

Integrated design and quality in government buildings

Diseño integral y calidad en las edificaciones gubernamentales

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ABSTRACT

Introduction: institutional architectural design represented a tangible manifestation of the values and aspirations of public entities. In this context, architecture not only responded to a functional need, but also materialised concepts such as authority, efficiency and accessibility. The integrated approach to design required the collaboration of diverse actors throughout the life cycle of a project, from conception to operation.

Development: in the case of the Ministry of Economy and Finance (MEF) of Panama, it was shown how a public institution was able to consolidate its articulating function through an adequate infrastructure. Key elements of quality design were identified, such as functional zoning, internal circulation and contextual response, which allowed the design of buildings that reflected the principles of sustainability and modernity. Through theoretical and conceptual frameworks, it was understood that an institution should reflect its values in its architecture, addressing administrative and social needs. The integrated design also promoted the incorporation of quality management systems, aimed at improving operational efficiency and citizen experience.

Conclusions: the analysis of buildings such as the National Archives, the Legislative Palace in Panama and ministerial headquarters in Chile and Brazil showed that successful institutional architecture combined functionality and symbolism. These structures not only fulfilled their operational function, but also represented the state's commitment to its citizens. Institutional architecture, conceived as a strategic investment, had a direct impact on the quality of the public service provided.

Keywords: Architecture; Institutionalism; Design; Sustainability; Quality; Sustainability; Quality.

RESUMEN

Introducción: el diseño arquitectónico institucional representó una manifestación tangible de los valores y aspiraciones de las entidades públicas. En este contexto, la arquitectura no solo respondió a una necesidad funcional, sino que materializó conceptos como autoridad, eficiencia y accesibilidad. El enfoque integral de diseño exigió la colaboración de diversos actores a lo largo del ciclo de vida de un proyecto, desde su concepción hasta su operación.

Desarrollo: en el caso del Ministerio de Economía y Finanzas (MEF) de Panamá, se evidenció cómo una institución pública pudo consolidar su función articuladora mediante una infraestructura adecuada. Se identificaron elementos clave del diseño de calidad, como la zonificación funcional, la circulación interna y la respuesta contextual, los cuales permitieron proyectar edificios que reflejaron los principios de sostenibilidad y modernidad. A través de marcos teóricos y conceptuales, se entendió que una institución debía reflejar sus valores en su arquitectura, atendiendo a las necesidades administrativas y sociales. El diseño integral también promovió la incorporación de sistemas de gestión de calidad, orientados a mejorar la eficiencia operativa y la experiencia ciudadana.

Conclusiones: el análisis de edificaciones como el Archivo Nacional, el Palacio Legislativo en Panamá y sedes ministeriales en Chile y Brasil, mostró que una arquitectura institucional acertada combinó funcionalidad y simbolismo. Estas estructuras no solo cumplieron su función operativa, sino que también representaron el compromiso del Estado con su ciudadanía. La arquitectura institucional, concebida como inversión estratégica, incidió directamente en la calidad del servicio público ofrecido.

Palabras clave: Arquitectura; Institucionalidad; Diseño; Sostenibilidad; Calidad.

INTRODUCTION

Institutional architectural design is a tangible manifestation of the values, functions, and aspirations of public organizations within the social and urban fabric.

In this context, architecture not only responds to a functional need but also translates abstract concepts into physical forms that reflect identity, authority, accessibility, and efficiency. The development of projects for government buildings requires a rigorous conceptual framework, bringing together an understanding of the meaning of ‘institution,’ its administrative structures, and the systems that govern its functioning, such as quality processes and citizen services.

In the institutional sphere, a building must respond to public service objectives, the needs of its users, and the surrounding urban environment. Fundamental concepts such as functional zoning, internal circulation, contextual integration, the building envelope, and future projection enable a design consistent with sustainability principles, efficiency, inclusion, and transparency. This approach, known as integrated design, requires the active participation of all stakeholders throughout the project life cycle, from conception to operation.

