A.T 1.3. UNDERSTANDING PASSENGERS LANDSIDE MOBILITY DEMAND, NEEDS & BEHAVIOURS

D.T 1.3.5 Report on passengers' landside mobility demand, needs and behaviours in the Mazovia (Warsaw/Modlin Airport) FUA

Version 1
05 2018

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Introduction

A survey among the passengers of Warsaw/Modlin Airport was conducted by the Mazovian Office for Regional Planning in Warsaw. The data was collected using PAPI and CAWI methods, i.e. the results were based on both paper and online surveys. 507 respondents (252 arriving and 255 departing) participated in the survey. The respondents consisted of passengers at the airport in Modlin. The study was conducted in the period from 24.04.2018 to 28.04.2018.

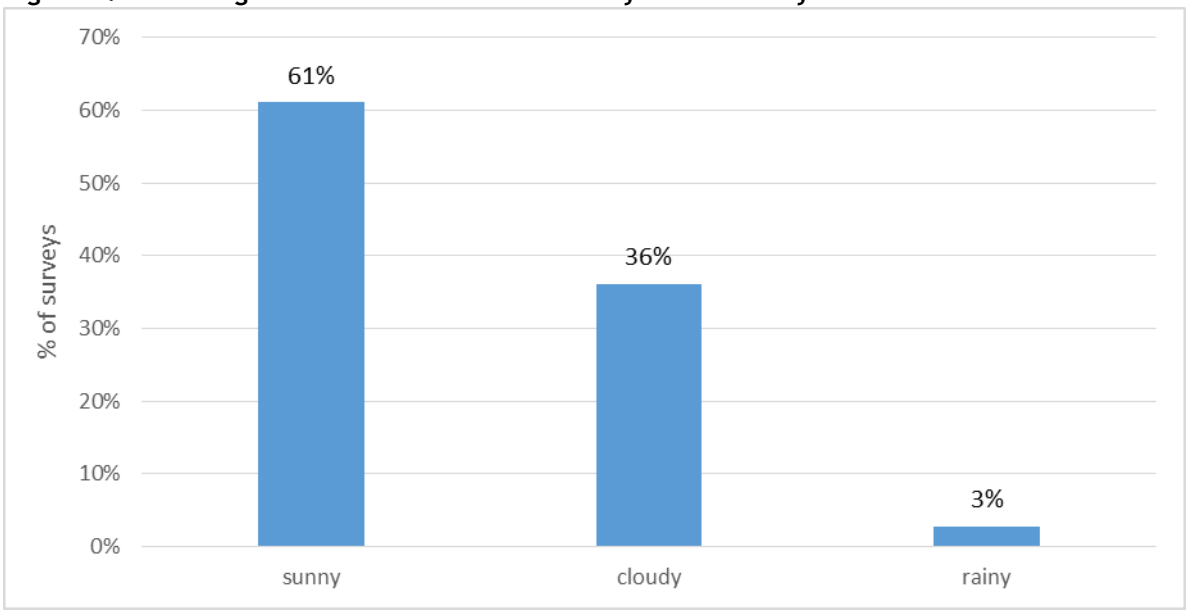
The report from the survey conducted among the airport passengers consists of the following parts:

- Information about the data collection;
- Summary of responses;
- Summary of the results relevant to the objective of the study, including correlations;
- Conclusions from the study.

Information on the research

During the survey (5 consecutive days), it was noted that the weather was good. Over 60% the surveys took place during sunny weather, 36% during cloudy weather and only 3% when it was raining.

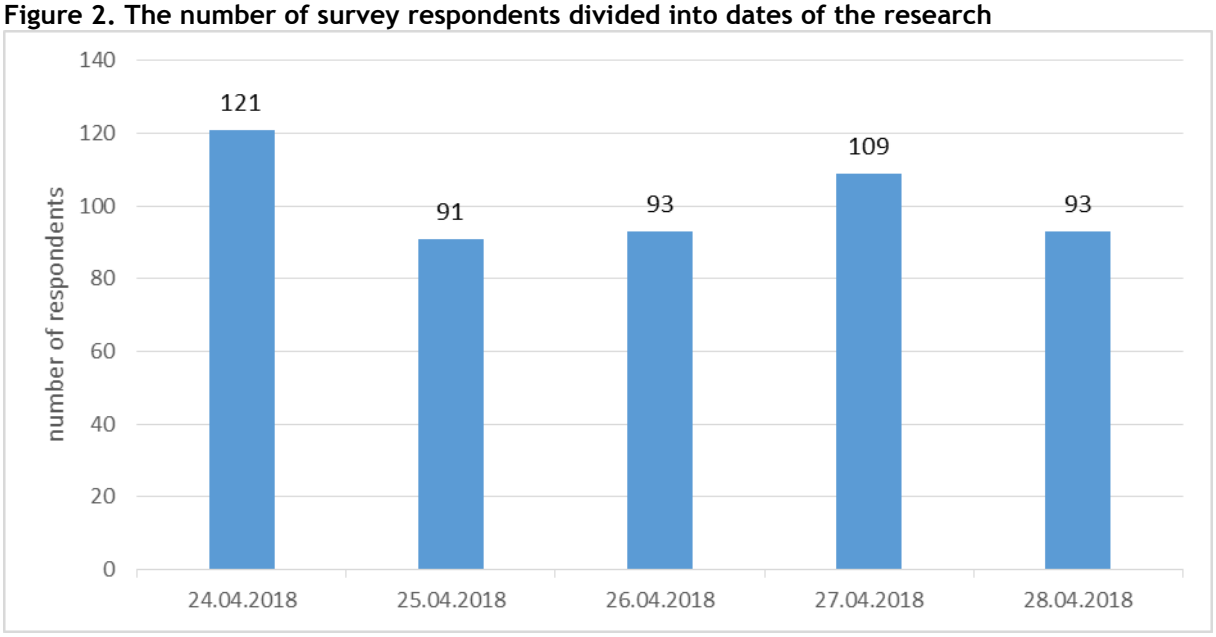
Figure 1. Prevailing weather conditions on the day of the survey



Source: own research based on (results of) survey among passengers

In total, 507 respondents were surveyed during 5 days with the number of those surveyed on individual days ranging from 93 to 121. Moreover, the research sample was evenly distributed throughout the day. Interviewers conducted the surveys from 6 AM to midnight.

Figure 2. The number of survey respondents divided into dates of the research

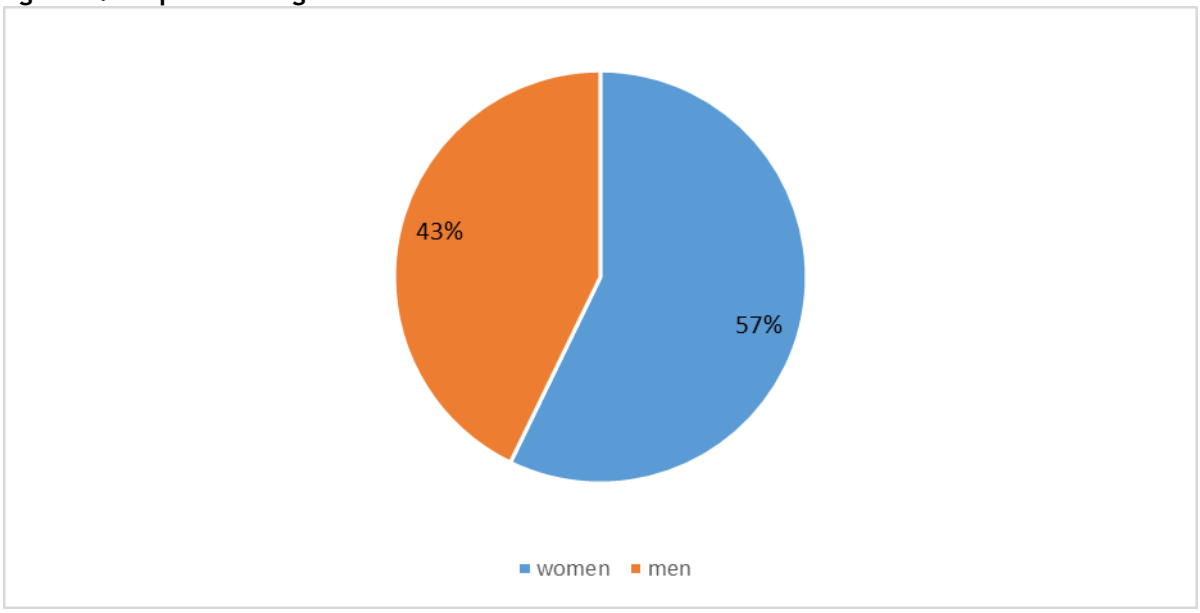


Source: own research based on (results of) survey among passengers

No difficulties were encountered during the survey. Interviewers did not report any factors that would disrupt communication with a respondent (no indications regarding the occurrence of unforeseen events hampering communication).

The majority of respondents participating in the survey were female — women constituted 57% of those surveyed. The remaining 43% of participants were men.

Figure 3. Respondents' gender

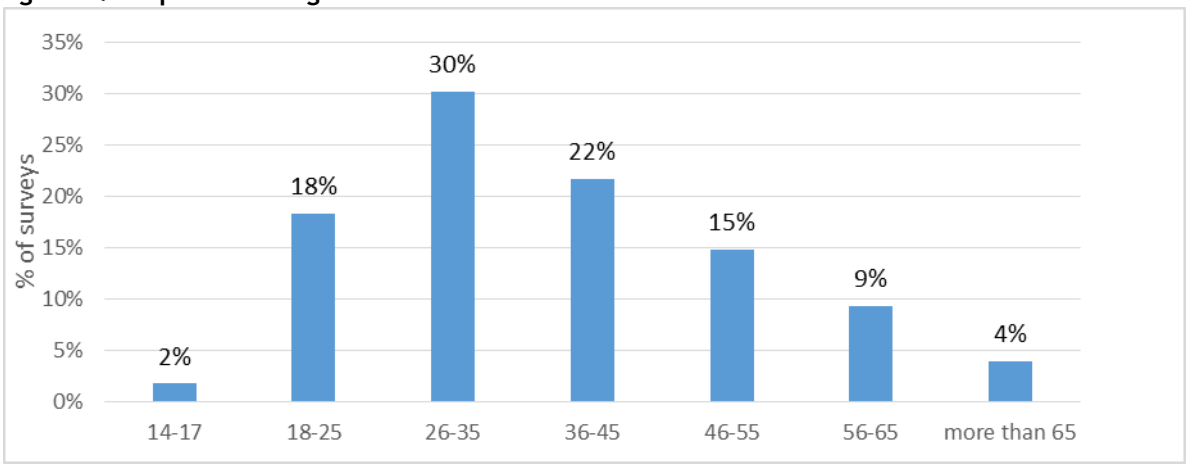


Source: own research based on (results of) survey among passengers

Respondents were characterized by a large diversity in terms of age. The interviewed included people of all ages: from young people aged 14 to people over 65 years old. The largest group

consisted of people aged 26-35, who accounted for slightly more than 30% of all respondents participating in this study. The second largest group were people aged 36-45 (22%).

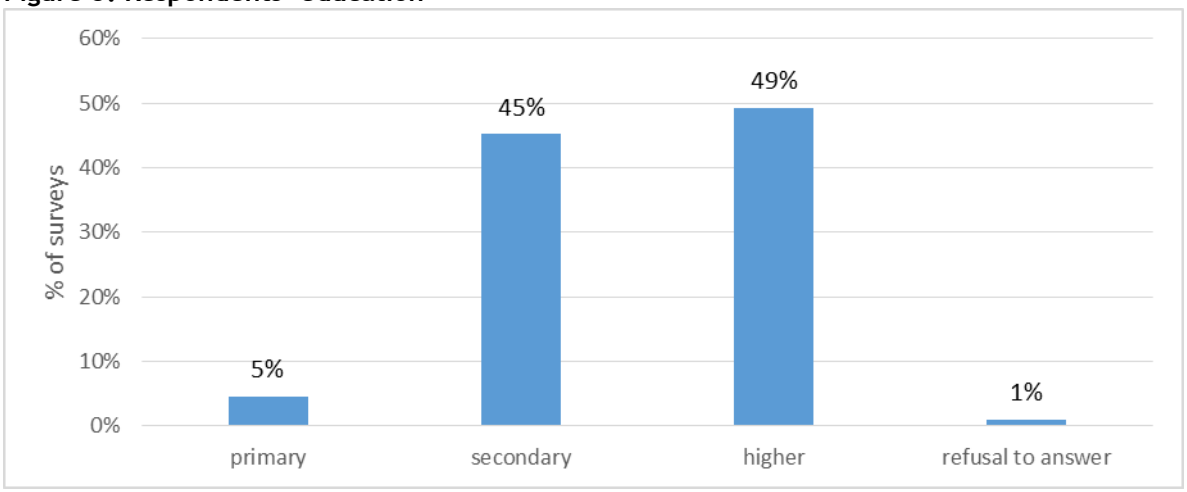
Figure 4. Respondents' age



Source: own research based on (results of) survey among passengers

Regarding the level of education of those taking part in the survey, the largest share had higher or secondary education (respectively 49% and 45%). Only 5% of all respondents chose the answer related to primary education, and the remaining 1% refused to answer this question.

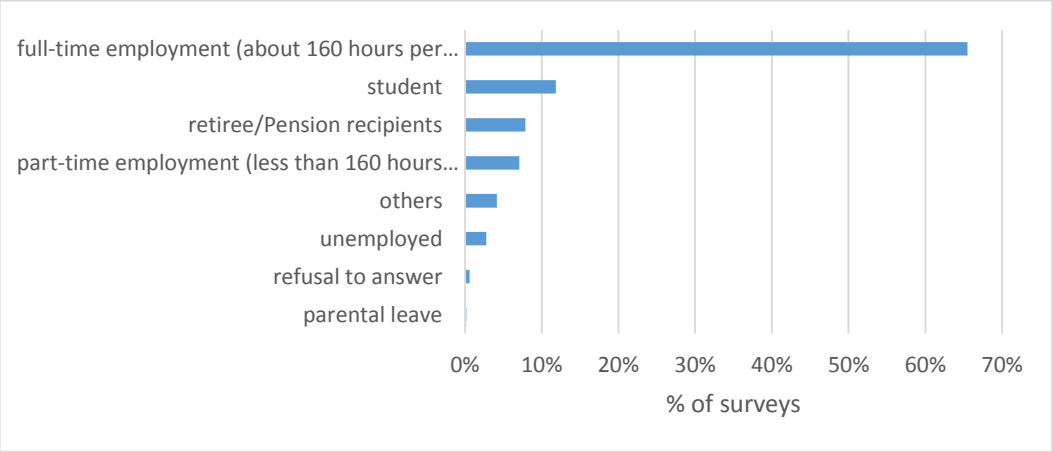
Figure 5. Respondents' education



Source: own research based on (results of) survey among passengers

Another differentiating factor is the professional status of respondents. The majority of participants (65%) were full-time employees. The second most numerous group consisted of pupils and students (12%), and the third — of pensioners (8%). A relatively considerable number of answers related to working part-time (7%). The remaining variants of answers were chosen by a significantly lower number of participants. It is worth adding that among those who chose "other" were people who run a business or (in individual cases) are taking care of a child.

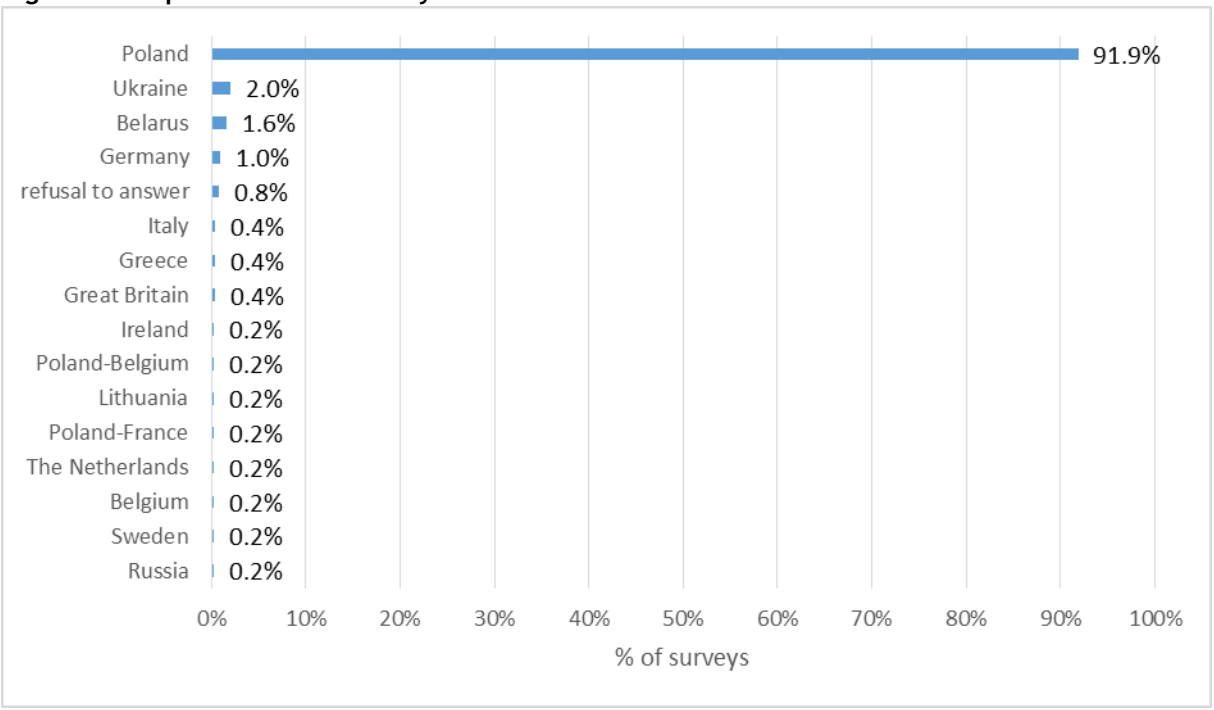
Figure 6. Respondents' professional occupation



Source: own research based on (results of) survey among passengers

In the final research sample, the majority of respondents were of Polish nationality, with a total share equal to 91.9%. The next largest groups (but with a significantly lower share) consisted of Ukrainians (2%) and Belarusians (1.6%). The significant dominance of Polish respondents resulted from, among other things, the period in which the research was conducted as it coincided with recreational trips during the national May holidays (the so-called "majówka"). At the same time, the upcoming holidays resulted in a reduction of business flights from abroad which contributed to the low share of foreigners.

Figure 7. Respondents' nationality



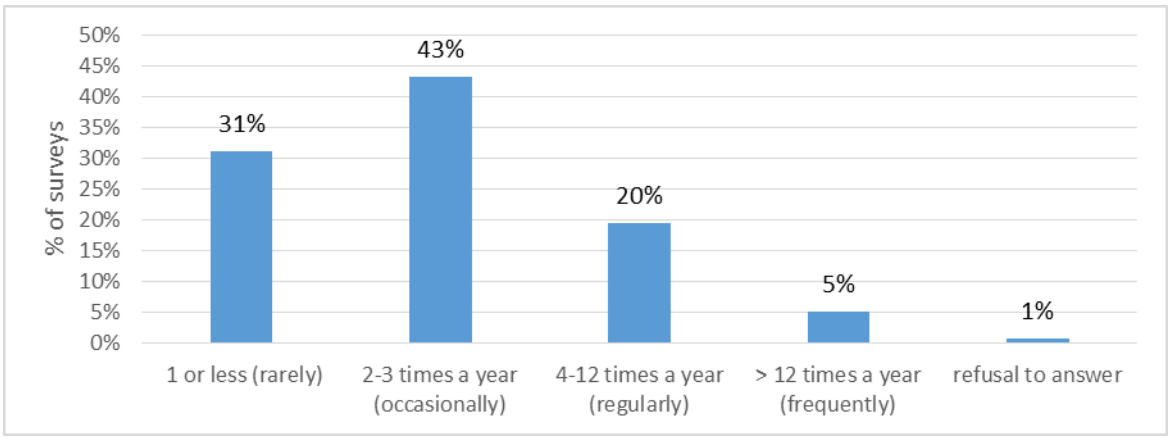
Source: own research based on (results of) survey among passengers

A summary of the results of the survey

Questions to all respondents

The majority of respondents were people who traveled by plane occasionally or rarely (in total 74% of the surveyed). This group does not use this means of transport more than 3 times a year. A relatively high share of answers came from people flying 4-12 times a year (20%), and 5% of respondents stated that they fly more than once a month.

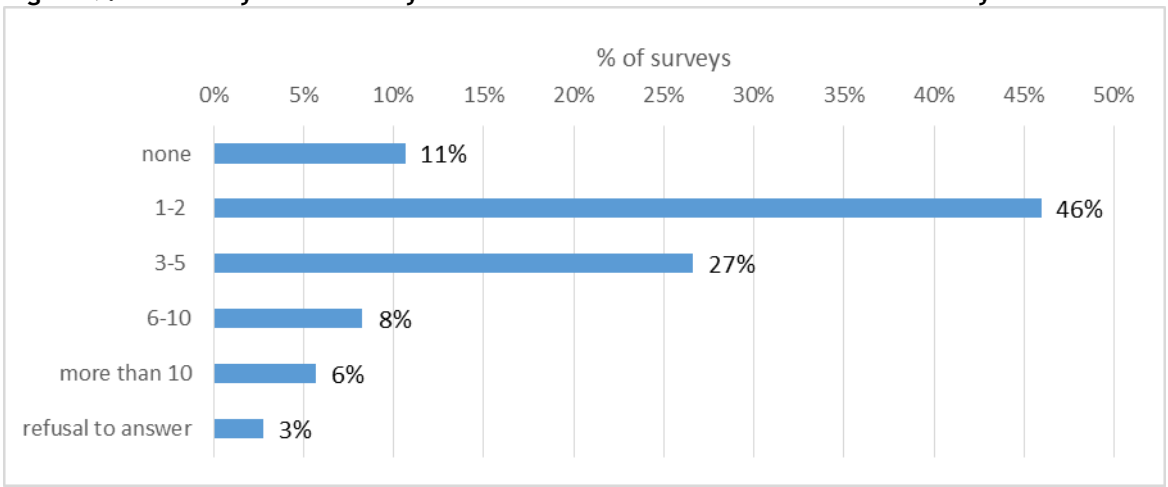
Figure 8. How often do you fly by plane during the year?



Source: own research based on (results of) survey among passengers

Complementary to the results of the previous question was another matter that the respondents were asked about — the number of flights (in the last year) with low-cost airlines. To a large extent, this number coincided with the frequency of respondents' flights, as 46% of respondents declared from one to two flights of this type per year. A considerable share of answers (27%) concerned people flying 3-5 times with the analyzed type of airline in the last year. Respondents who had never used this type of flights constituted 11% off all participants.

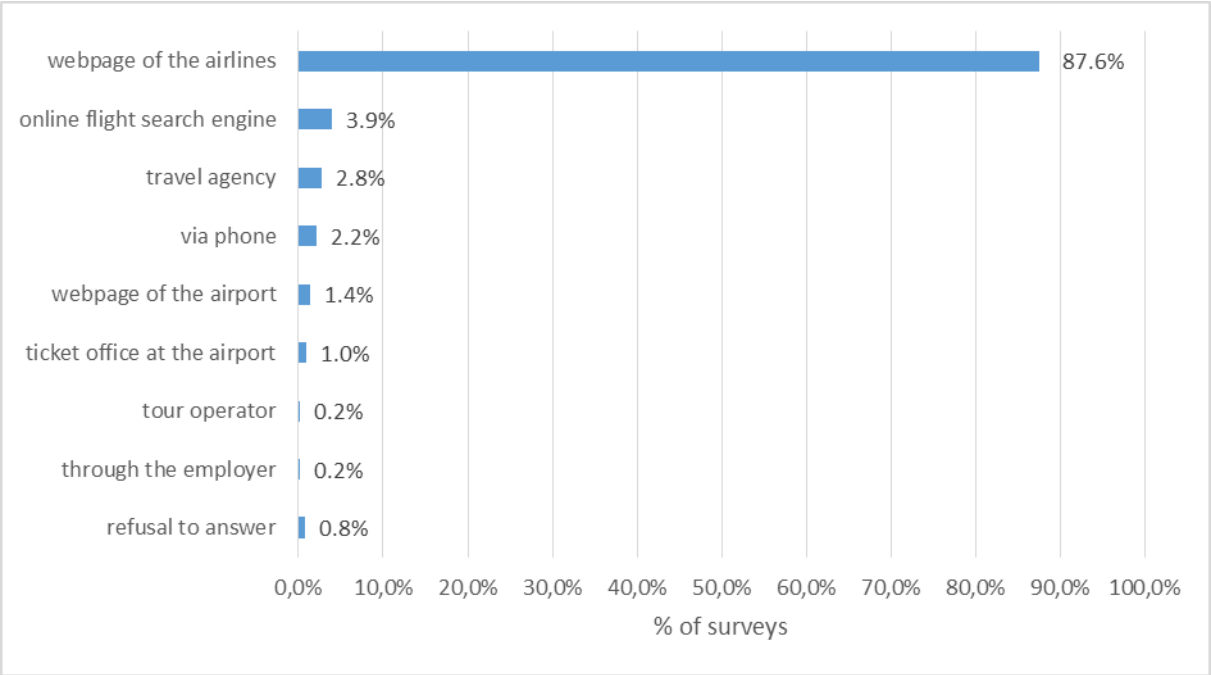
Figure 9. How many times have you flown with low-cost airlines over the last year?



Source: own research based on (results of) survey among passengers

The majority of respondents purchased an airline ticket via the airline's website (87.6%). The remaining internet sources accounted for 5.3% of responses, reflecting the significant advantage of purchasing tickets online.

