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## Conference Paper

# The Role of Freight Villages to the Development of the Balkan Region. The Case of Promachon Freight Village (Greek Bulgarian Borders)

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## The role of freight villages to the development of the Balkan region. The case of Promachon Freight Village (Greek Bulgarian borders)

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Freight Villages are very widely used in the processes of trade and transport in Western Europe, Southeast Asia and the U.S.. Freight Villages are places that provide integrated services including the rationalization of trade flows, the combination of transport modes, added value logistics services, uninterrupted city distribution, decongestion of urban traffic etc. This paper attempts to examine the application of an agglomeration economies policy to the wide Balkan market, which is currently undergoing a phase of political and investing stability and of administrative reorganization. These elements will be further reinforced in the future with the accession of two Balkan states in the E.U., namely Bulgaria and Romania, and with the anticipated regularization of trade processes. This new environment undoubtedly favors the development of complex and well-designed trade infrastructures, such as Freight Villages, that are expected to have a strong influence on regional development and on the reduction of product distribution costs.

The case of the Freight Village on the Greek - Bulgarian border at Promachon in Serres is an interesting and original case study for the greater area. The first Freight Village in Greece, with the contribution of the private, public and EU capital has already been in operation since 2001, contributing to the rationalized management of trade flows, the development of cross-border trade, the provision of high quality services to consumers, the increase in employment and to the regional development of the degraded border area of Serres.

The variables of the model are based on economic, social, commercial, environmental and other elements and statistical data, as well as on field research at the Freight Village and at the region. Finally, the paper reaches certain conclusions and makes a series of proposals. The conclusions refer to the degree and range of consequences of the Promachon Freight Village to the regional development of Serres. The proposals refer to the development of a Balkan network of Freight Villages and other secondary transport infrastructures within the framework of the existing and scheduled Trans-European Networks (T.E.N.-T), aiming at the regional development of the Balkans.

**Key Words:** Freight Village, Dry Port, Logistics, Cross-border trade, Regional Development, Balkans

## Definitions - Preface

A number of terms and definitions are continuously produced with a view to satisfy the need of analysis of a very modern and evolving enterprising process in the field of transport and logistics (in general). The term "freight village" that has prevailed to the European Union's administration does not come into contrast with the terms "Logistics Campuses" in the U.S.A., "Plates-Forms Logistics" in France, "Interporto" in Italy, "Commercial Centers" (translation) in Greece, or even with the more general term "Dry Port" and so on.

Regarding the content of the above mentioned terms there are various definitions that try to describe the content of a Freight Village (FV). A common element in all definitions is the capability and the faculty of a FV to provide efficient added value logistics services [warehousing, storage, custom clearances, picking, (un-)packing, distribution schedule organising, transport support services etc.) by using the advantage of scale economies, the synergies that can be developed and the combination of transport modes. As mentioned in the White Paper (E.U., 2001) and analysed by Marlow & Boerne amongst others (1994).

The difference in definitions and accordingly the difference of enterprising and administrative philosophy, which exists in each country and international organisation that promotes FVs, is in the way of management and service provided. Thus there exist:

- FVs that are developed in a single and well organised area and other FVs that have their installations located more freely in the space,
- FVs that have incorporated combined transport infrastructures (e.g. most of Italian *Interporto*) and other FVs that are connected (functionally or non) with infrastructures of combined transshipment (e.g. Spain),
- FVs with free access to their services and other FVs where access is exclusively only for the users or for the user of the FV.
- FVs with integrated services for many and dissimilar cargoes that satisfy the national and international market and other FVs with limited services, specialised in one or two types of cargoes or products, which supply a narrow market.
- FVs which are constructed, organised and managed by the State and others by individuals or companies from the logistics sector. There are also FVs constructed by real estate companies (see France) and other FVs which are constructed through a Public Private Partnership (PPP) process.

The process and the development planning of FVs, in the merchandising system, is being the subject of extensive discussion in national and international institutional bodies. On the other hand most of the state policies consider FVs as direct mechanisms for growth [see "*Growth Poles*" theory] as "*une unite mortice*" (Perrou F., 1955).

This perception leads to financing transport infrastructures and FVs without integrated physical planning and total developing strategy. Thus, in many cases, the positive results that are expected actually are not achieved (Banister and Berechman, 2000, 2001)

## 2. The Contribution of FV's in the Growth of the Balkan Peninsula

### 2.1. Existing Situation

The daily smoothing of the socio-political situation in the Balkans region and the improvement in the feel of safety can be sensed clearly. The business world is progressively placed in the market and direct foreign investments from all over the world pour in argumentatively in the region mainly from Greece, Germany, Austria, Italy and the U.S.A. Characteristically, according to the Minister of Finance of Serbia and Montenegro, "*Greece is classified first in the list of foreigner investors, with €1.3 billion in invested capital, from roughly 80 companies of Greek interests that occupy 22.000 workers*" (Bubalo Predrag, 2006). The statutory and legislation arrangements that regulate the business companies in the Balkan countries are being simplified and the expected acceptance of Bulgaria and Romania in the European Union has already given new boost in the wider region economy. Bureaucracy and corruption, which is reported in the area, still remain the disadvantage.

However, the progressive increase of GNP in the region and more generally the improvement of living standards have activated the commercial market, with result more products needing more specialised supply chain handling.

The subject of transport infrastructures in the region is important.

The effect of limited availability of transport infrastructures and transport modes is an important factor, which influences the developmental process of underdeveloped countries or regions, while on the opposite the availability of high variety of transport modes facilitates the development of socio-economic progress (Hoyle and Smith, 1992).

