Ethnic stereotypes in the assessment of transport infrastructure

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Abstract. The assessment of transport infrastructure is one of the significant criteria for a foreigner who chooses another country as a place of work or study. This article is aimed at identifying and scientifically describing ethnic stereotypes in the assessment of transport and transport infrastructure of the host country, analyzing the elements of ethnic consciousness involved in the formation of prejudices towards foreign culture or everyday phenomena. Since any ethnic stereotypes are "fragments of contacts" between peoples, their assessment in terms of historical and cultural interaction seems important and timely. Ethnic stereotypes in the assessment of transport infrastructure have a significant impact on the formation of the image of the country and affect the process of social and cultural adaptation of a foreigner. Research carried out in this direction makes it possible to find effective solutions to specific problems and to take into account the specifics and the influence of the human factor on the artificial environment, and the transport environment is part of it. Given the diversity of real ethnic groups, which include traffic users, it is necessary to raise the issue of developing verified programs of social and cultural adaptation for various categories of foreign citizens.

1 Introduction

Transport infrastructure is an important indicator of the development of modern society. Today, we can rightfully speak about the civilizational significance of transport, which ensures the "maturation" of countries at each historical stage. Because of that transport infrastructure assessment is one of the most significant criteria for a foreigner who chooses another country as a place of work or study. Filip & Popa (2014) emphasize that "transport has played a catalytic role in the migration, leading to economic and social transformation of many nations" [1].

To take into account the "transport criterion" seems important for creating a system of adaptation of a foreigner, forming in him socially significant qualities necessary for accepting a foreign culture and a foreign mentality. In this sense, this article can be considered innovative: it is aimed at identifying and scientifically describing ethnic

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stereotypes in the assessment of transport and transport infrastructure, and analyzing the elements of ethnic consciousness involved in the formation of prejudices towards foreign realities.

Stereotypes in the broad sense of the word are understood as beliefs inherent in a particular culture. These are the ideas about groups that are ingrained in culture and are often passed down between generations [2]. Subjective experience corrects the content of stereotypes, however, for this correction to occur, some kind of influence is necessary, and it is better that it be controlled. According to the contact hypothesis [3], stable positive contact can change any negative stereotypes that exist in any ethnic group, cultural phenomenon or reality [4].

Social and cultural adaptation management is an activity to provide a foreigner with opportunities for acculturation in educational institutions, at work or in an office, requiring the host to pay attention to all aspects of the life of a new member (student or employee). We can say that this is a rather specific field of activity, which involves reliance on the achievements of pedagogy, social psychology, sociology of management and management. In this sense, this process has its own specifics and laws inherent only to it. In our case, the use of transport psychology data [5, 6, 7, 8] is quite natural and brings our work to the level of interdisciplinary research. Competent management of the social and cultural adaptation of a foreigner implies an understanding of the importance of the interconnection and interdependence of all aspects of human life in society, the adoption of a new culture by household factors, which include transport infrastructure [4, 9, 10].

Thus, our study is socially oriented in its focus and was carried out within the framework of the problems of transport psychology.

2 Methods

To understand the peculiarities of the individual's perception of new social and cultural realities and the degree of formation of ethnic stereotypes and prejudices in relation to transport, we conducted a comprehensive analysis of domestic and foreign literature on the designated problem. We would like to highlight works related to:

1) socio-psychological interaction of traffic participants [11, 12, 13, 14, 15];

2) problems of passenger behavior modeling [16, 17, 18];

3) the influence of ethnic stereotypes on the social and cultural adaptation of a foreigner in a new society [4, 19, 20, 21, 22, 23, 24].

In this regard, it was important to study the regulatory framework in the field of traffic safety in Russia and abroad, the world practices of training personnel in the field of traffic safety, and the analysis of proposals for improving the legislation of different countries.

In the course of the work, it was revealed that the number of studies in the field of transport psychology, and especially in that part of it that is related to ensuring the safety of human life and health, is rather small, and this explains the timeliness of this work.

