free parking spaces are available closer to the city centre. These elements should be supported by a complex promotion and information system which is accessible to different groups of users.



## Implementation steps and timeline

**When implementing measures enhancing the quality of public transport, several important considerations must be taken into account, including implementing supportive measures and assuring completion within a reasonable timeframe.**

### WORKING STEPS

#### 1. Preparation

- Establishing a working group including in particular people with special needs in order to fully consider their requirements
- Defining minimum quality standards to be included in passenger rights (e.g. minimum level of reliability or a maximum value for lateness tolerated)

#### 2. Compile baseline information

- Analysis of the current situation of the demand for and supply of public transport
- Identification of areas which are not accessible or poorly accessible via public transport
- Study the current status of public transport stations and vehicles regarding security, accessibility, and comfort, as well as the competitiveness of public transport with private cars (especially travel time)
- Analysis of existing strategic documents on transport (city development strategy, transport strategy, transport plans, etc.) and checking if planned actions are coherent
- Collection of the state of the art on technical equipment and tools, which can enhance quality (security, accessibility, comfort)
- Analysis of the awareness of and market for the measures to be introduced



### 3. Formal decisions required

- Approval of initial funding for services and procurement of consultant advice on the elaboration of new public transport service concepts
- Authorisation to install security cameras on vehicles or at stops
- Provision of shops or other services at inter-modal interchange nodes

### 4. Planning of improvements in terms of

- public transport supply
- equipment and systems which enhance the comfort, safety, security and accessibility

### 5. Tendering for outsourced services

- Operation of additional public transport routes
- Security services
- Provision of technical equipment
- Purchasing of land, if required for the construction of park and ride or bike and ride facilities etc.

### 6. Testing the new facilities involving potential users and in particular travellers with impaired mobility

### 7. Modifying, adaption and implementation of the new facilities

### 8. Training, education and promotion

- Training and education courses for bus and tram drivers
- Marketing campaign for the promotion of the new services

### 9. Monitoring and evaluation

- Measuring and evaluating the indicators defined at the beginning of the project in order to assess the impacts (the number of [new] passengers, social acceptance among the citizens, rating of the quality by users etc.)

## ACCOMPANYING MEASURES TO AMPLIFY POSITIVE EFFECTS

If the following measures are implemented concurrently with actions that enhance public transport quality, the positive effects of all measures can be amplified and synergistic effects can be achieved. The image, as well as the quality of the urban public transport can be enhanced by:

- Automatic vehicle location (AVL) and management tools
- Introducing new environmentally-friendly vehicles (e.g. compressed natural gas [CNG], hydrogen cells)
- Developing a brand in order to raise the recognition of the (improved) public transport system
- Offering innovative pricing schemes for public transport (e.g. smart cards payment systems)
- Providing access to other environmentally-friendly transport modes, e.g. by offering a bike-sharing service, taxis and car-sharing

## TIMEFRAME

The time needed for implementing the measures described varies according the type of action chosen as well as the number of routes, vehicles or stations to be addressed. Within CIVITAS II, the measures were implemented within 2 to 4 years. The monitored durations of implementing the different working steps are listed below:

- Three months for the project initiation and setting up the project team (Norwich, United Kingdom)
- Between 5 and 33 months were needed to collect data and to create the studies required. The following numbers are examples from CIVITAS II:



- Five months for a state of the art review of technical equipment (Ploiesti, Romania)
- 12 to 21 months for demand analyses and gathering information on user requirements
- 14 months for a study of the transport network (La Rochelle, France)
- 21 months for a security audit (Krakow, Poland)
- To develop a detailed concept for the measure implementation between 12 and 32 months are required. The following numbers are examples from CIVITAS II:
  - 12 months for the elaboration of an accessibility scheme for people with special needs (La Rochelle, France)
  - 12 months to develop a security strategy for buses (Malmo, Sweden)
  - 17 months to develop a Demand-Responsive Transport service (Krakow, Poland)
  - 21 months to develop a public transport security action plan (Krakow, Poland)
  - 32 months to develop a concept for a high quality mobility services (Burgos, Spain)
- Getting the approval of public transport politicians and/or state officials requires between one and two months (La Rochelle, France), however, this procedure is strongly dependent on the co-operation of the city government
- Two months were needed to prepare a tender for camera equipment (Malmo, Sweden), however, in some countries minimum statutory periods for opening the tender might be defined by national law
- Educational and training activities require between two and 28 months. For example, 28 months were needed to coach 50 bus drivers in 10 courses (Debrecen, Hungary).

