



**CIVITAS**

Cleaner and better transport in cities

**ARCHIMEDES**

# CASE STUDY



## ACCESS RESTRICTION AND BUS PRIORITY MEASURES IN IASI

### DEMAND MANAGEMENT STRATEGIES



Increasing car traffic generates a series of problems in the city, such as delays for public transport and high levels of noise, air pollutants and congestion. In order to solve these problems, the City of Iasi has defined priority routes for public transport vehicles and implemented a green light priority system and an access control scheme within the CIVITAS corridor in the historic centre of the city. Within ARCHIMEDES, Iasi demonstrated the success of these measures.

### Municipal context

The city of Iasi, located in the north-east of Romania, is the country's second biggest city after Bucharest, with 305,000 inhabitants and an area of 94 km<sup>2</sup>. The city is situated in a plain, but it has a hilly landscape with the altitude varying between 40 and 400 metres. It is located at the intersection of the commercial routes that passed through Moldavia. It is one of the oldest cities and the second-largest academic centre of Romania with eight universities and about 60,000 students.

The city seeks to become a place for recreation and leisure, and aims to offer business opportunities as a regional hub for knowledge.

This is why Iasi implemented a sustainable socio-economic development strategy in 2007 and has been working on an integrated development plan since 2009. The mobility demand in Iasi is particularly high in the city centre where universities, kindergartens and schools are located.

The city's objectives within CIVITAS ARCHIMEDES are to improve the public transport system in compliance with the city's strategic plans. The various measures are part of an integrated city mobility strategy which involves a set of correlated policies regarding transport and urbanism, as well as supporting infrastructure and other local projects.

### MUNICIPAL PROFILE

#### LOCATION

Iasi, Romania

#### POPULATION

305,000

#### LAND AREA

93,9 km<sup>2</sup>

#### CIVITAS BUDGET

EUR 4,350,000



**IASI IN CIVITAS**

Iasi (Romania) participated in CIVITAS ARCHIMEDES, an innovative collaboration between the cities of Aalborg (Denmark), Brighton and Hove (United Kingdom), Donostia-San Sebastian (Spain), Iasi (Romania), Monza (Italy) and Usti nad Labem (Czech Republic). ARCHIMEDES stands for "Achieving Real CHange with Innovative transport MEasures Demonstrating Energy Savings"

**CIVITAS ARCHIMEDES**

The ARCHIMEDES cities implemented a strong and coherent package of 83 activities to make transport more energy efficient, safer and more convenient. An increased share of clean engine technology and fuels has significantly contributed to achieving this goal. With a strong focus on education and trainings for students, citizens and practitioners, ARCHIMEDES cities greatly benefited from sharing their experiences and learning from each other. The project ran from 2008-2012.

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Special traffic lane for public transport

**Introduction**

Before the ARCHIMEDES project, increasing car traffic generated delays for Iasi's public transport as no special priority was given to public transport. Furthermore, the historic centre of the city was not subject to access restriction measures, leading to high levels of emissions, noise and traffic congestion.

Given the importance of these problems, the city of Iasi decided to include priority measures for public transport in the work programme to reduce travel times and make public transportation more attractive. A control scheme to restrict the access of private cars in the historic centre of Iasi has also been introduced in order to increase the attractiveness of the area. This has been followed by promotion of the use of soft modes (cycling and walking).

**Taking a closer look**

Because of the intense overall level of traffic (especially in the city centre) public transport has often not been able to follow its schedule.

In order to reduce the frequency and severity of these occurrences and also to help public transport users benefit from efficient service

without delays, the city of Iasi created special traffic lanes reserved for public transport (buses, minibuses, taxis), marked according to international standards and separated from the other lanes.

The public transport lanes were implemented in both directions of a 1250 metre-long section of Independentei Boulevard, which was the only part of CIVITAS corridor which had enough space to allow this kind of traffic separation.

Another measure consisted of the implementation of traffic light priority equipment in the CIVITAS corridor for buses and minibuses.

The most important aspect in implementing this type of traffic control system was that the controllers need to work in real time, adapting the cycle timings according to the number of cars counted by the detectors on the approaches to the controlled junctions. Working with a specialised company, the City of Iasi installed the following equipment on 15 crossroads within the CIVITAS corridor:

- 15 traffic control units
- 54 radar traffic detection units.

The access restriction scheme in the historic centre of Iasi was designed and implemented within another measure of ARCHIMEDES. Approval was granted by the City's Commission of Traffic for speed and weight restrictions of 30 km/h and 1.5 T/axle respectively. Negotiations were conducted with the postal service in order to make a time-based scheme of the supply activities, which meant restricting supply vehicle access to the time intervals 7 am - 9 am and 3 pm - 5 pm. The meetings were organised with businesses based in the area, and the reaction of the residents has been positive. They have accepted the proposed restrictions, and are aware of its positive impacts.



