

CITY LOGISTICS DURING THE PEAK INTENSITY OF PILGRIMAGE TOURISM

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Abstract: Czestochowa and located in the area sanctuary is a place of worship of Mary. Every year, more than 4.5 million pilgrims visit the sanctuary, which the local authorities are obliged to ensure adequate logistical support. The influx of many thousands of pilgrims is an opportunity for the development of the city and also difficulty in daily life of its inhabitants. The article discusses the issues of the factors limiting the efficiency of local public transport, and identifies the main causes of traffic congestion during heavy traffic of pilgrims.

Keywords: public transport, logistics pilgrimage, traffic congestion.

1. Introduction

Czestochowa and located in the area sanctuary is a place of worship of Mary. Every year, more than 4.5 million pilgrims visit the sanctuary, which the local authorities are obliged to ensure adequate logistical support. This fact has an impact on the daily lives of the inhabitants of the city, its urban nature and culture, as well as the operation of public transport. The role of local government in creation of development plans and supporting tourism is very important. Specifying development plans through strategic documents adopted by local government's body and its systematic implementation, forms a suitable environment for development which contributes to improving the level of service of visitors to the region [1]. It should be noted that the impact of this in recent years has intensified with two basic reasons such as an increase in individual transport, leading to traffic congestion, decrease their speed and severity of the phenomenon of traffic congestion and limits the accessibility of streets to car traffic, which in turn leads to increase the traffic to far less busy streets where congestion phenomenon has not occurred.

2. The importance of the pilgrims to the city's economy and its development

The reform of the administrative system in Poland carried out at the beginning of the 90' has initiated the process of decentralization of public finance. It induced a necessity of creating a development strategy, including the development of tourism infrastructure, at the level of the local government. The activity of local government units, tourism institutions and organizations largely influences the dynamics of local and regional tourism development however due to limited means the possibilities of shaping investments directly decrease [2, 3]. The acquisition by local governments of responsibility also for local public

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transport meant that arising from his business expenses are fully borne by local governments. Financial independence of a commune and efficient implementation of its tasks depends in big part on securing the revenue on a properly high level. The problem concerning the method of financing are particular local tasks and most of all their structure [4]. It follows that the cost of service due to pilgrimages local carrier charged to directly and indirectly local government budget.

Tourism management is already at the lowest level of local government. Often, however, it must be considered from the perspective of the whole region, often involving several local government units [5].

Tourism together with recreation (particularly physical recreation), make it possible to improve the quality of life of residents. This is *inter alia*, contributing to the promotion of a healthy and active lifestyle, which leads to an improvement in health status [6]. Tourism contributes to the improvement of mental and moral profile of a person. And in particular: Tourism as a social activity arouses a sense of human solidarity, undermines the prejudices that govern the relationships between people and promotes mutual respect among peoples. Tourism creates objective conditions for spiritual experience [7].

It is important that people working in the local tourism organizations were well prepared participants to perform their duties. They should be experts in the field of management and to be creative and open [8].

Graduate management should also have the full understanding of trade's structure and strategy, know how to determine the issue of efficient customer service, use the methods and techniques in management processes of quality and how to design the activity and manage it [9].

3. Tourism pilgrimage to Czestochowa

The peak period of pilgrimage to Czestochowa is the period 8-18 August. The movement in this period the city is much more difficult. Many residents are trying to leave the city in those days and are planning to go on holiday at this time. The second period of greater severity of pilgrims observed approximately 25-26 August. The intensity of pilgrims in Czestochowa – although to a lesser extent – is felt in the city since mid-April to the end of September.

Czestochowa is often called the Spiritual Capital of Polish residents, however for periods of peak pilgrimage generate significant inconvenience. It should be noted that a certain reluctance also stems from the lack of significant economic benefits for the city while making relatively large expenditures and clear obstructions. Only a very small group of people and the association of ecclesiastical benefit financially from the presence of pilgrims. Czestochowa as the city failed to take advantage of asset ownership sanctuary and it provides employment to commercialize the use of tourist traffic a large part of the population. In such a situation, the residents approached with a greater understanding to the difficulties arising from the presence in the city many thousands of pilgrims and borne by the government additional cost.

Unfortunately currently Czestochowa and its residents do not benefit from the presence of pilgrims. Average stay of organized groups at Jasna Gora takes about 5-6 hours. Pilgrims arrive or come most often from their own packed lunch without leaving the city any money. The reason for this is undoubtedly the lack of proper infrastructure base mainly in the form

of sufficient quantity and variable quality hotel facilities, restaurants, a developed area channelling pedestrian traffic and allowing pilgrims rest, to use toilets and interesting range of cultural tourism and to encourage to stay and variety of time spent in the city.