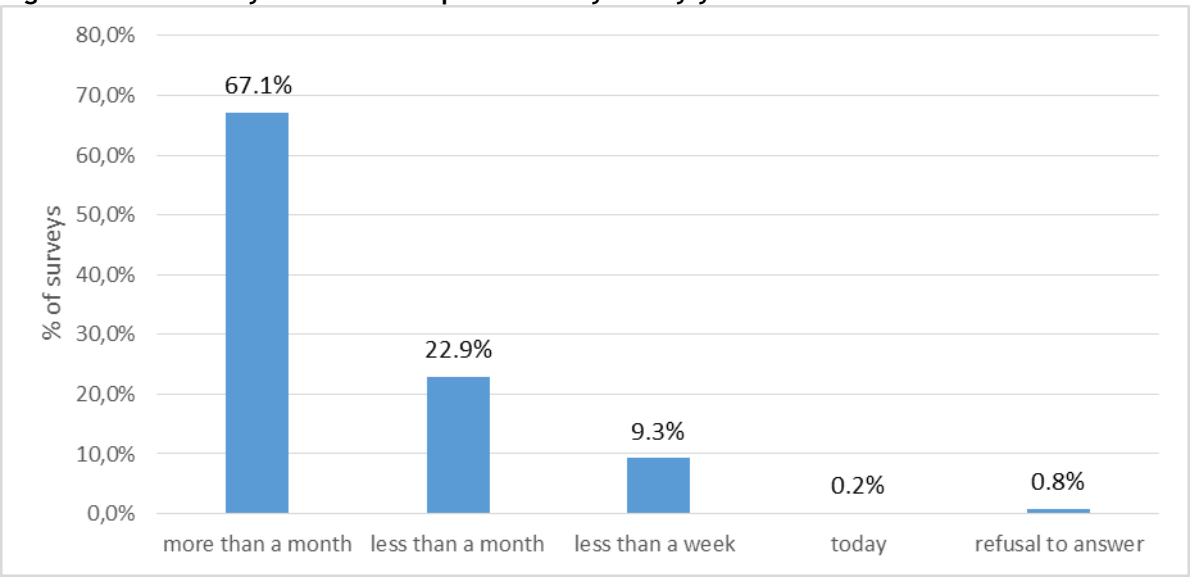
Figure 10. How did you buy the plane ticket?



Source: own research based on (results of) survey among passengers

In addition to purchasing a ticket online, it is also a frequent situation that respondents purchase them well in advance. 2/3 of the surveyed purchased their tickets more than a month before their departure. A relatively high share of answers was given by people who made a purchase within the timeframe from one week to one month before departure (nearly 23%).

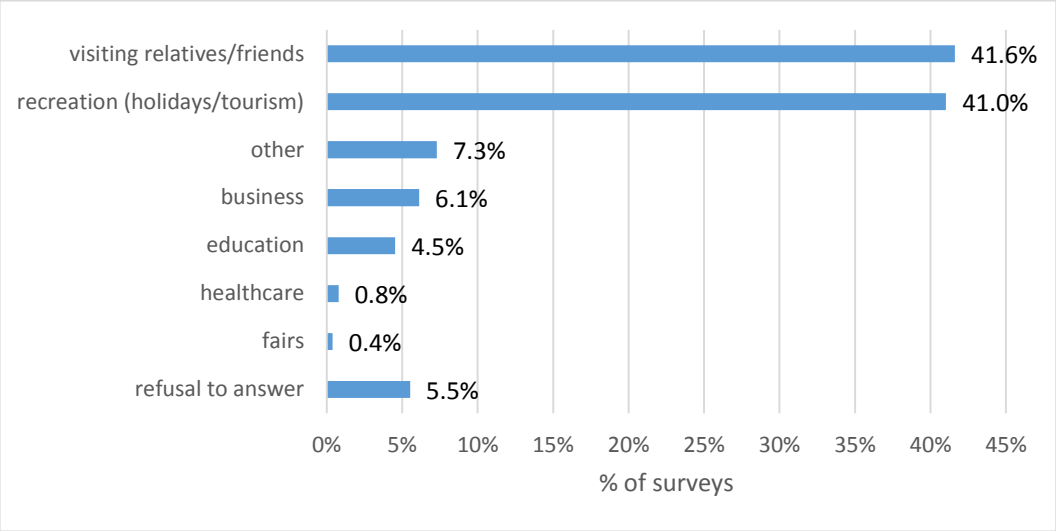
Figure 11. How early before the departure did you buy your ticket?



Source: own research based on (results of) survey among passengers

For the vast majority of respondents, the purpose of the trip was to visit relatives and/or friends, or recreation (respectively 41.6% and 41.0%). On the other hand, business trips accounted for only slightly more than 6% of all responses. This structure of answers concerning the destination may result from the dates of the study which coincided with trips related to the May holidays.

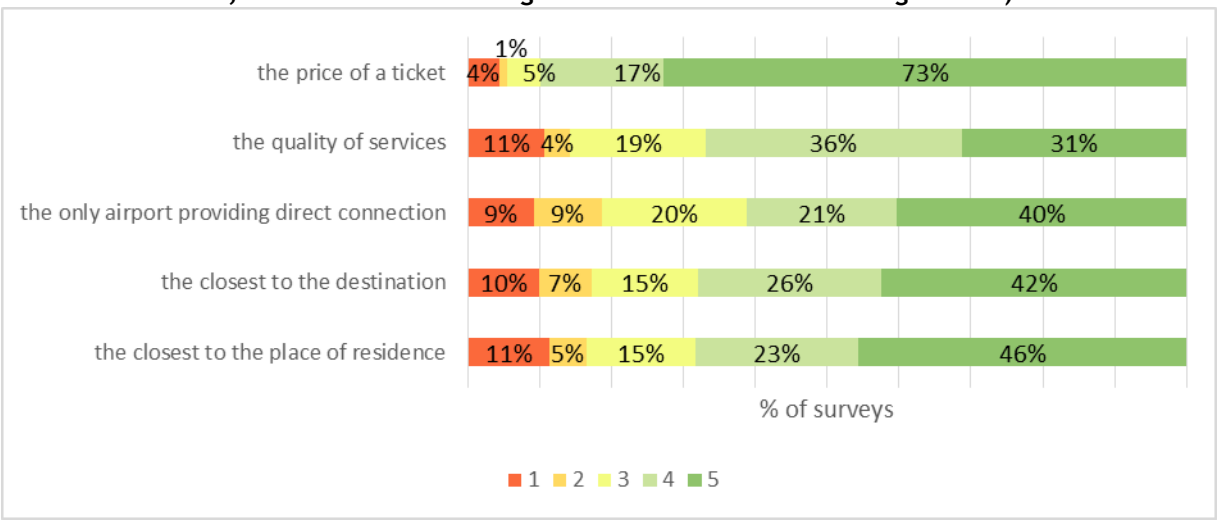
Figure 12. What is/was the purpose of your travel?



Source: own research based on (results of) survey among passengers

Respondents of the study were asked to assess the reasons influencing their choice of Warsaw/Modlin Airport. The most frequently indicated reason was the ticket price which was chosen by 90% of respondents as important or very important (the sum of answers 4 and 5). The remaining answers obtained a lower but similar to each other share. However, among the reasons determining the choice of the airport, the second most frequently chosen one was close proximity to the place of residence (69% for the sum of grades 4 and 5).

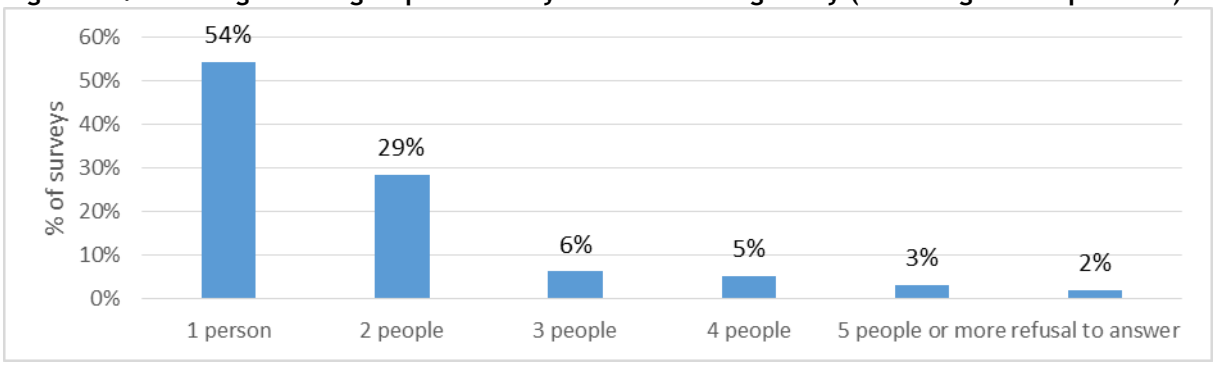
Figure 13. Please assess the significance of reasons why you chose this airport (according to the scale from 1 to 10, where 1 is the least significant and 10 is the most significant)



Source: own research based on (results of) survey among passengers

The majority of respondents (54%) traveled alone on the day they were surveyed. Nevertheless, groups of two people also provided a relatively high share (29%). People travelling in larger groups constituted a lower share of respondents.

Figure 14. How large is the group in which you are travelling today (including the respondent)?



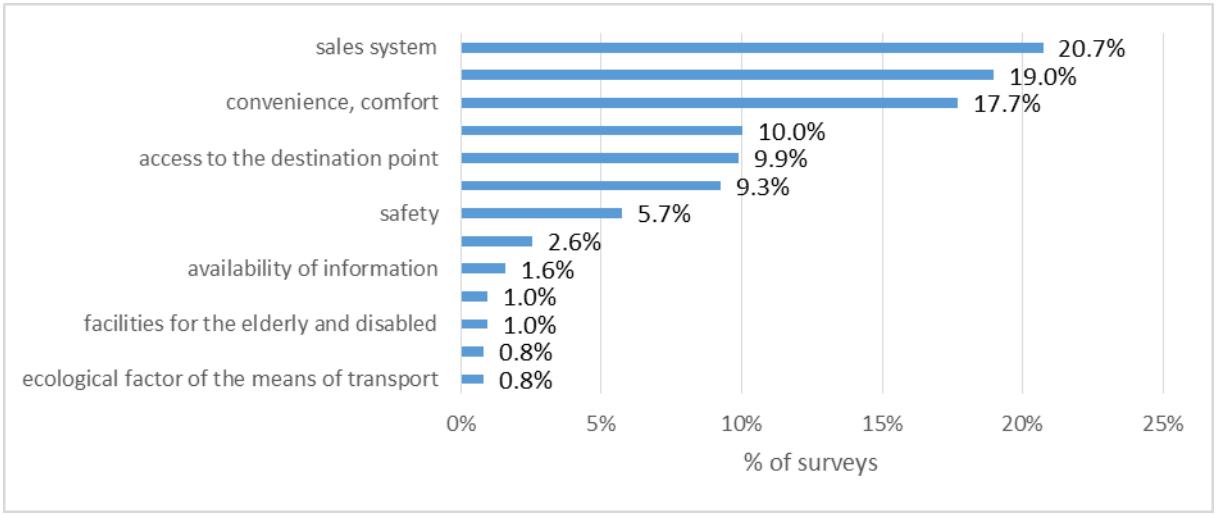
Source: own research based on (results of) survey among passengers

Respondents were asked to indicate the main factors that influenced them to choose a given means of transport (in their travel to/from the airport).

In the case of travelling by private or rented car, factors such as travel comfort, sales system and availability were of key importance. Similar factors were also indicated in the case of a taxi (with availability being the most important to respondents – 25%). The factors indicated in the scope of travel by public transport concerned mainly the cost (33.3% for further public transport) and availability (19.8% for the bus). It should be noted that the ecology-related factors of means of transport frequently were not taken into account, with the highest share of answers concerning this aspect noted in the case of travel by train and bus, although the said share was very low (respectively 1.4% and 1.2%). The surveyed passengers to a larger extent paid attention to the practical aspects of the trip (comfort, accessibility, time) than to the environmental aspects when choosing their means of transport.

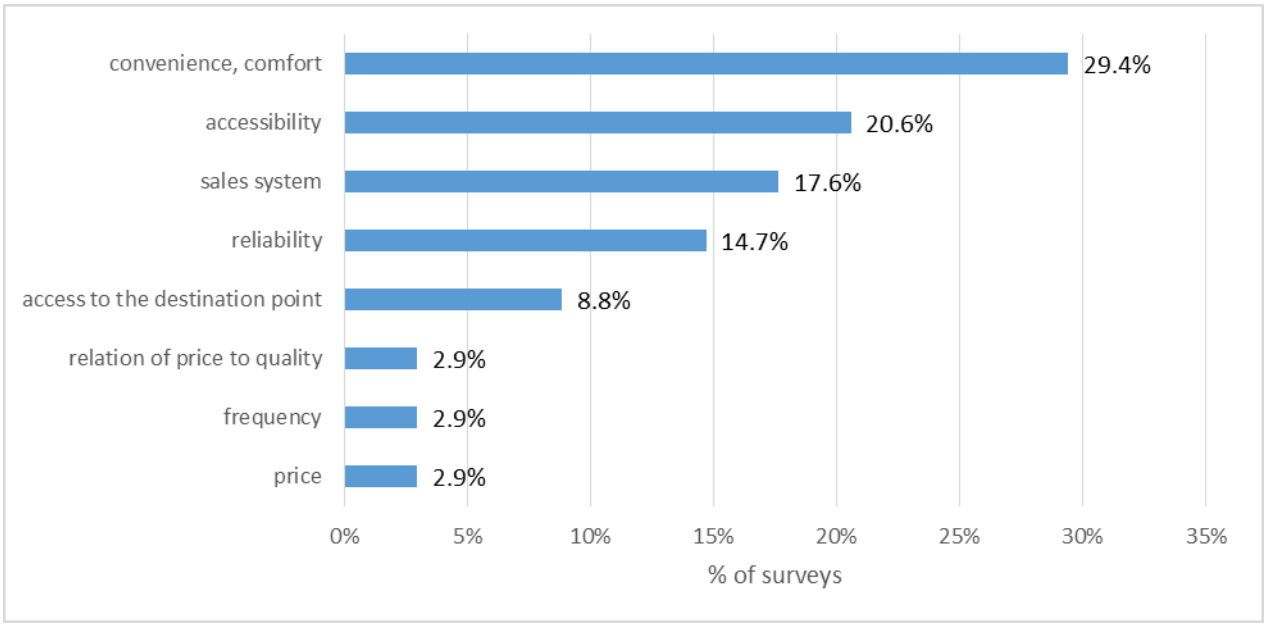
Figure 15. Please indicate the three main factors influencing the choice of a given means of transport:

Private car



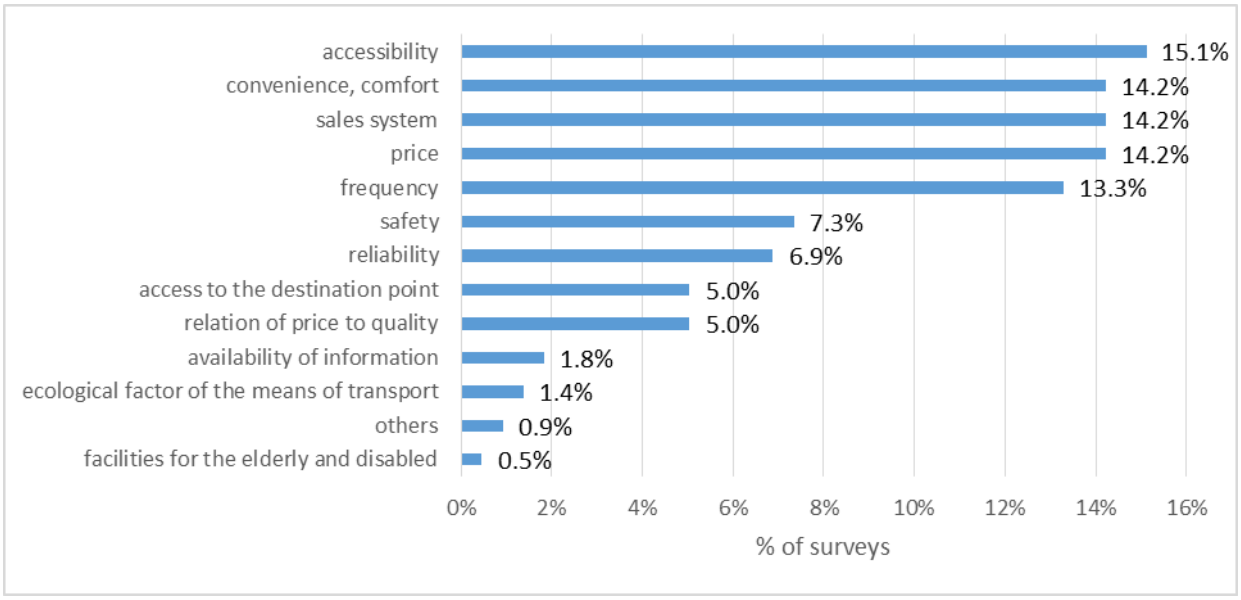
Source: own research based on (results of) survey among passengers

Rented car



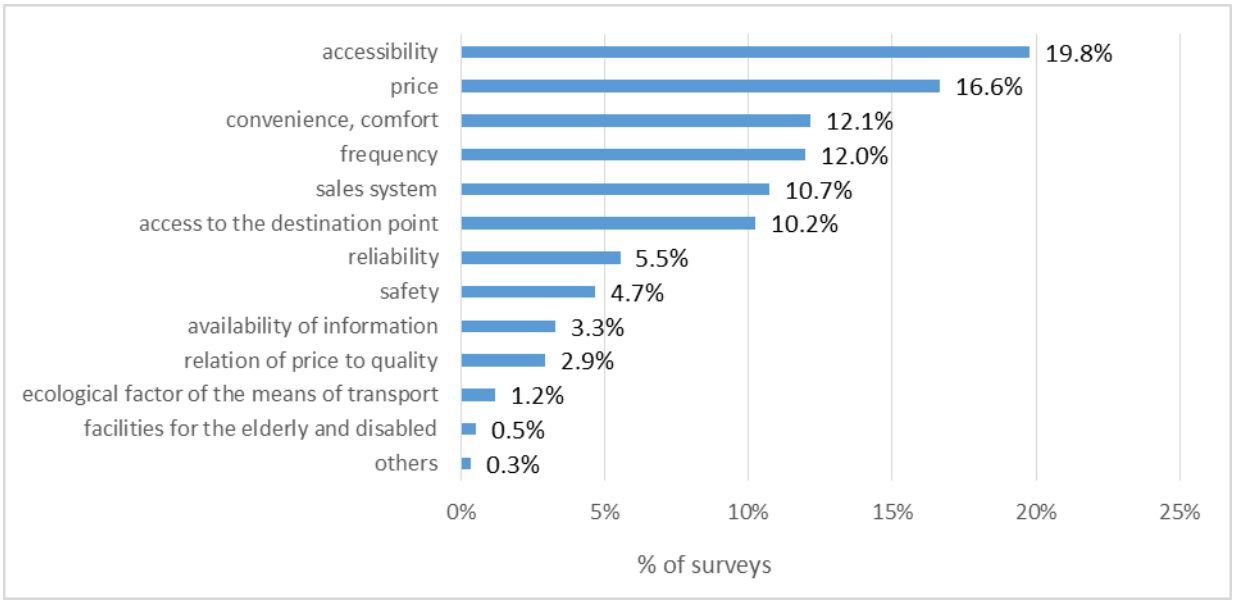
Source: own research based on (results of) survey among passengers

Train



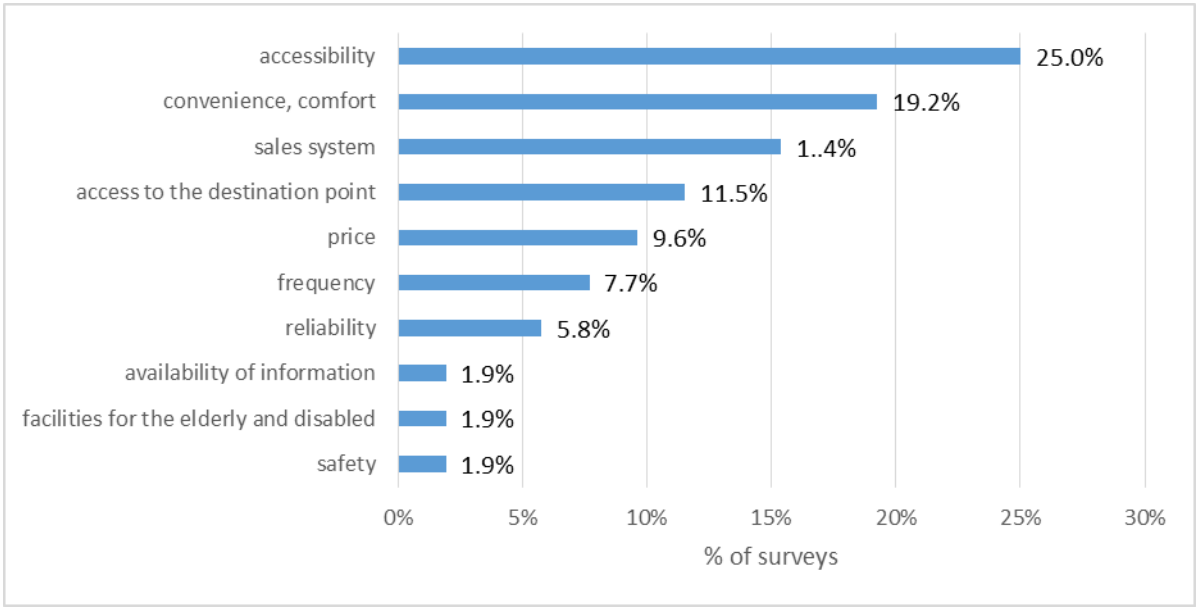
Source: own research based on (results of) survey among passengers

Bus



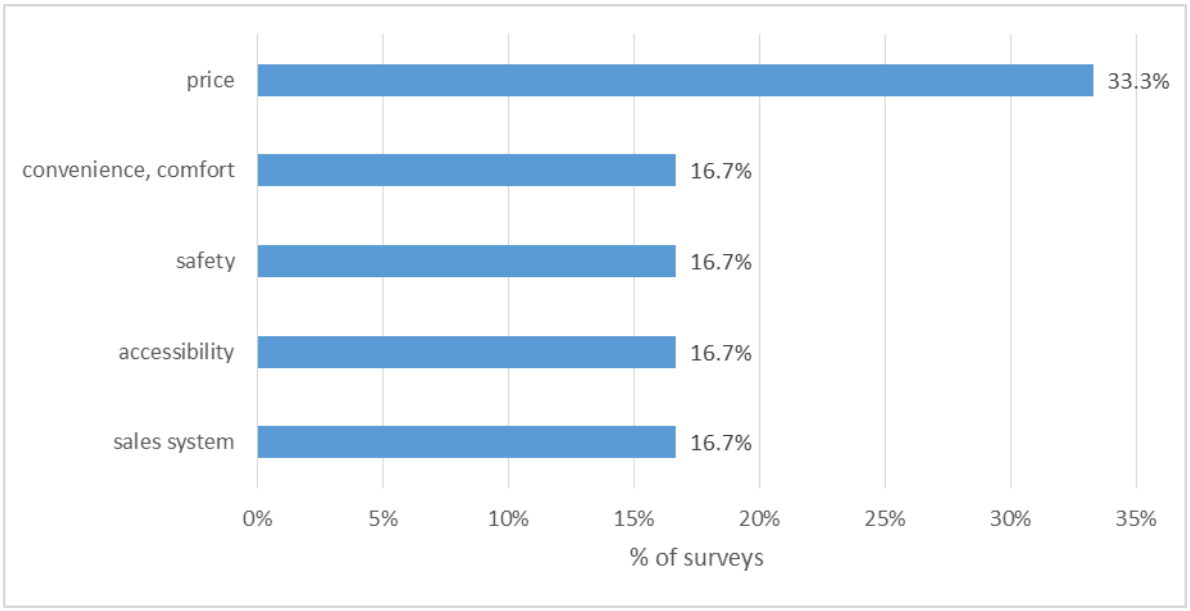
Source: own research based on (results of) survey among passengers

Taxi



Source: own research based on (results of) survey among passengers

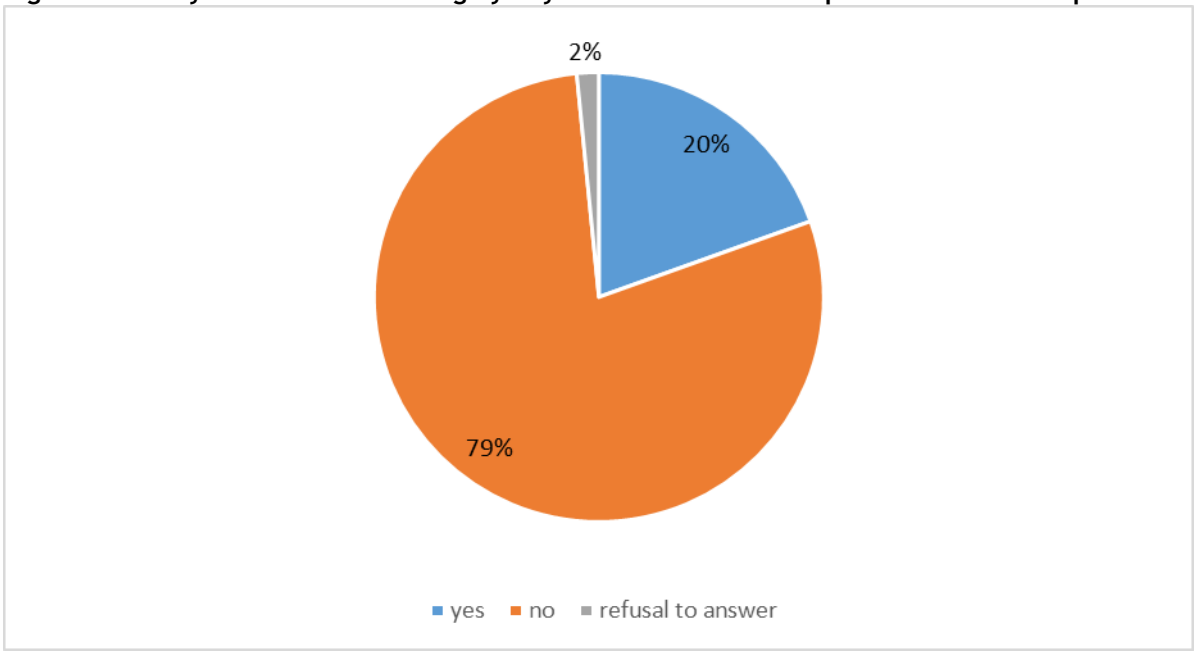
Further public transport



Source: own research based on (results of) survey among passengers

Only 20% of all respondents considered traveling to/from the airport by a different means of transport than the one they chose.

