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The role of car in urban travels of residents of Gdynia in 2015 in the light of the results of marketing research

Abstract: The article describes the methodology of the research studies on the preferences and travel behavior carried out in Gdynia in 2015. The results of these studies are presented in ranges of the declared and actual way of travel, the reasons of choosing a car and public transport in urban travel and travel time. These results were the basis for identifying the role of car in urban travel of residents of Gdynia.

Key words: car, urban travel, marketing research

Introduction

Representative studies of preferences and transport behaviors of inhabitants of Gdynia are conducted systematically by the Department of Transport Market and the Municipal Communications Board in Gdynia. The last round of research took place in 2015.

The content of the study of preferences and transport behavior of the inhabitants of Gdynia in 2015 included, among others:

- declared ways of carrying out urban journeys;
- urban travel modes determined on the basis of the so-called photography of the day;
- factors determining the choice of a passenger car in urban journeys;
- factors determining the choice of collective transport in urban journeys;
- attitude of the inhabitants to specific transport policy solutions.

The aim of this study is to determine the role of passenger cars in the urban journey of Gdynia residents and its determinants.

It is based on the thesis that the car has become the dominant means of transport in urban journeys, and the main determinants of its choice are travel time and convenience.

In 2015 there were 247, 5 thousand inhabitants, who had 139 thousand cars which means that for 1 thousand inhabitants there were 562 cars.

The research sample constituted 1% of the inhabitants of Gdynia aged 16-75. The respondents were computerized from Gdynia residents' records, using stratified selection

using gender, age, and neighborhood criteria. Selected interviews were conducted with individualized interviewees.

The way of city journeys made by the inhabitants of Gdynia

In the light of the survey results, households with at least one passenger car accounted for 72%. The share of main car users in the household among the residents of motorized households was 75%. The average number of cars in a household with a passenger car was 1.3. Households with 1 car among the households holding at least one such vehicle accounted for 80%.

The study determined the inhabitants' declared way of the realization of the journey and actuality in the examined day. Declared way of making city trips is shown in Figure 1.



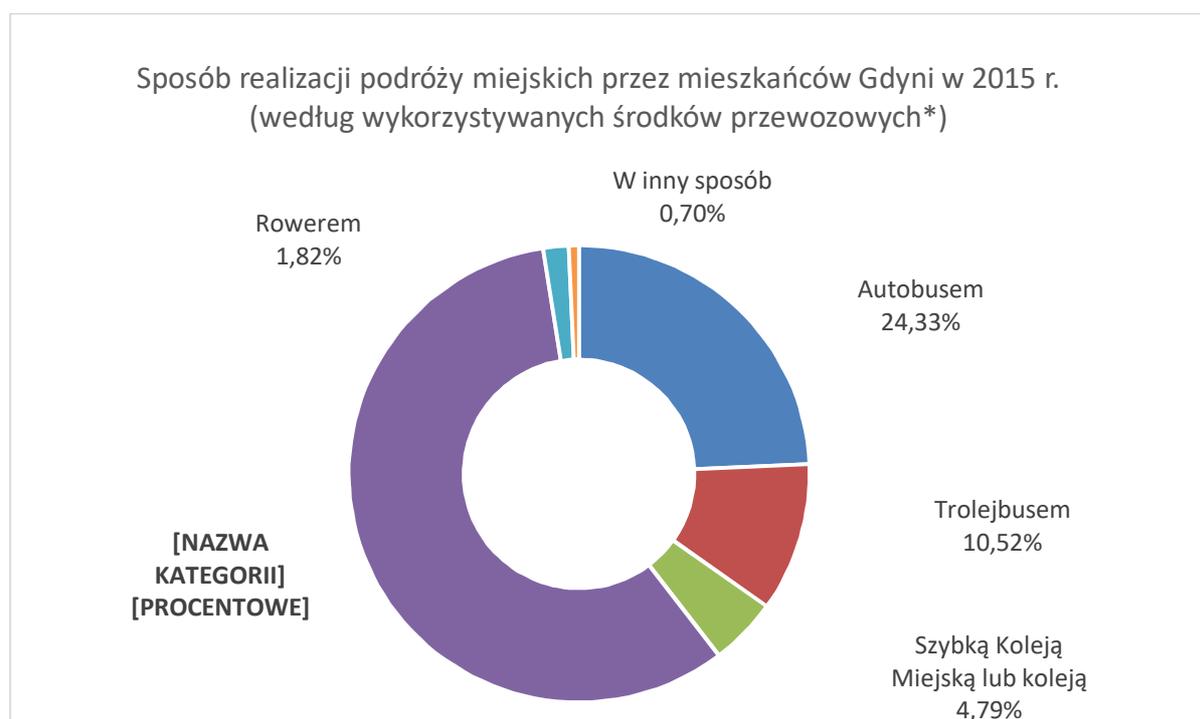
1. Declared way of realizing urban travel by inhabitants of Gdynia in 2015 (% of inhabitants). Source: own study based on the original research of the Department of Transport Market of the University of Gdańsk and the Municipal Communication Board in Gdynia.

