

O. M. Beketov National University of Urban Economics
in Kharkiv

School of Architecture, Urban Planning and Design

Department of Architecture of Buildings and Constructions

ABSTRACT

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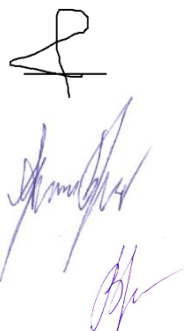
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Kharkiv – 2026

**O. M. BEKETOV NATIONAL UNIVERSITY OF URBAN ECONOMICS
IN KHARKIV**

Institute **School of Architecture, Urban Planning and Design**

Department **Architecture of Buildings and Constructions**

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T A S K

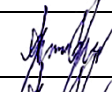
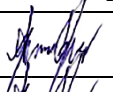
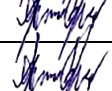
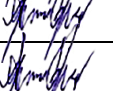
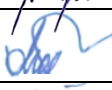
FOR THE STUDENT'S DIPLOMA PROJECT (WORK).

Kamar Soukab

Topic of the project (work): **“Regional features in the architectural design of urban malls in Morocco”**

1. Supervisor of project (work): A.S. Borysenko, PhD, Associated Prof., approved by order of the higher educational institution from 26 November 2025 № 1116-03
2. The deadline for student submission of the project (work): 21 May, 2026.
3. Initial data for the project (work): diploma design tasks, results of pre-diploma practice, theoretical studies, graphic-analytical materials.
4. The content of abstract (list of issues that need to be developed):
Section 1. “Analysis of theoretical and practical experience of the formation of urban shopping malls”, Section 2. “Factors, methods and peculiarities of the architectural formation of a shopping mall structure”, Section 3. “Approbation of methods for forming the architecture of urban shopping malls with regional features in Morocco”, Section 4. “Calculation and constructions”, Section 5. “Occupational health and safety”.
5. A list of graphic material (with a precise indication of mandatory drawings): scheme of the location of the territory in the structure of the city; scheme of the location of the territory in the structure of the district; scheme of the existing functional and transport organization; scheme of the project functional and transport organization; reference plan, general plan; photo fixation; plans, facades, sections, perspective projections of the main angles of the building.

6. Consultants of project sections (works)

Section	Surname, initials and position consultant	Signature, date	
		Task issued	Task accepted
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2	A.S. Borysenko, PhD, Associated Prof.	 16.02.2026	 14.03.2026
3	A.S. Borysenko, PhD, Associated Prof.	 16.03.2026	 18.04.2026
4	A.V. Naboka, Ph.D., Senior Lecturer	 20.04.2026	 30.04.2026
5	V.V. Malysheva, Ph.D., Assoc. prof.	 20.04.2026	 30.04.2026

7. The date of issue of the task is December 1, 2025.

CALENDAR PLAN

№ s/p	Name of diploma project stages (work)	Term of project stages execution	Note
1	Clarification of the design task	December 2025	Done
2	Development of the staging part (relevance, problems, tasks, object, subject, research methods)	December 2025	Done
3	Approval of the plan for conducting scientific research (content of the qualification work)	February 2026	Done
4	Analysis of scientific literary sources on the topic of the master's qualification work (writing "Introduction", "Section 1" subsections 1.1, 1.2)	February 2026	Done
5	Analysis of prototypes (writing "Section 1" subsection 1.3, "Conclusions to Section 1"). Hypothetical model of an architectural project	February 2026	Done
6	Methodology and techniques of scientific research of an architectural object (writing "Section 2" subsections 2.1, 2.2)	February-March 2026	Done
7	Development and graphic design of analytical schemes (models) based on scientific research (writing "Section 2", subsection 2.3 and "Conclusions to Section 2")	March 2026	Done
8	Generalization of the conclusions of the conducted scientific research work and design of a graphic model of the design object (writing "Section 3" subsections 3.1, 3.2, 3.3, "Conclusions to Section 3")	March, April 2026	Done
9	Writing related sections ("Section 4" and "Section 5")	April 2026	Done
10	Preparation of the master's thesis	April 2026	Done
11	Defense of the master's thesis before the examination commission	May 2026	Done

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INTRODUCTION

The rapid transformation of urban environments has significantly increased the demand for urban shopping malls that seamlessly blend high-end retail offerings with entertainment and leisure components. These spaces have evolved far beyond their original function as commercial centers; they are now multifaceted urban destinations that deliver a holistic experience combining architectural elegance, operational functionality, and an atmosphere of refined luxury.

The **object of this research** is a urban shopping mall, understood as a multifunctional commercial complex designed to meet the sophisticated expectations of modern consumers.

The **subject of the study** focuses on the architectural characteristics and design principles that define and distinguish urban shopping malls in contemporary urban settings. This includes how these principles shape user experience, spatial aesthetics, and cultural integration.

The **purpose of this research** is to investigate, analyze, and synthesize the key architectural trends, planning strategies, and innovative design techniques that contribute to the successful creation of high-end retail environments.

To achieve this objective, the following **research tasks** will be undertaken:

- Examine theoretical and practical approaches to the design of urban shopping malls, tracing the evolution of design philosophies and exploring their application in prominent real-world examples.
- Identify current architectural trends influencing the development of upscale commercial spaces, with particular attention to technological integration, sustainability measures, and cultural responsiveness.
- Determine critical factors impacting the architectural formation of urban malls, such as geographic context, user behavior, brand identity integration, and socio-cultural expectations.
- Analyze typological and spatial planning features of contemporary shopping centers, focusing on functional zoning, circulation logic, and their capacity to adapt to emerging retail paradigms.

- Explore advanced architectural techniques that enhance both the utility and aesthetic quality of luxury shopping malls, including innovative uses of materials, dynamic lighting strategies, intelligent circulation systems, and the design of engaging public and semi-public spaces.

The **relevance of this research** lies in addressing a range of pressing issues faced by architects, urban planners, and developers in the design of high-end commercial environments. These include the growing complexity of user demands, the necessity of integrating sustainability within luxury contexts, the challenge of maintaining cultural identity in globalized retail spaces, and the architectural response to rapidly changing technologies and retail behaviors. By focusing on these challenges, this study aims to contribute valuable insights that inform the design of future urban shopping malls capable of responding to evolving urban and consumer dynamics.

SECTION 1. ANALYSIS OF THEORETICAL AND PRACTICAL EXPERIENCE OF THE FORMATION OF URBAN SHOPPING MALLS

1.1. Analysis of theoretical experience of the formation of urban shopping malls

«Mall Maker: Victor Gruen, Architect of an American Dream» by J. Hardwick highlights the transformative role of Victor Gruen in shaping the architecture of modern shopping malls. Gruen is often credited with introducing the concept of the mall as a central, community-oriented space in the urban environment. The book delves into Gruen's vision, where shopping centers were not just commercial spaces but places designed to foster social interaction and community life. The design principles introduced by Gruen aimed at creating environments that balanced economic needs with social functions. The book examines the architectural challenges involved in realizing these spaces, which reflected American consumer values and social norms during the mid-20th century. Through this analysis, the book positions Gruen's malls as not only retail hubs but as significant urban elements that reshaped the American city, making them centers of public activity and cultural interaction (Fig. 1).

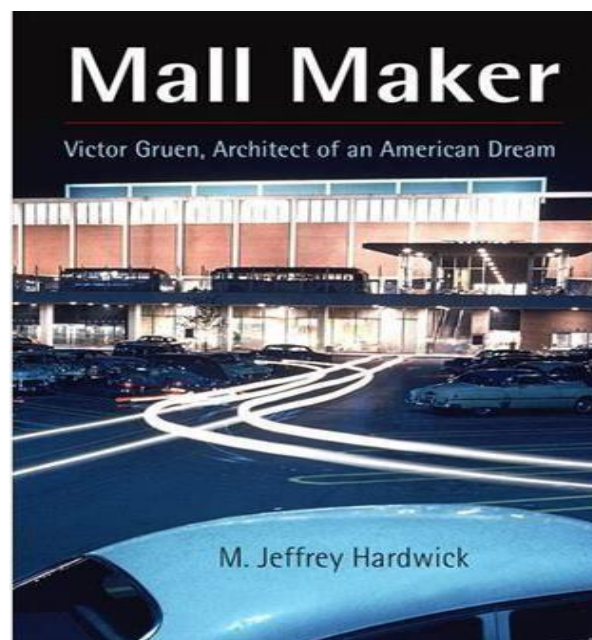


Figure 1. «Mall Maker: Victor Gruen, Architect of an American Dream» by J. Hardwick

«Meet Me by the Fountain: An Inside History of the Mall» by A. Lange explores the evolution of shopping malls in the United States from the 1950s to the present day. It focuses on the cultural and social transformations that led to the rise of these public, commercial spaces. The book traces the architectural changes malls underwent as they shifted from simple retail spaces to multifaceted venues that included entertainment, dining, and social interaction. It highlights how malls became central features in both large cities and smaller towns, evolving into symbols of consumer culture and urban development. The work emphasizes how malls reflected and influenced societal trends, particularly in the American middle class, and how they became essential in the everyday lives of citizens. The book provides a broader cultural context, showing that malls are not just retail centers but active social spaces that have shaped modern urban environments (Fig. 2).

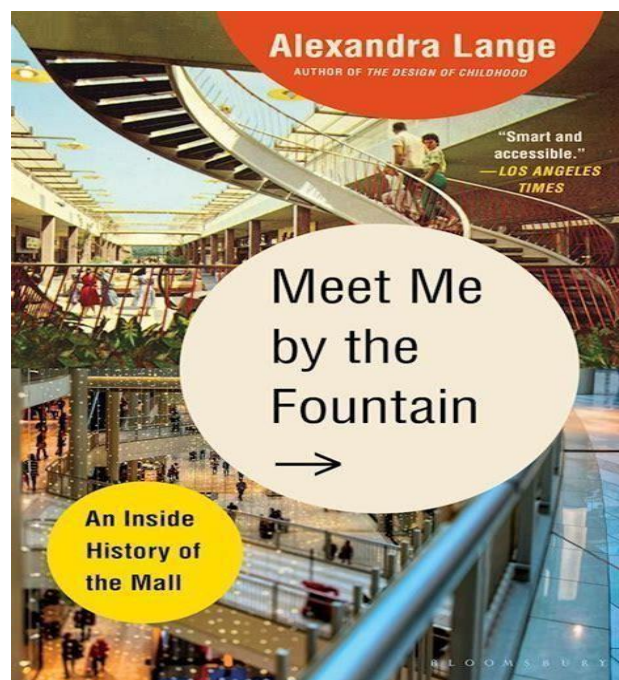


Figure 2. Meet Me by the Fountain: An Inside History of the Mall» by A. Lange

Where architecture meets luxury, there lies a significant aspect of today's retail industry. Through the work of Paul Cattermole in the book "Building for Tomorrow: Visionary Architecture From Around the World," the importance of architecture in creating a luxurious atmosphere at premium shopping centers is clearly demonstrated.

According to the author, by using lighting techniques, luxurious material, and smart designs, an architect can turn the shopping centers into something more prestigious and luxurious. It is through such designs that consumer behavior becomes affected, as the entire process of shopping is turned into an art (Fig. 3).

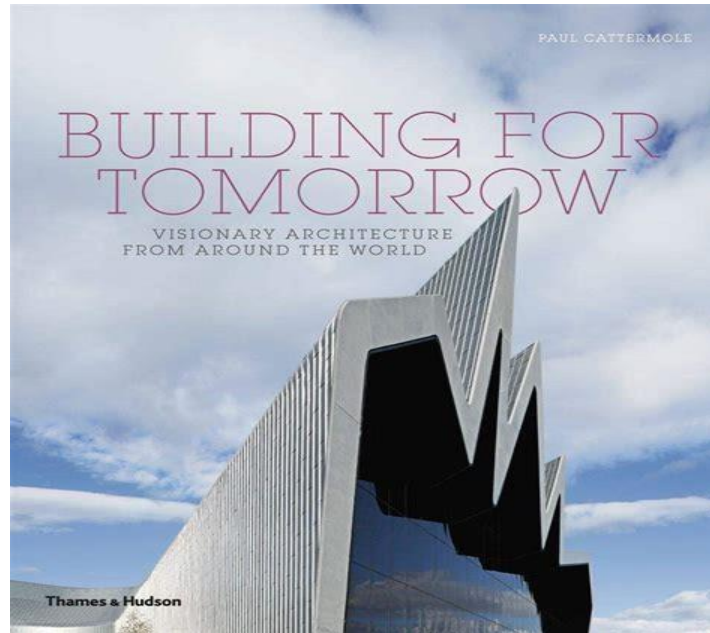


Figure 3. Designing for Exclusivity: The Role of Architecture in Luxury Retail

«New Retail: Architecture and Design» examines the latest trends in retail architecture, with a focus on innovation in design and technology. It explores how modern shopping centers and retail spaces are adapting to the demands of the digital age, where physical and online shopping experiences merge. The book discusses the growing importance of creating interactive, immersive environments that go beyond traditional shopping experiences. It also highlights the role of sustainability and environmental design in the creation of these spaces, emphasizing the need for efficiency and ecological awareness. Through a combination of architectural innovation and technological integration, the book suggests that retail spaces are evolving to reflect the changing needs of consumers, offering more than just products, but experiences that engage customers in new ways (Fig. 4).



