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Functioning of Public Transport in the Social Space of the City

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Abstract

This article provides a comprehensive review of developments in transportation research. It is devoted to the interpretation of the role of public transport as a phenomenon in the context of sociocultural relations in the space of the modern city. The relevance of the study is due to the need for optimization of the social interactions in the field of public transport, which is a sociocultural phenomenon of our time. The characteristics of roads, routes, vehicles, and socially significant services determine the vectors and the intensity of mobility, conceptualized not only in terms of cultural, informational, socioeconomic exchange, but also in terms of the multiple risks associated with public transport as a sphere of professional employment and consumption. Public transport creates a field for the realization of the interests of various social groups, integrated through the regulation of consumption or competing for the chances and ways of using socially significant services. Participating in the organization of urban life, public transport is perceived as a benefit provided by the state, but at the same time it is a service subject of evaluation. Nevertheless, in foreign and Ukrainian sociological literature, there are many unresolved issues regarding the social role, structure, functions and norms of public transport in the city, its interaction with other social institutions is not disclosed, a unified system of social criteria for its effective work is not developed, and sociospatial ones are practically not affected.

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1. Introduction

The greatest contribution to the sociology of transportation and sociology of mobility were made by J. E. Cohen, J. Urry, and Z. Bauman (Bauman, 2008).

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Transport as a sociocultural phenomenon changes under the influence of the development and redefinition of urban spaces by people, the reformulation of social requirements and the modification of everyday practices. Public transport as a functional system for satisfying the most important social needs forms a special sphere of sociocultural relations with its spatial and temporal boundaries, determined by a set of role expectations and values. The everyday culture of public transport is a value system, a synthesis of formal rules and informal agreements, within which the status interactions of consumers and representatives of the transport service are formed, discriminatory practices are reproduced, the values and norms of the passenger and driver community are formed, turning into models of actions. Public transport is an integral component of the urban culture of everyday life.

K. Lynch studied the urban space, tactics of human movement, and visual aspects of reality focused on communication networks and groups of people (Lynch, 1982).

The structural-functional theory of T. Parsons elevated the role of urban public transport to the level of “ensuring the emergence and preservation of the social order in the social system” through “special value-normative complex systems that regulate the behavior of individuals”. The mobility provided by actively developing public transport is now “a generally accepted pattern of behavior and a habit of thinking” (T. Veblen), “the establishment of a specific social variety” (E. Hughes). M. Castells, J. Urry and F. Asher convinced us that the factor of mobility in modern post-industrial society is becoming more and more decisive, and this trend is turning into a “powerful vector of social change” (Z. Bauman) (Bauman, 2008).

R. Merton's views on the functioning of social institutions during periods of disorganization, individual citizens' strategies in the face of institutional dysfunctions are of decisive importance.

The development of sociological ideas about public transport was also carried out within the framework of a phenomenological approach to the analysis of the social phenomena of everyday life as an objective meaningfulness of institutional action. So, P. Berger and T. Luckman, considering this institution, not only in the context of mobility, but also as an embodied activity of people, “mutual typification of standardized actions”, came close to understanding the habitualization of social practices. E. Giddens insists on “the greatest spatio-temporal extent.” These and other sociological developments (P. Sorokin) led to a gradual transition from the idea of mobility, which by that time turned out to be untenable, to the idea of appropriating space. Thus, expanding the restrictions established by the “rules of exchange” (D. Homans), the neo-institutionalist D. North pointed to the decisive significance of the “rules of the game” and even “constitutive rules” (J. Searle).

P. Bourdieu was the author of the idea of the appropriation of space, reflecting the greatest elaboration of the social foundations of the essence of transport in modern urban space. He defined space as the most scarce modern good, showed how modern people are fighting for it, defined urban public transport as a peculiar form of capital, the institution of appropriation of space (Bourdieu, 2007).

2. Methods

There was the lack of scientific information on the real state of satisfaction with the level of public transport service in Kyiv and the lack of indicators that assess the quality of public transport passenger service. The purpose of the study was to determine the main parameters of public perception of the image of public transport in Kyiv.

There was conducted a standardized questionnaire of citizens (questionnaires with 16 questions) ($n = 785$: the stratified selection; controlled signs: gender, “age”, an error $\pm 2.2\%$, reliable probability – 95.35%)

Objectives of the study:

- to determine the frequency of use of certain types of public transport by citizens;
- to find out the criteria for choosing a certain type of public transport;
- to evaluate the quality of service of each type of public transport;
- to analyze the dependence of the perception of public transport image on the material status, place of residence and the routes of the respondents.

