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Lead Partner: **LAZIO REGION - Regional Department for Transports**

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Phase: **3.1 Analysis of technologies for innovative transport solutions and applications**

Responsible Partner: **EC Business Information Centre of Epirus**

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Executive Summary

The private sector can have a very important role to play in the improvement of transport conditions all over the world. Large manufacturing companies are usually located in industrial areas while other private sector companies are located in the commercial centres. Employees of different companies usually start and finish work at the same time. This leads to traffic congestion in the roads that lead to these areas. The sectors that are affected are the ones closest to industrial areas due to their centrality. Many businesses are located in the surrounding areas and hence many people drive through them to travel to other villages.

The concept of car sharing is introduced as an innovative approach to the growing transportation problems of the major metropolitan areas of the United States. After the history of car sharing in Europe and North America is outlined, three studies of the early adopters of Car Sharing Portland (CSP), the first commercial car-sharing organization in the United States, are reported. It was found that these individuals were primarily motivated to join CSP because of their occasional need for a vehicle, and secondarily because of the financial savings they expected to realize by becoming members.

1 Introduction – General Description

A number of companies have their own dedicated parking areas, although these usually have only limited numbers of parking spaces available for staff members. Where the functions relate to retailing or other client services, the problem becomes worse. In order to provide for such parking spaces, a company would have to pay for the area allocated. Factories in industrial areas are being demolished and converted to parking spaces. These are then sold or leased to companies at relatively high costs. Moreover, congestion is very likely to catalyse accidents on our roads. Figure 1 shows the total road traffic accidents by region between 2006 and 2008.

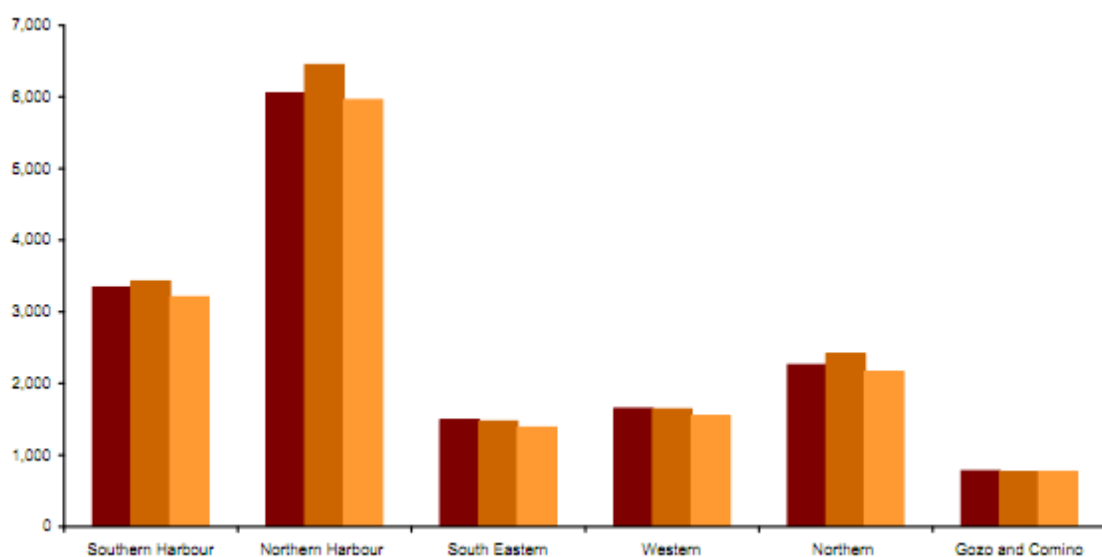


Figure 1 Total road traffic accidents by region: 2006-2008 (2009)

Source: National Statistics Office (NSO)

2 Promoting the use of bicycles

2.1 Detailed Description of the Application Technology

If a company is located in a densely populated area, then it can be more viable for employees to travel to work on foot or by bicycle. If someone does not live very close to the place of work it can be too time consuming to go on foot. However the use of a bicycle is ideal in smaller regions since most distances can be covered in a relatively short time.

In order to promote the use of bicycles and increase the safety of this means of transport, then more bicycle lanes should be present in our roads. There are already a number of roads that include bicycle lanes, but the system is not comprehensive and sometimes such lanes are not present in the places where they are most needed. Therefore more bicycle lanes need to be introduced along the main roads leading to urban areas and industrial estates.

It can be more cost effective for employees to travel to work by bicycle even if they have to pay a rental fee or buy the bicycle. The price of fuel is always on the increase and by making use of the bicycle this cost is eliminated. The company could also provide dedicated parking stands for the bicycles, taking care to implement security measures against theft.

2.2 Technical Characteristics

In order for a company to promote the use of bicycles as a means to travel to and from work, showers and lockers need to be installed on the premises. This will increase the costs for the company (costs for installation, maintenance cost and also the cost for water consumption). These costs however need to be compared to the costs of buying or renting of car spaces. Before investing in such a solution the company can conduct an attitude survey among its employees to consider their opinions regarding the subject.

