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# Evaluation of the Effectiveness of Communications Between the Department of Transport and Development of Road Transport Infrastructure of Moscow and the Population Within the Framework of the Implementation of Strategic Projects

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## ABSTRACT

The article examines the assessment of the effectiveness of communications between the Moscow Department of Transport and Development of Road Transport Infrastructure (DTRDTI) and the population in the context of implementing strategic projects. The purpose of the study is to determine the level of information transparency and accessibility of data on the department's key initiatives for citizens. The materials and methods include the comparative and content analysis as well as statistical processing of data from DTRDTI's official websites, publications in the media, social networks and other platforms for the period from 2018 to 2022. The methods of content analysis, comparative analysis and statistical data processing are used. The sample covers 1,520 news stories and information messages. The results show that DTRDTI actively informs Muscovites about the progress of strategic projects. Over the study period, the number of publications increased by 67%, and audience reach, and coverage increased by 84%. A special section "Strategic Projects" has been created on the official website of the department, which is updated weekly. Press conferences, briefings and meetings with journalists are regularly held. In 2022, the Moscow Transport mobile application was launched, allowing to track the work on projects and diverse activities of DTRDTI in real time. The use of VR and 3D modeling technologies for visualization of future objects is noted. At the same time, some problems were identified: uneven presentation of information on different projects, insufficient adaptation of content for perception by non-specialists, lack of versions in foreign languages. It is concluded that DTRDTI demonstrates a high level of information openness. At the same time, it is necessary to ensure a more balanced and accessible coverage of the projects being implemented for a wider audience, as well as to develop new communication channels and formats. The experience of the DTRDTI can be of value not only for the relevant agencies of other regions, but also for the scientific community. The approaches and analysis algorithms proposed in the article are applicable for media audit and optimisation of information activities of authorities of different levels.

**Keywords:** transport; infrastructure; strategic projects; communications; information openness; Moscow

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## INTRODUCTION

The current stage of public administration development is characterised by qualitative changes in the mechanisms of interaction between the government and the society. On the one hand, challenges of digital transformation open up unprecedented opportunities for a quick and extensive delivery of information for citizens on the activities of government agencies. On the other hand, these challenges create new requirements to the level of transparency, accountability and involvement of people in the process of making decisions socially significant. <sup>1</sup>These trends are manifested especially during the implementation of large infrastructure projects that deal directly with the interests of significant groups of people. As international practice demonstrates, insufficient consideration of social effects, lack of communication with local communities are among the key factors which cause untimely fulfilment, or 'stalling' in many programmes of development, including those in the field of transport [1; 2].

Moscow, being the largest agglomeration of Russia and one of the leading megapolises in the world with metropolitan area, carries out large-scale activities to modernise the transportation system. In accordance with the state programme 'Development of the transportation system'<sup>2</sup> in the period from 2012 to 2024, the city is actively building new metro lines, roads, junctions, transport hubs for interchanges. The key subject of management for these processes is the Department of Transport and Road Transport Infrastructure Development (DTRDTI). Taking into account the multimillion audience of passengers involved in transportation services, it is of critical importance to build effective commu-

nications of such Department with population to inform people on the essence and consequences of the ongoing transformations [3].

At the same time, the city transport sector is traditionally in the focus of public attention and it is often criticised by various interest groups. Significant technical and organisational complexity of new projects, the need to fundamentally restructure the habitual patterns of transport behaviour of citizens, the presence of transitional periods of reduced comfort of movement — all these aspects make high reputational risks for relevant institutions [4]. These conditions require a proactive, scientifically verified information policy, which is of particular need for a sustainable dialogue between management structures and citizens of Moscow. It is also of paramount importance for obtaining a balance of interests.