Tab. 1. Declared way of realization of urban trips by inhabitants of Gdynia in 2015 - by socio-occupational status (% of responses). Source: own study based on the original research of the Department of Transport Market of the University of Gdańsk and the Municipal Communication Board in Gdynia.

Socio-professional status	The way of travel					
	Always by collective transport	Mostly by public transport	Equally, by public transport and by car	Mostly by car	Always by car	In other way
Worker	15,23	18,19	10,13	23,12	31,99	1,34
Student	38,61	43,67	10,13	4,43	2,53	0,63
Worker and learning/studying	9,09	34,55	21,82	21,82	12,72	0,00
Pensioner	47,67	22,09	6,98	8,14	15,12	0,00
on the retired list	40,63	21,90	12,14	12,14	11,87	1,32
Pensioner/ on the retired list	42,11	36,84	5,26	10,53	5,26	0,00
Non - working	34,22	21,39	14,44	16,58	12,30	1,07
Average	25,15	22,00	11,05	18,15	22,50	1,15

Figure 1 shows that more people declared traveling always or mostly by public transport (47%) always or mostly by car (41%). Declaration of the way of the realization of urban trips was different depending on the socio-occupational status of the inhabitant (Table 1). Those who work professionally as the only segment of the inhabitants separated by this criterion have declared traveling always or mostly by car (55%). Residents belonging to the other segments, except for those who work and study at the same time, mostly claimed that they always or mostly use public transport (from 55% of pensioners to 82% of students). At the same time, the majority of workers and learners did not indicate either public transport or passenger car as a means of carrying out urban journeys, although more of them declared that they always use or mainly use public transport (44%) rather than passenger cars (35%).

Figure 2 shows the actual way in which urban journeys take place without pedestrians on the day preceding the study. In the light of the results of this study, car travel became the dominant mode of travel (58%).



2. Method of implementation of urban trips by the inhabitants of Gdynia in 2015 on the basis of travel of respondents conducted on the day preceding the survey (according to used means of transport). Source: own study based on the original research of the Department of Transport Market of the University of Gdańsk and the Municipal Communication Board in Gdynia.

Table 2 shows the actual way of Gdynia residents' cross-country socio-occupational status. The share of travel by car over the average share occurred in the case of people working (69%). The majority of car journeys were carried out by workers and non-working persons (55% each). In the case of other segments of the population, the car did not play a dominant role in urban travel. The locals traveled mainly by car as drivers. The highest number of people in this role was workers (93%).

Tab.2. Method of implementation of urban trips by the inhabitants of Gdynia in 2015 on the basis of journeys made on the day preceding the survey according to socio-professional status. Source: own study based on the original research of the Department of Transport Market of the University of Gdańsk and the Municipal Communication Board in Gdynia.

