



Article citation information:

Nosal, K., Duda, U. Selected aspect of the implementation of active marketing campaign to raise awareness and promote of public transport services in rural areas. *Scientific Journal of Silesian University of Technology. Series Transport*. 2016, **92**, 77-86. ISSN: 0209-3324. DOI: 10.20858/sjsutst.2016.92.8.

Katarzyna NOSAL¹, Urszula DUDA²

SELECTED ASPECTS OF THE IMPLEMENTATION OF ACTIVE MARKETING CAMPAIGN TO RAISE AWARENESS AND PROMOTE PUBLIC TRANSPORT SERVICES IN RURAL AREAS

Summary. The article presents selected aspects of the implementation of the EU's SmartMove project, which aims to promote feeder public transport systems in rural areas through the implementation of an active marketing campaign (AMC). Campaigns of this type are connected with providing general and personalized information concerning the functioning of public transport services. In the article, characteristics of one of the implementation areas of the project are presented, namely, the Liszki district near Cracow. Transport services were also evaluated. In addition, selected results are presented from a survey that was conducted among residents of the area from the point of view of the implementation of the AMC. The results concerned data about the means of transport that were currently used for travelling, the knowledge of bus services, the reasons for their use and the factors that might encourage residents to use public transport.

Keywords: public transport; feeder system; rural areas; active marketing campaign; personalized information.

¹ Faculty of Civil Engineering, Cracow University of Technology, Warszawska 24 Street, 31-155 Cracow, Poland. E-mail: knosal@pk.edu.pl.

² Faculty of Civil Engineering, Cracow University of Technology, Warszawska 24 Street, 31-155 Cracow, Poland. E-mail: ududa@pk.edu.pl.

1. INTRODUCTION

Suburban areas are usually characterized by low density in terms of the public transport network and low travel frequency, resulting from a relatively high dispersion of settlement structures [1]. However, in places with an attractive public transport offer, it is often not perceived by residents as an attractive and competitive one, when compared to a private car. Changing the perception of public transport and increasing its share in travel within less urbanized areas are possible by using relatively simple methods related to the provision of information, promotion and improvement of the quality of services [2]. Examples of solutions that aim to improve the attractiveness of the transport system in peripheral areas may include the following: organization of flexible bus lines, application of measures for the improvement of the functioning of conventional bus lines, organization of bicycle rental service systems, improved pedestrian access to bus stops, provision of “park and ride” (P&R) and “bike and ride” (B&R) parking interchanges, or car-sharing and car-pooling schemes [1, 3, 4, 5].

In turn, an innovative activity that aims to providing information and promote sustainable mobility is the organization of a so-called AMC [6]. An AMC is a direct marketing campaign through which current and the potential passengers are informed about the possibility of travelling via various communication channels (leaflets, brochures, websites, mobile applications, information in the mass media etc.). Parallel to traditional information activities, interaction with users is ensured through the organization of meetings and events, as well as personal advice given by so-called mobility consultants. These actions effectively enhance the effectiveness of measures that increase the attractiveness of the transport system [7, 8]. They also increase the acceptance of the means of public transport, by providing information about the possibilities of making choices in the process of planning a trip, which leads to increasing the number of people who give up car journeys [9].

An integral part of the campaign is to provide so-called active measures concerning, for example, the arrangement of guided bicycle tours, walking for health, discussion groups for the involvement of residents, events that promote bus transport on demand, and audits of the infrastructure for pedestrians and cyclists [6]. In addition, people can experience bus journey trials, while the elderly are offered assistance when they travel within the major interchange points. Active measures are closely related to the promoted means of transport and are complementary to information and consulting activities.