The case of Panama’s Ministry of Economy and Finance (MEF)⁽¹⁾ illustrates how a government entity can evolve to become a coordinating body for economic, budgetary, and national development planning policies. Its creation responds to the need to consolidate administrative structures that coordinate state resources with a strategic vision. In this context, the buildings that house these functions are not mere physical structures but key tools in implementing modern and efficient public management.

Likewise, the analysis of national and international architectural references—such as the National Archives, the Legislative Palace, and ministry headquarters in Chile and Brazil—highlights the importance of institutional design as a reflection of the government’s commitment to its citizens. These buildings are testimony to the active role played by institutions in the organization of public space, where architecture acquires both symbolic and functional value.

Therefore, this paper focuses on understanding and projecting the principles of institutional architecture from a technical, administrative, and conceptual perspective, highlighting quality in design as an essential component for ensuring the efficiency, identity, and dignity of public service.

DEVELOPMENT

THEORETICAL FRAMEWORK

Conceptual framework

Traditionally, architectural concepts constitute how the designer responds to the design situation set out in the program. They are the means of translating the non-physical statement of the problem into the final physical product, the building. The designer must determine the nature of the situation and, in response, create concepts that allow them to deal with it architecturally.⁽²⁾

Concept of institutional architecture

Before developing any analysis, we must identify and conceptualize what we understand as an institution.

Institutions are the most critical structures in the social sphere: they constitute the fabric of social life.

The growing recognition of the role of institutions in social life implies that much of human interaction and activity is structured in terms of explicit or implicit rules. Without straying too far from the relevant literature, we can define institutions as established and widespread systems of social rules that structure social interactions.⁽³⁾

Focusing on this conceptualization, these are a set of actors and spaces where we must consider the demands, interests, and definitions of the objectives that each one pursues. Therefore, we must pay attention to the development of specific administrative capacities to achieve coherence in the internal structure of the institution and its interaction with actors in the socio-economic environment.

Administration of the Ministry of Economy and Finance

Public administration

The term public administration refers to an organisation or institution made up of interrelated elements that serve society.

Service protocols

Internal administrative processes

Quality management systems: a quality management system (QMS) is a formal system that documents processes, procedures, and responsibilities to achieve policies and objectives. It helps coordinate and direct an organization’s activities to meet customer and regulatory requirements and continuously improve its effectiveness and efficiency.

It focuses on satisfying user needs and expectations as the guiding principle for quality efforts, competitiveness, integrity, and transparency by identifying elements to optimize performance, such as strengths, capabilities, and areas of opportunity, to achieve results that strengthen administrative processes and the efficient use of resources, as well as increasing the value provided to citizens through the public goods and services offered by an institution.

Quality design

Architecture is the expression of a culture, an era, and a building tradition; it is the architecture of forms that became conventional by obeying unwritten rules. It is logical, regular, and predictable; its values are social, communal, and recognized by all. It is the product of evolution.⁽⁴⁾

Concepts for achieving quality design

- Functional grouping and zoning.
- Architectural space.
- Circulation and shape of the building.
- Response to context.
- Building envelope.

How do we control quality in design?

Today's buildings function as life support systems and communication and data terminals, offering a comprehensive design approach and relying on a team trained to execute it.

A comprehensive design approach invites all those involved in the construction and planning processes, as well as the design and construction team, to focus on the project objectives from different perspectives. This approach differs from the typical planning and design process, which relies on the experience of specialists working in their respective areas. From another angle, it also requires a comprehensive work team, where the design team and all parties involved work together throughout the phases of the project, considering concepts such as quality of life, flexibility, future projection, efficiency, social, environmental, and economic impact, productivity and creativity, among others.⁽⁵⁾

The process of a comprehensive building is based on the knowledge of all stakeholders throughout the project life cycle, from defining the need for a building to planning, design, construction, occupancy, and operations. For a comprehensive building project to be genuinely successful, concepts such as accessibility, aesthetics, profitability, the relationship between functionality and operability, historical preservation, productivity, safety, and sustainability are considered essential.

