THE MODERN PRACTICE OF LOCAL GOVERNMENT BUILDING ARCHITECTURE

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Abstract: The article reveals the modern practice of local government building architecture, the stages of local government building architecture development, the projects' architectural principles, and perspective directions of further development. The research aims to analyze modern trends in the formation of approaches to developing local government buildings architecture, principles of current construction concepts, and selection of premises for administrative service centers (ASCs).

The author's approach to the study considers basic requirements for urban architecture: ecological, functional, and logistic. The functional principle allows the organizing of convenient workplaces and customer service spaces. The ecological principle allows the efficient use of resources, and the logistic one provides transport accessibility to the building of the local government.

The practical value of the research is in the estimation of local government building architecture development based on limited resources and observance of three principles: ecological, functional, and logistical.

Keywords: local government buildings, architecture, architectural design of cities, ecology.

1 Introduction.

At all development stages of localities, an essential role in the formation of urban architecture played the buildings of local government. Satisfying the main functions of the public life of the settlement, occupying a key position in its architecture, they determined its compositional expressiveness and uniqueness of the architectural settlement. But this approach to forming urban government buildings loses its significance and practicality.

In recent years, the design and construction of administrative buildings have been characterized by an increase in public service systems. There are emerging trends of concentration of administrative institutions. They are being reformed from functional, spatial, organizational, and technological structures into public-administrative complexes. Serving thousands of customers a day, such buildings become inconvenient to visit in large cities because they do not provide the population with a place to park. In addition, getting to the city center is complicated by increased traffic and road congestion. To this end, the modern architectural practice provides for business centers that are logistically well connected and help solve problems quickly.

As a result, a unique portrait of the city is formed more clearly, combining the socio-cultural potential from local government buildings, government, and public services.

The construction of local government buildings can be used to preserve urban space in central parts of the city, stimulate urban life and correspond to it, provide interconnection of different functions and areas. At the same time, if in developed countries the construction of local government buildings requires sufficient budgets to construct a building from scratch, there is no such financial possibility in Ukraine.

In the conditions of insufficient resources, the modern practice of local self-government buildings architecture includes not construction but reconstruction of ready premises of social purpose more often. Construction of new objects is practiced only under conditions of financing of international organizations engaged in infrastructure and ecological projects of city development. In such situations, the Ministry of development of territorial communities and territories of Ukraine has worked out strict rules for the selection of such premises, which are based on three principles: functional, ecological, and logistic. These principles are provided for the reconstruction of administrative buildings for ASCs and new ASCs buildings.

Thus, the study's relevance is due to the processes of decentralization, development of the central part of cities, requiring the implementation of new conceptual approaches and methods in the design of modern buildings of local government. The research aims to analyze modern tendencies in the formation of approaches in developing the architecture of local government buildings, principles, and modern construction concepts and selection of premises for customer service centers.

2 Literature Review

At present, there are no theoretical works devoted to the buildings of local governments in the scientific literature; individual aspects of their formation are contained in many publications.

Among the works covering the formation of public and administrative complexes, we should note the book by Sokolov L. "Administrative centers of cities," one of the topics of which is the creation of public centers in cities based on administrative complexes (Sokolov, 1979).

Sokolov L. examines the history of public and administrative centers of cities in the Soviet Union, beginning in the 20s. A complete historical picture of the evolution of the principles of construction of the spatial-planning structure of these centers gives the relevant chapters of the monograph by E. I. Kirichenko (1982), which analyzes the pre-revolutionary period of the construction of public and business complexes in Moscow.

In its modern sense, the institute of local self-government found its embodiment in Ukraine in the second half of the XIX century. During this period, in the part of Ukraine, which was part of the Russian Empire, the changes in local government took place. The main idea of The judicial reform of Alexander II was the idea of independence, self-financing (Pirumova, 1992). During this period, large premises of religious significance were allocated to perform such functions, which allowed for organizing administrative work. At this time, town halls, being central buildings, were converted into offices for the reception of citizens. The question of the use of town halls as main administrative buildings was investigated by Ribczynski (2005), Gutnov & Glazichev (1990), and Tochterman (1991). The authors showed these premises' significance in the architectural ensemble of the city and the history of their use.