In view of the above consideration, the purpose of this study was to assess comprehensively the effectiveness of communications between the DTRDTI and Muscovites for the implementation of key infrastructure initiatives and for development of recommendations to improve information interaction in the context of better quality of public administration. To achieve this goal, the following tasks were solved in the following way:

- Communication messages from the DTRDTI were analysed regarding their dynamics of volume, structure and coverage about the topic of strategic projects of transport infrastructure development for the period 2018–2023.
- Key qualitative characteristics of publications were revealed, including their genre, diversity, multimedia spread and adaptability for the target audience.
- Key indicators of user engagement were determined: level of interactivity of communication platforms, feedback dynamics, as well as emotional tone of messages.
- Comparative analysis was carried out to find out the effectiveness of various channels

<sup>1</sup> Concept, role and forms of mass communications. Grandars.ru. 2021. URL: <https://www.grandars.ru/student/marketing/massovye-kommunikacii.html>

<sup>2</sup> State Program of the Russian Federation «Development of the Transport System». Approved by the Order of the Government of the Russian Federation of 28.12.2012 №. 2600-r. URL: <https://mintrans.gov.ru/documents/8/2904>

and mediums of information interaction between the DTRDTI and Moscow's population.

- Practical recommendations were developed to optimise communication activities of the Department, taking into account both the best international patterns and the specifics of realities of Moscow's developing media.

The scientific novelty of this research involves the development of methodology for assessing the effectiveness of dialogue between public administration bodies and the population regarding the implementation of infrastructure projects on the basis of a systematic approach and integrated application of modern methods of analysis of large data arrays. The proposed theoretical and practical approaches make it possible to transfer the study of public participation mechanisms to a new level distinguished by managerial analytics and validity.

## MATERIALS AND METHODS

The empirical basis for the study included 1.520 information entries about strategic projects of Moscow transport infrastructure development implemented and published by the DTRDTI from January 2018 to December 2023. The sampling included the following publications:

1. 890 publications from the official website of the Department, including 465 news, 112 interviews and comments provided by the DTRDTI representatives, 84 press releases, 229 analytical materials (infographics, presentations, brochures).<sup>3</sup>

2. Publications in the leading mass-media of Moscow: newspaper *Moskovsky Komsomolets* (MK) with 18 million readers, as well as TV and Internet channel Moscow 24 (15 million viewers). A total of 320 articles and stories were analysed, including 210 materials from MK, as well as 110 news and programs of Moscow 24.

3. Publications in official groups and pages of the DTRDTI were copied to post in social network-

ing platforms: VKontakte (14 thousand subscribers), Telegram (32 thousand subscribers). A total of 210 materials.

4. Publications posted on the Department's official page of the Active Citizen portal: 100 entries, including: 47 news on the progress of projects, 32 surveys and polls, 21 reports to give results of discussions.<sup>4</sup>

The sampling was made by all-round selection of publications with key words: the name of the Department, names of its heads, names of the projects (Great Ring Line, MCC, Moscow Central Diameters, Greater Moscow, etc.). Automated parsing generated by means of Python libraries (Scrapy, NLTK, Pymorphy2<sup>5</sup>) was used for the search and processing of Internet publications. Subsequently, the data array was processed and organized deleting, so-to-say, all information noise (advertising messages, not useful, unrelated mentions, etc.).

During the research, the DTRDTI's internal documentation was also analysed, including media plans, regulations for handling citizens' appeals, standards and regulations for information support of projects. A total of 67 documents, comprising 340 pages.

The scientific and practical significance of the work lies in the development of a methodology for assessing the effectiveness of communication between government agencies and public, as well as for the development of means for information support of management decisions in the field of transport. The results and recommendations obtained is available to improve the quality of project management, develop the dialogue between the government bodies and citizens during the implementation of transformations in urban infrastructure.

<sup>4</sup> Department of Transport and Development of Road Transport Infrastructure of the City of Moscow. Official website. URL: <https://dt.mos.ru/>

<sup>3</sup> Department of Transport and Development of Road Transport Infrastructure of the City of Moscow. Official website. URL: <https://dt.mos.ru/>

<sup>5</sup> Parsing or web scraping — automated collection and structuring of the data from public sources with such tools as Python library Scrapy, NLTK, Pymorphy2.