Historical framework

Creation of the Ministry of Economy and Finance

The Ministry of Finance and Treasury was created on 12 November 1903, when the Provisional Government Board signed Executive Decree No. 1 regulating the service of the Ministry of Finance, with Manuel Encarnación Amador as its first minister. Its objective was to organize the state's structures in areas such as revenue, the collection of commercial taxes, liquor taxes, income from opium imports, and games of chance. It also sought to address the abrupt changes facing the country due to the resumption of excavation work on the interoceanic canal.

In 1959, the Department of Planning was created, and in the following years, the Ministry of the Presidency, along with the General Directorate of Planning and Administration of the Presidency and the Department of Planning, was formed. These operational units, working together, needed to be an entity that planned, coordinated, and guided the country's economic and social development. Thus, through Law No. 16 of 28 February 1973, the Ministry of Planning and Economic Policy was created.

Ninety-five years later, the Ministry of Economy and Finance, known by its acronym MEF, began its institutional life in the early years of the republican era. At the end of 1998, it took shape before the Legislative Assembly and, through Law 97⁽⁶⁾ of 21 December, the creation of the Ministry of Economy and Finance was approved, formalizing the merger of the Ministries of Planning and Economic Policy and Finance and Treasury.

Purpose of the Ministry of Economy and Finance

The Ministry of Economy and Finance was created to transform the public administration, provide greater coherence and comprehensiveness to the state's financial and budgetary management, and define and coordinate economic, fiscal, and social policies.

The Ministry of Economy and Finance (MEF) is responsible for everything related to the formulation of economic policy initiatives, the programming of public investment and social strategy, the design and implementation of general guidelines and specific tasks of the Government on Finance and the National Treasury; the preparation, execution, and control of the General State Budget, Public Credit and modernization of the State, as well as the preparation and execution of the Programming—Ministry of Economy and Finance.⁽¹⁾

Reference Framework

A public building is not only a facility dedicated to fulfilling the purposes of the institution it houses but also an example of how to enhance the public status of the environment in which it operates.