The information base of the study was data from open sources: 1) analytical reviews on the problems of transport development of regions [25, 26]; 2) generalized statistical data related to the study of transport infrastructure [27, 28, 29, 30]; 3) materials from the websites of foreign transport and logistics companies.

To identify the features of the formation of ethnic stereotypes in the assessment of transport infrastructure, a questionnaire was developed. During its development, theoretical material and practical recommendations of modern researchers were taken into account. Respondents rated statements on a five-point Likert scale, ranging from "strongly agree" to "strongly disagree". A block of open-ended questions was also formed, which makes it possible to identify the attitude of respondents to certain transport realities and problems. Foreign students and foreign employees of Russian universities (Russian State University

named after A.N. Kosygin, MIREA, Moscow State Pedagogical University) took part in the survey. The total number of respondents was 82 people.

3 Results

Based on the research of Russian and foreign scientists [7, 14, 16, 17], we identified the criteria for the formation of positive stereotypes in relation to public transport in the following areas: 1) social and administrative, 2) cultural and household, 3) advertising and information. The degree of significance of the criteria in each group was determined on the basis of the analysis of the questionnaire results.

In the first group (social and administrative), the following factors were important (that is, noted by absolutely all participants in the experiment): 1) the degree of the transport infrastructure (in most cases, this meant the availability of many familiar modes of transport in the city); 2) the level of security in transport; 3) ease of use. Moreover, the safety criterion was ranked first by 89% of foreigners, the development of transport infrastructure was considered important by 82% of respondents.

The following factors related to the quality of the provided transport services were identified: 1) the availability of payment by bank card, 2) the availability of contactless payment; 3) the availability of benefits for certain categories of passengers (students, children, pensioners); 4) the availability of duplicate signs in English and other languages in the waiting areas for transport and at metro stations; 5) the availability of high-speed Internet in transport and power sources (recharging) of smartphones and computers; 6) the availability of comfortable passenger seats (armchairs, sofas) in transport; 7) the availability of comfortable waiting areas for public transport; 8) absence of large intervals in traffic. In this group, "high-speed Internet" has become relevant for 92% of respondents.

Of the material and financial factors, the following were identified: 1) affordability of prices for public transport; 2) comfortable conditions of fare payment; 3) the opportunity to participate in promotions and receive bonuses from fares. In this group, "affordability" and "comfortable payment conditions" were chosen by 95% of students as the leading criteria.

Students who have lived in the Russian Federation for a long time and have the opportunity to compare the development of transport infrastructure in several cities were able to assess the advantageous position of Moscow and St. Petersburg in relation to other cities of the country. In this sense, the results of our survey turned out to be comparable with the statistics: according to the analytical report of InfraOne for 2019-2020, the transport infrastructure is best developed in Moscow (industry index - 8.25), the Moscow region (6.95) and St. Petersburg (6.85) [28]. And this growth continues due to the fact that the Moscow Central Diameters were launched in the capital in 2019, connecting it with the nearest towns of the Moscow region, and the passenger flow to the MCC has also increased significantly [29].

The taxi market in Russian cities was also highly appreciated by foreigners. They noted as positive: 1) the availability on the market of large services like Yandex.Taxi and Gett; 2) a slight difference in cost between the "Economy" and "Comfort" levels.

The following "organizational factors" became relevant: 1) the availability of qualified personnel in the transport sector (drivers, conductors, stewards); 2) the availability of hassle-free access to means of transport (the ability to quickly call a taxi; the systematic work of transport at night); 3) the availability of conditions for a quick solution of transport problems (the ability to receive quick answers to emerging questions; staff communication in English). The importance of hassle-free access to means of transport was ranked first by more than 90% of the respondents.