The main hypothesis of the study is that urban public transport is a priority institution for the appropriation of space. In the context of the transformation of Ukrainian society, the normative interaction of the social institution of urban public transport and society is changing, the functions of urban public transport are replaced by dysfunctions,

which is manifested in the unmet need for mobility, the decline in its social prestige. Ensuring the efficient functioning of urban public transport as a social institution is optimal subject to the transformation of mobility habit.

3. Theoretical Basis

The tradition of theorizing about the social role of means of transportation was in Ch.Cooley's works, where he determined that social and technical in transport mutually construct each other. Social transportation functions are important in military and political organizations, terminal and logistical structures shape of big cities. Transportation costs are considered by sociologists of the Chicago School as one of the factors (along with the cost of rented housing) that affects the choice of place of employment of employees in industrial cities. The economic paradigm views transport as the result of a historical process (Cooley, 2006).

Transport from the standpoint of the socio-cultural paradigm emerges as a dimensional object of space assignment with its rules and regulations, consistent behavior of representatives of different groups, which regularly moves passenger flows in everyday reality. In cultural anthropology, it is interesting to look at vehicles as an untamed danger that acts on its own. Anthropologists of urban transport introduce the term "passenger choreography", referring to the configuration of bodily practices "moving in motion", the rhythm and pace of movement of each individual passenger.

So, transport provides the opportunity for a quick trip, which is marked as any movement beyond the permanent residence, changing the everyday environment (geographical, social, cultural, natural), separation from "home", physical mobility in space.

Urban public transport is represented as a social phenomenon, which is one of the prerequisites for the formation and development of urban space, designed to meet human needs for mobility. Historically, it was public transport and its infrastructure that formed the spatial framework of modern cities and megacities. Public transport arose and institutionalized already in the early stages of society as an effective way to economize and professionalize transport services. The socio-economic and scientific-technical development of society made it possible to quickly and completely individualize mobility. However, the dissociation of social relations of mobility has been modified into a problem of urban space, the social value of which is growing and comes into insoluble conflict with the possibilities of individual mobility. The effective appropriation of the urban space of the modern western metropolis is universally provided by urban public transport, the state of which is the most important indicator of the attractiveness and the humanity of the urban environment.

4. Results

The socioeconomic transformation of Ukrainian society has led to serious changes in the life of cities. The daily life of the city as an effective socio-spatial form of organization of society becomes impossible for the normal existence and development of man. Large Ukrainian cities not only cease to be a place of especially comfortable human habitation, but are increasingly becoming dangerous and unsuitable for living territories. The reason is the functioning, or rather, the dysfunction of the institute of urban public transport. This is a major national problem; it concerns all categories of citizens without exception. In modern conditions, there is a contradiction between the traditional functions of the social institute of urban public transport and the real possibilities for their implementation, which consists in the decline of its social significance of the population, poor motivation to travel on urban public transport. Urban public transport is of particular importance in the conditions of total motorization of urban space, becoming the only factor in solving the growing problems of the implementation of transport mobility in the urban environment.

Table 1. How often do you use a certain type of public transport?

	Every day	2-3 times a week	Once a week	2-3 times a month	Less than once a week	Never	Total
Underground	34.1	23	13.6	14	11.3	4.1	100
Route taxi	31.1	31.1	15.2	10.4	7.2	4.8	100
Bus	13.3	22	20	15.7	18.4	10	100
Tram	11.6	15.4	16.4	20.4	22.3	13.3	100
Trolleybus	10	16.1	15.5	20.4	26.4	11.3	100
City train	1.1	2.7	2.1	6.2	21.7	63.7	100
Taxi	1.7	6.9	9.8	24.3	33.3	22.6	100

So, 34.1% of respondents take the subway daily. 23% take the subway 2-3 times a week. 13.6% of them use it once a week. 14% use it 2-3 times a month. 4.1% of respondents have never used the subway.

31.1% of respondents go by the route taxi daily, that is 31.1% of respondents use it 2 or 3 times a week, 15.2% of respondents use it once a week, 10.4% - 2-3 times a month, 7.2% - less than once a week, 4.8% have never used a taxi.

13.3% travel by bus daily, 22% of respondents use it 2-3 times a week, 20% - once a week, 15.7% - 2-3 times a month, 18.4% - less than once a week, 10% have never used it.

