

CiViTAS
Cleaner and better transport in cities

ARCHIMEDES

AALBORG • BRIGHTON & HOVE • DONOSTIA-SAN SEBASTIÁN • IASI • MONZA • ÚSTÍ NAD LABEM

IASI

T77.1: Public Transport Planner in IASI

IASI

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1. Introduction

1.1 Background CIVITAS

CIVITAS - cleaner and better transport in cities - stands for City-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 regarding the concerns about 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 to create 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 of 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
- Iasi (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. Iasi

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, with business opportunities that will secure 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 semi-central 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 Iasi 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 will be integrated in the Strategy for metropolitan development to be finalized in May 2009.

3. Background to the Deliverable

Before the ARCHIMEDES project passengers in Iasi were not able to plan their journeys easily or to search for information by themselves about the routes, connections and inter-modal transport options.

3.1 Summary Description of the Task

As part of measure number 77 (“Public Transport Planner in Iasi”) in internet-based tool for public transport (PT) journey planning, as an instrument to support measures that will improve the quality and reliability of PT services has been created.

The website of the PT planner enables users to access online information about public transport services in order for them to plan their journeys.

4. T77.1 Public Transport Planner in Iasi

4.1 Description of the work done

A website has been created that offers integrated information about local and regional transport services, (buses and trams with an interactive map, rail and airport schedules, taxi and car rental possibilities), together with a scheduler for planning personalized journeys. By offering this online tool, Iasi is able to communicate to users’ so that travel needs and demands are achieved.

The PT planner makes it easy for users to plan their journeys. Updates on integrated information about routes, connections and inter-modal transport services are provided, based on planned schedules. This internet-based tool also helps the PT operator to improve the quality of its services.

The PT operator is responsible for updating the both when changes are made to its own tram and bus routes and also when the other transport operators (railway, airport, taxi and car rental) provide information on changes of itineraries, schedules and/or means of contact. The updates are not made in real time. On each section you can find contact data of the public transport operators and also you can make bookings and suggestions.

The forum is a complementary tool which enables the PT operator to get feedback from its users. It acts as an interface with the passengers, offering them the opportunity to express their views, queries and suggestions related to services provided by the PT operator and, also, to get the official answers to their messages. The debates can result in ideas to be further studied and put into practice as such if viable, or act as a starting point for the PT operator to develop solutions of improvement.

4.2 Description of the Public Transport Planner in Iasi

Iasi municipality and the PT operator have developed the website with the assistance of employees of their communication and informatics departments. A range of approaches was analysed and as a result the final form of the website was established, as detailed below.

The final structure chosen for the PT planner includes three categories of services:

1. Planning services, which provide information about;
 - the Route Searching Section (with start and destinations points);
 - the local PT operator network (with buses and tramways routes);
 - airline ticketing (external link).
2. Scheduled services, which provide information about;
 - detailed lists of routes operated by the local PT operator;
 - schedule of regional bus transport;
 - arrivals and departures at the railway station;
 - flights taking off and landing at Iasi International Airport and .
3. C planning board complementary services, which provide information about;
 - taxi and car rental companies;
 - tourist offices (external link);
 - CIVITAS ARCHIMEDES Project (general information);
 - news from Iasi (appetizer with external link).

Technically can say that:

There was no prior consultation with potential users in the design of the tool. However, the employees of the PT operator which drew up the guidelines for creating the tool are constant users of the public transport.

The solution uses a technology which is called “high-level caching technology” with the purpose of speeding up the process. This means that there is a fast response in loading pages, searching for information, searching for journey plans etc.) .

- It is possible for users to select both English and Romanian version.
- The solution is modular, scalable, and open.

- The solution delivered has an insurance mechanism for security and confidentiality of the information transmitted.
- Solution architecture is based on client-side technologies and server-side. Using these technologies provide a large volume of data processed.
- The solution separates user rights using roles (groups). Also the route followed by each user logged is audited for each session.
- Updating information is done with a minimum of changes using a friendly interface.
- For security reasons the optimization of the website, including disasters, content data were stored on a web server.

As can be concluded from the list above, the site focuses on providing information related to all forms of public transit in Iasi: local public transport, regional bus transport, air transport, railway transport, transport by taxi and even car rental. It has a broad scope, since it is useful to both the Iasi passengers and visitors of the city or people in transit who wish to plan their itinerary in advance or just to become familiar with the available services in the area of public transportation.