At the beginning of the 20th century, large business complexes, occupying the whole quarters, began. Thus administrative and business centers do not include any dwelling structures anymore, but public service objects are still compulsory components. Moreover, these centers are built in parallel with the transport infrastructure, which separates the business part of the city from the central region (which in many Ukrainian cities is of cultural importance).

Analyzing the post-revolutionary period of administrative centers and business complexes formation, L. Sokolov notes a fundamental change of tasks. The creation of centralized apparatus of planned management of the socialist state and national economy required fundamentally new architectural and spatial solutions of administrative institutions and a new approach to the formation of public centers on their basis. At the same time, an essential emphasis in the design of administrative buildings is placed on the city's transport interchange, which should consider the possible peaks of activity visiting the local government and the capacity of roads. An even more critical problem today is the issue of parking for personal vehicles. Taking thousands of clients a day, ensuring that they can comfortably drive up to the building is necessary.

Nowakowski (1978), considering the issue of city design in interaction with the transport problem, demonstrated with specific examples the complexity of the transport system, turning it into a multicomplex structure, a complex of communications, buildings, and networks. From his point of view, the transport system of any common center must be formed as a single, integral structure, which is as essential and defining element as administrative and public buildings. Only under these conditions can they be combined into an effectively functioning complex. Lewis N. (2021) shows the peculiarities of urban development in the modern world. He shows the importance of the railroad, which in some countries is an essential part of inter-regional communication, creating a high level of population mobility, which is especially important for the service centers of the UTC that work with local people and guests.

Modern domestic principles of the organization of the architecture of local government buildings are regulated by the Ministry of Development of Societies and Territories of Ukraine. The regulator believes that the main conceptual bases of design are their energy efficiency, ease of accessibility, the use of modern technology, design, and logistics of space.

3 Materials and Methods

This study uses general scientific methods of knowledge. In particular, analysis, synthesis, induction, and deduction. Domestic and foreign literature analysis allows finding the main conceptual provisions of local government buildings' organization, design, and operation. Synthesis of the collected information allows determining the main conceptual foundations of architecture in different contexts. The induction method is used to make solutions that have already been implemented in practice, to understand the main components that are the most important in choosing an architectural project. The deduction, on the contrary, allows to conclude, identify the problems of architectural projects, and propose methods of their solution. The analysis of the practice of architecture of local government buildings is carried out based on a historical and chronological approach. Structuring the reasons and deduction of evolutionary trends in the architecture of public buildings contributes to understanding the contemporary issues of their design and to the popularization of solutions towards the application of modern architectural solutions.

The Ministry of Regional Development, Construction and Housing and Communal Services published the Brand Book, a set of guidelines for the standards of organization and construction of ASCs. This guide summarizes and structures the best practices from the Ukrainian ASCs and similar institutions of the advanced countries of the world. With the help of this tool, the process of creation and functioning of ASCs and administrators' work with visitors when providing administrative services will become more apparent. Furthermore, local governments and local authorities will achieve the best results using the recommendations. The document also identifies the main architectural solutions that can be implemented in small communities, considering the energy efficiency, savings, and speed of project implementation.

4 Results

Under the influence of historical and socio-cultural phenomena related to political and market relations, local authorities have permanently moved from one premise to another. For example, if centuries ago it was customary to locate the city administration in places of worship, not so long ago, almost every town hall housed the administrative apparatus (Gutnov&Glazichev, 1990; Tokhterman, 1991).

Architectural forms of the town hall changed over a long period following the development of society – from strict medieval defensive buildings to representative buildings of local government. Nevertheless, from the beginning of its existence, the town hall has been formed as the city's main public space, a place of judicial and public meetings, a center of trade, theatrical and cultural events. In addition, individual town halls had social

interaction spaces – closed galleries, open and semi-open halls (Rybchynsky, 2005).

The functional filling of the first town halls constructions was diverse; they included premises: trading halls, halls, assembly halls, a battle hall, guardrooms, storerooms, prisons. In the process of the town government system development and the town authorities' change, some of the town hall premises were moved into separate buildings in the town hall square or the town. During this period, the town hall acquired the character of a monofunctional building, with the town hall remaining the central functional core. There are still assembly halls, session halls, exhibition halls, museum rooms, offices of city authorities, and faction offices in modern town halls. At the same time, the hall system of inner space organization has become the basis for modern government buildings, the formation of multifunctional public space, where public services take place. In recent decades in major cities with the growth of the management sphere and enterprises of urban services in the central areas of the town, need to design the buildings of local government, performing the leading role in the service of citizens by integrating the functional, spatial, organizational and technological structures (Rybchynsky, 2005).

