D.T2.2.4 – Individual Final Pilot reports

Warsaw/Modlin Pilot on low carbon mobility management - testing car-pooling platforms and implement public awareness campaigns

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Content

1. Introduction

The aim of the LAirA project is to raise the competences of public sector entities in the field of planning and implementation of low-emission solutions to ensure accessibility to airports, which are important traffic generators in functional urban areas. The project's main goal is to develop low-emission solutions that will ensure access to airports for both employees and passengers.

One of the instruments that has been chosen to influence the travel behaviour of Warsaw/Modlin airport employees is a carpooling platform. According to the employee survey, 1/3 of employees lives in the nearby town of Nowy Dwór Mazowiecki and around 45% commute from a distance of less than 16 km, mainly from the east. The share of car journeys in the modal split is the highest among employees commuting from a distance of 11-15 km (94%), but is also high in general (around 86%). These journeys include shared rides with other employees, indicated by around 10% of respondents.

All the legal entities at the airport employ slightly more than 1000 people. The employees of different entities work in different parts of the airport, sometimes quite far away from each other.

The objective of the application was also to encourage employees currently commuting individually in their own cars and going to the same destination, to share their cars with their colleagues, in order to reduce the number of cars used within and outside of the airport. The goal was behavioural change among employees and environmental benefits for the airport FUA.

2. Specifications of pilot

The pilot was preceded by market research started in the middle of 2018. During this phase, four car-pooling platform providers were identified and contacted in order to obtain information about available functionalities, prices, terms and conditions, as well as data protection policies. Based on the information collected, public procurement documentation was prepared.

On May 15th, 2019, the Mazovian Office of Regional Planning published on its website a request for quotes for the implementation and provision of an application to allow employees of Warsaw/Modlin airport shared car trips to and from work (deadline for submission of tenders: May 22nd, 2019).

The subject of the contract consisted of:

- implementation of and access to the application;
- provision of service care;
- presentation of the application at the Warsaw/Modlin airport;
- provision of reports on the use of the application.

As a result of the evaluation of offers, **Fabryka w chmurach Sp. z o.o.** was chosen. Fabryka w chmurach is an interactive agency operating on the market since 2011. The agency specializes, among other things, in creating web applications using various mechanisms and programming languages. They adjusted their own application, **ByTheWay**, to the requirements of the pilot, especially by adding a statistical module.

The app has the following functionalities:

- creating an account with any e-mail address;
- collecting information about the current means of transport (car, public transport, bike, other) and the car's brand, model, year of production and car engine type during the registration;
- offering and searching for shared rides;
- automatically suggesting shared rides;

- sending and receiving messages from other platform users;
- calculating the estimated cost of a shared ride;
- a statistical module to measure key performance indicators (KPIs).