Employees may not have a personal bicycle, and therefore the company may also consider helping in the renting of bicycles for its employees. The

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company may negotiate a better price. The company itself may additionally consider paying for such an initiative. It could be financially viable to either pay the renting fee or, if the number of employees is small, to buy the bicycles themselves.

Companies can also promote the use of public transport for their employees to travel to work. This would be a very good idea if the company is located close to a transport network route. The public transport company can be contacted to check if cheaper rates can be offered to the employees that make frequent use of such public transport. A company may also offer to buy passes or provide offers for the use of buses. The possibility of negotiating passes should however be considered. The cost of providing bus tickets or offers to employees should be compared to the cost of buying or renting of parking spaces.

3 Providing Transport

3.1 Detailed description of the application technology

There are already a number of companies who provide transport through the use of vans for their employees. This can have numerous advantages including:

- Punctuality for work,
- Reduction in travelling costs for employees, and
- Improvement of employee interaction: employees will get a chance to communicate outside working hours.

Such a solution would only be feasible if a number of employees start and finish work exactly at the same time, such as in production plants or in shift work. In the case of workplaces where employees start and finish at different times, such a solution would be difficult to implement. There will be the need to have a minimum number of passengers per van so as to reduce inefficiencies.

In some cases, the vehicles can be provided and maintained by the municipality; in others in partnership with or by a third-party provider. Various universities operate a network of vans. Faculty staff and students are eligible for discounted rates, although anyone working or living in the vicinity is allowed to participate, with drivers receiving the highest discounts. The vans are centrally maintained, fuelled, and cleaned.

Some private firms also offer a van pooling service both for individuals, as well as in cooperation with employers or under contract.

3.2 Technical Characteristics

This mode of transport could be implemented in different ways. The simplest idea is to have a chauffeured van that picks up employees from their home. In

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such a system the van will usually belong to a private transport organization and the company pays for the service. If the fee for the service is cheaper than what is paid to have parking spaces, the company might decide to offer it to its employees for free or at a reduced price.

The disadvantage of employing such a system is that the van will have a longer route in order to pick up the employees from home. This will make it less attractive to employees, and will increase the cost since more fuel is required.

Another idea is van pooling. Vanpools operate in a similar manner to carpools, only that they carry more individuals than a typical carpool. In order for a vanpool to be economically efficient there should be a considerable amount of passengers. This results in savings in fuel and vehicle operating costs. Vehicles may be provided by individuals or by a program operated by or on behalf of the employer.

The concept of this system is that people share the ride from home or from common meeting locations and travel together to their place of work. An employer may elect to subsidize the cost of the vanpool and can pay for the vehicles' maintenance.

4 SWOT Analysis

This section will present a SWOT analysis relating the strengths and weaknesses to the opportunities and threats for the transport applications categorised within private business initiatives. SWOT analysis can be defined as strategic scrutiny used in evaluating the Strengths, Weaknesses, Opportunities, and Threats of an idea. This analysis was adapted for the Maltese situation which is characterised by lack of governmental incentives, high density population and a poor public transport service.

Strengths	Weaknesses
<ul style="list-style-type: none"> • A cost efficient alternative mobility mode, especially in areas where parking is a problem • A mobility mode which is cheaper than the renting of parking spaces in industrial areas • Reduces traffic, Carbon Dioxide and parking problems • Safer, due to less traffic and vehicles on the road • If any worker has issues with the functionality of his car, then he can arrive on time • Increased mobility for those people who do not afford a car and for those who do not have a driving license • Less affected by the price of fuels • Less risks of traffic accidents • Provides efficient link among public transits, destinations and origins 	<ul style="list-style-type: none"> • Challenging introduction for the case when the workers are distributed over a large area and it is difficult to pick them up • Effectiveness is correlated to the geographical distribution of workers • Efficient matching services requires sufficient funding • Application requires strong backup from the owners of the business • Requires publicity and governmental backup • The time required for one's journey would be extended. This can be both boring and tiring. • Loss of privacy • The use of such private business initiatives may lead to inefficient costs related to the ownership of a car (which is not being used)

Opportunities	Threats
<ul style="list-style-type: none"> • Economies of scale exploitation can lead to minimum operating costs • General trends and attitudes towards environmental friendly mobility • Increasing energy prices • Expanding work ethics • Workers which cannot be feasibly serviced through public transit can be engaged in the work force • Savings on parking space • Punctuality 	<ul style="list-style-type: none"> • Uncritical adoption without studying special conditions and needs of a region will lead to unsuccessful implementation • Lack of governmental support • Lack of correlation with transportation authorities and reluctance at policy level • Locations for ride sharing and van-pooling have been wiped out from the streets • Insufficient exposure of the concept • Pessimistic public attitude and hesitance

