





lasi

T48.2 Fully Accessible Public Transport in lasi

January 2011



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1. Introduction

1.1 Background CIVITAS

CIVITAS - cleaner and better transport in cities - stands for Clty-VITAlity-Sustainability. With the CIVITAS Initiative, the EC aims to generate a decisive breakthrough by supporting and evaluating the implementation of ambitious integrated sustainable urban transport strategies that should make a real difference for the welfare of the European citizen.

CIVITAS I started in early 2002 (within the 5th Framework Research Programme); CIVITAS II started in early 2005 (within the 6th Framework Research Programme) and CIVITAS PLUS started in late 2008 (within the 7th Framework Research Programme).

The objective of CIVITAS-Plus is to test and increase the understanding of the frameworks, processes and packaging required to successfully introduce bold, integrated and innovative strategies for clean and sustainable urban transport that address concerns related to energy-efficiency, transport policy and road safety, alternative fuels and the environment.

Within CIVITAS I (2002-2006) there were 19 cities clustered in 4 demonstration projects, within CIVITAS II (2005-2009) 17 cities in 4 demonstration projects, whilst within CIVITAS PLUS (2008-2012) 25 cities in 5 demonstration projects are taking part. These demonstration cities all over Europe are funded by the European Commission.

Objectives:

- to promote and implement sustainable, clean and (energy) efficient urban transport measures
- to implement integrated packages of technology and policy measures in the field of energy and transport in 8 categories of measures
- to build up critical mass and markets for innovation

Horizontal projects support the CIVITAS demonstration projects & cities by:

- Cross-site evaluation and Europe wide dissemination in co-operation with the demonstration projects
- The organisation of the annual meeting of CIVITAS Forum members
- Providing the Secretariat for the Political Advisory Committee (PAC)
- Development of policy recommendations for a long-term multiplier effect of **CIVITAS**

Key elements of CIVITAS

- CIVITAS is co-ordinated by cities: it is a programme "of cities for cities"
- Cities are in the heart of local public private partnerships
- Political commitment is a basic requirement
- Cities are living 'Laboratories' for learning and evaluating



1.2 Background ARCHIMEDES

ARCHIMEDES is an integrating project, bringing together 6 European cities to address problems and opportunities for creating environmentally sustainable, safe and energy efficient transport systems in medium sized urban areas.

The objective of ARCHIMEDES is to introduce innovative, integrated and ambitious strategies for clean, energy-efficient, sustainable urban transport to achieve significant impacts in the policy fields of energy, transport, and environmental sustainability. An ambitious blend of policy tools and measures will increase energy-efficiency in transport, provide safer and more convenient travel for all, using a higher share of clean engine technology and fuels, resulting in an enhanced urban environment (including reduced noise and air pollution). Visible and measurable impacts will result from significantly sized measures in specific innovation areas. Demonstrations of innovative transport technologies, policy measures and partnership working, combined with targeted research, will verify the best frameworks, processes and packaging required to successfully transfer the strategies to other cities.

1.3 Participant Cities

The ARCHIMEDES project focuses on activities in specific innovation areas of each city, known as the ARCHIMEDES corridor or zone (depending on shape and geography). These innovation areas extend to the peri-urban fringe and the administrative boundaries of regional authorities and neighbouring administrations.

The two Learning cities, to which experience and best-practice will be transferred, are Monza (Italy) and Ústí nad Labem (Czech Republic). The strategy for the project is to ensure that the tools and measures developed have the widest application throughout Europe, tested via the Learning Cities' activities and interaction with the Lead City partners.

1.3.1 Leading City Innovation Areas

The four Leading cities in the ARCHIMEDES project are:

- Aalborg (Denmark);
- Brighton & Hove (UK);
- Donostia-San Sebastián (Spain); and
- lasi (Romania).

Together the Lead Cities in ARCHIMEDES cover different geographic parts of Europe. They have the full support of the relevant political representatives for the project, and are well able to implement the innovative range of demonstration activities.