The application was available for airport employees for 6 months from the signing of the contract.
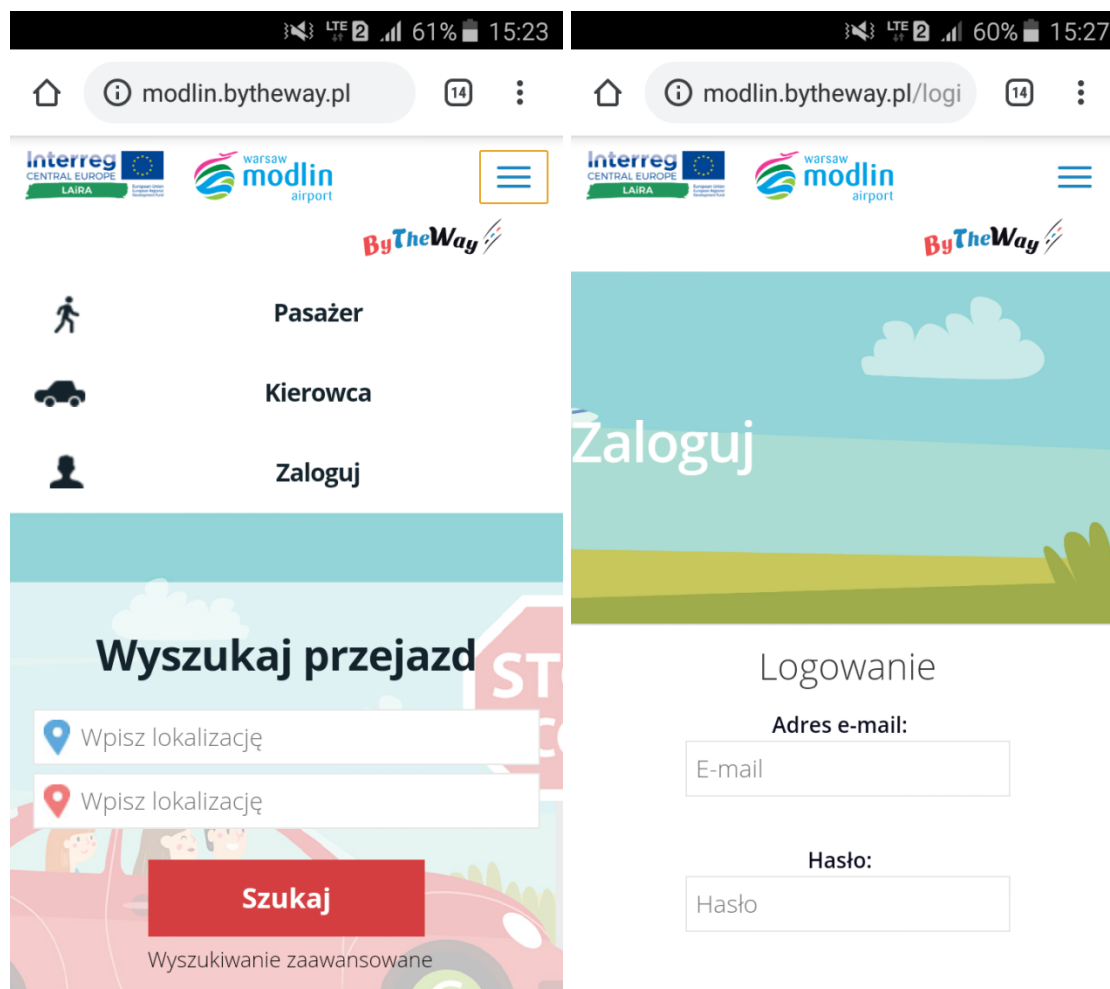

Fig. 1 ByTheWay application

In the meantime, meetings concerning the application were organized with representatives of the Warsaw/Modlin Airport, during which the forms and dates of the campaign for employees were agreed upon. Two phases were planned.

In the first phase, the airport management team mentioned the pilot during various meetings with employees at the airport. In the second phase of the campaign, which followed the selection of the carpooling application provider, a more detailed campaign took place. This phase included informing employees via e-mail and intranet (only for some employees), posters in relevant zones, and leaflets put behind windshield wipers. All the materials were prepared by the LAirA team and the instructions were provided by the carpooling provider.

The carpooling app provider also prepared a presentation of the app on June the 5th at Tor Modlin. Representatives of all the companies operating at the Warsaw/Modlin airport were invited. During the meeting, they were given posters and leaflets to spread among other employees. The invitation was signed by the president of the Warsaw/Modlin Airport, which gave a high rank to this meeting and better chances for high attendance.

Fig. 2 Poster (slogan: share your rides – take care of the climate and environment)

The platform was used on a non-exclusive license. The owner of the platform was Fabryka w chmurach Sp. z o. o. which won the public procurement for the provision of the platform. Payment for the platform was made once after the launching of the platform and on a monthly basis from June to December (6 months). The purchaser was the Mazovian Office of Regional Planning in Warsaw. All IT related issues were the subject of the contract and thus the responsibility of the contractor.

During the six months of the pilot, three reports on the use of the application were prepared: pre-pilot report before the application had started, intermediate report after three months and this is the final report at the end of the pilot. These reports were prepared by the LAirA project team based on statistics provided by the platform provider and surveys conducted among employees and airport authorities.