In the second group (cultural and household sphere), the following factors were noted: 1) calm atmosphere, unobtrusive passengers; 2) courtesy towards disabled passengers with

limited mobility; 3) politeness towards women; 4) tolerant attitude towards foreigners, willingness to help on the part of employees and passengers.

We want to note that the ideas of foreigners, who are just preparing to leave for Russia, about the nature of Russian everyday culture turned out to be insufficient and in no way capable of giving a person the correct algorithm of action in a foreign country. This applies to survey participants in most of the countries represented. The most common negative stereotypes were the following: 1) "taxi is an expensive and unsafe mode of transport, you will definitely be deceived when traveling from the airport to the city"; 2) "metro is a huge city where it is easy to get lost"; 3) "there is no transport police in Russia, no one keeps order in transport"; 4) "Russian passengers are always in a hurry, so they are reluctant to help foreigners." Interestingly, it was these (most frequent) stereotypes that were destroyed literally in the first month of their stay in our country - almost 90% of the participants in the survey indicated this. The less "popular" stereotypes turned out to be more "tenacious", and it took a longer time to neutralize them. This concerned, for example, the convictions of some foreigners of prejudice against them by law representatives (ticket controllers, transport police), persecution on a national basis, etc.

The following factors were identified in the third group (advertising and information sphere): 1) the availability of information about the specifics of transport on the Internet; 2) popularity of the mode of transport in Russia and abroad; 3) the availability of own brands associated with transport. "Information accessibility" and "popularity" of transport were considered to be the most significant criteria by 92% of respondents. However, it turned out to be interesting that at the time of choosing a country for work or study, no more than 10% of respondents had complete and reliable information about public transport in this country.

The most important criteria forming good stereotypes about public transport is given in the table 1.

Table 1. Peaks of importance (poll results).

Area of stereotypes	The most important criteria	Poll results (% of respondents)
Social and administrative	affordability of prices for public transport	95%
Cultural and household	tolerant attitude towards foreigners, willingness to help on the part of employees and passengers	92%
Advertising and information	the availability of information about the specifics of transport on the Internet	92%

4 Discussion

Obviously, a person arriving in a foreign country needs to be adapted to everything: to the language, climate, peculiarities of work and leisure and behavioral reactions of the host. The influence of ethnic stereotypes here plays a dual role: negative stereotypes make a person be afraid of a new reality, while positive stereotypes sometimes lead to high expectations [23, 24]. And in this sense, transport and transport infrastructure are no exception. It can be said that the moment when a person realizes all the "strangeness" and "foreignness" of a new place of residence becomes a shock for him, therefore it is important to prevent "negative pressure", to prepare for the idea that in the new reality can be understood and accepted. The study of the ethno-psychological aspect of a person's adaptation to the conditions of a new transport environment for him, his involvement in this environment, interaction with other traffic participants was given insufficient attention in

scientific literature and, accordingly, there were no practical developments that would allow to organize the process of preparing foreigners to leave for a foreign country.

The problems associated with the pressure of ethnic stereotypes on the process of adaptation of a foreigner to the transport environment are quite diverse. They can be grouped into three large groups.

4.1 The first group

The first group is the problems associated with the use of the preferred mode of transport. This issue is important because transport widely used in one environment may be completely unpopular in another, and even there are differences in the use of popular transport in a foreign country. Thus, a foreigner who has arrived in a metropolis from a small town with a minimum set of means of transport is sincerely perplexed about the practicability of decorating the Moscow metro. They say: "This is neither a museum nor a theater, these are just trains, why are there such expensive walls here?"; "Travel would be cheaper if the metro design was not so expensive," etc. At the same time, he expects from "such an expensive facility" some extraordinary quality of services: "I thought that beautiful things are sold at metro stations", "It is strange that there are no cafes or minibars at metro stations", etc.