Figure 4. Innovative Retail Design Merging Technology and Architecture for a New Consumer Experience

1.2. Analysis of practical experience of the formation of urban shopping malls

The development of luxury shopping malls reflects a meticulous balance between sophisticated architectural design, retail experience, and customer engagement. These spaces aim to offer a unique and exclusive environment that merges commerce with leisure, culture, and entertainment. Analyzing real-world examples allows architects, designers, and urban planners to gain insights into the challenges and opportunities involved in creating luxury retail environments that meet the demands of high-end consumers and the changing trends of the global market.

The Dubai Mall, located in the heart of Dubai's downtown district, is one of the largest and most luxurious shopping malls in the world. Opened in 2008, it features over 1,200 retail stores, making it a major attraction for both locals and tourists. Designed by the architectural firm Emaar Properties, the mall's design draws inspiration from the cultural heritage of Dubai, blending traditional and modern elements seamlessly. The mall includes not only high-end retail brands but also entertainment facilities such as an ice rink, an aquarium, a virtual reality park, and a massive indoor waterfall. The spacious, luxurious interiors with high ceilings and modern finishes create an extravagant shopping experience, while the layout encourages exploration and movement. Its prime location, adjacent to the Burj

Khalifa and other iconic landmarks, further enhances the mall's status as a global shopping destination (Fig. 5).

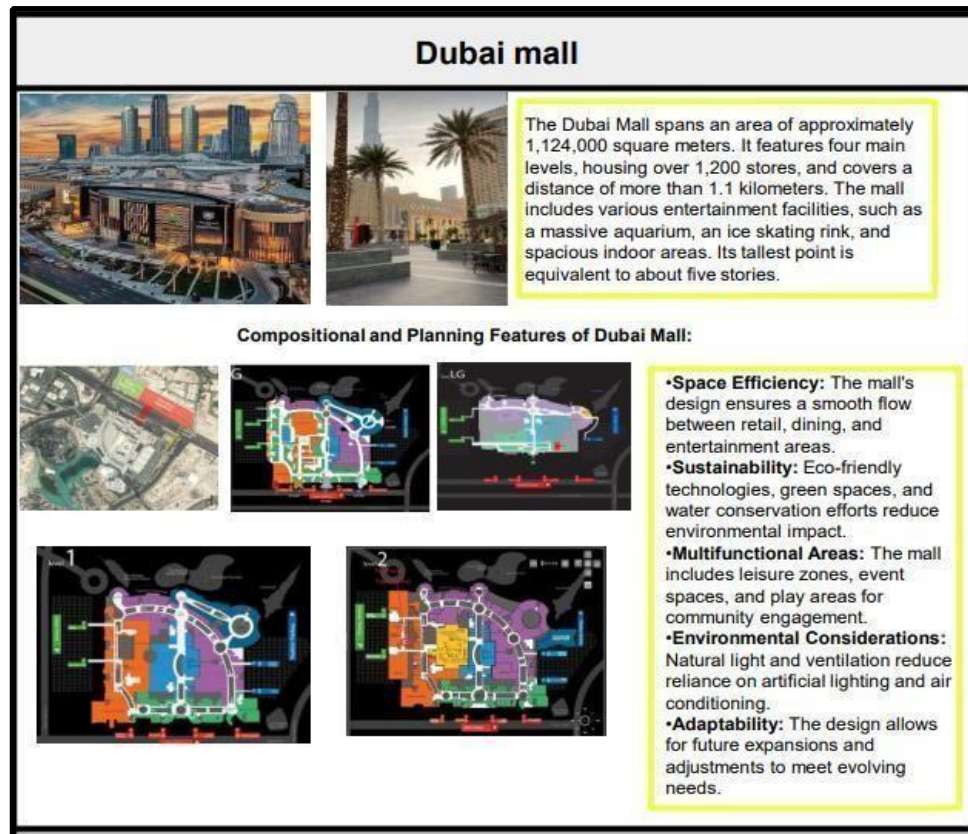


Figure 5. Dubai Mall: A Hub for Luxury Shopping, Entertainment, and Culture

Morocco Mall, located in Casablanca (Morocco), is the largest shopping center in the country and one of the most luxurious in North Africa. Opened in 2011, it offers a blend of high-end fashion, entertainment, and dining, attracting both local consumers and international visitors. The design of Morocco Mall draws from traditional Moroccan architecture, with elements like arches, fountains, and mosaic tiles combined with modern, sleek design features. The mall's exterior features a striking design with large glass facades, offering panoramic views of the Atlantic Ocean. Inside, the mall boasts a diverse array of luxury retailers, an aquarium, and even a marina, creating a dynamic environment that appeals to different tastes and cultural backgrounds. The integration of Moroccan cultural heritage with modern luxury makes this mall a landmark that reflects the country's growing presence on the global luxury retail stage (Fig. 6).

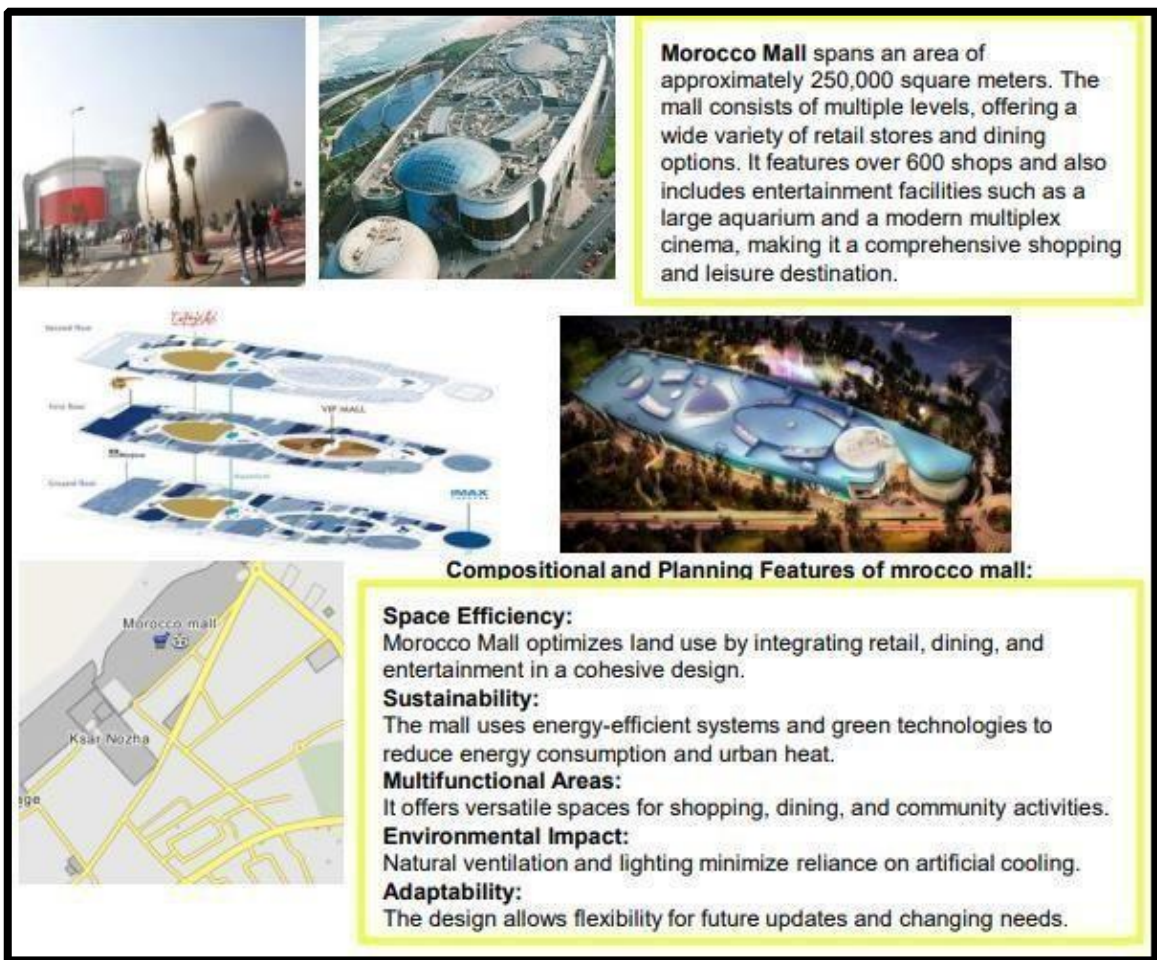


Figure 6. Morocco Mall: A Fusion of Traditional Moroccan Design and Modern Luxury

One Central Mall in Macau (China) is a symbol of luxury and elegance, strategically located near the Cotai Strip, which is known for its vibrant entertainment scene. Opened in 2009, the mall offers an exclusive retail experience featuring high-end international fashion brands, fine dining, and art galleries. Designed with modern, sleek lines, the mall incorporates large open spaces and elegant interiors that reflect the glamour of Macau as a global tourism and gaming hub. Its architectural design combines elements of contemporary Asian aesthetics with global luxury retail trends. One Central's design prioritizes accessibility and exclusivity, providing a seamless shopping experience in an environment that encourages both leisure and luxury. The mall has become a landmark for high-net-worth individuals visiting Macau for entertainment, leisure, and shopping (Fig. 7).



Figure 7. One Central Mall: Macau’s Gateway to Luxury Retail and Entertainment

Westfield Valley Fair, located in Santa Clara, California (USA), is a prime example of a luxury shopping mall catering to the tech-savvy and affluent consumer base of Silicon Valley. Renovated and expanded in recent years, the mall now features a mix of high-end; fashion retailers, upscale dining options, and exclusive services. The design focuses on creating an elevated shopping experience with bright, open spaces, modern architectural features, and sophisticated finishes. The mall also integrates the latest in technology, including virtual shopping experiences, personalized services, and immersive brand activations. Westfield Valley Fair’s proximity to major tech companies and its appeal to both local and international consumers make it a cutting-edge retail space that reflects the lifestyle and values of Silicon Valley’s affluent community (Fig. 8).



Figure 8. Westfield Valley Fair: Luxury Retail in the Heart of Silicon Valley

1.3. Factors influencing architectural formation of urban shopping mall

The creation of urban shopping malls is an intricate process characterized by a deliberate combination of elements associated with the urban, architectural, socio-cultural, and technological perspectives, as shown in the table below. The urban perspective guarantees that the mall operates as an extension of the city through incorporating the element of retail with that of public leisure areas and linking the structure to critical infrastructure in the urban setting. From the architectural perspective, the design must have a blend of elegance and versatility, with adaptive designs and use of sustainable and local materials that make the structure resistant to change in the market. Moreover, the socio-cultural perspective makes the structure a part of the community, creating opportunities for social interaction and representing

local culture through a thoughtful design. Additionally, technological advancements such as energy optimization systems and renewable energy sources enhance the performance of the mall, turning it into an environmentally friendly structure.