Measures undertaken to promote public transport in rural areas, which are focused in particular on increasing the number of users of the “feeder systems” [10] (e.g., the suburban bus lines that drop off passengers at tram lines), are implemented in line with the framework of the EU’s SmartMove project. The project is being implemented in eight European regions that have prepared and conducted local AMC campaigns, as well as evaluated them. One of the areas of implementation is the Liszki district, which is a Cracow suburb. A team from the Cracow University of Technology is responsible for the implementation of the solutions, which foster the mobility of the residents of the Liszki district. The article presents the profile of this area, as well as the results of a survey, which was conducted among the residents from the perspective of the implementation of the AMC campaign, forming a part of the activities implemented as part of its scope.

2. TARGET GROUP AND IMPLEMENTATION OF DIRECTORY AREA CHARACTERISTICS

The Liszki district is located on the western side of the city of Cracow and consists of a few villages with approximately 16,700 inhabitants. The implementation area also includes a transportation corridor connecting the western part of Cracow with the territory of the Liszki district (Road 780). The analysed area is marked in grey in Figure 1.

According to data from the Statistical Office in Cracow [11], in 2014, the Liszki district was inhabited by 8,528 women and 8,189 men. The vast majority of inhabitants are aged between 15 and 59 years. As these people mostly study or work in Cracow, they travel to the city every day, in many cases using a car, thereby causing traffic congestion. They are the main target group for the SmartMove project. Some AMC activities are also directed at primary and secondary school pupils, given that mobility education at school age influences the future decisions made by young road users. Children also often share interesting ideas heard in school with their parents and suggest solutions concerning the selection of transport mode.

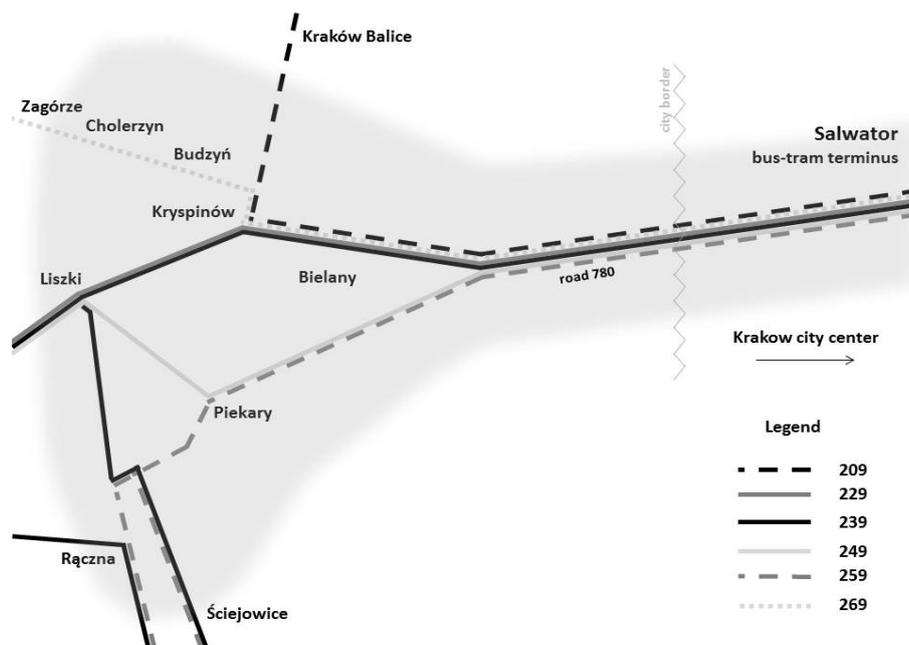


Fig. 1. SmartMove implementation area in Cracow and the bus network

In the analysed area, there are 10 bus lines. However, six of these lines are the most important ones, which could be used by the target groups: namely, 209, 229, 239, 249, 259 and 269. All routes end at the Salwator bus terminus, which is located at the beginning of the analysed transportation corridor (Fig. 1). Salwator tram terminus is located next to the bus terminus. As all tram lines go the city centre of Cracow, Salwator is an interchange point, where commuters from the Liszki district can change from a bus to a tram in order to get to Cracow city centre. Bus lines constitute a feeder system for the tram lines. An increase in the use of bus transport will translate into an increase in the number of passengers along the tram lines connecting western areas of Cracow with the city centre. Unfortunately, the bus system in the area faces several problems. One of them relates to poor frequency of buses. On weekdays, the average frequency along bus lines is one to two buses per hour at peak

hours and one per hour during the off-peak period. The greatest number of vehicle trips per day on weekdays is carried out along the 229 and 249 routes (27 vehicle trips). The greatest number of vehicle trips per day on Saturdays and Sundays is performed along the 239 and 249 routes (14 vehicle trips).