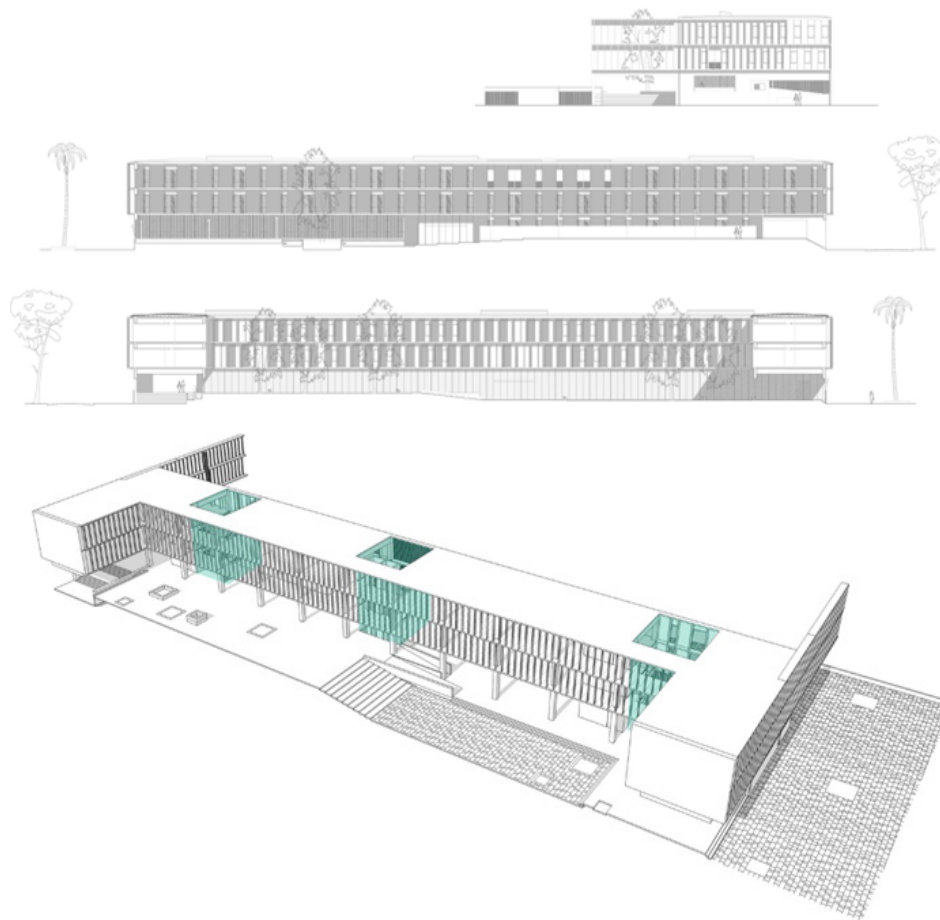
International references

Ministry of Housing and Urban Development, O'Higgins Region, Santiago, Chile

After several years of neglect and an earthquake in 2010, the site that belonged to a former prison in the O'Higgins region was occupied by the institutional building of the Ministry of Housing and Urban Development of the area above through a public competition.

The site is located in a consolidated neighborhood adjacent to the train station, with high traffic and commercial use. The commission included a program that separated a larger building into two independent units: SERVIU and SEREMI. The site subdivision strategy was part of the proposal, leaving land available for future construction. In addition, the competition called for a building that would announce a civic ensemble idea for the rest of the site.

Following the layout of the old cell pavilions to be demolished, a 110-meter-long and 10-meter-wide building is proposed that opens onto public space, connecting two parallel streets through the interior of the block. SERVIU will be accessed from Brazil Street and SEREMI from O'Carrol, distinguishing both programs.



Source: Carreño et al.⁽⁷⁾

Figure 1. Ministry of Housing and Urban Development, O'Higgins Region, Santiago, Chile

The project then became an opportunity to take direct action in the city. As the ministry headquarters is responsible for territorial planning and development, it seems relevant to complement and improve the land and public spaces where the surrounding buildings have continuous facades and occupy the entire site.



Figure 2. Ministry of Housing and Urban Development, O'Higgins Region, Santiago, Chile



Figure 3. Ministry of Housing and Urban Development, O'Higgins Region, Santiago, Chile



Figure 4. Ministry of Housing and Urban Development, O'Higgins Region, Santiago, Chile



Figure 5. Ministry of Housing and Urban Development, O'Higgins Region, Santiago, Chile

National Confederation of Municipalities, Brasilia, Brazil

The first condition for the design of the new headquarters of the National Confederation of Municipalities is creating a metropolitan area in line with the urban context of Brasilia. The action plan approved for the design of the new building is based on some fundamental assumptions, such as land use, which emphasizes the integration of users with the built landscape. The organization/hierarchy of the ground floor should reinforce its function as the central convergence point, the preference for a clear and rational structural system that guarantees speed and economy in construction, and the adoption of strategies that enable the creation of a sustainable building.



Figure 6. National Confederation of Municipalities, Brasilia, Brazil

The project is embodied along an axis as a white metal volume floating gently above a concrete base. The transparency of the volume creates a special relationship with its surroundings, where the layout of the built elements is a direct response to the distribution of the program on the site. Its platform or base is made up of all the functions dedicated to the public, as well as the rest areas. Its metal sheet contains the administrative units, the meeting room is on the terrace, and the garage and technical service areas are in the basement.