Development of hotel infrastructure in the city may be a chance for a longer stay of pilgrims in the city. In periods of less popular among pilgrims in hotels could develop business tourism - Conference. According to research K. Cieślukowskiego share of expenditure on accommodation in the total expenditure amounts to 46.3%. They see a rapidly growing network of hotels in big cities in Poland and in the world [10].

The range in which any city or country may be successfully branded, positioned and promoted as an events destination depends largely on the availability of a wide range of resources within the destination itself. These mainly include infrastructural, natural and cultural resources. However, increasingly, attention is focusing on human resources as a critical success factor in the events industry in general and the business events sector [11].

In the period when the greatest number of pilgrims are staying in communication difficulties functioning in the city can be compared to a serious attack of winter. Scale delays courses buses is very serious, very frequent are cases of dismissal courses. During the peak pilgrimage takes place almost completely impaired functioning timetable on almost all lines of transportation.

4. Factors limiting the efficiency of public transport during the heavy traffic of pilgrims

The decrease in the reliability of public transport reveals not only the delays and lack of the courses and therefore difficulties for passengers. For local transport, this means increased costs of operation of vehicles and lost benefits in the form of outstanding tickets. Such a situation it affect the financial security of the company. Threats can be very diverse substrate and is not always a direct result of the traffic situation.

Studying phenomena occurring hazards in the reliability of public transport data has been used in previous years. The consequences of pilgrims for the operation of public transport rated on the basis of workers and their local driver who directly served in previous years, the lines of communication most vulnerable to the impact of pilgrimage. During the study were selected main types of risks, and proposed possible scenarios for the prevention of major risks.

The main threats include:

- overload,
- mechanical damage buses. Accelerated mechanical wear,
- no possibility of the courses for the residents of Czestochowa,
- lack of the courses - impassable bus loops,
- inefficient control system of tickets,
- the increase in specific fuel consumption.

The operating conditions in linear motion, every bus has a specific capacity expressed in number of passengers who may be on board a bus in accordance with the information contained in the registration. If this number is higher, increasing not only the discomfort of travellers, between which runs out of free space. In addition, increases in such cases, the

risk of fainting and syncope among the passengers. Reigning piston in the vehicle is in turn a factor inhibiting potential rescue.

To the risks associated with excessive load buses may include the presence of mechanical defects in the buses. The most common damage includes damage airbags serving as the depreciation of the vehicle body, which fall from the mountings or burst. It is obvious that the accelerated to mechanical wear buses.

It is obvious from counteracting such phenomena may be an increased amount of support data bus lines, including buses with a maximum capacity. Restrictions may be only the amount of free buses to their local state and economic balance. Provisions, in the form of prepared buses with drivers, should not be stationed in the depot, but in different parts of the city, relatively not distant from the circulation of the communication lines most susceptible to interference exerted by the movement of pilgrims and react to signals management centre. It should, however, take into account that in the period 12-15 August, and so in the period when there is the culmination of the pilgrimage, and the city in which lives every day around 220 000 inhabitants is further with 200-250 thousands of pilgrims is not the case that in comfortable and satisfactory manner all the support, both pilgrims and locals.

No possibility of taking the bus residents of Czestochowa, especially those repurchased season tickets is a problem of reliability of the carrier. While in the situation of high interest among pilgrims passing to reset capita disposable ticket remains the decision of whether to use under these conditions of travel, this is for those who regularly uses the line is an obvious loss and can this person claim the refund, as had already paid tolls and the carrier did not provide the conditions for its implementation.

An interesting phenomenon is notorious for pilgrims riding without a valid ticket public transport. This may be due to the lack of a sufficient number of points offering ticket sales, the reigning chaos when boarding the bus and a significant increase in the number of travellers by bus and also the conviction of the impossibility of ticket control under the prevailing conditions. This is undoubtedly the most influencing factor for the reduction in revenues of the carrier. A limitation of this phenomenon can be enhanced control ticket. Past experience has shown that it is virtually impossible with such a sheer volume of passengers, and even several-fold increase in the controllers only further deteriorate the ride comfort, the possible validity checking tickets at the entrance to the bus further delayed by further deregulating departure timetable.

5. The proposal to introduce a pilgrim cards and its expected effects

A possible solution to this complex, but other adverse events during the ongoing pilgrimage, could be to introduce a form of cards pilgrim tourist card on the model [12], authorizing, inter alia, free travel, toilets, reductions in fees for selected services, accommodation and catering. The introduction of such a solution, if it became widespread doubt that would solve a number of organizational problems and it would be an encouragement and a special advertising of interesting places to visit in the city. This tool could be used to gradually lengthening the duration of stay in the region. The complexity of the proposed solutions would be of greater importance for ensuring the organizer of pilgrimages to the proposed access card pilgrim. In this case, the organizer of the pilgrimage - the organizer of tourist services have cared a part of the organization with the

responsibility arising from the provisions of the Civil Code which undoubtedly would increase the quality of services for tourists pilgrims [13, 14].