Residential segment	The way of travel						
	By car		Collective transport			By bicycle	n othr ay
	As a driver	As a passenger	By bus	By trolleybus	By SKM or rail		
Worker	64,22	4,92	18,51	6,15	4,12	1,42	0,66
Student	12,85	6,25	41,32	19,10	16,67	2,08	1,73
Worker and learning/studying	49,22	6,26	24,22	9,37	9,37	1,56	0
Pensioner	20,27	9,46	45,95	22,97	1,35	0	0
on the retired list	27,69	10,77	33,18	22,64	0,88	3,96	0,88
Working pensioner	25,00	3,57	42,85	14,29	14,29	0	0
Non-working	37,44	17,06	30,33	12,32	0,95	1,90	0
Average	51,08	6,76	24,33	10,52	4,79	1,82	0,70

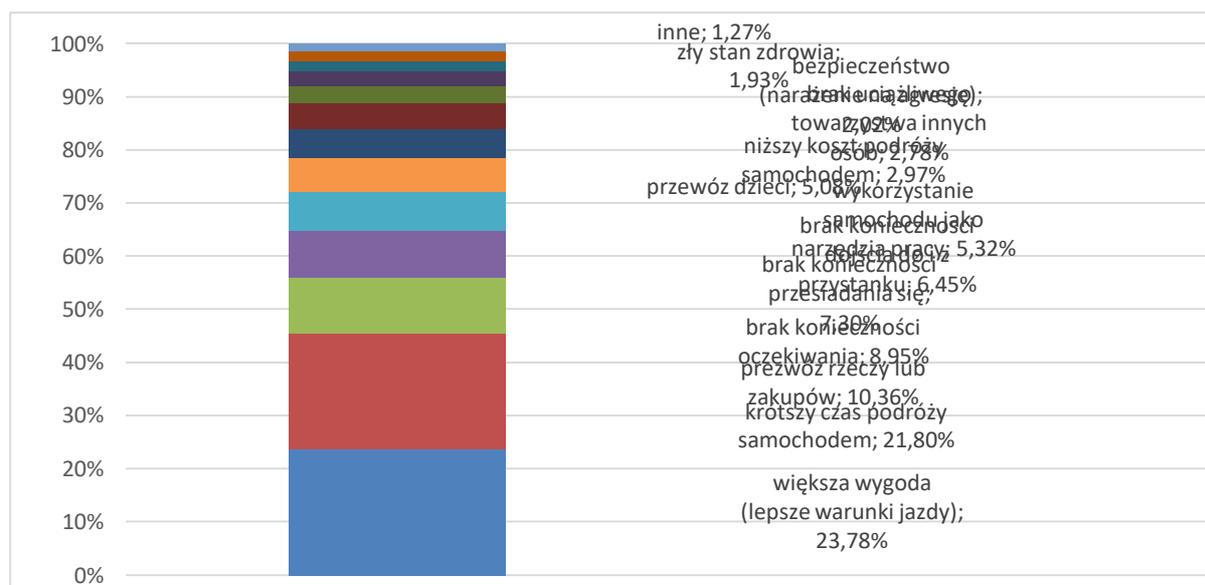
In 2015, for the first time among travel modes, walking distances of more than 500 m were taken into account, resulting in the following average share of urban trips between all modes:

- passenger car – 51%,
- collective transport – 36%,
- pedestrian movements – 11%,
- by bicycle – 2%.

Inclusion of pedestrians did not fundamentally change the situation. Traveling by car has maintained a dominant position.

Factors determining the choice of a passenger car in urban trips conducted by the inhabitants of Gdynia

Under the conditions of striving to influence the division of transport tasks, it is important to identify factors determining the types and means of transport. Knowing these factors, you can prepare a market-shaping strategy to keep current public transport passengers and to acquire new ones. For these reasons, the characteristic of marketing research conducted in Gdynia was the search for factors determining the choice of car or collective transport by people with a car. Figure 3 shows the determinants of the choice of passenger car instead of public transport in urban journeys.



3. Factors determining the choice of passenger car instead of public transport by Gdynia inhabitants in urban travel in 2015 (% responses). Source: Own study based on the original research of the Department of Transport Market of the University of Gdańsk and the Municipal Communication Board in Gdynia.

In 2015, the functional characteristics of the car dominated the list of factors determining its choice in urban travel. From the data in Figure 3, two basic factors determining the choice of passenger car instead of collective transport were::

- greater convenience of travel (24% of indications),
- shorter travel time (22% of indications).

