

IMPLEMENTATION OF A NEW TICKETING SYSTEM & CAR PARK MANAGEMENT

Deliverable 7 of the Success Project

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FOREWORD



Jean YATES, Emil CALOTA, Denis LEROY

As senior political representatives of the SUCCESS cities we have been personally involved in the project from its beginnings as a Proposal submitted to the CIVITAS Programme in 2004. We have been honoured to take part in the second phase of CIVITAS and we have been pleased to see how well the plans have been implemented in our cities and how our citizens have benefited.

The rich cooperation that has been the hallmark of SUCCESS, both between the cities and between local partners in each city, has resulted in greater understanding and mutual respect between different organisations and different cultures. This will have long-lasting effects that will benefit all who have been involved in the project.

We have been pleased to cooperate with the European Commission and the wider CIVITAS family, and have contributed to the CIVITAS Political Advisory Committee.

We trust that this document will provide useful lessons for others considering the adoption of measures similar to those that we implemented in the SUCCESS project.

Denis Leroy, *Communauté Urbaine de La Rochelle, Vice Président en charge des transports*

Jean Yates, *Lancashire County Council, County Councillor*

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1 SUCCESS PROJECT

SUCCESS (Smaller Urban Communities in Civitas for Environmentally Sustainable Solutions) is a 4-year project, within the European Research and Demonstration Programme CIVITAS II, with 12 partners including local authorities, transport companies, universities and experts from La Rochelle (FR), Preston (UK) and Ploiesti (RO). The main objective of SUCCESS is to demonstrate that, with an ambitious package of mobility and traffic management measures, significant results can be provided regarding sustainable transport and energy policy in small and medium sized cities. SUCCESS addresses technical, social, environmental and economic aspects of an integrated mobility strategy. As a demonstration project, SUCCESS involves extensive investment in the participating cities, along with a large range of stakeholders and integrated packages of demonstration measures. Several actions have been engaged in each city ranging from controlled access zones to biofuels, from real time information systems to alternative modes for transport, from cycle and walking paths to integrated ticketing. In total, more than 50 different projects have been set up involving a large number of stakeholders leading to a very wide scope of sustainable mobility management and implementation.



The main goals of SUCCESS are:

- To demonstrate that vehicles using clean and alternative fuels can be an efficient choice for urban transport
- To demonstrate that, with an ambitious package of mobility and traffic management measures, significant results can be seen regarding sustainable transport and energy policy
- To demonstrate that accession countries, soon to be new member states, can learn from our previous mistakes and contribute to urban collective transport issues, while implementing at the same time actions promoting alternative transport modes
- To contribute deeply to many different related research and assessment activities such as new, all-inclusive training and communication initiatives supporting the project objectives

La Rochelle, Preston and Ploiesti represent well the medium-sized cities in Europe. Most of medium sized cities are built around an historical city centre. This city centre is quite often rich with several types of shops as well as craftsmen and small industries, with other commercial or tourist areas scattered around in the city. Commercial and industrial zones have grown up in the surrounding areas and are accessible within a short time.

Regarding transport, the main characteristics of such cities are their small surface area, the human size of relationships and their small investment capacity. Buses often provide the main form of public transport.

Medium sized cities generally have a low demographic density, with the population often spread over a large area, sometimes in surrounding small towns which are included in the "life zone". On the one hand this means short travel times, good accessibility and freedom for travelling, but on the other hand it makes collective transport very difficult to organise.

In such cities, relationships between citizens and between citizens and politicians are closer. The proportion of inhabitants involved in the city life is quite often higher than in larger ones: through different associations and clubs, inhabitants come to know each other more easily and have often direct access to politicians involved in these motors of the city life. So the city culture is more widespread and is shared by a many inhabitants.

Smaller cities have in general lower investment capacity; this capacity is not proportional to size and it is sometimes difficult for the local authority to raise financial levers to fund projects.

1.1 The Project Consortium Cities

PROJECT CO-ORDINATOR :

Communauté d'Agglomération de La Rochelle (CdA), FR

PARTNERS :

Ville de La Rochelle (Ville de LR), FR

EIGSI, Ecole d'Ingénieurs de Génie de Systèmes Industriels, FR

Lancashire County Council (LCC), UK

Preston Bus Ltd (PB), UK

Transport and Travel Research Ltd (TTR), UK/FR

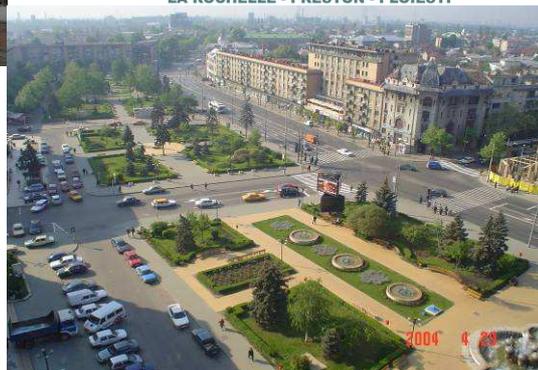
Preston City Council (PCC), UK

South Ribble Borough Council (SRBC), UK

Primaria Municipiului Ploiesti (PMP), RO

Regia Autonoma de Transport Public (RATPP), RO

Universitatea Petrol-Gaze Ploiesti (UPGP), RO



1.1.1 La Rochelle

La Rochelle lies on the Atlantic Coast of Western France. The Urban Community of La Rochelle includes 17 surrounding towns and La Rochelle itself. 160,000 inhabitants live in this area of 20,650 hectares and the total population may reach 250,000 people in summer. Based on a strong maritime heritage with several ports (commercial, leisure, fishing), the economic dynamism of the Urban Community of La Rochelle is the main factor of evolution of the city and the foundation of the urban strategies among which policies in favour of the framework of life and urban ecology (sustainable transport and protection of the landscape) stand in first position.