Figure 16. Did you consider traveling by any other means of transport to/from the airport?



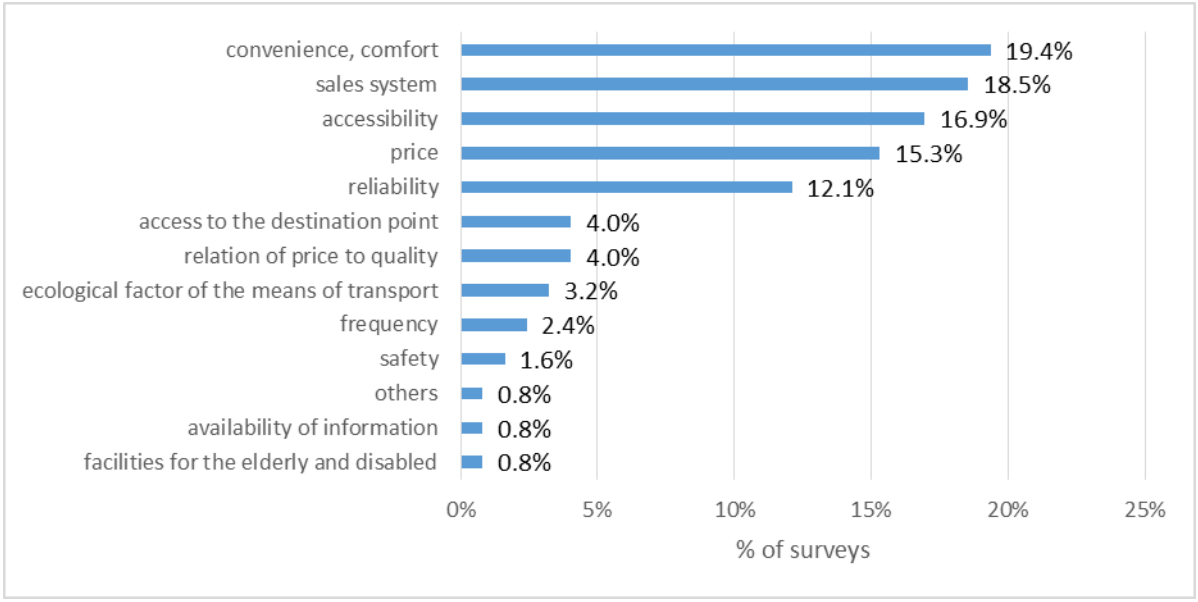
Source: own research based on (results of) survey among passengers

The respondents were asked to indicate the factors that influenced them not to choose a considered means of transport. In the case of a taxi, the decisive factor in this regard was the high price (30%),

and in the case of a bus — the sales system and the comfort of traveling (25% each). Passengers decided not to travel by train mainly due to the low comfort of travel (34%).

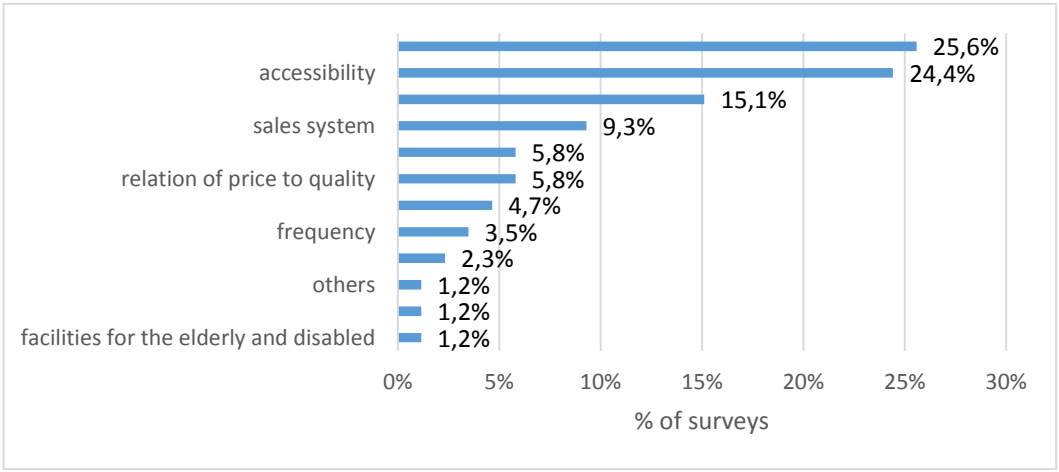
Figure 17. Please indicate three main factors which decided that you did not choose a given means of transport:

Private car



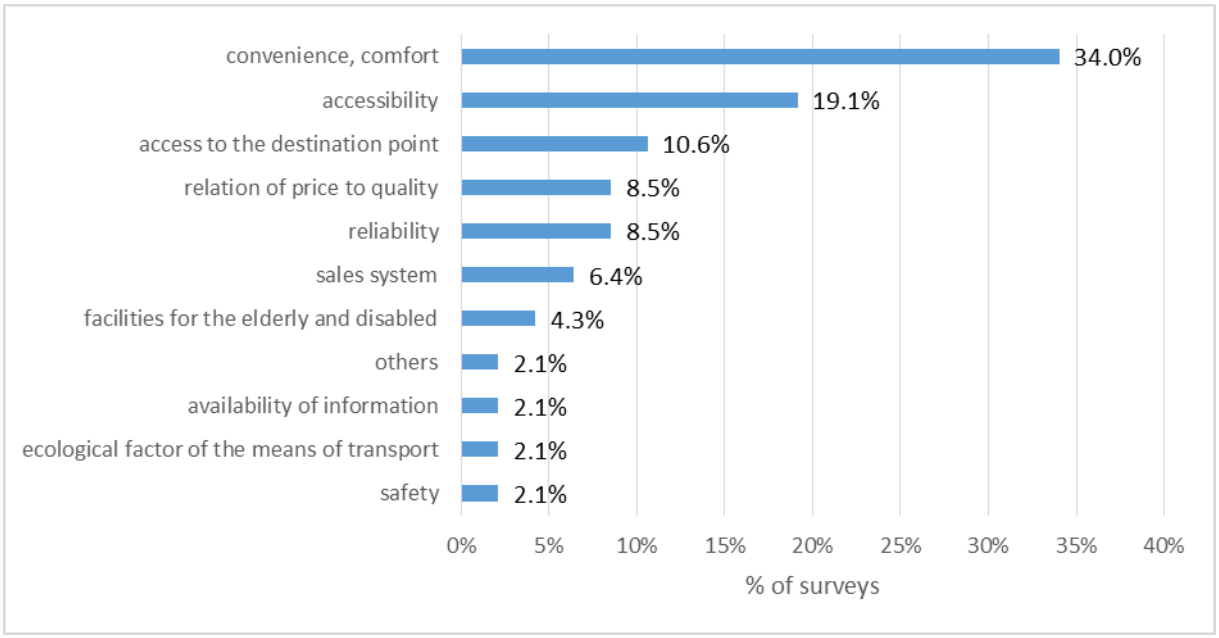
Source: own research based on (results of) survey among passengers

Rented car



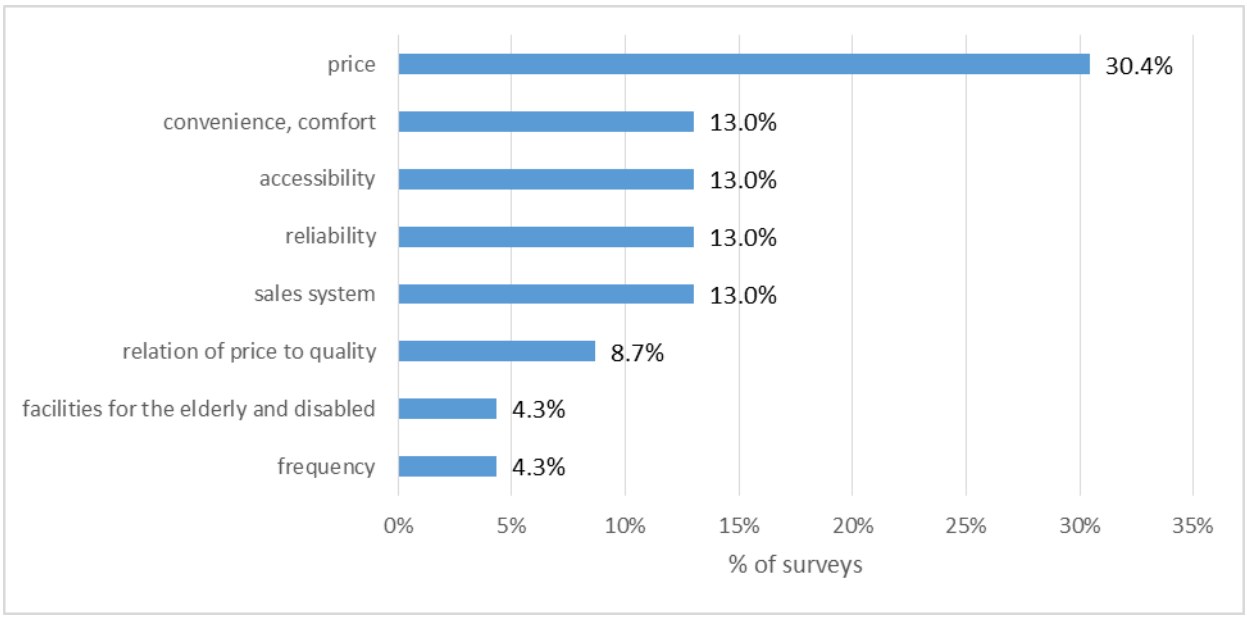
Source: own research based on (results of) survey among passengers

Train



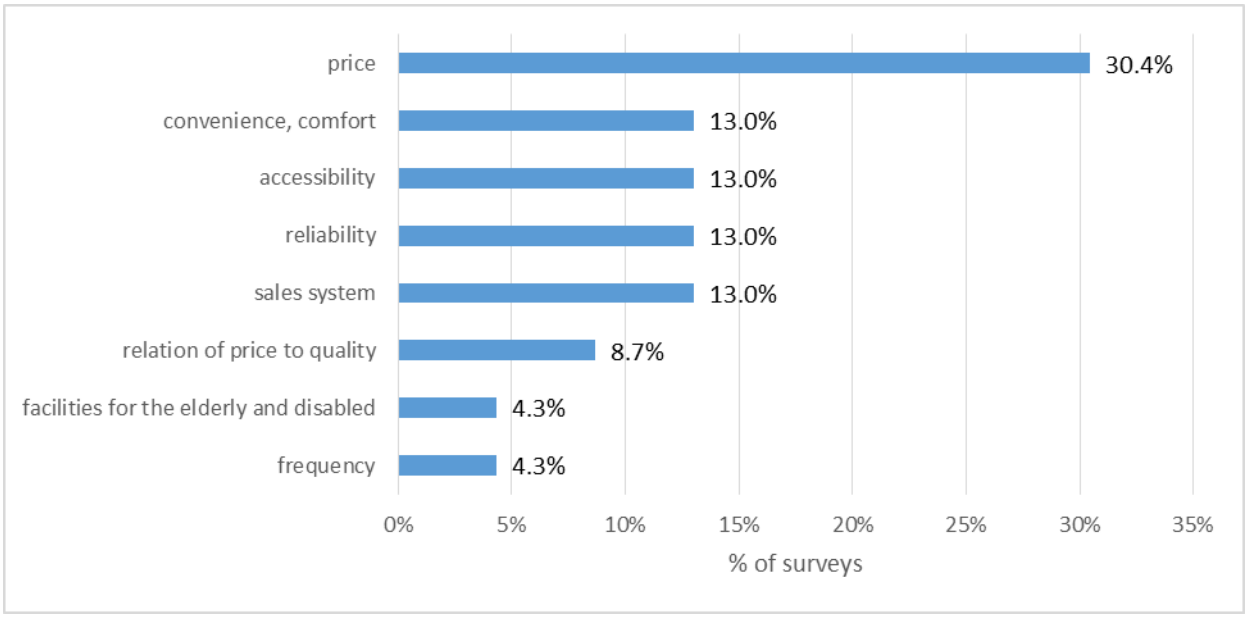
Source: own research based on (results of) survey among passengers

Bus



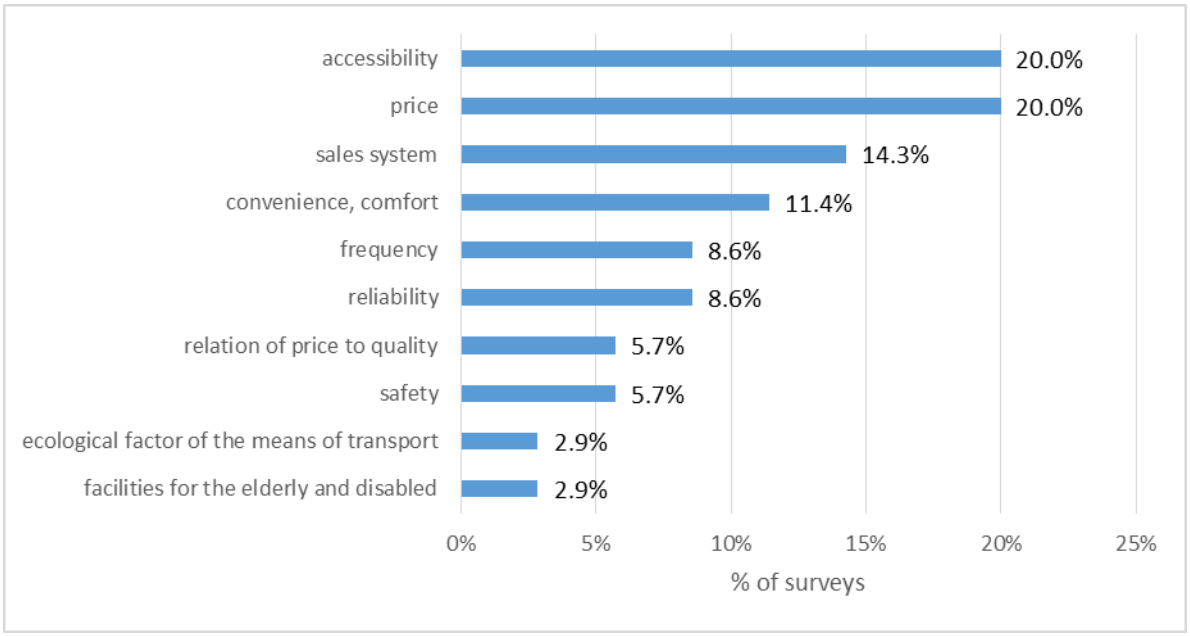
Source: own research based on (results of) survey among passengers

Taxi



Source: own research based on (results of) survey among passengers

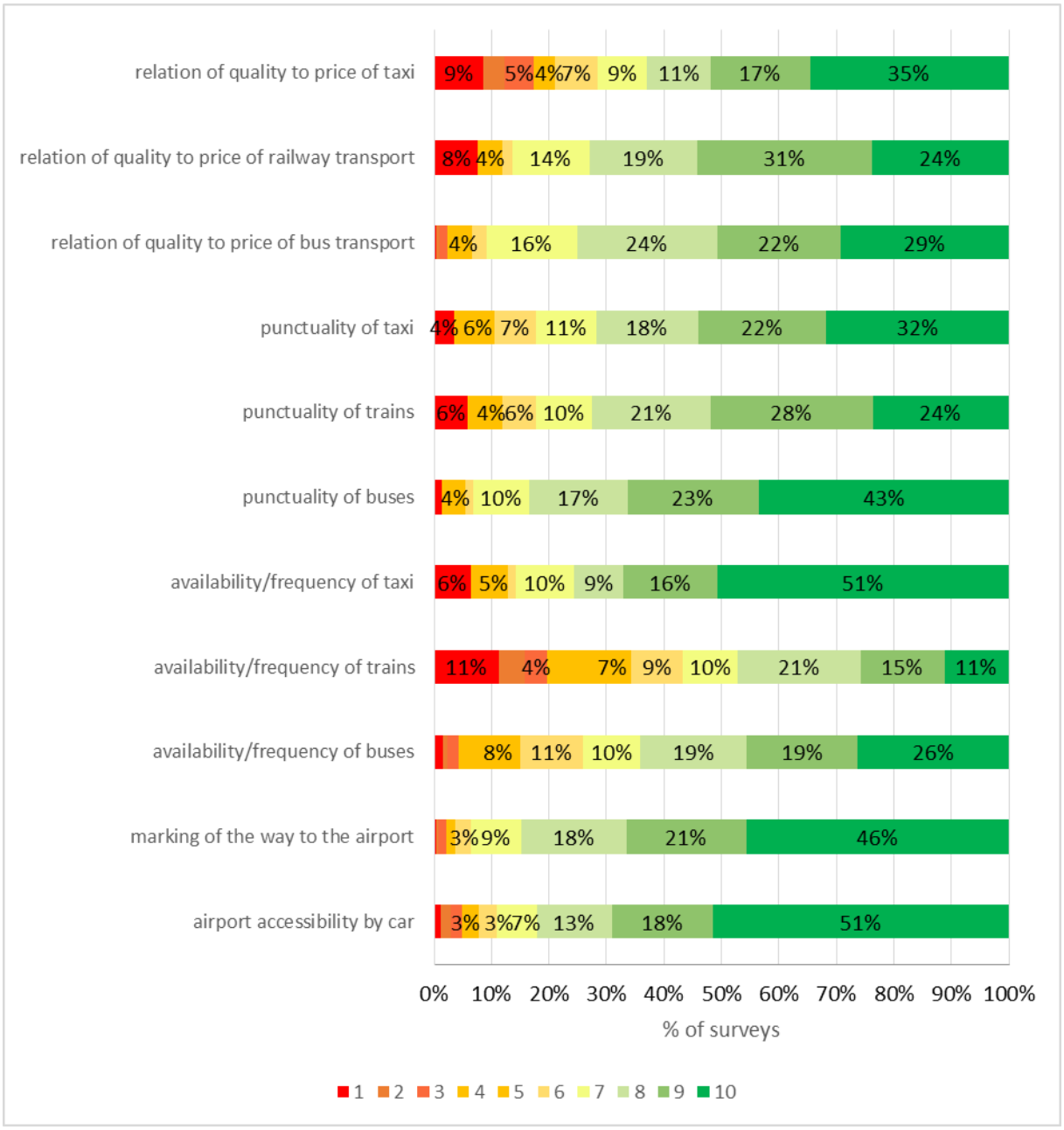
Further public transport



Source: own research based on (results of) survey among passengers

Another question concerned the assessment of various aspects of travel to/from the airport. Aspects which got the highest marks were the road marking and signs to the airport and the punctuality of buses (85% and 83%, respectively, for the sum of 8-10). Respondents assessed in the most negative manner the availability/frequency of trains, which obtained as much as 34% of ratings from 1 to 5 (on a scale of 1 to 10). The quality/price ratio of taxi transport was also relatively negatively assessed, as the share of these ratings amounted to 21%.

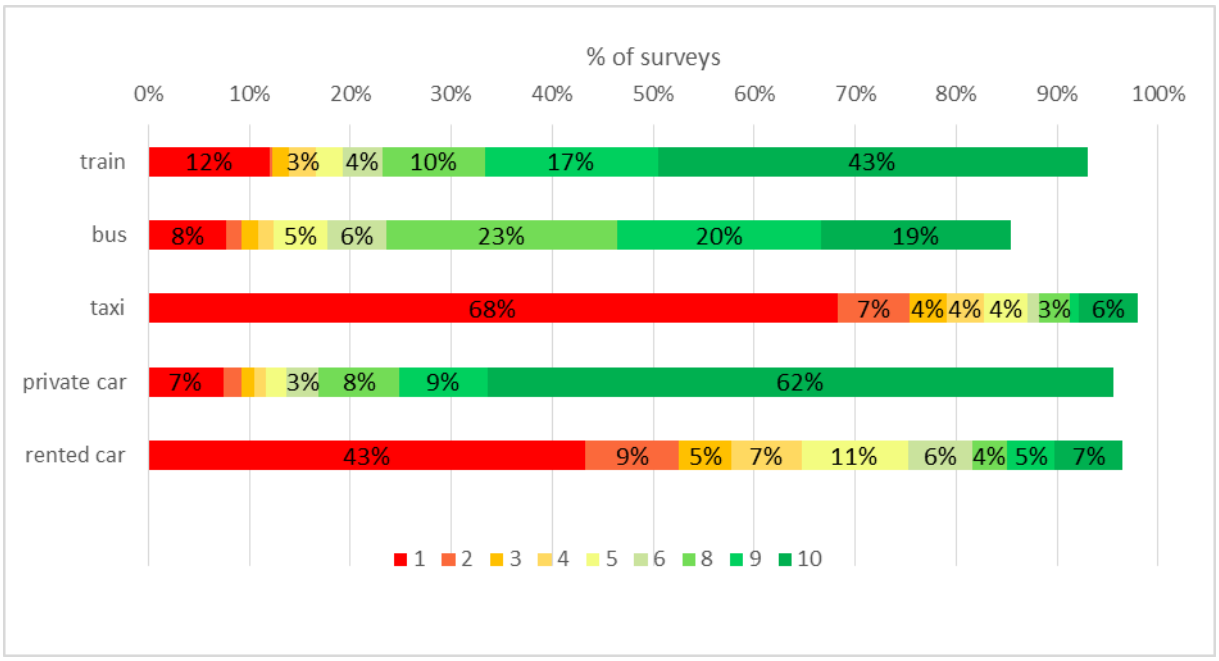
Figure 18. Please asses on a scale of 1 to 10 (where 1 is "very bad" and 10 "very good") the following aspects concerning the travel from the place of departure to the airport:



Source: own research based on (results of) survey among passengers

Respondents were asked to indicate, assuming that all of the means of transport are available, which means they would choose to travel to/from airport. The most preferred means of transport in this case was the private car (62% of the highest grade, 10) and train (43% of the same answer). The least popular was the taxi (68% for the answer 1) and rented car (43%).

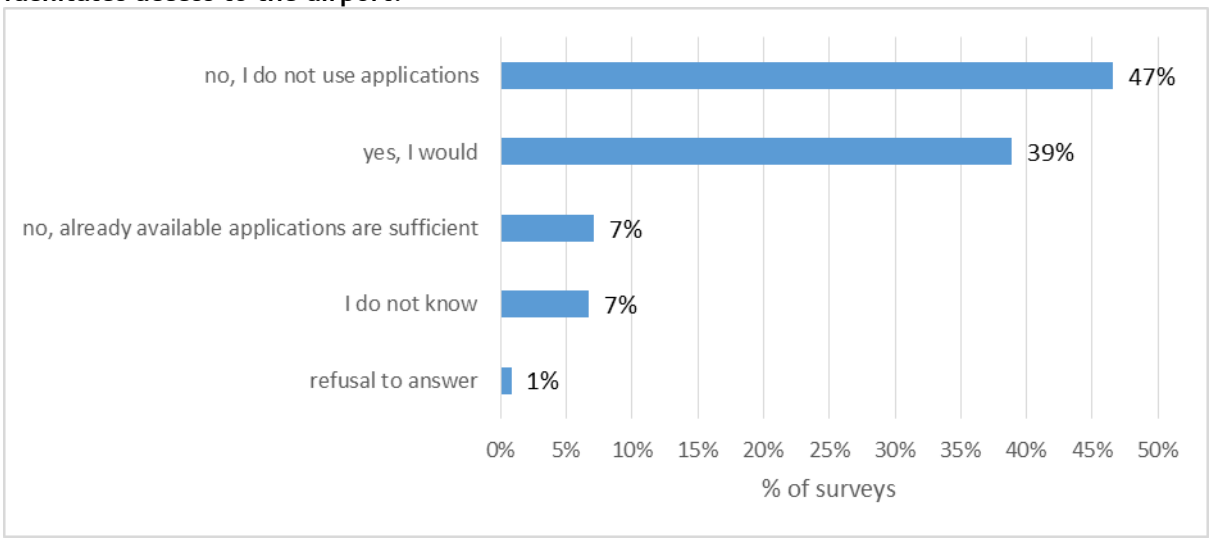
Figure 19. Assuming that the following means of transport are available, please assess which means of transport you would most preferably incorporate to travel to/from the airport, and which, despite the availability, you would rather not use? (on the scale 1-10, where 1 is the least frequently chosen, and 10 — the most frequently chosen):



Source: own research based on (results of) survey among passengers

There is moderate interest in using a mobile application dedicated to the airport which would facilitate access thereto. The willingness to use such an application was expressed by almost 39% of all respondents, with 6,7% having no opinion. It is also worth noting that only slightly more than 7% of respondents believe that existing applications are sufficient while nearly 47% do not use this type of applications.

Figure 20. Would you use the mobile application (designed for the Modlin Airport) that facilitates access to the airport?