## What are the investments involved?

For all measures described, expenditure for data collection and analysis as well as a state of the art analysis and planning process are needed. Strategies and/or action plans have to be developed, implemented, managed and controlled. Costs of equipment depend on the measure and scale of implementation.

When improving the accessibility of public transport for all, the following cost categories can be incurred:

- Investments for the redesign and adaption of stops and stations
- Investments for the redesign or procurement of barrier-free vehicles
- Barrier-free information systems enabling access for all passengers, regardless of being visually impaired or deaf

In CIVITAS II cities between EUR 60,000 and 180,000 were invested to improve the accessibility of public transport stops and of the vehicles themselves from the stop platforms. For example, EUR 180,000 were spent to improve bus stops and intermodal interchange points in Burgos (Spain).

To enhance the quality of the infrastructure of public transport, amongst others, the following costs have to be budgeted:

- Investments for new waiting facilities, shelters, seats, etc. (construction, acquisition, etc.)
- Land acquisition costs if more space is needed for new facilities (e.g. park and ride spaces)
- Cleaning and maintenance costs for the new facilities



For example, EUR 777,000 were spent for the construction of new transfer facilities in a railway station in the CIVITAS II city of Norwich (United Kingdom) (with about 3.5 Million passengers per year). There, the quality of waiting facilities was improved, real-time information signs were installed, pedestrian and bicycle links were established and the open space was redesigned. About EUR 10,000 are needed each year for cleaning and maintaining these facilities.

For restructuring the network and widening the catchment area of an urban public transport system different costs occur, which are listed below:

- Hard- and software for demand-responsive transport systems (management centre, scheduling software, on-board equipment for vehicles, appropriate vehicles)
- Operation costs for demand-responsive transport (driver, management, etc.)

To enhance safety and security in the urban public transport system, amongst others, the following investments are needed:

- Conducting workshops and training activities for drivers and the public transport users
- Procurement, installation, operation and maintenance costs for cameras in buses or at stations and stops
- Hard- and software as well as operational costs for a security centre

For example, in the CIVITAS II city of Krakow (Poland) about EUR 10,000 were spent for the implementation of a security audit and a security action campaign. About EUR 50,000 were needed to conduct training workshops with citizens and public transport employees in Stuttgart (Germany). To implement ten driver training courses for 50 bus drivers the sum of EUR 20,000 was required in Debrecen (Hunga-

ry). The total costs for the purchase, installation and testing of cameras in 180 public transport buses accounted for about EUR 900,000 in Malmö (Sweden).

## Main drivers that serve as precursors to success

**The factors listed below are the main drivers for the initiation as well as for the efficient and successful implementation of the measures enhancing the quality of public transport:**

- Good cooperation between project partners eases the ability to find compromises on technical aspects as well as on clear regulations regarding the payment for the service and responsibilities for its realisation
- Market research that defines specific requirements and needs of the target groups
- Political support and willingness of local decision-makers to change the way that public transport is perceived and supported in order to stimulate different target groups to use this mode of transport
- Public transport systems will more likely be accepted by the general public if the services are offered at acceptable prices. For promotional purposes, free tickets could be distributed among the citizens in the initial phase or discounts provided to encourage new categories of users.



## Strategies for a successful implementation

### **Political support**

To ensure that the measure topics will not become politicised and that resistance among stakeholders (which can provoke disapproval of the measure by politicians) is minimised, meetings should be organised in order to foster the dialogue between the actors and to present the project and its possible benefits and impacts.

It is much more satisfactory when the measures are elements of the overall city strategy or the transport plan which was previously agreed. Thus, it is important especially in the initial phase to check coherence with such policy documents. It is also important to keep politicians informed (or even engaged) in the process of preparation and implementation of the measure from the beginning.