Banister and Berechman (2001) mention that studies have proved that, in most developed economies, the levels of transport accessibility are already high. Thus, the additional transport infrastructure investments have marginal effects to the total system. In the not so developed economies the results are different.

The exact same ascertainments were also developed by Kraft et al thirty years earlier, in 1971 (Kraft et al, 1971), for the regional economy of the U.S.A. Characteristically in their book entitled "*The Role of Transportation in Regional Economic Development*", the result of extensive study of economy of American regions (of the '50 and '60 decades) report that the addition of new transport infrastructures in the U.S.A. "*will not influence the pattern of regional development*", because of the already developed transport network (that is during the '70's). Nevertheless, Kraft et al mention that under certain conditions the transport infrastructures may help undeveloped (as compared to the rest) regions, to accept an important part of the decentralizing industry.

Moreover, empirical studies, according to Radelet and Sachs (1998) present that bigger transport expenses lead to lower levels of direct foreign investment, lower levels of money savings, decline of exports, decreased access to new technology and to knowledge, decrease of employment. According to Radelet and Sachs a doubling of transport expenses leads to the fall of the rate of economic growth more than half a percentage unit. Further, econometric estimations, which are referred by Limao and Venables (2001) and Hummels, (2000) mention that the doubling of product transport expenses in a country can lead the trade to a fall of as much as 80% or even more.

Davis (1993) but also Bhatnagar & Sohal (2005) mention that the decision of the location of an installation of an enterprise has repercussions into the outputs of supply chains. In other words that means that a region with poor transports infrastructure and telecommunications systems is not preferred by the international supply chains.

According to OECD (2002 a) “...in order to establish a region as a key component in global logistics networks, it is necessary to create a vision of how to position the region strategically within the context of the overall global logistics networks. To achieve this objective, governments both individually and collectively will need to develop and implement systematic policies for realising the vision. The essence of this global logistics competence also applies to the private sector”.

A condition for the development of logistics is the existence of suitable transports infrastructures (“*qualitative infrastructures*” according to the Banister & Berechman, 2001), and more specifically the node of transshipment and the terminal (as the FVs), which henceforth should not function as simple points of transshipment and storage, but as “*nodes of transport information*”.

The Balkan countries (Papadaskalopoulos et al, 2000), because of their previous politician situation, had a reliable and reasonable transport system (infrastructures and modes of transport) and especially a satisfying railway system.

However, with the change of their political system and with the war bombardments many of these infrastructures were destroyed while others were not upgraded, due to lack of capital. During the last years many of these infrastructures were improved by European Union’s programs (see TINA Programme) as well as by national governments. Now the transport infrastructure system of the region can be considered as quite acceptable. According to the IMONODE (Efficient Integration of Cargo Transport Modes & Nodes in CADSES area) program, there is a sufficient number of Modal and Intermodal terminals in SE Europe, but in order to achieve efficiency of modal transport networks and enhance intermodality, new or upgraded function profiles of terminals are needed (Gianopoulos & Aifadopoulou, 2005, Aifadopoulou G., 2005).

Italy and much more Greece, because of their geographic proximity, can channel their experiences and mostly they can satisfy the Balkan region logistically.

## 2.2. The Logistics Sector in Greece

The logistics sector in Greece is still in an initial stage; however it carries an excellent dynamic. Concisely the logistics market in Greece has as follows (Kyriazopoulos E., 2006, Haralabopoulos, 2003, ICAP 2001, 2003):

- The logistics market is not well defined (activities as “*Logistics Services*”, “*Logistician*”, “*Third - Party Logistics Providers (3PL)*” are not yet legislated etc.). The result is non-healthy competition.
- There is lack of specialised personnel in all of sub-fields of logistics and ignorance in the business field about the extent and the capabilities of the

sector. Few high and higher educational institutions have included in their studies logistics relative courses.

- The bureaucracy (customs, tax offices etc.) and multi-jurisdiction prevents the growth of cross-linked logistics systems.
- All services relative to logistics are located, interspersed, in Attica and Thessalonica- where the biggest markets are. In Attica the relative installations are gathered in the northern axis of the city (Athens - Lamia National Road, Inofita, Shimatari) and at the two ends of the circular Attica Express Motorway (Spata, Mandra, Magoula, Aspropyrgos, Eleusis) as well as in parts of Western Attica (Peristeri, Rendis, Egaleo, Agioi Anargyroi). The above areas are found in road time-distances (under normal conditions) from the cargo docks of Piraeus Port of 20-25 minutes (Rendis, Eleusis etc.) to up to 55-65 minutes (Shimatari). In Northern Greece the installations of 3PLs are located in the industrial area of Sindos, Kalohori and Oreokastron (road time-distance from the Port of Thessaloniki: 15-25 minutes). These areas, according to ICAP (2003), have an estimated total size of warehouses of 120.000 to 150.000 m<sup>2</sup>. However an indication of non planned development of the sector is the case of Kalohori, where just a few kilometres away from the centre of Thessalonica (in the western entry of city) are located in a “rural” region (outside the city planned area), without infrastructures, more than 1.100 companies in the fields of manufacturing, transport, trade and storage. Through this region about 30.000 heavy vehicles, in their majority, pass daily through 2.5 m. wide streets, while many of the “internal roads” that connect certain installations are dirt roads (Nauteboriki Newspaper, 2005).
- On the contrary, other regional markets do not have infrastructures, specialised personnel and logistics companies so that the local products are aggravated in the filed of cost and availability (as well as imported ones). Also the over-concentration in the two big urban centres of all relative services creates phenomena of traffic congestion and immoderate competition (see. profit compression).
- There is no serious investment (infrastructures, training, knowledge etc.) in the electronic trade in the country with a result many of the applications of e-logistics to remain inactive. Greece has one of the lowest numbers of internet connections among the developed countries (Greek National Statistic Office, 2003).
- There is ignorance or hesitancy or expediency by the State in not activation of the green - reverse logistics market.