The Urban Community of La Rochelle has been involved for several years in improving urban transport and more specifically in introducing clean vehicles, developing new concepts for sharing vehicles, bicycles, in implementing Park + Ride, and even starting the "car-free day". Clean transport is not the only environmentally friendly improvement introduced in the town. Other actions have already been started to make the city one of the best in the country for environmental issues. Among these are "master planning" for wind turbines in urban areas, an observatory for air quality (ATMO existing since 1976), coastal protection studies (with La Rochelle University) and littoral management, electric boats for collective transport in the harbour. So SUCCESS is clearly part of the global environmental strategy of the local authority for improving quality of life in all of the city's communal areas.

1.1.2 Preston

Preston is England's newest city – city status was granted in 2002. It has a population of 129,000 plus suburban areas in South Ribble (combined population 250,000). Preston is the administrative capital and largest commercial centre of Lancashire in the North-West of England.

Preston is, however, an ancient place, receiving its Charter in 1179 - its historic Preston Guild is celebrated every 20 years with the last celebration in 1992. Preston has a strong economic and retail base. The area is also on the threshold of major regeneration, which will see a transformation of Preston's inner urban areas. This transformation is community-led with the Council and its key partners giving full support. The Council - in partnership with the private sector - is also working on a multi million pound scheme to redevelop Preston's City Centre through better retail, transport, housing, office, leisure and other mixed uses. Preston's student population is acting as a major catalyst too. With over 30,000 students, the University of Central Lancashire in Preston is the sixth largest and one of the fastest growing Universities in the UK.

Preston is already a UK leader in the field of transport Telematics through its involvement in the UK UTMC programme and Lancashire County Council was recently awarded the title of UK Local Transport Authority of the Year 2004. The planned major regeneration of the city centre has created

an opportunity for SUCCESS to support a step-change in the provision of sustainable transport systems within the city.

1.1.3 Ploiesti

Ploiesti City is located in the south of Romania 60 km north of Bucharest, the capital of Romania. Ploiesti is the capital of Prahova County and is located south of the Sub-Carpathian hills and north-west of the confluence point of two main rivers, Prahova and Teleajen. The municipal economy is characterised by a concentration of large and very large businesses. The population of Ploiesti went from 56,460 as indicated by the December 1912 census returns, up to 252,715 in January 1992. At the end of the year 2001, the population had slightly reduced to 248,688.

Ploiesti City (5,844 ha) is intended to become the nucleus of a metropolitan area, which will include some nearby villages adding around 70,000 new inhabitants to the administrative area. The road network has a radial-ring structure and extends from the city to the neighbouring villages. The municipal roads comprise over 800 streets with a total length of 324 km. East and West ring belts mean around 5,300 vehicles transit Ploiesti each day.

Ploiesti is situated at the crossing of the European Corridors IV and IX.

Ploiesti is a railway hub providing connections between Bucharest, Transylvania and Moldavia. The city has several railway stations for passenger and goods transportation.

Ploiesti is also an important national and regional motorway hub. The municipality lies at the confluence point of the North-South and East-West axes, respectively at the crossroads of Transylvania-Bucharest (Danube River or the Black Sea) and Moldavia-Oltenia (the sub-Carpathian connection).

The local transportation company RATP, which is municipality owned, provides connections to all areas within the city. The municipal vehicle fleet comprised 193 buses, 62 trams and 10 trolleybuses carrying about 70 million passengers annually.

2 STUDY ON A GLOBAL PRICING STRATEGY

2.1 LA ROCHELLE

2.1.1 Context

Pricing range in La Rochelle is confused: more than 80 types of contracts are offered to the users – many of them very similar or even not relevant any more. This generates difficulties in the statistical analysis and a limited impact.

2.1.2 City Objectives

Through CIVITAS-SUCCESS, the Urban Community of La Rochelle aimed:

- To make the public transport offer more accessible to the user
- To fully integrate the scholars in the pricing strategy
- To optimize the user of the PT smartcard for all the public transport services.

The new pricing range should comprise a more reasonable number of contracts while taking into account the specificity of the users. In parallel, the new prices must be adapted to the intermodal pricing range proposed by the 'Département' authority.

2.1.3 Achievements

Main features

- a study have been carried out, leading to the redefinition of the pricing range.

2.1.4 Implementation and operation actions

The Urban Community has been assisted by a specialised consultant in his redefinition of the pricing offer

The study has been carried out in 3 steps :

Step 1 : Diagnosis

- Complete analysis of the current pricing range for each service (financial analysis, identification of the use and users...) and of its evolution.
- Comparison with other french and european cities

Step 2 : Definition and implementation of the strategy

On the basis of the diagnosis, several scenarii have been elaborated in order to propose:

- A new pricing offer
- New pricing basis: subscription/payment on an usage-related basis/combination of both...

The scenarii have been analysed from all points of view, taking into account, among other things, the evolution of the revenues and the evolution of the users (included new pool of customers).

Population surveys

1. Qualitative survey

A qualitative survey has been carried out by the contractor in order to elaborate adequate scenario.

Meetings have been organised with various groups of interest, living in the same districts, in close collaboration with the Urban Community. The objective was to identify the issue of the redefinition of the network and of the pricing offer from a qualitative point of view. Both users' and non-users' opinion have been taken into account.

5 groups have been created. Each of them is composed of more than 10 people with a very different use of public transport in order to have a representative sample. This approach enables a real understanding of the demand from the users and non-users. These demands are sometime different or opposed but it does not prejudice the pertinence of the approach as the feed the reflection process.