European traditions associated with green energy and the development of "non-motorized travel options" have a fairly large influence on stereotypes: "A significant increase in accessible, safe, efficient, affordable and sustainable infrastructure for public transport, as well as non-motorized options such as walking and cycling, prioritizing them over private motorized transportation" [25]. The well-developed cycling and motorcycle culture in many European countries creates among foreigners the idea that there is a similar one in Russia, although in our country this element of transport culture is at the initial stage of formation.

Much attention in the European tradition is paid to the development of "public transport waiting areas" and pedestrian infrastructure. This is declared in many European documents: "Public transport and walking are inextricably linked since access to public transport in most urban areas is predominantly on foot. Planning for seamless door-to-door passenger journeys needs to consider walking infrastructure and the waiting environment as well as the journey within the public transport vehicle" [25]. Obviously, the habit of having convenience and comfort forms the idea that this comfort is standard and, naturally, causes disappointment if it is absent ("I wanted to buy a bicycle, but I realized that I could not get to work on it", "I want a bicycle, but I don't know where to storee it", "I don't understand why there are no bike stands near houses and shops", etc.).

4.2 The second group

The second group is the problems associated with the legal aspects of the use of vehicles (fare, vehicle rental, communication with representatives of the traffic police, obtaining a driver's license, penalties, etc.).

Lack of elementary information about fare rules, differences in national fare control systems often become a source of conflict situations. As an example we will cite the following situation. A foreigner who did not have time to pay the fare asked the controller for a discount, because he wanted to pay the fine on the spot (in some countries, when paying on the spot, you can get a discount of 30-50%). Having received a refusal (in Russia such a possibility is not provided for by law), he concluded that the authorities were biased towards representatives of a particular ethnic group. Thus, the respondent confirmed his

stereotypical ideas about our legal system: "I knew that nothing could be proved…", "I was told that it was useless to argue…", "If I were Russian, they would not approach me…".

Such prejudice does not arise from scratch, it becomes the result of a) bad personal experience or b) social learning and, despite the frequent absence of a rational basis, is difficult to correct.

The conducted survey confirmed that the "structure of fears" is different for different categories of foreign citizens and is ethno-determined. A European (English or German) will never put a child of an inappropriate age in a car without a special car seat and will not drive without fastening a seat belt for himself and for his passenger: the fear of breaking the law, coupled with the culture of law and order, is higher for him on the rating scale than the fear of facing a particular policeman or official. This is something we observe among respondents from African or South Asian countries. The opposite is also confirmed: a rather calm attitude towards "violating the rules" among this category of respondents is contrasted with fears associated with communication with law enforcement officers. The thesis "I'm not afraid of the law, I'm afraid of a person", formulated by one of the respondents, fully reflects the logic of the fears of this category of respondents (in this case, it was about the controller on public transport).

4.3 The third group

The third group is the problems of communication, communication with passengers of the host country.

The survey showed that many foreigners are not ready for active communication with local residents due to a lack of understanding of the peculiarities of the Russian mentality and ignorance of local realities. So, as "offending" the respondents named the requests of passengers "to speak more quietly", to remove the ringtone of the phone with a specific sound fragment and to give a seat to a child or a girl. Situations related to the "contact nature" of Russian culture were assessed as "conflictogenic": the desire of some passengers to shake hands with a stranger, pat him on the shoulder, pull his sleeve or his clothes to attract attention, etc. Obviously, here we should talk about the importance of teaching communication to newcomers within the framework of various programs of social and cultural adaptation.

4.4 The general guidelines

It can be very useful to use the potential of various foreign organizations with experience in popularizing activities in this area, to attract studies containing analysis of the psychological (behavioral) problems of traffic participants [11, 13, 23], as well as to designate those areas of psychological practices, the relevance of which is specific to modern Russian realities [31, 32].