The Lead Cities are joined in their local projects by a small number of key partners that show a high level of commitment to the project objectives of energy-efficient urban transportation. In all cases the public transport company features as a partner in the proposed project.

2. lasi

The City of Iasi is located in north-eastern Romania and is the second largest Romanian city, after Bucharest, with a population of 366,000 inhabitants. It is also the centre of a



metropolitan area, which occupies a surface of 787.87 square kilometres, encompassing a total population of 398,000 inhabitants.

The city seeks to develop possibilities for habitation, recreation and relaxation for all citizens in the region, business opportunities and provide opportunities for more consistent investments.

The city has five universities with approximately 50,000 students, the second largest in Romania. The universities and their campuses are located in the central and semicentral area of the city. In the same area, there are also a large number of kindergartens, schools and high schools with approximately 10,000 pupils. This creates a large number of routes along the main corridor, served by the public transport service number "8" (Complex Tudor Vladimirescu - Copou) with an approximate length of 10 km. The City of lasi will implement its integrated measures in this area to be known as the "CIVITAS+Corridor".

The city's objectives in CIVITAS - ARCHIMEDES are based on the existing plans related to transport, Local Agenda 21, approved in 2002, and the Sustainable Social-Economic Development Strategy for City of Iasi. The CIVITAS Plus objectives were integrated in the Strategy for metropolitan development which was finalized in May 2009.

3. Background to the Deliverable

lasi City has developed a sustainable public transport strategy, intended to improve the accessibility of daily facilities for persons with disabilities. The station have two special places for wheelchairs and guidance maps for public transport.

With this general principle in mind, the most important aspect makes reference to all measures that sustain the idea of easier and safer access for disabled people whilst using public transport. At the moment, in lasi the provisions and facilities provided for disabled people do not meet entirely their needs or requirements; therefore, disabled people experience many difficulties, discouraging their use of public transport services as a whole.

ARCHIMEDES project offers the possibility to improve the accessibility of public transport systems for disabled people by adapting disabled persons' transport facilities (public transport services and stations), leading, not only to an increased number of public transport users, but also, improving public transport accessibility and safety for disabled people.

3.1 Summary Description of the Task

The objectives of this task were:

- 1. To transform and equip 10 minibuses to enable access by physically disabled people and
- 2. Build 50 stations and bus stops that provide easy and safe access to public transport for people with disabilities.

It was expected that these measures would improve better social inclusion and mobility for persons with physical disabilities.



4. General Features of the Project

4.1 Description of the Work Done

4.1.1 Transform and equip 10 minibuses

The conversion of those 10 minibuses completes the measures already implemented for better, cleaner urban transport services, by ensuring an efficient safety level for disabled persons, as a vulnerable group of passengers, and by operating a fully accessible public transport service for all citizens. Until now didn't exist any public means with special equipment for persons with disabilities.

The conversion of minibuses used by the local public transport operator was realised by equipping the vehicles with an electro-hydraulic lifting platform, to be used exclusively by disabled persons that use wheelchairs and were therefore, wheelchair accessible. By using the platforms installed at the back of minibuses, disabled people are able to use minibuses as a means of public transport that is accessible and safe.

A full specification is presented in Annex 1.



Figure 1: Electro hydraulic lifting platform within different positions







Figure 2: Electro hydraulic lifting platform within different positions



Figure 3: Electro hydraulic lifting platform within different positions





Figure 4: Electro hydraulic lifting platform within different positions



Figure 5: Electro hydraulic lifting platform within different positions



lasi City Hall, collaborated with a specialised private company which installed the equipment on minibuses. This company was selected by a transparent public procurement tender, according the applicable legal provisions. Within the requirements of this procedure, lasi specified the procurement of equipment that followed international standards and also quality standards.

4.1.2 Install 50 Public Transport Stops

lasi City Hall has decided upon the locations where the stops and stations for disabled people have been installed on CIVITAS Corridor. They are shown in Annex 2.

