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Mobility Management in small and medium cities
The case of Serres

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Abstract

Mobility Management is referred to the policies and soft measures for the achievement of a more sustainable and efficient transport system. During the last few years many cities or even regions have started implementing transport policies based on Mobility Management for the modification of the transport system and the enjoyment of the benefits from the use of the alternative means of transport. Serres is a small city in the northern part of Greece that has also undertaken Mobility Management measures so as to promote cycling and hence to modify the travel behavior of the citizens and the image of the city. To this purpose, the city took part in the EU program that is called PIMMS TRANSFER, the target of which was the promotion of the cooperation between European cities and the exchange of good practices in the transport system.

In this thesis the measures taken by the policy makers to promote cycling between the citizens are presented. Moreover, the whole transport system within the framework of which these measures are taken and the initiation of the side measures, are cited. Afterwards, the existent situation and in particular the transport system in the city is analyzed, through the examination of policy documents and interviews of the key policy makers for this reason. At the end, the future plans and strategies for further promotion of cycling and the bicycle use are presented, in combination with the examination of the international experience through systematic analysis of case studies.

Key words: Mobility Management, Cycling, PIMMS TRANSFER, Serres,

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1. Introduction

Transportation is playing a crucial role in people's life and keeps a big part of everyday activities. Either as commuting or as traveling for leisure activities, most of the people nowadays spend a significant amount of time traveling. As a result of the increase in people's traveling the last few years, also the problems caused by this increase, have multiplied. Problems like air pollution, congestion, stress, and noise forced even more people to ask for more sustainable means of transport and various policy makers have turned into alternative methods of urban transportation.

According to Victoria Transport Institute (2010) Mobility Management includes all the methods, strategies and soft measures for the achievement of more sustainable transportation system for the passengers and the increase its efficiency. Soft measures include all those measures that do not require new infrastructure, but aim at increasing the efficiency of the existent transport methods (Ray, 2011). Moreover, the main target of MM is the promotion of more sustainable mobility methods like cycling and walking.

Apart from the achievement of general progress and promotion of Mobility Management which were more general targets for every participant, each one of them was also called to fulfill one more specific target through the program, and to focus on. The main target of the partner from Greece which was the city of Serres was the promotion of cycling as daily means of transport for the citizens in the city.

At the mean time the interest of cities or even regions, with similar problems and needs to Serres and to the other participants in the program, to change the travel habits of their citizens was growing. The rapid increase in the oil price combined with the intense congestion problems in the majority of the cities has rendered the car less attractive and accordingly the citizens are willing to turn into cheaper means of transportation, such as cycling. Hence, the cities' policy makers' target is to offer to the citizens more transport options.

The purpose of this master thesis is to present the actions of the Municipality of Serres in order to promote the use of bicycle. The Mobility Management measures and the EU program "PIMMS TRANSFER" are also taken into consideration so as to provide answers to the research question. The main research question that this thesis aims to answer is "how to promote cycling in a small city like Serres?"

The methodology used on this thesis consists in the review and analysis of the policy documents and in the interviews with some key policy makers. Moreover, some case studies are examined in comparison

with the plans of the Municipality for the assessment and the evaluation of the latter's effectiveness. The policy makers that have been interviewed are the Mayor of Serres Mr. Petros Aggelidis, the head of the Municipality's Transport department, Mr. Nikos Papadikis and an engineer, who was responsible for the PIMMS TRANSFER program, Ms. Foteini Mikiki. One of the policy documents that are analyzed is the policy of the city council for the transport planning.

The structure of the thesis consists of four main parts. At first, the literature review of Mobility Management and cycling is cited. Subsequent to that, a description of Serres and the existing transport system takes place. Moreover, information about PIMMS TRANSFER in EU is given. The third part consists of more specific information about the cycling in Serres and of the interviews with the policy makers combined with the analysis of the policy documents cited there also. The presentation of the case studies and their analysis and comparison with Serres Municipality's actions is also included in this part. At the end, there are the conclusions from this master thesis and the suggestions for further research in the field.

2. Literature Review

This chapter is aiming at providing an overview of the literature concerning the mobility management through the years in order to become clear what are the targets and the methods of mobility management and how could it be applied successfully in the case of Serres. Afterwards, the role and benefits of cycling and the ways of its promotion are going to be analyzed and examined.

2.1 Mobility management: definitions

Mobility Management (MM) or Travel Demand Management (TDM) according to the MAX program (2007) of European Platform of Mobility Management (EPOMM) is defined as: *“a concept to promote sustainable transport and manage the demand for car use by changing travelers’ attitudes and behavior. At the core of Mobility Management are “soft” measures like information and communication, organizing services and coordinating activities of different partners. “Soft” measures most often enhance the effectiveness of “hard” measures within urban transport (e.g., new tram lines, new roads and new bike lanes). Mobility Management measures (in comparison to “hard” measures) do not necessarily require large financial investments and may have a high benefit-cost ratio”* (MAX All Work Packages, 2007). The main objective of MM as it comes out from its definition is to promote new methods of movement and to convince people to modify their attitude as regards their transportation. To achieve these purposes MM is focused more on “soft” measures rather than on “hard” measures such as huge investments in infrastructure or long term plans that need more funds. This is also one of the most important reasons why MM measures are used widely, since, in comparison to hard ones, the risk of a possible failure is lower.

The definition of MAX – consortium and EPOMM is the most well known definition of MM but it is still upon further elaboration by the board of EPOMM in order to make it more clear and adjusted to the rapid developed concept. However, some other researchers have given other definitions for MM and these definitions are going to be presented briefly.

Researchers, throughout the European Conference on Mobility Management (ECOMM98) hosted in Nottingham, were trying to give a certain and fully approved definition. Their main target was to give a definition without negative perceptions which would send positive messages and would encourage Mobility Management. Moreover, they were intending to be accurate and to present in short the whole method. At the end of this conference, the definition was expressed as:

“Mobility management is any action aimed at the development and implementation of concepts that ensure the mobility of people and the transportation of goods to the end-user. It aims at making the

transport systems more efficient while at the same time continuously improving this transport with regard to its respect for the environment and for society as a whole” (MOMENTUM, 1997).

The above mentioned definition was used by the Research and Development (R&D) project called MOMENTUM (MObility ManageMENT for the Urban environMent). This project was hosted by the European Commission and the majority of the member states that were participating but also Switzerland.

Almost simultaneously, in the year 1999, Lundgren defined MM as *“a broad approach aimed at improving the use of traffic and transportation in a city or a particular area, thereby reducing the solo traveling by car or reduce the share of shipments of low load factor. The goal is to achieve an environmentally sustainable transport system.”* (Lundgren, 1999) With this definition, Lundgren gave a more casual meaning of MM and set also some limits by speaking about cities and municipalities. The importance of this meaning was the fact that the everyday movement was also covered.

A few years later Lundgren with Backmark argued that *“Mobility Management is among traffic planners a relatively well-known approach to addressing and resolving a wide range of traffic problems and increase the sustainability of the transport system.”* (Backmark and Lundgren 2004)

Another definition was given by Bjerkrmo in 2006, on the basis of which he was focused more on the measures that MM use. The definition was the following: *“Mobility Management is often used as a synonym for soft measures to enhance the effects of other measures and accelerate the implementation / acceptance”.* (Bjerkemo, 2006)

At the same year, Mattson gave another definition in which he focused on the many and different parts that take part in MM. According to him *“Characteristic of mobility management is a wide cooperation with many players. The main tools are information, communication, coordination and organization. Much of the work requires a local work where the individual people's values are the key driving force”.* (Mattson, 2006)

2.1.2 The concept of Mobility Management

To make clearer what does Mobility Management include and what not, its characteristics are going to be presented according to the MAX – consortium and EPOMM.

The first characteristic concerns the orientation of MM and it indicates that MM is “demand oriented – instead of supply-oriented”. Practically the said boundary means that the aim of MM is to change the habits of the travelers/citizens instead of leading them to follow a different way of moving by constructing more highways for instance or by investing on other transport infrastructure so as to provide them with more amenities. In fact, before focusing on these investments it is wise, according to MM, to think about some other options more sustainable and related to the whole philosophy of Mobility

Management.