3. Insights on developments of KPIs

Table 1. Quantitative KPIs

Source for KPI	KPI	Measuring Unit	Frequency of reporting	Values (in 'Measuring Unit')					
				Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19
Operator platform/data	Number of newly registered users	Number	Monthly	11	0	0	0	0	0
Operator platform/data	Number of active	Number	Monthly	0	0	0	0	0	0
Operator platform/data	Number of passive users	Number	Monthly	11	11	11	11	11	11
Operator platform/data	Number of matched rides to/from the airport	Number	Monthly	0	0	0	0	0	0
Calculation by LAirA partner	Vehicle occupancy rate	Persons per vehicle per ride	Intermediate, End	N/A	N/A	N/A	N/A	N/A	N/A
Calculation by LAirA partner	CO_2 savings	CO_2 per driven kilometre (and day)	Intermediate, End	0	0	0	0	0	0
Calculation by LAirA partner	Number of parking spaces saved	Number	Intermediate, End	N/A	N/A	N/A	N/A	N/A	N/A

Source: Reports on the use of the ByTheWay application

The above table is a summary of the last six months of the ByTheWay application's functioning, from June to November. It contains detailed data on the use of the platform by employees of the Warsaw/Modlin Airport. It was prepared on the basis of monthly reports prepared and delivered by Fabryka w chmurach to the Mazovian Office of Regional Planning. According to the contract, the report should contain at least:

a) the number of registrations of new accounts in a given period;

b) the number of accounts closed in a given period;

c) the number of application users broken down into groups:

- active users, passive users (those who have not participated in any matched rides since the account was set up) and one-time users (only one or two shared journeys since the account was set up);
- drivers, passengers and users declaring both roles;

d) total number of journey proposals added in a given period;

e) total number of shared journeys made in a given period;

f) total number of kilometres of shared journeys in a given period;

g) total estimated value of saved travel costs over a given period;

h) total estimated reduction in CO_2 emissions over a given period;

i) average number of shared trips on individual days in a given period.

According to the data received, 11 new users registered in June, all of whom were passive users. None of the people registered that month have closed their account. Five people declared themselves as drivers and a total of 10 trips were added. Unfortunately, there were no matched journeys, therefore the values of the other indicators (e.g. vehicle occupancy rate, CO_2 savings and the number of parking spaces saved) were also 0. The July, August, September, October and November reports show that no more employees registered in the application at that time and from the 11 users registered in June, nobody has closed their account. In this six-month period, no users declared themselves as a driver or passenger, and none of the registered users added any journeys, therefore the values of the other indicators are 0. In summary, from the analysis of all six reports received from the Fabryka w chmurach company, it follows that employees of the Warsaw/Modlin Airport are not interested in using the ByTheWay application for joint commuting. According to the "*Analysis of the needs and behaviors related to employee mobility,*" cars are predominant among the means of transport chosen by the employees. As many as 72% of respondents commute to work by car (as a driver), so it was worthwhile to get to know the reasons for the low interest of employees in the carpooling application. The best way to do this was to conduct a survey of airport employees regarding the ByTheWay application. Such a survey was carried out after the first period of application testing and its results are presented below. However, there are no plans to conduct another survey at the end of the application due to continuous lack of interest.

4. Insights on qualitative survey results

The qualitative study included common Key Performance Indicators for project partners and additional questions formulated by the Mazovian Office of Regional Planning (Table 2). The aim of the additional questions (no. 1 – 5, Table 2) was to identify the cause of the problem mentioned in the previous chapter – why Warsaw/Modlin Airport employees are not interested in commuting together through the carpooling platform.

The first part of the study consisted of a survey addressed to airport employees. For this purpose a questionnaire was created. The questions and the quantitative results are presented in Table 2.

The survey at Warsaw/Modlin Airport was conducted between 23rd September and 7th October 2019. A questionnaire was prepared by the Mazovian Office of Regional Planning in two forms: electronic (through Google Forms[1]) and paper. The Questionnaires and information about them were distributed by Mazowiecki Port Lotniczy Warszawa-Modlin Sp. z o.o. among airport employees. The survey was conditional — access to subsequent questions depended on the previous ones being answered. The questions included both closed (yes/no, single-answer and multiple choice) and open ones.

Filled-in surveys were received from 50 respondents. 45 people (90%) knew about the existence of the carpooling platform. 33% of them learned about the platform from an e-mail or the intranet, while 22% found out about it from a poster or a colleague (these two variants summed up to 44%) and 16% from a briefing. More than half of the people who knew about the platform visited its website (56% of 45 people).