Increasing the delay of the day, which cannot be offset in any way by using so-called buffer times in the loop, leading to frequent shortages the courses. As far as possible, in exchange for a damaged bus or riding with a very long delay, the dispatcher sends a courtesy bus line, the aim of which is to try to perform all the courses. Sometimes, however, these treatments do not bring the expected results. A common phenomenon observed during the peak period of pilgrimage is the appearance of large groups of pilgrims around the bus loop or sites used for recycling by buses. The relatively large size of the free area is used for the temporary resting pilgrims where they organize short-term camps. Unfortunately, often the result of such action is to block the bus loop and hinder or exclude the possibility of manoeuvring to turn back the bus.

Driving buses in terms of traffic congestion, repeated stopping and starting of vehicles, leading to increased fuel consumption, as well as an increase in emissions of air pollutants. It is estimated that driving under traffic congestion increases fuel combustion by 15-20% depending on the type of vehicle, engine efficiency and driving techniques.

6. Main causes of traffic congestion during heavy traffic of pilgrims

Traffic congestion is a phenomenon generating losses resulting from the simultaneous use of a particular section of road more participants from the mathematically calculated bandwidth of this section. These losses are economic losses, loss of time participants in traffic (including passengers), deterioration of quality of life, decrease the sense of the reliability of the transport network and the means of transport (as an individual) and increased individual fuel consumption in urban driving congested roads. In such conditions, also increases the risk of road traffic collisions, although usually not very dangerous due to low-speed of vehicles.

Traffic congestion associated with increased traffic pilgrimage is one of the factors generating delay public buses in Czestochowa. Risks arising in this way interference in the performance of transport task is varied depending on the communication line and its section.

In accordance with the rules of pedestrian movement column - the pilgrimage should not exceed 4 people and half the width of the roadway. Important from the point of view fluidity movement is also true that the column does not exceed 50 meters, and the gap between them should be more than 100 meters.

Despite the existence of the above-mentioned regulations, a common phenomenon is the lack of discipline among the participants in groups of pilgrimage, and the same people responsible for the management of traffic. The consequence of such errors is not only the severity of the phenomena associated with traffic congestions, but the problem of the organization of traffic, for example, when two columns of pedestrians going in too close to each other, and this results in a significant reduction in the accumulation of vehicles (including buses).

There is the still increasing demand on the methods and tools that can measure the performance of the supply chains in the present globalization market environment [15].

Local government units at all levels are obliged to incur any expenditure on tourism. These costs are, however, difficult to clearly classify. It is also connected with sustainable

development of tourism and all regions. The development of tourism affects different types of investments, such as infrastructure spending on roads, railways, expenditure on energy development, protection of the environment [16].

Activity based costing gives new opportunities for comprehensive evaluation. It increases costs transparency in indirect area of corporate activities, gathers more precise information on sources and cost, ensures effective use of resources, detects and defines prospective savings, identifies and improves the effectiveness and optimization of activities, eliminates possible errors in cost calculation conducted with the application of traditional methods, reduces the number of strategic decision mistakes, and improves cost management effectiveness or budget planning [15].

It should be noted that congestion has a significant impact on transport work realized on the basis of which the local carrier receives remuneration. Table I show the lost data transport performance in 2009-2012.

Table I.

Lost transport work between 2009-2012

Year	Lost transport work [km]	Cause
2009	97,7	Congestion, delays
2010	55,4	Congestion, delays
2011	73,9	Congestion, delays
2012	721,6	Congestion, delays, locked loop bus

Source: own study based on the documentation of the local transport company

Particular attention should be lost in transport performance analysis, since it translates directly to the amount of funds generated by the carrier. The above table that during the peak pilgrimage in 2012, lost a total of 721,6 vehicle-kilometres in the bus which, with the rate of 6,35 PLN. per 1 kilometre gives a loss of 4 582,16 respectively. Importantly, lost workflow – though absolutely not resulting from errors or malice transport – is in no way paid or compensated.

7. Conclusion

Residents of Czestochowa in a very limited benefit from the presence of pilgrims. Average stay of organized groups at Jasna Gora takes about 5-6 hours. Pilgrims come most often from their own packed lunch without leaving the city any money. The reasons for this state of affairs is undoubtedly the lack of proper infrastructure base mainly in the form of sufficient quantity and variable quality hotel facilities, restaurants, a developed area channelling pedestrian traffic and allowing pilgrims rest toilets and interesting range of cultural tourism and to encourage them to stay and vary the time spent in the city.

In the period when the greatest number of pilgrims staying in communication difficulties functioning in the city are very serious. Difficulties tend many residents to leave the city during this period.

The decrease in the reliability of public transport reveals not only the delays and lack of implementation of courses, but also increased operating costs of vehicles and lost benefits in the form of outstanding tickets.

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