The most important factor in choosing where to install the stations was the area needed for this type of construction and the impact it would have on the local environment around it. The new installations are placed along the CIVITAS corridor and in adjacent areas, where high traffic levels are recorded and also where surveys have shown the highest level of demand by disabled persons in respect of their transport needs.

lasi City Hall together with The Association of Persons with physical disbilities lasi have decided upon the locations where the AWD systems should be installed on CIVITAS Corridor, as well on other locations, according the following criteria:

- · the station mostly used by citizens with phiysical disabilities;
- · location of their Association,
- location of their workplaces;
- · high density areas used by persons with physical disbilities.

The technical elements of stations are:

- 1. Resistance structure
- 2. Roof
- 3. Special handrails for disabled persons
- 4. Side walls
- 5. Junction box and electrical installation

A full specification is presented in Annex 3.







Figure 6: Modern covering installed within one of the 50 locations



Figure 7: Modern covering installed within one of 50 locations

16.

33.

Filarmonica

Gradina Copou

Sala Sporturilor





The locations are:

1.	Filarmonica	to 19 Cucu
2.	Filarmonica	to Pta Unirii
3.	Tg Cucu	to Pta Unirii (Golia1)
4.	Tg Cucu	to Pta Unirii (Golia2)
5.	Tg Cucu	to Padurii-Rond Tg Cucu
6.	Tg Cucu	at Hotel Europa
7.	Bucegi	to Pta Unirii
8.	Pta Eminescu	to Copou
9.	Universitate	to Triumf
10.	Triumf	to Stadion
11.	George Cosbuc	to Agronomie
12.	Liceul Sportiv	to Agronomie
13.	Rond Copou	to iesire rond spre stadion
14.	Parcul Expozitiei	to Triumf
15.	Stadion	to Coborare

to Ta Cucu

to Universitate

to Hotel Moldova

17. Moara 1 Mai to Metro 18. Munca invalizilor to Metro 19. Munca invalizilor to Moara 1 Mai 20. Moara 1 Mai to Fundatie 21. Moara 1 Mai to Rond Canta Octav Bancila 22. to rond Canta

23. Octav Bancila to Gara

24. Mc Donalds to Pasaj Alexandru cel Bun

RATP to Canta 25. 26. Piata Unirii to Filarmonica 27. Piata Unirii to Gara 28. Spiridon (Bloc Carmen) to Tg Cucu 29. Hotel Europa to Moldova 30. Hotel Europa to Tg Cucu Moldova Mall to Sala Sporturilor 31. 32. Sala Sporturilor to Podu Ros

Podu Ros 34. to CUG 35. Podu Ros to giratoriu 36. 1001 articole to Bucium 37. 1001 articole to Podu Ros 38. Casa Sindicatelor to Bucium Spital Socola 39. to Bucium

40. RATP Sectia 1 to Tudor Vladimirescu

41. Bld T Vladimirescu to Baza 3 to Tg Cucu 42. T Vladimirescu T17 to T Vladimirescu 43. Bucsinescu 44. Bucsinescu to Elena Doamna 45. Elena Doamna to Tg Cucu to Bucsinescu Elena Doamna 46. 47. Minerva to Dacia

48. Minerva to Pasarela Alex cel Bun

49. Vointa to Billa

50. Moldova Mall to Hotel Europa



lasi City Hall, collaborated with the specialised private company which installed the stations. This company was selected by a transparent public procurement tender, according the applicable legal provisions. Within the requirements of this procedure, lasi specified the procurement of equipment that followed international standards and also quality standards.

4.2 Main Outcomes

The main outcomes are as follows:

- 10 minibuses converted for easier access of persons with disabilities.
- 50 stations installed on CIVITAS corridor.

The implementation of this task not only increased the number of public transport users from the general population but also had the effect of increasing disabled people trust in using public transport services.

The measures implemented in lasi, were the first of their kind in the region, and are viewed as an important example for other cities that will also contribute to the development of an efficient public transport strategy designed to meet user's needs and requirements.

4.3 Communication Activities

During the implementation of the measure, various local media presented news about the task, based on press releases issued by lasi City Hall. Figures 8-11 provide several examples.