Table 1. Factors influencing architectural formation of urban shopping malls

Category	Factors
<u>Urban Planning Factors</u>	Urban Integration: Seamless city fit. Function Blending: Combines retail, leisure, and business. Linkage to Public Spaces: Connects to green areas. Infrastructure Support: Integrates with transport and utilities.
<u>Architectural Factors</u>	Balance of Design and Use: Aesthetic + functionality. Eco-Conscious Design: Uses natural elements. Adaptive Configuration: Flexible layout. Responsible Material Use: Local and sustainable materials
<u>Socio-Cultural Factors</u>	Public Spaces: Encourages social interaction. Universal Accessibility: Inclusive for all Local Identity: Reflects culture. Evolving Needs: Adapts to community changes.
<u>Technological Factors</u>	Smart Systems: Optimizes energy use Innovative Construction: Reduces waste. Clean Energy: Integrates renewable sources. Water & Waste: Uses recycling and composting systems

Conclusions to Section 1

In conclusion, the design of luxurious, sustainable, and multifunctional shopping centers is essential for the future of urban living. These centers enhance resource efficiency, foster community interaction, and prioritize environmental responsibility. By integrating commercial, recreational, and residential spaces, these centers contribute to building adaptable and resilient communities. Theoretical analyses highlight the growing significance of these centers, focusing on their flexibility, integration with eco-friendly materials, and energy-efficient technologies. Real-world examples like Morocco Mall and Westfield Valley Fair demonstrate how multifunctional and sustainable designs can reduce environmental footprints while enhancing urban life. Ultimately, successful projects rely on balancing urban planning, architectural design, social factors, and technological advancements to create sustainable and adaptable urban spaces

SECTION 2. FACTORS, METHODS AND PECULIARITIES OF THE ARCHITECTURAL FORMATION OF A SHOPPING MALL STRUCTURE

2.1. Modern trends in the formation of shopping malls

The architectural formation of a multifunctional shopping mall is shaped by a wide range of factors that intersect urban, economic, social, technological, and environmental dimensions. These factors collectively inform the spatial planning, design strategies, and functional integration within the shopping mall structure (Fig. 9), with modern trends governing what group of factors exercise greater influence.

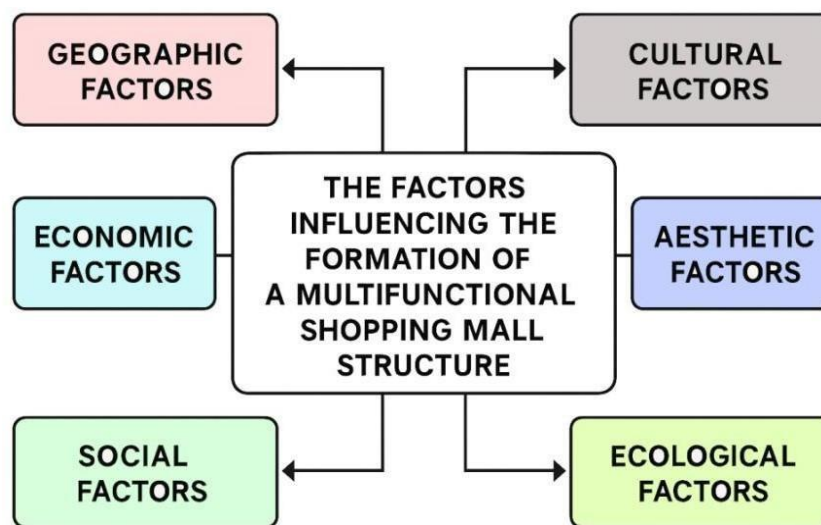


Figure 9. The factors influencing the design of a shopping mall according to modern trends in their formation

The geographic location of a shopping mall plays a critical role in determining its accessibility, visibility, and integration within the urban or suburban fabric. Site characteristics such as topography, climate, and proximity to transportation hubs influence design orientation, circulation, and façade treatments. Malls in warmer climates may emphasize open-air corridors or shaded arcades, while those in colder regions prioritize enclosed spaces with efficient thermal insulation. Additionally, integration with the surrounding context – whether urban core, coastal edge, or residential suburb – determines the mall’s role as a public hub or aregional destination (Fig. 10).

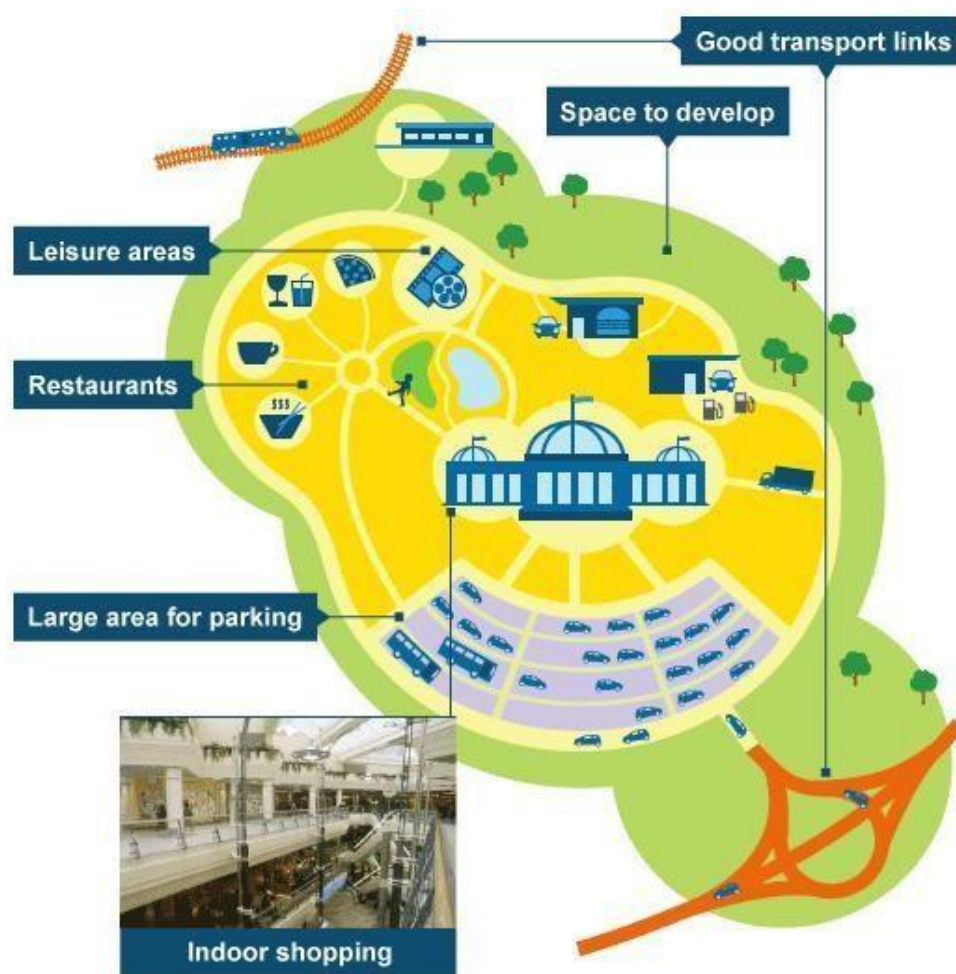


Figure 10. Influence of shopping mall location on its spatial organization

Economic feasibility underpins every decision in the development of a modern multifunctional shopping mall. Initial Investment includes land acquisition, construction, infrastructure, and regulatory compliance. Revenue Diversification is

essential, with income generated from retail leasing, food courts, entertainment zones (cinemas, game areas), co-working hubs, and event spaces. Operational Costs such as maintenance, staffing, energy, and security must be managed efficiently. Market Dynamics like consumer behavior, competition, and economic trends influence tenant mix and pricing strategies. Flexible Leasing arrangements and adaptable interior layouts help attract and retain a wide range of tenants, from flagship retail stores to local pop-up brands. A Return on Investment (ROI) is often achieved through a synergy of commercial, recreational, and experiential offerings that extend visitor dwell time and increase spending.

However, modern shopping malls are no longer mere retail spaces – they serve as social and cultural centers. Demographic Trends: Understanding the lifestyle, income level, and preferences of target users (families, teens, tourists, professionals) shapes the design and function mix. Community Engagement: Including public plazas, exhibition areas, or indoor gardens fosters a sense of community. Inclusivity: Malls should ensure universal accessibility, family-friendly amenities, and spaces for various age groups. Experience-Driven Design: Leisure areas, food zones should be designed as accessible and engaging.

A shopping mall becomes a vibrant social destination when it accommodates diverse user needs and fosters engagement beyond retail. A shopping mall can reflect the cultural identity of its locale by incorporating local aesthetics, materials, and traditions. Architectural Language: Design motifs and materials can echo regional heritage or historic landmarks. Cultural Programming: Hosting seasonal markets, art exhibitions, or local crafts fairs strengthens community ties. Gastronomic Diversity: Offering local cuisine in food courts or gourmet zones adds a cultural and sensory dimension to the shopping experience. By embracing cultural narratives, the mall enhances its uniqueness and emotional appeal (Fig. 11).

Visual impact is critical in drawing visitors and reinforcing brand identity. Iconic Architecture: Sculptural forms, landmark entrances, and distinctive skylines can position the mall as a city icon. Interior Ambience: Attention to lighting, color palettes, and material textures enhances comfort and visual richness. Wayfinding and

Landmarks: Clear spatial organization supported by visual cues aids navigation and exploration. Landscape Integration: Outdoor spaces, atriums, water features, and green zones enrich the spatial experience. Aesthetic strategies aim not only to attract but to inspire, inviting users to return frequently and share their experiences. Technology integration is central to the mall's operation, experience, and sustainability. Smart Systems: Automated lighting, air conditioning, and security improve operational efficiency. Digital Interfaces: Interactive kiosks, digital directories, and mobile apps facilitate user interaction. E-commerce Synergy: Click-and-collect zones and showrooming concepts blend online and physical retail. Construction Innovation: Modular structures and adaptive interiors allow for flexibility and quick adaptation to market changes.



Figure 11. Transforming Malls for the Consumers

In addition, last but not the least, sustainable design is increasingly essential in mall architecture. Energy Efficiency: Use of LED lighting, natural ventilation, and solar panels reduces energy consumption. Material Selection: Choosing recycled, low-emission, and locally sourced materials minimizes environmental impact. Water Management: Greywater recycling, low-flow fixtures, and rainwater harvesting are vital for sustainable operations.

2.2. Planning schemes of shopping malls

The formation of the architecture of a multifunctional shopping mall relies on a strategic combination of spatial organization, functional zoning, technological integration, and user-oriented design. One of the primary methods is functional zoning, where spaces are arranged horizontally or vertically to accommodate diverse functions such as retail, entertainment, dining, offices, and services. Anchor tenants – large, well-known stores – are strategically positioned to attract and distribute foot traffic, while circulation paths are designed to ensure smooth navigation and encourage exploration, often through looped layouts, atriums, and open corridors (Fig. 12).