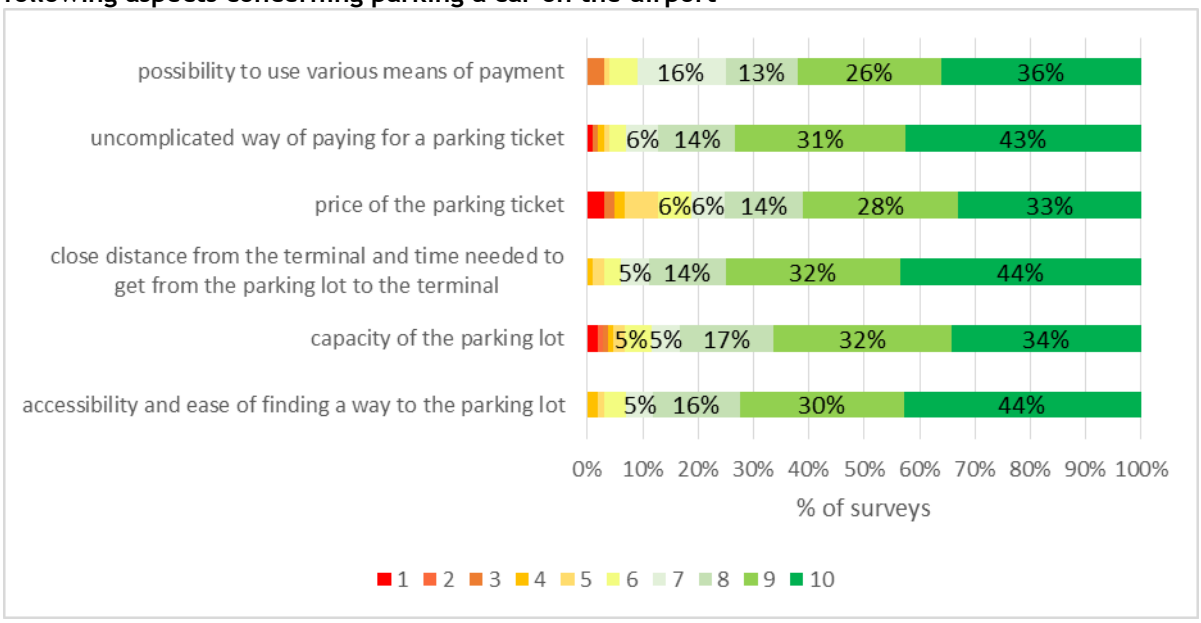


Source: own research based on (results of) survey among passengers

The next general question to all those surveyed concerned suggestions for improving the airport's transport accessibility (an open question). In most cases, the surveyed did not have an opinion on this topic, but there were occasional demands to facilitate access to rail transport, concerning better adaptation of buses to planes' times of arrival/departure, or to increase the frequency of such connections and establish of direct connections with larger cities, e.g. Rzeszów.

Respondents were asked to evaluate several aspects related to parking the car at the airport. In relation to all factors included in the case of this question, positive grades (from 6 to higher) were the most commonly given, whereas negative ratings constituted a very low percentage of responses. The short distance from the terminal and the ease of paying for the parking ticket were rated the highest (as much as 75% and 74% for the sum of ratings 9 and 10). The remaining factors obtained similar shares of positive ratings, but it should be noted that the relatively lowest grade was given to the parking ticket price. This aspect obtained 61% of the scores 9 and 10 (the lowest share among all analyzed factors) and 13% of the 5 or lower ratings.

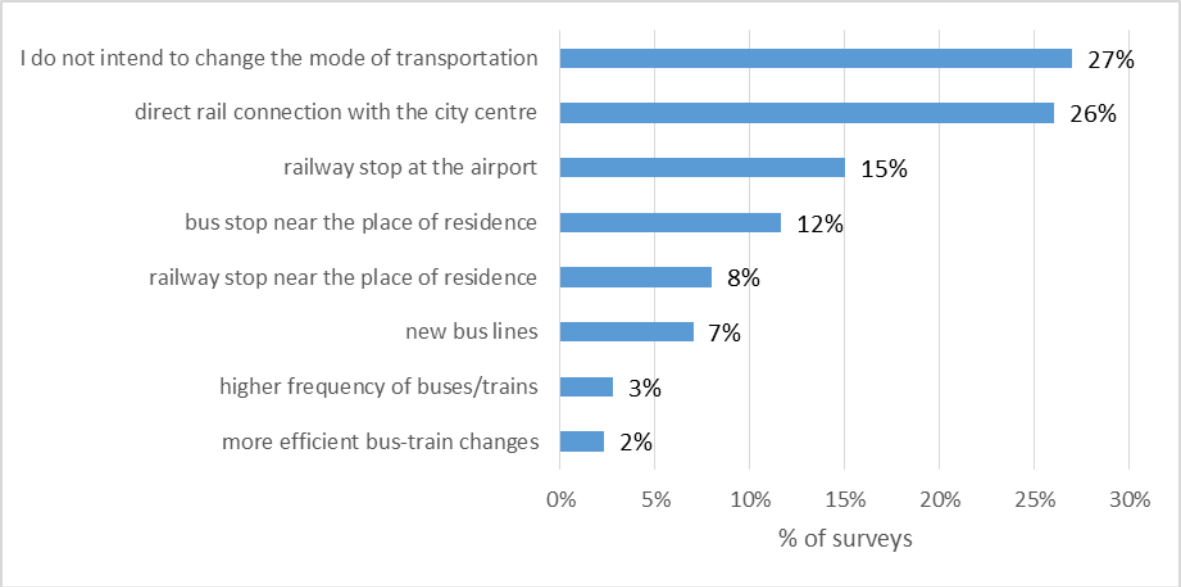
Figure 21. Please asses on a scale of 1 to 10 (where 1 is "very bad" and 10 "very good") the following aspects concerning parking a car on the airport



Source: own research based on (results of) survey among passengers

Another question concerned aspects that could cause the surveyed respondents to stop using from the car when going to/from the airport (the question was answered by people who previously confirmed travelling by car or informed the interviewer that they use the car during the remaining trips to/from the airport). Unfortunately, over ¼ of respondents stated that they do not intend to change their means of transport. Nevertheless, the remaining share of respondents identified a series of measures that could influence them to change their mind. The most popular option were direct rail connections to the city center (the answer chosen by 26% of respondents). A related aspect was also a railway stop at the airport (15% of answers). A bus stop closer to the place of residence would influence 12% of respondents to give up the car. For 8%, it would be important to have a train stop closer to home.

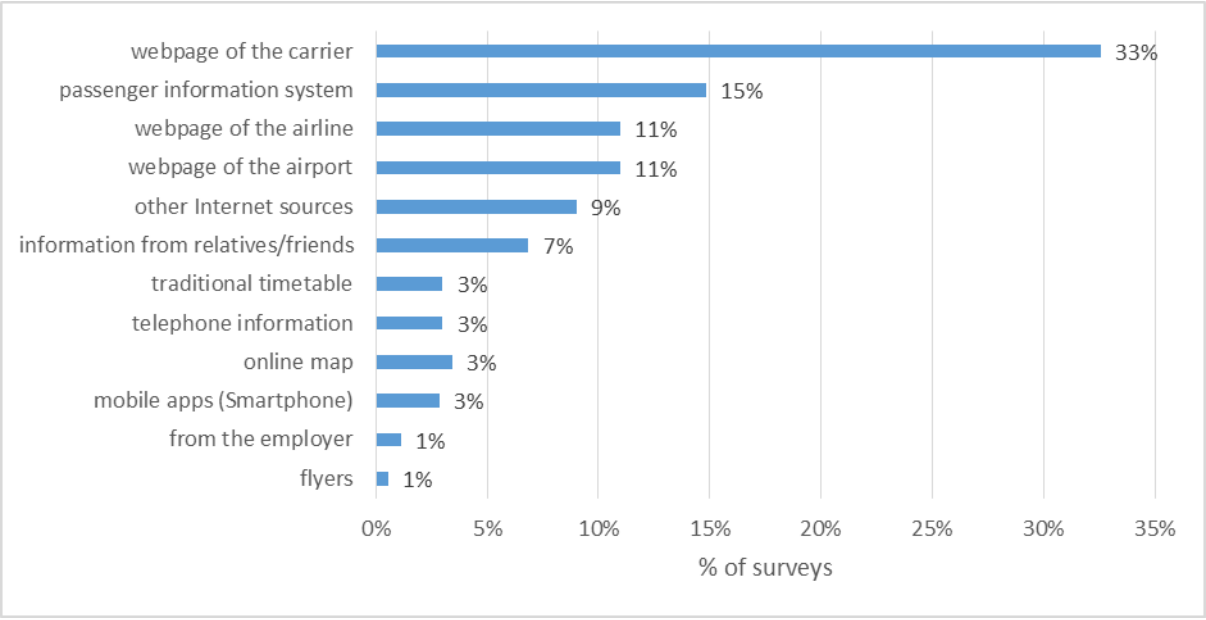
Figure 22. What would convince you to stop using the car while going to the airport? (the possibility to choose up to 2 answers)



Source: own research based on (results of) survey among passengers

Another question was addressed to respondents who went to the airport, or intended to reach their destination with the use of means of communication different than a car. Information on the available means of transport was most often obtained from the carrier's website (33%), a visual passenger information system (15%) and the airline or airport websites (11% each).

Figure 23. How did you obtain information about the available means of transport?

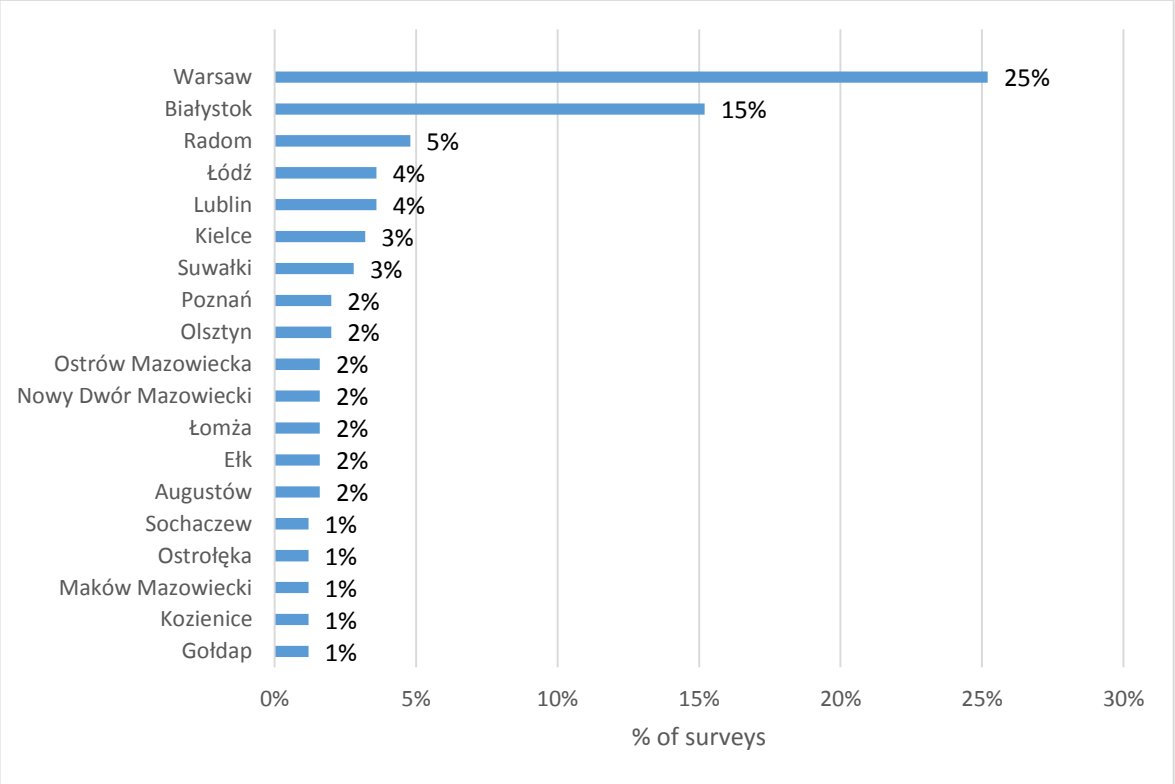


Source: own research based on (results of) survey among passengers

Questions for the arriving passengers

Below are presented the most frequently indicated travel directions (destinations) by passengers arriving at the Warsaw/Modlin Airport. The most popular destination was Warsaw, which was indicated by a quarter of the total number of those arriving. Białystok (15%) was in second place, and Radom ranked third (5%). Figure 21 depicts the most popular destinations, the remaining indications are single responses (up to 1%). Among them were towns mainly from the Mazowieckie, Podlaskie and Kujawsko-Pomorskie regions.

Figure 24. What is the direction of your travel (destination)?



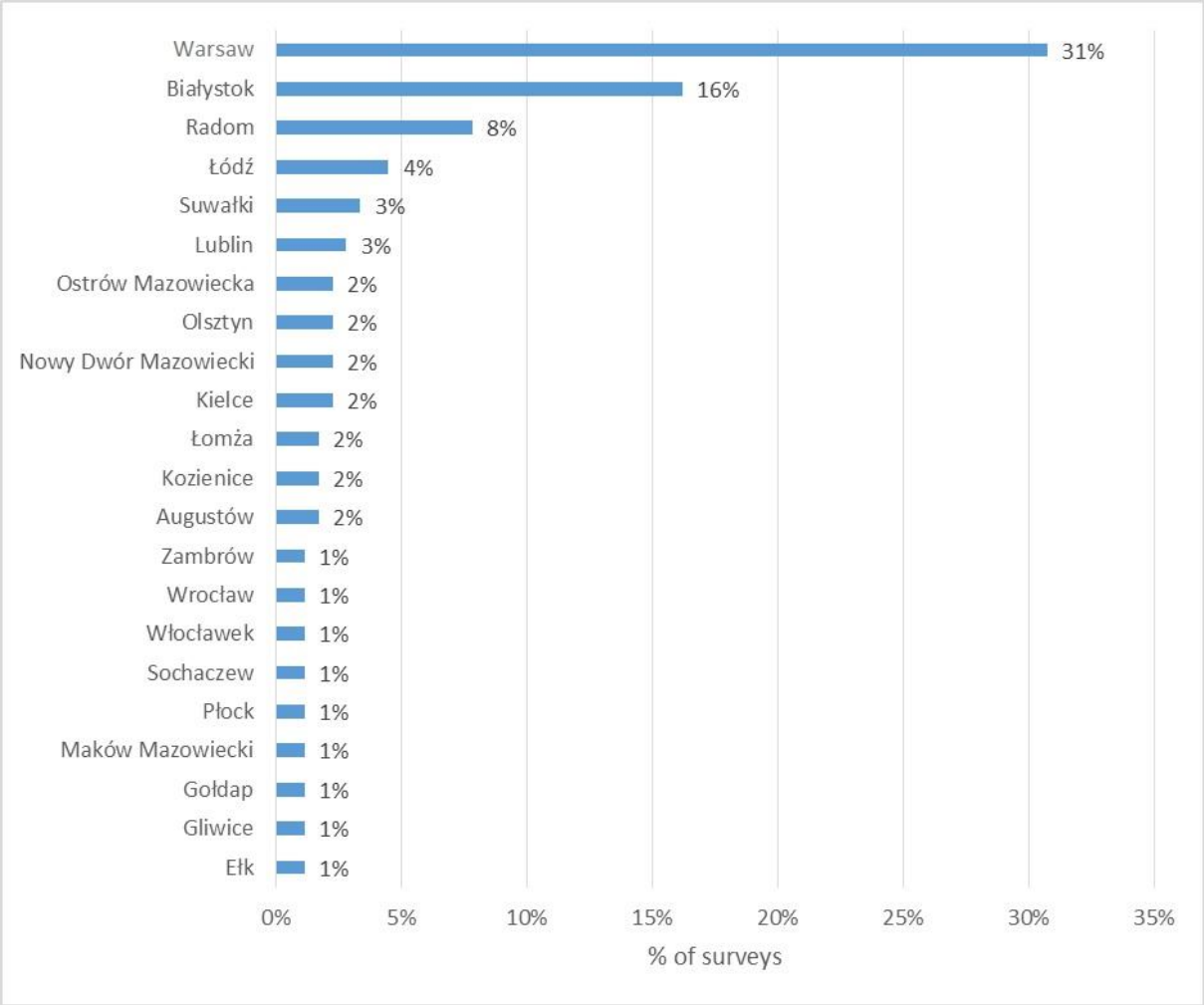
Source: own research based on (results of) survey among passengers

Figure 25. Map of the destinations of the arriving passengers

Source: own research based on (results of) survey among passengers

Warsaw had an even higher share in responses to the question (for those arriving) referring to the first place they would travel to on the way to their final destination. This undoubtedly results from the large number of significant transport interchanges and a rich accommodation base in the capital. The other major destinations in the ranking do not differ from those previously presented.

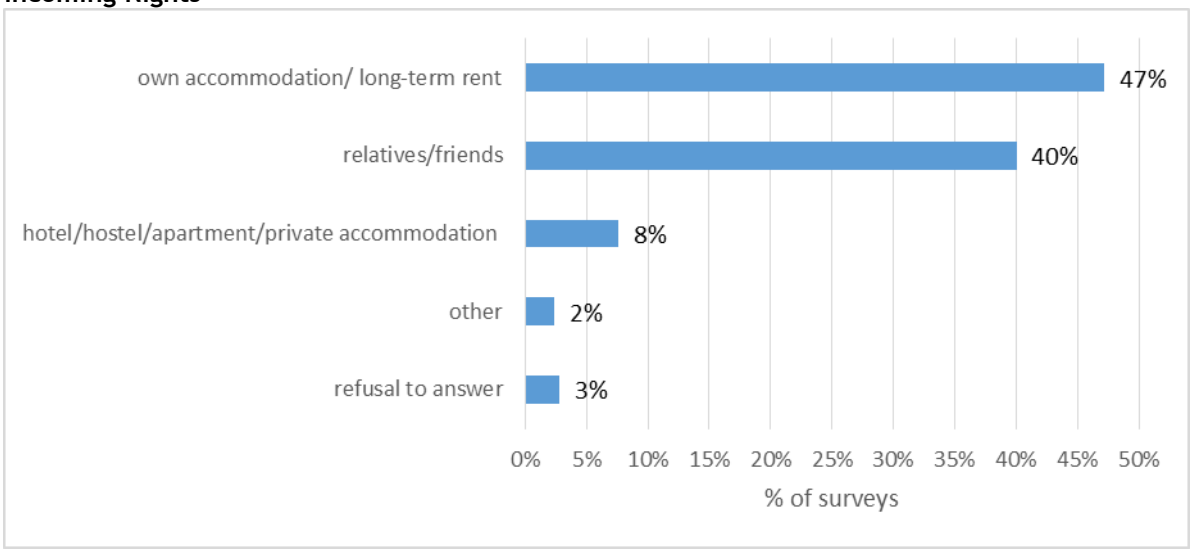
Figure 26. Where will you go after leaving the airport? (i.e. the place of the first night's accommodation after the survey) — question to passengers of incoming flights



Source: own research based on (results of) survey among passengers

A related subject, among the questions to the arriving passengers, was the issue of accommodation. The largest share of respondents (47%) stated that they would stay in their own (or rented) flat. A very high share (40%) planned to stay with their families or friends. The hotel/hostel/apartment/private accommodation option was chosen by 8% of respondents.

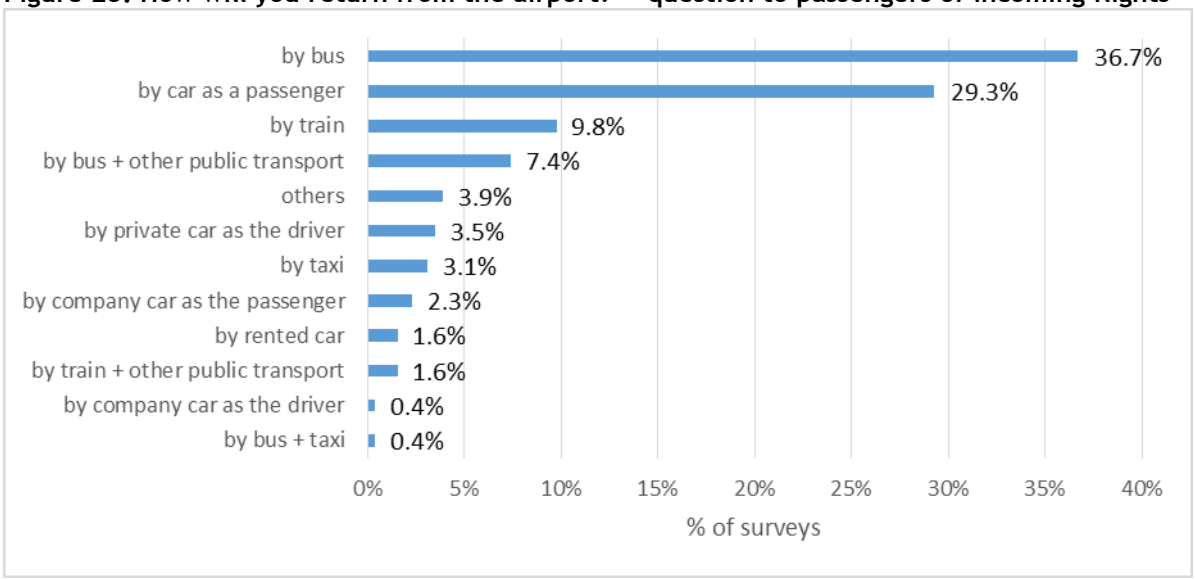
Figure 27. Where will you stay for the first night's accommodation? — question to passengers of incoming flights



Source: own research based on (results of) survey among passengers

Another question asked of the arriving passengers concerned the means of transport chosen to return from the airport. The largest number of answers referred to the bus, indicated by 37% of those arriving. The second most popular means of transport was a car in which the respondent intends to return as a passenger (29%). The train was the third answer, but the share of this means of transport was considerably lower and amounted to less than 10%. Taking into account all the indicated responses concerning car travel (in different variants), a total of 37% of all respondents chose this mode of transport, reflecting the fact that the car was the most popular among respondents. At the same time, in the case of public transport, a two-stage journey (i.e. with further public transportation) was indicated by a total of 9% of respondents.

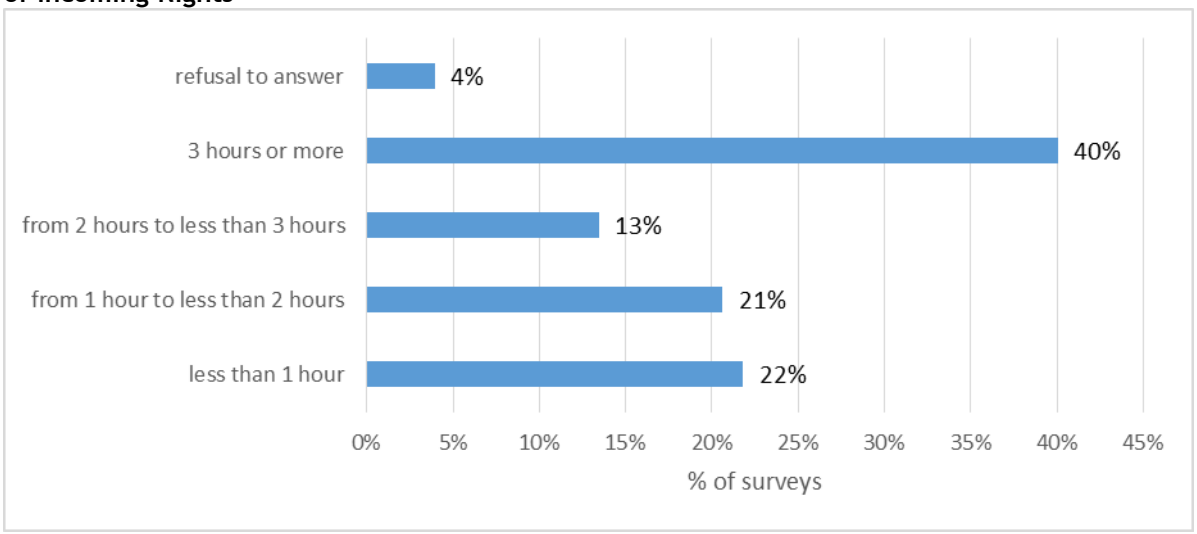
Figure 28. How will you return from the airport? — question to passengers of incoming flights



Source: own research based on (results of) survey among passengers

A significant part of respondents indicated that their visit to the airport would be followed by a long trip of 3 hours or longer (40% of arriving passengers). The second most numerous group were people who were going to travel for a short period of time, i.e. less than an hour (with a high share of this group constituting passengers whose destination was Warsaw).

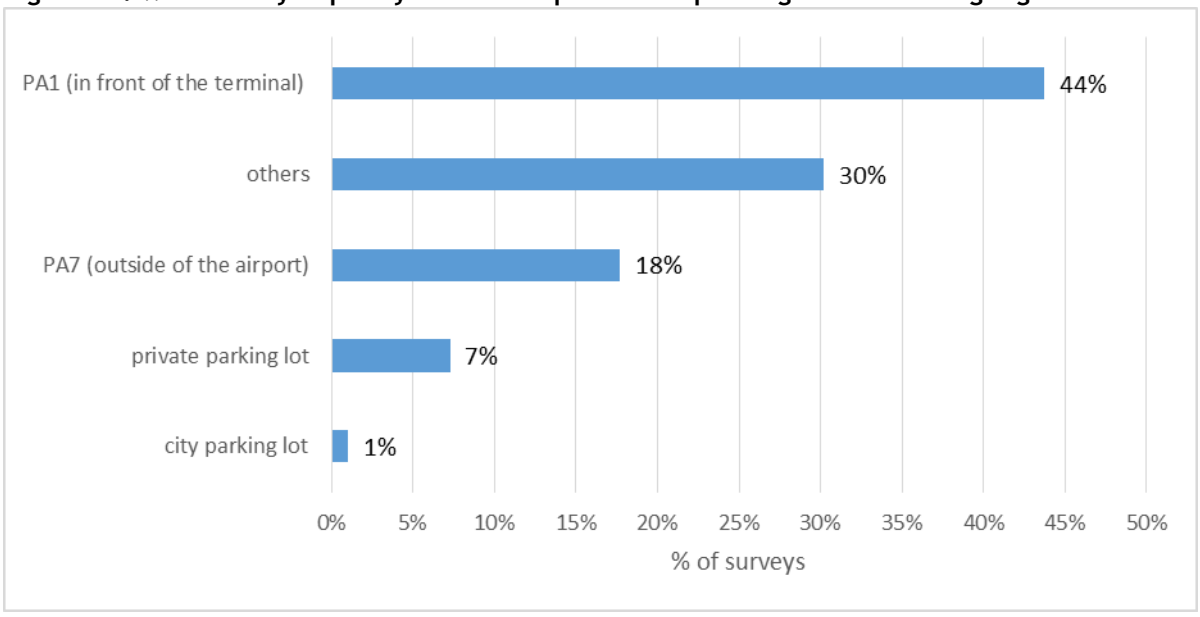
Figure 29. How much time does it take you to reach the destination? — question to passengers of incoming flights



Source: own research based on (results of) survey among passengers

Another question was asked of passengers of incoming flights who intended to leave the airport by car. As many as 44% of them had left the car in the P1 parking lot (in front of the terminal). The second most popular answer was "other", in which the respondents stated that someone would pick them up from the airport (30%). 18% of the respondents left their cars in the P7 parking lot (outside of the airport) and the remaining respondents left their cars in private and city parking lots.