11.6% of respondents go by tram daily, 15.4% - 2-3 times a week, 16.4% - once a week, 20.4% - 2-3 times a month, 22.3% - less than once a week, 13.3% have never used it.

10% of researched travel by trolleybus daily, 16.1% - 2-3 times a week, 15.5% - once a week, 20.4% - 2-3 times a month, 26.4% - less than one once a week, 11.3% never used it.

1.1% of respondents go by the city train daily, 2.7% - 2-3 times a week, 2.1% - once a week, 6.2% - 2-3 times a month, 21.7% - less than once a week, 63.7% have never used it.

1.7% goes by taxi daily, 6.9% - 2-3 times a week, 9.8% - once a week, 24.3% - 2-3 times a month, 33.3% - less than once a week, 22.6% have never used it.

Table 2. What criteria do you use when choosing transport?

	Cheap	Comfortable	Fast	The most convenient route	The only possible route
Score	3.5	3.7	4.2	4.0	3.0

Speed is the most important criterion when choosing a specific type of public transport. The table shows the average scores on a five-point scale, with a score of “1” being the lowest, a score of “5” being the highest. This table calculates the arithmetic mean for each criterion. The lowest arithmetic mean was recorded on the criterion “only possible route”, which was 3.0 points. The “cheap” criterion was rated at 3.5 points. The “Comfort” criterion was estimated at 3.7 points on average. The most convenient route criterion was rated by respondents at 4.0 points. The fastest criterion received the highest arithmetic, its respondents rated it at 4.2 points.

It is worth noting that in the technical literature, the quality of transportation is derived from an analysis of the formal components of the mobility process: compliance with standards, passenger input / output, the presence / absence of equipment items (stops, vehicles), the ratio of motorization rates and throughput growth, absolute and relative numbers of carriers, routes, rolling stock, trips, traffic accidents etc.

There are some differences, depending on the age of the citizens. Of course, the price criterion is more important for the elderly and convenience is less important compared to other age categories. For middle-aged people, comfort and speed are the most important.

Table 3. The quality of service in each type of public transport.

	Traffic interval	The distance between stops	Passenger comfort level	Passenger safety level	Level of drivers culture	Sanitary condition of the salon	Technical condition of transport	The integral indicator
Underground	4.1	4.1	3.4	3.5	3.9	3.2	3.3	3.6
Route taxi	3.2	3.5	2.8	2.7	2.6	2.6	2.6	2.9
Bus	3.0	3.3	2.8	2.9	3.0	2.8	2.7	2.9
Tram	3.2	3.4	2.8	3.0	3.2	2.7	2.7	3.0
Trolleybus	3.1	3.3	2.9	3.0	3.2	2.8	2.7	3.0
City train	1.5	1.6	1.4	1.6	1.7	1.3	1.4	1.5
Taxi	0	0	3.4	3.0	3.0	3.2	3.1	3.1
The integral indicator	3.0	3.2	3.2	2.8	2.9	2.7	2.6	2.9

Thus, the most popular types of public transport in Kyiv are the underground and the taxi, and the least popular is the city train.

According to the results of the table, we can see that on this question regarding “Underground”, the criterion “traffic interval” was estimated, on average, 4.1 points, the same score 4.1 was rated by the criterion “distance between stops”. 3.9 received the criterion of “driver culture level”. The “Passenger Safety Level” criterion was rated by the respondents on average of 3.5 points. The rating “passenger comfort level” was rated 3.4 points. On average, 3.2 points of the respondents rated the criterion “sanitary condition of transport”, 3.3 points received the criterion “technical condition of the salon”.

The total score is 3.6.

According to the results obtained, we see that on the given question regarding the criterion of “interval of traffic” in the “route taxi”, on average, is 3.2 points, a score of 3.5 was rated by the respondents the criterion “distance between stops”. 2.6 received the criterion of “driver culture level”. The “Passenger Safety Level” criterion was rated by respondents on average by 2.7 points. The criterion of “passenger comfort level” was evaluated by 2.8 points. On average 2.6 points of the respondents rated the criterion “sanitary condition of transport”, 2.6 points received the criterion “technical condition of salon”.

The total indicator is 2.9.