Figure 8: Positive article about the modern coverings installed on CIVITAS corridor - local newspaper -

http://www.evenimentul.ro/articol/statii-moderne-pe-coridorul-civitas.html





Figure 9: Positive article about the modern coverings installed on CIVITAS corridor - local newspaper -

http://www.bzi.ro/cum-vor-arata-noile-statii-ratp-184916





Figure 10: Positive article about the modern coverings installed on CIVITAS corridor local newspaper -

http://www.evenimentul.ro/articol/statii-moderne-de-imbarcare-pe-coridorul-civitas.html





Figure 11: Positive article about the conversion of the minibuses - local newspaper -

http://www.iasiplus.ro/news/5/27360/Microbuze+speciale+pentru+persoane+cu+dizabilit ati+.html

4.4 Problems Identified

No problems have been detected.

4.5 Future Plans

It is anticipated that this kind of public transport station will be installed throughout the entire city. The installation of real time information panels within the already existing stations will be performed according to the measure 13.



ANNEX 1: Transform and equip 10 minibuses - Technical File

Electro hydraulic lifting platform (description)

The type of lifting platform designed for disabled people has a linear movement, 350 kg weight lifting capacity, is completely automatic, and can be adapted to a wide range of vehicles (minibuses, ambulant vehicles, commercial vehicles van type). The lifting platform is mounted in front of the backside door.

Main components of the lifting platform are:

- 1. platform
- 2. automatic flap on platform end
- 3. automatic ramp linking vehicle's floor
- 4. protection handles right/left, automatically used on/off
- 5. lifting arms
- 6. mechanic bolt for start position
- 7. hydraulic cylinder elevator
- 8. electro-hydraulic group
- 9. cable mobile command for on /down /up / off positions
- 10. frame
- 11. mobile command support
- 12. main contact with key contact
- 13. hand protection device on handrails
- 14. lever for manual pump
- 15. manual pump in function
- 16. access on commands for damaged issues
- 17. electrical safety device for lifting commands
- 18. ergonomic switch



Figure 12 Lifting platform



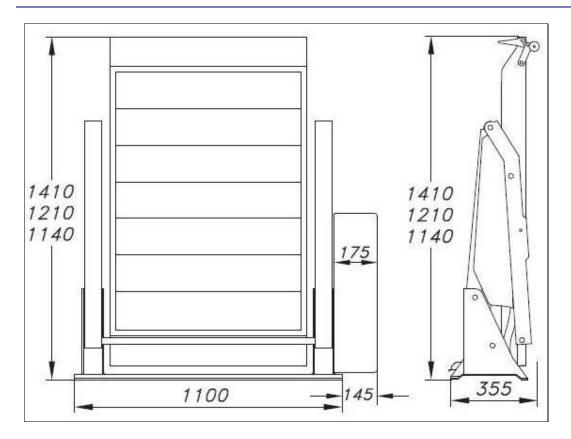


Figure 13: General dimensions of the lifting platform

The lifting platform is provided with different safety devices such as:

- 1. Antiskid surfaces.
- 2. Automatic stopping flap on platform end
- 3. Plate linking the loading surface of disabled person
- 4. Automatic safety handles
- 5. Ergonomic, safe commands for platform control
- 6. Protection against wrong use of platform
- 7. Side protection plates for handrails
- 8. Mechanic bolt devices
- 9. Emergency electric switch
- 10. Operation speed limitation device
- 11. Emergency manual pump
- 12. Command for debarking in case of emergency
- 13. Valve meant to perceive the load
- 14. Warning, safety, identification sticking pictures.
- 15. Electrical signalling devices, lighting the platform at night.
- 16. Safety device of main supplying source (battery)