A critical analysis has been drawn, crossing the demand expressed and the different groups (districts and kind of users).

2. Quantitative survey

The objective of this complementary survey was to detail the data obtained in the qualitative one. It enabled a better control of the evaluation of the scenario elaborated in terms of costumers and revenues.

Indeed, it is difficult to infer quantitative information from a qualitative survey as some information, such as the evolution of the customers and the evolution of the invoices, are purely quantitative in itself. The quantitative survey does not replace the qualitative one.

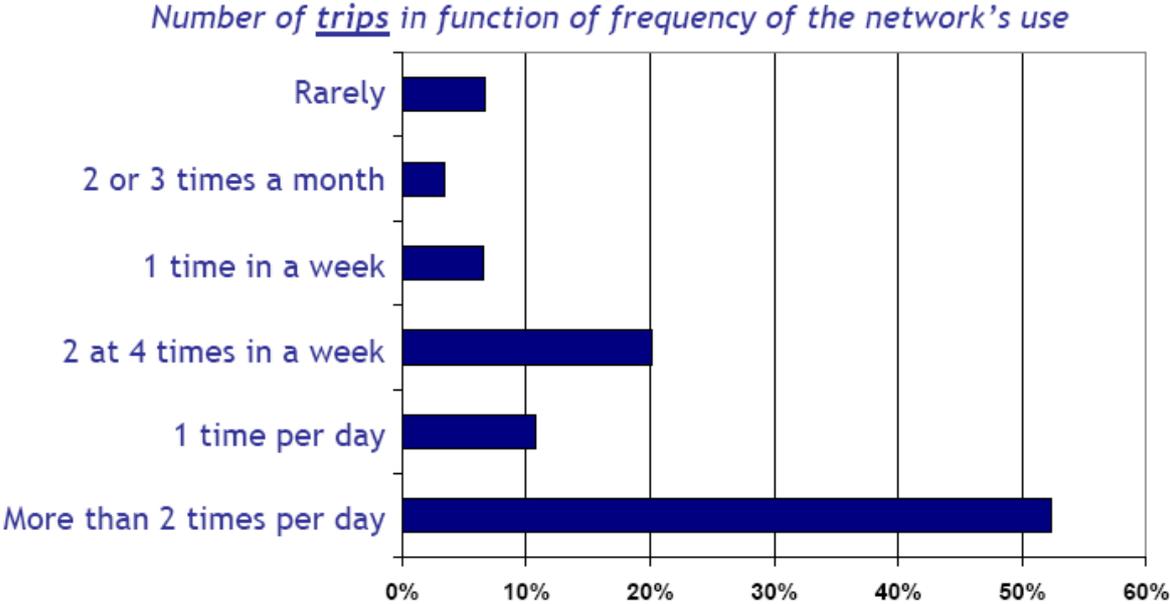
Step 3: Definition and conception of the essential elements for the implementation of a unique smartcard giving access to all the public transports in the Urban Community of La Rochelle

Different scenarios have been elaborated comprising financial analysis, definition and identification of all required components for the implementation of a unique smart card for accessing PT and payment (considering an evolution of the ticketing system):

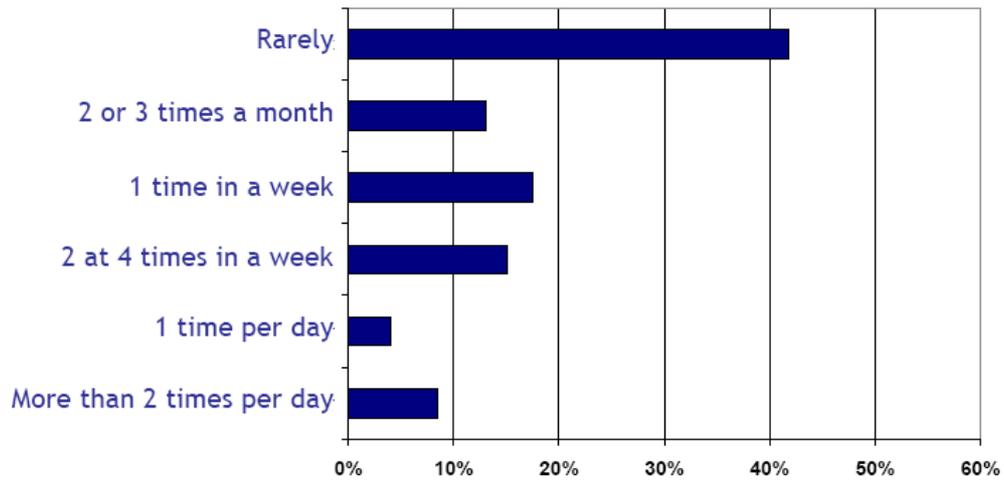
- modalities and condition of the attribution of the smartcard
- monitoring and management of the different tickets/subscriptions
- monitoring of the users
- method of payments...

The recommendations should lead to a technically reliable and easy use of the smartcard. The technical feasibility of the pre and post payment taking into account the possible evolution of the pricing range have been studied.