According to the obtained results on the given question regarding the criterion of “interval of traffic” of public transport “Bus”, on average is 3.0 points. A score 3.3 was rated by the criterion “distance between stops”. 3.0 received the criterion of “driver culture level”. The “Passenger Safety Level” criterion was rated by the respondents on average of 2.9 points. The criterion of “passenger comfort level” was evaluated by 2.8 points. On average, on 2.8 points the respondents rated the criterion “sanitary condition of transport”, 2.7 points received the criterion “technical condition of salon”.

The total indicator is 2.9

On the given question regarding the criterion “Tram interval”, on average, by 3.2 points, by 3.4 the respondents rated the criterion “distance between stops”. 3.2 received the criterion of “driver culture level”. The criterion “Passenger safety level” was rated by the respondents on average by 3.0 points. The criterion of “passenger comfort

level" was evaluated by 2.8 points. On average, 2.7 points were evaluated by the criterion of "sanitary condition of transport", 2.7 points received criterion "technical condition of the salon".

The total score is 3.0.

From the results of the table with respect to the criterion "Trolleybus", the average score was 3.1 points. The score 3.3 was rated by the criterion "distance between stops". 3.2 received the criterion of "driver culture level". The criterion "Passenger safety level" was rated by the respondents on average by 3.0 points. The criterion of "passenger comfort level" was rated at 2.9 points. On average, on 2.8 points the respondents rated the criterion "sanitary condition of transport", 2.7 points received the criterion "technical condition of salon".

The total score is 3.0.

Public transport "City train" from the results according to the criterion "traffic interval" was 1.5 points. 1.6 received the criterion "distance between stops". 1.7 received the criterion of "driver culture". The criterion "Passenger safety level" was rated by the respondents on average by 1.6 points. The rating "passenger comfort level" was rated by 1.4 points. On average, 1.3 points were evaluated by the criterion of "sanitary condition of transport", 1.4 points received criterion "technical condition of the salon".

The total score is 1.5.

Respondents rated the taxi driver's criterion for the "Taxi" level by 3.0. The criterion "Passenger safety level" was rated by the respondents on average by 3.0 points. The criterion of "comfort level of passengers" was evaluated by 3.2 points. On average, 3.2 points of the respondents rated the criterion "sanitary condition of transport", 3.1 points received the criterion "technical condition of the salon".

The total score is 3.1.

5. Discussion

Transport represents the service sector of the population related to meeting the needs of people in moving, their desire for territorial mobility. The service culture is based on the quality of service delivery and staff work, as well as customer satisfaction. The concept of quality is correlated with the ideal example of the service, the standard of implementation of which should be shared by all participants in the process. Users are faced with the failure of transport authorities to provide the necessary number of trips that meet actual needs. During the day, several critical time points arise when the number of passengers exceeds the supply of travel options, due to a lack of funds for updating rolling stock, proper pay for transport personnel, and a shortage of driving personnel.

6. Conclusions

Urban public transport is one of the most important social institutions for the appropriation of space, the purpose of which is to ensure the mobility of social actors and is achieved by performing social functions: regulation, regulation, integration, and economization of the appropriation of urban space. The existence of public transport is determined by the objective prerequisites for its formation and development, the processes of habitatization, typification and legitimization of the practice of appropriation of space. The prerequisite for the implementation of social practices of assigning space by agents is the incorporation or double structuring provided by the mobility habit. It is determined that the mobility habit is a structure consisting of dispositions of speed, safety, economy, information, content, comfort, accessibility, environmental friendliness, status.

Public transport in Kyiv includes buses, trolleybuses, subway, trams, city trains, taxis, route taxis.

The quality of public transport services consists of the following criteria: the interval of traffic, the distance between stops, the comfort level of passengers, the level of passenger safety, the level of driver culture, the sanitary condition of the cabin, the technical condition of the transport.

Opinions about the value for money and quality of public transport services are in the range between poor and high quality.

Intercity public transport is a phenomenon of social reality, given to the subject in the experience of everyday life, reflects the cultural, socio-historical, communicative meanings by which sociocultural ideas are formed. Subjective practices of accessing a transport service are formed against the background of individual social knowledge, constructing the experience of the passenger community.

Everyday culture of public transport is a value system, a synthesis of formal rules and informal agreements, within which the status interactions of consumers and representatives of the transport service are formed, discriminatory practices are reproduced, the values and norms of the passenger and driver community are formed, turning into models of actions. The vehicle becomes a public place that regulates behavior through ideas about the rules of communication, the manifestation of emotions, speech in public and morality circulating in front of the public.

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