The modern administration system is built using two forms of a local government organization: local governments and local state administrations. The central government represents the interests of the state. In contrast, the local government only means the interests of territorial communities or their associations, and their activities are limited to the community's territory. The polarization of interests of the center and regions is the basis for the emergence of municipal authorities that arise in the decentralization of public state power.

On April 1, 2014, the Cabinet of Ministers of Ukraine adopted the Concept of Reforming Local Self-Government and Territorial Organization of Power in Ukraine, which started a new stage of decentralization – the transfer of powers from state bodies to local ones.

Thus, the councils were replaced by administrative service centers, integrated offices that provide a wide range of administrative services necessary for citizens and businesses. ASC is not a single place of service provision but a system, including territorial divisions, remote workplaces, including mobile ones.

The creation of the ASS or work on its modernization positively impacts the work of local self-government in general. After all, the ASC allows:

- streamline local government structure, staffing, procedures, and work activities;
- to effectively use personnel (including through universalization) and public resources (premises, etc.);
- more rapid digitalization and adoption of innovative solutions.

The Ministry of Regional Development, Construction, Housing, and Communal Services of Ukraine has created its brand book of ASC development. With new modern facilities, the main tasks and solving decisions are shown in a comparative table (Table 1).

Table 1. New principles of local government

Places of worship	Specially designed facilities
Central location does not allow for parking	Offsite relocation of administrative buildings helps address road and parking pressures in major cities
Uncomfortable premises with corridor-cabinet system	Convenient location in logistics centers
Lack of waiting areas	Separate front and back office space, scalability of front offices
Formation of queues and waiting in stuffy rooms	Single open space for customer service with creation of electronic queue waiting conditions

Inability to comply with	Convenient appointment schedule without	
state standards for receiving	interruptions and the ability to be served by	
citizens	high-level specialists	

Source: Ministry of Communications and Territories of Ukraine, 2018.

Thus, the architecture of modern ASCs must comply with the following rules established by the Ministry of Regional Development:

- the room must have sufficient space to organize the front office and the back office;
- the space must ensure unity with the back office;
- the building must be located on established logistic highways with good transport links.
- Thus, the main principles of ASC architectures are:
- functionality the design and logistics of the space;
- energy efficiency environmentally friendly design, which saves resources on heating and air conditioning;
- logistics the ability to visit the space without barriers.

The functionality of the local government space is a fundamental requirement. Although the traditional monofunctional office building seems to be the most efficient today, it is clear that the building's exploitation period will be extended if the flexibility of the space allows for the inclusion of other functions.

To ensure that the space is fully functional, it needs to be zoned. The front office should be designed as an open space that allows for easy heating, ventilation of the room, and reduced discomfort for those waiting. The back office is an additional room for employees who do not work directly with the public. These rooms can be zoned as open spaces or as separate offices. Movement between front and back offices should be quick. A mandatory component of functionality is the presence of additional service rooms for visitors to the ASC or its employees. It can be separate restrooms, a kitchen, and recreational facilities.

Ramps must organize the entrance to the building for individuals with disabilities and, if necessary, comfortable stairs with handrails called to the center's staff. In addition, the facade of the building should be equipped with lighting devices that allow visitors to become familiar with the signs (Tymoschuk et al., 2014).

As a principle of building or selecting administrative premises, energy efficiency is the use of new technological and ecological materials. For example, ordinary windows have to be replaced by smart double-glazed windows, which do not let in large amounts of ultraviolet light and do not heat the building unnecessarily in the warm season. In contrast, the double-glazed windows act as a thermos in winter and keep the accumulated heat (Ikonopisceva, 2018). Panoramic windows have become characteristic. They allow limiting the internal space due to the connection with the external environment, increasing the flow of sunlight, which acts as passive heating.

The ecological approach in architecture dictates using geothermal heating, heat pumps, photovoltaic glasses, wind turbines, heat exchangers, and thermal collectors provides savings of heat and electricity in a modern and economical way.