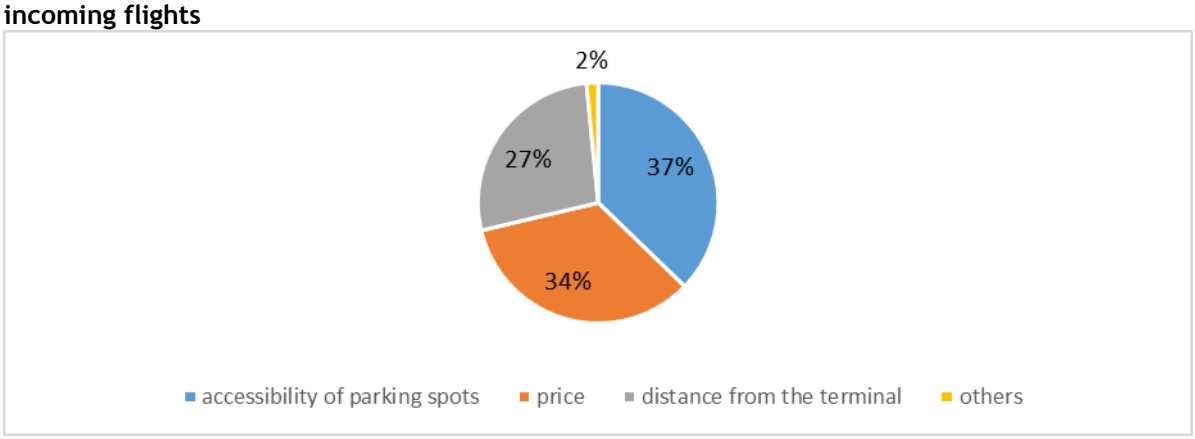
Figure 30. Where did you park your car? — question to passengers of incoming flights



Source: own research based on (results of) survey among passengers

The most common reason why the arriving passengers who departed by car chose a given parking space was the availability of a place to leave the vehicle (37%). The second most popular answer was the price (34%), and the third — distance from the terminal (27%).

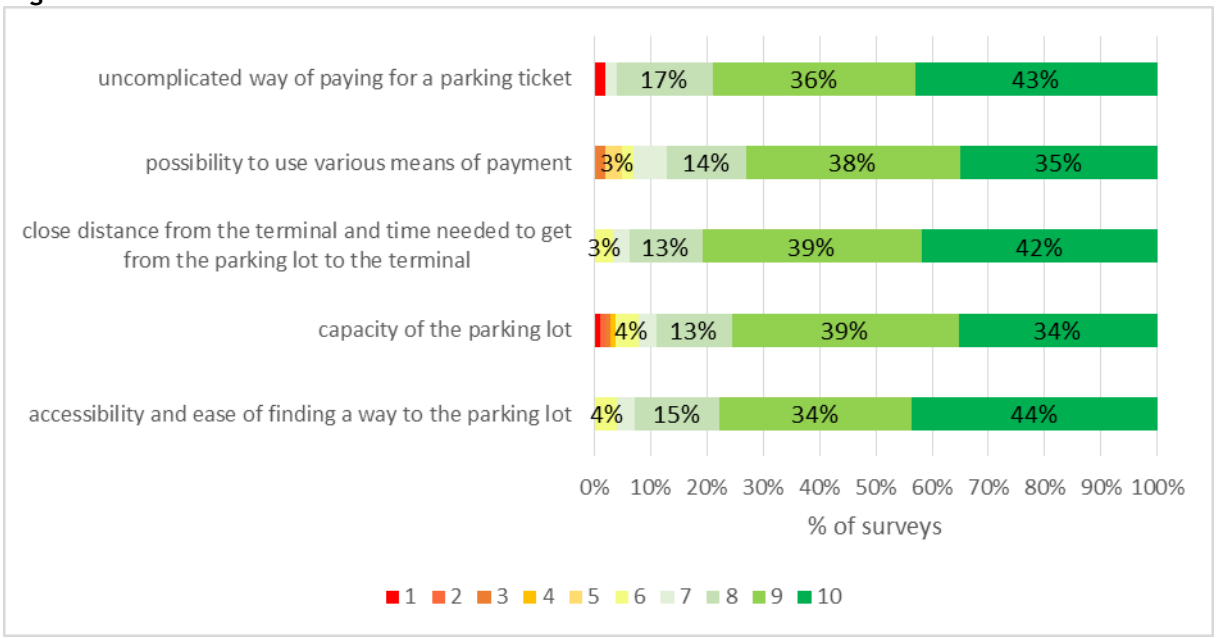
Figure 31. For what reason did you choose a given parking lot? — question to passengers of incoming flights



Source: own research based on (results of) survey among passengers

The arriving passengers using car as a means of transport were asked to assess several aspects related to parking the car at the airport. Within all the aspects listed in the survey, positive grades dominated (from 6 to higher), and negative ratings constituted a very low percentage of responses. The proximity of the terminal and the time needed to reach the terminal from the parking lot were rated the most positively (81% of the scores 9 and 10). The remaining answers obtained similar shares of positive ratings, but it should be noted that the relatively worst rating concerned the ease of paying for a parking ticket. This aspect obtained 73% of the scores 9 and 10 (the lowest share among all the examined aspects) and 5% of the 5 or lower ratings. Similar ratings applied to the parking capacity (73% of 9 and 10 ratings and 4% of 5 or lower ratings).

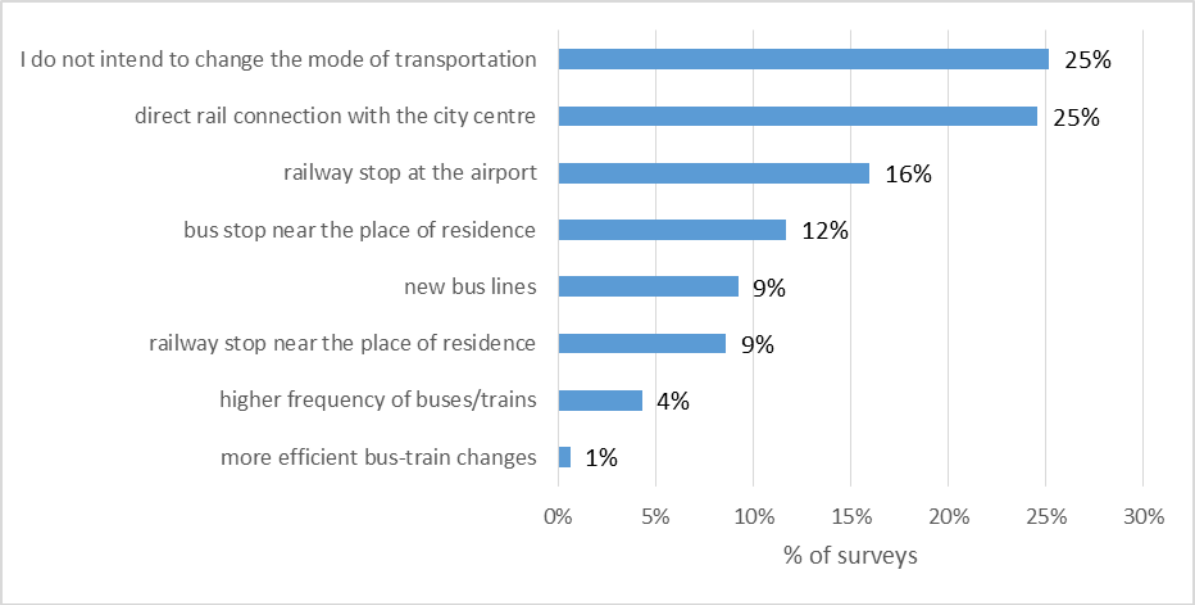
Figure 32. Please asses on a scale of 1 to 10 (where 1 is "very bad" and 10 "very good") the following aspects concerning parking the car at the airport — question to passengers of incoming flights



Source: own research based on (results of) survey among passengers

The next question concerned factors that could influence the arriving passengers not to use the car in their travel to the airport (the question was answered by people who previously declared travelling by car or informed the interviewer that they use the car during the remaining trips from the airport). Unfortunately, one quarter of respondents stated that they do not intend to change the means of transport. Nevertheless, the remaining percentage of respondents indicated a series of measures that should be implemented for this purpose. The most popular idea was the creation of direct rail connections to the city center (this answer was chosen by ¼ of the arriving respondents). A related issue was also the creation of a railway stop at the airport (16% of indications). The next two answers concerned bus communication. A bus stop closer to home would encourage 12% of the surveyed arriving passengers not to travel by car. In turn, for 9%, it would be beneficial to create new bus connections.

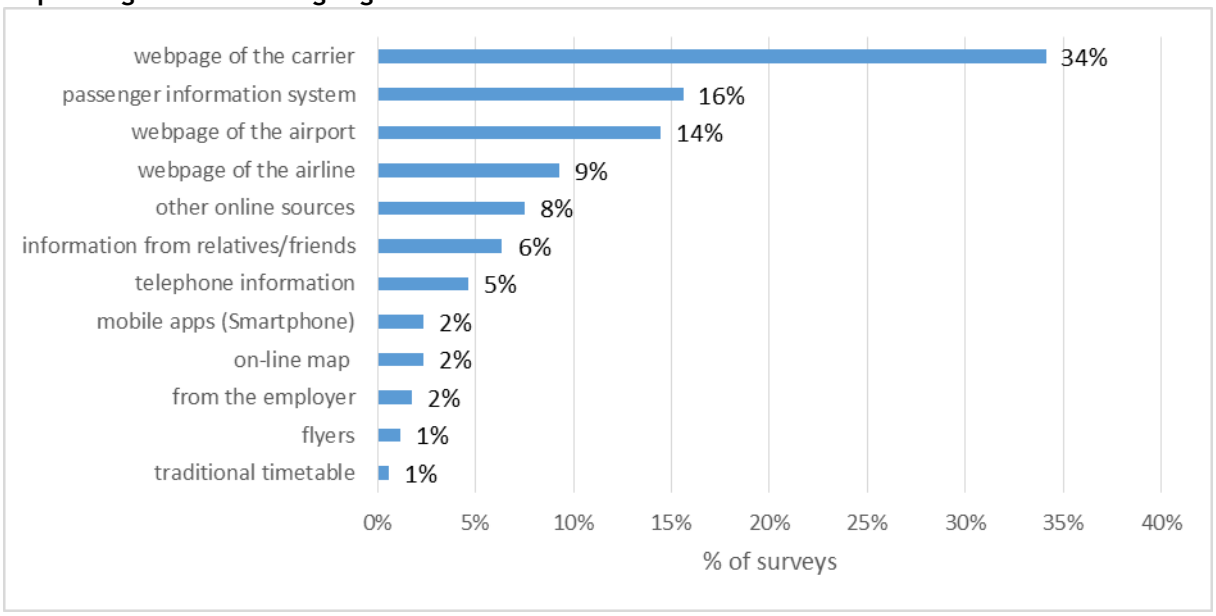
Figure 33. What would convince you to stop using the car while commuting to the airport? — question to passengers of incoming flights — (the possibility to choose up to 2 answers)



Source: own research based on (results of) survey among passengers

Another question was addressed to the arriving passengers intending to reach their destination by other means of communication than a car. Information on the available means of transport was most often obtained from the carrier's website (34%), a visual passenger information system (16%) and the airport website (14%). Among relatively important sources of information were also the airline website (9%) and other internet sources (8%). It is worth noting that traditional timetables were the least popular, with only 1% of answers.

Figure 34. How did you obtain information about the available means of transport? — question to passengers of incoming flights

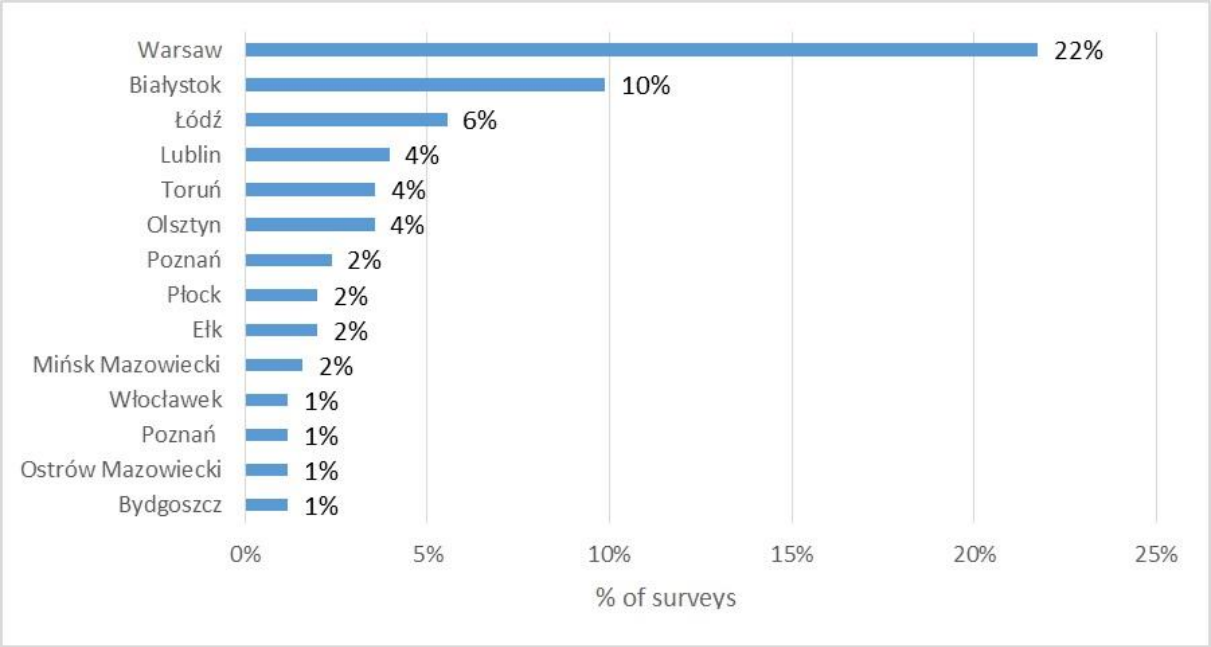


Source: own research based on (results of) survey among passengers

Questions to the departing passengers

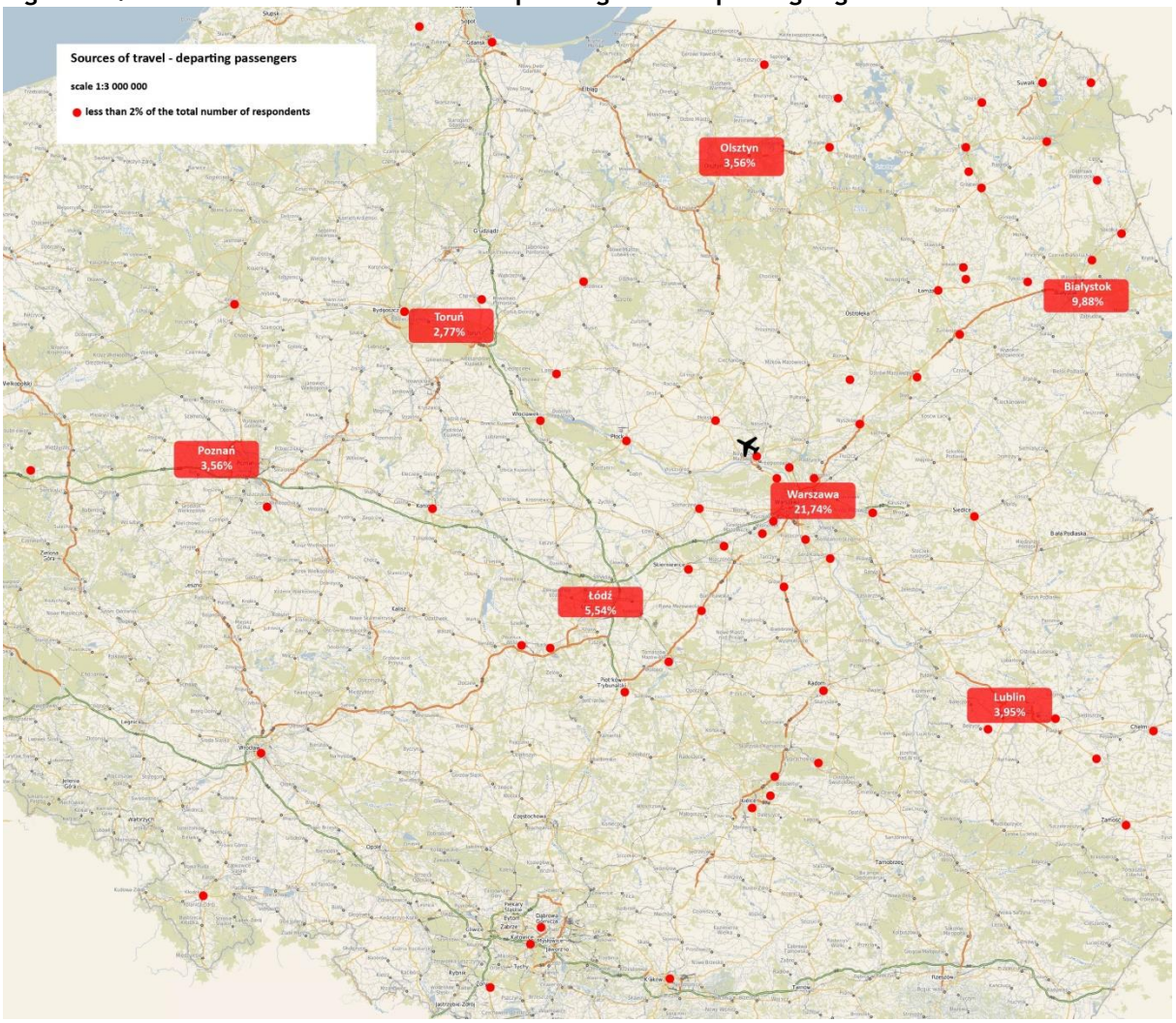
Among passengers of departing flights, the most respondents came to the airport from Warsaw, which was indicated by as many as 22% of those surveyed. The second most popular city in this ranking was Białystok (10%) and the third – Łódź, but in the case of this city the share of indications was already considerably lower, equal to 6%. The most often chosen cities (with over 1% share of responses) are presented below. Other locations included distant towns and cities; however, a significant proportion of the points of departure is located in the Mazowieckie and Podlaskie regions.

Figure 35. From what city did you come to the airport? Please provide the place of last accommodation – question to passengers of departing flights (answers indicated by >1% of those surveyed)



Source: own research based on (results of) survey among passengers

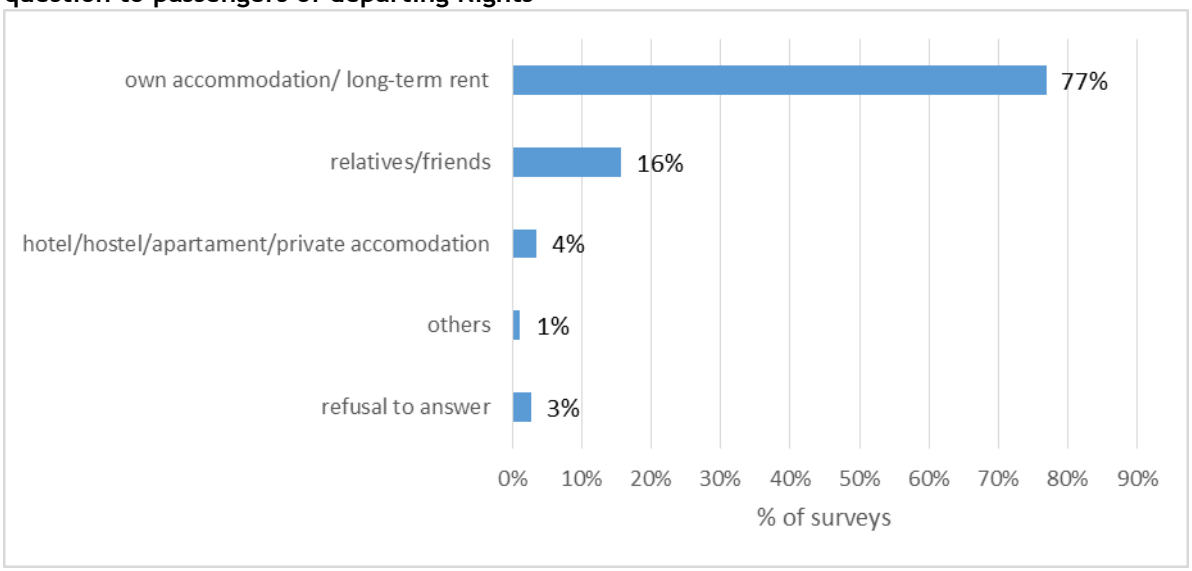
Figure 36. The main locations from which passengers of departing flights arrived



Source: own research based on (results of) survey among passengers

Departing passengers usually declared having come to the airport from their own flat, or a flat they were renting for a long time (77%). The second most frequent answer was that they had stayed with family/friends, but the share of this answer was significantly lower (16%).

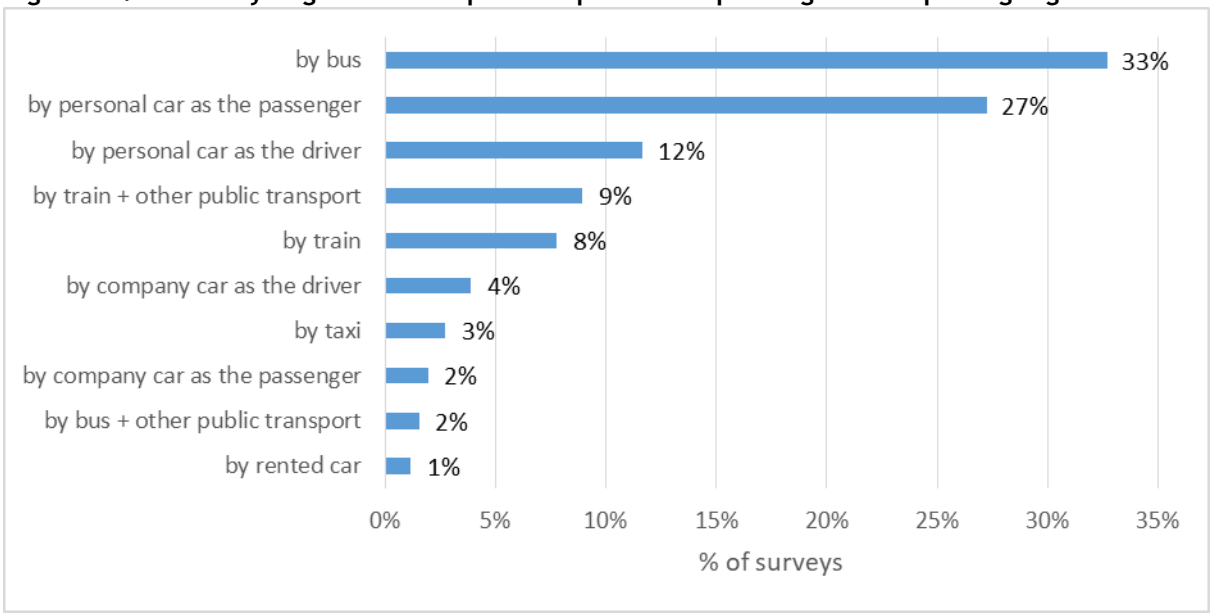
Figure 37. Where did you come to the airport from? (place of last night's accommodation?) — question to passengers of departing flights



Source: own research based on (results of) survey among passengers

The main means of transport of departing passengers was the car which (in various variants) was chosen by 46% of respondents. Among the remaining answers, the bus was indicated by 33% of this group of respondents. The train (including journeys with the use of further public transport) was indicated by 16.73%. A two-step journey (i.e. bus or train with the use of further public transport) was declared by 11% of respondents.

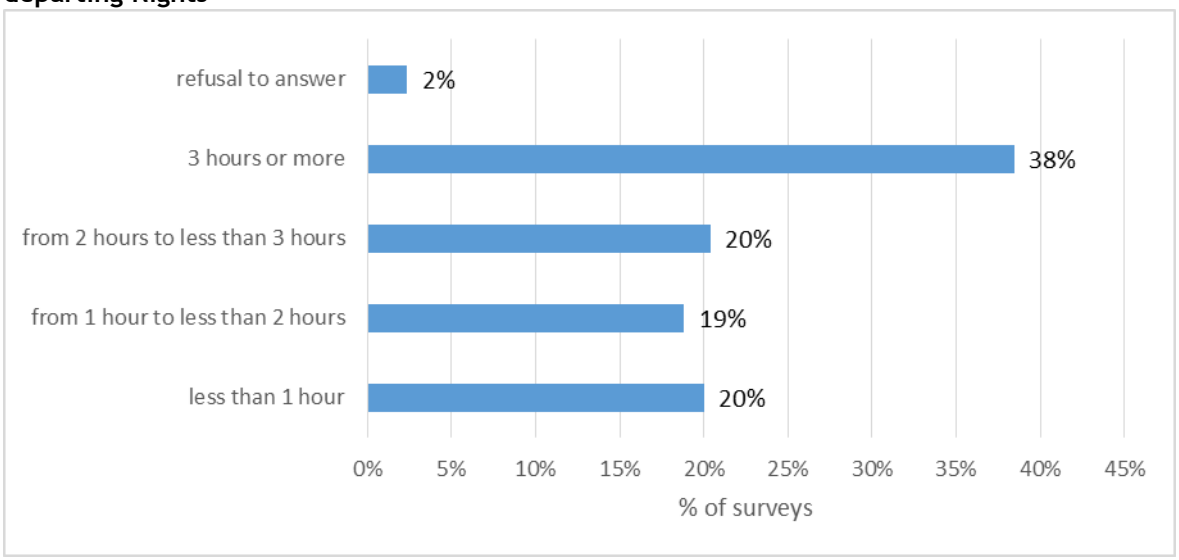
Figure 38. How did you get to the airport? — question to passengers of departing flights



Source: own research based on (results of) survey among passengers

In the case of the largest group of departing passengers, travel to the airport took 3 hours or longer (38%). 20% of respondents reported a shorter travel time (2-3 hours) and 19% — 1 to 2 hours. In addition, one fifth of respondents got to the airport in less than an hour.

