

Law and digital technologies in ensuring the environmental safety of a modern city

Pirozhkova I.G.
 Tambov state technical university,
 Tambov, Russia
 0_1_23456789@list.ru

Zheludkov M.A.
 Tambov state technical university,
 Tambov, Russia
 kandydat1@yandex.ru

Jasim Mustafa Ahmed Jasim
 Tambov State University named after G.R. Derzhavin,
 Tambov, Russia
mustafalawyer78@gmail.com

Abstract — The article is devoted to the analysis of the evolution of the concept of “digitalization” as a legal category as a whole and its application in modern interdisciplinary studies at the intersection of urban studies, the theory of architecture and urban planning, the theory of environmental security, criminology.

The article presents the ideas that have developed in the latest Russian legal doctrine about the terminology that makes up the concept of a “smart city”, as well as the legal framework that allows its principles to be implemented by means of digitalization. Based on an analysis of the history of urban planning legislation, we conclude that the concept of environmental security is generally rooted in Russian law. The work sets promising tasks of using digital technologies (the possibilities of reconstructing a lost urban environment, restoring the historical geography of a city) to implement the tasks of studying it, improving the ergonomics of urban spaces, taking into account the historical heritage and increasing the effectiveness of preventing offenses, i.e. the formation of a protective urban space.

Keywords — *architectural criminology, urban studies, prevention of offenses, “smart” city, urbanism, digitalization.*

I. INTRODUCTION

The concept of ensuring the security of a modern city from crime in our country has always evolved under the strong influence of the ideology of strengthening law enforcement agencies and improving their response to crime. This is most clearly manifested in the desire to constantly reform the structural components of these entities. However, now the domestic security system is faced with the urgent task of revising the foundations of this security concept, taking into account new positive aspects of social development digitalization. Digitalization, as a modern concept of social life, is undoubtedly a gradually legitimized phenomenon, in connection with the social significance of the trends in social life that it denotes.

II. RESEARCH METHODOLOGY

The study methodology is based on interdisciplinarity, which is conditioned by the multi-component object of

urban studies as a field of knowledge. The present study applies classical methods of jurisprudence (a formal legal analysis of standard legal enactments enshrining key categories for the study), comparative legal analysis (to study the models of the evolution of these concepts, including on purely historical standards of the urban planning legislation of the Russian Empire and the USSR), as well as a method to analyze the historiographic process of shaping ideas about environmental security and digitalization.

III. RESULTS OF THE RESEARCH

The term “digitalization” in the legal field is understood as “the transition from an analog form of transmitting information to digital”. This definition is apparently the only one that exists in the regulatory format and is given, which is noteworthy, with a regulatory act of a non-federal level and within the framework of the executive system. This definition is also used in scientific works on “digital law”.

Since the adoption of the Government Program in 2010, when the term in the regulatory documents of the conceptual level was used almost exclusively as a particular technical process of individual systems upgrade (the mentioned upgrade of the telephone network, mass communication systems, digital television or, for example, the creation of a certain number of standard digitalization projects for enterprises of the defence industry) in less than a decade, its significant evolution occurred.

In 2017-2018, regulatory acts appear that contain elements of a theoretical and conceptual justification of this process at the social level:

The Ministry of Economic Development, for instance, among other things, recommends adding “... an increase in innovation activity at the enterprise, including the development of technology transfer mechanisms, the introduction of new production technologies, the development of digitalization processes” to the program of increasing labor productivity at enterprises.

Significant regulatory documents of 2018, not just recording, but explaining, broadcasting the concept of digitalization, do not yet give its comprehensive definition. The content of the legitimized concept is presented by the Digital Economy of the Russian Federation Program, where the phenomenon is associated with the possibility of access to various services of the Internet telecommunication environment, linking this possibility with the development of a globalized market: "...The configuration of global markets is undergoing significant changes under the influence of digitalization. Many traditional industries are losing their importance in the structure of the global economy amid the rapid growth of new sectors generating radically new needs. Research and development are becoming crucial in the ongoing transformation, which requires the creation of a research and development management system in the field of the digital economy that ensures coordination of the efforts of stakeholders – representatives of federal executive authorities, companies, higher education institutions and research organizations."

As part of the concept of ensuring the security of a modern city from crime, digitalization is becoming a critical element of a security system for the following tasks:

- protection of state and municipal information systems from cyber penetrations and thefts;
- technical support of continuous video surveillance over the entire city area using means of individual recognition;
- creation of the legal foundations of the theory and practice of digital security of the urban environment from crime;
- protection of personal data from thefts and illegal use in economic relations;
- creation of an open digital platform for tracking all procedural decisions by investigative authorities for criminal cases;
- using the foundations of international cooperation for joint rule-making in the information space.

IV. DISCUSSION OF RESULTS

The digitalization of various areas of public life while protecting against crime is not seen as a technical phenomenon, but as a social trend and a legal phenomenon on the one hand, it is a product of hybridization of legal institutions on the other hand, it itself is an impetus for the development of interdisciplinarity of legal regulation of certain areas of life. In this regard, it is interesting to consider modern concepts of environmental security as well as historical and recent experience in their implementation as examples of such hybridization and interdisciplinarity.

Automation (and later digitalization) has always been regarded as a means, a mechanism for introducing convenient, comfortable conditions for the realization of human rights, and transparency of legal relations of the "personality-authorities" level. But digitalization can also be considered as a mechanism to ensure the security of a city. The concept of "environmental security" is a manifestation of this concept, particular, but extremely extensive and

stable in the field of public relations, with a long-term embodiment in the form of urban planning reality.