More specifically, with regard to the 3PL companies which are activated in Greece:

- The sector presents important growth rates which annually are estimated in the level of 10-15% (Koromila I., 2003). For the 1998-2002 period, the average rate of domestic 3PL services (in value), was set to 26,3% (ICAP, 2003).
- The Greek 3PL market is, for its size, fragmented to a large number of companies. The 5 biggest companies of the sector represent about 32,5% of the market while only 12 companies exceeded the €4 m. turnover. The companies that are activated in 3PL are roughly 66 (ICAP, 2001).

- The 3PLs' handling products, based on the 2002 turnover, are 39% super market products followed by vehicles and spare parts, lubricants (25%) and the "white" and "black" products (electrical appliances and electronics) (13%). Respectively the range of offered services from 3PLs is limited. This is also the reason that the Third Party Logistics Users employed more than one 3PL.
- There is lack of knowledge about the contribution of 3PL in the supply sector. Furthermore, several companies have been self-declared as 3PL, without even approaching the minimal requirements of a typical 3PL company (lack of government control). These companies discredit the sector. The percentage of Greek companies using 3PL is estimated to 30%-45% (ICAP, 2003). A 1999 study by Piraeus University estimated this percentage in 8%-10% (Laiou L. et al 1999).
- One of the most serious problems for the 3PLs Sector remains the peculiar property status of truck fleets in Greece.

### 2.3. Freight Village in Greece

The matter for the development of FVs in Greece starts at the beginning of the previous decade, by the Greek Chamber of Transport Associations (CTA) and the Greek Prefecture Chambers, in collaboration with the EU's Coherence Fund. Thus, the first study for a national physical planning strategic for a "*Freight Village Network*" was completed in 1997 and since then the CTA composed a number of feasibility-viability studies for Freight Villages (FV), Freight Stations (FS) and Combined Transport Nodes (CTN). Concisely, according to CTA study, the national freight network had been proposed to be compromised by 11 FVs, 14 FSs and 13 CTNs (Greek Chamber of Transport Associations, 1997).

In 2000, the Research Team from the Institute of Regional Development / Panteion University (IRD, 2000) worked out a study with the Ministry of Transport for the composing of a process of National Transport Operational Program 2000-2006 (3<sup>rd</sup> Community Support Framework), which concluded to a national network of 6 FVs at: 1) Attica-Piraeus, 2) Kilkis-Thessalonica, 3) Patras, 4) Igoumenitsa, 5) Alexandroupolis, 6) Larissa. Also, the strategic planning, according to this study, can include, even from the A' Stage, FVs in the regions of Kozani, Heraklion (Crete) and in the North-eastern Aegean region (Chios Island).

In 2002-03 the Ministry of Transports asked for a more specified study (Ministry of Transport, 1st Phase 2002 and 2nd Phase 2003), which after local research in field of real estate market, in the field of new cargo flows, and with the use of questionnaire processing etc. proposed for the freight village national network 6 specific places: 1) in the port of Alexandroupolis, 2) on the Thessalonica-Kilkis axis, 3) in the port of Igoumenitsa, 4) on the Larissa-Volos axis 5) in the port of Patras and 6) in the port of Heraklion.

On the other hand, since 1997-8, the Ministry for the Environment, Physical Planning and Public Works (YPEXODE) started to elaborate the first National Physical (Spatial) Plan (Law 2742/97). In parallel YPEXODE asked from 12 private Research Offices 12 spacial - land planning studies (one for each of the Greek Regions, except for the Attica region one). These studies and mainly their proposals, during 2003-2004 became legal texts. According to this legal

framework there can be constructed (until today - April 2006), about 16 FVs in Greece, including the FV Promachon / Serres.

Finally, in March 2005, came into force, by the Ministry of Transport, the first special law concerning exclusively FVs (Law 3333/05), which attempts to organise and develop the particular market.

Concisely, the law allows the construction of 4 FVs types: 1) the large one (over the 500,000 m<sup>2</sup>), 2) the intermediate one (250,00 - 500,000 m<sup>2</sup>), 3) the small one (100,000-250,000 m<sup>2</sup>), 4) the island type (min. 50,000 m<sup>2</sup>). It must be pointed that only in the first category it is obligatory to have the combined transports installations and infrastructures inside the area of the FV. Moreover the law regulates issues concerning state and EU's financing, the company's stock capital level, the permission process, the activities and the services that can be permitted inside the FV etc. Finally, this law established the Thriasio FV (20 minutes road distance from the cargo docks of Piraeus Port), property of the state Greek Railroad Organisation (OSE).

However, the law framework for FVs and logistics generally in Greece has not being completed yet. Characteristically, even if there is a great willingness for such investments (as can be deduced from the Press), a year after the enforcement of the law no relative investments have been examined by the Ministry of Transport.

Nevertheless, in Greece there are already 2 installations which fill the specifications of a typical FV. The first, the FV of Sindos S.A. Warehousing and Logistics, functions in the Industrial Area of Thessalonica, in a covered area of 20,000 m<sup>2</sup>, with a private railway connection to the national network. The second installation is the FV of Promachon Area or FV Procom S.A., of which an analysis follows.