It should be noted that in Russian psychology, studies of this kind are more often associated with social psychology and the emphasis is placed on the study of psychophysiological states caused by the stressful impact of a new social and cultural reality. It seems to us right to turn to the ethno-psychological aspect of social and cultural adaptation, to draw the attention of researchers to the national characteristics of adaptation, mastering a new language and new values [33]. Having analyzed the studies of the authors working in the sphere of solving transport psychology problems, we can conclude that their work as a whole reflects an important trend. It is a comprehensive solution to the problem of "stress-free entry" of a person into a new transport environment with the focus on preserving human life and health in new conditions [4, 11, 12, 13].

Such studies are, of course, extremely important, since the number of conflict situations involving foreigners in transport and related to public transport is quite significant, and many of them are due to negative stereotypes formed during life in their homeland.

We would like to note the particular relevance and timeliness of research in this area for the largest metropolitan areas, where the main educational institutions and offices of companies with foreigners are concentrated. Advising foreign students and employees on issues of transport mobility, travel behavior, and the quality of transport services should become part of the work of educational organizations and labor collectives to prevent ethno-psychological problems among employees.

5 Conclusion

We will make a number of conclusions.

1. Any ethnic stereotypes are "fragments of contacts" between peoples. Ethnic stereotypes in the assessment of transport infrastructure can be negative and positive. Both of them are equally "influential" for the formation of the image of the country and influencing the process of social and cultural adaptation of a foreigner.

2. The study of the world experience of psychological research in the field of transport psychology contributes to the search for effective technologies for adapting a foreigner to the conditions of a new social and cultural reality.

3. Research carried out in this direction makes it possible to find effective solutions to specific problems, taking into account "the specifics and influence of the human factor on the artificial environment, a special case of which is the transport environment" [7].

4. Given the diversity of real ethnic groups, which include traffic users, it is necessary to raise the issue of developing verified programs of social and cultural adaptation for various categories of foreign citizens.

References

1. N. Filip, C. Popa, "Mircea cel Batran" Naval Academy Scientific Bulletin **17(2)**, 10-12 (2014)

2. Y. Kashima, Social and Personality Psychology Compass **2**, 107–120 (2008) https://doi.org/10.1111/j.1751-9004.2007.00063.x

3. T.F. Pettigrew, L.R. Tropp, U. Wagner, O. Christ, International Journal of Intercultural Relations **35**, 271–280 (2011) https://doi.org/10.1016/j.ijintrel.2011.03.001

4. A. Stanciu, C.M. Vauclair, J. Cross-Cult. Psychol **49**, 1027-1047 (2018) https://doi.org/10.1177/0022022118777300

5. B. Schlag, J. Schade, *Traffic and transportation psychology. Transport Dictionary* (Edward Elgar Publishers, Cheltenham, 2010)

6. T. Rothengatter, Applied Psychology: An International Review **46(3)**, 223-234 (1997) https://doi.org/10.1111/j.1464-0597.1997.tb01227.x

7. T.V. Kochetova, Social Psychology and Society **9(4)**, 8-18 (2018) https://doi.org/10.17759/sps.2018090402

8. D.C. Schwebel, J. Severson, K.K. Ball, M. Rizzo, Accident Analysis & Prevention **38(4)**, 801-810 (2006) https://doi.org/10.1016/j.aap.2006.02.004

9. D. Zumkeller, Transportation Engineering **28(1)**, 23-38 (2000) https://doi.org/10.1016/B978-008043924-2/50053-5

10. A. Stanciu, C.M. Vauclair, N. Rodda, Int. J. Intercult. Relat. **72**, 76-86 (2019) https://doi.org/10.1016/j.ijintrel.2019.07.003

11. J.C. Correa, Revista Latinoamericana de Psicología **48**, 201-208 (2016) https://doi.org/10.1016/j.rlp.2016.06.002

12. D. Dostala, R. Risser, M. Sucha, Accident Analysis & Prevention **102**, 41-50 (2017) https://doi.org/10.1016/j.aap.2017.02.018

13. M. De Angelis, G. Prati, M. Tusl, R. Battistini, L. Pietrantoni, Int. J. Sustain. Transp. **15(11)**, 1-11 (2020) https://doi.org/10.1080/15568318.2020.1771641