There are around 98 stops along the analysed corridor [13]. Only 38% of stops are roofed, while more than half of the stops do not have shelters, causing a lack of comfort among the passengers waiting for a vehicle in bad weather conditions, which may discourage them from travelling by bus. Meanwhile, 67% of stops are well lit, which has a significant impact on the safety and security of the passengers. Although 81% of bus stops are paved, the pavement is very often narrow and has an uneven surface. In many cases, the pavement is only provided at the stop area, assuring no direct connection with the rest of the street, which means that there is no possibility of safely getting to it. Only 47% of stops have a bus bay, which causes temporary traffic congestion on busy streets, as well as a decrease in the safety of passengers and vehicles. The number of stops with seats is quite low (only 39% of stops have seats). Although 98% of bus stops are equipped with information on timetables, only one offers real-time information. Maps are available at only 8% of stops, while only 3% of bus stops have and ticket machines.

Stops along bus lines are served by standard low-floor vehicles (12 m in length) and equipped with information about passenger rights, tariffs, bus routes etc. It is also worth mentioning that passengers who use the Salwator terminus have the option of changing from a bus to a bicycle (a bicycle rental station is located at the Cracow terminus).

In terms of the data related to car usage in the analysed area, the car ownership rate is equal to 344 cars per 1,000 inhabitants. The average length of a car trip in the analysed area is 7.6 km, but it is 13.4 km on the route from that area to Cracow. The average car trip lasts 26 min. Average fuel consumption per car is 5.9 l/km and an average CO₂ emission per car equals 0.14 g/km.

3. GETTING IN CONTACT WITH INHABITANTS

The first step in implementing an AMC in the Liszki district was to look for support from relevant stakeholders, such as local authorities, the church, religious communities and schools. Their representatives were contacted by telephone. Meetings were then organized with them, after which they received announcement letters with relevant information about the goals and the scope of the AMC, as well as a request to support the campaign (by distributing information about it). They were very supportive and passed on the information during mass in churches and classes at schools, as well as placed it on the local community website. Following this general contact phase, the SmartMove team started a face-to-face contact phase, which meant that the inhabitants were visited in their homes (June-August 2015). The team obtained general information about the transport operation (brochures about local transport with a map of the corresponding bus network, information about ticket prices, the ways to buy tickets, bicycle traffic and pathways etc.). Inhabitants were informed about the AMC, additional active measures and the possibility of receiving personalized information (e.g., personalized timetables). Those who were interested in receiving individual information were asked to fill in an order form and set the date for the delivery of materials.

The ex ante evaluation questionnaire was carried out at the same time. People were asked about their travel behaviours and preferences, as well as about the factors that encourage them

to use public transport. Staff who carried out the survey knocked on 1,920 doors, although the final research result was 508 surveys, which shows an efficiency rate of 25%. One person per household was interviewed. Taking into account the total number of households in the area (4,000 households), 13% of them were interviewed. The most important results of the questionnaire are presented below.

4. SELECTED RESULTS OF THE RESEARCH QUESTIONNAIRE

Concerning the modal split in non-pedestrian trips of the inhabitants, a significant percentage of the trips are made using public transport (47%) and by car (40% as a driver and 8% as a passenger). Only 4% of trips are undertaken by bicycle, with the rest by motorcycle. The respondents make, on average, 2.37 trips per 24 h.