Figure 7. National Confederation of Municipalities, Brasilia, Brazil



Figure 8. National Confederation of Municipalities, Brasilia, Brazil

The design of the ground floor was the central guiding principle behind the proposal. We created a square that is slightly sunken about the average ground level, which is developed on two levels, resulting in a new topography for the site.

On the ground floor, a mirror guides pedestrians towards the reception area, providing administrative areas access.

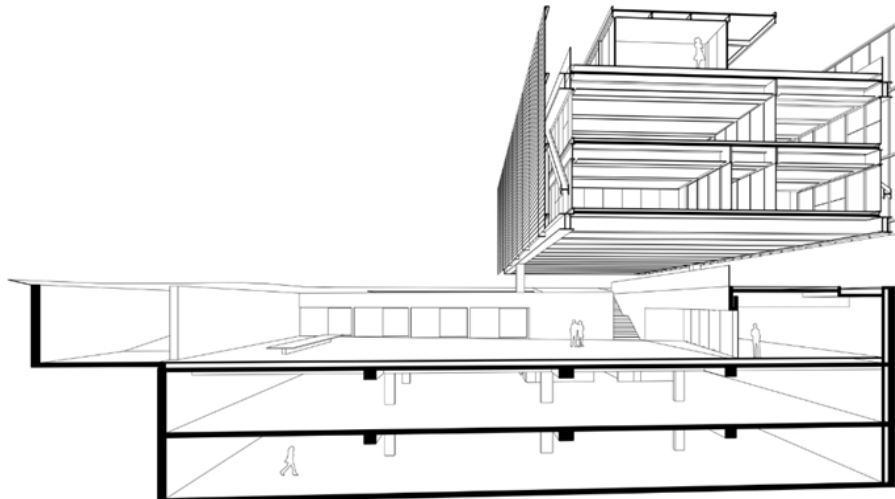


Figure 9. National Confederation of Municipalities, Brasilia, Brazil

The civic square is located on the lower level, from where the auditorium can be accessed. A staircase connects the two levels, allowing events to be held independently without affecting the functioning of the administrative areas. The ground floor has two purposes: to support the new series and to serve as an interface with the city.