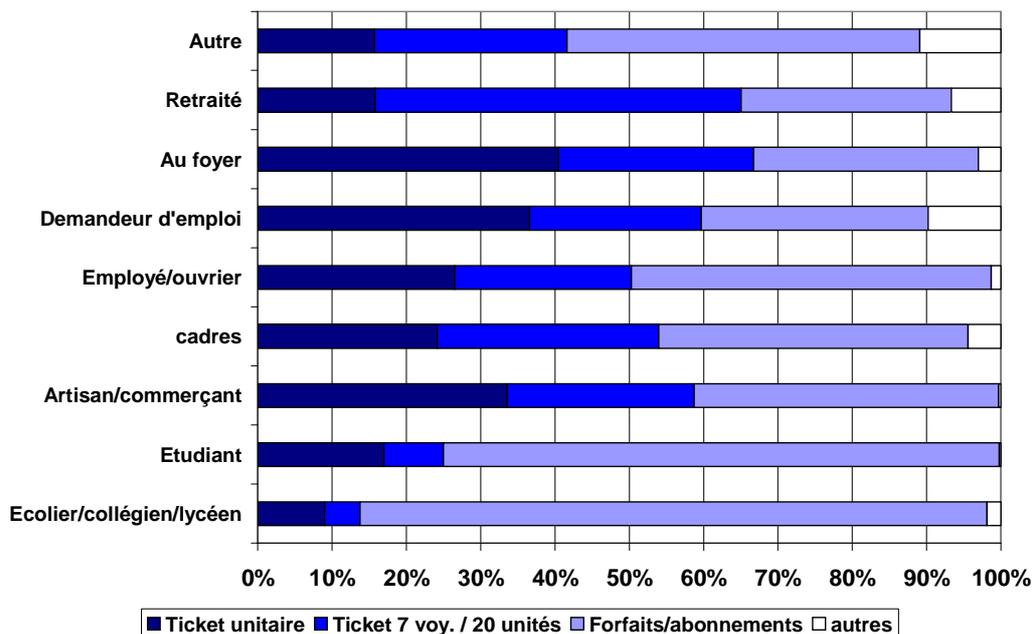
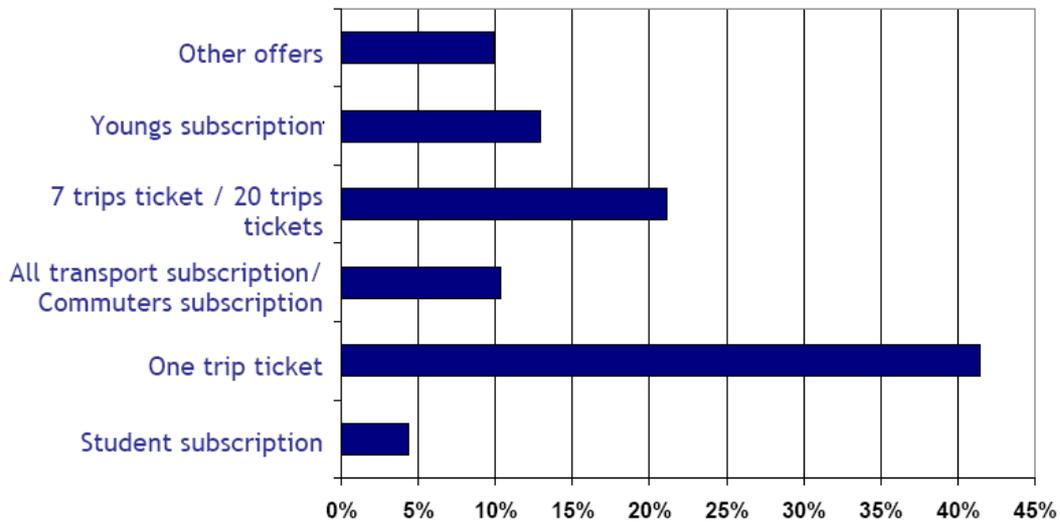
2.1.5 Results



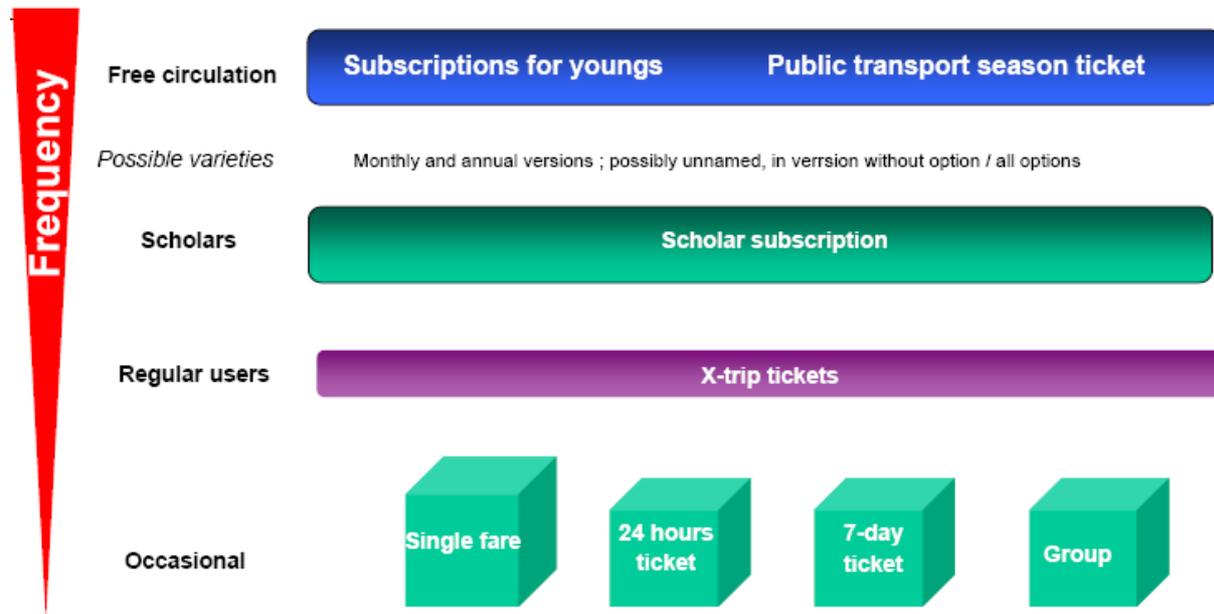
Number of users in function of frequency of the network's use



Annual revenues par transport offer



The study highlighted the strengths and weaknesses of our pricing offer and the vision of the users about it. New needs of the users and their vision of the pricing range have been identified. After the diagnostic, a pricing offer scenario has been adopted, highlighting the strong will to simplify the previous pricing offer.