Among the 39 people who either did not visit the platform's website (20 of them) or visited the platform, but were not interested enough to register (19 of them), the most frequently indicated reason for these decisions was "I'm a driver and I don't want ride to work with someone else" (33%). Almost as many choose the answer "I am a driver and I commute to work with other people already" (31%). 10% respondents indicated each of the answers: "I am travelling to work by public transport / bicycle / foot and I don't want to change it" and "I don't trust this type of communication" (for a total of 20%). Among other reasons,

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[1] https://docs.google.com/forms/d/e/1FAIpQLSdIzfGItx2RENS8IbBXUJyAl-OzGKe9d2RRtJ2EQCqkzdK8Sg/viewform

respondents most often (4 respondents) indicated that they know people working at the airport, but for various reasons they cannot commute with them (different working hours, no people commuting from the same direction). Other responses were as follows: "I live close to an airport and take my child to/from school" and "I live in a place from which I have to go to work by my own car. I don't have a direct connection to work by public transport. There are no parking spaces in the nearest place where I could use public transport" (1 answer each).

From among the 25 people that visited the platform, only 6 (24%) were interested enough to register (12% of all respondents). All of them confirmed that it is easy to get to know the platform and learn how to use it. Regarding the reasons for using the platform, ecological motivations were most frequently mentioned (67% of respondents). The next most popular options were saving money and social integration (33% of respondents each). Almost all respondents rated the platform as easy to use, one person as very easy. As the most important functions of the platform, the respondents listed, in order: "Route searching as a passenger", "Searching for passengers as a driver", "Adding routes as a driver". None of the registered users indicated that the platform was missing any features. The platform evoked associations related to the reasons why users decided to sign up - environmental protection, financial savings, comfort. Most registered users didn't write what they like the most about the platform, except one responder who indicated that he/she likes everything in the service. Although it is not the feature of the application itself, one person declared what he/she like the least — not enough people commuting from the same direction. Most registered users (4 persons) would recommend the platform to colleagues. One responder suggested better advertising, or something that would encourage people to sign up and add routes. For all registered users, the platform is pleasant to use.

The attitude among the companies operating at the airport was analysed on the basis of two separate questions concerning questions/claims the HR departments needed to deal with and the handling of the platform (experience and impressions) from the airport's perspective (cf. Table 3). The answers were formulated in consultation with the airport authorities by the Mazovian Office of Regional Planning. There were no negative opinions about the platform. Lack of interest in the platform resulted in a lack of constructive experience and impressions concerning the handling of the platform.

Table 2. Detailed results of the survey conducted among airport employees, based on quantitative and qualitative KPIs common for the project & additional questions

No.	KPI / Survey Question min. requirements	Response options	Type of response	Number of responses	Number of responding people
1	Have you ever heard about the platform?	Choosing one variant	Yes	45	50
			No	5	
2	How did you first learn about our carpooling pilot/programme for airport employees?	Choosing one variant or writing own answer	Poster	10	45
			Leaflet	2	
			Meeting about the platform	7	
			Colleague	10	
			Mail/intranet	15	
			Other source	1	
3	Have you ever viewed the platform's website?	Choosing one variant	Yes	25	45
			No	20	
4	Did the platform interest you enough to register as a user?	Choosing one variant	Yes	6	25
			No	19	
5	Why did you not enter to the platform website or register as a platform user?	Choosing max three variants and/or writing own answer	I'm a driver and I don't want ride to work with someone else	13	39
			I am a driver and I commute to work with other people already	12	
			I go to work by public transport / bicycle / foot and I don't want to change it	4	
			I don't trust this type of communication	4	
			Information about the platform was insufficient	0	
			Other reason	6	
6	Is it easy to get familiar with the product and to learn how to use it?	Choosing one variant	Yes	6	6
			No	0	
7	Why do you use our carpooling platform?	Choosing one variant or writing own answer	Already used carpooling before/usual habit	1	6
			Environmental reasons	4	
			Financial reasons (savings)	2	
			Comfort	2	
			Social interaction	1	
			Other reason	0	
8	How easy is our carpooling platform to use?	Choosing one variant	Very easy	1	6
			Easy	5	
			Not easy	0	
9	Which features of our carpooling platform are most important to you? Name them.	Choosing max three variants and/or writing own answer	Searching for passengers as a driver	4	6
			Adding routes as a driver	3	
			Route searching as a passenger	5	
			Adding routes as a passenger	1	
			Fare / potential savings calculation of the joint journey	0	
			Calculation of the estimated CO_2 savings	0	
			Chat with other users	0	
			Other function	0	
10	Do you miss any features? If so, please name them.	Choosing one variant or writing own answer	Yes	0	6
			No	6	
			Text	0	
11	What comes to your mind when thinking about our carpooling platform?	Writing own answer	Text	3	6
12	What do you like most about our carpooling platform?	Writing own answer	Text	2	6