Taking into consideration the most important bus lines, the most recognizable line is number 249. It is known by almost two thirds of Liszki district residents (65%). Approximately half of the people are familiar with the following lines: 239 (48%), 229 (45%) and 259 (40%). Definitely the smallest number of people are familiar with lines 269 (27%) and 209 (23%). Every 10th resident knows nothing about these public transport lines. There is a significant group among the inhabitants who use public transport more than once a week (Fig. 2).

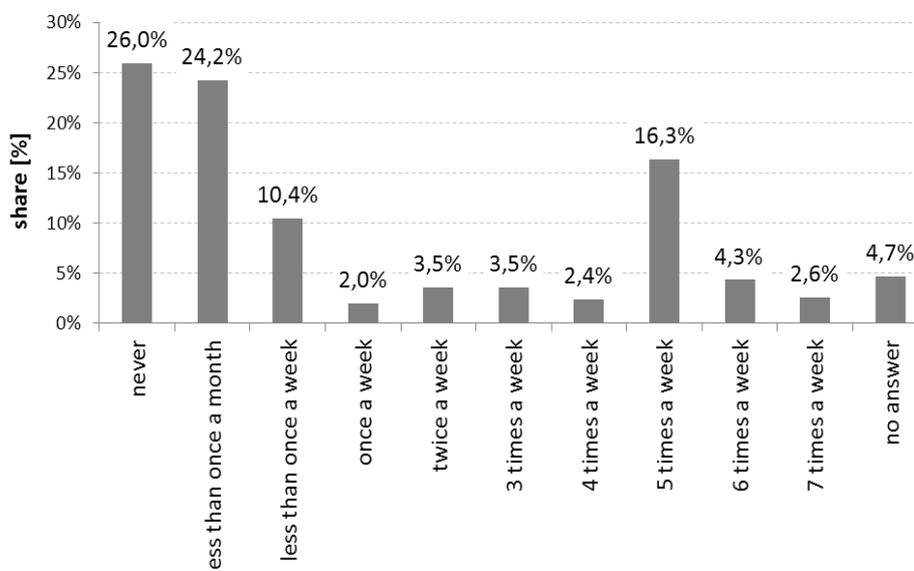


Fig. 2. Usage of at least one of the bus routes

This frequency was indicated by 40% of the respondents. At the same time, half of the population never use public transport or do so less than once a month. These results show that it is necessary to inform people about the public transport offer, as well as implement solutions that will encourage them to use these services.

The main reason to use public transport is no access to a car. This is the reason given by half of the people using it. It is a clear signal that some activities have to be undertaken in order to prevent car purchases, such as information and educational activities raising travel awareness, measures to improve bus services and investments in the public transport

infrastructure. Other important reasons include the proximity of a bus stop, access to direct connections and the ability to save money, either due to cheap season tickets or due to the lack of the necessity to pay parking fees in the city centre.

Public transport passengers were asked to give certain quality indicators regarding bus services, using a scale from 1 to 10, where 1 = very bad and 10 = very good. The most important advantages of the public transport included a high security level (8.8) and the distance to the nearest bus stops (8.7). The quality of passenger information (8.1), punctuality (8.1) and regularity (8.0) were also highly rated. On the other hand, among the factors that require definite improvement are travel comfort (6.6) and the frequency of buses (4.6). These findings correspond with the opinions of the passengers about the elements of the service that should be improved (Fig. 3), where frequency received the highest number of responses. In terms of travel comfort, the passengers stated that they would like to have more seats at their disposal (57% of responses). Other elements that require improving concern the higher number of direct connections (40%) and longer bus operation hours in the evening time (32%).