2.1.6 Conclusions

Interesting results emerged from this strategic study and they have been exploited to implement a new pricing offer. Notably, the diagnosis phase enabled to identify the use of the network, the more sold tickets per category of users...

Reminder:

- *A simple and clear pricing range is better received by the PT users*
- *Having a dedicated ticket for each category of users is essential*
- *Qualitatives AND quantitative studies are essential in order to identify the user's needs and the adequate tickets and prices.*

2.2 CREATION OF A “PASS’ROCHELAIS”

2.2.1 Context

La Rochelle, as an attractive place to visit, welcomes each year thousands of tourists. Most of the tourists coming from La Rochelle airport or the railway station wish to easily travel from one place to the other.

2.2.2 City Objectives

- To launch a transport Pass combining unlimited PT travels with discounted prices for museums and main attractions in the city

2.2.3 Achievements

- Creation of the Pass’Rochelais
- More than 11 500 Pass’Rochelais sold between 2005 and 2008

2.2.4 Implementation and operation actions

1. The concept

The Pass’Rochelais offers an attractive alternative to the private car by giving access to all forms of public transport to visit La Rochelle and the surrounding areas.

It entitles:

- Unlimited transport to travel through the Urban Community by bus sea bus, passeur (boat crossing the Old Port of La Rochelle) and “yellow bikes” for 2, 3 or 7 days.
- Reduced prices to the partners’ sites
- An economy of time in participating sites (not queuing for purchasing their tickets)
- Environmental-friendly holidays

The transport pass and the entrance tickets to the participating sites have to be purchased simultaneously.

2. The evolution of the Pass’Rochelais



The Pass'Rochelais began as a Pass for cultural places, sold in the Tourist Information Office of La Rochelle. It has been progressively extended to:

- new targets
- new cultural activities
- new selling points

3 different versions have been produced , in order to meet the specific needs of each target group (tourists, cruise passengers, families and local population).

-The Pass'Rochelais Culture

The Pass' Rochelais Culture was the first created. It includes the main tourist and cultural sites of La Rochelle: the Aquarium, the Maritime Museum, the Arts and History Museums, the Automation and Scale Model Museums, the Towers of La Rochelle and the guided tour of the Town Hall.



-The Pass'Rochelais Croisière

Taking into account this success, the range of the Pass'Rochelais has been extended: it has been decided to create an adapted pass for the people putting into port from a cruise in April 2007. Indeed, the Pass Culture was not really adapted to their need as they use to stay only one day in the city.

The 'Pass'Rochelais Croisières is a 1-day pass combining transport and entrance to museums and touristic attractions at reduced prices.

-The Pass'Rochelais 'Loisirs

Created in summer 2008, the Pass'Rochelais Loisirs is more oriented toward families and gives access to 16 sport or leisure activities.

The fusion of all the Pass'Rochelais is planned for 2009 in order to offer the possibility to the user to combine leisure and cultural activities to individual and families.

3. Partnership

This measure has been implemented in partnership with:

- the Syndicat Mixte de la Communauté Tarifaire en Charente-Maritime (SMCTCM)
- the RTCR (bus operator)
- Océcars (bus operator)
- Tourist Information Offices
- The participant tourist and leisure site
- The selling points

SMCTCM has been negotiating with PT operators and the partner sites in order to build a partnership and agree on a special tariff for the Pass.

4. Proposing adapted prices and identifying the selling points

1 Choix du forfait transport

Pour les individuels :

- Forfait transport **2 jours** **5,60 €^A**
- Forfait transport **3 jours** **7,00 €^A**
- Forfait transport **7 jours** **8,40 €^A**

Pour les familles (2 adultes et 1 à 2 enfants):

- Forfait transport **2 jours** **16,00 €^A**
- Forfait transport **3 jours** **20,00 €^A**
- Forfait transport **7 jours** **24,00 €^A**

Le titre de transport se valide systématiquement à chaque montée dans un mode de transport. **Gratuit pour les moins de 5 ans.**
^A Supplément pour le péage de l'axe de la N101 de par voyage/jour.

2 Choix de 1 à 15 activités à tarif préférentiel**

Lors de l'acquisition de Pass'Rochelais, les billets pour les activités de sport ou de loisirs sont vendues obligatoirement et simultanément avec le titre de transport. Au moins un billet payant doit accompagner le titre de transport. Il est délivré sous la forme d'une contrepartie matérialisée et personnalisée : verte pour les adultes, orange pour les enfants et rouge pour les familles. Elles seront à remettre à l'entrée des lieux d'activités.

- Creation of a pricing offer for the families

Before 2008, the Pass'Rochelais was proposed only on an individual base. Families visiting La Rochelle had to buy several individual Passes, paying a price that was not always very attractive for them.

From 2007, a reflexion has been carried out to offer the families a specific offer. The decision has been taken to consider the family tariff for 2 adults and 1 or 2 children and to apply it on the Pass Loisirs.

- Identification of the selling points

In 2005, the Pass'Rochelais was on sale at the Tourist Information Office of La Rochelle and Chatelaillon.

In 2007, the selling points have been extended and the Pass is now available in Tourist Information Offices out of the Urban Community, at the bus central (RTCR selling point), camping and hotels.

-Training

The selling points employees, in particular the Tourist Information Offices, have been trained in order to inform the tourists about the Pass'Rochelais and sell it.