### 3. Repercussions of FV's in the Balkan developmental process

Based on the above mentioned situation and experience that has been acquired by other regions, a state and EU policy Aid of selected FVs in the Balkan Peninsula can be lead to:

- i. Rationalisation of Cargo Flow Transport System and Capitalized of Combined / Intemodal Transport Benefits. The planning of transport systems must follow the existing lines of Trans-european Transport Networks (TEN-T) and the policy for combination of transport modes. The Italian Law 240/90 for Interporto reports characteristically that state investments for the establishment of FVs came in order to *"improve the transport of cargoes and to develop the interadaptability / intermodality of transport modes"*. Results from a study about the establishment of a FV in Kilkis (North Greece) showed that applying the factor relations of tracks plenitude for the same quantity of cargo without and with the use of a FV, the reduction of transport cost for the users was calculated to 9% (RDI, 2000). It is noted that an extempore and without research planning, process of packing, picking, storage, handling and distribution has as result the waste of valuable resources and the increase of product cost. The cost of storage in this case is calculated to 3-8% of the general production cost, while the cost of distribution is calculated to 1 - 5% for the domestic transports and to 15-40% when the product is exported (Sinogiannis, 2001).



- ii. **Collaborations.** FVs can function for the development of profitable collaborations amongst the Small - Medium Sized transport and logistics companies, namely the majority of the region. According to an E.U. study (see FV 2000 Program, Galloni G., 2000) in 7 European countries, it is noted that 79% of the companies which have their base inside a FV, declare that they collaborate with more than one “neighbouring” companies inside the FV.
- iii. **Endogenous Growth.** FVs, as above mention referred), can activate the local economy to promote in wider channels of international distribution local - traditional and other Balkan products. One of the more important reasons for the construction of the Italian Interporti was to build these kind of infrastructures in order to help the promotion of Italian products in the international competition, especially against cheaper Far East products (Galloni G., 2000). FVs can become the place where, according to Bennet and Krebs (1991), a wide range of factors (land, infrastructure, capital and investment, innovation, business, technological changes, human resources, growth of suitable legal framework) can be combined - collaborated (local co-operation) and encourage the local endogenous economy.
- iv. **Creation of Attractive Business Environment.** The unstable, for many years, political and economical situation of this area prevented, and still does, a number of international enterprises and domestic capital to activate in the Balkans. The development of a FV network will constitute better conditions for all these firms, which need qualitative and reliable logistics. The existence of a FV composes the basic criterion for the choice of one region over other ones. This trend is asseverated by European, Asiatic and American experience. One of the best case studies is the Verona FV (Italy) (Galloni G., 2000), which was created with a view not only to organise the cargo and transport flows but also to become a crucial intervention in the regional and local economic development procedure. Capital attractiveness will create accordingly new work positions in the manufacturing and logistics sector. Studies conclude that added value services of a dynamic FV can create work positions similar to those which are produced in the industrial production process. Finally, there exist cases where the decision of the construction of a new infrastructure, as a FV, is not calculated on the narrow economic and qualitative indicators basis but on the “magnet”/“attraction” basis (*agglomeration effect*) which can upgrade the image of the region in order to attract new direct private investment funds (*see more* Plaskovitis, 2000).
- v. **Improvement of life quality.** The reduction of the cost of products will lead to the reduction of the cost of life in the wider region but also in the enrichment of the market with more and modern globalized products. It is comprehensible that if not for the logistics systems, the increase in the standard of living and the modern way of life would have need of multiple transport modes, warehouses and energy resources (European Council of Applied Sciences and Engineering, 2000).
- vi. **Viability.** The combination of transport modes inside the FVs, particularly the use of environment-friendly modes, as train and ship, result to the reduction of CO<sub>2</sub> emissions by heavy vehicles. Same results are achieved due to the reduction of distribution timetables. FV - 2000 study results proved that the logistics and supply companies that operate through a FV

improved their distribution flows up to 28% (concerning the period where they did not operate inside the FV) (Galloni, 2000). Positive results for the environment would be caused by the limitation of traffic problems from heavy vehicles, especially in many unorganized urban Balkan region centres. Finally, a well-planned FV will “compress” the logistics activities in a more limited space, contrary to “free” development in a wider region.

- vii. Safety and Control. Both on the side of state and its control mechanisms (see tax control, safety and health regulations etc.) as well as on the side Classification and Standardization Institutions (Quality Assurance), FVs are the ideal place for activity, especially in the Balkans Area where the certification and standard control is still at its infancy. The concentration of a large number of businesses and activities in a rather limited space enables direct and effective control. Moreover, a number of required quality procedures can be conducted easier, faster and cheaper because of the FV’s internal regulation and the FV Manager. Policies for “Total Quality Management” in the supply chain and the application of standards (see ISO series), are considered something more than necessary in the new environment (Robinson & Malhotra, 2005).

Finally, it deserves to be mentioned that the conclusions and the recommendations of OECD (2002 b) resulting by the TRILOG program, part of European program RTR, which, inter alia, report that: a) logistics instigates 100% the competitiveness of economies and regional development, b) the incorporated commercial infrastructures to the transport networks (as Freight Villages, Logistics Centers etc) are the basic conditions for the development of supply chains and for this reason they should be financing by the state.

#### 4. Procom Freight Village Case Study (Greek-Bulgarian Border)

Even if the legal framework for Freight Villages in Greece came into force in March 2005, since 2001, at Promahon village, exactly at the frontier customs station of Greece with Bulgaria, the Procom FV began its operations.

The analysis that follows uses, apart from official statistical data, elements (quantitatively and qualitatively) that were collected by on the spot research, as the sector of FVs is not included in a separate statistical category by the National Statistical Office.

##### 4.1. Elements of the Wider and Immediate Region

Promahon belongs to the Serres Prefecture and Serres to the Central Macedonia Region, having as its capital the city of Thessaloniki. The Serres Prefecture represents 3% of the country’s total land area, while the Community of Promahon occupies a land area of only 42.200 km<sup>2</sup>.