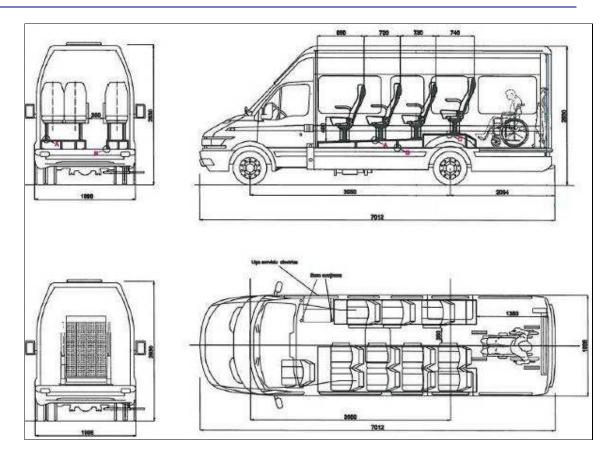


Figure 14: The position of the wheelchair in the minibus

The minibuses are equipped with special places for wheelchairs (used by disabled people), communication devices installed near the priority chair, representative pictures placed inside and outside the minibus, antiskid floor of maximum 8% inclination and wheelchair blocking system.



ANNEX 2: Map

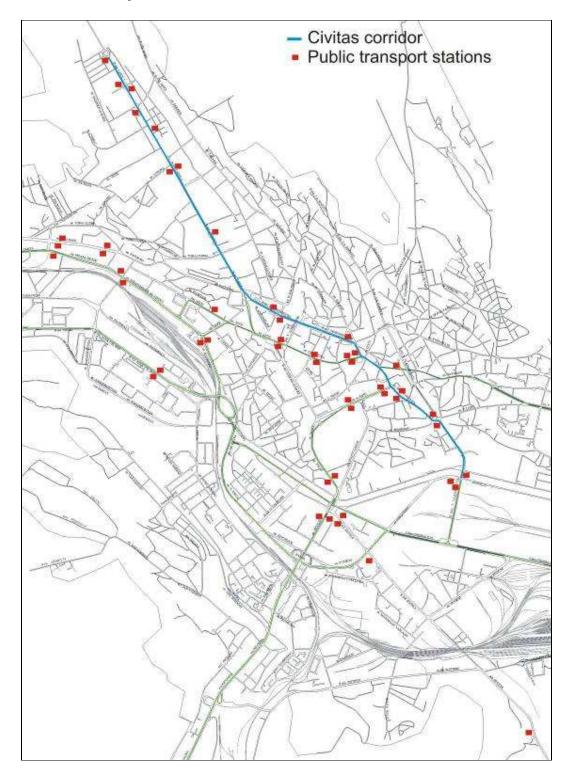


Figure 15: Map showing the locations of the stations installed on the CIVITAS corridor



ANNEX 3: TRANSPORT STATIONS (with facilities for disabled persons) - Technical File

lasi Municipality has procured coverings to equip those 50 stations that public transport passengers use to embark/debark to their destinations, by regular routes.

Stations' installation aimed at offering to public transport beneficiaries (including disabled people fully accessible, safe access to public transport, therefore improving the quality and take up of public transport service.

Technical characteristics of stations are:

- ground level- (5x1,5) m
- dimensions: height = 2,5 m, breadth= 1,5 m, length = 5,0 m

The resistance structure was constructed of rectangular tubes, assembled by welding process or by fixing assembling elements, where necessary, enclosed by duplex glass panels.

The roof is modular, composed of 6 plates mounted 2 by 2, setting up 3 separate sections, fixed between with 2 bars of rectangular tube (80x80x4) mm, meant to sustain and reinforce its construction.

The roof is supported by the metal structure through stainless steel pillars and is covered on its superior side by a plate of cellular polycarbonate, transparent, of 10 mm thickness.

The station is endowed with a proper stainless steel bench, of 1,2 ÷1,3 mm thickness, moulded, being centre mounted on those two special supports of the metal structure.

The side walls are different, as follows: the right wall is made of moulded duplex glass, and the information panel will act as the left side wall and will be mounted on the metal structure of station.

Inside the roof there is installed an illuminating device of fluorescent tubes.



Figure 16: Modern bus stop station - details