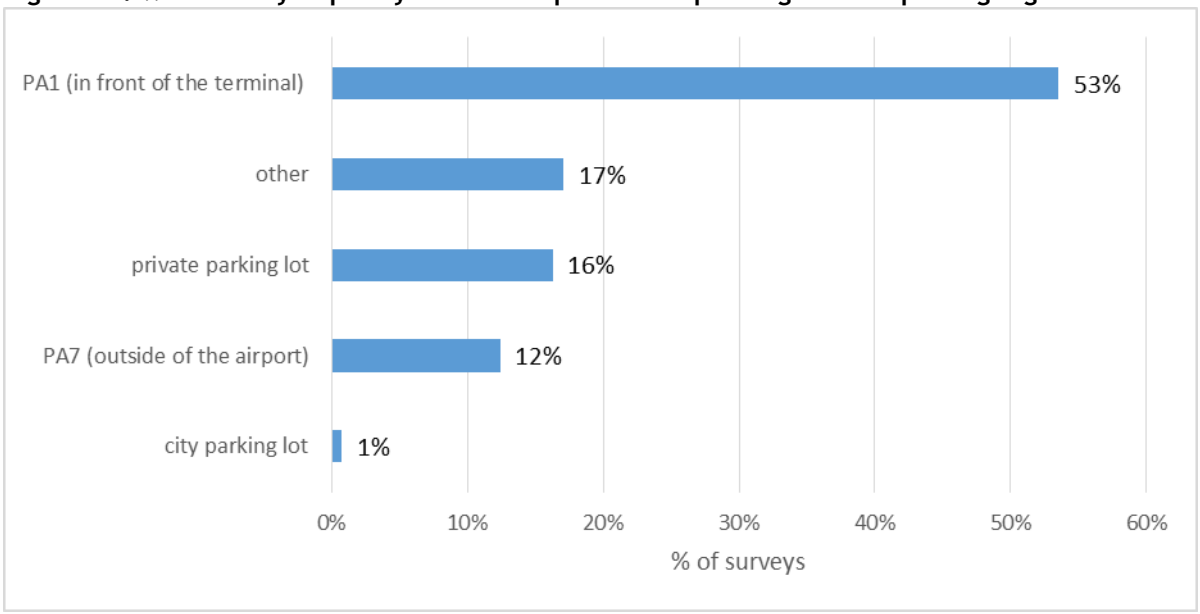
Figure 39. How much time did it take you to reach the airport? — question to passengers of departing flights



Source: own research based on (results of) survey among passengers

Another question for those departing concerned only people who arrived at the airport by car. Most of them (53%) parked in the PA1 parking lot (in front of the terminal). The second most popular answer was "other", in which respondents indicated that someone drove them to the airport and immediately left. The third place was taken by private car parks (17%), and the fourth — the PA7 parking lot (outside the airport), indicated by 12% of respondents. Only 1% of the respondents chose the city parking.

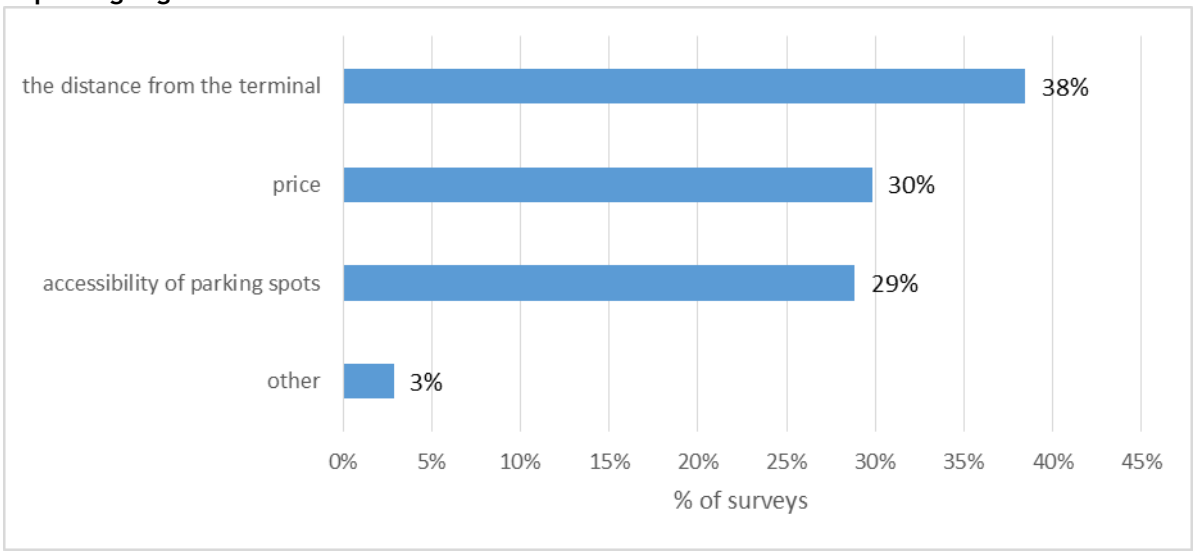
Figure 40. Where did you park your car? — question to passengers of departing flights



Source: own research based on (results of) survey among passengers

Respondents indicated the reasons why they chose the indicated parking lot. The most popular answer was the distance from the terminal (38.46%). The second one was the price (nearly 30%), and the fourth — parking space availability (slightly less than 29%).

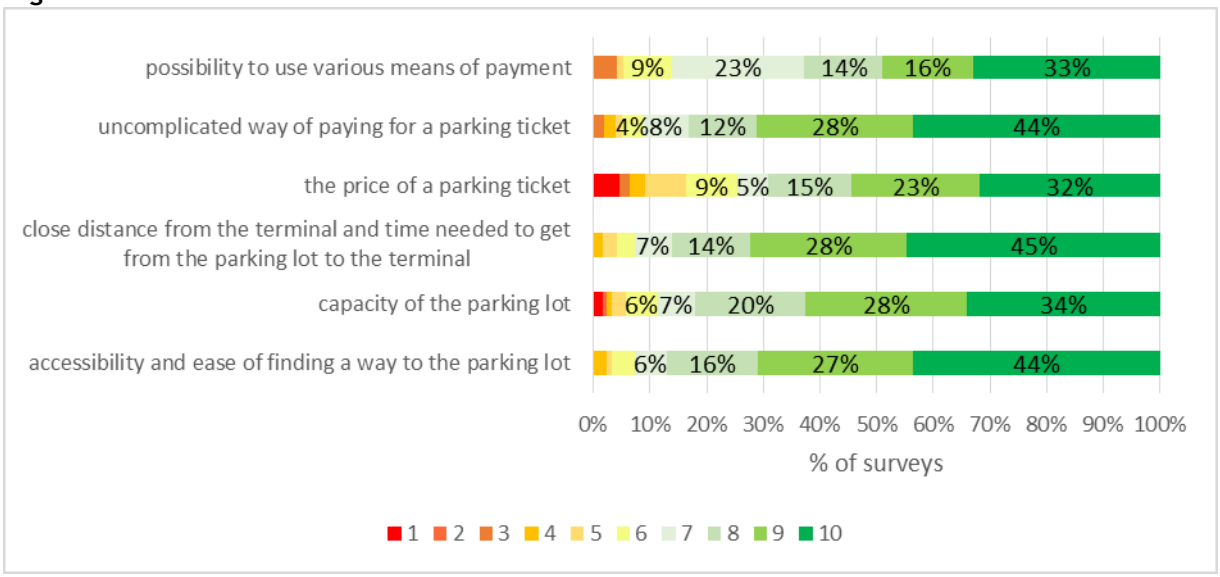
Figure 41. For what reason did you choose a given parking lot? — question to passengers of departing flights



Source: own research based on (results of) survey among passengers

The surveyed departing passengers who reached the airport by car were also asked to evaluate a number of aspects related to parking the car at the airport. In general, it should be noticed that all aspects were assessed positively, with grades of 8-10 (good and very good) prevailing. The highest share of such positive answers concerned the availability and ease of finding a way to the parking lot (87% of such assessments). The relatively "worst" rating referred to the price of a parking ticket, which received 16% of ratings in the range of 1-5.

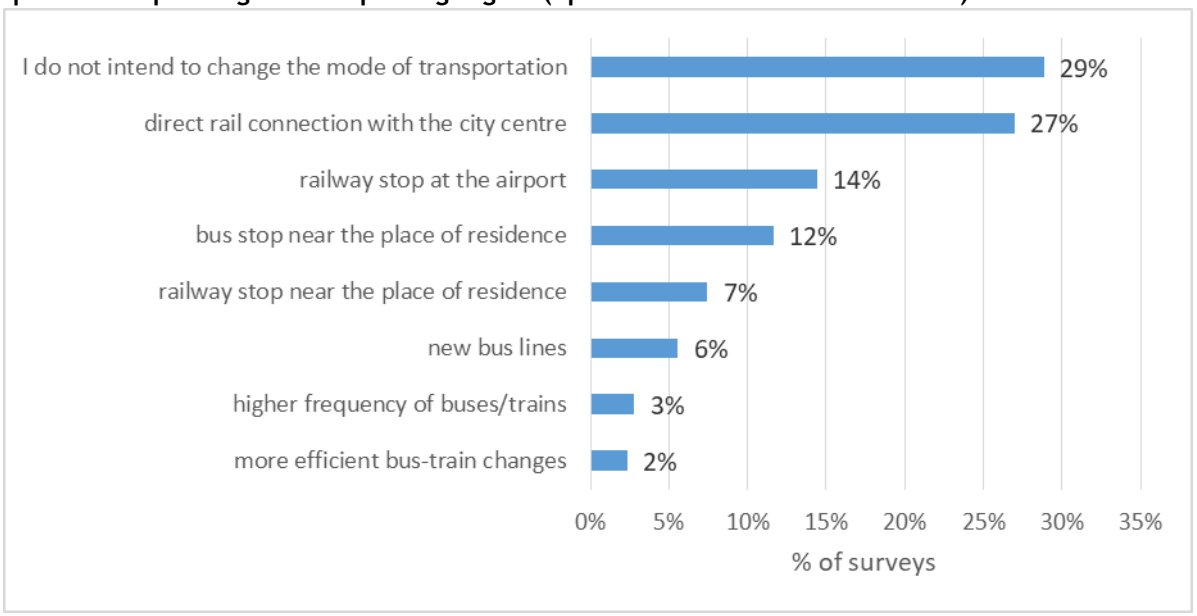
Figure 42. Please asses on a scale of 1 to 10 (where 1 is "very bad" and 10 "very good") the following aspects concerning parking a car at the airport — question to passengers of departing flights



Source: own research based on (results of) survey among passengers

Unfortunately, 29% of respondents stated that they do not intend to change the means of transport (the question was answered by those who had previously declared using a car or informed the interviewer that they use a car during other trips from the airport). Nevertheless, the remaining respondents indicated a series of measures that would motivate them to change their means of transport. The most popular idea was the development of direct rail connections to the city center (this answer was chosen by 27% of respondents). A related idea was a train stop at the airport (almost 14.42% of indications). Next was a bus stop closer to home (11.63%).

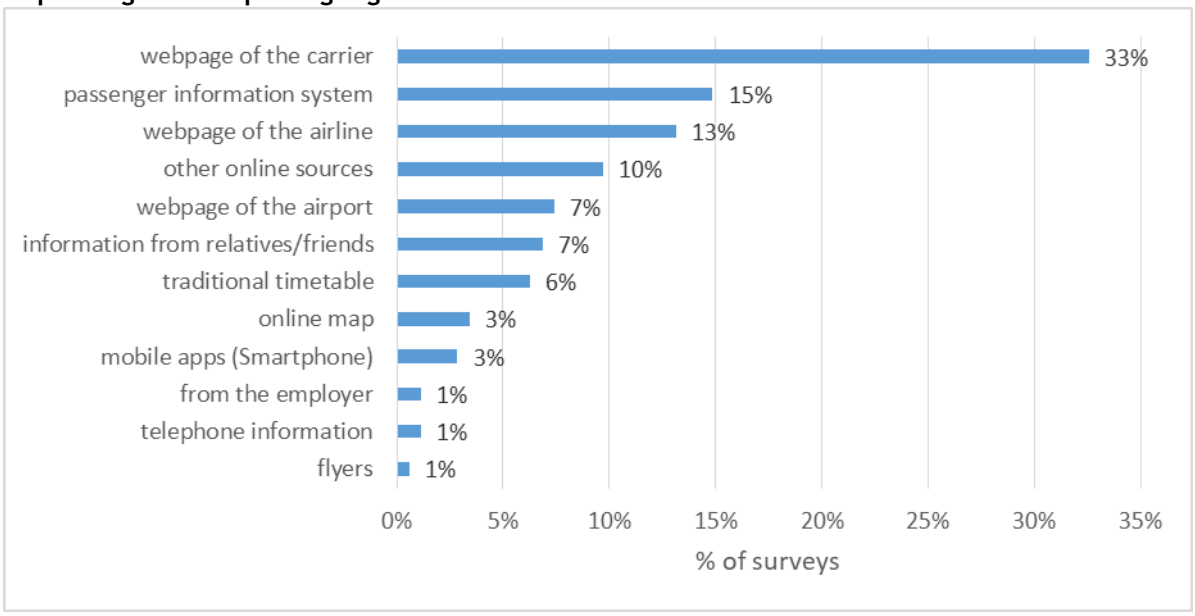
Figure 43. What would convince you to resign from the car when travelling to the airport? ? — question to passengers of departing flights (up to 2 answers could be chosen)



Source: own research based on (results of) survey among passengers

The last analyzed question was directed at the departing passengers who had reached the airport without the use of a car. Information on the available means of transport was most often obtained from the carrier's website (1/3 of the respondents of this group). The second most popular answer was the visual passenger information system (15%). Then, other internet sources were indicated by 10% of respondents. The traditional timetable was chosen by only 6% of this group of respondents.

Figure 44. How did you obtain information about the available means of transport? — question to passengers of departing flights



Source: own research based on (results of) survey among passengers

Conclusions from the survey

The majority of respondents of the survey purchased an airline ticket via the airline's website (88%). The remaining internet sources accounted for 5%, reflecting the significant advantage of purchasing tickets online. Both those arriving and departing relatively rarely used traditional timetables for surface transport — passengers mainly checked connections via the internet and the visual passenger information system. Respondents also usually purchased tickets well in advance. 2/3 of those surveyed bought them more than a month before their departure.

For the vast majority of respondents, the purpose of the trip was to visit relatives and/or friends, or recreation (41.6% and 41.0%, respectively). On the other hand, business trips were indicated by only slightly more than 6% of all respondents. This structure of answers may result from the date of the study which coincided with trips related to the May Day holidays.

The most frequently indicated reason for choosing Warsaw/Modlin Airport was the ticket price, which was indicated by 90% of respondents as important or very important

The surveyed respondents usually travelled alone or accompanied by another person (both options accounted for 83% of those surveyed).

The main means of transport to/from the airport (regarding both those departing and arriving) was a car (in various variants), chosen by 41% of respondents. Among the remaining answers, the bus, indicated by 35% of the total number of respondents, was also an important mode of transport. Among other significant means of transport were the train (as the only means or with further public communication), indicated by 14% of the respondents. In addition, two-stage travel (i.e. bus or train with further public transport) was declared by 11% of the total number of respondents.

No significant correlations between the weather and chosen means of transport were identified. On sunny days, the bus was chosen the most frequently (40%). The second most popular option was a car, chosen (in different variants of the answer) by 38% of respondents. The situation was different when the weather was mostly cloudy. In this case, the car was the most frequently chosen means of transport (38%), and the bus was the second choice (32%).

Among arguments for travelling by private or rented car (question for all respondents), factors such as travel comfort, sales system and availability were of key importance. Similar factors were also indicated in the case of a taxi (with availability being the most important to respondents — 25%). In the case of travel by public transport, the indicated factors concerned mainly the cost (33.3% for further public transport) and availability (19.8% for the bus). It should be noted that ecology-related factors were frequently not taken into account, with the highest share of answers concerning this aspect noted in the case of travel by train and bus, although the said share was very low (1.4% and 1.2%, respectively) . The surveyed passengers paid much more attention to the practical aspects of the journey (comfort, accessibility, time) than to the environmental aspects which might influence their choice of means of transport.

No particularly significant correlations between the age of passengers and their chosen means of transport to the airport were identified. It should be noted that among those surveyed, people under 18 reached the airport as car passengers, and older people (above the age of 65) only by bus. The situation was similar in the case of the arriving passengers. Also in this case, the elderly mainly used the bus (67%), and among the other age groups there were no significant differences. It is worth noting, however, that the train was chosen as a means of travel from the airport mainly by people in middle and older age (46 years and older). Travel by car was popular among almost all age groups (excluding people under 18 and older people).

Due to the high share of respondents from larger urban centers (e.g. Warsaw, Białystok), those cities accounted for the largest share of respondents using the various analyzed means of transport. Most people traveling by train and further public transport came from Warsaw (75%), and the bus was most popular among travelers from Białystok and Warsaw (respectively 29% and 17%)..

In terms of the quality of the trip from/to the airport, the most positively assessed aspects were the road marking/signage to the airport and the punctuality of buses. The accessibility and frequency of buses were evaluated in the most negative manner.

For arriving passengers the most popular destination was Warsaw, which was indicated by a quarter of the total number of those arriving. Białystok (15%) was second and Radom ranked third (5%).

Among passengers of departing flights, the most respondents came to the airport from Warsaw, which was indicated by as many as 22% of those surveyed. The second most popular city in this ranking was Białystok (10%) and the third — Łódź, but in the case of this city the share of indications was already considerably lower, equal to 6%.

Both those arriving and departing were asked what would motivate them not to use the car to get to/from the airport. Unfortunately, over ¼ of respondents stated that they do not intend to change their means of transport. Nevertheless, the remaining share of respondents identified a series of measures that could influence them to change their mind. The most popular option were direct rail connections to the city center (the answer chosen by 26% of respondents). A related aspect was also a railway stop at the airport (15% of answers). A bus stop closer to the place of residence would influence 12% of respondents to give up the car. For 8%, it would be important to have a train stop closer to home.

Taking into account the age of respondents, the highest percentage of those who did not take into account other means of transport were people aged 14-17 and 36-45. Older people (over 65 years old) more often indicated development of railway and bus infrastructure as factors which could induce such a change, with particular focus on a direct railway connection to the city center and a bus stop closer to home. In the case of people aged 18-25, direct rail connections to the city center were definitely the most popular (as many as 41% of responses in this age group).

In terms of the respondents' destinations, a direct railway connection to the city center and the higher frequency of buses/trains were chosen mainly by passengers traveling to Białystok and Warsaw. New bus connections were indicated predominantly by passengers going to Łomża, Warsaw and Białystok. A railway station at the airport would encourage passengers travelling to Łódź and Radom not to travel by car.

There was a moderate interest in using a mobile application dedicated to the airport in Modlin, which would facilitate access to the airport. The willingness to use such an application was expressed by 39% of all respondents.

Comparison of results – relations and dependencies

The table below presents the relations between the prevailing atmospheric conditions (on the day of the survey) and the chosen means of transport from/to the airport. On sunny days, the bus was chosen the most frequently (40%). The second most popular option was the car (in different variants of the answer), chosen by 38% of respondents. The situation was different when the weather was mostly cloudy. In this case, the car was the most frequently chosen means of transport (38%), and the bus would be the second choice (32%).

Table 1. Relations between the assessment of the prevailing atmospheric conditions and the chosen means of transport to/from the airport

		1. What are the prevailing weather conditions?						
		sun	clouds	rain	snow	glaze ice	lightning	fog
24. How did you get to/will you return from the airport?	by train	8%	12%	33%	100%	-	-	-
	by train + taxi	-	-	-	-	-	-	-
	by train + other public transport	2%	-	-	-	-	-	-
	by bus	40%	32%	67%	-	-	-	-
	by bus + other public transport	8%	6%	-	-	-	-	-
	by bus + taxi	-	-	-	-	-	-	-
	by taxi	2%	6%	-	-	-	-	-
	by personal car as the driver	5%	3%	-	-	-	-	-
	by company car as the driver	-	-	-	-	-	-	-
	by car as the passenger	30%	32%	-	-	-	-	-
	by company cas as the passenger	3%	-	-	-	-	-	-
	by rented car	-	3%	-	-	-	-	-
	others	3%	6%	-	-	-	-	-

Source: own research based on (results of) survey among passengers

The most common accommodation after arrival for people aged 14-17 was Suwałki. People aged 18-25 mostly stayed in Warsaw, Białystok, Kielce or Maków Mazowiecki. Respondents aged 26-45 spent the night mainly in Warsaw and a smaller share of respondents — in Białystok and Radom. People aged 46-55 as the first overnight accommodation after their arrival chose Warsaw or Białystok. Respondents over the age of 65 indicated Gliwice or Gołdap.

Table 2. Relations between age and place of first accommodation (arriving passengers)

		age						
		14-17	18-25	26-35	36-45	46-55	56-65	more than 65
20. Where will you go after leaving the airport? (the first night's accommodation)	Augustów	-	-	-	-	-	24%	-
	Biała Podlaska	-	-	<1%	-	-	-	-
	Białystok	-	49%	19%	14%	33%	-	1%
	Bydgoszcz	-	-	-	-	-	<1%	-
	Ełk	-	-	<1%	<1%	-	-	-
	Gdynia	-	-	-	-	-	-	1%
	Gliwice	-	-	-	-	-	-	48%
	Gołdap	-	-	-	-	-	-	48%
	Grajewo	-	-	-	-	-	<1%	-
	Grodno	-	-	<1%	-	-	-	-
	Holandia	-	<1%	-	-	-	-	-
	Kielce	-	12%	-	7%	-	-	-
	Kozienice	-	-	5%	-	-	-	-

		age						
		14-17	18-25	26-35	36-45	46-55	56-65	more than 65
	Lublin	-	-	<1%	7%	<1%	<1%	-
	Łomża	-	-	5%	<1%	-	-	-
	Łódź	-	<1%	9%	7%	<1%	-	-
	Maków Mazowiecki	-	12%	-	-	-	-	-
	Malbork	-	-	<1%	-	-	-	1%
	Nowy Dwór Mazowiecki	-	-	-	<1%	16%	-	-
	Olsztyn	-	-	-	7%	<1%	<1%	-
	Ostrołęka	-	-	<1%	-	-	-	-
	Ostrów Mazowiecka	-	-	-	<1%	16%	-	-
	Otwock	-	<1%	-	-	-	-	-
	Płock	-	-	<1%	<1%	-	-	-
	Płońsk	-	-	<1%	-	-	-	-
	Pniewo	-	<1%	-	-	-	-	-
	Poznań	-	-	<1%	-	-	-	-
	Radom	-	-	14%	14%	-	<1%	-
	Siedlce	-	-	<1%	-	-	-	-
	Skarżysko Kamienna	-	-	-	<1%	-	-	-
	Sochaczew	-	-	-	7%	-	-	-
	Suwałki	100%	<1%	5%	<1%	-	-	-
	Toruń	-	<1%	-	-	-	-	-
	Warsaw	-	25%	42%	35%	33%	73%	1%
	Włocławek	-	-	<1%	<1%	-	-	-
	Wrocław	-	-	<1%	-	<1%	-	-
	Wysokie Mazowieckie	-	-	<1%	-	-	-	-
	Wyszków	-	-	-	<1%	-	-	-
	Zambrów	-	-	-	<1%	-	<1%	-
	Żnin	-	-	-	-	<1%	-	-

Source: own research based on (results of) survey among passengers

People with higher education predominantly indicated Warsaw as their first night's accommodation. Respondents with secondary education selected Warsaw or Białystok. The largest number of the surveyed with primary education spent the night in Wysokie Mazowieckie.

Table 3. Relations between education and place of first accommodation (arriving passengers)

	education			
		primary	secondary	high
20. Where will you go after leaving the airport? (the first' night's accommodation)	Augustów	4%	-	3%
	Biała Podlaska	4%	-	-
	Białystok	-	23%	16%
	Bydgoszcz	4%	-	-
	Ełk	4%	-	-
	Gdynia	-	-	-
	Gliwice	-	-	3%
	Gołdap	-	-	3%
	Grajewo	-	-	-
	Grodno	-	-	-
	Holandia	-	-	-
	Kielce	-	-	3%
	Kozienice	-	4%	-
	Lublin	-	4%	3%
	Łomża	-	4%	-
	Łódź	-	8%	3%
	Maków Mazowiecki	4%	-	-
	Malbork	-	-	3%
	Nowy Dwór Mazowiecki	-	-	3%
	Olsztyn	-	-	3%
	Ostrołęka	-	-	-
	Ostrów Mazowiecka	-	4%	-

		education		
		primary	secondary	high
	Otwock	-	-	-
	Płock	-	-	3%
	Płońsk	-	-	-
	Pniewo	-	-	-
	Poznań	-	-	-
	Radom	-	15%	3%
	Siedlce	-	-	1%
	Skarżysko Kamienna	4%	-	-
	Sochaczew	-	4%	-
	Suwałki	18%	4%	3%
	Toruń	-	1%	-
	Warsaw	-	23%	47%
	Włocławek	-	1%	-
	Wrocław	-	4%	-
	Wysokie Mazowieckie	54%	-	-
	Wyszków	4%	-	-
	Zambrów	-	4%	-
	Żnin	4%	-	-

Source: own research based on (results of) survey among passengers

The most diverse group in terms of the first place of accommodation were people working full-time. In all the categories except for the unemployed, Warsaw was the dominant place of the first overnight stay. The majority of the unemployed respondents had their first accommodation in Białystok or Kozienice.