The prefecture does not contain any seaport and airport infrastructures for cargo services as both the Port Authority of Thessaloniki as well as the International Airport of “Macedonia” are situated in close proximity.

Egnatia Road constitutes the most important transport infrastructure, part of which passes through the southern area of the Prefecture. In order however for the Egnatia Road to create development in the Region and not simply constitute a passage axis, the vertical Axis 60 Derveni - Serres - Dresden -

Prague / Nuremberg - Bratislava / Vienna - Budapest -Sofia, should be constructed, in priority, which will connect Thessaloniki to Sofia via Promahon and Kulata (Pan-European Corridor IV), and which is expected to strength the position of the Serres Prefecture. This axis will also give to the Community of Promahon an increased international role, as a National Gate of a Pan-European Corridor.

The railway network of the Region of Central Macedonia (total length about 550 km), is the only one in the country that has regular width (in all its length) and a certain elementary composition (as it includes the sectors to the northern border but also to Turkey and Western Macedonia). However, the interest of the network is focused at its basic body, Athens -Thessaloniki - Eidomeni (Greece - FYROM border) and not to the other network branches. Nowadays, the travel time between Thessaloniki - Serres (about 80 km.) is about 2 hours and 5 minutes, when the road distance is limited to about one hour. In February 2005 Greece and Bulgaria signed a Protocol for Development and Co-operation in the fields of road and, mainly, railway network (usage of modern and faster trains, simplification of customs processes etc). This agreement and the programmed infrastructures hope to decrease the railway time between Thessaloniki and Sofia from 7 hours and 40 minutes in 2005 to 5 hours and 30 minutes (initial stage) and to 3 hours and 30 minutes by 2011. Also, the planning includes a railway connection between the inland port of Lom (Danube) and the seaport of Thessaloniki by 2013, aiming at the development of intermodalism in South-eastern Europe (Hellenic Ministry of Transport Press Release, 2005).

According to the 2001 Census, the Serres Prefecture presented a numerical increase of population from 1991 to 2001 of about 4,5% reaching 200,916 inhabitants. Nevertheless, the natural increase<sup>1</sup> of the population was negative (3.9 people per 1,000 inhabitants) and in particular the prefecture is the only one (along with the Kilkis Prefecture) with a negative natural reduction of its population in all of the Central Macedonia Region. 53% of the Prefecture's population lives in rural settlements.

Promahon had, in 2001, 252 inhabitants (-6,7% concerning 1991). A big rate of this population (roughly half) are not local residents but Civil Servants (Customs Officers, Police Officers, Border Police Officers, Employees of Ministry of Agriculture etc.) some of which live with their families in a block of state houses (property of Greek Tourist Organisation) in contact with the Promahon Village (separated by the railway line). The wider human-geography areas of Promahon (the Municipalities of Sidirokastron and Petritsi and the Communities of Agkiston and Promahon) are calculated at having about 17.500 inhabitants the last two decades (a slight reduction of the order of -1%). The biggest city of the area is Sidirokastron, which in the 2001 Census presented a population approaching 6.000 inhabitants (+ 7% concerning 1991).

Agriculture is the main activity in the Prefecture because of the large fertile plain, while at the same time the prefecture is one of the leading nationwide in stock-raising and one of the main beef meat suppliers of the Athens market.

The manufacture sector of Serres prefecture is in an exceptionally low level. Particularly the clothing sector, which had an important production for 10-15 years, today has been totally nulled (Paratititis / Serres Newspaper, 2003). The

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<sup>1</sup> The difference between births and deaths every 1,000 habitants.

Chamber of Serres (2004), based in its data, considers that 1,000 work positions were lost in the prefecture from 2001-2004 by enterprise relocations in Bulgaria. Thus, the only industrial units that have remained in the Prefecture concern the agricultural sector (sugar, tomatoes etc.).

The prefecture has an Industrial Area, uncompleted since the 80's. It contains only 17 companies (ETBA, 2004). It should be noted that this Industrial Area still remains empty although has been granted by a special investment law for regional development (the Ministry of Economics finances this area with the greatest national percentage). From the total invested capital in all of the 12 Prefectures of Central & Eastern Macedonia & Thrace Regions, for the 1990-2002 period, only 1.5% of them was conducted in the Serres Prefecture (44.753 thousand €). The investment interest comparison to other prefectures can be described as non-existent, even if many favourable incentives exist.

As the prefecture's largest industry, day by day, the education sector arises. According to the Chamber of Serres (2002) the local economy developed around to 12,000 strong student body, an annual turnover of about € 35 million is calculated. The Tourism sector on the other hand, although the prefecture has important natural and cultural elements, is calculate on a nationwide level at only the 0,02% of hotels' stay-night reservations (Michailidis et al, 2003).

Concerning the trade sector, this is in an readjustment phase as:

- i. The wealthy (in all fields) and famous market of Thessaloniki is found closer and closer to Serres, due to road connection improvements.
- ii. There is a general - national level recession of consumers' buying power.
- iii. Big Trade Companies (multistores, large supermarkets, shopping centers) have appeared, for the first time, in the city of Serres.
- iv. The cheaper Bulgarian market has started to attract thousands of consumers from Serres (even for medical or dental services).

A questionnaire-based study conducted by the Serres Technical Institution (Zafiropoulos et al, 2005), at the border station of Promahon showed that:

- 80% of the travellers to Bulgaria were from the wider Serres area.
- The main reason of visit was for shopping items such as clothes, sportswear and accessories and shoes.
- Private employees and university students are the majority of the shopping visitors to Bulgaria and which declared that they had spent for shopping an average of € 198.
- 72% of the visitors were not satisfied by the price-quality level, but still half of them mentioned that they would visit Bulgaria again.
- Visitors to Bulgaria, through the Promahon border-station, during working days are about 1,000 people per day, reaching to 1,200 during the summer months and declining to 500 during winter months. On Saturdays the visitors were about 3,000 per day, which fall to 1,500 during the cold winter months, but rise up to 9,000 at certain cases (holidays for example) while on Sundays they were about 2,000. The mean average on an annual basis is about 11,000 people weekly. The total annual consumption of Greek visitors to Bulgaria through the Promahon border-station is estimated at about € 83,372,865.