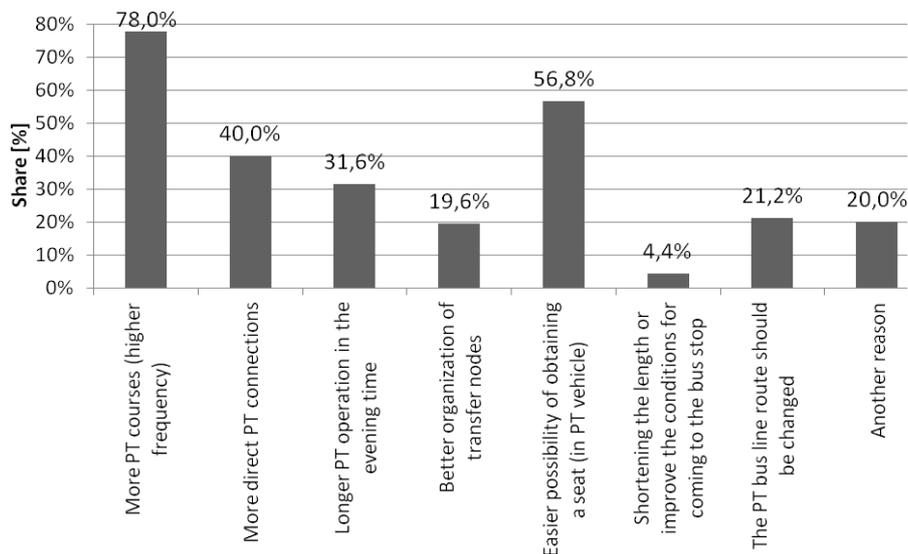


Fig. 3. Ways to improve public transport (PT) services (the opinion of people currently using it)

The main reasons behind not using public transport are comfort and speed. In the opinion of the residents who do not use public transport, a car is still much faster and more comfortable than a bus. At the same time, nothing could encourage half of the people that do not use public transport to change their mind. Residents who would be willing to change their habits could be convinced by an increase in the frequency of the operation, the reduction of ticket prices and the implementation of a P&R scheme (Fig. 4).

Respondents were also asked if they used any Internet tools when planning a trip (on a personal computer, tablet or smartphone): 46% of them use them and 54% do not. These results prove that informational and promotional activities should also be implemented in order to make people more familiar with the Internet-based journey planning solutions.

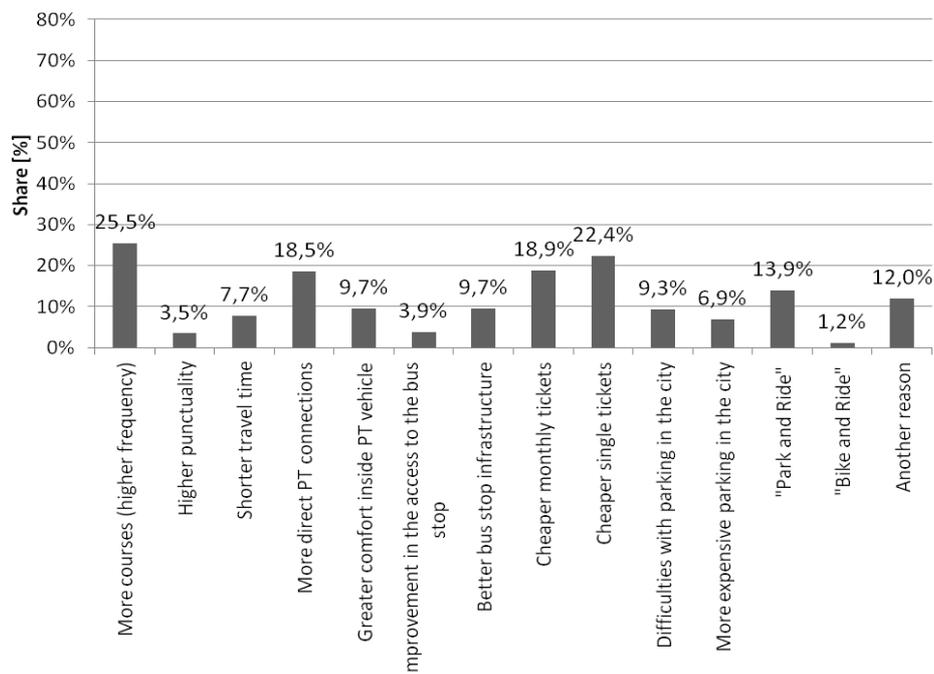


Fig. 4. Factors that could encourage new users to use the public transport (PT) service (the opinion of the people not currently using it)