Table 4. Relations between employment and place of first accommodation (arriving passengers)

		employment					
		unemployed	retiree/pension recipients	others	full-time employment	full-time employment (about 160 hours per month)	student
20. Where will you go after leaving the airport? (the first' night's accommodation)	Augustów	-	-	-	7%	2%	-
	Biała Podlaska	-	-	-	-	1%	-
	Białystok	43%	8%	-	7%	16%	26%
	Bydgoszcz	-	8%	-	-	-	-
	Ełk	14%	-	-	-	1%	-
	Gdynia	-	-	13%	-	-	-
	Gliwice	-	-	25%	-	-	-
	Gołdap	-	-	25%	-	-	-
	Grajewo Podlaskie	-	8%	-	-	-	-
	Grodno	-	-	-	-	1%	-
	Holandia	-	-	-	-	1%	-
	Kielce	-	-	-	14%	2%	-
	Kozienice	43%	-	-	-	-	-
	Lublin	-	-	-	-	4%	-
	Łomża	-	-	-	7%	2%	-
	Łódź	-	-	-	14%	5%	-
	Maków Mazowiecki	-	-	-	-	-	11%
	Malbork	-	-	13%	-	1%	-
	Nowy Dwór Mazowiecki	-	-	-	7%	3%	-
	Olsztyn	-	-	-	-	3%	-
	Ostrołęka	-	-	-	-	1%	-
	Ostrów Mazowiecka	-	-	-	7%	3%	-
	Otwock	-	-	-	-	-	5%
	Płock	-	-	-	-	2%	-
	Płońsk	-	-	-	-	1%	-
	Pniewo	-	-	-	-	1%	-
	Poznań	-	-	-	-	1%	-
	Radom	-	15%	-	7%	9%	-
	Siedlce	-	-	-	-	1%	-
	Skarżysko Kamienne	-	-	-	-	1%	-

	employment						
		unemployed	retiree/pension recipients	others	full-time employment	full-time employment (about 160 hours per month)	student
	Sochaczew	-	-	-	-	2%	-
	Suwałki	-	-	-	-	2%	21%
	Toruń	-	-	-	-	-	5%
	Warsaw	-	54%	25%	29%	31%	32%
	Włocławek	-	-	-	-	2%	-
	Wrocław	-	-	-	-	2%	-
	Wysokie Mazowieckie	-	-	-	-	1%	-
	Wyszków Mazowiecki	-	-	-	-	1%	-
	Zambrów	-	8%	-	-	1%	-
	Żnin	-	-	-	-	1%	-

Source: own research based on (results of) survey among passengers

In terms of the last accommodation before coming to the airport, the largest group of people who spent the previous night in Warsaw were respondents younger than 35 years old. People over 35 more often than other groups indicated places outside of Warsaw, most often Białystok which was also where people older than 65 years stayed the most often.

Table 5. Relations between respondents' age and place of last accommodation (departing passengers)

	age							
		14-17	18-25	26-35	36-45	46-55	56-65	more than 65
22. From what city did you come to the airport?	Aleksandrów	-	-	-	-	-	3%	-
	Augustów	-	-	-	-	2%	-	-
	Bartoszyce	-	-	1%	-	-	-	-
	Białystok	-	18%	8%	17%	<1%	13%	25%
	Błażejewo	-	-	-	1%	-	-	-
	Bożechów	-	-	-	1%	-	-	-
	Brodnica	-	-	1%	-	-	-	-
	Brześć	-	-	-	1%	-	-	-
	Bydgoszcz	-	1%	-	1%	2%	-	-
	Chełm	-	-	-	-	-	3%	-
	Chełmża	-	-	1%	-	-	-	-
	Czarna Białostocka	-	-	1%	-	-	-	-
	Dąbrowa Białostocka	-	-	1%	-	-	-	-
	Dąbrowa Górnicza	-	-	1%	-	-	-	-
	Dobre	-	1%	-	-	-	-	-
	Ełk	-	1%	-	6%	-	13%	-
	Gdańsk	-	1%	1%	-	-	-	-
	Góra Kalwaria	-	-	1%	-	-	-	-
	Grajewo	-	-	-	1%	-	-	-
	Grądu Zalewne	-	-	1%	-	-	-	-
	Grodno	-	-	-	-	-	3%	-
	Grójce	-	-	1%	-	-	-	-
	Iwano-Frankiwsk	-	1%	1%	-	-	-	-
	Jedwabne	-	-	-	-	-	3%	-
	Jeziorady	-	-	-	-	2%	-	-
	Katowice	-	-	-	1%	-	-	-
	Kętrzyn	-	-	1%	-	-	-	-
	Kielce	-	-	1%	1%	-	-	-
	Kijów	-	-	1%	-	-	-	-
	Kłodzko	8%	-	-	-	-	-	-
	Kobyłka	-	1%	-	-	-	-	-
	Konin	-	-	1%	-	2%	-	-
	Kowalewo	-	1%	-	-	-	-	-
	Kowno	-	-	-	1%	-	-	-

		age						
		14-17	18-25	26-35	36-45	46-55	56-65	more than 65
	Kraków	-	1%	-	-	-	-	-
	Krasnystaw	-	-	-	-	2%	-	-
	Legionowo	-	-	-	-	-	3%	-
	Lipno	-	1%	-	-	-	-	-
	Lublin	-	1%	4%	-	19%	-	-
	Lwów	-	1%	-	-	-	-	-
	Łagow	-	-	-	1%	-	-	-
	Łask	-	-	4%	-	-	-	-
	Łączna	-	-	-	-	2%	-	-
	Łomianki	-	-	-	1%	-	-	-
	Łomża	-	-	1%	1%	-	-	-
	Łódź	-	12%	4%	6%	2%	-	25%
	Macclesfield	-	-	-	1%	-	-	-
	Mińsk	-	-	-	-	2%	-	-
	Mińsk Mazowiecki	-	-	-	6%	11%	-	-
	Modlin	-	-	1%	-	-	-	-
	Mrągowo	-	1%	-	-	-	3%	-
	Norwegia	-	-	-	-	2%	-	-
	Nowy Dwór Mazowiecki	-	1%	-	-	-	-	-
	Oblany	-	-	-	1%	-	-	-
	Olecko	-	-	-	-	2%	-	-
	Olsztyn	8%	1%	1%	6%	2%	13%	-
	Ostrów Mazowiecka	-	1%	-	-	2%	-	25%
	Owczarnia	-	1%	-	-	-	-	-
	Piaseczno	-	-	-	-	2%	-	-
	Piła	-	1%	-	-	-	-	-
	Piotrków Trybunalski	-	-	-	-	2%	-	-
	Płock	-	1%	4%	-	-	3%	-
	Płońsk	-	-	1%	1%	-	-	-
	Pomiechowiec	38%	-	-	-	-	-	-
	Powikry	-	-	-	-	-	-	25%
	Poznań	-	7%	-	17%	-	-	-
	Prostki	-	-	1%	-	-	-	-
	Pruszków	-	-	-	-	2%	-	-
	Radom	-	-	-	-	2%	-	-
	Rawa Mazowiecka	-	-	-	-	2%	-	-
	Sejny	-	-	-	-	-	3%	-
	Siedlce	-	-	1%	-	-	-	-
	Skierniewice	-	1%	-	-	-	3%	-
	Sokoły	-	-	1%	-	-	-	-
	Sokółka	-	-	-	1%	-	-	-
	Srebrowo	-	-	1%	-	-	-	-
	Starachowice	-	-	-	1%	-	3%	-
	Stare Sioło	-	-	-	-	2%	-	-
	Suwałki	-	1%	-	-	-	-	-
	Świdnik	-	-	-	-	-	3%	-
	Tomaszów Mazowiecki	-	-	-	-	2%	-	-
	Toruń	-	-	13%	-	-	-	-
	Tykocin	-	-	-	-	2%	-	-
	Warsaw	38%	35%	38%	22%	19%	13%	-
	Wiśnice	8%	-	-	-	-	-	-
	Włocławek	-	1%	-	-	-	13%	-
	Wola Kopcowa	-	-	-	1%	-	-	-
	Wrocław	-	-	4%	-	-	-	-
	Wyrki	-	1%	-	-	-	-	-
	Wyszków	-	1%	-	1%	-	-	-
	Zambrów	-	-	1%	2%	-	-	-
	Zamość	-	-	-	-	-	3%	-
	Zduńska Wola	-	-	-	-	2%	-	-
	Żory Śląskie	-	-	-	-	2%	-	-

		age						
		14-17	18-25	26-35	36-45	46-55	56-65	more than 65
	Żubrzyca Górna	-	1%	-	-	-	-	-
	Żyrardów	-	-	-	-	-	3%	-
	Sochaczew	-	-	1%	-	-	-	-

Source: own research based on (results of) survey among passengers

The level of education of the survey's respondents did not determine the place of last accommodation in a significant manner

Table 6. Relations between respondents' education and place of last accommodation (departing passengers)

		education		
		primary	secondary	high
22. From what city did you come to the airport?	Aleksandrów	<1%	-	-
	Augustów	<1%	-	-
	Bartoszyce	-	<1%	-
	Białystok	25%	15%	14%
	Błażejewo	-	<1%	-
	Bożechów	-	<1%	-
	Brodnica	-	<1%	-
	Brześć	-	-	<1%
	Bydgoszcz	-	<1%	3%
	Chełm	-	-	<1%
	Chełmża	-	<1%	-
	Czarna Białostocka	-	<1%	-
	Dąbrowa Białostocka	-	-	<1%
	Dąbrowa Górnicza	-	<1%	-
	Dobre	-	-	<1%
	Ełk	-	4%	3%
	Gdańsk	-	-	3%
	Góra Kalwaria	-	-	<1%
	Grajewo	-	-	<1%
	Grądu Zalewne	-	<1%	-
	Grodno	-	-	<1%
	Grójce	-	-	<1%
	Iwano-Frankiwsk	-	<1%	<1%
	Jedwabne	-	<1%	-
	Jeziorady	-	<1%	-
	Katowice	-	<1%	-
	Kętrzyn	-	-	<1%
	Kielce	-	4%	-
	Kijów	-	<1%	-
	Kłodzko	<1%	-	-
	Kobyłka	-	-	<1%
	Konin	-	<1%	<1%
	Kowalewo	<1%	-	-
	Kowno	-	-	<1%
	Kraków	-	-	<1%
	Krasnystaw	-	<1%	-
	Legionowo	-	-	<1%
	Lipno	-	<1%	-
	Lublin	-	7%	6%
	Lwów	-	-	<1%
	Łagow	-	<1%	-
	Łask	-	4%	-
	Łączna	-	-	<1%
	Łomianki	-	-	<1%
	Łomża	-	<1%	<1%
	Łódź	-	11%	9%
	Macclesfield	-	-	<1%
	Mińsk	-	-	<1%
	Mińsk Mazowiecki	-	7%	-
	Modlin	-	-	<1%
	Mrągowo	-	<1%	<1%

		education		
		primary	secondary	high
	Norwegia	-	<1%	-
	Nowy Dwór Mazowiecki	-	-	<1%
	Oblany	-	<1%	-
	Olecko	-	<1%	-
	Olsztyn	25%	4%	6%
	Ostrów Mazowiecka	-	4%	-
	Owczarnia	-	<1%	-
	Piaseczno	-	-	<1%
	Piła	-	<1%	-
	Piotrków Trybunalski	-	-	<1%
	Płock	-	7%	-
	Płońsk	-	<1%	<1%
	Pomiechowiec	-	-	3%
	Powikry	-	-	<1%
	Poznań	-	4%	6%
	Prostki	-	<1%	-
	Pruszków	-	<1%	-
	Radom	-	-	<1%
	Rawa Mazowiecka	-	<1%	-
	Sejny	-	<1%	-
	Siedlce	-	-	<1%
	Skierniewice	-	<1%	<1%
	Sokoły	<1%	-	-
	Sokółka	-	<1%	-
	Srebrowo	-	<1%	-
	Starachowice	<1%	<1%	-
	Stare Sioło	-	<1%	-
	Suwałki	-	-	<1%
	Świdnik	-	<1%	-
	Tomaszów Mazowiecki	-	-	<1%
	Toruń	-	-	9%
	Tykocin	-	<1%	-
	Warsaw	50%	26%	37%
	Wiśnice	<1%	-	-
	Włocławek	-	4%	-
	Wola Kopcowa	-	<1%	-
	Wrocław	-	-	3%
	Wyrki	-	<1%	-
	Wyszków	-	<1%	<1%
	Zambrów	-	<1%	<1%
	Zamość	-	<1%	-
	Zduńska Wola	-	-	<1%
	Żory Śląskie	-	-	<1%
	Żubrzyca Górna	-	-	<1%
	Żyrardów	-	<1%	-
	Sochaczew	-	-	<1%

Source: own research based on (results of) survey among passengers

The last place of accommodation for the unemployed was Ełk, Olsztyn, Stare Sioło and Ivano-Frankivsk. In the case of retirees and pensioners — Olsztyn, Ełk and Warsaw. The group of people working full-time was characterized by the greatest diversity concerning declared places of last accommodation.

Table 7. Relations between employment and place of last accommodation (departing passengers)

		employment						
		unemployed	retiree/pension recipients	others	part-time employment	full-time employment (about 160 hours per month)	student	parental leave
22. From what city did you come to the airport?	Aleksandrów	-	4%	-	-	-	-	-
	Augustów	-	-	-	-	<1%	-	-
	Bartoszyce	-	-	-	-	<1%	-	-
	Białystok	-	4%	-	15%	14%	9%	-
	Błażejewo	-	-	-	-	<1%	-	-
	Bożechów	-	-	-	-	<1%	-	-
	Brodnica	-	-	-	-	<1%	-	-
	Brześć	-	-	-	-	<1%	-	-
	Bydgoszcz	-	-	-	-	2%	-	-
	Chełm	-	-	-	-	<1%	-	-
	Chełmża	-	-	-	-	<1%	-	-
	Czarna Białostocka	-	-	-	-	<1%	-	-
	Dąbrowa Białostocka	-	-	14%	-	-	-	-
	Dąbrowa Górnicza	-	-	-	3%	-	-	-
	Dobre	-	-	-	-	<1%	-	-
	Ełk	56%	18%	-	-	<1%	-	-
	Gdańsk	-	-	-	-	<1%	2%	-
	Góra Kalwaria	-	-	-	-	-	-	100%
	Grajewo	-	-	-	-	<1%	-	-
	Grądu Zalewne	-	-	-	-	<1%	-	-
	Grodno	-	-	-	-	<1%	-	-
	Grójce	-	-	14%	-	-	-	-
	Iwano-Frankiwsk	11%	-	-	3%	-	-	-
	Jedwabne	-	-	-	-	<1%	-	-
	Jeziorady	-	-	-	-	<1%	-	-
	Katowice	-	-	-	-	<1%	-	-
	Kętrzyn	-	-	-	-	<1%	-	-
	Kielce	-	-	-	-	2%	-	-
	Kijów	-	-	-	-	<1%	-	-
	Kłodzko	-	-	-	-	-	2%	-
	Kobyłka	-	-	-	-	<1%	-	-
	Konin	-	-	-	3%	<1%	-	-
	Kowalewo	-	-	-	3%	-	-	-
	Kowno	-	-	-	3%	-	-	-
	Kraków	-	-	-	-	-	2%	-
	Krasnystaw	-	4%	-	-	-	-	-
	Legionowo	-	4%	-	-	-	-	-
	Lipno	-	-	-	-	<1%	-	-
	Lublin	-	-	-	-	7%	-	-
	Lwów	-	-	-	-	-	2%	-
	Łagow	-	-	-	-	<1%	-	-
	Łask	-	-	-	3%	<1%	-	-
	Łączna	-	-	-	-	<1%	-	-
	Łomianki	-	4%	-	15%	5%	2%	-
	Łomża	-	-	-	-	<1%	-	-
	Łódź	-	-	-	-	2%	-	-
	Macclesfield	-	-	-	-	<1%	-	-
	Mińsk	-	-	-	-	<1%	-	-
	Mińsk Mazowiecki	-	-	-	-	4%	-	-
	Modlin	-	-	-	-	<1%	-	-
	Mrągowo	-	4%	-	-	<1%	-	-
	Norwegia	-	-	-	-	<1%	-	-
	Nowy Dwór Mazowiecki	-	-	-	-	-	2%	-
	Oblany	-	-	-	-	<1%	-	-
	Olecko	-	-	-	-	<1%	-	-
	Olsztyn	-	18%	-	-	4%	2%	-

		employment						
		unemployed	retiree/pension recipients	others	part-time employment	full-time employment (about 160 hours per month)	student	parental leave
	Ostrów Mazowiecka	-	4%	-	-	<1%	2%	-
	Owczarnia	-	-	-	-	-	2%	-
	Piaseczno	-	-	-	-	<1%	-	-
	Piła	-	-	-	-	<1%	-	-
	Piotrków Trybunalski	-	-	-	-	<1%	-	-
	Płock	-	4%	-	-	2%	2%	-
	Płońsk	-	-	-	-	2%	-	-
	Pomiechowiec	-	-	-	-	-	9%	-
	Powikry	-	4%	-	-	-	-	-
	Poznań	-	4%	-	3%	4%	9%	-
	Prostki	-	-	-	-	<1%	-	-
	Pruszków	-	-	-	-	<1%	-	-
	Radom	-	-	-	-	<1%	-	-
	Rawa Mazowiecka	-	4%	-	-	-	-	-
	Sejny	-	-	-	3%	-	-	-
	Siedlce	-	-	-	-	<1%	-	-
	Skierniewice	-	-	-	-	2%	-	-
	Sokoły	-	-	-	-	<1%	-	-
	Sokółka	-	-	-	-	<1%	-	-
	Srebrowo	-	-	-	-	<1%	-	-
	Starachowice	-	4%	-	-	<1%	-	-
	Stare Sioło	11%	-	-	-	-	-	-
	Suwałki	-	-	-	-	<1%	-	-
	Świdnik	-	4%	-	-	-	-	-
	Tomaszów Mazowiecki	-	-	-	-	<1%	-	-
	Toruń	-	-	-	-	4%	2%	-
	Tykocin	-	-	-	-	<1%	-	-
	Warsaw	11%	18%	71%	3%	22%	52%	-
	Wiśnice	-	-	-	-	-	2%	-
	Włocławek	-	-	-	-	2%	2%	-
	Wola Kopcowa	-	-	-	-	<1%	-	-
	Wrocław	-	-	-	-	2%	-	-
	Wyrki	-	-	-	-	<1%	-	-
	Wyszków	-	-	-	-	2%	-	-
	Zambrów	-	-	-	15%	<1%	-	-
	Zamość	-	-	-	-	<1%	-	-
	Zduńska Wola	11%	-	-	-	-	-	-
	Żory Śląskie	-	-	-	-	<1%	-	-
	Żubrzyca Górna	-	-	-	-	<1%	-	-
	Żyrardów	-	-	-	-	<1%	-	-
	Sochaczew	-	-	-	-	<1%	-	-

Source: own research based on (results of) survey among passengers

The mode of transport used to get to the airport chosen by the respondents depended on their professional status. People working part-time more often than other groups indicated taxi. The unemployed and pensioners travelled by bus more often than other groups. The private car was used mostly by full-time employees.

Table 8. Relations between the employment and chosen means of transport to the airport

		employment						
		unemployed	retiree/pension recipients	others	part-time employment	full-time employment (about 160 hours per month)	student	parental leave
25. How did you come to the airport?	by train	-	*14%*	*14%*	-	*9%*	*7%*	-
	by train + other public transport	-	-	-	*16%*	*9%*	*14%*	-
	by train + taxi	-	-	-	-	-	-	-
	by bus	*45%*	*42%*	*14%*	*31%*	*35%*	*27%*	-
	by bus + other public transport	-	-	-	*3%*	*2%*	*1%*	-
	by bus + taxi	-	-	-	-	*<1%*	-	-
	by taxi	-	*3%*	-	*16%*	*2%*	*1%*	-
	by private car as the driver	*9%*	*14%*	-	-	*15%*	*1%*	*<1%*
	by company car as the driver	-	-	-	*3%*	*3%*	*7%*	-
	by car as the passenger	*45%*	*28%*	*71%*	*31%*	*26%*	*41%*	-

Source: own research based on (results of) survey among passengers

The means of transport chosen from the airport only slightly depended on the professional status. It can be distinguished that people working full-time more often than other groups used the car as a passenger. Among all groups, the bus was the most frequently chosen means of transport. Pensioners selected trains more frequently than other groups of respondents.

Table 9. Relations between the employment and chosen means of transport from the airport

		employment					
		unemployed	retiree/pension recipients	others	part-time employment	full-time employment (about 160 hours per month)	student
24. How will you return from the airport?	by train	-	*33%*	*63%*	*12%*	*8%*	-
	by train + other public transport	-	2%	-	-	<1%	9%
	by train + taxi	-	-	-	-	-	-
	by bus	*33%*	43%	31%	24%	38%	45%
	by bus + other public transport	*33%*	-	-	24%	6%	9%
	by bus + taxi	-	-	-	-	<1%	-
	by taxi	-	-	-	12%	3%	9%
	by personal car as the driver	-	-	6%	2%	3%	9%
	by company car as the driver	-	-	-	-	<1%	-
	by car as the passenger	*33%*	22%	-	24%	35%	18%
	by company car as the passenger	-	-	-	-	3%	-
	by rented car	-	-	-	-	3%	-

Source: own research based on (results of) survey among passengers

The highest percentage of respondents who did not take into account other means of transport from/to the airport (that is all surveyed respondents) were people aged 14-17 and 36-45. Older people (over 65 years old) more often indicated development of railway and bus infrastructure as factors influencing such a change, with particular focus on a direct railway connection to the city center and a bus stop closer to home. In the case of people aged 18-25, direct rail connections to the city center were definitely the most popular (as many as 41% of responses in this age group).

Table 10. Relations between age and factors motivating to change the mode of transport from the airport from the car to another one

		age						
		14-17	18-25	26-35	36-45	46-55	56-65	more than 65
	Direct rail connection with the city center	9%	41%	15%	36%	25%	22%	33%
	Railway stop at the airport	45%	21%	15%	11%	11%	31%	-
	Railway stop near the place of residence	-	7%	11%	6%	11%	2%	1%
	Bus stop near the place of residence	-	4%	8%	6%	14%	11%	27%
	New bus lines	-	10%	15%	8%	4%	12%	13%
	More efficient bus-train changes	-	<1%	-	3%	1%	-	19%
	Higher frequency of buses/trains	-	6%	7%	1%	4%	1%	-
	I do not intend to change the mode of transportation	45%	13%	29%	30%	29%	22%	7%

Source: own research based on (results of) survey among passengers

Women were slightly less willing than men to stop using the car to get from/to the airport. The most important factors that could motivate both groups included a direct rail link to the city center (26-27%) and a railway stop at the airport (13-19%).

Table 11. Relations between gender and factors motivating to change the type of transport from the airport from the car to another one

		gender	
		female	male
	Direct rail connection with the city center	26%	27%
	Railway stop at the airport	19%	13%
	Railway stop near the place of residence	6%	9%
	Bus stop near the place of residence	8%	10%
	New bus lines	6%	8%
	More efficient bus-train changes	1%	2%
	Higher frequency of buses/trains	3%	5%
	I do not intend to change the mode of transportation	29%	27%

Source: own research based on (results of) survey among passengers

In relation to respondents' education, a higher percentage of people declaring that they do not intend to change the means of transport from/to the airport from car to another was observed among people with secondary or higher education than among those with primary education. The factor motivating the switch from the car for people with primary education would be a bus stop closer to the place of residence, whereas respondents with secondary and higher education chose factors related to the development of railway infrastructure.

Table 12. Relations between education and factors motivating to change the type of transport from the airport from the car to another one

		education		
		primary	secondary	high
34. What would convince you to resign from the car while commuting to the airport?	Direct rail connection with the city center	26%	25%	36%
	Railway stop at the airport	12%	16%	19%
	Railway stop near the place of residence	5%	8%	4%
	Bus stop near the place of residence	42%	12%	13%
	New bus lines	1%	8%	4%
	More efficient bus-train changes	-	3%	1%
	Higher frequency of buses/trains	-	6%	4%
	I do not intend to change the mode of transportation	12%	24%	18%

Source: own research based on (results of) survey among passengers

The motivation and tendency to change the means of transport from/to the airport from the car to another depends on the professional status. The highest percentage of respondents who did not intend to change the means of transport occurred in the case of the unemployed and people working full-time or part-time (respectively 29% and 28%). Other groups of respondents reflected a greater tendency to change the means of transport. The most important factors that could motivate students to change their preferred means of transport included a direct rail link to the city center. In the case of pensioners, an important factor was the bus stop closer to home. The remaining groups were dominated by responses relating to the development of railway infrastructure.