## RESEARCH RESULTS

The analysis of communication activities of Moscow's Department of Transport and Road Transport Infrastructure Development has revealed a number of key trends and regularities. First, there is a steady increase in the number of publications devoted to the implementation of strategic projects of transport system development. In 2018, the DTRDTI official website and mass-media posted 210 publications on this topic. Six years later in 2023, their number reached 402, increasing by 91.4 per cent. Peak values were detected in 2020 (378 publications), in 2021 (401 publications) and in 2022 (392 publications). The obvious reason for this is a very active phase of construction of key facilities: the Great Ring Subway Line (GCL), the Moscow Central Diameters — MCD-1, MCD-2, MCD-3, MCD-4, as well as sections of the North-East and South-East Chords [5]. At the same time, the number of posts in the Department's groups in social networks has grown 2.5 times within six years: namely, from 28 to 70.

The audience of the DTRDTI communication channels has also significantly expanded. Thus, the average monthly number of unique visitors to the official website in 2023 was 327.000 compared to 156.000 in 2018 (+109.6 per cent). The number of the Department's subscribers in social networks increased 3.4 times over the same period: namely, from 16.500 to 56.000. According to Medialogy data,<sup>6</sup> the total user reach, including all publications in online media, surpassed 28 million in 2023, which is twice as much as in 2018 (14 million).

The qualitative analysis of publications demonstrates a shift of emphasis in the information agenda of the DTRDTI. At the initial stage (2018–2019), the main focus was concentrated on explaining the essence of strategic projects, their objectives and forthcoming expectations regarding its results. In majority, the informa-

tion provided looked more like an overview and offered a general idea of large-scale transformations. In 2020–2021, the focus shifted towards the progress of construction activity: more photos and video reports were posted regularly from construction sites, as well as infographics on the progress of commissioning new facilities. In 2022–2023, the emphasis was placed on informing citizens about practical aspects of public use of new infrastructures: opening of new stations and lines, changes in ground transport routes, tariffs, benefits, etc. [3]. Such identified trend can be characterized as a transition from the strategic line of communications, aimed to shape up an 'image of the future', towards a more utilitarian task to focus on the current needs of the audience. This indicates the growth of applied significance of the DTRDTI, as a source of relevant information in the framework of everyday life of Muscovites.

The quality of visual component of publications from the DTRDTI has significantly improved. In 2018, infographics and multimedia materials were visible in only 35 per cent of website publications. In 2023, this indicator reached 85 per cent. The number of photos grew remarkably from 2.5 to 9.3 in an average per a single publication, and likewise, more videos and animation images posted. Now 3D-models and renderings are often used for visual demonstration of future constructions. This allows to showcase in detail not only exteriors, but also internal structures of metro stations, transport and interchange hubs and other elements of infrastructure [6].

In 2022–2023, virtual and augmented reality technologies were used. The DTRDTI website presented immersive tours of new metro lines and MCDs used for tracking places by more than half a million viewers. According to experts, such visualisation experience with photos, videos, infographics is one of the most effective way to convert a technically complicated information into a more easy-to-get message for anyone, even for users with lack of experience [7].

<sup>6</sup> Technologies of media and social networks analysis. Medialogy. URL: <https://www.mlg.ru/about/technologies/>

An important indicator of communication quality is approach to different target groups. To evaluate the readability level of texts, the DTRDTI used one of the most popular readability test with the Flesch-Kincaid reading index. Its value (score) ranges from 0 to 100. The higher it is, the easier the text is comprehended.

As can be seen from *Table 1*, initially in 2018, the average readability level of publications was 17.6, which corresponds to perception ability of readers with higher education (Master's degree and above). In 2023, the Flesch-Kincaid reading index rose to 50.8. Thus, it revealed a positive dynamics of content perception by Moscow residents: publications provided by the DTRDTI became easier-to-understand even for people with general secondary education. Anyway, there is still potential for further adaptation and simplification of texts.

A very special attention was focused on opinions and comments of experts in such publications. In 2023, the share of publications with quotes from scientists, representatives of relevant agencies and industry specialists reached 62 per cent against 24 per cent in 2018. At the same time, many more protagonists, or speakers, among engineers, designers, ordinary employ-

ees of the DTRDTI, and not only top officials, informed about the nuances of their work and share their professional experience with the audience. Such 'humanistic' approach made the image of the Department more presentable and the communication more lively and trustworthy [8]. According to A. Bisembaeva, Deputy Head of the DTRDTI, 'the main goal is to speak with Muscovites the same language, to be as honest and open as possible about all aspects of our activities through human-interest stories about people' [5].