An important part of the AMC campaign is the distribution of personalized information made in response to the residents' demands, i.e., tailored to their special needs. While the research questionnaire was being carried out, the residents could order personalized information and gifts (the concept of an AMC assumes the distribution of small thank-you gifts among people who are interested in participating in it). The giveaways can include pocket torches, USB sticks and umbrellas. Inhabitants could order the following personalized information: personal timetable for a specific bus stop and a map of the public transport stops in the surrounding area. An interesting offer was prepared for students (information on ticketing discounts, bicycle traffic and journey planning tools) and for older people (information on ticketing discounts, the use of ticket machines and exercises that can increase body fitness). It was also possible to order a comparison of time, cost and CO₂ emissions for trips made by public transport and by car. Time (including all relevant elements, such as access time to bus stops or parking spots, waiting times, ride times and access times to specific destination) and cost were presented as daily, monthly, weekly and yearly expenses, including all relevant costs of bus and car use.

In total, 379 people ordered the personalized information and the thank-you gifts. Meanwhile, as the transport offer was slightly changed, all 508 inhabitants who were interviewed received a package with updated information. A map of the area with the location of stops and a personalized timetable were the most preferred kinds of information. This meant that such information had previously been unavailable or people had organized their own personalized map and a timetable. The most ordered gadgets were USB sticks, which was quite predictable since it is an attractive gadget. Taking into account the type of information and the age of residents, one can see that timetables, maps and data comparisons were mostly needed by people aged between 31 and 60 years, i.e., those of working age (Fig. 5).

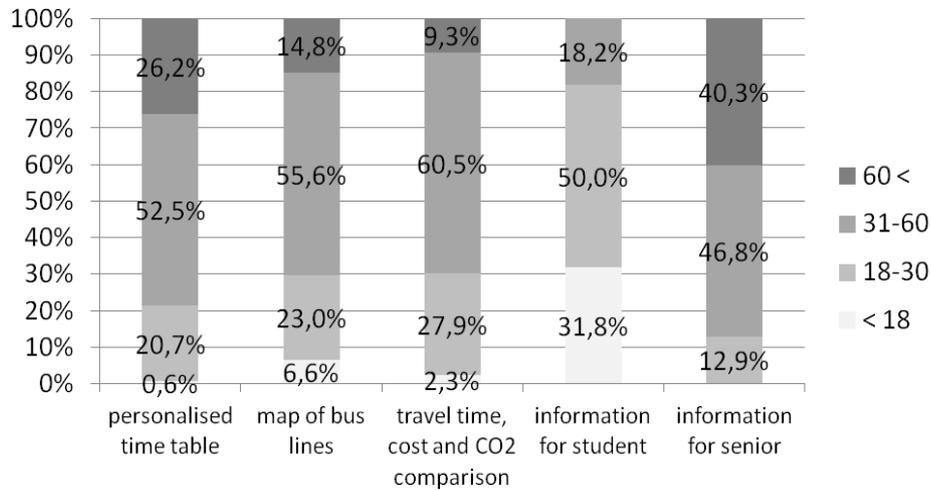


Fig. 5. Type of personalized information ordered by particular age groups

Information for students was ordered by residents of student age (18-30 years old), but also by these who probably had intentions of going to study (younger than 18 years old) and by the students' parents. Given that, in many cases, families who live in the Polish households in the rural areas are multigenerational, the fact that information for seniors was demanded not only by older people, but also by their grown children, is not surprising. According to the type of personalized information ordered by particular groups of public transport users and non-users, it is easy to notice that timetables, maps, data comparison and information for seniors were requested by people currently travelling by bus at different frequencies as well as by those who do not use buses (Fig. 6).