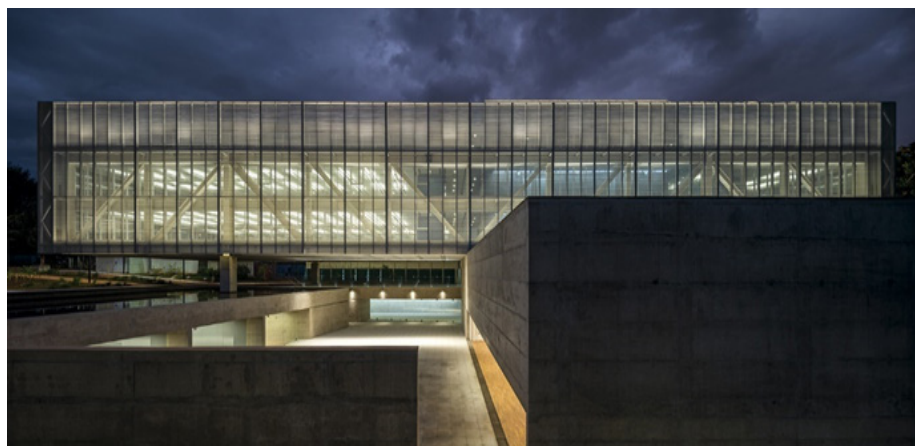


Figure 10. National Confederation of Municipalities, Brasilia, Brazil

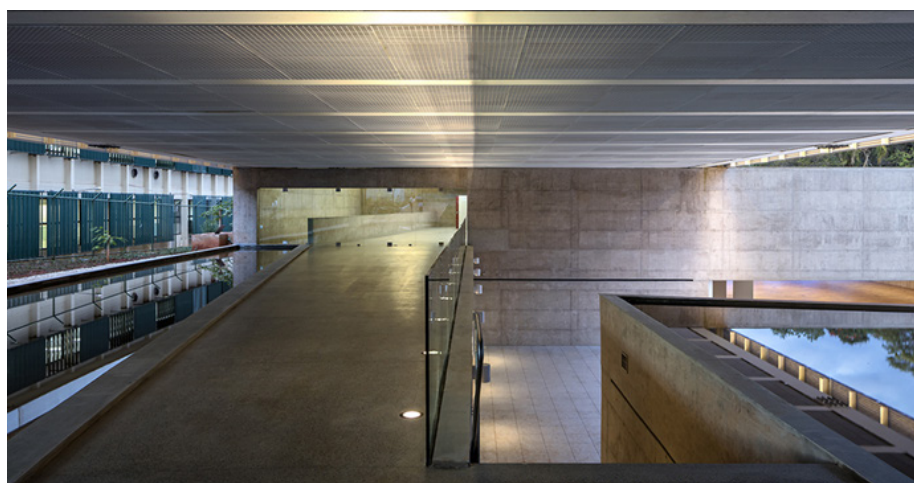


Figure 11. National Confederation of Municipalities, Brasília, Brazil

National references

National Archives of Panama, Panama City

The National Archives of Panama building is located on Peru Avenue. It preserves documentary material of significant heritage value that constitutes the memory of an entire nation.

Panama became the first American republic to build a building exclusively for its National Archives.

A building made of stone and concrete with mosaic tiles was erected on a plot of land away from the city centre at a cost of B/. 160 000,00. Its floors cover an area of more than 1000 square metres, and its upper floor can hold 300 000 files.



Figure 12. General view of the Panama National Archives building. Author: Edward Ortiz

The building is neoclassical and is distributed over two floors, with a basement and a roof terrace. The building was constructed on a foundation that serves as a basement, and its floor plan is symmetrical, with a central axis that culminates in a large staircase and a second longitudinal axis with corridors leading to the offices. All the walls were built with reinforced concrete, 20 centimeters thick, with hollow cement block partitions, mahogany doors, glass windows, and tiled floors.

This project was conceived with a monumental intention as a characteristic element of institutional architecture where power is emphasized. It is a symmetrical block with three Corinthian porticos on its three main façades. The front, facing Peru Avenue, has a typical Beaux-Arts composition, with slight recesses that create an A-B-C-B-A rhythm. On the other hand, the overall image is one of severe neoclassicism: the columns look authentically Roman.⁽⁸⁾

Panama Legislative Palace

The Justo Arosemena Palace, also known as the Legislative Palace of Panama, is the National Assembly of Panama seat. It is located opposite José Remón Cantera Square, near 5th May Square. It is named after the politician and writer Justo Arosemena Quesada, considered the “father of Panamanian nationality.” The building consists of two distinct volumes: the parliamentary auditorium and an office tower connected by a horizontal element designed for administration. With its sunburst windows, this concept was recognized by Miami Windows Corporation for its architectural design, which incorporates elements derived from Brazilian modernism in its windows. The building is noted for its classic touches, unique structural elements, and functional integration of administrative and ceremonial spaces, and it conveys a sense of seriousness and formality that has served as a model for the design of other institutions. Justo Arosemena Palace / historical tour of its surroundings.

At the front was the car park and the central fountain area. The central tower housed the offices of the Honourable Members of Parliament, the office of the President of the National Assembly and his two Vice-Presidents, the General Secretariat, the law drafting section, the legal advisers' department, the archives and library section, the meeting rooms, and its electric lift system. Adjacent to this is the auditorium or main hall, where the 45 seats of the Honourable Members are located.

We understand that a building is related to its urban fabric and the elements that make it up when its structure, the walls of the Assembly auditorium, are visually connected to the José Remón Cantera Square, located on Avenida Central, dedicated to the president of the same name, with a bust of the president looking towards the Palace, with the idea that 'this is a symbol that inspires and guides legislators so that the laws that come out of this Chamber are for the benefit of the Panamanian people.