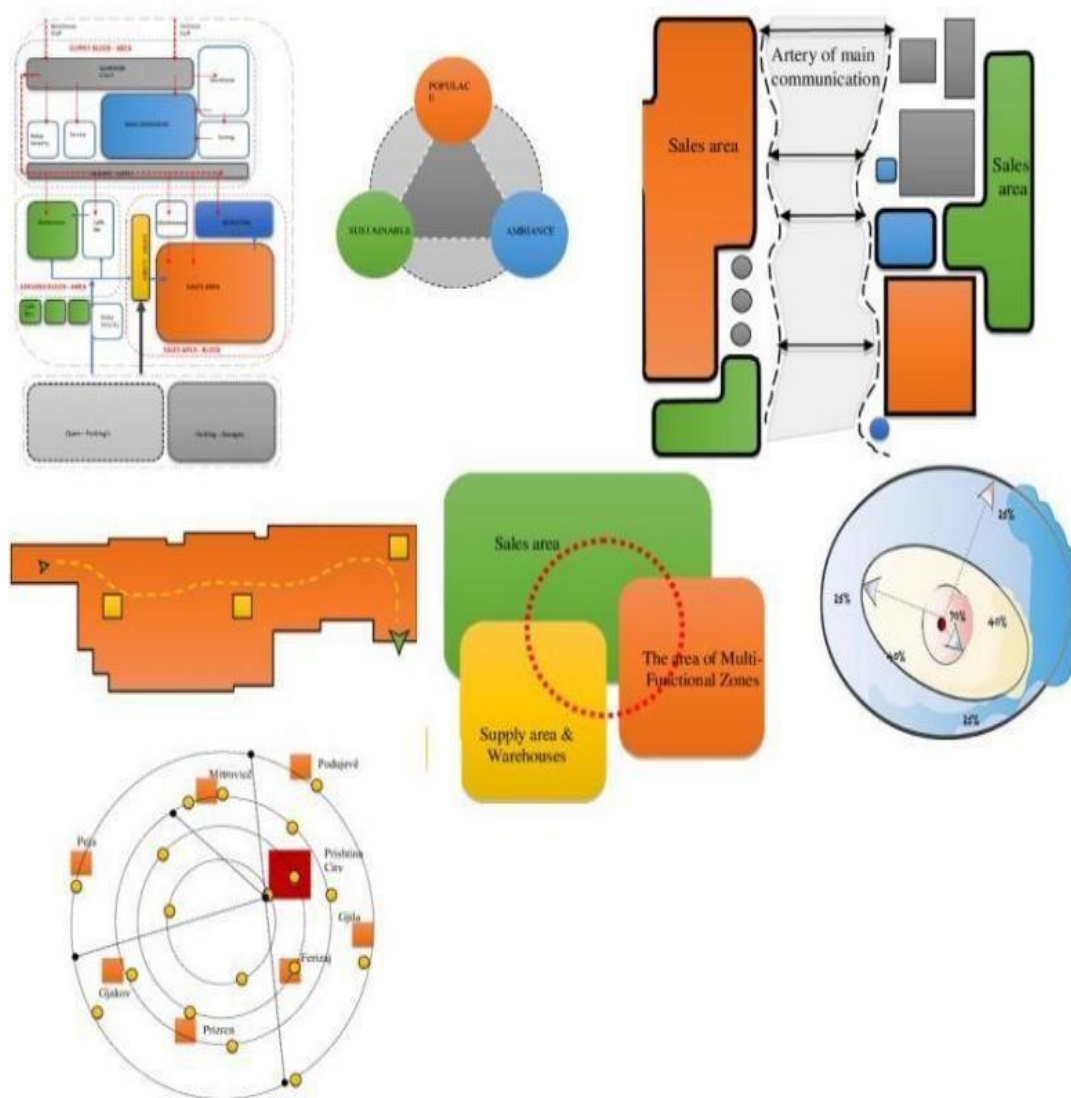


Figure 12. Shopping mall layout schemes

Another key method is mixed-use integration, which combines commercial spaces with complementary functions such as residential units, hotels, co-working spaces, or cultural centers, extending the mall's vitality beyond shopping hours. This mixed-use approach also supports social interaction and urban integration. Adaptive and modular design further enhances flexibility, allowing interior spaces to be easily reconfigured or expanded based on tenant needs or future market trends. The incorporation of smart technologies plays a vital role in modern mall design, including digital navigation systems, automated building management (HVAC, lighting, security), and support for omni-channel retail through pickup zones and interactive experiences. At the same time, experience-oriented design has become essential, with thematic zones, green courtyards, art installations, and event areas enhancing the emotional and social appeal of the mall (Fig. 13).



Figure 13. Smart building automation systems for modern infrastructure

Furthermore, the architectural design often embraces sustainability and biophilic principles, such as the use of passive design strategies, green roofs, and recycled materials, to reduce environmental impact and improve the quality of space.

Finally, contextual integration ensures the mall harmonizes with its urban or natural environment, promoting walkability, accessibility to public transport, and seamless connection to surrounding neighborhoods. These architectural methods work collectively to create multifunctional shopping environments that are efficient, adaptable, and attractive to a wide range of users. Peculiarities of architectural formation of shopping mall structures The architectural formation of shopping mall structures involves several peculiarities that distinguish them from other building types due to their multifunctional nature, commercial intent, and social impact. One of the most notable characteristics is the emphasis on flexibility – the design must accommodate evolving retail trends, tenant turnover, and shifting consumer behaviors. This requires modular interior layouts, adaptable storefront designs, and open-plan spaces that can be easily reconfigured.

Another unique aspect is the focus on experiential architecture. Malls are no longer just places to shop – they are lifestyle destinations. As such, the architectural language often incorporates large atriums, skylights, thematic zones, water features, and social hubs to enhance emotional engagement and prolong visitor stay. The use of transparent materials, dynamic lighting, and vertical connections (elevators, escalators, visual axes) contributes to an immersive and fluid spatial experience (Fig. 14).



Figure 14. Lakefront Shopping Mall in Zhuhai

Vertical and horizontal connectivity is also a critical feature. Large malls often span multiple levels, requiring carefully designed vertical circulation systems and visual continuity between floors to maintain orientation and visibility. Bridges, voids, and sightlines are strategically used to connect different parts of the mall and ensure smooth movement of people (Fig. 15).

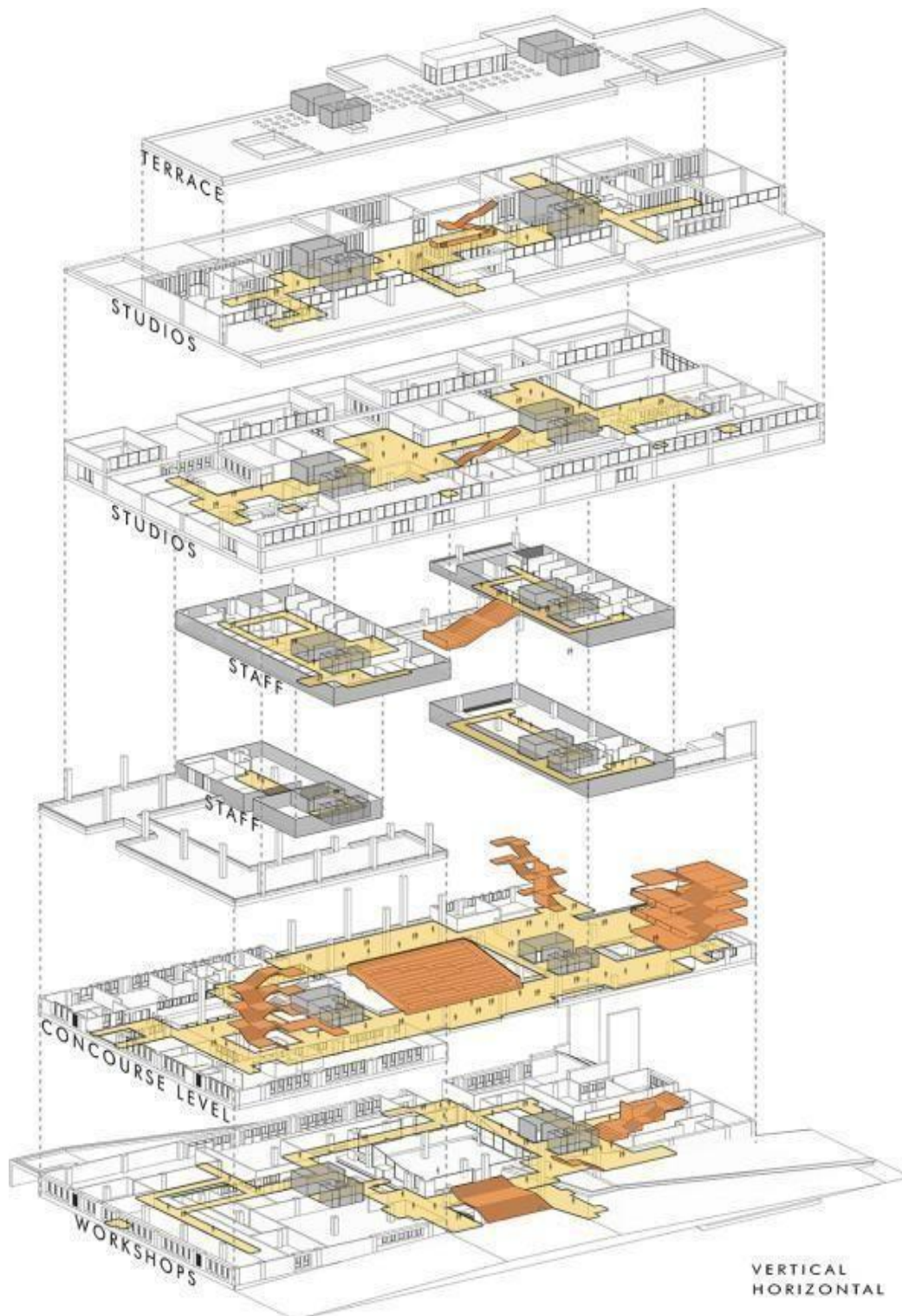


Figure 15. Scheme of a vertical and horizontal circulation

Another peculiarity lies in façade design and external integration. While interiors are optimized for circulation and retail exposure, the exterior must balance branding, accessibility, and contextual harmony. Iconic entrances, media facades, and plaza integration play a key role in inviting users and engaging with the urban or suburban context. Security and logistics planning also shape mall architecture. Separate zones for deliveries, storage, waste disposal, and emergency access are integrated into the building's core without interfering with the customer experience. Additionally, parking infrastructure – whether underground, multi-level, or peripheral – is a fundamental part of mall planning.

Finally, the role of sustainability has become increasingly prominent. Energy efficiency, daylight use, renewable energy sources, green spaces, and waste reduction systems are now essential elements in the design of responsible shopping centers, especially those seeking LEED or BREEAM certification.

2.3. Regional features in the architectural design of urban malls in Morocco

The architectural configuration of shopping malls in Morocco is a challenging amalgamation of the needs of modern global retail practices and the distinct socio-climatic character of the local urban environment. It is essential to move beyond conventional international designs that are typically based on the closed-box approach and adopt an approach that will take into account all the peculiarities of the local environment. Bioclimatic considerations play a crucial role in this respect. The use of materials with high thermal mass, dynamic facades based on solar principles, and spaces that are naturally ventilated will help reduce the effects of the local climate.

However, apart from being merely a functional entity, the design language of such malls usually seeks to find a link between modernity and tradition through the reinterpretation of regional aesthetics and the incorporation of transitional architecture elements. In particular, the use of semi-open-air plazas, green terraces, and light-permeating screens is a way of engaging in a dialogue with traditional regional architecture, thus creating a more open and inviting spatial environment. All

of this, coupled with the concern for proper integration into the local context, including urban walkability and public transport systems, helps ensure that the shopping center does not just function as a commercial venue, but rather becomes a social landmark that is integrated into the city fabric.

Conclusions to Section 2

Section 2 has explored the key factors, methods, and peculiarities that influence the architectural formation of multifunctional shopping mall structures. The formation of such complexes is shaped by a wide range of geographical, economic, social, cultural, aesthetic, and ecological factors. These elements not only determine the functional distribution and spatial layout but also impact the mall's identity, sustainability, and integration within the urban context. The section highlighted how methods such as functional zoning, mixed-use integration, technological advancement, and user-centered experiential design are central to shaping effective and engaging shopping environments. These methods ensure flexibility, economic viability, and adaptability in a rapidly evolving retail landscape. Moreover, the peculiarities of shopping mall architecture – ranging from modular layouts and immersive atriums to context-sensitive façades and integrated green strategies – underscore the need for a holistic approach. Shopping malls today are more than retail hubs; they are social, cultural, and economic landmarks that require innovative design thinking and sustainable planning.

Together, these insights provide a comprehensive foundation for understanding the architectural logic and future potential of multifunctional shopping malls, setting the stage for more responsive and resilient commercial environments

SECTION 3. APPROBATION OF METHODS FOR FORMING THE ARCHITECTURE OF URBAN SHOPPING MALLS WITH REGIONAL FEATURES IN MOROCCO

3.1. Analysis of the design territory for a modern shopping mall

The site being assessed is located in an active urban context and has an important role to play in the city of Agadir due to its key position along one of the city's principal urban corridors, where it serves as a connection point between different types of land use. The surrounding area has a high degree of functional diversity with a mix of residential, educational, service and administrative activities which will provide a solid base for the development of a new commercial entity that can be integrated into the day-to-day fabric of the city. The functional diversity that exists in this area allows the new development to cater to multiple groups of different types of users while allowing the commercial development to share functionality with the surrounding public realm. The site also possesses a significant degree of visual connectivity which provides the proposed building envelope with an opportunity to be viewed from a variety of distances therefore offering the potential for the project to serve as a recognized urban marker in the skyline (Fig. 16).



Figure 16. Scheme of the design site in the structure of the city of Agadir

The area around the proposed development is well balanced among different kinds of land uses including residential, educational, recreational, and commercial to help create an active urban environment that provides people with various daily activity opportunities. Residential land uses that are predominantly surrounding the project will ensure a stable user flow and support the commercial viability of the proposed development. Additionally, the close proximity to post-secondary institutions and the surrounding sports and recreation facilities provides diversity in the type of users who would frequent the area and add to the social interaction of the area. In addition, the presence of green-space contributes to enhancing the overall quality of the environment, and provides opportunities to create outdoor leisure and relaxation activities within the proposed development. Collectively, this diversity in land-uses will enhance the location of the site, and support the integration of the proposed development into the existing urban structure and establish it as a vibrant and attractive urban destination (Fig. 17).