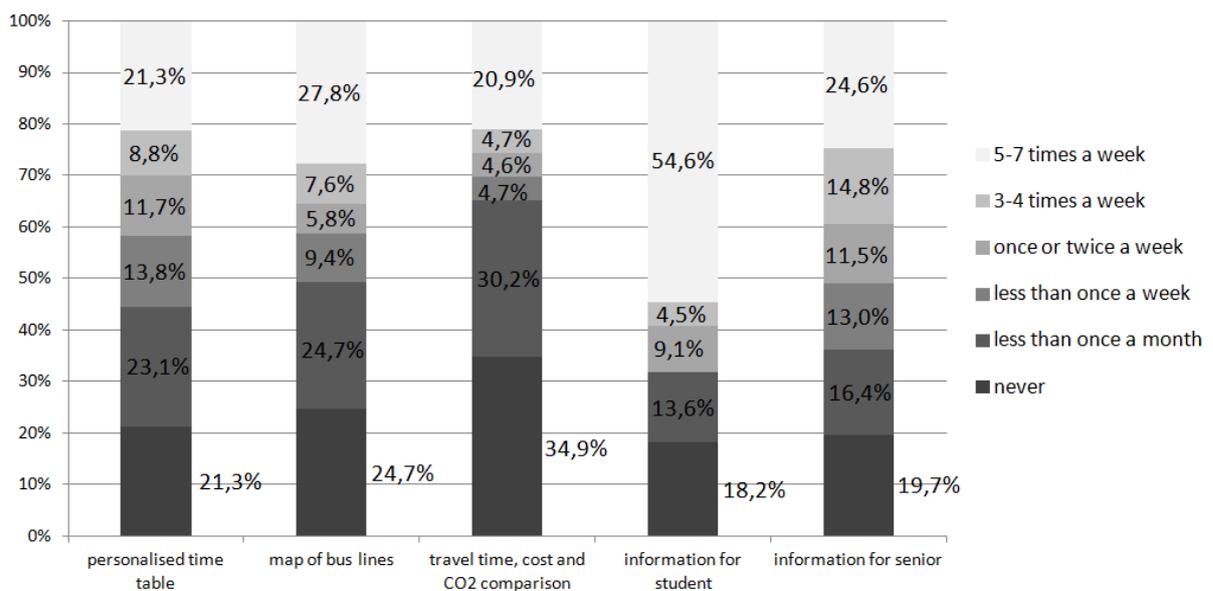


Fig. 6. Type of personalized information ordered by particular groups of public transport users and non-users

These findings show that public transport users would like to be updated with information even if they already know how to use the service. What is very important is that 65% of people who requested information on travel time, cost and CO₂ comparisons are the residents who travel by bus less than once a month, or even never. Maybe this information will increase their awareness, especially in terms of the price they have to pay to travel by car, such that they will be willing to use a cheaper mode of transport, i.e., a bus. The rather high level of demand for information for students among these who already travel by bus five to seven times a week probably results from the fact that, because a significant percentage of students use public transport every day in any case, they are more likely to want updated information.

5. SUMMARY

The Cracow suburb chosen for the implementation of the AMC campaign faces many problems, which discourage residents from using bus travel services. Among the most important ones, the frequency of operation and the poor condition of bus stop infrastructure should be underlined (no roof, seats etc.). This condition is reflected in communication behaviours of those residents who do not use public transport, preferring instead to use individual transport that guarantees them more comfort and a faster travel time. Of the respondents, 50% do not use public transport, while only 16% of them use a bus five times per week. Factors that could encourage drivers to give up the car and use a bus include higher travelling frequency, cheaper tickets, more direct connections and P&R facilities.