### **Acceptance**

In order to ensure that the modifications and new services are accepted by the public, as well as by the operators and the driving staff, communication strategies and marketing campaigns have to be implemented. Meetings should be organised to bring the objectives of the measures closer to the users and to explain the positive impacts expected. Such meetings can also be used to better understand the concerns of the target persons and to identify a consensus amongst the key stakeholders. In particular, merchants should be taken on board at an early stage of the implementation as this group might fear financial losses for instance due to preferential bus lanes that take away space for private car traffic.

### **Financial management**

To ensure the feasibility of different measures and services it is important to implement a market study before the actions are started. This should help to ensure that the new service is used by an adequate number of persons after implementation. A business plan needs to be established ensuring the bankability and long term viability of the project as well as the source of finance (ticket revenues, debt financing or grant from structural or regional funds).

It is also important to calculate the potential reduction in external costs resulting from the measures, such as time savings, reduction of noise and emissions, decrease in number of accidents, etc. These results might be used as arguments in discussions for financial support as well as for the preparation of a promotional campaign. To ensure the financial support from the beginning, it is advantageous if the public transport operator has a good relationship with the public transport authority (if not one and the same).

However, measures ensuring the accessibility of public transport for elderly people or mobility impaired persons should not be weighed only against increased user numbers, because these investments fall under corporate social responsibility.

### **Building legislation framework**

To ensure that planned infrastructure improvements (shelters, waiting facilities) are accepted by the conservation and heritage officers of the city, early consultation on the shape and architecture of the constructions is necessary. For the redesign of a railway station as an intermodal interchange approval by the national railway operator is required. To ensure that the measure is not thwarted, it is important to communicate regularly with key stakeholders and to ensure correct procedures are in place.



### **Legal framework condition**

For the introduction of cameras to enhance security in the public transport network it is important to analyse the legal framework conditions to ensure that the usage of the technical equipment is in line with privacy law. It must be determined, who can use the data recorded by the cameras (e.g. only the police) and how long it is stored. The level of safety and security to be achieved should be integrated into the contracts between the responsible local authorities and the public transport operator.

### **Technical aspects**

Comprehensive state of the art analyses on existing technical equipment should be undertaken and experiences should be exchanged with other cities in order to avoid failure or low performance of untested technologies, technical systems or methodologies, incompatibilities between systems or safety hazards of particular technologies.

### **Institution & Organisation**

For a successful implementation of the measures, it is important to have good relationships with neighbouring local and regional authorities, e.g. with the county council or regional authorities. This, for example, should avoid the situation of different authorities planning similar measures at the same time without any consultation.

Demand-responsive services have to be integrated institutionally, which means that a legal basis between the public transport operator and the public transport authority has to be established which also includes payment or reimbursement rules.

Concerning the development of intermodal interchanges, it is necessary to know which local entity is responsible for the development of additional services at important passenger

transport hubs. If any uncertainty exists concerning this topic, the juridical departments of the different partners have to define the different legislative boundaries before the design and implementation of the measure.

Furthermore, good cooperation between the multitude of stakeholders at local and departmental level also has to be fostered. It must be taken into account that this requires a significant amount of time because it is a long process to forge agreements with all involved parties (public transport operators, local decision-makers, users, etc.) and to coordinate, in parallel, all related aspects (technical feasibility, delegated management procedure, common image).

### **KEY ELEMENTS TO BE CONSIDERED**

- When implementing measures to enhance the quality of public transport, people with special needs should be consulted in order to consider their requirements
- To enhance the acceptance for the new services and infrastructure by the public, the operators and the driving staff, communication and marketing campaigns are necessary
- To ensure that planned infrastructure improvements (shelters, waiting facilities) are accepted by the conservation and heritage officers, an early consultation on the shape of the constructions is important
- For the introduction of cameras to enhance the security in the public transport network it is important to ensure that the usage of the equipment is in line with the privacy law