The principle of "living" architecture is set through the use of "Smart House" systems, when sensors control the lighting systems of facades and interiors, turn on the light gradually and only when necessary, and create an optimal level for humans existence and health. The building should blend harmoniously into the environment and architectural landscape (Bird et al., 2017). A public building should meet sanitary and environmental standards, be comfortable and functional. Of particular importance for the architecture of public urban buildings is the design of facades, the selection of color schemes for exterior and interior finishes (Banaeva, 2020).

The transport connection is the main factor in the choice of administrative premises. Therefore, the location of the public

building should be convenient for people, for car access, be close to public transport stops (Rice et al., 2019).

The most likely options for locating local government buildings within a city structure are:

- a) near the urban core;
- b) on the edge of the central zone;
- c) on the periphery;

The influence of each option on the main parameters of the complexes is traced: their capacity, volumetric and spatial structure.

Option 1 – placement in areas adjacent to the city's historic core. Characteristic features: the shortest distance and the shortest connection to the central authorities represented by the small size of the site, the high rank of institutions, three-dimensional and spatial structure, compact with the active use of underground space. An example is ASCs in Ivano-Frankivsk, Lviv.

Option 2 – placement on the border of the central part of the city. Here it is possible to develop complexes, including the maximum number of employees. An example is ASCs in cities Bucha, Kamyanske, Slovyansk.

Option 3 – placement of local government buildings on the city's periphery. There is no limit on the size of the plot. A striking example of such location is ASCs in Kharkiv and Kolomyia.

ASCs are usually formed in areas with high population density. Therefore, local government buildings are one of the significant construction objects. The difficulty of construction is exacerbated because most of them are not located in a new, vacant territory but completely built-up areas. In this regard, it becomes appropriate to concentrate several urban facilities in one (Popova & Osichenko, 2021).

Thus, considering the basic principles of organization and construction of buildings for local governments, let us consider practical examples of their implementation in Ukraine.

Active reconstruction of administrative buildings and construction of customer service centers began in 2014. Almost all customer service center facilities have gone beyond the historical part of the city. They create branches or customer service centers in such a way as to comply with the logistical principle. Today in Ukraine, several realized examples of reconstruction of administrative buildings in big and small cities (Table 2).

Table 2. Examples of successful renovations of administrative buildings of local governments in Ukraine

	ASC in Kharkiv
and the second se	Applicable since 2017
	- Household renovation
	- Reduction of energy
and a line of the second se	consumption by 50%.
THE REAL AND A CARDINAL MANAGEMENT	- Location - no traffic
	restrictions, outskirts of
	the city
	- Zoning - enough space
	to organize a back and
A REAL PROPERTY AND A REAL	front office.
- Contractory	Grand Prize Winner in the
A REAL PROPERTY AND A REAL PROPERTY A REAL PROPERTY AND A REAL PRO	"Public Facilities"
	category 2019 in Poland
	ASC in Bucza
	Applicable from 2019
	- Reconstruction of
	administrative building
	- Central part of the city
	- Zoning - enough space
	to organize the back and
	front office.
and the second sec	
ALL STREET	





Source: Ministry of Communications and Territories of Ukraine, 2019.

Consider the most successful architectural solutions for administrative buildings the reconstruction for ASCs. The reconstruction plan for administrative buildings in Kharkiv was developed by the Kharkiv National University of Municipal Economy by order of the Office for Construction, Repair, and Reconstruction of the Department of Construction and Road Facilities of Kharkiv City Council.

Currently, Kharkiv ASC is the most extensive one-stop service in Ukraine, providing about 450 administrative, social, pension services. When works began in 1967, the present ASC was occupied by a House of everyday life according to the standard project 282-1-10. "House of Life" was a five-sectors detached building with a basement and technical floors and dimensions in the axes of 42x30m. The building frame comprises precast reinforced concrete structures of typical series AI-04: precast columns of 300x300 mm, precast beams, and multi-core slabs (width 1.2 m and 1.5 m). The step of columns of the frame is 6,0 m, height of floors 3,3 m. The foundations are monolithic reinforced concrete deep-setting.