Figure 17. Scheme of functional analysis of the design site

The network of pathways around the proposed site consists of a well-defined hierarchy of major and minor roads that will provide easy access to it and good connections to the urban area in which it is situated. The site has direct connections to major highways and primary streets within the city, allowing for efficient travel between various areas in the city and adding to the importance of the site. Additionally, the presence of secondary streets improves circulation within the local area and ensures that traffic is evenly distributed around the project boundaries. The availability of public transit stations close to the site further enhances the accessibility of the site and encourages the use of transportation types that are more environmentally friendly. Overall, this comprehensive and connected roadway system provides an ideal foundation upon which to develop multiple points of access and create well-organized circulation systems, thereby improving the functionality and daily viability of the proposed development (Fig. 18).



Figure 18. Scheme of traffic of the design site

The situational report identifies the project in a larger context that describes its connection to the surrounding community and how well the project relates to those connections through connections both physically and visually. The project's location has excellent access and through the means of transit systems (automobile / rail) has high potential for an influx of patrons into the development's exterior plaza spaces. In addition to the above advantages, the density of development in the surrounding area allows the project to have an opportunity to create strong architectural landmark facades and defined entrances to link the internal uses of the project with the outside landscape in a cohesive manner. The configuration of the site provides for the planning of dynamic transitional spaces that will help to manage the movement of vehicles and pedestrians on and off the property. The boundaries of the project will serve both an urban design and visual design function, thereby helping to provide visual cohesion and identity to the project as an important urban element, develop the project into a place that can serve as a critical hub of the surrounding community, and establish the project as a permanent part of the surrounding urban environment (Fig. 19).



Figure 19. Situation plan

Due to the numerous directions of visual openness, the site has many opportunities to create rich and dynamic facades that reflect the identity of the project (Fig. 20). The visual orientation of the project emphasizes important compositional axes that connect with both major and minor street views to aid in establishing strong contextual relationships with the architectural massing. The extent of visual openness on the site provides opportunities to strategically articulate the main entrances and focal points of the building through the use of transparent facades and lightweight materials to create clear visual axes that link the exterior and interior spaces of the building using transparent compositions that consist of glass and light materials. The existing street pattern and urban openings around the project will provide a highly dynamic backdrop to enhance the architectural composition of the project, whether through strong volumetric forms, regular geometric shapes, or a harmonious integration of vertical and horizontal elements. The combination of these visual structural characteristics will enhance the project's image as an active and well-integrated urban center within the larger context of the city.

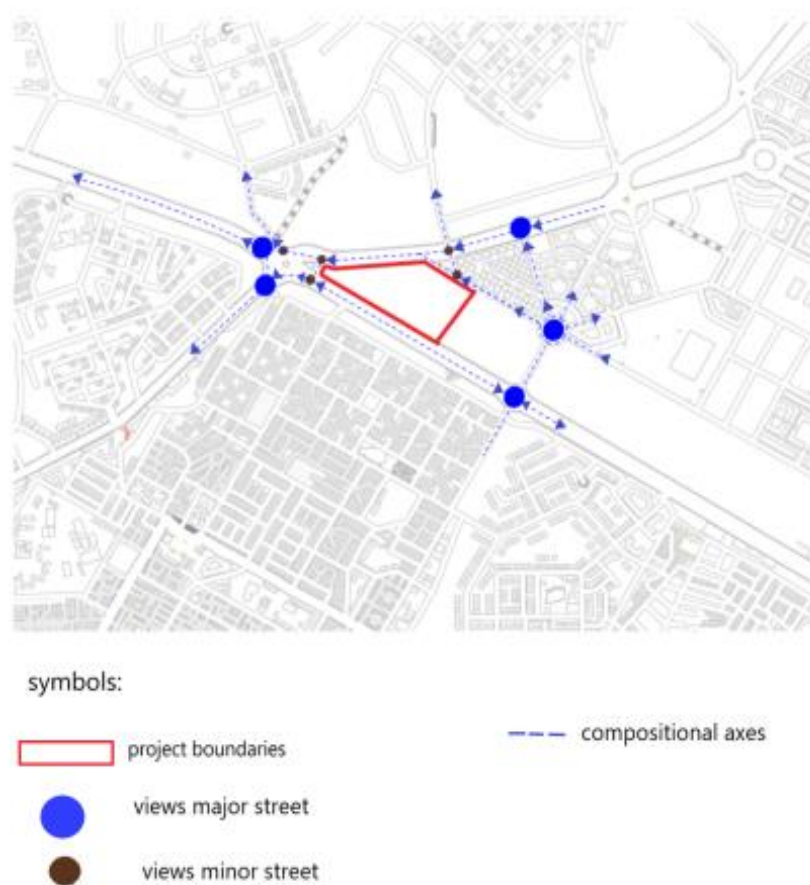


Figure 20. Scheme of composition planning of the design site

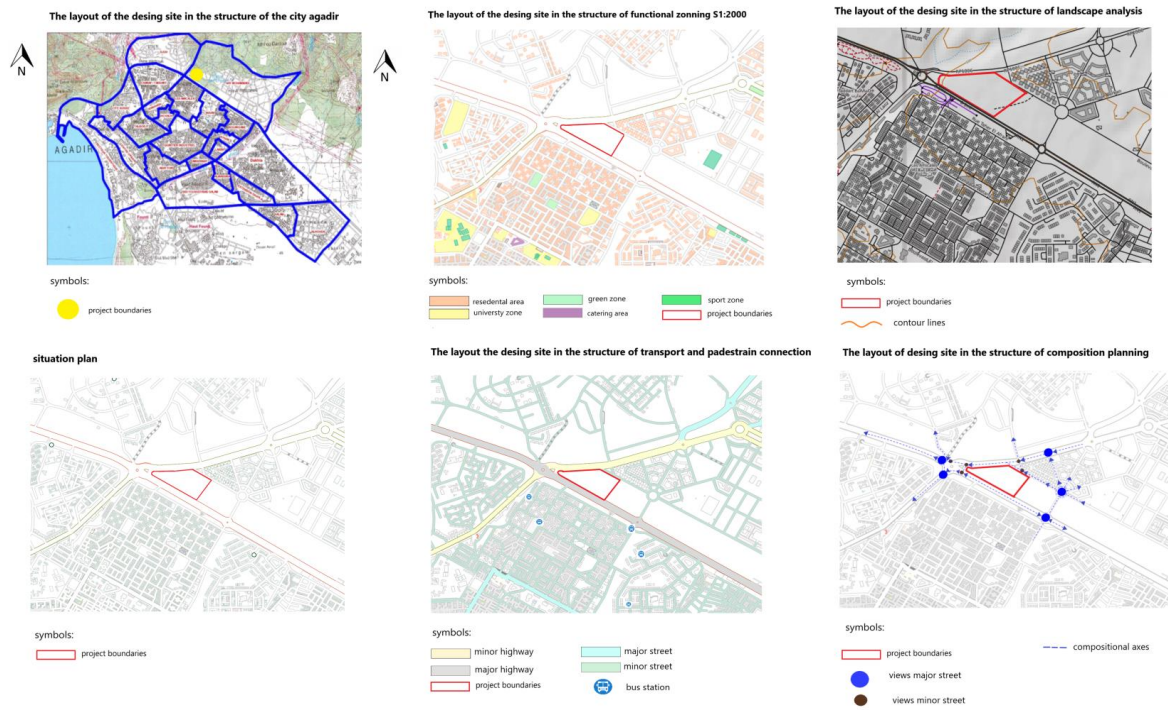


Figure 21. Site analysis study for the proposed development in Agadir, Morocco

3.2. The concept of spatial composition of the shopping mall in Agadir

The external elevations of this project create an overall unified architectural language that expresses the internal functional volumes as a vibrant urban wrapper by providing a balance between transparent glazing and functional solid mass.

The Main Facade (Elevation in axes 1 - 22) acts as the main public entry from the street. This facade expresses spirit through a highly transparent and dynamic composition while maintaining a strong geometrical rhythm with large systems of curtainwall framed by dynamic triangular structures and integrated screens (mashrabiya) that are parametric. The central entrance is a monumental structure that has a pronounced arch form at the entrance that extends upward through the upper level creating a visible landmark and inviting people to enter the mall (Fig. 22).

The Rear Facade (Elevation in axes 22 - 1) has a more pragmatic approach with respect to its solid volume, compared to the high levels of transparency at the front of the building. It is composed of regular structural spans and modular solid panels, which will support the back of house services and vertical circulation cores. The solid massing has been punctuated by controlled vertical bands of glazing which

allow daylight while maintaining the acoustic and thermal envelope of the building. (Fig. 23).

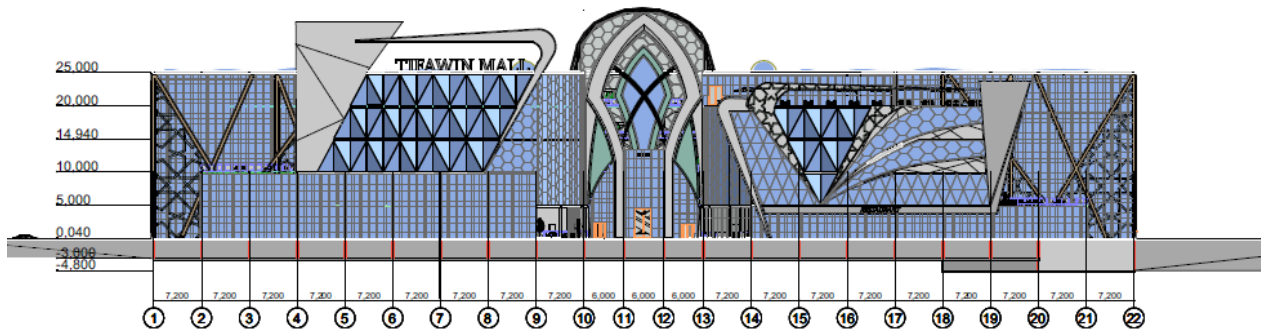


Figure 22. Elevation 1 – 22

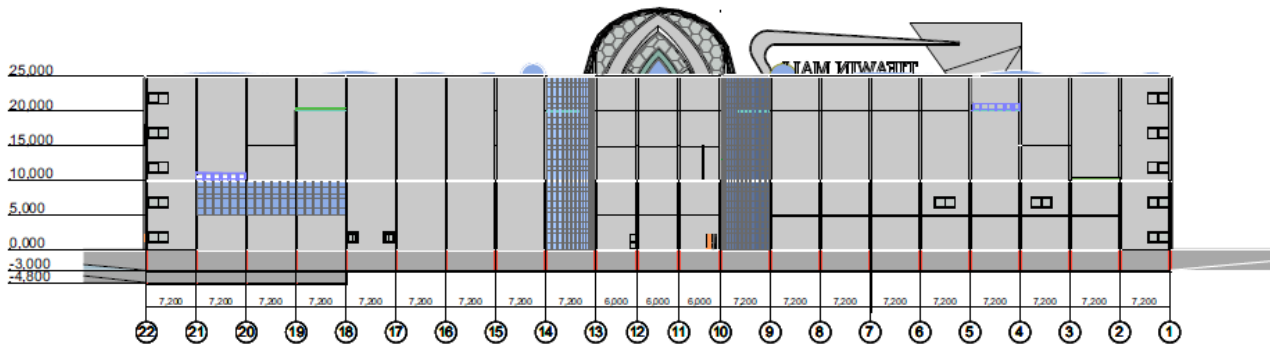


Figure 23. Elevation 22 – 1

The Elevation N-A creates an independent front and back of the building; both fronts display stepped volumes with a height of approximately 25m from the street level. Terraces have been effectively integrated into the landscaping on the north facade creating a microclimate, as well as reducing the visual mass of the concrete facade. The lightweight roof structure of the building has been designed as a space-frame to enhance the vertical expression of the roof and reinforce the contemporary high-tech character of the project (Fig. 24).