Those implementing the SmartMove project hope that, despite the above-mentioned weaknesses of the system, the information and publicity activities undertaken will help build a positive image of public transport and will increase transport awareness, which could be the first step in the process of a change in travel behaviour. The results of the survey indicate that there is a demand for access to data about the functioning of services. Nearly 400 people asked for personalized information. Making this information available will allow them to become familiar with the public transport offer and its advantages (e.g., lower travel costs), as well as help to retain existing and attract new users.

It is important to mention that the ordered personalized information was distributed between August and October 2015) and the effectiveness of this activity was additionally enhanced by the implementation of the following accompanying active measures: organizing meetings with students of primary and secondary schools to increase their transport awareness (involving a total of approximately 180 students and 12 teachers), public transport promotion during a family festival at one of the primary schools (approximately 200 to 220 participants, about half of whom were adults), and distribution of information about journey planning tools among church communities.

The SmartMove team is also planning to organize a citizens' audit to obtain information about the quality of bus stops and pedestrian infrastructure from the users' point of view. A report on the necessary improvements will be written and provided to the authorities that manage transport infrastructure. This will help to improve the public transport service and pedestrian traffic in the future. Currently (i.e., as of February 2016), the ex-post evaluation research is being carried out to assess the results of the AMC campaign.

References

1. Moseley Malcolm. 1979. *Accessibility: The Rural Challenge*. London: Methuen and Company Limited. ISSN: 0416-712304.
2. Gronau Werner, Andreas Kagermeier. 2004. "Mobility management outside metropolitan areas: case study from North Rhine-Westphalia". *Journal of Transport Geography* 12 (4): 315-322. ISSN 0966-6923.
3. Starkey Paul. 2002. *Improving Rural Mobility: Options for Developing Motorized and Nonmotorized Transport in Rural Areas*. World Bank Publications. ISSN 0253-7494.
4. Brake Jenny, Corinne Mulley, John Nelson. 2006. *Good Practice for Demand Responsive Transport Services Using Telematics*. Newcastle upon Tyne: University of Newcastle upon Tyne. ISBN 0-7017-0209-5.
5. Hosen Kenneth, Bennett Powell. 2011. *TCRP SYNTHESIS 94. Innovative Rural Transit Services. A Synthesis of Transit Practice. Transit Cooperative Research Program*. Washington: Transportation Research Board.
6. BOKU Institute for Transport Studies. 2011. *Active Mobility Consultancy for the Waldviertel-Line*. Research project funded by the Federal State Government of Lower Austria.
7. Fujii Satoshi, Taniguchi Ayako. 2005. "Travel feedback programs: communicative mobility management measures for changing travel behavior". *Proceedings of the Eastern Asia Society for Transportation Studies* 5: 2320-2329. ISSN 1881-1132.
8. Fujii Satoshi, Taniguchi Ayako. 2006. "Determinants of the effectiveness of travel feedback programs: a review of communicative management measures for changing travel behavior in Japan". *Transport Policy* 13: 339-48. ISSN 0967-070X.
9. Cairns Sally, Lynn Sloman, Carey Newson, Jillian Anable, Alistair Kirkbride, Phil Goodwin. 2004. "Smarter choices: changing the way we travel". *Final Report of the Research Project: The Influence of Soft Factor Interventions on Travel Demand*. London: Department for Transport.
10. Statistical Office in Cracow. "Liszki district". Available at: <http://krakow.stat.gov.pl>.
11. Urban Transport Enterprise. Available at: <http://www.mpk.krakow.pl>.
12. Nosal Katarzyna, Katarzyna Solecka. 2015. "Analiza obsługi transportowej w obszarze zamiejskim pod kątem promowania transportu publicznego". *Logistyka* 3: 3542-3551. ISSN 1231-5478. [In Polish: "Analysis of the transport service in the suburban area in terms of public transport promotion". *Logistics* 3: 3542-3551].

Received 25.02.2016; accepted in revised form 03.06.2016



Scientific Journal of Silesian University of Technology. Series Transport is licensed under a Creative Commons Attribution 4.0 International License