It is worth considering separately the practice of using the results of sociological research in publications. In 2018–2023, the DTRDTI together with the Analytical Centre conducted a series of large-scale surveys among Muscovites dedicated to assessing the quality of the transport complex and people's attitude to the implemented infrastructure projects. A quarterly research made a representative sample of 5000–5500 people using telephone and street interviews, as well as online surveys. According to the survey data obtained, the share of citizens, who positively assess changes in the transport sphere, increased from 58 per cent at the beginning of 2018 to 85 per cent by the end of 2023. At the same time,

*Table 1*

**Evaluation of readability of the DTRDTI publications on the Flesch–Kincaid scale**

Year	Flesch – Kincaid Index	Readability Level
2018	17.6	Very complicated texts – higher education is required
2019	25.4	Complicated texts – higher education is required
2020	34.9	Texts of medium complexity, higher or specialised secondary education is required
2021	40.1	Texts of slightly below average complexity – specialised secondary education is sufficient
2022	45.2	Texts of slightly below average complexity – complete secondary education is sufficient
2023	50.8	Texts of medium complexity – complete secondary education is sufficient

Source: compiled by the authors.

the number of respondents who are aware of the DTRDTI's key projects increased from 63 per cent to 97 per cent over six years.

References to the research findings regularly show up in the Department's publications, which makes an additional argument to support the initiatives underway. This technique helps to reinforce communication messages with objective data and demonstrate the public demand for positive changes. According to experts, the reliance on sociology is an integral element of any effective public administration: it allows both making decisions and, at the same time, taking into consideration realistic expectations and needs of people [9].

Content analysis of publications allows to identify several main communication techniques which were used by the DTRDTI to increase the trust of the audience:

1. Reliance on facts and figures. The majority of publications contain detailed statistics on the progress of projects, including the dimension of sections built, the number of new stations, the growth of passenger traffic, etc. Infographics and elements of data-driven journalism are widely used. For example, the series of publications *Transport in Figures* provides information on the progress of commissioning of various infrastructure facilities and on changes in the main aspects of performance of urban transport-related system. The information provides detailed graphs and diagrams that make it possible to see the effect of the ongoing transformations.

2. Emphasis on benefits for specific categories of citizens. The materials specifically indicate how infrastructure development improves life-style of different categories of citizens of Moscow: passengers of public transport, motorists, residents of specific districts, etc. [4]. For example, articles about the launch of the MCD provide a detailed information of its benefits for people, who live in areas along the railway lines: increased transport accessibility, reduced travel time, new transfers opportunities. This is how, the personification of

infrastructure agenda is created and linked to the practical needs of the public.

3. Attention to detail. These publications have many specific details on technologies, materials and equipment, which aims to suggest the audience a sense of transparency and competence. For example, the series of publications *How the Metro is Built* describe step-by-step the organization of work with all the nuances: from design and approval of documentation to tunneling and finishing stations. The narrative contains many accurate facts, interesting details and opinions of experts: for example, how tunnel-boring machine operates, or how claddings of new stations differ. All this allows the reader to get a feeling of complete involvement in the process [1].

4. Demonstrating openness to dialogue. In addition to conveying its own position, the DTRDTI regularly encourages a feedback in its communication — it initiates surveys, polls and collects ideas from residents on various aspects of projects. A striking example is the crowdsourcing project *The Metro We Want*, which was launched in 2019. Within the framework of the project, Muscovites could suggest their own ideas about design of the BCL stations under construction. By the end of 2023, over 10.000 concept suggestions appeared from 8.000 participants, 35 of which were selected to be realized. On the one hand, such initiatives increase the involvement for citizen and give them a sense of participation in large urban projects. On the other hand, they serve as additional source of interesting ideas and first-hand insights for the DTRDTI [10].

For a more detailed understanding of the DTRDTI's communications strategy, a series of interviews were conducted (a sample arranged twelve of its employees, including heads of specialized departments). Respondents answered questions about the key objectives and principles of interaction with city residents, means, key target audiences, and indicators of communication effectiveness.