The Elevation B-N is the transitional element between publicly accessible commercial areas and service areas. The stepped design has provided for multiple terraces at various elevations, creating an open feel and a visual playfulness. Vegetation integrated into the terraces has softened the concrete appearance of the façade and increased the level of comfort for people using the site. The repetition of

geometric shapes created with the space-frame roof also defines the project as a modern architectural style (Fig. 25).

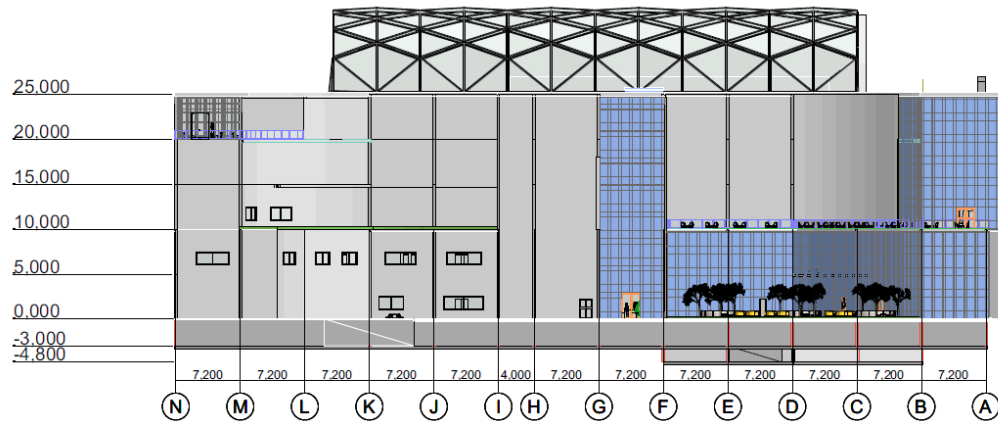


Figure 24. Elevation N-A

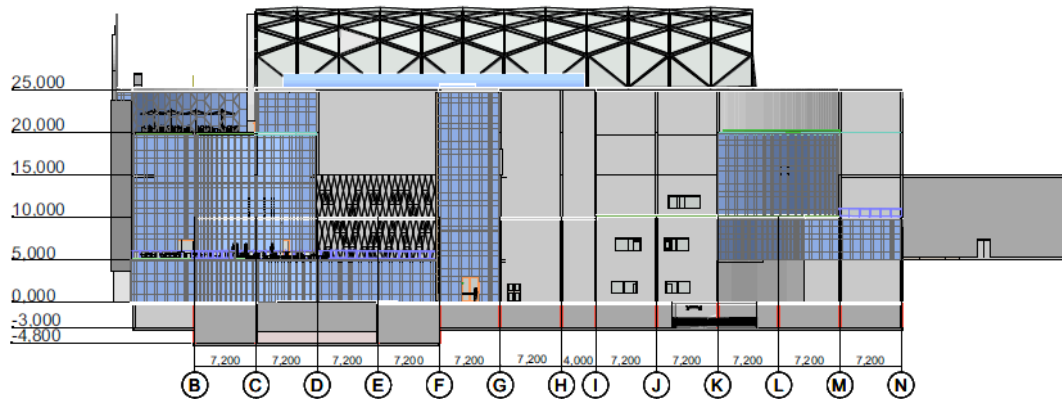


Figure 25. Elevation B-N

There is also a very formal organizational hierarchy for functional areas from the ground floor (0.05m) through the upper levels (5.00m; 10.00m; and 15.00m) where the functions are gradually moving from high volume/high traffic retail areas on the ground floor to low volume/low traffic entertainment areas/food courts on the upper floors; thus demonstrating a design approach for efficiently dispersing the visitors throughout the structural grid. This vertical organization greatly enhances circulation throughout the development; and the placement of vertical circulation devices - mechanical escalators; scenic elevators; and structural stairs - provides continuous and strong connectivity among the commercial levels that overlap (Fig. 26).

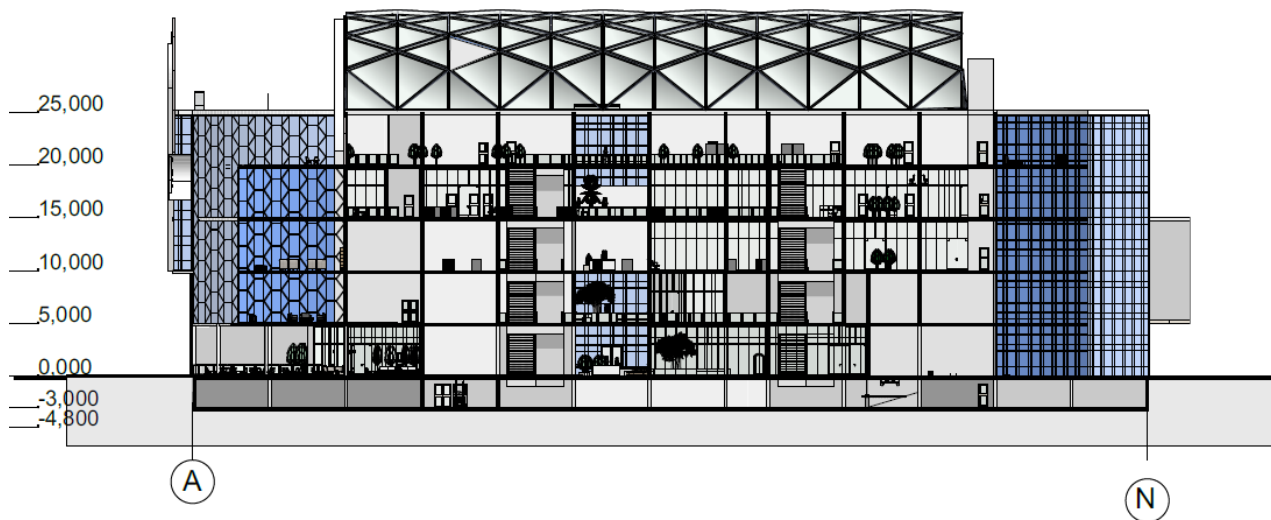


Figure 26. Section 1-1

3.3. Architectural planning and functional solution of the shopping mall in Agadir

The basement space serves as an area to park vehicles, store equipment and supply, and perform logistical tasks, with vehicle movement designed to be efficient for both vehicle circulation and separating service functions from the public areas of the building; therefore there are separate ramps for circulation, and the traffic flow in the basement is highly organized (Fig. 27).

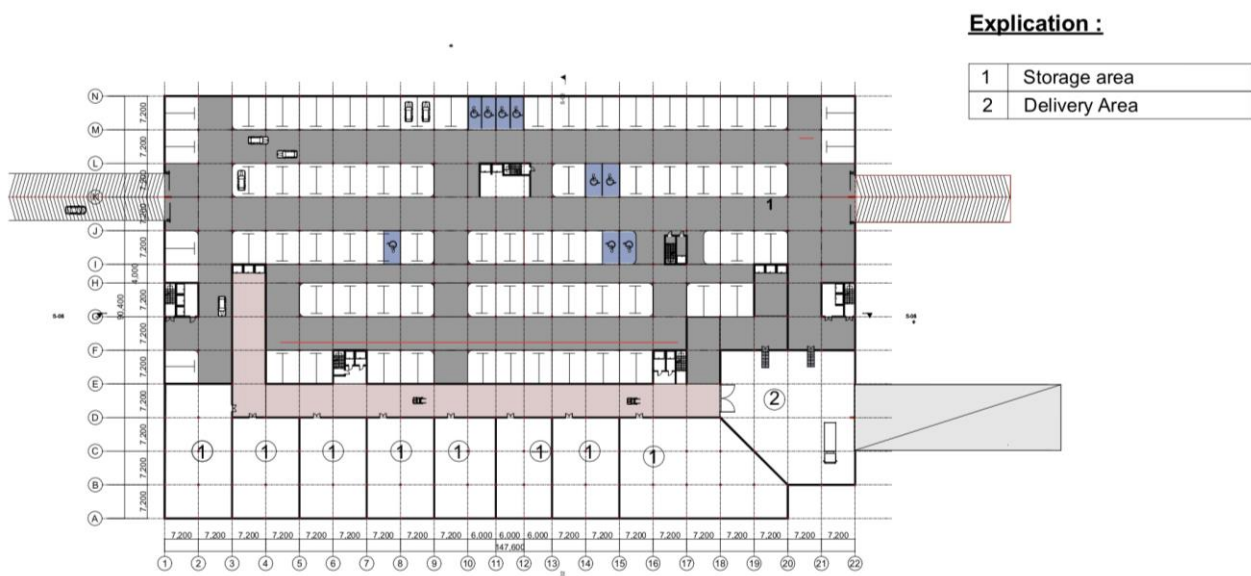


Figure 27. Basement Floor

The primary goal of the ground floor plan is to create a warm and inviting commercial space that provides retail, dining, and entertainment options. The commercial uses surrounding the central open space provide for easy communication and interaction between visitors and help to connect all areas of the building and create an enjoyable visitor experience. At the same time, there are service areas of sufficient size and separation from retail to facilitate the efficient operation of the services that support the visitors (Fig. 28).



Figure 28. Ground Floor

The first floor is dedicated to entertainment and recreation, with areas designed for large-format cinema complexes, gymnasias, and dining areas, as well as areas for administrative functions, storage, and other spaces critical to the efficient operation of the buildings. There are separate public leisure areas than the administrative and service areas (Fig. 29).

The second floor introduces a more quiet and refined character through the inclusion of a library and café/coffee shop, and retail areas, and enhance the building's cultural and educational experience, while maintaining the established architectural and functional relationship of all spaces throughout the building (Fig. 30).



Figure 29. First Floor



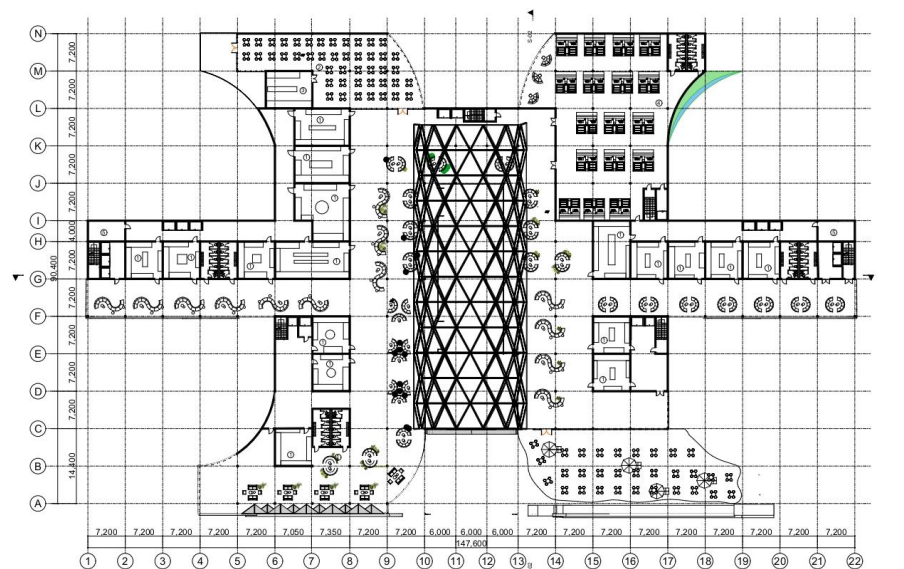
Figure 30. Second Floor

Third floor houses more shops and cafes together with entertainment in the form of bowling zone (Fig. 31) Fourth floor is designed for social and recreational use as well as food and beverage venues. The food/gaming area is the heart of this facility, with an expansive public food hall and gaming facility located around a large atrium designed to provide maximum natural light, space and the general customer experience (Fig. 32).



1.	Caffe
2.	Kitchen
3.	Shops
4.	Storage room
5.	Fitting
6.	Storage
7.	Bowling Zone
8.	Staff zone
9.	Cleaning products aisle

Figure 31. Third Floor



1	Food court
2	Caffe
3	Kitchen
4	Gaming Zone
5	Cleaning products aisle

Figure 32. Fourth Floor

Conclusions to Section 3

The new shopping mall designed for Agadir can potentially serve as a great addition to the city and adheres to modern-day architectural design principles for buildings such as these. The site analysis has shown that the site is easily accessible, there are many different functions, and it has good visibility, thus providing a dynamic, active urban location that will attract many different types of people among the users of the site.

The architectural form incorporates an expressive and modern-day façade design with a logical and equitable layout of spaces. The site has been designed with an appropriate method for traffic circulation, both horizontally and vertically, which enhances functionality and provides visitors with a comfortable experience moving between levels of the mall.