The main task of the reconstruction was to adapt the existing building to an administrative services center with a corresponding set of primary and auxiliary premises equipped with modern information means and energy-efficient systems. The transformation was organized with this reconstruction. As part of the reconstruction, the facades of the nearby buildings were refurbished, asphalt covering was restored, numerous flowerbeds were planted, and stop pavilions were installed. Under the project, parking for 250 cars in front of the main facade of the building has been made. The main idea of the building's transparency was to implement the transparent office's cleanliness by a unique parametric facade made of multiple trapezoidal glasses. The ASC resembles a multifaceted crystal. In the front, one can see a reflection of everything that is happening around, and observe the life boiling inside the Center (the Kharkiv National University of Municipal Economy named after Beketov, 2018)

Reconstruction of the Darnitsa ASC is also worth attention. It was envisaged to change the room's design and emphasize the social component – ensuringg the convenience of waiting. Eclecticism was chosen for the design. This style helps to combine many different elements, creating a functional image.

The central role here is played by light. Calm treatment in white and gray tones, diluted with bright inserts in paintings and other decorative elements designed to distract visitors from the waiting process. The ceiling is made in a geometric mosaic, part of which are also lamps.

There are rooms for the reception of citizens on the first floor. Also, there is a comfortable waiting room with a nursery and auxiliary rooms. Removing unnecessary walls helped to increase the space visually. They were replaced with glass partitions. Together with the light and attractive decoration solutions, it makes the room cozy and at the same time transparent. Convenient visual and tactile navigation will help guests of the Center deal with the seats they need quickly using a modern electronic queue system. On the second floor, there are service rooms. The employees of the Center have access to them. Separate bathrooms, checkrooms, and the kitchen are provided for employees (Darnytsia, 2016).

In Ukraine, the reconstruction of buildings considers energy conservation improvement, so insulating the premises save up to 50% of the heat.

But the expansion of customer service points in Ukraine also considers the possibility of building construction. Construction is carried out by financing international projects, which strictly control the development of infrastructure and environmental issues. We can note several standard designs of ASCs, which are implemented in small cities of Ukraine (Figure 1).



Figure 1. Examples of modern architecture of local selfgovernment construction in Ukraine

For example, with the construction of the ASC in Mykolaivka, creating comfortable, visually appealing ASCs was started. In Mykolaivka, it was built from scratch, so there was an opportunity to implement all the standards of a proper service center. In addition, Mykolaiv ASC is considered to be the most energy-efficient administrative building in Ukraine. The energy-efficient ASC in Polonnyi was built in just four months. At first glance, the building seems simple, but the carefully designed system of energy nodes makes this structure a highly complex project. The administrative buildings in Drohobych and Bakhmut are reinforced concrete structures with a unique design based on the main architectural principles of ASCs – they are energy efficient. They provide enough space to serve medium-sized settlements.

Community development will require additional customer service centers. Since central parts of cities do not have enough transport capacity, it is advisable to move municipal centers, which serve many customers, to the peripheral parts of the city. It will not disrupt the architectural ensemble of the central part of the city. Still, it will also make it possible to build a sizeable functional space, provide parking facilities, and comply with the environmental approach.

5 Discussion

Domestic and foreign researchers talk about different principles of transformation in the architecture of public buildings. Saprykina N. (2005) speaks about the social, natural-climatic, and technical-economic conditions of the formation of transformable architectural objects. In turn, J. Lee (2012) talks about five main reasons for forming modern adaptive architecture: technical, economic, natural-climatic, social, and aesthetic. According to the study of Al-Obaidi, I. (2017), the leading indicators for evaluating public space are accessibility, national originality, uniqueness, the quantity of functional space, environmental friendliness, thermal comfort, and economic effect. According to this author, the gallery building type (the ASC in Polonne) is environmentally friendly and economical and provides good aeration. Sufficient space increases commercial space and contributes to internal thermal comfort. The combination of structures makes it possible to create a scenario to adapt promising models of energy conservation of public spaces according to the required indicators, depending on the functional purpose of the building and local conditions.