As a supplement to the previous statement, the second characteristic arises, according to which *“the Infrastructure measures can be supportive measures to MM”*¹. According to this statement, some supportive measures can be built to help MM, such as parking for bicycles or even a bicycle route. These infrastructures however, are just side activities to MM. Moreover, the wide range of MM is not applicable just to a place or a company but also to a city or a region and this is also a boundary set by EPOMM. That could happen if the central administration of a region or even a country intends to re-schedule the transport system by including MM on it or to cooperate with the private sector and give them the right incentives in order to follow the same direction.

On the other hand, *“sustainable urban transport plans are not MM, but they should contain MM”*, according to the boundaries that have been set by EPOMM. *“Traffic and transport planning is part of MM if it is site based”*. This restriction includes some parts of the whole planning referring to MM and focuses on some specific cases such as the access to a hospital. The same purposes serve also the boundaries for the transport of goods. The said transport could be considered as MM only if it is part of the whole mobility planning and/or if it includes also the movement of the passengers and only if it exists as side effects again. The transportation of passengers' luggage may also be counted as MM but just in cases that another transport of goods is following the above mentioned specifications.

2.1.3 Measures of Mobility Management

There are a few measures of MM in order to accomplish the targets set by the whole planning. These measures are of vital importance since they are regarded as the tools of the strategy and can be applied either by regions or cities or by companies that want to add MM in their policy. A categorization and an explanation of these measures are going to be presented in the subsequent part².

Information measures

These measures aim at providing the travelers with information as regards the means of transportation that they can use and the facilities they can enjoy, according to their needs and demands. This kind of information is provided by: a) the “Mobility Center” (which are also called “Mobility Offices”, when these are found in a large company) and b) a mobility consultant who has a more direct contact with each traveler and sometimes he also prepares “mobility plans” and he may also be called “mobility manager or travel/mobility coordinator”

¹ www.epomm.eu accessed September 2011

² The categorization was made according to the directions of MAX – consortium and EPOMM (2007).

Promotional measures

The main target of these measures is to make people realize the importance of using other means of transportation than the car, so that they will voluntarily opt for these means (which are not though indicated by this group of measures). The said measures comprise :a) “Personalized Travel Assistance (PTA)” according to which people interested are invited by the assistance of a travel advisor to see how could they change their travel behavior by using other means of transport as well which will correspond to their needs; b) “Advertising campaigns” for the promotion of alternatives to the car use; c) “Targeted promotion of alternative modes and trip reduction/chaining” that will be addressed to a specific category of travelers, such as schoolchildren and will help them to find new ways of moving by making the proper suggestions.

Organization and coordination measures

These measures have as a purpose to categorize the needs of travelers of a specific region so as for them to make a common use of the same means of transport. These measure consist in: a) “Car Pooling”, which means that more than one people with the same destination use one’s single car to reach their destination; b) “car sharing” according to which people use a car owned by a company by paying the company by hour/day etc. “Car sharing” may also be shaped as “a formal booking system” and it is different than car –rental in that the car can be used also for a very short period of time, people can find it in various places and the recruitment of staff to offer the car is not necessary; c) “Van Pooling”, which is applicable to the employees of the same company who use the same minibus to travel to and from the work and share the cost a part of which may also be covered by the employer. This means of transportation may be organized either by the employees themselves or by a third party.

Site-based measures

This last category includes a great variety of measures but the main idea is to organize and coordinate the movement of travelers who belong to certain and the same teams or communities and as a result travel to the same places such as hospitals, schools, companies or even a concert or a football match. Of great importance for the application of these measures is the development of a “Mobility Plan” the main idea of which is to facilitate the access of travelers of a specific group to their destination, by offering them alternatives according to their needs and by taking into account and regulating a number of issues, which may extent from the provision of free bus tickets to the “parking cash-out”. A sub-category of this “Mobility Plan”, is the “School Mobility Plans” , the purpose of which is to help parents by providing them with alternatives as regards the transportation of their children and with education units and awareness on mobility.

Education and Training measures

The philosophy and aim of this category of measures is to make MM a part of the education in schools or to acquaint specific groups such as the “Mobility Member Staff” with the idea of MM or finally to train the staff who comes in touch with customers, such as the staff in shopping centers, so as for them to be able to inform the customers about mobility management issues.

Telecommunications and flexible time organization

According to this set of measures, initiatives by public organizations and other parties could be taken a) for the reduction of the time needed for the transportation to an organization in which a task has to be fulfilled and b) for the reorganization of working practices. To this end, internet or telephone could be used for shopping, working and carrying out of other services. In addition, the public services could modify their working hours and their way of operation with the aim of facilitating both the employees and the public accessing these organizations.

Supportive/integrating actions

This last category of measures aims at improving the efficiency of mobility management by affecting the end user’s travel behavior and contributing to the effective mobility management. These actions indicatively include parking management, “location efficient mortgages”, “congestion charging”, “offering integrated fares” or finally “multimodal fare”.

2.1.4 Benefits of Mobility Management

One of the advantages of Mobility Management is the reduction of the gas emissions produced by the abnormal use of private cars. The problem of air pollution and the greenhouse effect that was caused by the emissions of CO₂ from the cars has troubled the scientists through the years. However, only a few have noticed Mobility Management as a measure for the emissions’ reduction at least those which are caused by the car usage (Litman, a’ 2011). Despite the efforts of the car industries to produce more environmental friendly vehicles, the huge number of the vehicles in the streets is still a source of CO₂ emissions. This has lead the researchers to declare that the most effective way to reduce the gas emissions of the cars is the combination of environmental friendly cars and Mobility Management (Leather, 2009).

Mobility Management could contribute to the reduction of the emissions not only through the alternative methods of transportation, but also by means of a most reasonable usage of the cars. Car-

sharing for example may reduce the vehicles in the streets, but still the usage of car remains. Also the majority of the measures of MM are aiming at reducing the usage of cars, but also at minimizing the congestion. The main problem of the emissions caused by vehicles is the fact that their engines are working more than needed because of the congestion, traffic lights and the “hunting” of parking places. These examples are the priorities of MM and as it seems, it is possible to reduce the emissions by implementing the MM (Litman, b’ 2011)

Apart from the importance to the environment, MM encounters many economic benefits also. *“Mobility management offers substantial cost savings and increased service effectiveness”* (Burkhardt and McLary, 2011) According to this, the economic growth can be achieved parallel to MM. All the measures that mobility management uses have as a purpose to reduce the overuse of cars and consequently the costs for the gas. Moreover the benefits for the transit agencies are also significant since they increase their productivity and reduce their costs³. As a result of these changes, the whole society would be benefited while better services will be provided to the community and the costs will be lower.

The benefits of MM can be visible to the companies so as to apply some of the measures to their policy. The flexible working hours for example can affect the productivity of the employees. It is very important for them, no matter what means of transportation they chose, to arrive at their jobs without the stress of a traffic jam. Moreover, the fact that they might reach their working place by cycling and that afterwards they will enjoy amenities such as a shower and a locker also play an important role. The pleasant working environment is tending to be a serious reason for the increase the effectiveness of the employees. (Litman, c’ 2011)

2.2 Cycling

Cycling is one of the most environmental friendly means of transport and fits most of the Mobility Management measures. This is the reason why cycling was promoted by the authorities which wish to supply their citizens with more sustainable means of transportation. A piece of scientific information about cycling is presented in this subchapter.

³ “Transit agencies in the Denver, Detroit, and Portland (Oregon) regions are now realizing savings of about \$2 million or more per year by applying mobility management strategies tailored to the unique needs and resources of their communities” (Burkhardt and McLary, 2011)

2.2.1. Benefits of cycling

One of the most common ways to commute and travel short distances, is by cycling. Over the past few decades, people have recognized the value of bicycle as one of the most cheap and easy means of transportation. What is more, humankind started to use bicycle on a daily basis mostly during economic crises. Copenhagen, for example, became the number one bike-friendly city in 1932 when the global economic crisis made oil accessible only to a slight proportion of entity. (J. D. Hunt Z J. E. Abraham, 2006).

Cycling, walking, skating and other human-powered transport modes consists the “active transportation” (Litman, 2003). However, active transportation that was underestimated by the transport planning in many cases in the world could bring significant socio-economic but also environmental benefits for the community. The age groups that were mostly affected by cycling are the children and the elders.

The benefits of cycling are several and they concern not only the users but also the urban environment. The most direct effect for the cyclists is the improvement of their health condition and their stamina. As a result of the modern way of life which is characterized by a limited time for sports, many experts like Litman (2003) strongly believe that daily cycling not only for leisure activities but also for the required traveling could substitute the exercise effectively.