A person lives in the social space of the city (in this case, we use this term not as an administrative and legal concept and the term of municipal law but as a general cultural concept). Such a complex synthetic phenomenon as "city", the development of settlements, their acquisition of new functions and roles, the development of the legal foundations of its functioning constantly gives rise to the emergence of new areas of scientific knowledge that arise at the junction of classical social sciences. The most complete and very extensive area relating to urban studies in all its forms is urbanism.

Currently, at the junction of the areas of criminology, urban law, urban planning, restoration theory, social urbanism, social psychology, an interesting phenomenon of urban criminology arises, which reflects the ideas of environmental security in full.

In recent Russian scientific periodicals in the field of architectural, urban planning, and criminological legal studies, there are several comprehensive publications that present an analysis of the formation of approaches to assessing the environmental security factors of a modern city; they, in fact, constitute a significant part of the historiography of the development of ideas about the architectural and urban planning factors of preventing unlawful behavior, its suppression and the disclosure of unlawful acts.

For example, A. M. Razogreeva in her presentation of Western developments focuses on the environmental prevention of offenses, using the terms "protected space" and "protecting space", and the set of approaches to constructing such a space is "environmental design", which is interpreted in the context of criminology as "... a set of landscape, design and technological solutions that work to reduce the possibility of committing a crime."

An analysis of the concepts of architectural criminology from the point of view of specialists in urban planning of architects is given in modern publications through the lens of the distinguished structures of architectural design of secure environment: "Territoriality, surveillance and access control."

In modern literature, affecting domestic experience in implementing the ideas of a secure space, there is an analysis of its individual provisions: administration and police structure of intercity units, development of the legal base of a "smart city", development of ideas of psycho-emotional comfort (security) of a modern city. There are some studies the authors of which are trying to consider the historical background of the formation of environmental security ideas in Russian urban planning and administrative law. A feature of the historiographic process of the identified problems is the authors' conviction that the ideas of environmental safety, the ideas of a protecting and protected space are the latest achievement, which is associated in the domestic law development process with the last 20-30 years, and in Western urbanism – with the theory of "broken windows", the study of the phenomenon of ghettoization of certain areas of the city since the 1960s.

The history of urban development regulation presented in numerous authors' publications shows that specific methods and practices of urban development were formed precisely as environmental security factors, with the aim of preventing urban disasters (protected space) and preventing crime (protecting space). We refer the following to such legalizations in domestic urban planning law: standards of urban planning legislation in the field of fire protection, architectural design, long-term city planning, the introduction of the principles of regular ("predictable" for perception, intuitive, having a rapport) development, the creation of special standards for special urban development objects (prisons, fortifications, storages of strategically important material assets etc.), the expansion of police supervision while expanding the area of the city and the complexity of development, which, coupled with the parish church administration of a nationwide character, is a forerunner of technological surveillance and movement and access tracking control systems.

V. CONCLUSION

The concept of digital security of the urban environment has historically been understood primarily not only as a factor in the prevention of crimes, but most of all as a factor in technical recording for their successful suppression and disclosure. That is, as part of the development of a modern city, we should pay special attention to planning the basics of security, where it is important to provide for technical accessibility, visibility, and "transparency" of the urban space for law enforcement agencies, the public, and "assisting" services.

In architectural practice, forensic techniques are being developed and applied, they are not only at the junction of criminology and the theory of architectural design, but also cover the technical digitalization methodology. For example, it is possible to create forensic tools in the form of an interactive mapping platform to place various versions of a social conflict (crime) on the map. Means of geographic information systems (GIS) allow us to reconstruct the urban space in full volume of all factors, including those lost in real time (in the broad sense – historical). So, GIS allows reconstructing lost buildings, structures, street grids, architectural dominants and other elements of the planning and urban planning situation of a specific time. If these situations are applied sequentially (thematically or using a chronological principle) to the existing map using technical (digital) means, then experts will be able to track trends that form the city's security and architectural and urban factors that aggravate the criminal situation. All these trends, one way or another, are already a reality of urban life and should be studied as such and become the subject of special research.

However, it is very important when creating security systems to use the terminology of environmental elements (architectural, urban), in a combination with different, albeit related, areas of research: forensic science and/or criminology. We believe that the term "environmental (architectural and urban planning) forensics" is much narrower than "environmental (...) criminology". Architectural and urban planning environmental criminology covers the concept of security factors significantly more broadly and theoretically, pays special

attention to patterns, trends of deviant antisocial behavior in general in the context of the existing urban, residential human environment.

The environment and the architectural and urban planning outline of the settlement are correlated as general and private. The urban environment includes the visible, formalized by means of the theory and practice of architectural science, part in the form of artistic solutions to urban spaces, urban planning solutions. In addition to architectural and urban planning surveys, parts of the urban environment are the residential, domestic, industrial environment of a person, the environment, public spaces that directly surround one, create a basic emotional background. Thus, the use of this terminology should specify the security/insecurity factors that form the human environment as a whole.

We should note that the issues considered in a scientific article in the Russian scientific space are studied through the lens of architectural semantics, the study of public (political, moral) discourse, realized by visual means, and are not typical for the areas of criminology and forensics. However, we reasonably believe that we should not only study information about the criminal component of urban life, crime statistics, but also conduct its constant analysis through geolocation, where it is possible to identify the correlation between crime and architectural and urban reality. Such an analysis will allow us to identify not only the mutual connection of the crime rate and urban development, but also highlight causality, conditionality of each other and build effective conditions to form a secure urban environment.

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