An additional research by Chamber of Serres (2004) resulted that the swing of purchasing power towards Bulgaria influences seriously the economy of the wider region of the Serres prefecture as, amongst others, the estimation of work positions lost are about 1,850.

According to Ministry of Finance economic data (Epilogi, 2002) Serres is classified at the end of the prefectures table of the country based on GNP (48th Prefecture to 52). At the same time Serres is found in the last national prefectures category, as the GNP per habitant floated from 42% to 49% of the EU's average.

Based on the employment data of the National Statistical Office (National Statistics Office 1991 & 2001 Census) the economically active population constitutes 39% of the total population of the Serres prefecture (the counterpart percentage on a national and regional level is 42%). If at this percentage we also add the high unemployment percentage (10.236 unemployment people), then the working percentage of the region is very low.

The rate of unemployment in the Community of Promahon was 13,2% (10 inhabitants unemployed in 2001). Today the percentage of recorded unemployment of the Prefecture floated roughly to 14%. Contrary the rate of unemployment at the Promahon Community is 0% (based on spot research), after the operation of Promahon FV.

The Promahon Community had the largest percentage change (+34%) in its working force between 1999 and 2001 from all the Serres Prefecture municipalities (1991: 107 workers, 2001: 144 workers, namely 37 extra workers). All the other municipalities had an additional increase of 1% and the country 19%. This important increase combined with the inhabitant decrease (18 people), from 1991 to 2001, means local productivity activation.

The employment sector of "*Transport -Warehousing & Communications*" had, on a prefecture level, an increase from 1991 to 2001 of only 5% (2.656 workers) when the counterpart percentage of increase on a national level was in the order of 13%. Contrarily the Promahon Community increased the percentage of employment in this field by 200% (8 workers in 1991, 24 in 2001). Totally 36% of the community's economically active population had a direct connection with FV (working in the trade sector etc.) while an indirect connection also exists with public workers (Customs, Police, Railway), which constitute 15% of the community's economically active population.

#### 4.2. Procom Freight Village Profile

The choice of the particular private-own land, of more than 700,000 m<sup>2</sup>, adjacent to the customs station of the Greek-Bulgarian border, was based on the statistical data of exports-imports. This data showed that the Promahon customs gateway is the second hinterland gateway in cargo volumes in Greece (estimations for about 3,400,000 tn in 2005). Analytically, from the gates of the Customs Station pass, on an annual basis, about 120,000 trucks in the entry and 122,000 at the exit, of which roughly 200,000 are loaded (2005 data). The tendency of truck passage is increasing, 8-9% per year (Systema, 2006).

The FV was constructed in order to create a useful infrastructure to facilitate and strengthen the Greek and European export companies that wish to activate in the Balkans and Central Europe markets.

The company was founded in April 1999 with main participators private companies and with the attendance of State, as the Serres Prefecture, the Organisation of Exports Promotion, the Developmental Chamber of Central Macedonia, the Serres Chamber of Commerce and the Promahon Community.

Roughly €15 million from private (75%) and public (25%) investments were spent for its construction (Phase A). The work was part-financed by the program INTERREG II.

The functional cost, according to the FV's managing company, is about € 2 million annually (2005), important part of which is intended for wages and supplies coming from the local market.

The main activities of the FV are on one hand the Discount - Commercial - Exhibition Centre (retail and wholesale) and on the other hand the Logistics Centre (warehousing, custom clearances etc.). Analytically:

Regarding the Commercial Department, in a 17.000 m<sup>2</sup> covered exhibition area, about 40 "brand name" companies, promote their outlet-stock products. The exhibition environment attracts 30.000 visitors every week, mainly on weekends, Greek but also Balkan (mainly Bulgarians, Romanians, Poles which come by car to Greece for holidays and returning home). It must be mentioned that a number of these foreign visitors are many Bulgarian and Romanian habitants, of lower income, which visit the Centre for shopping (daily travellers) since it has been achieved not to need visa in order to enter the FV. A great percentage of the Greek consumers of the FV concerns the "one day tourists" to Bulgaria, who upon their return from the country, in which they had gone for shopping, supplement or finally conduct their purchases, before returning to Thessaloniki, Serres, Drama or Kilkis ("last minute shopping").

A number of Greek consumers concern those that intend to buy from the Bulgarian market but on their way are satisfied earlier by the products, which are sold in the FV (thus holding the purchasing force inside the borders). It should be mentioned that at the Discount - Commercial - Exhibition Centre 150 people work (mainly of which of young age).

The Procom FV provides to the collaborating enterprises that operate from the Exhibition Centre, particularly low, for the market, rent, total cargo handling management (logistics service), 24 hour security service, free Centre promotion and publicity, human resource management, bus service for workers etc.

The Logistics Department of the FV functions independently of the Exhibition Centre, but not autonomously. The Exhibition Department functions also as Show Room / Trade Show for the Balkan businessmen mainly, who can be supplied wholesale by products that are sold retail in the Exhibition Department.

The Logistics Department provides complete infrastructures for the development of logistics services by third companies. It provides all those infrastructures for:

- Combined transports. The FV collaborates closely with the adjoining railway station in the field of container services. In this station the company has a privately-owned clark (45-ton lifting capability) which can handle, by rail, up to 40 TEU's daily. The daily railway mass transportation of TEU's (block trains) from the Port of Thessaloniki to Promahon FV and the parallel return

of empty ones to the port creates a scaled economy which is calculated in cost and transport time reduction, up to 30% as compare to road transport.