5. Promotion

Brochures have been produced in French, English, German.

The Pass is also promoted in the Tourist Information websites, local press and special events.

2.2.5 Results

- Increased satisfaction among the tourists

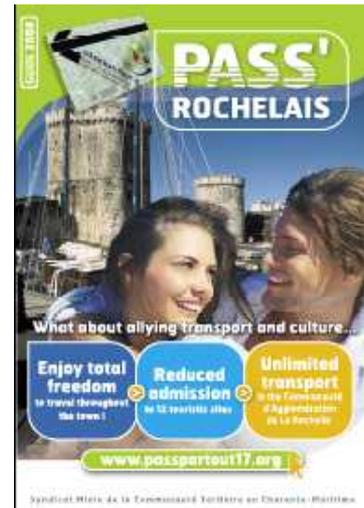
A survey carried out in summer 2008 revealed that 87% of the users are very satisfied about the concept and 12% are quite satisfied. The tourists feel that the local authorities have a real will to make their stay in La Rochelle cheaper, easier and practical.

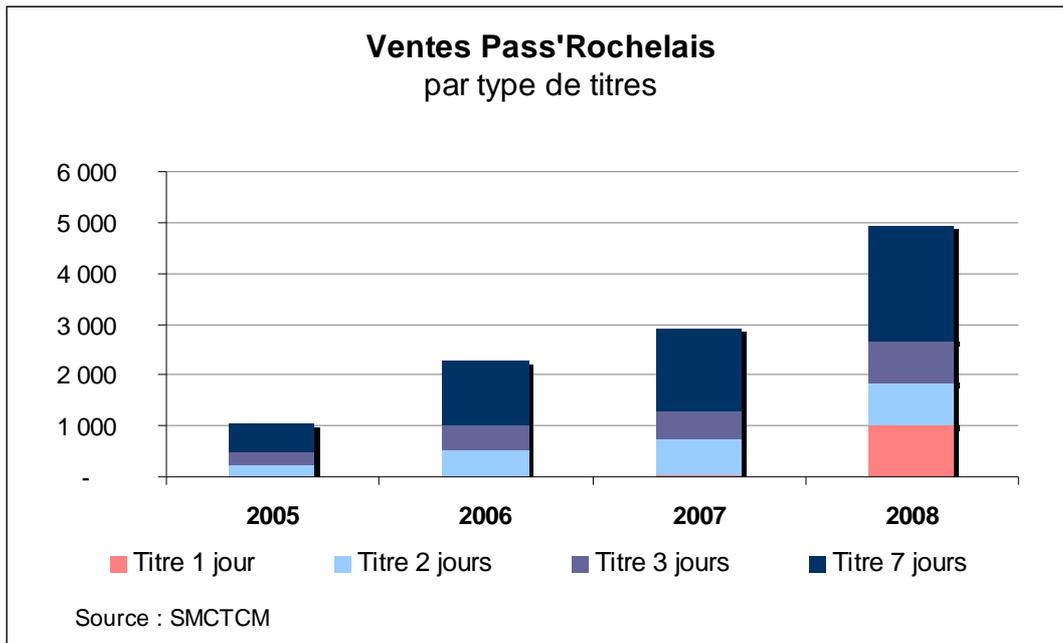
- A real alternative to the car

63% declare that they used less their car during their stay in La Rochelle thanks to the Pass'Rochelais.

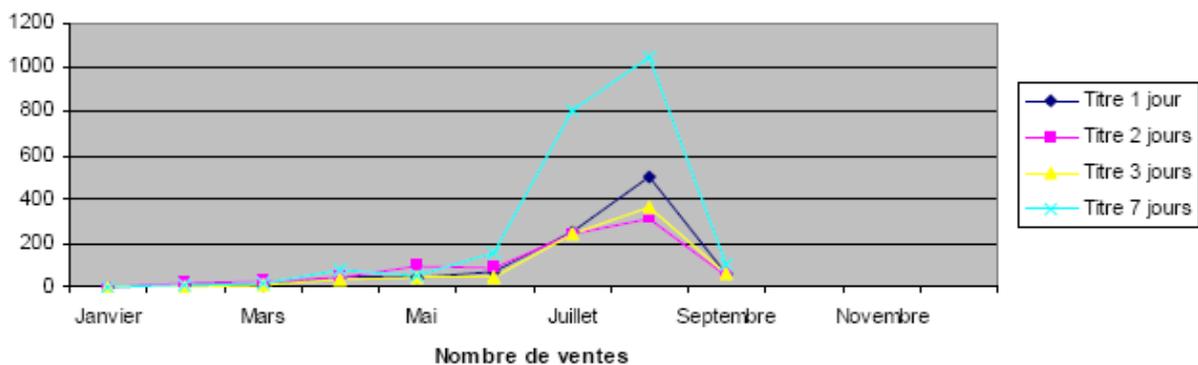
-Sales

The sales of the Pass'Rochelais dramatically increase every year. In total, more than 11 500 Passes have been sold since 2005.





Evolution des ventes Pass'Rochelais de janvier à septembre 2008



- The Pass'Rochelais is mainly sold during the summer period.
- The 7-day Pass'Rochelais is the most successful.
- The Tourist Information Offices are the best selling points.

2.2.6 CONCLUSION

Pass'Rochelais turned out to be a big success: visitors find the prices attractive. Benefits are shared between transport and tourism as it encourages the tourists to use public transport instead of their car and allow them to discover more sites and activities. The concept is also extended to some cultural events as, for example, the International Festival of the Cinema.