Table 13. Relations between employment and factors motivating to change the type of transport from the airport from the car to another one

		employment					
		unemployed	retiree/pension recipients	others	part-time employment	full-time employment (about 160 hours per month)	student
34. What would convince you to resign from the car while commuting to the airport?	Direct rail connection with the city center	35%	20%	13%	28%	24%	41%
	Railway stop at the airport	7%	20%	12%	28%	12%	18%
	Railway stop near the place of residence	7%	2%	12%	3%	8%	13%
	Bus stop near the place of residence	22%	28%	12%	4%	13%	2%
	New bus lines	7%	7%	12%	4%	7%	6%
	More efficient bus-train changes	3%	3%	12%	3%	2%	2%
	Higher frequency of buses/trains	3%	2%	12%	3%	4%	3%
	I do not intend to change the mode of transportation	16%	20%	13%	28%	29%	14%

Source: own research based on (results of) survey among passengers

There were no particularly significant correlations between the age of people departing and their chosen means of transport to the airport. It is worth observing that people before the age of 18

reached the airport as car passengers, and older people (above 65) only by bus. In the case of children, this situation is determined by parents transporting their children to the airport, and in the case of older people, the determinant is convenience and no need to drive a car.

Table 14. Relations between age and selected means of transport to the airport (departing passengers)

		age						
		14-17	18-25	26-35	36-45	46-55	56-65	more than 65
25. How did you come to the airport?	by train	-	5%	7%	11%	7%	11%	-
	by train + other public transport	-	14%	7%	16%	7%	-	-
	by train + taxi	-	-	-	-	-	-	-
	by bus	-	32%	37%	37%	43%	22%	100%
	by bus + other public transport	-	-	4%	-	-	-	-
	by bus + taxi	-	-	-	-	-	-	-
	by taxi	-	-	7%	-	-	-	-
	by personal car as the driver	-	9%	11%	11%	21%	22%	-
	by company car as the driver	-	9%	4%	-	-	11%	-
	by car as the passenger	100%	32%	22%	26%	21%	33%	-

Source: own research based on (results of) survey among passengers

Choices of men and women (passengers of departing flights) in relation to particular means of transport were very comparable (+ -2 pp.), therefore there are no significant correlations.

Table 15. Relations between gender and selected means of transport to the airport (departing passengers)

		gender	
		female	male
25. How did you come to the airport?	by train	9%	8%
	by train + other public transport	9%	10%
	by train + taxi	-	-
	by bus	33%	35%
	by bus + other public transport	2%	-
	by bus + taxi	-	-
	by taxi	4%	3%
	by personal car as the driver	12%	13%
	by company car as the driver	4%	5%
	by car as the passenger	28%	28%

Source: own research based on (results of) survey among passengers

There are no significant correlations between respondents' education and selected means of transport to the airport of passengers of departing flights. It is possible to indicate some discrepancies, but none of them indicate a particularly preferred type of transport by a given group of respondents. Relatively high percentages in the group of people with basic education result from the relatively low base of calculations (i.e. the share of these people in general research sample).

Table 16. Relations between education and chosen means of transport to the airport (departing passengers)

		education		
		primary	secondary	higher
25. How did you come to the airport?	by train	-	9%	9%
	by train + other public transport	7%	5%	13%
	by train + taxi	-	-	-
	by bus	29%	41%	28%
	by bus + other public transport	7%	2%	-
	by bus + taxi	-	-	-
	by taxi	-	2%	4%
	by personal car as the driver	22%	5%	19%
	by company car as the driver	-	5%	4%
	by car as the passenger	36%	32%	23%

Source: own research based on (results of) survey among passengers

Means of transport from the airport chosen by particular age groups of the respondents largely correspond to the previously presented applications for departing passengers. Also in this case, the elderly mainly use the bus (67%), and among the other age groups there are no significant indications. It is worth noting, however, that the train travel from the airport was chosen mainly by people in middle and older age (46 years and older). Travel by car is popular among almost all ages (excluding people before 18 and older people).

Table 17. Relations between age and selected means of transport to the airport (arriving passengers)

		age						
		14-17	18-25	26-35	36-45	46-55	56-65	more than 65
24. How will you return from the airport?	by train	-	7%	9%	-	17%	25%	33%
	by train + other public transport	-	7%	-	-	-	-	-
	by train + taxi	-	-	-	-	-	-	-
	by bus	100%	36%	31%	39%	50%	50%	67%
	by bus + other public transport	-	21%	6%	9%	-	-	-
	by bus + taxi	-	-	-	-	-	-	-
	by taxi	-	7%	-	9%	-	-	-
	by personal car as the driver	-	7%	6%	-	-	-	-
	by company car as the driver	-	-	-	-	-	-	-
	by car as the passenger	-	14%	38%	39%	33%	25%	-
	by company car as the passenger	-	-	6%	-	-	-	-
	rented car	-	-	3%	4%	-	-	-

Source: own research based on (results of) survey among passengers

As in the case of departing passengers, there were no special differences among passengers arriving at the airport (in the context of the chosen mode of transport), taking into account the division by the gender.

Table 18. Relations between the gender and chosen means of transport from the airport (arriving passengers)

	gender		
		female	male
24. How will you return from the airport?	by train	12%	8%
	by train + taxi	2%	-
	by train + other public transport	-	-
	by bus	39%	38%
	by bus + other public transport	5%	10%
	by bus + taxi	-	-
	by taxi	2%	5%
	by personal car as the driver	4%	5%
	by company car as the driver	-	-
	by car as the passenger	33%	28%
	by company car as the passenger	4%	3%
	by rented car	-	3%

Source: own research based on (results of) survey among passengers

In the case of arriving passengers, the education of the respondents did not affect the choice of the means of transport. It is possible to indicate some discrepancies (larger scope of interest in car travel as a passenger among people with secondary education), but none of them indicates a particularly preferred type of transport by a given group of respondents. Relatively high percentages in the group of people with basic education result from the relatively low base of calculations (that is the share of these people in general research sample).

Table 19. Relations between education and the chosen means of transport to the airport (arriving passengers)

	education			
		primary	secondary	higher
24. How did you get to the airport?	by train	11%	7%	14%
	by train + other public transport	-	2%	-
	by train + taxi	-	-	-
	by bus	67%	32%	43%
	by bus + other public transport	-	7%	8%
	by bus + taxi	-	-	-
	by taxi	-	2%	4%
	by personal car as the driver	11%	-	6%
	by company car as the driver	-	-	-
	by car as the passenger	11%	48%	18%
	by company car as the passenger	-	2%	4%
	rented car	-	-	2%

Source: own research based on (results of) survey among passengers

For almost all groups of respondents (the arriving), the most common destination was to visit relatives and/or friends. The exceptions are students for whom the more frequent purpose of the trip was the rest (holiday/tourism).

Table 20. Relations between employment and the type of travel (arriving)

		employment						
		retiree/ pension recipients	full-time employment (160 hours per month)	students	part-time employment	unemployed	other	parental leave
24. What is/was the purpose of your travel?	holidays/tourism	35%	41%	42%	40%	21%	48%	-
	education	-	3%	17%	-	7%	5%	-
	fairs	-	1%	2%	-	-	-	-
	visiting friends/relatives	58%	42%	31%	44%	29%	29%	50%
	healthcare	-	1%	-	8%	-	-	-
	other	3%	8%	2%	4%	36%	-	-
	business	5%	5%	8%	4%	7%	19%	50%

Source: own research based on (results of) survey among passengers

The correlations between the respondents'' place of residence and the chosen means of transport from the airport are presented in the table below. Due to the high share of respondents from larger urban centers (e.g. Warsaw, Białystok), those cities have the largest share within the various used means of transport. The most people travelling by train and further public transport came from Warsaw, and the bus was most popular among travelers from Białystok and Warsaw (respectively 29% and 17%).

Table 21. Relations between place of residence and chosen means of transport

		transport										
		by train	by train + further public transport	by bus	by bus + further public transport	by bus + taxi	by private car as a driver	by company car as a driver	by car as a passenger	by company car as a passenger	by rented car	other
12. Where do you live?	Amsterdam	-	-	-	-	-	-	-	-	-	-	1-
	Augustów	-	-	3%	-	-	-	-	-	17%	-	-
	Biała Podlaska	-	-	-	-	-	11%	-	-	-	-	-
	Białystok	-	-	29%	26%	-	11%	-	7%	-	-	-
	Braniewo	-	-	1%	-	-	-	-	-	-	-	-
	Bydgoszcz	4%	-	-	-	-	-	-	-	-	-	1-
	Częstochowa	-	-	-	-	-	-	-	1%	-	-	-
	Ełk	-	-	3%	-	-	-	-	1%	-	-	-
	Gdynia	4%	-	-	-	-	-	-	-	-	-	-
	Gliwice	8%	-	-	-	-	-	-	-	-	-	-
	Gołdap	-	-	3%	-	-	-	-	-	-	-	-
	Grajewo	-	-	1%	-	-	-	-	-	-	-	-
	Grajewo Podlaskie	-	-	-	-	-	-	-	1%	-	-	-
	Grecja	-	-	-	-	-	-	-	1%	-	-	-
	Grodno	-	-	1%	5%	-	-	-	-	-	-	-

		transport										
		by train	by train + further public transport	by bus	by bus + further public transport	by bus + taxi	by private car as a driver	by company car as a driver	by car as a passenger	by company car as a passenger	by rented car	other
	Inowrocław	4%	-	-	-	-	-	-	-	-	-	-
	Kaliningrad	-	-	-	-	-	-	-	1%	-	-	-
	Katowice	-	-	1%	-	-	-	-	-	-	-	-
	Kielce	4%	-	1%	21%	-	-	-	1%	-	-	1-
	Klepacze	-	-	-	-	-	11%	-	-	-	-	-
	Kozienice	-	-	-	-	-	-	-	4%	-	-	-
	Kutno	-	-	-	-	-	-	-	-	17%	-	-
	Legionowo	4%	-	1%	-	-	-	-	-	-	-	-
	Lublin	8%	25%	5%	-	100%	-	-	-	-	-	-
	Łomża	-	-	1%	-	-	-	-	4%	-	-	-
	Łódź	-	-	2%	-	-	11%	-	7%	17%	-	-
	Maków Mazowiecki	-	-	-	-	-	-	-	4%	-	-	-
	Malbork	4%	-	-	-	-	-	-	-	-	-	-
	Mrągowo	-	-	1%	-	-	-	-	-	-	-	-
	Nowogród	-	-	-	-	-	11%	-	-	-	-	-
	Nowy Dwór Mazowiecki	-	-	-	-	-	-	-	5%	-	-	10%
	Olecko	-	-	-	-	-	-	-	1%	-	-	-
	Olsztyn	4%	-	3%	-	-	-	-	1%	-	-	-
	Osowice	-	-	-	-	-	-	-	1%	-	-	-
	Ostróda	-	-	2%	-	-	-	-	-	-	-	-
	Ostrołęka	-	-	1%	-	-	-	-	3%	-	-	-
	Ostrów Mazowiecka	-	-	-	-	-	-	-	4%	-	-	-
	Otwock	-	-	-	-	-	11%	-	-	-	-	-
	Piła	4%	-	-	-	-	-	-	-	-	-	-
	Pionki	-	-	1%	-	-	-	-	-	-	-	-
	Piterboro	-	-	-	-	-	-	-	1%	-	-	-
	Płock	-	-	-	-	-	-	-	-	-	5-	-
	Płońsk	-	-	-	-	-	-	-	1%	-	-	10%
	Poznań	8%	-	2%	5%	-	-	-	-	-	-	-
	Radom	12%	-	2%	-	-	-	-	9%	-	-	30%
	Siedlce	-	-	-	-	-	-	-	1%	17%	-	-

		transport										
		by train	by train + further public transport	by bus	by bus + further public transport	by bus + taxi	by private car as a driver	by company car as a driver	by car as a passenger	by company car as a passenger	by rented car	other
	Skarżysko Kamienne	-	-	-	-	-	-	-	1%	-	-	10%
	Sochaczew	-	-	-	-	-	-	-	4%	-	-	-
	Sokółka	-	-	1%	-	-	-	-	-	-	-	-
	Starusowie	4%	-	-	-	-	-	-	-	-	-	-
	Suchy Grunt	-	-	-	-	-	-	-	1%	-	-	-
	Suwałki	-	-	6%	-	-	-	-	1%	-	-	-
	Talia	-	-	1%	-	-	-	-	-	-	-	-
	Tomaszów Mazowiecki	-	-	-	-	-	-	-	1%	-	-	-
	Toruń	-	-	2%	-	-	-	-	-	-	-	-
	Wołomin	-	-	1%	-	-	-	-	-	-	-	-
	Warsaw	28%	75%	17%	37%	-	22%	100%	23%	33%	-	10%
	Wizna	-	-	1%	-	-	-	-	-	-	-	-
	Włocławek	-	-	-	-	-	-	-	1%	-	-	-
	Włocławek Kujawski	-	-	-	-	-	-	-	-	-	25%	-
	Wrocław	-	-	-	5%	-	-	-	-	-	25%	-
	Wyszków	-	-	-	-	-	-	-	1%	-	-	-
	Wysokie Mazowieckie	-	-	1%	-	-	-	-	-	-	-	-
	Wyszków Mazowiecki	-	-	-	-	-	11%	-	1%	-	-	-
	Zambrów	-	-	2%	-	-	-	-	-	-	-	-
	Żnin	-	-	1%	-	-	-	-	-	-	-	-

Source: own research based on (results of) survey among passengers

The largest share of people considering the choice of a different mode of transport than the one they used were people aged 26-35 (40%) and 36-45 (29%).

Table 22. Relations between age and considering using a different means of transport

39. Have you considered traveling by any other means of transport from the airport to your destination?			
		yes	no
age	14-17	-	3%
	18-25	12%	20%
	26-35	40%	29%
	36-45	29%	19%
	46-55	11%	15%
	56-65	6%	10%
	more than 65	3%	4%

Source: own research based on (results of) survey among passengers

The largest share of people considering different means of transport were women (62%).

Table 23. Relations between gender and considering using a different means of transport

39. Have you considered traveling by any other means of transport from the airport to your destination?			
		yes	no
gender	female	62%	59%
	male	38%	41%

Source: own research based on (results of) survey among passengers

The largest percentage of people who considered using a different means of transport were respondents with higher education (as many as 77% of people who considered this possibility).

Table 24. Relations between education and considering a change of chosen means of transport

39. Have you considered traveling by any other means of transport from the airport to your destination?			
		yes	no
education	primary	-	5%
	secondary	23%	39%
	higher	77%	56%

Source: own research based on (results of) survey among passengers

The largest share of people who considered using a different means of transport were full-time employees (81%). Nevertheless, due to their very large share in the research sample, this group also accounted for a high percentage (66%) of the answers indicating that this possibility was not considered.

Table 25. Relations between employment and considering a change of chosen means of transport

39. Have you considered traveling by any other means of transport from the airport to your destination?			
		yes	no
age	unemployed	-	3%
	retiree/pension recipients	5%	9%
	others	5%	4%
	part-time employment	5%	5%
	full-time employment (about 160 hours per month)	81%	66%
	student	5%	14%
	parental leave	-	-

Source: own research based on (results of) survey among passengers

A direct railway connection to the city center and higher frequency of buses/trains were chosen (as factors motivating not to use the car in the trip from the airport) mainly by passengers traveling to Białystok and Warsaw. New bus connections were indicated predominantly by passengers going to Łomża, Warsaw and Białystok. A railway station at the airport would motivate passengers travelling to Łódź and Radom not to use the car.

Table 26. Relations between the factors motivating not to use the car to travel from the airport, and the destination

transport										
		direct rail connection with the city center	I do not intend to change the mode of transportation	higher frequency of buses/trains	more efficient bus-train changes	new bus lines	railway stop at the airport	bus stop near the place of residence2	bus stop near the place of residence	railway station near the place of residence
Travel destination	Amsterdam	-	-	-	-	-	-	-	-	-
	Augustów	3%	-	-	-	-	-	-	-	-
	Biała Podlaska	-	-	-	-	-	4%	-	-	-
	Białystok	20%	7%	29%	-	13%	4%	16%	16%	7%
	Braniewo	3%	-	-	-	-	-	-	-	-

transport										
		direct rail connection with the city center	I do not intend to change the mode of transportation	higher frequency of buses/trains	more efficient bus-train changes	new bus lines	railway stop at the airport	bus stop near the place of residence2	bus stop near the place of residence	railway station near the place of residence
	Bydgoszcz	3%	-	-	-	-	4%	-	-	-
	Częstochowa	-	-	-	-	7%	-	-	-	7%
	Ełk	3%	-	14%	-	-	-	5%	5%	-
	Gdynia	-	-	-	-	-	-	-	-	-
	Gliwice	-	-	-	-	-	-	-	-	-
	Gołdap	-	-	-	-	-	-	5%	5%	-
	Grajewo	-	-	-	-	-	-	5%	5%	-
	Grajewo Podlaskie	-	2%	-	-	-	-	-	-	-
	Grecja	-	2%	-	-	-	-	-	-	-
	Grodno	-	-	-	-	-	-	-	-	-
	Inowrocław	3%	-	-	-	-	-	-	-	-
	Kaliningrad	3%	-	-	-	-	-	-	-	-
	Katowice	3%	-	-	-	-	4%	-	-	-
	Kielce	3%	2%	-	-	-	4%	-	-	7%
	Klepacze	-	-	-	-	-	4%	-	-	7%
	Kozienice	-	5%	-	-	7%	-	5%	5%	-
	Kutno	-	2%	-	-	-	-	-	-	-
	Legionowo	-	2%	-	-	7%	-	-	-	-
	Lublin	5%	2%	-	-	-	4%	5%	5%	-
	Łomża	3%	-	-	-	20%	-	-	-	-
	Łódź	-	2%	29%	-	7%	19%	-	-	-
	Maków Mazowiecki	-	2%	-	-	-	-	-	-	-
	Malbork	-	-	-	-	-	-	-	-	-
	Mrągowo	3%	-	-	-	-	-	-	-	-
	Nowogród	-	-	-	-	-	4%	-	-	7%
	Nowy Dwór Mazowiecki	-	10%	-	-	-	-	-	-	-
	Olecko	3%	-	-	-	-	-	-	-	-
	Olsztyn	-	2%	-	-	-	-	5%	5%	-
	Osowice	-	-	-	-	7%	-	-	-	7%
	Ostróda	3%	-	-	-	-	4%	5%	5%	-
	Ostrołęka	3%	2%	-	-	7%	4%	-	-	-

transport										
		direct rail connection with the city center	I do not intend to change the mode of transportation	higher frequency of buses/trains	more efficient bus-train changes	new bus lines	railway stop at the airport	bus stop near the place of residence2	bus stop near the place of residence	railway station near the place of residence
	Ostrów Mazowiecka	8%	2%	-	-	-	-	-	-	-
	Otwock	5%	-	-	-	-	4%	-	-	-
	Piła	-	-	-	-	-	-	-	-	-
	Pionki	-	-	-	-	-	-	-	-	-
	Piterboro	-	-	-	-	-	-	-	-	-
	Płock	-	5%	-	-	-	-	-	-	-
	Płońsk	-	2%	-	-	-	-	-	-	-
	Poznań	-	-	-	-	-	-	-	-	-
	Radom	-	-	-	-	7%	15%	-	-	21%
	Siedlce	-	5%	-	-	-	-	-	-	-
	Skarżysko Kamienne	3%	-	-	-	-	-	-	-	-
	Sochaczew	3%	-	-	-	-	4%	-	-	-
	Sokółka	-	-	-	-	-	-	-	-	-
	Starusowie	-	-	-	-	-	-	5%	5%	-
	Suchy Grunt	-	-	-	-	-	-	-	-	-
	Suwałki	-	-	-	-	-	4%	5%	5%	-
	Talia	-	-	-	-	-	-	-	-	-
	Tomaszów Mazowiecki	-	2%	-	-	-	-	5%	5%	-
	Toruń	-	-	-	-	-	-	-	-	7%
	Wołomin	-	-	-	100%	-	-	-	-	-
	Warsaw	25%	27%	29%	-	13%	8%	26%	26%	21%
	Wizna	-	-	-	-	-	-	5%	5%	-
	Włocławek	-	2%	-	-	-	-	-	-	-
	Włocławek Kujawski	-	-	-	-	-	4%	-	-	-
	Wrocław	-	2%	-	-	-	4%	-	-	-
	Wyszków	-	2%	-	-	-	-	-	-	-
	Wysokie Mazowieckie	-	-	-	-	-	-	-	-	-
	Wyszków Mazowiecki	-	2%	-	-	7%	-	-	-	7%
	Zambrów	-	-	-	-	-	-	-	-	-
	Żnin	-	-	-	-	-	-	-	-	-

Source: own research based on (results of) survey among passengers

The respondents were asked to assess their interest in using a particular means of transport (provided all of them would be fully available) on a scale from 1 to 10. Among young people up to 25 years old, the train received the highest score. In the case of the next age group (up to 35 years old) – the private car was the most frequently indicated answer. Despite a considerable amount of high grades given to the car in all age groups, it is worth noting that equally high marks were given to the train, suggesting that improving the infrastructure and availability of the latter means of transport could result in a shift away from travelling by car.

Table 27. Relations between age and chosen means of transport in an ideal situation (average grade)

42. Assuming that the following means of transport are available, please assess which means of transport you would most preferably incorporate to travel to/from the airport, and which, despite the availability, you would rather not use? (on the scale 1-10, where 1 is the least frequently chosen, and 10 – the most frequently chosen):						
		train	bus	taxi	private car	rented car
age	18-25	8	7.5	1.9	7.8	3.5
	26-35	8.1	7.2	2.7	8.5	3.9
	36-45	7.8	7.2	2.6	8.6	3.7
	46-55	8.1	7.7	2.5	8.6	4.1
	56-65	7.3	7.3	2.3	8.1	3.3
	65+	6.4	8	1.6	8.7	2.4

Source: own research based on (results of) survey among passengers

Analogical correlations, taking into consideration the level of education of the respondents, make it possible to conclude that the train is assessed particularly highly by passengers with higher education. Participants of the survey with basic education preferred traveling by bus. Regardless of their education, all respondents highly rated commuting by private car.

Table 28. Relations between education and chosen means of transport in an ideal situation

42. Assuming that the following means of transport are available, please assess which means of transport you would most preferably incorporate to travel to/from the airport, and which, despite the availability, you would rather not use? (on the scale 1-10, where 1 is the least frequently chosen, and 10 – the most frequently chosen)						
		train	bus	taxi	private car	rented car
education	primary	7.1	8.3	1.6	7.7	1.9
	secondary	7.6	7.3	2.5	8.5	3.8
	high	8	7.4	2.4	8.4	3.6

Source: own research based on (results of) survey among passengers

Considering division by gender, no significant correlation was observed concerning the preferred means of transport in an ideal situation.

Table 29. Relations between gender and chosen means of transport in an ideal situation

42. Assuming that the following means of transport are available, please assess which means of transport you would most preferably incorporate to travel to/from the airport, and which, despite the availability, you would rather not use? (on the scale 1-10, where 1 is the least frequently chosen, and 10 – the most frequently chosen)						
		train	bus	taxi	private car	rented car
gender	female	7.8	7.3	2.4	8.4	3.3
	male	7.7	7.5	2.5	8.5	4.0

Source: own research based on (results of) survey among passengers

Taking into account the professional status of the respondents, no significant correlations occurred. Individual means of transport on average obtained similar ratings.

Table 30. Relations between employment and chosen means of transport in an ideal situation

42. Assuming that the following means of transport are available, please assess which means of transport you would most preferably incorporate to travel to/from the airport, and which, despite the availability, you would rather not use? (on the scale 1-10, where 1 is the least frequently chosen, and 10 – the most frequently chosen)						
		train	bus	taxi	private car	rented car
employment	unemployed	8.2	7.7	1.1	8.0	4.4
	retiree/pension recipients	7.3	7.5	1.4	8.6	2.5
	others	7.8	6.6	2.1	6.4	2.4
	part-time employment	8.0	7.5	2.6	7.9	4.3
	full-time employment (about 160 hours per month)	7.7	7.4	2.5	8.7	3.7
	student	8.1	7.2	3.0	7.8	3.4
	parental leave	-	-	-	-	10.0

Source: own research based on (results of) survey among passengers

The largest share of people willing to use a mobile application dedicated to the airport concerned respondents aged 26-35 and 36-45.

Table 31. Relations between the age and possibilities to use the mobile application

43. Would you use a mobile application (designed for the Modlin Airport) that facilitated access to the airport?					
		I do not know	no, I do not use applications	no, already available applications are sufficient	yes, I would
age	14-17	-	-	-	3%
	18-25	33%	17%	29%	18%
	26-35	17%	35%	14%	33%
	36-45	17%	17%	29%	23%
	46-55	17%	13%	29%	15%
	56-65	17%	13%	-	5%
	more than 65	-	4%	-	3%

Source: own research based on (results of) survey among passengers

In terms of gender, women were more willing to use the abovementioned application (63% of positive responses).

Table 32. Relations between gender and willingness to use the mobile application

43. Would you use a mobile application (designed for the Modlin Airport) that facilitated access to the airport?					
		I do not know	no, I do not use applications	no, already available applications are sufficient	yes, I would
gender	female	57%	57%	57%	63%
	male	43%	43%	43%	37%

Source: own research based on (results of) survey among passengers

In terms of the level of education, respondents with higher education wanted to use the app the most frequently (51%).

Table 33. Relations between the education and possibilities to use the mobile application

43. Would you use a mobile application (designed for the Modlin Airport) that facilitated access to the airport?					
		I do not know	no, I do not use applications	no, already available applications are sufficient	yes, I would
education	primary	14%	4%	-	5%
	secondary	43%	46%	71%	44%
	high	43%	50%	29%	51%

Source: own research based on (results of) survey among passengers

The most considerable share of people willing to use a mobile application dedicated to airport were full-time employees (72%), the second group consisted of students (13%).

Table 34. Relations between the employment and possibilities to use the mobile application

	43. Would you use a mobile application (designed for the Modlin Airport) that facilitated access to the airport?				
		I do not know	no, I do not use applications	no, already available applications are sufficient	yes, I would
employment	unemployed	-	2%	-	3%
	retiree/pension recipients	14%	11%	-	5%
	others	-	6%	-	3%
	part-time employment	-	6%	-	5%
	full-time employment (about 160 hours per month)	57%	66%	86%	72%
	student	29%	9%	14%	13%
	parental leave	-	-	-	-

Source: own research based on (results of) survey among passengers

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