- Logistics support. It contains 3 modern buildings-warehouses (included is a refrigerated warehouse) and surrounding areas characterized as Free Customs Area, (22.000 m<sup>2</sup>). It has also got a privately-owned crane, of 32-ton lifting capability, completely equipped warehouses for almost all types and sizes of cargoes and specialised personnel for cargo handling.
- The benefit of “one stop shop” services. Promachon FV exempts the collaborating enterprises from bureaucracy, intermediary intercession and from a lot of bank, insurance, clearance work and transport expenses. Promachon FV has the capability of customs serving up to 30 trucks daily.

Concisely Promachon FV in its existing installations can be:

- Store up to 100 Containers daily.
- Store at least 6.000 pallets daily in enclosed areas and more than 10.000 pallets daily in open spaces.
- Store at least 18.000 m<sup>3</sup> in enclosed areas and more than 25.000 m<sup>3</sup> in open spaces.

Moreover the Centre offers to its collaborating enterprises 24 hour security service and acceleration of export procession, due to the operation inside the FV of a bank (National Bank of Greece, the only one in the wider area), clearance and insurance brokers and customs. Finally, it contains 2.000 m<sup>2</sup> of modern office spaces, and all spaces (offices, warehouses etc.) are covered by optical fibres, while it has installed a Warehousing Management System (WMS) as well as Distribution and International Transports Management Systems.

The FV, handled in 2004, 1,000 tn of rail cargo and in 2005, 5,460 tn (+ 446%). Also, it handled in 2004, 500 tn of road cargo while in 2005 it handled 1,100 tn (+ 120%). At the FV warehouse and depot areas it stored in 2004, 1,000 tn of cargo while in 2005, it stored up to 2.500 tn (+ 150%). Finally, in 2004, 12,000 tn of cargo clearance through Promachon FV, while in 2005, the cargo clearance were 44.792 tn (+ 273,2%)(Systema, 2006).

It must be mentioned, that the FV serves one from the biggest car industries, in sales in Eastern Europe and the Balkans, LADA.

The FV's statistical data shows also that the majority of collaborating companies (import and export), especially in the field of transportation, are based in Balkan countries and Eastern Europe countries such as Bulgaria, Romania, Lithuania and Moldavia.

#### 4.3. The socio-economic consequences of Freight Village in the region

The FV's staff is numbering 50 workers, with high salaries for the region's standards. This staff constitutes by administration personnel as Manager, Technical Manager etc, accounting department personnel, secretariat, information technology manager, marketing department personnel, technical personnel, drivers, safety and cleaning staff. A great number of this personnel works on a 24 hour shift duty, 365 days a year (this means also higher wages).

The education level of workforce varies from very high to very low. The majority of workers have Secondary High School Diploma, which completely reflects the educational physiognomy of this frontier region.

Regarding the distance between employees living place and FV (Logistics and Commercial Department = about 200 workers) we mentioned that:

- The basic workforce feeder of the FV is the close region: time-distance 10-15 minutes (in a radius of max. 20 km).
- The FV has infiltrated in the workforce market at a time-distance area of at least 30-35 minutes (Serres City- Promahon: 44 km).

Finally it must mentioned that Promahon EC has supplied and supplies the region with extra income as:

- For its construction and for 3 years more than 150 local workers were employed.
- The supply of the FV with staple products as well as hygiene products, stationary etc. comes from market of the Serres region.
- Promahon FV organises a number of acquaintance meetings with foreign businessmen and companies. These visits beyond the advantages for the FV and the national economy support also the particularly low tourist traffic of the region.
- The infrastructure which was created by the Promahon FV has allowed a series of “social” services to be operated from it, something that would happen otherwise with difficulty. Characteristically are mentioned:
  - The existence of a Bank (National Bank) which serves (except for traders) the inhabitants of the region. These people can finance immediately their activities and use its simple banking services (transfers, pension collection etc.).
  - The existence of a drugstore, particularly in a region where the average age is quite high.
  - The existence of a child day-care centre, which can serve on a constant or casual base the working parents.
  - The existence of a restaurant and a cafeteria inside the FV, that simply extends the minimum possibilities of daily amusement. Also, the organisation of events-happenings by the Exhibition Centre, attracts casually hundreds of regional inhabitants (mainly young people who have minimum amusement choices).

In order to examine the economic consequences of Promahon FV in the local economy and in lack of other data we use:

1. The Multiplier of Economic Base - Regional Multiplier.
2. The Location Quotient (QL).

#### Multiplier of Economic Base - Regional Multiplier

The elaboration employment data (2001) of Promahon Community results that 4 sectors may create multiplicative phenomena in the local economy of Promahon. These are (Konsolas N. et al, 2005):



- i. The sector of “Banks, Intermediary Finance Organizations etc.” with a multiplier: 3,10 (it is marked that the only Bank in the Community is found inside the FV).
- ii. The sector of “Public Sector”, (see Customs, Police Officers etc.) with a multiplier: 1,56 (the FV allocates a customs station inside its area).
- iii. The sector of “Transport - Warehousing - Communications” with a multiplier: 1,25 and
- iv. The sector of “Wholesale - Retail Trade, Car Repair etc.” with a multiplier: 9,84. (Promahon Community workers employed either to Customs Duty Free Shops or the exhibition centre of FV).

From the above mentioned it results that the 4 sectors of employment that create multiplicative phenomena in the local economy, have direct and indirect repercussions with the operation of the FV.