The combination of retail, cultural, and recreational facilities will provide the project with the ability to become a true multifunctional urban centre and enhance the development's social and economic value through its diverse use by many different types of people throughout the day.

In summary, the project relates equally to the use of its architectural form, along with its context in the city and landscape, and creates a definition of the Mall as a commercial property but also as a social, economic and spatial component of the city that contributes towards the future identity and vitality of the City.

SECTION 4. CALCULATION AND CONSTRUCTIONS

4.1. Location and climatic conditions of construction

The development site is situated at the very center of Agadir, providing a strategically advantageous location, commanding views of the main roads (National Highway 1). It is enclosed within the context of a comprehensive urban development that blends housing zones and sports facilities, providing good access and circulation from any point of the city.

Considering the classification according to Moroccan standards of thermal architecture, Agadir falls into the category of the first climatic zone – one of the most moderate zones in the Kingdom. This characteristic is mainly due to the city's favorable proximity to the Atlantic Ocean.

The even topography ensures great opportunities for efficient design solutions, allowing the architect much freedom in planning the layout of volumes and open spaces. As regards the climate, this place is characterized by a relatively moderate and

humid climate throughout the year. Winter season is warm and enjoyable, but summer season remains moderate owing to the influence of sea currents on this place. Annual average temperature in this location is about 18.6°C, whereas the average annual rainfall does not exceed 250 mm.

In addition, the place is characterized by relatively high levels of humidity and constant blowing winds from the northwest direction. These are two very important climatic factors that played an important role in determining the orientation of the building to facilitate natural air conditioning in this place.

These climatic features were taken into consideration when selecting the materials and making proposals for building solutions.

4.2. Architectural and structural solution

Architectural and structural considerations have been made in order to generate the functional multi-volume architecture of the Shopping Mall project. The plan includes the formation of a grand central atrium that provides a focal point in the structure for vertical circulation and navigation within the building.

The building contains six levels above ground level, which is accompanied by a basement level, making it a total of G + 5 structure. The height of each floor is consistently kept at 5.0 meters, ensuring a spacious interior volume suitable for modern commercial storefronts. Although the maximum height of the building is 25.0 meters, the maximum height of the domed roof is an impressive 34.543 meters, generating a distinctive profile in the urban landscape of Agadir. Structural systems involve reinforced concrete framework construction with an efficient grid system. This grid system makes use of varying spans depending on their purposes by making provision for large areas that make it possible to construct large halls and showrooms. In relation to the horizontal structure, reinforced concrete slab system is used whereby there is a thickness of 300 millimeters.

Foundation system is at a depth of 4.80 meters below the surface level. Foundation system will be constructed in a stable soil mass to ensure that both vertical

and lateral loads on the structure are taken care of through this system of height and span.

Structural system

The shopping mall has a structure made of a reinforced frame. This frame is made up of columns and beams (Fig. 33). We chose this system because it is very flexible. This is important for a place like the shopping mall that has many different things inside.

The columns and beams help make the inside of the shopping mall feel big and open. This makes it easy to set up shops and public areas like the atrium and showrooms. The shopping mall can be used in different ways without needing to change the structure.

The way the columns and beams are set up also helps spread the weight of the building. This keeps the building stable and strong with many floors. The structure can even support thick concrete slabs that are, up to 300 mm thick. It can also handle the weight of people using the shops (Fig. 33).



Figure 33. Diagram of the structural framework system (columns and beams)

The building has columns made of concrete. These columns are made to fit the needs of the building. They are set up in a pattern that works with the way each part of the building is laid out.

The system that holds the building up from side to side is made of beams and thick concrete floors. This helps to move the weight from the floors to the columns and then to the foundation of the building.

This way of building makes sure the whole building is stable. The building is very strong. Will last a long time, which is important for buildings that a lot of people use. The concrete columns and beams are a choice, for public buildings that need to be very strong.

Foundation

The building uses a concrete frame system. It has a grid of columns and beams that help keep the building stable.

- This frame helps make open floor plans possible.
- It also allows for use of interior space (Fig. 34).

The structure that holds the building up works well. It sends horizontal forces down to the base. The connections between the horizontal parts are strong. They help keep the building stiff and prevent it from changing shape. The frame and connections work together. They make the building strong and stable.

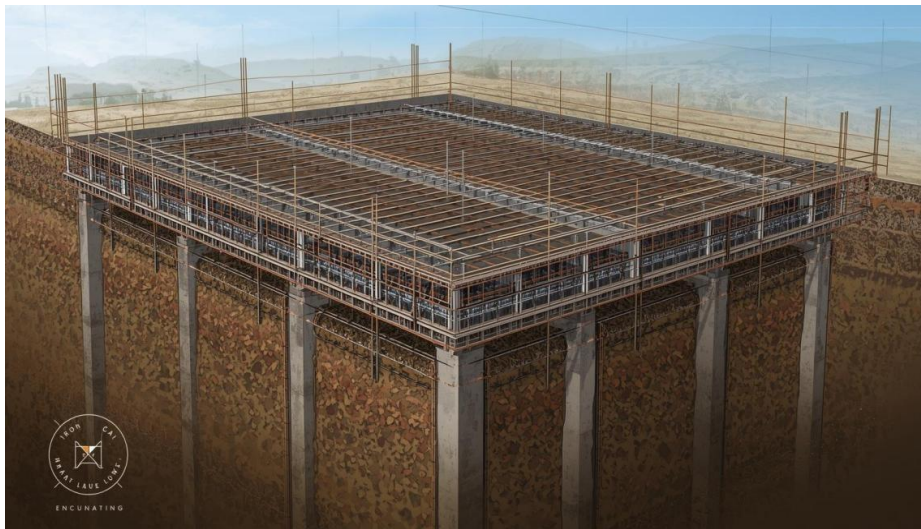


Figure 34. Structural Axonometric Foundations and Frame System

To make sure this building is stable it has a foundation system. Each column in the grid has a separate reinforced concrete footing under it. This footing helps to spread out the loads from the thick floor slabs into the solid ground.

These footings are also connected to each other with tie beams, which makes the base of the building stable. This helps to prevent the building from sinking and makes it resistant to forces coming from the side. The foundation system and the concrete frame above it work well together to create a structure. By spreading the

pressure across the ground the system ensures that the building will be safe and stable, for a long time. The foundation system and the concrete frame of the building work together to make the building strong. The foundation system helps to keep the building safe.

To make the foundation stronger and prevent the ground from settling between the blocks the footings are linked together with reinforced concrete tie beams. This makes the foundation more solid. Helps the building stand firmly.

Floors and slabs

The design of the floor system involves reinforced concrete slabs placed on top of the beams that belong to the structural framework system. As mentioned above, such design solutions allow efficient loads transferring from higher floors to columns and foundation while ensuring sufficient stability.

The choice of reinforced concrete slabs is defined by their durability and rigidity as well as their applicability in case of the construction of a highly loaded public facility like a shopping mall. Slab floors provide significant freedom in interior planning that is important for a mall to accommodate various showrooms and open commercial spaces.

The thickness of the slabs depends on their spans and other factors peculiar to each particular block and is enough for them to withstand high loads imposed by heavy commercial use of the premises while at the same time ensuring efficient construction. The floor slabs are capable of ensuring sound insulation and increase fire resistance which makes them suitable for commercial public buildings. Moreover, reinforced concrete slabs will guarantee sufficient durability of the facility which is important due to its frequent use. This kind of flooring is perfectly suited for the project's structure.

Geodesic Atrium Structure

The central atrium has a cool geodesic space frame on top (Fig. 35). This special frame was chosen to make the space inside the building feel big and open with no columns to block the way. This means that lots of light can come in and make the interior feel nice and bright.

The system uses a steel grid that is shaped like triangles. This grid is connected by steel nodes that help spread the weight of the building evenly across the curved shape. The main structure is also supported by ribs that help hold everything together and keep it stable. These ribs are like the bones of the building and they help direct the forces of the weight into the main concrete frame.

To keep the temperature comfortable, inside the atrium the building is covered with glazing panels. These panels have filters that block out the strong sunlight and keep the space from getting too hot while still letting in plenty of natural light and views of the outside. The atrium has high-performance glazing panels that let people see outside clearly which's important for the buildings atrium. The atriums glazing panels are designed to work with the rest of the buildings systems to make a comfortable space.

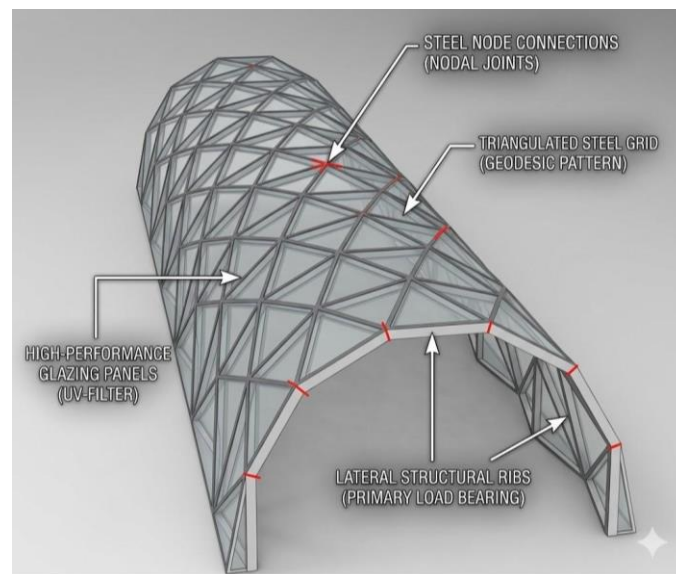


Figure 35. Technical decomposition of the geodesic space frame Technical Detail of the Green Terrace System

The project uses an idea of adding green spaces to the building by making terraces that people can walk on at different levels. This is done to make the air feel fresh and clean for people who visit. By making these "terraces" the building takes advantage of Agadir's nice weather near the coast using plants to clean the air from the sea and give shade, which makes people feel comfortable without needing a lot of air conditioning.

The system is made up of layers on top of the strong concrete base of each terrace. Each part was chosen to handle the humid air near the coast and keep the building safe from water damage while also helping plants that grow in the area.

Technical Analysis of the Terrace Green System

The terrace is made up of the following layers (Fig. 36):

- Structural Base: A 30 cm thick concrete slab that can hold the weight of the soil and people on the terraces.
- Water and Vapor Insulation Layer: A bitumen layer that keeps the concrete base dry and safe from the humid coastal air so the levels below do not get damp.
- Thermal Insulation Layer: A insulation layer that keeps the temperature inside the building comfortable whether it is a hot sunny day or a cool evening near the coast.
- Root Protection Layer: A membrane that protects the waterproofing system from plant roots.
- Drainage and Filtration Layer: A drainage layer that helps water from irrigation and rain flow easily which is important, for keeping the plants on the terrace healthy.
- Vegetation Layer: A light layer of soil that supports the plants on top, which are chosen because they can handle the coastal weather and look nice in the malls environment.

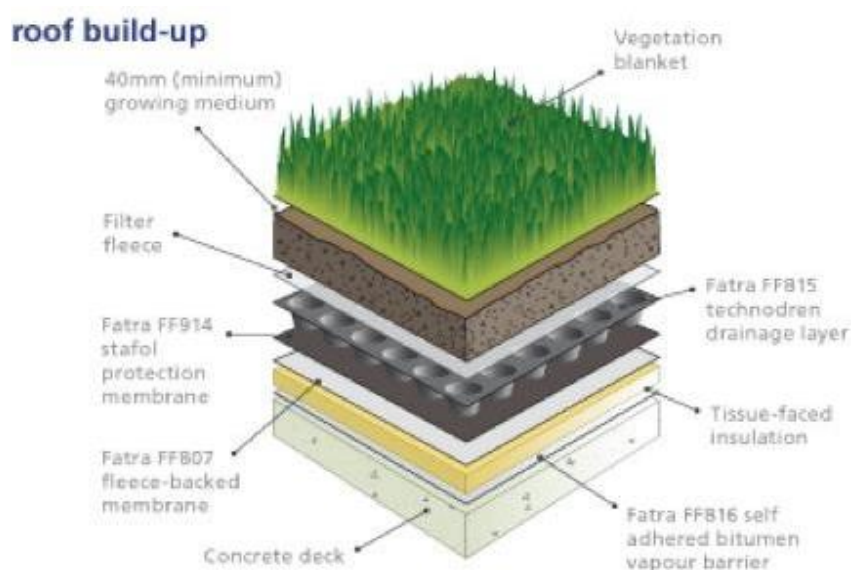


Figure 36. Technical cross-section of the green terrace build-up layers

The terrace green system is designed to work with the green terraces and the green terraces are an important part of the buildings design. The green terraces and the terrace green system are helping each other to make the building a comfortable and nice place to be.