Local public transport is prioritised: besides the lists of tram and bus lines, its users are provided with a map of the tram and bus network and with a tool for automatically searching the routes between two points, which results in an itinerary described both in exclusively written form (i.e. the names of the stops which make up the route and the number(s) of the line(s) of the means of transportation the passenger has to board on) and graphically (a global, easy-to-read view on the stops and lines of the means of transportation to board on and a map of the corresponding area of the city on which the route is marked with different colours for each line).

4.2.1. Software development methodology to comply with the classic stages of software development:

The technical stages for developments were as follows:

- Requirements analysis (analysis of performance conditions): Analysis of requirements is an activity that is a study of existing requirements for classification purposes and fully details the requirements. Preliminary Design for the website: Preliminary design work involves the application architecture to be realized. This phase aims to identify major elements of the technical solution.
- Detailed design for the forum: Detailed design involves documenting in detail what the components to be developed within each module.
- Encoding: encoding activity involves the actual programming using programming languages and tools.
- Testing: Testing activity follows the detection of all defects or nonconformities applications developed with system requirements.
- Installation PT Planner: installation work performed in the operating system developed in the working environment of the client.

The web address of the Forum is: <http://www.transportiasi.ro>



Fig1: PT planner front page

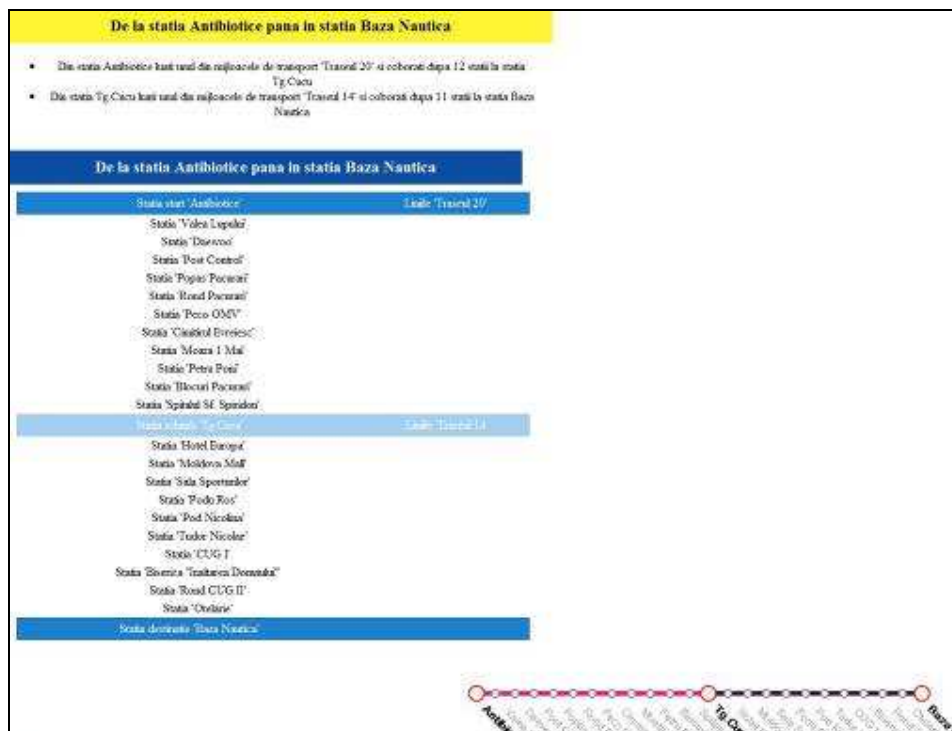


Fig 2: PT planner – detailed personalized route



The screenshot shows the 'TRANSPORT IN IASI' website interface. At the top, there are navigation tabs: RATP, CFI, AUTOGARI, AEROPORT, TAXI, RENT A CAR, and INFO IASI. The main content area is titled 'CAUTARE TRASEU' (Route Search). On the left, there are dropdown menus for 'Punct Start' (Antibolnice, Alatau, Bariera Tigarete, Baza 3, Baza Nautica) and 'Punct Destinatia' (Antibolnice, Alatau, Bariera Tigarete, Baza 3, Baza Nautica). Below these is a 'HARTA TRASEE RATP IASI' map. The main part of the page displays a list of bus routes and their schedules. The routes listed include: Iasi - Gura Humorului, Gura Humorului - Iasi, Iasi - Tg. Neamt - Toplita - Tg. Mures - Iasi, Iasi - Bacau - Moinesci - Comanesti - Comanesti - Iasi, Iasi - Focsani, Focsani - Iasi, Focsani - Tecuci - Iasi, Focsani - Sasaut - Iasi, Iasi - Bucuresti, Bucuresti - Iasi, Iasi - Sasaut - Focsani, Focsani - Sasaut - Iasi, and Iasi - Roman - P. Neamt. Each route is accompanied by a list of departure times. For example, the 'Autogara Iasi Vama Veche' route has departure times from 09:00 to 17:00. The 'Autogara Iasi' route has departure times from 09:00 to 16:00. The 'Autogara Iasi - Gura Humorului' route has departure times from 06:00 to 13:00. The 'Autogara Iasi - Tg. Mures' route has departure times from 08:00 to 15:30. The 'Autogara Iasi - Bacau' route has departure times from 07:30 to 15:00. The 'Autogara Iasi - Comanesti' route has departure times from 14:00 to 17:00. The 'Autogara Iasi - Focsani' route has departure times from 11:00 to 17:00. The 'Autogara Iasi - Tecuci' route has departure times from 10:00 to 15:30. The 'Autogara Iasi - Sasaut' route has departure times from 04:30 to 17:45. The 'Autogara Iasi - Bucuresti' route has departure times from 01:30 to 21:30. The 'Autogara Iasi - Roman - P. Neamt' route has departure times from 07:00 to 18:15. The website also provides contact information for various bus companies, including 'Autogara Iasi Vama Veche', 'Autogara Iasi', 'Autogara Iasi - Gura Humorului', 'Autogara Iasi - Tg. Mures', 'Autogara Iasi - Bacau', 'Autogara Iasi - Comanesti', 'Autogara Iasi - Focsani', 'Autogara Iasi - Tecuci', 'Autogara Iasi - Sasaut', 'Autogara Iasi - Bucuresti', and 'Autogara Iasi - Roman - P. Neamt'.