As a result, this clearly indicated, that building a dialogue with residents is one of the top priorities in the activity of the DTRDTI. As the Deputy Head of the Department A. Bisembaeva noted, “lack of proper information support for the implementation of any, even the most useful and popular project, may lead to risks of losing reputational costs. People need to understand clearly, what, how and, most importantly, why we do it. Moreover, we must not use a bureaucratic language, we need to speak simply and accessibly, with real examples and visualization” [5].

The department has built a system for managing information flows, including several levels. At the strategic level, the Public Relations Department, together with the Senior Management, determined the key priorities of the communications policy, developed general standards and regulations for conveying information properly, as well as monitored and evaluated the effectiveness of interaction with the audience. Key performance indicators of communication activities are determined in the Strategy for the Development of the Moscow Transport System and linked to the target guidelines of the program as a whole.

At the tactical level, specialized departments of the DTRDTI are responsible for the implementation of the information policy. They are in charge of specific projects and areas (metro, ground transport, traffic management, etc.). Their functions include: prompt delivery of information to citizens on the progress of work and changes in transport services, as well as collecting and processing feedback. For effective interaction with residents, these departments set up special hotlines, project accounts in social networks and sections on the department’s website. Each specialist is responsible for communications in their area and works out a personal plan to create content and make reports on its implementation.

At the operational level, employees of the DTRDTI Press Service — SMM specialists, content managers, designers, and developers — are in charge of direct information service. They pre-

pare texts, infographics, posts for various channels, moderate discussions in the comments and monitor public reaction. According to the head of the press service, T. Gavrilova, the functionality of this unit has significantly expanded in recent years: “If we mainly worked earlier on informing mass-media, now the lion’s share of our activities is direct interaction with Moscow residents, along with interaction online in 24/7 mode. The content structure has also changed: we provide more multimedia, infographics and videos. We are actively mastering new formats — games, stickers, masks, chat bots. The main principle is to provide information not only promptly, but also in the most entertaining way possible” [5].

To coordinate the work carried out at all levels, the DTRDTI uses special management tools. In particular, a unified knowledge domain operates on the projects in development and implemented. It is accessible to the press service staff and those responsible for information support. It contains key facts, figures, infographics, and templates for the whole news background used for preparation of publications. This unified knowledge domain is regularly updated and it serves to ensure the unity of all the messages sent to the audience. There operates a content planning system as well. It is aimed to work out monthly media plans with key publication topics, develop potential publications well ahead and plan various articles for different channels. A separate section of management tools is in charge of working with feedback from citizens.

A special Situation Center was founded in the DTRDTI to process all transport-related requests from residents, which it receives on a daily basis via a variety of channels, like hotline, electronic reception, social networks and meetings with citizens. The center’s employees classify requests by type (question, complaint, suggestion, etc.), subject matter, and degree of urgency: if it requires a prompt response, or not. All requests are entered into a unified CRM system, where their life cycle is tracked right up to the final response to the

citizen. Based on the feedback analysis, thematic digests are generated, brought to the attention of the DTRDTI management and taken into account, when planning further communications.

An important element of communications management is assessment tool of effectiveness. The DTRDTI has formed a set of monitoring indicators to classify the level of information support for projects, including both quantitative metrics (publication dynamics, coverage, audience involvement, etc.) and qualitative ones (text sentiment, key topics of discussion, etc.). Specialized services are used to proceed automated monitoring, (Medialogy, IQBuzz, etc.). They allow running a survey of a broad range of data from various web sources. Communication activity reports are reviewed weekly at operational planning meetings of the Department and are taken into account when making management decisions.

In addition to internal analytics, the DTRDTI organizes an independent assessment of effectiveness of communications on a regular basis. Starting from 2019, regular sociological research were conducted to study the level of awareness and involvement of Muscovites in transport development issues. A whole variety of qualitative and quantitative methods is used: road or telephone-based surveys, focus groups, in-depth interviews, online panels. A comprehensive awareness of citizens' perception of the DTRDTI's activity is formed on the basis of all collected and identified information, including growth areas and points of human pressure that require research and development [2]. The survey results serve as a guidance for information campaigns of the Department. For example, if public reveals a low level of awareness of a particular infrastructure project, the information services increase coverage and use of additional communication tools for this topic.