Reminder :

- *The partnership with all the main tourist and cultural sites is essential*

- *Multilingual information have to be provided to the tourists*
- *The tariffs have to be attractive for everybody, included the families*

2.3 IMPLEMENTATION OF SMART CARDS FOR ALL PUPILS

2.3.1 Context

Before CIVITAS, two different kinds of scholar tickets existed in the Urban Community, because two operators were running on the bus network. Pupils taking only the RTCR buses (working on the city of La Rochelle and towns of the first ring) had a magnetic ticket for one or three months, allowing 2 or 4 trips per weekday. Pupils taking the bus with other operators had a paper card with their photo and name, and had to show it to the bus driver. This system could easily cause forgery.

2.3.2 City Objectives

The objective of the Urban Community of La Rochelle was to extend the pricing system Pass'Partout 17, based on the smart card, to all pupils taking the bus from home to secondary school and high school. Schoolchildren represent an important and growing part of the population and need to have propositions to facilitate their mobility, because they are not allowed to drive a vehicle, and the existing prices for the bus are not adapted..

2.3.3 Achievements

- From 2005, about 8000 scholar smartcard have been distributed.

2.3.4 Implementation and operation actions

- *Description of the system and benefits for the user*

The smart card contains specific data about the pupil: full name, town of residence, Pégase numbers (the pupil's transport number) and photo.

Advantages for the user

- Card easy to use
- Possibility to add other contracts on the same card

Advantages for the operator

- No possibility of falsification
- Capacity for the operator to block a contract when it is not paid or when the pupil has lost his card

- *Partnership*

The Urban Community of La Rochelle has initiated the project by discussing with Charente-Maritime 'Département', responsible for scholar transport on its territory. It has been supported by the Syndicat Mixte Communauté Tarifaire en Charente-Maritime (SMCTCM), in charge of the Pass'Partout 17 system for the whole 'Département'. ERG Transit Systems, supplier of the smartcard and validators system, has also been involved.

- *Implementation*

Discussions were engaged with ERG Transit Systems in order to identify the best possibilities to implement these cards. It was necessary to create a new contract specific to pupils, with the set up of characteristics and limits, in order to restrict the use on school days.

All pupils' profiles are registered on specific software 'Pégase'. The database is in a particular format. The automatic transfer into ERG computers - which are the only ones able to create the smartcards - was first considered and the costs assessed. However, this solution proved to be too expensive; it has been decided not to take this software.

As an alternative, it has been decided to set up an implementation unit in the Urban Community offices. After concluding on the best offer, ERG and the Urban Community worked together to set up the office and to organise the training of the staff.

2 Electronic points of sale (EPOS) have been set up. These systems are composed of:

- A computer with specific software,
- A scanner or a camera to capture photos,
- A printer which is specifically made to print on ISO cards.
- An encoder which puts the contract on the card.

All the cards were ranked by the transport company (RTCR or the other operator Océcars) and by Pégase number, as it was concluded that every transport company made the mailing of the cards to the pupils they transport.

During the following school years, the operation has been repeated for new pupils. Those who already had a scholar smartcard could renew their subscription by only sending a mail (accompanied by the necessary documentary evidences). The modification is then automatically made.

2.3.5 Conclusions

The cooperation between the different stakeholders is essential for this kind of project. After providing the manufacturer with exact characteristics, the supplier proposed appropriate solutions. Coordination and scheduling of all steps were essential.

Pupils are most satisfied as they can now access buses with an easy-to-use and personalised contactless card.

Moreover, another good point for the operator is to be noticed: time spent for the maintenance has been reduced as smartcards generate less deficiencies on the ticketing machines.

Reminder:

- *Satisfaction among the pupils owning a personalized smart card*
- *The most important category of PT users have now access through a smartcard*
- *More efficient monitoring for the operators (black list, automatic renewal)*

3 CAR PARK MANAGEMENT

In SUCCESS, the demonstrations aimed to analyse the effects of

- The implementation of new Park & ride, In Preston and La Rochelle
- The development of specific web site on parking places in Preston

Although it was considered for a while in La Rochelle to implement specific services in Parks & Ride his could not be set up before the end of SUCCESS

3.1.1 Information of parking options in Preston town centre

Based on the analysis of users requirements and current good practice in this domain (general state of the art), a web based travel information portal has been developed to point out the locations of the different parking facilities in Preston town centre. The report has provided recommendations to enable Lancashire County Council to take steps towards the development of a website that delivers transport information according to user needs

Then the development started using ArcGIS Server as the underling software for the web site. Lancashire County Council is currently customising this software. Datasets are being finalised. The project has procured ArcGIS Network Analyst and has been tested to provide network routing, travel directions, and closest facility functions.

The software that interfaces between the Common Database and the Web server is called SOAP. The SOAP specification for enhanced data exchange has been set out. Datasets are being finalised and beta versions of the software are being tested



schematic functionality of the travel and transport web

3.1.2 Recategorising Station car park, Leyland Park & Ride

The creation of the new Leyland Station Park & Ride scheme has had extremely positive follow on effects. The station area is now seeing a range of developments around it which have only been possible due to CIVITAS. There has been an increase in usage of the station and local opinion around the parking scheme is very positive. The taxi rank has been moved in to the new area and taxi operators have been very happy with the increased amenity and passenger numbers that have been realised.

Implementation actions –

The implementation went as planned, the work included - - Extension to car parks, realignment of parking areas, enhanced and increased numbers of parking for disabled customers, at level crossing facilities, cycle parking, information boards and local information, segregated multi-use foot/cycle paths, joint management and new parking tariffs to encourage the use of public transport/Park & Ride.

Partnerships –

The parking improvements in Leyland have only been made possible by the new partnerships forged under CIVITAS. For the first time in the town, South Ribble Borough Council, Lancashire County Council, train operators, bus operators, car park operators and the local safety partnership have worked closely together to produce meaningful improvements which support increases in the use of public transport services and local crime prevention.