14. M. De Angelis, L. Mantecchini, L. Pietrantoni, International Journal of Environmental Research and Public Health **18(9)** (2021) https://doi.org/10.3390/ijerph18094592

15. S. Ramos, P. Vicente, A.M. Passos, P. Costa, E. Reis, Social Sciences **8(5)**, 150 (2019) https://doi.org/10.3390/socsci8050150

16. S. Handy, Berkeley Planning Journal **20(3)**, 15-33 (2021)

17. Ö. Şimşekoğlu, T. Nordfjærn, T. Rundmo, Transport Policy **42**, 113–120 (2015) https://doi.org/10.1016/j.tranpol.2015.05.019

18. O.J. Afolabi, A.M. Hassan, L.O. Age, Journal of Sustainable Development of Transport and Logistics **2(1)**, 40-50 (2017) https://doi.org/10.14254/jsdtl.2017.2-1.4

19. G. Hofstede, *Culture's Consequences: International Differences in Work-Related Values* (Sage Publications, Thousand Oaks, CA, USA, 1980)

20. M.J. Bennett, *Towards ethnorelativism: A developmental model of intercultural sensitivity. Education for the Intercultural Experience* (Intercultural Press, Yarmouth, ME, USA, 1993)

21. A. Berthoin Antal, V. Friedman, *Negotiating Reality as an Approach to Intercultural Competence, WZB Discussion Paper No. SP III 2003-101* (WZB, Berlin, Germany, 2003) URL: http://hdl.handle.net/10419/47910

22. C.S. Crandall, A. Eshleman, Psychol. Bull. *129(3)*, 414-446 (2003) https://doi.org/10.1037/0033-2909.129.3.414

23. K.A. Demes, N. Geeraert, J. Personal. Soc. Psychol. **109(2)**, 316-337 (2015) https://doi.org/10.1037/pspp0000046

24. A.S. English, X. Zhang, A. Stanciu, S.J. Kulich, F. Zhao, M. Bojovic, International Journal of Environmental Research and Public Health **18**, 9540 (2021) https://doi.org/10.3390/ijerph18189540

25. K. Schwab, *The Global Competitiveness Report 2019* (World Economic Forum, 2019) URL: https://gtmarket.ru/files/research/global-competitiveness-index/Global_Competitiveness_Report_2019.pdf

26. K. Schwab, S. Zahidi, *World Economic Forum* (2020) URL: https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2020.pdf

27. *Urban mobility indicators for walking and public transport* (International Association of Public Transport, 2019) URL: https://ec.europa.eu/futurium/en/system/files/ged/convenient-access-to-public-transport.pdf

28. *Russian Infrastructure: Development Index* (2020) URL: http://infraone.ru/analitika/Index_razvitiia_infrastruktury_Rossii_InfraONE_Research.pdf

29. *Russian Infrastructure: Development Index 2020. Analytical Overview* (2020) URL: http://infraone.ru/sites/default/files/analitika/2020/index_razvitiia_infrastruktury_rossii_2020_infraone_research.pdf

30. *World Bank Group. Europe and Central Asia Economic Update, Spring 2021: Data, Digitalization, and Governance* (Washington, D.C., 2021) https://doi.org/10.1596/978-1-4648-1698-7

31. S.T. Fiske, Current Opinion in Behavioral Sciences **3**, 45-50 (2015) https://doi.org/10.1016/j.cobeha.2015.01.010

32. B.A. Konoshenko, *Psychological characteristics of the taxi driver of the metropolis. Candidate's thesis* (Moscow, 2019)

33. A.A. Pozdnyakova, G.V. Kuznetsova, E.B. Nikitaeva, V.V. Zotov, L.Y. Morozova, Lecture Notes in Networks and Systems. Springer **380(17)**, 125-131 (2022) https://doi.org/10.1007/978-3-030-94245-8_17