However, the public health is also positively affected by other factors such as the reduction of CO₂ emissions caused by cycling use (NC Unwin). Motor vehicles are the source of these emissions that would accordingly be reduced rapidly by the use of bicycle instead of the private car. At the same direction are also the benefits from the reduction of the noise pollution, which is also caused by the intensive usage of motor vehicles especially in urban environments.

Moreover the benefits of cycling are also visible in the daily travels into the city as a result of the congestion’s reduction. This reduction affects also the number of parking places, because with less congestion it becomes easier to find a parking place and as a result to travel into the city. The decrease of parking places may lead to the change of land use, since the there will be more free land that could be used for the creation of pedestrian zones or parks or cycling paths (Litman, 2003).

2.2.2 Promotion of cycling

The above mentioned benefits are only some of the visible direct and indirect benefits of cycling in the city. However, the problem at the moment is that the citizens do not have in most of the cases the right incentives to start cycling. Furthermore, in some cases the lack of infrastructure could be also dangerous for the bicycles and instead of incentives the cyclists face some serious problems in their daily travels.

According to Pucher and Dijkstra (2000) the low modal sharing of cycling in some regions, is mainly connected with the lifestyle which is car oriented in some cases (USA is an obvious example). This lifestyle lead to some wrong and unfounded perceptions that car is sign of power and richness and bicycle is a less welfare way to travel. It has been noticed that these perceptions appear mainly to older people while the young ages are more willing to change their travel behavior, but still the old perceptions persist and affect the modal split.

Additionally, another determinant factor, is how convenient and safe is to use a bicycle in the city (Bauman, Fishman et al. 2008). This could mean that not only the general perception of cycling and the lifestyle, but also more practical factors, such as the given infrastructure, the climate and the distances someone should cover, affect the modal split. The said factors also affect the cycling behavior and reduce the willingness of people to use alternative means of transport in a “car friendly” city. Taking into account the above mentioned barriers, the policy makers should reassure that the promotional measures that they will take will bridge these gaps.

Although Mobility Management promotional measures are oriented at overcoming these barriers, the MM is merely focused on soft measures. The target of these soft measures is to modify the wrong perceptions about cycling and after that the travel behavior and the modal split. These changes could lead people to “ask for more” and this would be the first step for the desired results.

2.2.3 Cycling infrastructure

After the soft measures of Mobility Management in most of the cases should be also some technical changes to provide the cyclists with the necessary amenities and help them cycle safe through the city. These kinds of measures include infrastructure like cycling paths and parking facilities.

Plenty of researchers highlighted the importance of infrastructure in cycling promotion. John Pucher and Ralph Buehler who have studied the good examples of countries with high percentage of cycling in modal split (Netherlands, Denmark and Germany), have sustained that “The most important approach to

making cycling safe and convenient in Dutch, Danish and German cities is the provision of separate cycling facilities along with heavily travelled roads and at intersections, combined with extensive traffic calming of residential neighborhoods. Safe and relatively stress-free cycling routes are especially important for children, the elderly, women and for anyone with special needs due to any sort of disability. Providing such separate facilities to connect practical, utilitarian origins and destinations also promotes cycling for work, school and shopping trips” (Pucher and Buehler, 2010).

Moreover, J. Dill claimed that “a supportive environment appears necessary to encourage bicycling for everyday travel, allowing more adults to achieve active living goals. The first part of that environment is bicycle infrastructure that addresses people’s concern about safety from motor vehicles” (Dill J.). Such an environment could include bike lanes, paths and boulevards. She also supported that “For people concerned with safety and avoiding traffic, a well-connected network of low-traffic streets, including some bicycle boulevards, may be more effective than adding bike lanes on major streets with high volumes of motor vehicle traffic. Opportunities to build separate paths are often limited in existing neighborhoods due to space constraints and costs. Public agencies can, however, look for such opportunities when building other infrastructure, such as new rail transit lines, along existing transportation corridors, and when expanding to new undeveloped areas. Finally, the role of bike lanes should not be dismissed in planning for a bicycle-friendly community” (Dill 2009.)

Attempting to apply these scientific opinions in the case of Serres and according to the Municipality’s plan, bicycle paths will be embodied in every new and reconstructed street for the achievement of a sufficient infrastructural background. The existing bicycle paths are too limited, but by means of the new infrastructure the cycling paths will cross the whole city and will connect all city areas. By means of the new infrastructure, it will be safer to cycle in the city and accordingly more attractive for the citizens since, according to the researchers, safety is affected a lot by the willingness of the citizens to use bicycle for their commuting.

Other researches claimed that personal and subjective factors play an important role over the decision of the transport mode which is though affected by the infrastructure as well to a certain extent. More specifically, it is said that “The decision to bicycle seems to rest largely on personal, and not environmental, factors. Yet improving the built and transportation environment for cycling may still help promote general increases in the frequency of cycling trips, and in the number of cyclists. The significance of proximity to trail strongly suggests that adding continuous and protected facilities near residential areas and, securing neighborhood access to them can yield increases in cycling. Survey reports support this finding, with almost half of the respondents, including both cyclists and non-cyclists, stating

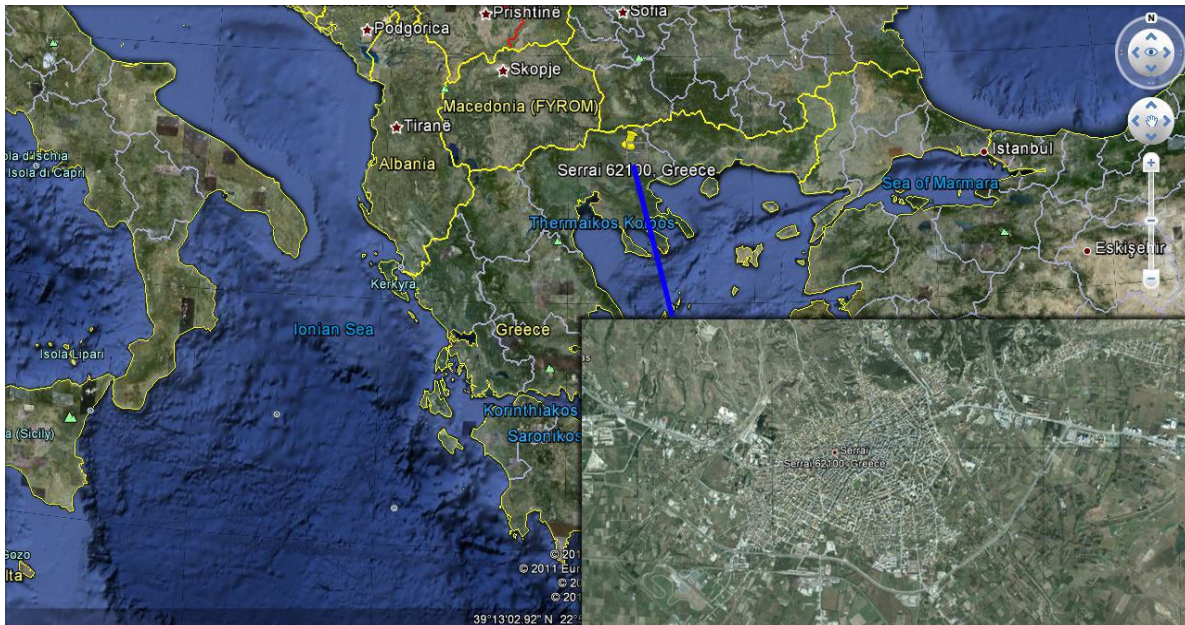
that more trails and bike lanes in their neighborhood would help them bicycle, or bicycle more. Cycling is also significantly related to reported transit use, implying potentially effective ways to promote both cycling and transit use for physically active travel.” (Vernez Moudon et al 2005)

The previous research indicates that, infrastructure plays a crucial role in the promotion of cycling. Apart from the willingness of the citizens and their personal preferences, safety always matters. Without sufficient infrastructure that could guarantee safe but also convenient bicycle trips, it is very hard to convince people to use their bicycles. Besides, the quality and quantity of given infrastructure affects cycling since people are more eager to use their bikes and they enjoy cycling when it is facilitated by means of the construction of cycling paths. In other words, the possibilities are higher for them to use their bikes not only for commuting to their jobs daily, but also for leisure individually or with their families and to be physically and mentally benefited by not harming at the same time the environment but on the contrary by contributing to the decrease of its pollution and to the confrontation of the traffic problem in the city.