3.1.3 New Park and Ride in La Rochelle

The basic idea was to build a new secure and accessible P+R in the Northern part of La Rochelle.

PT subscription holders are to have access to this P+R through their regular transport smartcard.

This P+R consists inf 2 close but separate sites (125 parking spaces), located on a main road axis, in the northern part of La Rochelle.



L'Hermitage Park and ride

This new P+R was inaugurated during European Mobility Week in September 2006 and has been operating since then. The car park is fully integrated into the PT network. Indeed, it has been equipped with smartcard readers/validators allowing the user to access the P+R through his/her regular PT smartcard, the same that he/she will use on board buses to reach La Rochelle city centre and a wide range of other modes of transport in La Rochelle.

There is also added value in making this car park a multimodal site, thanks to direct access to a bike sharing station and through the location of the office of the "GIE Taxis" taxi service.

On the whole 100 parking spaces were built on the P+R The P+R is located near the ring road in order to be easily accessible by car from the North and the East of the Urban Community territory.

As there were 3 houses on one of the targeted area for building the P+R the next step of the project was the purchase and demolition of them. Since one of the owner decided to stay in his house, it was decided to demolish the other two houses and to create a U-shaped car park corresponding to the available area.



Before



After



The 2 locations of the Park & ride

In parallel to the P+R service, an agreement has been signed between the Urban Community of La Rochelle and the "GIE Abeilles Taxis" for its office to be located in the P+R. The "GIE Abeilles Taxis", bringing together professionals on LR territory, had already made a partnership with the local authority by offering taxi services at very low fares to people owning a PT card. This office is open 24/7 and is also used as an information point for the parking users.

A security system has also been set up at the new P+R with cameras sending the images simultaneously to the taxi office and the office at the first P+R site. Unlike the first P+R implemented (P+R Jean Moulin) it was decided not to provide a dedicated shuttle bus between the P+R */Hermitage* and the city centre. A large number of bus lines are located very close to the P+R ensuring a good frequency of buses to the city centre. As a result people leaving their car at this P+R need to go to the nearest bus shelter and take a regular bus to reach the central bus station (Place de Verdun).

3.1.4 Conclusions

As mentioned before, links between car parks deployment and global urban and transport strategies are quite strong. Obviously land costs are also quite important in the decision for developing car parks, however :

- car parks of any type must be located in an attractive place, but attractiveness of the area may change during the years.
- development of a signage strategy utilising intelligent / dynamic signage and responsive technology linked to traffic management to relieve congestion on key approaches to the city centre and make best use of available car parking capacities
- as for most of transport projects, the cooperation and collaboration of all stakeholders is one of the key success factor

4 GENERAL CONCLUSIONS ON THE WP.

4.1 Conclusions and lessons learnt

Integrated ticketing

Integrated ticketing implies that several and quite different actors must agree on a common approach regarding the transport of passengers. Obviously, the negotiation between all of them is one of the key points of the development process. Then the variety of interconnections between operators, the required high level of interoperability between their organisations and systems makes it difficult the technical implementation.

Open discussions with operators are essential, and consequently, special dedicated working group meetings must be formed involving local authorities, bus operators, and all potential stakeholders. It might be a long process to achieve a common agreement on the ticketing modalities and reverse payment to the partners but it must be conducted with an even pace with periodic meetings when disagreements arise.

The implementation of such complex and interrelated ticketing systems is extremely challenging technically; technical advice provided by external consultants, ticket machine/software suppliers and of course the support of IT department of Local authorities are very important for the success of the set up and for the future system operators. This means that dedicated training tasks have to be introduced all along the project and their duration and workload must not be underestimated.

The introduction of Smart Cards for concessionary passengers creates more work which may be the cause of delays, due to access to resources and conflict with different time scales. This relates to the understanding and the training of card-holders in dealing with the new technologies.

Park car management

The main criteria to analyse the success of car parks are the filling rate and the turn over ratio. If both are high (according to the nature of the car park), that means they are well localised and satisfy customers.

Of course localisation and size are the key points, but the first one is often the most sensible and depends on the nature of the car park which is forecasted (commercial city center, Park & Ride, tourists zone,...); moreover, land costs play an important role in the decision for localisation and also influence the sizes.

2 other parameters need to be taken into account :

- The attractiveness of the zone which can be direct (ie commercial zone) or indirect like in Park & ride connected with direct PT to other attractive places ; this will help to dimension the flows, the average parking time,...

- The parking stock around the forecasted one and specific parking related data (spaces available, cost etc) associated with each parking area localised near the future one

Usually these data are collected through audits of the people travelling to the concerned area ; however, they have to be completed with extrapolation data linked to the extension of attractiveness the future car park could have.

When services are considered in Parks and ride, specific studies have to be engaged in order to analyse the eventual loss of profit for similar activities localised in city centres.

Car Parks are living objects, if attractiveness around goes away, they may lose their interest and people desert them. On the contrary they may become too small and induce congestion by waiting queues or illegal parking.

So the dataset used for the design should be reviewed every 12 months to ensure accuracy of information and to continue to allow the data to be used to inform strategic transport and planning decision making

4.2 Future developments

Ticketing integration must be based on a clear pricing strategy. So this strategy must be defined and validated before any launch of new ticketing projects.

The domain where this applies must also be clarified at the beginning; if the integration concerns quite different mobility activities such as buses, vehicle sharing and car parks like in La Rochelle, it is easier to design solutions which encompass all systems or at least that will be able to accept future connections with other projects than developing specific adapter devices or pieces of software for each new project.

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