Figure 13. View of the Justo Arosemena Palace, Panama City. Author: David A. Nuñez Linares

Regional references

Chitré Town Hall, Herrera

A vertical structure ending in a slab that curves slightly at the edges, this building houses the Chitré Town Hall in the province of Herrera. The characteristics of its modern architecture are reflected in the refinement of decorative elements, the established linear sensitivity, the use of concrete as a predominant material, and a blue tone in its sunshades, columns, and slab edges that reflect the institutional character of the building. It is also connected to the urban center of Chitré and infrastructure, maintaining a pleasant character for users by being easily accessible.⁽⁹⁾

The building was designed to accommodate a high volume of visitors requiring customer service, so the ground floor has a large customer service area and administrative offices, allowing the municipality to offer better and more convenient service to the 700 people who visit its facilities every day to carry out their procedures, thus optimizing municipal administrative management.



Source: Google

Figure 14. Perspective view of the Town Hall of Chitré, Herrera

Comptroller General of the Republic in Las Tablas, Los Santos

In September 2021, the building for the regional office of the Comptroller General of the Republic was inaugurated in the district of Las Tablas, Los Santos province, Panama. It is a two-story building with a glass façade in three sections connected by vertical circulation blocks. Accesses are adapted for users with reduced mobility, and a car park meets the facility's demand.⁽¹⁰⁾

It is linked to its surroundings by the construction of pedestrian accesses, green areas, various infrastructures, perimeter fencing around the facilities, and an access control booth to strengthen security under the supervision of the Technical Board of Engineering and Architecture, in response to a desire to improve the user experience.

The Comptroller General of the Republic of Panama is a high-level oversight body that controls state administration expenditure, verifying that it is correct and complies with the legal framework in force.



Source: Extraco, S.A.

Figure 15. General view of the Comptroller's Office, Las Tablas, Los Santos

Legal framework

Land use regulations

Summary of urban development regulations for the city of Chitré issued by the Ministry of Housing and Land Use Planning.

- Urban development regulations: institutional/governmental.
- Code: In- a
- Permitted uses
- Principal: all government facilities, such as City Hall, Provincial Government, Municipal Council, Courts, Prosecutor's Offices, Notary Offices, Autonomous Institutions, Ministerial Offices, Post Office, Fire Department, Police, etc.
- Complementary: Squares, parks, chapels, and others. Provided that such uses and structures do not constitute a prejudice to the neighbors or adversely affect the institutional and governmental character of the area.
- Net density (inhab./ha):
- Minimum lot area (M2): 500,00 M2
- Minimum lot frontage (M): 20,00 M
- Minimum lot depth (M): Unrestricted
- Maximum height (floors):
- Maximum occupancy area (%): 60 % of the lot area
- Minimum free area (%): 40 % of the minimum area
- Side setback (M): 1,50 M
- Rear setback (M): 5,00 M
- Minimum parking: 1 space for every 50,00 m2 of building construction. These parking spaces must be constructed with a permeable surface.
- Building line: 5,00 meters from the property line, as established in the official road easement document, or 5,00 meters from the building line.
- Construction area (%): 200 % of the lot area
- Minimum green area (%):

Regulations governing the planning of institutional facilities in Panama

Manual of organizations and functions of the Ministry of Economy and Finance.

Architecture in public administration and its quality standards.

Access manual, third edition.

'Design for All' is a concept that prioritizes removing physical barriers to facilitate access to and use of public spaces and urban services for the general population, including people with disabilities.

The third edition of the Access Manual aims to be a mandatory reference for the design of urban, architectural, and graphic projects. It establishes in a technical and scientific manner the adaptations of spaces that facilitate access for people with disabilities, older adults, pregnant women, multi-family households, and people with temporary or permanent limitations due to visceral conditions or size and weight. This makes true Design for All a reality, moving us away from the assumption that accessibility is only for people with disabilities. Nélida Ortiz, Director General of SENADIS.