3. Serres

Mobility Management is a tool that can be used by local authorities all over the world in order to change the travel behavior of the citizens in a city or even a region. The city of Serres has made efforts through Mobility Management and by means of the help and guidance of PIMMS TRANSFER program to promote cycling and to accordingly improve the daily routine of the citizens as it concerns their traveling in the city. A piece of information about the city and the PIMMS TRANSFER program is presented at this chapter.

3.1 The city



Serres is a small city, inhabited by 76.240 citizens (2011)⁴. It is located in the north part of Greece in the Region of Central Macedonia, close to the Greek borders with Bulgaria. The city of Serres is the capital of prefecture of Serres and the total population of the prefecture is 176.050 (EL.STAT., 2011) citizens. That makes the city important not only for its citizens but also for the nearby smaller towns. The distance between Serres and the capital of Greece, Athens is about 600 km and as a result their connection becomes difficult and the development of economic and other activities that could take place in the city are also hindered. The closest big city is Thessaloniki, the capital of the region of Central Macedonia,

⁴ Hellenic Statistical Authority (EL. STAT.) Temporary results, July 2011

which is only 90 km away from Serres. The citizens are used to go often to Thessaloniki for some amenities that the city of Serres can't provide them with (airport etc).

The city due to its geographical location is regarded as a hub between Greece and Bulgaria and the Balkans in general. The main route heading to Bulgaria (route 63) crosses the whole prefecture and is really close to the city. The city of Serres is also located close to “Egnatia Road” (E90) the main highway that crosses the north part of Greece, from East to South. The city is connected with the rest part of Greece mainly through national roads and by car while there is also rail connection for passengers and for cargo (Prefecture of Serres, 2011)⁵.

The Municipality of Serres consists of the city and three other communities: Eleonas, Eptamiloi and Oinoussa. Its official total population is 76.240 citizens but under a realistic approach there are almost 100.000 inhabitants, the students and visitors included. The number of the inhabitants seems not so big but in fact the lengthiness of the city is also quite small (253 km²) and this makes the city really crowded⁶.

The economy of the city is mainly based on services and less on industry and agriculture. Over the last years many inhabitants from smaller towns around and also many immigrants especially from Albania and Bulgaria came to Serres and as a result the population was accrued. The economy however was not grown equally to the population. (Serres Chamber, 2008)

3.2 Transport system

The above mentioned factors combined with the worldwide changes in the life standards, have contributed to the rapid evolution of the city but without a real urban planning the absence of which brought some problems to the city. One of the biggest problems is the congestion because of the increase of the cars use in the city. The infrastructure of the city and the existing traffic system could not afford the new cars as it concerns the streets but also the parking places (Serres Chamber, 2010). This problem was always in the agenda of the Mayor but only a few years ago the authorities decided to take part in PIMMS and after this to PIMMS TRANSFER and to initiate a whole new policy especially for the new transportation issues.

Serres is clearly a “car friendly city” and the citizens use their cars even for close distances. The fact that a city with total radius only 1,5 km faces congestion problem in the city center is a direct consequence of that high usage of cars. Moreover, the whole mobility plan of the previous years and the

⁵ www.naserron.gr accessed September 2011

⁶ www.serres.gr accessed September 2011

lack of public transport rendered the car as the only means of transport for short travels in the city. Even when the biggest distance is 3 km in straight line, the mentality and the travel behavior of the citizens made the city extremely congested and the car usage abused.

As far as the more sustainable means of transport in the city are concerned they are not so developed and widely used. The infrastructure for cycling in the city center is almost inexistent and that makes the cycling in the city center very difficult and even dangerous in some cases. However, the geographical terrain is very convenient for cycling since there are not significant differentiations in height through the city. Moreover, the climate (low frequency of rain and high temperatures during winter) encourages cycling. However, despite the positive factors, the dangers of cycling in the city center and the lack of respect by the car drivers have rendered cycling quite unpopular.

Due to the above mentioned conditions (dangers of cycling due to the lack of infrastructure, lack of respect by the car drivers) the main means of transport in the city of Serres is the private car. However, as a result of the problems arose by the abnormal use of car, the policy makers have taken the initiative to promote alternative means of transport and more specifically, cycling. Their efforts were boosted by the EU program PIMMS TRANSFER, through the implementation of which, they had the opportunity to acquire knowledge of and to introduce innovative mobility management practices. In the next subchapter the program is presented in more detail.

3.3 PIMMS TRANSFER

PIMMS TRANSFER (*Partner Initiatives for the development of Mobility Management Services & Transferring Actions iN Sustainable mobility for European Regions*) is a project hosted by European Union, which is aiming at promoting the cooperation between 14 regions in the fields of Mobility Management and the development of sustainable mobility practices. The project is running for 3 years (2008 – 2011) and is funded by INTEREG_IVC.

The partners of this project are 14 and represent 7 old EU member states and 7 new member states. The cities that take part in this project are:

Progression Regions: Almada, Portugal - Frankfurt, Germany - Graz, Austria - London, UK - Serres, Greece - Stockholm, Sweden - Treviso, Italy

Initiation Regions: Bratislava, Slovakia - Gdansk, Poland - Klaipeda, Lithuania - Larnaca, Cyprus - Maribor, Slovenia - Sofia, Bulgaria - Timisoara, Romania

Erasmus University of Rotterdam will lead the Master Class courses.

The main target of PIMMS TRANSFER is “to increase sustainable mobility by promoting and transferring effective Mobility Management techniques to regional and local decision-makers” (PIMMS 2011). The new members seem to be more affected by this target, while they are going to reserve some of the Progression Regions’ experience in the field sustainable mobility. The exchanged experience could consist of “soft” measures to promote MM or some other alternatives to moving than by car. The new Member States in particular, cannot provide their citizens with the amenities of alternative transport systems like cycling infrastructure or good public transport system. The PIMMS TRANSFER project’s aim is to exchange the experience with the new Member States but also between the Progression Regions in order to smooth the differences and provide a better life standard for all the citizens. That could happen via the reduction of the congestion and the gas emissions, the conduction of faster and safer trips in the cities and by the encouragement for using other means of transport than cars.

The project has two main objectives. The first one is “*to stimulate modal shift towards more sustainable forms of transport by increasing the implementation of high quality Mobility Management techniques and policies in European regions.*” The second one is “*to extend, deepen and promote best practice in Mobility Management.*” (PIMMS, 2011) For achieving these objectives there are some tools and some specific projects explained in the following section.

Greece is one of the “old” member states of the European Union, so Serres is now a Progression Partner to the program. The city’s main aim is to promote through this program the usage of bicycle, to reduce the usage of car and to lower the emissions of CO₂ in the city.

The specific targets that Serres wants to fulfill by means of this program in order to improve the traffic system and to be benefited by mobility management is the “expansion of the pedestrian paths to the whole industrial and historical center of the city” (PIMMS, 2011). This expansion would drive cars away from the city center and softer means of transport like cycling and walking would be promoted. As a consequence, the emissions of CO₂ will be reduced, since the number of cars stuck in the traffic jam with their engines working will also be reduced. Moreover, the decrease of parking places in the city center would lead to the increase of pedestrian paths or parks but there is also the plan of increasing the controlled by the Municipality parking places to 4000, mainly at the surroundings of the center.

To this direction, three big parking places are going to be built outside the city in its main entrances, mainly for big vehicles but also for personal cars, for the cars’ parking and afterwards for the entrance to the city center by the public transport. Moreover, a net of calming roads which will surround the schools is going to be built for the increase of cycling safety but also for the safety of the pedestrians and the

reduce o the noise in these areas. A correspondent net is going to be built also in the internal side of the new cycling route of 13,5 km that is expected to cover the main areas of the city⁷.

According to the Mayor of Serres Mr. Petros Aggelidis and the head of the transport department Mr. Nikos Papadikis the aim of the local authorities is “to hinder the private cars’ approach to the city center”. Moreover the projects that PIMMS TRANSFER aim at the promotion of cycling mainly by introducing soft measures for the change of the citizens’ mentality and the negative perceptions towards cycling.