It is worth noting the practice of involving experts on the outsourcing basis in assessing the effectiveness of the DTRDTI interaction with the audience. In 2020 and 2022, ANO Dialogue spe-

cialized in research of digital transformation of governance made comprehensive communication audits. Based on the results of the auditing, the DTRDTI has got specific recommendations to optimize formats, channels and sentiment analysis of communication. Most of recommendations were accepted and implemented, which had a positive impact on the progress of key engagement indicators. Participation of external experts on a regular basis will be proceeded, also within the framework of annual public reports on the department's activities.

Thus, the department has formed a multi-level management system for information flow aimed to ensure a complete, reliable and accessible information related to the progress – up to accomplishment of key infrastructure projects. Building an open dialogue with residents is of top priority, which is determined in the target guidelines for the development of the transport system. The DTRDTI management attaches a major importance to the quality and intensity of communications, so that operational meetings discuss such issues regularly. For this purpose, modern targeting tools are used to deliver information messages in a more personalised way. For example, information campaign about development of bicycle infrastructure generates well ahead special publications prepared for cyclists. Likewise, within the framework of programs to improve road safety, special publications were launched for motorists and pedestrians, etc. The peculiarities of communication behavior between different generations are taken into account too: for older people, the emphasis is made on traditional mass media (print media and TV), for young people, only digital channels and social networks will do [11].

Another important management principle is the omnichannel nature of communications. The DTRDTI strives to ensure all information sources that are of significant value for the target audience. In addition to mass channels (website, media, social networks), the Department is developing niche platforms popular among certain

categories of citizens. For example, they post materials for motorists on specialized forums and Telegram channels, for students — in university and college chats and on YouTube, TikTok platforms. People with disabilities find information via special formats of interaction: the DTRDTI website implemented screen access technologies and accessible tours are conducted on a regular basis along the construction sites [6].

Proactive nature of communications is the fundamental position of the Department. It aims to respond promptly in order to cover news-worthy events, and not only: it also systematically forms its own agenda. It regularly initiates publications to describe the progress of key projects, their target benchmarks and interim results. This approach allows maintaining a substantial interest of the audience and minimising a risk of spreading false information.

In addition, the DTRDTI has established a constant monitoring system throughout the media environment to identify possible reputational threats. Response comments and explanations are promptly prepared, as a reaction against each negative signal and, if necessary, they take meas-

ures to adjust certain decisions [12]. The use of Big Data analysis and processing technologies in the DTRDTI contributes to effective targeting of information. In particular, anonymised data on passenger movements with the Troika card allowed to find out key target segments in terms of transport behavior models. Then a communication trajectory is built for each of the passenger in regards of his/her needs and specifics of media consumption [10]. In addition, data arrays generated by city residents (complaints, comments, survey data, etc.) are scrutinised on a regular basis to identify problem areas and model public reaction about certain initiatives of the DTRDTI.

Modern digital analytical tools make a considerable contribution to upgrade the efficiency of the Department. Specifically, the DTRDTI's Situation Center employs machine learning and natural language processing (NLP) technologies to automatically detect and classify messages by emotional tone, as well as highlight key problems and questions from citizens. This allows tracking down promptly the audience's reaction to the Department's information policy and figure

Table 2

Statistics of communication initiatives of the DTRDTI (2018–2023)

Indicator	Year					
	2018	2019	2020	2021	2022	2023
Total number of initiatives received (in thousand)	2.400	3.800	6.200	8,500	11.200	14.700
Share of initiatives for metro development (in per cent)	52	49	45	42	39	35
Share of initiatives for ground transportation (in per cent)	32	35	38	41	44	47
Share of initiatives for road construction(in per cent)	16	16	17	17	17	18
Number of participants in crowdsourcing projects (in thousand)	58	97	124	168	205	253
Number of citizen proposals implemented	125	216	354	479	638	815

Source: compiled by the authors.