Cycling promotion



The traffic that is now prevented from entering the restricted area is deviated to different roads without major problems.

These measures implemented in Iasi have an innovative character at the regional level. The innovative aspect is demonstrated by the use of new technologies for the modernisation of the 15 signalised intersections.

## Results

The evaluation of the successful measures shows a positive impact on public transport reliability, appreciation of public transport among passengers and an improved urban environment.

Due to the public transport priority measures, the results show that more and more PT vehicles arrived on time at stations: 78 percent in 2010 and 88 percent in 2011.

Average speeds have increased within the period 2009-2011: in peak hours there is a 5.93 percent improvement with an average speed of

15.90 km/h, and in off peak hours a 7.78 percent improvement with 19.40 km/h. As a result, 45 percent of passengers are satisfied with the public transport services and consider them more attractive and more efficient than before the measures were implemented. Passenger satisfaction has increased by 9 percent since 2010.

Regarding the impact of the restrictions in the historic centre of the city, the dissatisfaction regarding the quality of the area decreased from 75 percent in 2009 to 52 percent in 2012. In this context, the level of acceptance of the restrictions imposed within this area was very high and has increased, from 77 percent in 2009 to 82 percent in 2011 and 90 percent in 2012.

Access restrictions led to a significant fall (92 percent) in the number of private cars crossing the area in 2012 compared to 2009.

Imposing time intervals for supply activities resulted in a decrease in the number of goods vehicles crossing in the area, from 43 registered in 2009, to 10 in 2011 and 7 in 2012.

All these restrictions led to a decreasing level of CO, by 6 percent in 2011 and 8 percent in 2012, compared to 2009 levels. The level of NO<sub>2</sub> decreased by 6 percent in 2011 and 8.5 percent in 2012, compared to 2009. The trend in the perception of noise pollution declined similarly, decreasing by 4 percent in 2011 and 6 percent in 2012, compared to 2009.

## Lessons learned

One of the main challenges encountered during the implementation of the measures was the green light system's technical solution. Initially, the priority system for public transport should have been connected with a management system designed as part of another CIVITAS ARCHIMEDES measure. The solution had to be changed due to delays in the implementation of the other measure. The new solution was to develop a priority system independent from the management system.

The recommendation is to find a simple technical solution for the system to work



Access restriction in the historic centre



independently of other factors that might delay or stop the implementation phase.

Concerning the implementation of the access restriction scheme in the historic centre of the city, some challenges were initially encountered with private car drivers not following the restrictions. The involvement of the local police in the enforcement of the measure was vital in solving the issue, and the cooperation between the municipality and the police is certainly recommendable.

### Upscaling and transferability

The knowledge accumulated during the implementation can help to upscale the measures in the city or to replicate them in other interested cities.

Now that the green light system has been implemented as part of CIVITAS ARCHIMEDES, Iasi Municipality is implementing a special project for traffic management, intended to monitor the traffic in the entire city. This project uses the green light system across the city centre as part of a broader traffic management system.

The historic centre is the first zone where traffic restrictions have been applied. Based on the experience of the access control scheme and

on similar good practice examples, the City of Iasi is considering an extension of the access restrictions to other areas of the city, based on the level of traffic in different zones. The future urban development of a pedestrian zone is included in the project "The road network development of the cultural, historical and touristic zone".

The public transport priority measures can be successfully replicated in other cities, and finding simple technical solutions for systems to work independently without delays or interruptions to the implementation phase is recommended.

Also, access restrictions can be applied in other cities. The cooperation and the involvement of the companies doing business within this area are essential for success, impacting factors such as increasing acceptance.

### Budget and finances

The activities of ARCHIMEDES project have been financed by two sources: European Commission funding and the municipal budget.

For the bus priority measures in Iasi, the budget was EUR 35,000. For the access control scheme in the historic centre of Iasi, the budget was EUR 4,000.

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#### References or sources

All sources are available from the CIVITAS website: [www.civitas.eu](http://www.civitas.eu)  
Deliverable T14.1 Bus priority measures in Iasi  
Deliverable T22.1 Access control to historic centre in Iasi  
Evaluation results for measures 14 and 22



Traffic monitoring

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#### Publisher

ICLEI – Local Governments for Sustainability,  
Freiburg, Germany  
Executive Director: Wolfgang Teubner

#### Date written

29 November 2012

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