To achieve the desired goals of PIMMS TRANSFER, some projects have been introduced by the partners. Each project sets a different target and is focused on different groups of people but all of them are regarded as the basic tool for promoting MM and improving the transportation in the cities. The majority of these projects were used for the fulfillment of each partner’s specific target and the authorities of Serres used these projects mainly for the promotion of cycling. These projects are namely the European mobility week & car-free-day, Master classes, Conferences, Study trips, School challenge, Mentoring, Sustainable Urban Transport Policies (SUTPs) and some pilot projects for each partner.

As part of the whole transport policy plan, the Municipality of Serres used some of these projects to promote cycling. These projects will be discussed intensively in following chapters.

⁷ <http://www.pimms-transfer-eu.org> accessed September 2011

4. Cycling in Serres

Plenty of elements make Serres a quite convenient city for cycling as it was already mentioned in the previous chapter. However, cycling is not so popular at the moment due to inconveniences caused by the intensive usage of private car. For this reason the local authorities are making efforts to tackle this issue and to promote cycling. In this chapter the total policy plan for transportation in the city is presented. This plan includes also the promotional actions for cycling expressed by its delegates, the mayor and the head of the traffic department of the Municipality. Moreover, the PIMMS TRANSFER program's actions to promote cycling are cited and it is explained by the engineer expert for this program in the Municipality how the projects of the program and the guidance provided have contributed to this promotion.

4.1 Transport policy

The transport policy in the city was focused mainly on the private cars during the past years. The “Greek mentality” about private cars affected also the city of Serres so that the main means of transport in the city was the car. Consequently, the whole transport policy of the Municipality was “car oriented”. However, as mentioned above, this policy has started to change the last few years in Serres and the local authorities turned into more sustainable means of transport using Mobility Management methods. To achieve this, the participation of the city in the EU program PIMMS TRANSFER was of vital importance.

According to the mayor of Serres “The first priority of the Municipality was the promotion of the sustainable means of transportation and the mobility management measures”. Accordingly, it was initially planned to make it harder for the private cars to enter and park in the city center so as to give more space for the bicycles. To meet this goal the authorities turned at first to the conversion of some streets in the economic and historical center into pedestrian paths. Moreover the promotion of cycling and the construction of a cycling paths' net were also of vital importance for the Municipality and also the promotion of public transportation by the construction of the new bus station out of the city. Finally, the construction of safety roads around the schools and the increase of paid parking places from 600 to 4000 were also included in the plans of the mayor at the beginning of this reform of the city's modal split. The funding for the implementation of above mentioned measures is still pending and the safety roads' construction is expected to take place in the near future.

This transport policy is part of the general policy of the mayor to “foster the local economy” on which all the efforts and policies of the local authorities are focused. In order to achieve this foster in the

economy, the authorities are trying to attract “clients for the city”. Serres is not a very touristic city but the local authorities are making efforts to promote cultural and sport events in order to attract tourism. Transportation system plays a crucial role for tourism and according to the mayor who says that “the traffic changes and the support of cycling have contributed in the attraction of tourists, since the access to the city center is of vital importance for tourists’ attraction”.

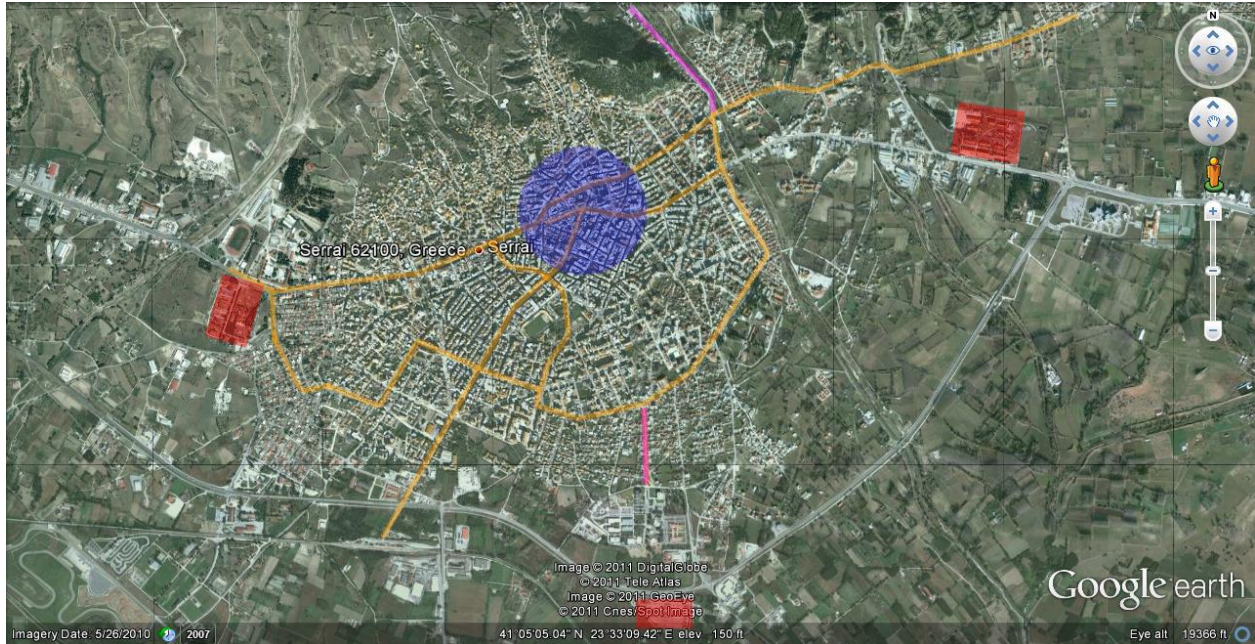
At the moment, it is not feasible to access the city center easily as a result of the congestion and the lack of parking spaces. Serres could though be characterized now as a car friendly city mainly because of the lack of other infrastructure for walking, cycling and usage of public transports. The target of the Municipality is to change this image and to help the transportations in more sustainable ways.

The transport policy of the Municipality at the moment has been officially expressed in the policy document (city council 721/2008) where the whole transport planning is developed by taking into consideration also the PIMMS TRANSFER program and by using Mobility Management measures to promote cycling and to change the modal split in the city.

4.1.2 Transport plan

The transport plan of the Municipality since 2008 was oriented at Mobility Management and was merely focused on the promotion of cycling. To this direction were the policy 721/2008 and the rest of the policies by that time on. At the moment of writing not all of the plans have been implemented as a result of the lack of funds and for other technical reasons, but still they are planned to be implemented in the near future by means of the funds of the program “urban regenerations”.

The policy of 2008 was sustainable transport oriented and suggested a whole new package of new infrastructure to help cycling in the city center (map 1.1). The promotion of cycling was planned to take place with multiple ways. On one hand, a new cycling’s path net would be constructed to help the cyclist to move more safely in the city and on the other hand the introduction of many traffic changes and new infrastructure would impede the travel of the private car drivers in the city center by enforcing them to use their cars only if it would be very necessary.



Map 1.1 Existence and planned infrastructure in Serres

Orange line: Planned cycling path

Pink line: Existent cycling path

Red Squares: Three new parking places

from left to right: Papolouka military camp, Parking of heavy vehicles, Em. Papa military camp

Blue circle: Are of calming road's net

More specifically, many traffic changes in the main streets of Serres were planned to take place and they were including the transform of one way roads to double way ones and the restriction of the parking places in the streets. Instead of parking in the street, the creation of fewer standard parking places in special place next to the sidewalk was predicted, only for serving the needs of the stores located in these streets for loading and unloading and during certain time periods within the day.

Furthermore in the same streets, the sidewalks were planned to be widened in order to provide with more space for walking and less for driving. At the same direction was also the transformation of some roads into pedestrian zones. Especially in the “historical and commercial center” the plan was to become more pedestrian friendly and less friendly for the cars.

The head of the transport department expressed the belief that these changes would seriously affect the usage of private cars since in the cases that the changes have already taken place, it has become really

hard to use and especially to park the private car and as result, after the completion of the whole package of meters the city center is going to look significantly different with more bicycles and less cars.

He also expressed the belief that the entrepreneurs of the city would be positively affected. More specifically, he mentioned that “The entrepreneurs of the city center have been adversely affected the last years but not so much because of the traffic changes as mainly because of the difference in the use of land. The Municipality proceeded with these changes (pedestrian paths in the city center) mainly for discouraging the car drivers to drive in the city center but this had as an additional effect the rapid increase of bar industry and restaurants that had more space available for their tables. Consequently, not only the economy in the city center was boosted but also its character changed from commercial to entertaining”.