No.	KPI / Survey Question min. requirements	Response options	Type of response	Number of responses	Number of responding people
13	What do you like least about our carpooling platform?	Writing own answer	Text	1	6
14	How likely is it that you recommend our carpooling pilot/programme for airport employees to a colleague or friend?	Choosing one variant	Very likely	0	6
			Likely	4	
			Not likely	2	
			Highly unlikely	0	
15	Do you have any suggestions for improving the carpooling platform/pilot/programme? If so, please name it.	Writing own answer	Text	1	6
16	Is it fun to use our carpooling platform?	Choosing one variant or writing own answer	Yes	6	6
			No. If no, why?	0	
			Text	0	

Source: own work based on LAirA project carpooling pilot monitoring template and survey results

Table 3. Common qualitative KPIs in survey conducted with airport authorities

No.	Type of KPI/Source for KPI	KPI / Survey Question min. requirements	Type of response
1	Questions/claims the HR departments need to deal with	What are claims the HR or any other department collected during the last months of platform operation? Name them.	Text
2	Handling of the platform from the airport's perspective	Name the experience and impressions the airport has made when implementing and operating the carpooling platform.	Text

Source: own work based on LAirA project carpooling pilot monitoring template

5. Findings

Employees of the Warsaw/Modlin Airport are not interested in joint commuting by using the carpooling platform. This is visible in key indicators, primarily the small number of registered users and added trips. The lack of success was not caused by the insufficient scope and quality of the promotional campaign, as information concerning the functioning of the platform reached 90% of respondents. The main reason seems to be that airport employees (87% of respondents that knew about the existence of the carpooling platform) have permanent commuting preferences and don't want or see chance to change their habits. Most respondents commute to work alone in private cars, or already travel with others. The group of potential users of the application consists part of people who cannot find commuters from their direction. Unfortunately, this group was too small and too dispersed for the platform to be useful. The application was rated positively by all users - its operation didn't cause any problems, so this cannot be a barrier for potential users.

6. KPIs in short

Table 4. Quantitative KPIs in total

Source for KPI	KPI	Measuring Unit	Frequency of reporting	Total
Operator platform/data	Number of newly registered users	Number	Monthly	11
Operator platform/data	Number of active	Number	Monthly	0
Operator platform/data	Number of passive users	Number	Monthly	11
Operator platform/data	Number of matched rides to/from the airport	Number	Monthly	0
Calculation by LAirA partner	Vehicle occupancy rate	Persons per vehicle per ride	Intermediate, End	N/A
Calculation by LAirA partner	CO_2 savings	CO_2 per driven kilometre (and day)	Intermediate, End	0
Calculation by LAirA partner	Number of parking spaces saved	Number	Intermediate, End	N/A

Source: Reports on the use of the ByTheWay application

The table above is a summary of the six months of the ByTheWay application's functioning. It contains aggregate data on the use of the platform by employees of the Warsaw/Modlin Airport. During the entire planned six-month period of operation of the application, a total of 11 users registered. Unfortunately there were no active users, which means that no one used the platform even once. Of all registered users, all were passive users (registered but did not use the application). For six months of application operation, no ride from/to the airport has been matched, so the other indicators: vehicle occupancy rate, CO_2 savings and the number of parking spaces saved are 0.

7. Conclusion

The carpooling platform in the current situation did not succeed in attracting regular users at Warsaw/Modlin airport. For most airport employees it's an unnecessary service, because they have crystallized travel preferences. They already have commuting partners and communicate with them by phone (a simpler way than via the application). Therefore prolongation of carpooling platform isn't planned. If in the future service will be resumed, responsible persons should be aware of a very limited interest in the carpooling platform among Warsaw/Modlin employees. Potential resumption of the aplication should be preceded by demand surveys. An additional motivation to look for more passengers could be prizes for the most active users (gifts or better parking tariffs).

The study shows that the carpooling platform seems to be a good tool in terms of its functions, but it could probably be more useful at newly opened airports, where interpersonal relationships have not yet developed, or for large airports (with many companies and institutions) where people do not know each other. It can be noted that application may also play an educational role and inspire employees to commute with colleagues, but without the need to use the app for that.