Fig 3: PT planner – schedule information (regional bus transport)

4.3 Main Outcomes

The PT planner has been implemented successfully from an operational perspective. Outcomes in terms of the impact of the Public Transport Planner will be determined by the project evaluation tasks

The site is fully operational, each component has been carefully reviewed and tested with very good results.

The evaluation of the impact on the users of the PT planner, which will be performed at a later stage, will also cover the value of the PT planner.

4.4 Communication Activities

After the implementation the local population were informed by radio, TV, press releases, posters and online news about this new internet-based tool. The following articles and reports from TV and radio stations support the idea of creating this tool for citizens.

Figure 4 is an article from an electronic newspaper documenting the declaration of the officials of Iasi City Hall regarding this website (www.transportiasi.ro)



Fig:4:http://www.flacarais.ro/cms/site/f_is/news/iasi_City_Hall_launch_www.transportiasi.ro_a_information_portal_ho_furnish_information_related_public_transport_33296.html

Figure 5 is an article in Romanian language from the magazine Market Watch which presents www.transportiasi.ro as an innovative measure in Iasi public transport.



Fig5:http://www.marketwatch.ro/articol/6065/iasi_City_Hall_launch_the_portal_www.transportiasi.ro



Fig 6: Article regarding www.transportiasi.ro on a portal of local news. <http://www.newsiasi.ro/eveniment/comunicate/site-ul-unde-afli-toate-traseele-ratp-programul-autogarilor-aeroportului-si-garii.html>



Fig 7: Article regarding www.transportiasi.ro on a portal of national news. http://stiride10.ro/Iasi_City_Hall_launched_an_on_line_portal_regarding_the_public_transport/18123



Fig 8: Article regarding www.transportiasi.ro in a local online newspaper. <http://www.bzi.ro/site-for-public-transport-162727>



Fig 9: Article regarding www.transportiasi.ro in a local online newspaper. <http://www.evenimentul.ro/articol/pagina-web-page-regarding-public-transport-in-iasi.html>



Fig 10: Article regarding www.transportiasi.ro in a local online newspaper. <http://www.ziaruldeiasi.ro/local/site-dedicat-to-public-transport-in-iasi~ni67v/>



Fig 11: Article regarding www.transportiasi.ro linking local online and television content. <http://www.telem.ro/telem/arhiva/23728.html>

4.5 Problems Identified

Prior to the implementation of the tool there was no formal channel of communication or information exchange between public transport suppliers and passengers in Iasi. No technical issues have been identified following implementation. Concerning the feedback from the users this will be monitored monthly according with the Local Evaluation Plan by the team who is in charge of the system and after each year a report of evaluation will be made.

This report will treat all the problems structured on different categories of demands.

4.6 Future Plans

The web portal will offer access to relevant information (including information about ARCHIMEDES) and, combined with an open forum for the exchange of opinion, will generate dynamic changes in developing the public transportation.

Also the team that is in charge of the monitoring will launch different challenge to the users regarding their expectations (e.g. to complete some questionnaires, response to different questions regarding to new improvements and also debates).