Apart from the measures that were taken to make driving a private car in the city center unpleasant, the policy also intends to provide the cars with benefits so as to stay at the edges of the city. The measure known as “park and ride” plan to reform three old military camps into mega parking places for private cars but also for heavy vehicles for the relief of the city center, while the drivers will be transported to and from these parking places with mini buses. The aim of this action is when it will be completed to serve the visitors’ needs that are coming in the city mainly from the surrounding rural areas. This measure combined with the decision of increasing the paid parking places in the city center from 600 to 4000 is predicted to contribute in the reduction of the private cars in the city center.

As for the infrastructure, that shall enhance cycling and shall provide the bicycle users with the necessary amenities for commuting with bicycle, there is a very ambitious plan of creating 13, 5 km of cycling paths. After this infrastructure the image of the city is going to change completely. According to the mayor “The citizens’ reaction was impressively positive towards all these soft measures and the cycling promotional actions, especially because of the geographical and geomorphological characteristics of the city. The Municipality strongly believes that after the changes in the infrastructure, the main means of transport is going to be the bicycle.”

The responsible for PIMMS TRANSFER program and the head of transport department agreed with the mayor on this. Moreover, all of them expressed the hope that after these infrastructures the cycling is going to be really safe and convenient.

The plans might be quite ambitious but at the moment “there are more plans than works” according to Mr. N. Papadikis. However the policy makers are optimist since till now, without impressive infrastructure and mainly on the basis of soft measures there is already an increasing number of cyclists in

the city. Mr N. Papdikiis said that “A very good example of how much the citizens of Serres enjoy cycling is the increase of its sales in the bike stores.” Only after the promotional measures (soft measures) and without the necessary infrastructure yet, the sales have increased more than 100% during the last 3 years, despite the economic crisis. It seems that bicycle is the only product in Serres, the sales of which were increases last years. More specifically, a well-known bicycle store in Serres used to sell about 400 bicycles per year while now bicycles’ sales overcome the 1000 per year.

Ms F. Mikiki also noticed an increase on bicycle use but as she said at the moment the majority of cyclists use bicycle for leisure or for sport and not for commuting. It is believed by her that people are ready to use the bicycle for their commuting but at the moment this is almost impossible due to the lack of infrastructure. Hopefully, if the infrastructure was built according to the plan and the traffic changes were more systematic and coordinated the results could be very impressive.

The Mayor also agrees with the fact that the willingness of the citizens to cycle is mature at the moment and now they need the necessary infrastructure. An example is the “cyclist movement” on the basis of which more than 1000 bicycles are gathered once a week and they are cycling around the city by demanding more amenities.

Additional measures to promote cycling are going to be taken in the future apart from the already planned and scheduled, according to the mayor. The first step shall be the implementation of the already planned measures but also the efforts to convince the rest of the city council about the practicality of cycling. According to the mayor “the most effective way to persuade them to change their minds was to prove that the changes and the promotional events were aiming at the general good of the city and the citizens”. As far the reactions from the entrepreneurs are concerned, Mr. N. Papadikiis claimed that all of them have realized that the changes may affect them positively rather than negatively in the near future.

The future plans of the Municipality include the construction of a school cycling path net and the public bicycle rental following the example of Barcelona and other smaller European cities. Although this is a very ambitious plan, since at the moment not even the already scheduled plans have been effectuated, it seems that the warm acceptance of cycling by the public opinion has given to the policy makers the incentives to try harder for the future.

All in all, it is strongly believed by the policy makers that the results from the promotion of cycling are very optimistic at the moment. Might be no numbers and modal split data to prove that the usage of bicycle has increased, but the evidences started to be visible and the benefits are several. All policy makers believe that the benefits are detected both in personal and in public level. First of all, the citizens’

health condition has improved as a result of the physical exercise but also of the reduction of the CO₂ emissions. Moreover, the stress caused by the congestion and the searching of parking place, was reduced.

As far as the public benefits are concerned, first of all the access to the city center and to the commercial streets has been rendered easier by bicycle than by car and additionally it is less hard to park a bike than a car.

4.2 PIMMS related to bike

The promotion of cycling is also enhanced by the participation of the Municipality in the PIMMS TRANSFER program. The specific program works mainly with “soft measures” for the promotion of cycling. The local authorities at first organized promotional events with the participation of primary school’s pupils and then moved to special promotional events. In the following section the policy of the municipality is presented and the pilot projects are analyzed.

4.2.1 Municipality’s policy

The increase of the usage of bicycle was the Municipality’s priority. For this reason the local authorities came forward with a pilot project to promote it. This project was presented by Mr. N. Papadikis in the 2nd Regional Conference PIMMS TRANSFER.

The main target of this project was *“to give incentives for the increasing of the usage of bicycle in the city and also to reduce the usage of private cars and increase the urban environment”*. In addition, the improvement of the conditions of traffic environment and the public health was a further goal, for the achievement of which five actions were planned:

The first one was the building of new infrastructure such as cycling paths combined with traffic changes. The Municipality starting from Venizelou Street, constructed a new roundabout in the old hub which replaced the traffic lights. As a result, the traffic flow in that point was regular but also the speed of the cars was limited and the kids were able to cross the road for their school with safety. It is worth mentioning that two of the biggest schools of the city, the 15th and 21st, were close to each other and both of them were participating in the “school challenge” program. Moreover, cycling path was created in the valley of St. Anargyrous according to the program “Integrated Urban Regeneration of the City”.

The second action of the Municipality was to place 10 special storage places for bicycles in the city in order to offer to each citizen integrated services for cycling. The storage places were created as a parking facility for the bikers in some key points in the city. More specifically, five context bicycle parking places for twelve bicycles were created in the following places: In front of the City hall, in front of the Headquarters of Serres, in “Emporiou square”, in the Central Police Station and in the Technical University of Serres. Moreover, five more context bicycle parking places for six bicycles were created in the central veterinary division, in the “Serres athletic center and swimming pool”, in the Court, in front of the Cultural service of Serres, “DEPKA, and in the yard, in front of the train station.

The third action was including the distribution of 50 bicycles for one year to the employees of the Municipality and the entrepreneurs of the city. In particular, thirty seven bicycles were leased to the employees of the Municipality for one year. The criterion for the employees’ selection was the distance from the City hall to their houses, which had to be longer than 500 meters, so as for them to use the bicycles to and from their working place. The rest of the bicycles (13) were at the disposal of the City hall for serving the needs of the rest of the employees during the working days. The Municipality provides them also with a metal label and a water proof sticker to put on it with the logo of the city and the PIMMS TRASFER program and educational brochures.

As a complementary to the third action, the fourth one was the organization of an educational conference for the right usage and the proper maintenance of the bicycles. The participants in this conference have had the opportunity to learn from the experts how to use their bicycle as a normal vehicle and how to move properly with it in the city. Moreover they learnt how to keep the bicycles in good condition by means of frequent maintenance and how to repair small problems.

The fifth action was consisting in the promotion of and familiarization with bicycle’s usage through brochures and leaflets to the entrepreneurs of the city and the employees working in the city center. The brochures were aiming at getting them to know that more bicycles in the center would benefit them in terms of their fitness and stamina but also through the decrease of the cars’ number in the city center⁸.

4.2.2 Side measures to promote cycling

The Municipality of Serres in close cooperation with the Directorate of Primary Education of Serres organized the “School Travel Plans” and “School Challenge” programs. These programs aimed to make

⁸ N. Papadikis, 2nd Regional Conference PIMMS TRANSFER, 7/2011

the transportation of the pupils to their school safer and also to promote cycling as an alternative mean of transportation in the city.

The Directorate of Primary Education was very enthusiast about the idea of acquainting pupils with Mobility Management and they were supportive to the policy makers as regards the promotional events. The general idea was to integrate into the school daily program actions to promote cycling and environmental friendly methods of transport beginning from small ages so as to make an investment for the future.

The Directorate of Primary Education and the school teachers were also willing to teach the pupils and practice with them methods for their more secure and environmental friendly transportation to the school like the method of “walking bus”. To support these methods, the Municipality altered also the traffic’s layout in some parts of the city with the purpose of offering them safer and wider sidewalks and low traffic streets, especially in places which were close to the school buildings and some other streets that pupils were crossing on their way to school.