Table 3

**Dynamics of the emotional tone of messages and information of key DTRDTI projects in mass-media and in social media (2018–2023) (in per cent)**

Projects	Year					
	2018	2019	2020	2021	2022	2023
BCL						
Positive Mentions	56	62	67	71	74	77
Neutral Mentions	28	27	25	23	21	19
Negative Mentions	16	11	8	6	5	4
MCD						
Positive Mentions	—	48	54	59	65	72
Neutral Mentions	—	34	32	30	28	24
Negative Mentions	—	18	14	11	7	4
Development of street-road network						
Positive Mentions	37	41	46	52	57	63
Neutral Mentions	42	43	43	42	40	35
Negative Mentions	21	16	11	6	3	2

Source: compiled by the authors based on data from the Medialogia monitoring system. URL: [https://adindex.ru/assets/catalogue/2023\\_09/141618\\_Brand%20Analytics.pdf/](https://adindex.ru/assets/catalogue/2023_09/141618_Brand%20Analytics.pdf/)

out potential reputational risks. Collected digital traces, such as search queries, routes on maps and navigators, etc. are used to identify the needs of city residents and make a computerized model of demand for future infrastructure [7].

Engagement and interactivity methods become more and more important for the DTRDTI's communication operations. In addition to collecting traditional feedback via comments and surveys, the Department permanently launches various crowdsourcing initiatives that allow Muscovites to get involved directly in the formation of the transport agenda. Among the highlights are such projects as *Metro on Self-Governance* (collecting

ideas for improving the operation of the Moscow's subway), *Moscow Central Diameters through the Eyes of Passengers* and *Greater Moscow — Convenient Transportation* (collecting suggestions for improving the route network).

Within the period of 2018–2023, the number of messages with initiatives about transport issues from citizens increased by 6.1 times: from 2400 to 14700 (*Table 2*). The number of materialised suggestions increased by 6.5 times: from 125 in 2018 to 815 in 2023. The audience of specialized crowdsourcing projects expanded significantly: from 58000 to 253000 (+336 per cent). This indicates a high efficiency of the DTRDTI's activity to

Table 4

## Indicators of work with appeals from citizens of the DTRDTI (2018–2023)

Indicator	Year					
	2018	2019	2020	2021	2022	2023
Total number of appeals received (in thousand)	67.4	98.2	112.6	127.8	138.9	152.4
of which:						
Requests for information (in per cent)	49	51	54	58	62	66
Complaints and claims (in per cent)	37	34	31	28	25	22
Suggestions for improvement (in per cent)	14	15	15	14	13	12
Share of requests answered timely (in per cent)	87.4	91.2	93.5	96.1	98.3	99.2
Average response time (in working days)	6.2	4.8	3.7	2.4	1.5	1.2
Level of user satisfaction with handling requests (in per cent)	72	76	81	87	92	95

Source: compiled by the authors based on data from the CRM system of the DTRDTI. URL: <http://www.letters.kremlin.ru/digests/periodic/yearly/285>

get Muscovites involved in the transport agenda. The structure of incoming initiatives continued to demonstrate the trend of shifting the focus from the metro (35 per cent in 2023 versus 52 per cent in 2018) towards surface transportation and the MCD (47 per cent in 2023 versus 32 per cent in 2018). The road construction among all other messages and proposals remains status-quo: 16–18 per cent.

An important indicator for communications management in the media space of the activities of the DTRDTI is the dynamics of emotional tone of discussion and its projects. The corresponding data are shown in *Table 3*.

Positive dynamics of perception were noted in almost all key areas. The share of positive mentions of the BCL increased from 56 per cent in 2018 to 77 per cent in 2023. The number of negative assessments of this project has decreased by 4 times over 6 years (from 16 to 4 per cent). The launch of traffic along the entire ring, opening of new stations, all junctions of BCL with radial lines

and MCD, as well as active information support contributed to a stable positive image.

Emotional tone of the social voice about MCD significantly improved as well. The commissioning of stations along the third and fourth diameters, the expansion of free-of-charge transfer zone and information on benefits of the new type of transport raised the share of positive mentions of MCD: from 48 per cent in 2019 (the start of the project) to 72 per cent in 2023. The share of negative mentions decreased from 18 to 4 per cent in the same time period.

Significant progress is also notable regarding the development of network of streets and roads. Thanks to a balanced information policy, an emphasis on the benefits of new road facilities for the city and its residents, and prompt response to problematic signals, the share of positive publications increased in by more than 1.5 times (from 37 to 63 per cent). As to the share of negative stories, it decreased over tenfold from 21 to 2 per cent. Certain conclusions about the quality of

interaction between the DTRDTI and the target audience can be made on the basis of analysis of feedback parameters (*Table 4*).