Laws regulating institutional facilities in Panama

Ministry of Housing and Land Management

Use of the summary of the Urban Development Regulations for the City of Chitré (Resolution No. 8-2014 of 10 January 2014).

Ministry of Economy and Finance

Article 1 of the legal basis of the Ministry of Economy and Finance establishes that it is created by the merger of the Ministries of Finance and Treasury and Planning and Economic Policy, which will be responsible for everything related to the formulation of economic policy initiatives; the programming of public investments and social strategy; the design and execution of general guidelines and specific tasks of the Government on Finance and the National Treasury; the preparation, execution, and control of the general state budget; public credit and the modernization of the state, as well as the preparation and execution of the State Financial Programme.

This institution's legal name is the MINISTRY OF ECONOMY AND FINANCE, which was created by Law No. 97 of 21 December 1998, promulgated in Official Gazette 23,698 of 23 December 1998.

National Secretariat for Disability

The National Secretariat for Disability (SENADIS), by the nature of its functions established in Law 23 of 28 June 2007, is the technical body within the state structure responsible for proposing social inclusion policies for persons with disabilities, as well as the relevant actions and technical and administrative standards for their implementation, monitoring, and evaluation.

The Panamanian State Disability Policy reflects the characteristics and trends of the times within the framework of international conventions, agreements, and declarations signed and ratified by the Republic of Panama. It identifies a shared direction for addressing this critical population group's demands, hopes, and challenges. This policy has been developed within the framework of a country moving towards inclusive and supportive human development, in which all citizens, without distinction, are valued and respected and their rights guaranteed as human beings with dignity. Disability Policy of the Republic of Panama.⁽¹¹⁾

In the regulations of the National Secretariat for Disability, Law No. 6 of 22 January 2002 establishes rules for transparency in public management. Article No. 10.1 refers to institutional projects, for which a list of planned projects, whether long, medium, or short term, with their level of implementation and the person or entity responsible for them is requested.

CONCLUSIONS

Institutional architectural design is much more than creating physical structures for government operations; it is a concrete expression of public entities' values, functions, and aspirations within the social and urban context. This type of architecture seeks to harmonize functionality with institutional identity, reflecting the efficiency, transparency, inclusion, and authority that citizens expect from their institutions.

Institutional architecture, therefore, must be designed from a comprehensive perspective that articulates technical, administrative, social, and environmental needs throughout the project's life cycle.

In this sense, the case of the Ministry of Economy and Finance (MEF) of Panama offers a clear example of how adequate infrastructure can become a strategic tool for strengthening public management. The MEF, as the coordinating body for economic, fiscal, and budgetary policies, requires buildings that not only house administrative activities but also foster an organizational culture focused on quality, accessibility, and citizen service.

Through the analysis of conceptual and theoretical frameworks, it is understood that institutional design must integrate concepts such as functional zoning, efficient circulation, urban contextualization, and future projection. These guidelines are key to creating spaces that respond to operational requirements and citizen expectations. Likewise, the implementation of quality management systems ensures that buildings not only meet technical criteria but also public service standards.

The national and international architectural examples analyzed—such as the National Archives of Panama, the Legislative Palace, and ministerial buildings in Chile and Brazil—demonstrate that successful institutional design balances monumentality with accessibility, aesthetics with functionality, and symbolism with operability. These buildings not only fulfill their primary function but also become urban and cultural landmarks, representing the values of the State to its citizens.

Finally, institutional architecture should be considered a strategic investment, where every design decision directly affects the quality of public service. Designing with quality means considering sustainability, inclusion, efficiency, and the dignity of those who use and work in these spaces. Only then can we build public infrastructure that is up to today's challenges and the government's commitment to its people?

FINANCING

None.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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Formal analysis: Graciela A González C, Eteida Del C Navarro Noriega.

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