For the above mentioned reasons they took part in the pilot projects of “School Travel Plans” and “School Challenge” and also participate in the “European car free day & European mobility week”

4.2.2.1 “School Travel Plans”

The program “School Travel Plans” is divided into two parts, the “analysis” and the “proposals”. The first part includes the examination of the educational, building, urban planning and traffic data in the school, so as to identify road safety problems. These problems were listed and classified by the Directorate of Primary Education and the Municipality. The second part comprises proposals for the application of specific projects and practices that could contribute to the sustainable operation of the school.

More concretely, the data that were examined were mainly the general and specific information about the school, such as location, capacity, number of teachers and pupils, hours of courses and extracurricular activities. Moreover, some information about the school's mobility data, such as urban characteristics of the area, roads, parking lots, other facilities and infrastructure mobility (bike paths, public transport stops) were analyzed. Furthermore, the factors that could reduce the road safety were taken into account, as well as more general mobility problems encountered such as environmental issues directly related to the school. At the end the results of mobility among pupils, parents and teachers of the school showing the ways in which non-school trips are talking into account.

As far as the proposals were concerned, the procedure was including proposals for the organizational structure of the support group for the safety transport plan. This group's main task was the drawing up and monitoring of the plan's implementation. It was also responsible for accelerating the required interventions and for constantly updating the plan. Other proposals could include projects and interventions in the road infrastructure of the area around the school. Such proposals were a primary concern for the Municipality of Serres and could include the construction of pedestrian or one-way roads, pedestrian crossings, changes in road's labeling, new mobility infrastructure such as bicycle paths or parking of vehicles and proposals for possible changes in routes or timetables of public transports.

The proposals could also concern some information actions. The design of a website where suggestions would be made as regards the safest way to reach the school and advice for safe travel would be a very common information action. Moreover, the distribution of brochures combined with the organization of an event for the promotion of safe traveling is also quite effective information proposal. Another suggestion would be to embody mobility management into the structure of the school time table as a course but also to introduce more mobility management promotional games in the school. Finally a system of evaluation of the progress of each school regarding mobility management could be introduced and further advice could be given for the improvement of the effectiveness of the already existence plan⁹.

4.2.2.2 "School challenge"

According to this program, the pupils had to estimate and evaluate the reduction of CO₂ emissions after having changed the way of traveling to and from the school. The teachers urged the pupils to walk to the school by themselves or even better in groups consisting of more persons. The schools had at their disposal some "school traffic policemen" for the rush hours to help the pupils to cross the streets safely and guide teachers who would organize the "walking bus". The benefits for the pupils consist in their better fitness and the reduction of the cars in the streets of the city.

For the purposes of this imitative the pupils firstly created some groups with their classmates and their teacher as a supervisor. Afterwards each student took a personal tab to collect stamps. For each time that they would walk to the school, the pupils would take one stamp with the logo of the School Challenge from their teacher. For every 10 stamps each student would take a small present and after 20

⁹ F. Mikiki, Final Conference PIMMS TRANSFER London, 10/2011

stamps a bigger one. The teachers from their part were reporting monthly to the Directorate of Primary Education on the progress of the program regarding their class.

The Directorate of Primary Education estimated, on the basis of the data provided by the teachers, the amount of reduction of the CO₂ emissions as a result of the reduction of private cars' use. The overall results were presented at the end of the academic year 2010-11 during the ending ceremony. The best school was honored by the Mayor at this ceremony and also it also participated in the mobility week in September.

During this first year of the program 5 schools were selected out of 25 in total. The schools were selected on the basis of the number of the pupils and their location. The target was to select school buildings located in various places in order to become the sample of the pupils more representative and to enjoy more places the benefits of the program.

The above mentioned initiatives taken after the cooperation between the Municipality and the Directorate of Primary Education were very well accepted by the pupils and their teachers. As a consequence, the pupils that were participating in the program, especially the ones staying nearby school, started cycling and walking daily to their school. The goal for the future is to participate in the program the rest of the schools as well.

Apart from the benefits for the kids, events like these were quite initiative and strange for a small city like Serres and the media coverage was intense in the whole time that these pilot projects took place. According to Ms. Foteini Mikiki the engineer responsible for the PIMMS TRANSFER program “the media coverage of an event related to Mobility Management and PIMMS TRANSFER, is the most effective way to promote cycling even to the citizens that do not have the chance to take part in the promotional events.”

4.2.2.3 “European Car free Day & European mobility week”

The last decade, the program of European Mobility Week was initiated so as to support the cities' campaigns for the creation of a pleasant and healthy environment for the citizens by encouraging them to use other means of transportation than the car, more environmental friendly and less traffic burdening. The Municipality of Serres by participating in the PIMMS TRANSFER program, has organized plenty of activities during the last years for the promotion of cycling and mobility management in general.

Within this framework, various activities during the European Car free Day and for European mobility week were organized in the city center of Serres, in cooperation with the Directorate of Primary

Education of Serres. They were including, among others, a Walking Bus for young children from their school to the city center, establishment of information kiosks for teaching to kids how to get to their school with safety, bicycle trips from the schools to the city center with special bicycle jackets with the logo of the city on them, paintings in the streets and the sidewalks and games related to cycling and mobility management. During these activities the private cars trafficking was forbidden and further traffic changes took place also in the city.

The participation of the pupils in the said activities was impressive, and it was increasing year after year. It was also impressive that the number of participant schools was also increasing every year and in the year 2011 16 schools out of 25 in total took part in these actions. Subsequently, children became more aware of cycling and their future travel behavior was also influenced. Moreover, also the adults participated in the activities either directly or indirectly, by contributing in the carrying out of these events. Finally, the media coverage of the above events was of vital importance, since even more people were acquainted with cycling and the promotion of it's use, even if they had not participated in these events directly.

4.3 International experiences

Some case studies are presented and analyzed in this section in order to compare the cycling promotional activities with other cities' efforts to promote cycling. The selection of the following cases was made on the basis of their relevance to the characteristics of Serres (demographic characteristics, geographical terrain etc.).

4.3.1 Completed measures

The policy makers of Serres, even if their plans in their vast majority have not been completed yet, are quite optimistic that their successful implementation will take place soon since all these policy measures have already been successfully tested in other cities of Europe. Moreover, several researchers have conducted studies that indicate the high possibility of success of the measures taken.

More specifically, as regards the promotional measures suggested by the PIMMS TRANSFER program, the Municipality has focused on the young ages to promote cycling. As it was stated above, the "School Travel Plans" implemented by the Municipality in cooperation with the Directorate of Primary education was aiming at informing the pupils about Mobility Management actions and at giving them the

opportunity to suggest those changes that would facilitate their commuting to school. That was the first step to familiarize the young ages with Mobility Management actions.

Additionally, the “school challenge” combined with the actions of European Mobility Week & car-free-day was merely focused on the promotion of cycling among the pupils. The idea was based on PIMMS TRANSFER but it was used also in some other cases. In the city Pamiers in France the local authorities implemented the “cycle awareness for children” as part of the ADDED VALUE EU project. The project, which was really successful, was quite similar to the projects of Serres since the Municipality cooperated with the Directorate of Primary Education in order to train pupils how to use their bicycles and accordingly it organized some quiz games in order to teach them how to move with safety. The result was hopeful for the organizers because of the high number of participated pupils (more than 100 pupils in total population out of 15.000 inhabitants took part in the activities). Moreover, the perception of the parents about cycling changed and they were more eager to let their children to cycle to school (Pamiers city, 2011).

Similar promotional measures have been implemented in other European cities also. The city of Znojmo in Czech Republic made also an effort to raise schoolchildren’s awareness, using the same method with Pamiers and Serres as part of the European project ADDED VALUE. The results in this effort were also positive. In the events took part 13 schools with 800 pupils but it is estimated that almost 4000 children became aware of and were benefited by the campaign indirectly, because of the media coverage. This number is really high taking into account the population of the city which is 35.000 inhabitants. Moreover, the participant children in the event of European car free day were increased from 3000 to 3900 the following year (Znojmo city, 2011).