The main highlights of the SWOT analysis for private business initiatives are that the costs related to parking spaces and spiking oil prices may hinder each transport application from being seen in a better light. In spite of the negative public attitude towards green transport, transport application within the private business initiatives can decrease the induction of stress into a driver during a journey due to the simple fact that there are less drivers. Simultaneously such initiatives can decrease the possibility of traffic accidents since the actual time spent behind the steering wheel for a regular driver is reduced significantly. Even though there are major energy management opportunities within these transport applications, the investors are still reluctant to fork out their money and back up the solutions within the private business initiatives. This general observation is most often attributed to the pessimistic public's framework of thought amongst the Maltese citizens. In spite of this matter, any support from

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the government or from the authorities related with transport, can aid at overcoming these hurdles.

5 Requirements, Conditions and Supportive Actions

In this section MIEMA will focus on the most important elements necessary to promote Private Business Initiatives' feasibility and implementation. The most relevant items of this initiative are described.

5.1 Motivations

The throughput of Private Business Initiatives relies on the stakeholders' perspective. We will be dealing with this issue through press releases, our website, survey work and other related media. It is required that the municipalities contribute in attaining the final goal. This could be carried out by reserving parking spaces for van and car pooling, the fixing of appropriate signs and the realization of bicycle lanes.

Somewhat more promising results have been reported in Europe, most notably with an increasingly popular approach known as car sharing, a transportation alternative that originated in Switzerland and Germany more than 20 years ago. The evidence indicates that those who belong to the European car-sharing organizations drive considerably less than they did before they had become members (Steininger, Vogl, & Zettl, 1996; Munheim, 1998; Meijkamp, 2000).

At the same time, their use of public transit and other alternative travel modes, such as walking and bicycling, has increased. Many members also report that once they became car sharers, they were able to sell their private automobiles or avoid purchasing one (Katzev 2003).

5.2 Economies of Scale

The initiatives that will be mentioned later on in this document can contribute to the creation of economies of scale. In the case of car and van pooling, the viability of the system is proportional to the number of passengers and users. Viability is reflected in the cost per person for each trip. Such a factor is strongly correlated to geographical and promotional factors.

Inappropriate traffic on the bus lanes could set a concern for the public's safety on the pavement. In this light, the relative authorities should produce the corresponding legislation to safeguard everyone's mobility – on the road, on the bicycle lanes and on the pavements.

5.3 Promotion – Cultivation of new approach to mobility

As mentioned earlier, the success rate of this initiative depends upon the horizontal activities related to this subject. Thus, it is required that the targeted companies be divided into a number of groups and then subdivided with the aim of addressing the target group accordingly. The appropriate dissemination of the psychology behind public business initiatives can be carried out through the website, horizontal activities and the distribution of leaflets.

5.4 Technology Level

The initiatives described above are not directly attributed to the technology level of the related areas. The modes of transport mentioned above do not require any particular level of technology. In spite of this fact, the coverage of Internet and a GSM network may aid in particular situations

5.5 Regulatory changes

As mentioned already, the regulatory framework behind the transport infrastructure would need significant adaptation to the mentioned applications. Hence, studies on revisions on the present and proposed systems are of utmost importance in order to obtain a seamless operation between the various modes of transport – road traffic, bicycle lanes, people on the pavement and the parking spaces for the sharing of a vehicle.

5.6 Funding

The implementation of these applications requires financial backup. Such help can catalyse the attainment of the goals. An appropriate study should be

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carried out related to the requirements for the creation of innovative ways of financing these initiatives

5.7 *Rural and low density areas*

The application of carpooling and public transport initiatives have been operating for a number of years. Their most prominent applications were in densely populated and congested areas such as capital cities, schools and the universities. From this perspective, the lower density populated regions such as in the rural cases, may be more difficult to implement. From another point of view, the promotion of these applications in such places may be catalysed as a result of the lower population density.

5.8 *Research and pilot projects*

Research should be taken as the backbone behind the implementation of each application. This would require the scrutiny of the corresponding weakness and opportunities of each municipality.

6 Recommendations: A Short Critical Analysis

The problem of traffic congestion is most prominent at the times when people are travelling to and from work. Since many people work with the private sector, private business initiatives can reduce traffic congestion considerably. This will also help to provide modes of transport for weak demand areas.

The promotion of the use of bicycles to travel to and from work can minimize the use of private cars in weak demand areas. Another way of reducing private car usage is the provision of transport by the employer. Such a shared-use vehicle system can be implemented in different ways as discussed in section 1.4. These systems have various advantages both for the employer and for the employees.

In order for these private business initiatives to be effective there is the need of co-operation from the employees and thus certain factors need to be considered:

- A study among the employees should be conducted to analyse their different opinions. This could also be an opportunity for generating new ideas.
- Consideration of the costs involved to make sure that such a system would be economically feasible.

7 References

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