#### Location Quotient - QL

In this analysis an approach of specialisation is attempted of the Promahon Community, based on data (2001) for the 14 sectors of the economically active population of the country, with the tool of the Location Quotient (QL), which allows the comparisons between the administrative units and activities, in an indirect way (Papadaskalopoulos A., 2000).

According to this analysis on 1,033 Local Authorities of the country (Konsolas et al, 2005), except for the first 4 Island Local Authorities which present a high specialisation (QL= 3) in the sector of “Transport ...” (which is not representative such as it concerns ocean-going seafarers and not permanent habitants) the immediate high specialisation Local Authority in the Transport sector in Greece is the Promahon Community with a QL= 2,7 followed by the Ktistallogigi Community (Greek - FYROM borders) with a QL= 2,6.

It deserves to be mentioned that only the 2% of the country’s Local authorities present a QL> 2 (very big specialisation).

From the above analysis, as much with the multipliers as also with the location quotient, it results the immediate beneficial relation of the Promahon FV to the local economy and the possibility of further extension of positive results (and by extension to the local - prefectorial income) if only more investments of the Promahon FV come into effect in this field.

#### 5. Growth Prospects - Conclusions

The growth prospects of Promahon FV depend mainly from Bulgaria’s expected entry in the European Union family, but also from the progressive increase of living standards in the Balkan region. At the same time, the number of Greek companies which are already operating in the Balkans, to a big degree, probably satisfy their supply needs from Greek Logistics companies and Freight Villages, such as Promahon FV (Alexopoulos C., 2005).

The Promahon entrance gate, according to a forecast study of the Greek Ministry of Transport, can attract 4,500,000 tn per year in 2010, 6,100,000 tn per year in 2015, and 8,200,0000 tn per year in 2020, when the cargo flow by

railway will represent 20% of the region transports according to the forecasts of European research program IMONODE (Giannopoulos & Aifadopoulou, 2005).

At the same time in the wider Balkan market, according to the same research program, 2,7 billions tn per year will be transported by 2015. From this volume 830,000,000 tn of cargo which makes use of the regional TEN-T axes the volume of 500,000,000 tn is found inside the influence area (800 km) of Promahon FV (Bulgaria, Romania, Greece and the Ukraine). The achievement of Promahon FV is to attract from the flows, which are forecasted to pass from the Promahon Customs Station's Gate (Axis IV), at least 15% of this cargo and part of the flows of the combined transport which will reach, according to the INTERMODA program (Integrated Solutions for Intermodal Transport between the EU and the CEECs), in 2010 the sum of 725.000 tn (INTERMODA, 2003).

However, scepticism arises about the region where the FV is accommodated. With Bulgaria's integration in the EU a great part of high-paid workforce (see Customs Officers etc), will lose their work positions. Others will be fired (as e.g. the duty free shop employees) and others will be transferred elsewhere (as e.g. the 75 border police officials). The need for customs action will be drastically limited as both Bulgaria as well as the neighbouring Romania will be full Union members. Moreover, the already bad retail market of Serres situation will probably worsen as the lack of customs actions (the obstacle of traffic congestion that exists today in the custom will disappear tomorrow).

Instead of the fact of Bulgaria's and Romania's integration in the EU causing an economic decline to this frontier region, it is better that the development of the FV becomes the economic basis for the entire region.

Promahon FV can further develop its capabilities as a combined transport node and by this way supply all the Bulgarian and Rumanian market with cargoes originating from the ports of Thessaloniki or Piraeus. The strategic place of Promahon FV can satisfy the Balkan market both on a container trans-shipment level and on a distribution "broken" cargo level. Promahon FV can also function by supplying the Greek market with Balkan products. Of course the prospect of development of the inland port Lom (Danube) and its connection with Promahon FV (combined IWW and railway transport) can in the future, constitute the main way of all European products, but also the Asian ones unloaded at the Dutch and Belgian ports, to Greece (and vice-versa).

The completion of European axes will create a new transport corridor between Eastern and Western Europe. The Far East (Far East - Europe Trade) originating cargoes by container mother ships will be able to approach the Greek ports like Thessaloniki, Piraeus etc. and from there by train and barges (from the inland port of Lom in Bulgaria) might be able to supply all of Western Europe, the East-European countries, Scandinavia etc. without these boats being forced to make extra naval miles in order to approach the ports of the European "banana" (Havre, Rotterdam, Amsterdam, Antwerp etc.). Characteristically, a boat from Suez - Port Said (Egypt) to Rotterdam with a speed of 13,5 knots, will need roughly 10 days and 2,5 hours to approach the Dutch port and will consume about 303,15 tn of diesel fuel. On the contrary, a boat from Port Said (Egypt) to Thesaloniki needs 2 days and 6,5 hours while it consumes only 68 tn of diesel fuel (calculations through the British Petroleum Marine software, v1.1).

In this prospect, the role of Greece, as the "European Gate" of a significant international commercial corridor is important. Beyond however the need of the country to improve its transport infrastructures, it is proper to extend in parallel, the activities in other fields of supply chain added value (see logistics service).

The immediate development of a Freight Village System in Greece will grant the comparative advantage and the experience that is needed for an effective exploitation of this prospect. The logistics management of cargoes and products on Greek territory will lend to the country a lot of significant economic profits, will decrease perceptibly unemployment but it will also give the possibility to Greek products to follow, for the first time, the important "commercial corridors". Henceforth, the competition in the commercial level is not achieved between companies but between supply chains (Christopher M. & Lambert D, 2001).

These advantages will be transfer respectively, at a following stage, to the Balkan countries.

In this framework Promahon FV, with its important geographic advantage, acquires a determinative part as a point for logistics growth in order to serve the whole European market.

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