The remaining indications were dispersed among 10 other factors, not including the "other" category, which allowed for the extra factor to be extracted. Among the factors that contributed significantly to this were those that determine the travel time to a certain degree:

- no need to wait for a vehicle via car travel (9% of indications),
- no need to change if traveling by car (7% of indications),
- no need to get to and from the stop in case of car travel (6% of indications).

If you add a travel time factor to your travel time, 45% of the time, you will get 45% of your travel time, which highlights your importance in choosing your way of travel..

Factors determining the choice of collective transport in urban trips implemented by the inhabitants of Gdynia

Part of the population who have the option of choosing a passenger car in urban journeys is opting for public transport. Factors determining the choice of inhabitants of Gdynia are presented in Table 3.

Tab. 3. Factors determining the choice of public transport by Gdynia inhabitants in 2015 (% of responses). Source: own study based on the original research of the Department of Transport Market of the University of Gdańsk and the Municipal Communication Board in Gdynia.

Factor	Share (% responses)
The need to pay a parking fee	13,08
Use of the car by another person	17,69
Psychophysical deficiencies	7,08
Lower cost of transport by public transport	12,0
Difficulty with parking at the destination	16,05
Atmospheric conditions	5,12
Satisfactory quality of public transport	10,68
Congested roads	10,61
Poor technical condition of the car	5,24
Other	2,46

In 2015, the selection of public transport by car users was determined in the order, not including the use of the car by another person in the household, the following factors:

- difficulty in parking at the destination,
- need to pay a parking fee,
- satisfying quality of public transport,
- congestion of roads.

In the light of the results of the 2015 study, it is clear that the choice of public transport by car users is primarily due to restrictions on their freedom of operation and the quality of public transport services.

Urban travel time of the inhabitants of Gdynia

Table 4 shows the perceived time of Gdynia residents' travel to work and place for study.

Tab. 4. Travel time of Gdynia inhabitants to work or place for study in door-to-door relationship in 2015 (% of responses). Source: Own study based on the original research of the Department of Transport Market of the University of Gdańsk and the Municipal Communication Board in Gdynia.

Travel time	To work		To the place for study	
	By passenger car	By collective transport	By passenger car	By collective transport
To 5 minutes	6,88	2,33	7,73	2,90
6-10 minutes	19,79	5,29	17,87	5,31
11-15 minutes	22,01	7,20	19,81	6,76
16-20 minutes	20,00	10,48	16,91	11,11
21-30 minutes	17,25	21,48	21,74	24,64
More than 30 minutes	11,01	47,83	10,63	46,86
I have no opinion	3,07	5,40	5,31	2,42
Average (min)	20.00	39.12	20.22	35.40

In light of the data in Table 4, the average travel time to the workplace was at the level:

- by passenger car - 20 minutes,
- by collective transport - 39 minutes,

And to the place for study:

- by car - 21 minutes,

- by collective transport - 36 minutes.

This means that the average perceived journey time to the workplace by collective transport was on average almost as long as a passenger car and to a place of study 70% longer.

Summary

From the study on the role of car journeys in urban residents of Gdynia in 2015 arise the following conclusions:

- despite the fact that more residents declare the use always or mainly of collective transport than of a passenger car, however, in the structure of the way of travel determined on the basis of so-called photography of the day before is dominated by passenger car, both in case of not taking into account and taking into account pedestrian over 500 m,
- An important factor determining the choice of a passenger car in urban journeys, apart from the relative travel time, is also the relative comfort of travel, arguing in favor of the individual, in favor of the individual means of transport.,
- in the choice of public transport by car users the most important are restrictions on the operation of the vehicle and the quality of public transport services,
- Among the factors determining the choice of passenger car for urban journeys are the shorter travel time as a factor indicated by nearly half of the population if one takes into account the indirect choice of the factors influencing the relative travel time of both modes of transport.

In the light of the research conducted on the ways of travel of Gdynia's urban inhabitants in 2015, the thesis that the passenger car became the dominant means of transport, and the main determinants of his choice are the time and convenience of travel can be considered as proven.