In 2018–2023, the number of requests from citizens to the DTRDTI increased by 2.3 times (from 67400 to 152400). At the same time, the share of complaints and claims in the total volume dropped from 37 to 22 per cent. At the same time, the share of reference and information requests increased from 49 to 66 per cent, which indicates a growing interest of citizens about current realities of the transport system and the projects implemented. The share of constructive ideas for improvements remains status-quo: 12–15 per cent. The quality of the DTRDTI's responses to requests from citizens has noticeably improved. The share of requests that were responded within the specified time-frame (30 days) reached 100 per cent (99.2 per cent in 2023 versus 87.4 per cent in 2018). The average preparation time for response has decreased by 5.2 times (from 6.2 to 1.2 business days). This turned out to become possible thanks to regular updating the standard response database in the CRM system, optimization of end-to-end message processing programmes, as well as due to active development of digital communication channels.

According to surveys, the level of satisfaction of Muscovites with the activity of the DTRDTI in regards to public requests reached 95 per cent in 2023 in comparison to 72 per cent in 2018. The increase of this indicator became possible thanks to a prompt definition of the status of requests, individualized approach towards responses and taking into consideration the opinions of applicants for developing decision-making process to solve the problem.

### CONCLUSIONS

The presented analysis shows a significant progress reached by the DTRDTI in building an effective dialogue with Muscovites in communication, regarding key areas of development of transport system.

The targeted work made by the Department ensures sustainable positive dynamics of the level of awareness, support and trust from Moscow residents, thanks to the use of a wide range of channels and formats of interaction, adaptation of content to the needs of target audiences, rapid response to feedback and involvement of citizens in the formation of the transport agenda.

Analytic research of the quantitative and qualitative characteristics of publications for the period 2018–2023 revealed a number of key trends. First of all, a systematic increase in the volume of communications. At the same time, the Department is actively developing new channels and formats of interaction, meanwhile paying special attention to digital environment. This is confirmed by a twofold increase in the number of the DTRDTI subscribers in social networks. At the same time, the share of multimedia content revealed an increase of 78 per cent in the structure of publications.

Significant progress was also achieved in terms of quality of information messages. Besides, materials for publication have become more substantive and focused on specific target audiences. Infographics, storytelling, and expert comments are used more actively as well.

At the same time, a number of problem factors still remain, primarily related to the insufficient adaptability of content for unprepared users. The average level of readability of texts from the DTRDTI sources is quite comprehensive for readers of higher education, but it should be adapted for an average reader. Besides, the potential of international communications was not properly developed: the share of publications in foreign languages does not exceed 2 per cent, which curbs the opportunities to promote and share advanced Moscow experience worldwide.

Summarizing the stated above, it can be confirmed as a fact, that the DTRDTI has managed to build an effective system of information support for strategic projects. The Department maintains a regular dialogue with residents, ensures transparency and accountability of its activities using

a wide range of channels and tools. Consistent build-up of quantitative and qualitative indicators of communications offer an opportunity to predict more success in the future. Thus, if the average annual growth rate of the number of publications was 13.5 per cent in 2018–2022, then by 2030, this indicator may reach 20–25 per cent (taking into account the development of new media). This means, that by the end of the current decade, the annual volume of information materials regarding the development of Moscow's transport infrastructure will exceed 1.500 units with a total coverage for 45–50 million people.

Such prognosis about the future is certainly indicative and may vary depending on the dynamics of industry and general social factors. However, in any case, it is obvious, that the effectiveness of

the implementation of strategic projects will be determined above all by the quality of information support. If so, further development of communication activity should remain a priority for all participants in the process of urban transformation.

In conclusion, we must note that the experience of the DTRDTI can be useful both for specialists from relevant departments in other spheres of business, as well as for representatives of scientific community. A systematic study of the best practices of interaction between government bodies and people during the implementation of infrastructure projects should undoubtedly become the subject of further academic research. This will make it possible to form a reliable source of evidence and develop specific recommendations for higher effectiveness of public administration.

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