Bigger than Serres, but quite close to the mentality and climate, the Bulgarian city of Varna used information measures with the purpose of informing young pupils about cycling use and Mobility Management in general. The results was also promising given that after three years of implementation at around 10.000 children and adults were acquainted with cycling and more than 500 pupils took part in the two training programs (Varna city, 2011).

Similar to another cycling promotional action of Serres, the “school challenge”, is the BiciBus program that was implemented in the Italian Reggio Emilia with great success. Both cities’ goal was to inform pupils about Mobility Management and to promote cycling to school instead of car use. The number of the pupils that took part in that initiative was 70 in 2003 but it increased rapidly and during 2009 their number reached the 510 pupils, who learnt to use the bike and they got used to it, even after the program’s completion (Reggio Emilia, 2011).

4.3.2 Planned measures

Cycling paths

The first priority of the Municipality of Serres is the construction of the necessary infrastructure for cycling, meaning cycling lanes, parking slots for bicycles and the necessary traffic adjustments. However, since there are neither deadlines, nor financial planning, the key policy makers wish to follow the good examples of other European cities and to consult the studies of many researchers that prove that the building of that infrastructure could help a lot at the promotion of cycling.

The city of Koprivnica combined the undertaking of information measures with the creation of cycling paths and promotional events for the pupils and the results were amazing. They built 80 km of cycling lanes and pedestrian footpaths which covered the biggest part of the city with its 31.000 inhabitants and the result was that almost 50% of the citizens were commuting by bike. That made the city the most cyclist friendly city in Croatia for the year 2008 in European mobility week (Koprivnica city, 2011).

In the same direction with Serres but more extended were also the improvements of the infrastructure in the Croatian capital Zagreb. The local authorities there decided to build 110km of extra cycling paths in order to cover a bigger part of the city. The idea was, like in Serres, to add cycling paths to every reconstructed or new road and to accordingly perform a total reform of the city's transportation system. Part of the infrastructure was built in 2005 and the results were already visible in 2007 with an increase in cycling use within the city by 5, 56% (Zagreb city, 2011).

Even more similarities with Serres could be found in the case of the capital of Bulgaria Sofia. The proximity of the cases consists not only in the similar mentality but also in the fact that both municipalities have used the same promotional events such as European car free day and the cyclist's movement. The promotional events and the informational measures were combined with the building of two cycling paths of 16km each, which were much shorter than the planned 13,5km long paths in Serres, compared to the size and the population of the two cities. However, the results were positive while the participants in the cyclists' community and the several cycling events in Bulgarian capital were doubled (Sofia city, 2011).

The city of Odense in Denmark was another example where the authorities used infrastructure combined with information measures to promote cycling. Of course the existent infrastructure for cycling in Odense is remarkable and almost the whole city is covered by cycling paths, however the policy

makers' target was to make improvements on it so as to offer better quality of services to the citizens. More specifically, they were aiming at increasing cycling by 20% but also at decreasing number of accidents especially the mortal ones by 20%. To fulfill this goal, the authorities made some traffic changes which were including parking facilities for the bicycles, interventions with the traffic lights' use and cycling paths and adjustments to the crossroads. It is worth mentioning that, when these changes were taking place, they were keeping promoting cycling with motivational campaigns. After the completion of the infrastructure system in 2002, the goals had been fulfilled and the city had some additional benefits. The car usage was reduced by 15% and the commuting with public transports was also reduced by 45% (Odense city, 2011).

The construction of cycling paths for the increase of cycling use was also used in other cases, within the last few years, such as in the case Slovenia in Ljubljana as a starting phase of promotional activities and in Ploesti in Romania but except for the positive impression by the citizens there are no numerical evidences for the efficiency of these measures.

Pedestrianization of the city center

Although the plan of the Municipality of Serres to transform some of the streets in the city center into pedestrian roads in order to discourage car drivers from approximating the city center and to boost cycling instead, has not been completed yet, its positive results are already visible. However the same plan was implemented in the case of Bucharest in Romania and the results were positive. More specifically, the Bucharest's municipality invested on this project a total amount of 35 million euros with the purpose, among others, of providing the cyclists who are in lack of private cars with amenities. Till now with only 1/3 of the total project has been effectuated but the results are already visible since the cycling in the city center was increased (Bucharest city, 2011).

Parking outside the city

Part of the idea to promote cycling in the city center of Serres was also the reduction of the number of private cars by giving them the opportunity to park outside the city in three new constructed parking places (park and ride). The idea was also implemented in the city Znojmo of Czech Republic which had the same goal as Serres. The efficiency of the measures in Znojmo was impressive while the cars entered the city were reduced rapidly and the cycling was increased in the reformed city center. However, the plan there was also including a payment fee for those who wanted to enter the city. Accordingly, the Municipality of Serres is planning to increase the payment parking places in the city center and to provide

the drivers who want to use the parking places outside the city with transportation to the city center and back (Znojmo city, 2011).

The same measure was implemented in the Romanian city Sibiu. The authorities built parking places outside the city and altered the free parking places into payment ones. The results after two years of implementation of the measure were the decrease of the private cars in the city center and the increase of cycling (Sibiu city, 2011).

5. Conclusions

The aim of this research was to present and analyze the methods used by the Municipality of Serres in order to promote cycling. As it seems the methods till were mainly including “soft measures”, while the required infrastructure will be constructed in the future. At the moment various promotional measures have been taken by the Municipality and within this framework there was close cooperation with the directorate of primary education and other bodies in order to promote the cycling use between pupils.

Moreover the participation of the city in PIMMS TRANSFER program played a crucial role for the promotion of cycling. Soft measures have been taken after the guidance of the other participants as well, in order to let the citizens know the benefits of cycling. Furthermore, the rest of the activities included in the program even if they were not directly related to the promotion of cycling, have been covered by the local media and that gave a bigger boost in Mobility Management in general and more specifically in the cycling use.

The specific promotional measures were quite effective, according to the policy makers, as it concerns the provision of information to the citizens about cycling. The willingness of the citizens to use bicycle has increased and so has increased the cycling for leisure activities and sports also. However, the cycling as a mean of commuting for daily activities is not very popular yet. Despite the willingness and the increased trend, cycling is still dangerous at the moment in the city center of Serres because of the lack of infrastructure.

To continue the effort of promotion of cycling and to satisfy the demands of the citizens for more cycling amenities, the Municipality has decided to create a cycling path net of 13, 5 km which is going to cross the whole city and to allow citizens to commute safely. Moreover, further measures that will render unattractive for private cars to enter the city center are going to be taken, such as the construction of narrower streets in a net of “calming roads” and more paid parking places.

According to the key policy makers the soft measures that have been taken are not enough for the effective promotion of cycling. These measures are very good informational background but in fact the real effects are going to be viewed after the creation of the necessary infrastructure. So, as an answer to the research question, all the measures that have been taken by the Municipality for the promotion of cycling are soft measures and that have been presented in this paper are to the right direction, but still infrastructure is needed for the promotion to be completed.

This answer is also based on the information taken by the case studies of cities which have many similarities with the case of Serres and that have tested the measures: The “soft measures” and the awareness of people and especially of young pupils in those cities for the promotion of cycling were fruitful. Moreover, the infrastructure measures such as “park and ride”, creation of pedestrians’ paths and the increase of paid parking places in the city center were quite effective after being implemented in other cities according to the case studies used in the thesis and as a result of them the usage of private car was increased and accordingly the bicycle use was increased. As far as the cycling paths and the rest of the cycling amenities are concerned, according to the cases they are useful and according to the literature necessary for the increase of safety when cycling as a result of which the bicycles use will also be increase.

All in all, after the implementation of the infrastructure and the information provided by the soft measures, the total promotion of cycling is going to be successful and the share of bicycle in modal split will be increased.

The limitations on this research were mainly the lack of modal split data for the city of Serres. There are no numerical evidences of any increase or decrease in the number of bicycles because of this lack. However, on the basis of the interviews with the policy makers, the increased willingness of the citizens for cycling became quite obvious. It is also quite clear that the number of bicycle users was not affected significantly because of the lack of infrastructure.

Further research could be conducted after the completion of the infrastructure, when all the given amenities for the cyclists will be available. A research like that could take place in order to examine the effectiveness of the infrastructure combined with the soft measures. Moreover similar research could be initiated in a region where there is the willingness to apply Mobility Management measures to promote cycling but where there will also exist numerical evidence so as a comparison to take place before and after the taking of the measures.

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