A separate part of the research forms the transformational architecture of administrative buildings (Pimenova & Sumyuko, 2016), which creates not stationary objects, but changeable depending on different circumstances. These objects can change their shape inside and outside, depending on the locality's needs. Such a model is especially relevant during quarantine restrictions when through mobile partitions, it is possible to organize changes in the space of a room, which reduces the threats of contamination. Intelligent technology in administrative buildings is a relatively expensive solution, but it contributes to many social, environmental, and even logistical tasks (Uckelmann et al., 2018). In particular, buildings can reduce the level of energy consumption or vice versa, if necessary, by analyzing the time of day and the level of natural lighting. Also authorized should be a security system, fire protection technology (Kazkeyev & Ulpan, 2021).

Gajewski, P. (2018) focuses on universality as the primary approach to forming administrative buildings. Today, such concepts are the exception rather than the rule in developed countries, particularly in Poland, because many spaces are uncomfortable for business tasks. They can be beautiful but uncomfortable, or conversely comfortable – but do not form an architectural ensemble with the urban architecture. It is essential to make administrative buildings accessible to people with disabilities (Carlsson et al., 2021).

There are different approaches to the architecture of local government buildings in each country. The ecological system is a priority in countries with transit economies and countries with extreme environmental conditions.

Tohid & Rahim (2016) in hot climates highlight the importance of energy-efficient structures that will require less air conditioning costs. At the same time, it is essential to control the cost of electricity and other resources. Butelski, K. (2020) also shows the emergence of new architectural solutions in extreme conditions, with particular importance of research on the relationship between architecture and nature, which emphasizes the area's culture. The authors of these studies show that administrative buildings can be a part of the landscape composition – they can be built at the foot of the mountains, inside the mountains as part of the natural architecture.

But along with functional, environmental, and economic projects, it is necessary to preserve cultural traditions. The buildings created in the central parts of the city must be in harmony with the existing architecture. In this case, in conditions of the economy, it is impossible to preserve and emphasize the style and cultural heritage of the city. Danilova (2021) researched the artistic component of the architecture of administrative buildings, showing the importance of perforation technology, its development, and examples of application in modern facilities all over the world. This type of decoration can be done in different styles, which allows you to adapt the room to the city's style. Gook & Khavkhun, H. (2021) paid a lot of attention to the glass component of construction. Today, glass is not just a functional building material but also decorating, as can be seen in the example of the Kharkiv ASC.

Thus, we can state that the modern practice of building local government buildings is adaptive to the needs and tasks of different countries, localities, and populations. If developed countries can apply expensive technologies like "smart house", "transformed architecture", eco-buildings at the stage of construction, then less developed countries organize customer service in terms of speed, economy, and heat saving. Reconstruction of ready-made facilities does not always contribute to the service's functionality. Also, the availability of ready-made administrative buildings does not always meet the logistical principle. But the preservation of the environmental direction is a prerequisite for the formation of centers because it will save local budgets in the future.

6 Conclusion

The modern formation of local government architecture in Ukraine is based on three principles – functional, environmental, and logistical. The functional principle is the basis for the organization of service of many people, solving the issue of queues, inconveniences in waiting rooms, and uncomfortable working conditions of civil servants. The design of the building is of a gallery type, with the work area divided into two sectors: the front office, which deals directly with customer service, and the back office, which performs other administrative work.

The environmental principle is based on the use of heat-saving technology. Most of the premises used for administrative purposes in Ukraine are insulated and equipped with energy-saving double-glazed windows. The logistic principle makes it possible to choose such administrative buildings accessible to the local people and guests. Thus, concept implementation is possible in the city center, the central part of the city, on the periphery.

The world practice of architecture of buildings for local authorities is quite different. Developed countries can allocate budgets to construct unique, globally recognizable premises; a unique style of architecture characterizes such premises. Countries in hot conditions resort to eco-building and the application of heat-transferring technologies. Unfortunately, in Ukraine, the practice of local government architecture is adaptive to the needs of insufficient financial resources, so CNAPs are formed in old buildings of administrative value, built-in 70-80s.

At the same time, the application of modern construction technologies makes it possible to obtain original solutions using glass and new construction technologies. The main directions of the future development of local government architecture lie in logistics, since, as practice shows, it is not reasonable to use premises in the central part of the city to serve a large flow of customers. It is also essential to comply with modern technological standards to ensure the environmental performance of the building, safety, as well as economic reconstruction of the premises.

The practical value of the study is to identify promising solutions for the development of the city's architecture.

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Primary Paper Section: A

Secondary Paper Section: AL