## Who are the key people to be involved?

### STAKEHOLDERS

Changing the transport services within a city usually causes numerous discussions among different groups. Therefore, it is crucial to involve all stakeholders intensively from the very beginning of the planning process:

- Current and potential public transport users, amongst others, depending on the type of measures these can be:
  - Commuters
  - Women
  - People with reduced mobility
  - Elderly and young people
  - Residents and visitors
- Constituent groups (e.g. cycling and walking groups, associations of people with special needs)
- Business associations (e.g. hotels, shop keepers, taxi operators)
- Local or regional politicians and local interest groups, (e.g. environmentalists), NGOs
- Other transport market companies e.g. railway operator(s), railway infrastructure managers, etc.
- Media

### MAIN PROJECT PARTNERS

The involvement of the following partners is critical to the successful implementation of the public transport quality measures:

#### Decision makers

- City councils,
- Public transport authorities or
- Transport departments

#### Operator

- Public transport companies

#### Financers

- Financial department of the city, and
- Public transport companies

In some countries final approval for financing and scope of the scheme has to be taken by the city council. Moreover, the city council has to be informed about costs and income on a regular basis.

#### Others

Universities or similar research institutions may have to be involved in data collection (e.g. user needs analyses) and the evaluation of the results and impacts. For the technical support (adaption of personal software, development of technical equipment, etc.) private companies should be involved. For the promotion and information campaigns public relations consultancy firms should be assigned. Architects should be responsible for the design of the infrastructure to be installed to help assure compatibility with the surrounding built environment.





## Practical examples from CIVITAS II

**Within CIVITAS II 14 cities have implemented measures dealing with increasing the quality of urban public transport (1 = Infrastructure, 2 = Public transport network, 3 = Accessibility, 4 = Safety and security):**

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**La Rochelle (France):** Implementation of a second park and ride<sup>1</sup>; Night taxi services, reorganisation of the bus network<sup>2</sup>; Infrastructure improvement for collective transport<sup>3</sup>

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**Norwich (United Kingdom):** Rail station interchange<sup>1</sup>

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**Ploiesti (Romania):** Improved infrastructure for collective transport<sup>1</sup>

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**Preston (United Kingdom):** Creation of an overground network for public transport services, improved infrastructure for collective transport<sup>1</sup>; Demand-responsive and feeder services<sup>2</sup>

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**Toulouse (France):** Development of proximity services at important passenger transport hubs<sup>1</sup>; Improving quality and structure of public transport services, integration of the demand-responsive transport as a complementary service to public transport<sup>2</sup>; Improving the accessibility of public transport services<sup>3</sup>

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**Burgos (Spain):** High quality of mobility services<sup>2</sup>; Access for mobility impaired people<sup>3</sup>

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**Genoa (Italy):** High quality of mobility corridor<sup>2</sup>

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**Krakow (Poland):** demand-responsive transport services<sup>2</sup>; Security action plan for public transport<sup>4</sup>

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**Malmö (Sweden):** Marketing of new bus route system<sup>2</sup>; Improved security & safety on buses<sup>4</sup>

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**Odense (Denmark):** Integration and quality improvements of sustainable modes<sup>2</sup>

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**Potenza (Italy):** demand-responsive transport system<sup>4</sup>

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**Venice (Italy):** Introduction of low impact, access-for-all waterbuses<sup>3</sup>

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**Debrecen (Hungary):** Safety and security training for public transport drivers<sup>4</sup>

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**Stuttgart (Germany):** Security action plan for suburban railway<sup>4</sup>

GET MORE INFORMATION ON [WWW.CIVITAS.EU](http://WWW.CIVITAS.EU)

# www.civitas.eu

The CIVITAS website contains information about CIVITAS-related **news and events**. It provides an overview of all **CIVITAS projects, CIVITAS cities** and maintains **contact details** of over 600 people working within CIVITAS.

In addition, you get in-depth knowledge of **more than 650 innovative showcases** from the CIVITAS demonstration cities.

Visit the CIVITAS website and search for **prime examples of experiences** in sustainable urban transport currently being undertaken in cities. If any of the ideas suit your city, or you are just interested in learning more, you may then contact the relevant person responsible for this measure.



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