	Element	Density(kN/ m ³)	Thickness (m)	Load(kN/ m ²)
1	Vegetation and Soil	18.0	0.15	2.70
2	Drainage and Filter Layer	12.0	0.08	0.96
3	Thermal Insulation	0.6	0.10	0.06
4	Waterproofing and Root Barrier	10.0	0.02	0.20
5	Reinforced Concrete Slab	25.0	0.30	7.50
6	Total Constant Load (G)			11.42
7	Temporary Loads			
8	Public Occupancy	-	-	1.5
9	Maintenance & Wind Loads	-	-	1.00
10	Total Temporary Load (Q)			5.00
11	Total design Load			16,42 KN/m ²

Analysis of the structural solution of the facade

The front wall of the mall is made with a glass system shaped like triangles (Fig. 37). These triangular glass pieces sit on top of the concrete blocks that have zigzag edges. This makes the wall look like it is folded. The glass is supported by the concrete all the way.

This special shape helps keep the mall cool. When the sun is high in the sky over Agadir the triangles stick out and cast shadows on the glass below. This keeps the mall from getting too hot.

The best part is that the glass remains transparent. There are no columns to block the view. From inside of the mall one can see all the light and look out at the city and the coast outside.

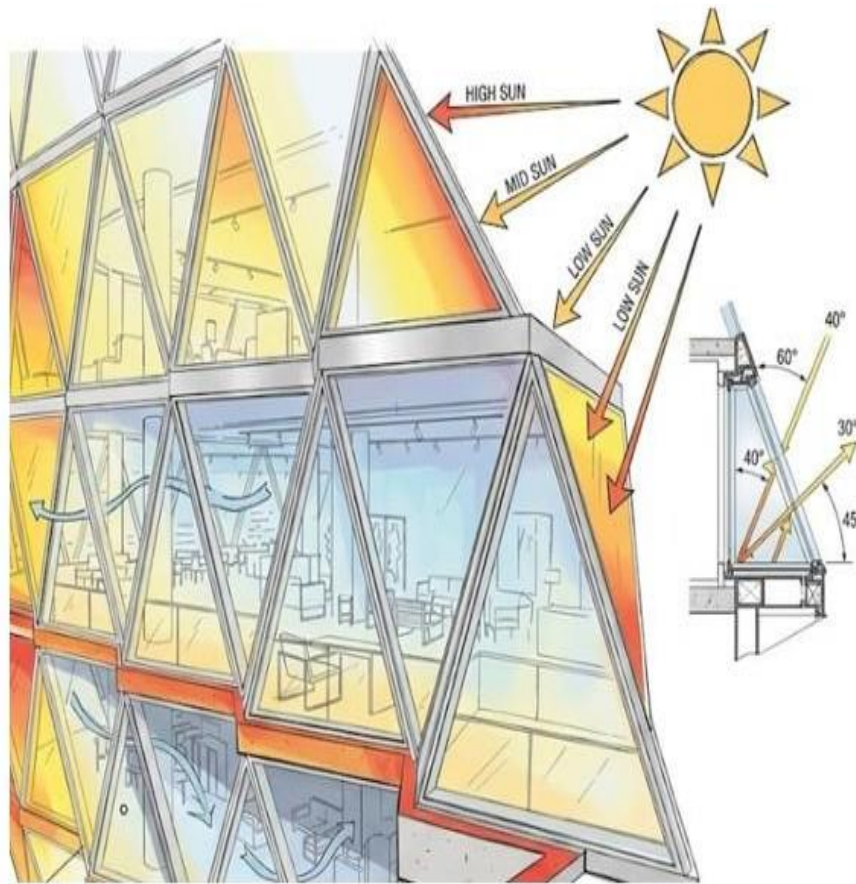


Figure 37. Solar Analysis of the Triangulated Facade

Conclusions to Section 4

It has been shown that in the technical analysis of the project, there is an interrelation between structural needs and the weather conditions of Agadir. The employment of a reinforced concrete frame structure makes it possible to provide flexible space in order to meet all functions of the building while being highly stable due to a foundation consisting of footings with tie beams on sandy soil. Moreover, this structural strength is combined with the unique architectural solutions of the building, including a triangular glass curtain wall, which promotes natural lighting and thermal regulation of the interior. The presence of green roof terraces adds to thermal mass and makes the building sustainable.

SECTION 5. OCCUPATIONAL HEALTH AND SAFETY

5.1. Occupational Health and Safety Regulations

Occupational health and safety are an integral part of the design and operations of contemporary shopping malls. Such types of buildings host many visitors, employees, maintenance personnel, and other services providers daily. Thus, it is vital to ensure safety regulations to create safe and healthy environments for all parties.

Management of occupational safety in shopping malls includes application of international standards and construction safety regulations, including risk identification and management, prevention of accidents, fire protection, and emergencies.

International Labour Standards

Several conventions related to occupational health and worker safety were developed by the International Labour Organization. One of them, the Occupational Safety and Health Convention No. 155, highlights the need to identify hazards in the workplace and enhance working conditions in order to prevent occupational risks.

Occupational Health and Safety Management Systems

ISO 45001 is the standard issued by the International Organization for Standardization that defines requirements for the implementation of Occupational Health and Safety Management Systems.

Fire Safety and Building Codes

For commercial buildings such as shopping malls, there should be adherence to the fire safety code relating to the use of:

- fire-resistant building materials;
- smoke ventilation facilities;
- sprinklers and smoke detectors;
- emergency exit routes;
- emergency lighting facilities;
- accessibility and safety.

Shopping malls also require compliance with the standards that ensure that everyone who uses the facility can have access and navigate easily, especially those individuals with limited mobility. This would include ramps, elevators, emergency stairways, signage, and escape routes.

Through adherence to the above requirements, one can enhance the safety of commercial properties

5.2. Identification of potential hazards in the shopping mall

Malls offer a variety of purposes ranging from retail outlets to eating joints, entertainment centers, basement car parks, and services areas. The multipurpose structure gives rise to various types of possible risks.

Slips, Trips, and Falls

The risks of accidents related to slipping or falling are one of the most frequent dangers in shopping malls. Water spills, damaged pavement, cleaning operations, obstructions in passages, and poor lighting are likely to cause such accidents.

Fire Risks

Shopping malls include electrical installations, food services, warehouses, and other items that can be responsible for the start of fires. Faulty electrical installations, overheated devices, or incorrect handling of flammable materials can pose dangers.

Electrical Dangers

The electrical installations that power illumination, escalators, elevators, air conditioning units, and security systems can pose threats if not adequately maintained or installed improperly.

Accidents Involving Escalators and Elevators

The transportation of people between floors in multi-story shopping centers requires using escalators and elevators. Malfunctioning equipment, overloading, or misuse can result in accidents.

Parking Area and Traffic Risks

The parking garages and service roads inside shopping malls are sources of danger because of vehicle traffic, pedestrians, low visibility, and congestion.

Ventilation and Smoke Hazards

For large enclosed commercial spaces, proper ventilation is crucial. If there are emergencies, including fire emergencies, smoke can pose risks to occupants by reducing their ability to see when evacuating.

Hazard from Biological Sources

Commercial spaces crowded with people make the transmission of diseases more likely. This is possible within spaces such as food courts, sanitary facilities, and waiting rooms.

Hazards of Evacuation

There could be difficulties in evacuating from commercial spaces due to the complexities in movement routes coupled with high occupation rates.

Risk Assessment and Prevention Techniques

It is important to carry out the risk assessment in order to determine the probability and level of the threat that can be associated with shopping centers. Risk level will be computed on the basis of the following formula:

$R = P_a \times Q$, where:

P_a = probability of occurrence;

Q = degree of consequences;

R = risk level.

The results of the assessment are summarized below (Fig. 38, Table 5.1).

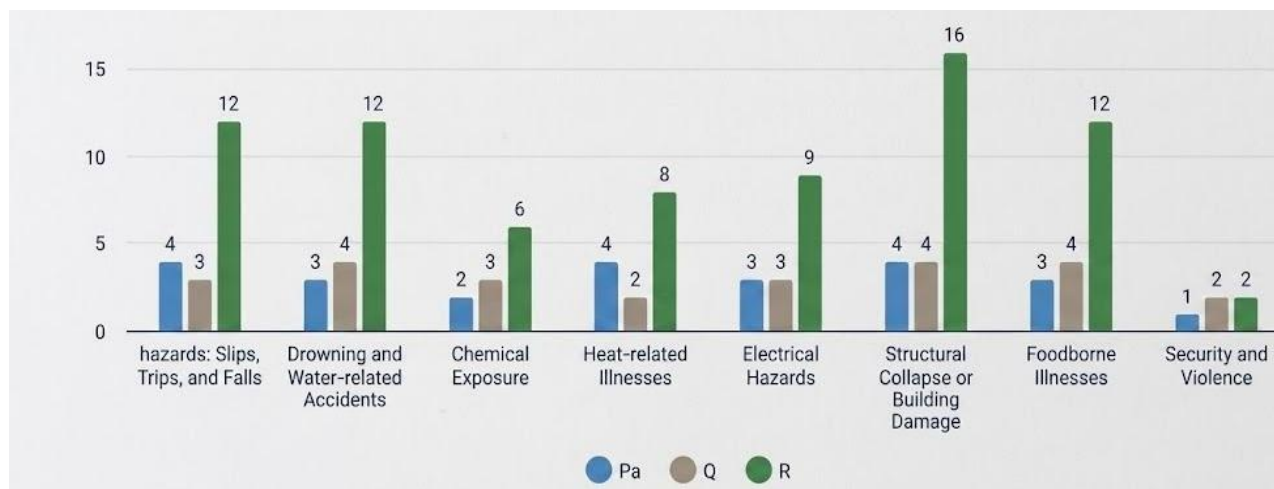


Figure 38. Risk assessment for the shopping mall

Table 5.1. Risk assessment

Risk	Pa	Q	R
Slips, Trips, and Falls	4	3	12
Fire Hazards	5	5	25
Electrical Hazards	3	4	12
Escalators and Elevators	3	3	9
Parking Hazards	4	3	12
Ventilation Hazards	3	4	12
Biological Hazards	2	3	6
Emergency Evacuation Hazards	4	5	20

Fire Safety Features

- Installation of automatic fire detection alarms;
- Installation of sprinklers and smoke evacuation systems;
- Utilization of fire-retardant material;
- Provision of clear signage of emergency exits.

Anti-Slip and Fall Hazard Controls

- Utilization of slip-resistant floorings;
- Proper maintenance and cleaning procedures;
- Sufficient lighting for circulation spaces.

Electrical Hazards Preventions

- Periodic inspection of electrical system;
- Installation of emergency power generators;
- Protection of electrical appliances and wiring.

Elevators and Escalator Safety Features

- Provision of periodic maintenance activities;
- Provision of emergency stops;
- Monitoring and surveillance systems.

Park Safeties

- Systematic movement of vehicles;
- Footpath for pedestrians safety;
- CCTV Cameras and Signage.

Ventilation and Indoor Air Quality Management

- Mechanical ventilation systems;
- Extraction of smoke;
- Indoor Air quality management system.

Biology Safeties

- Cleaning and Sanitation practices;
- Sanitizing stations;
- Waste management system.

Evacuation Measures

- Diversified exit paths;
- Safety of the emergency staircase

5.3. Safety in emergency situations

When we think about shopping malls we have to remember that a lot of people are there at the time. This is why being ready for emergencies is so important when it comes to managing a shopping mall. Shopping malls have a lot of people in them. There are many things going on so emergency preparedness is really necessary, for shopping mall management.

Fire Emergencies

When a fire emergency happens it can be because of something like a problem with the electricity or an accident, in the kitchen. We need to get out of the building away and do something to stop the fire. This helps to reduce the damage. The number of people who get hurt.

Medical Emergencies

Sometimes people who are visiting or working at the mall might need help from a doctor fast. This can happen because of an accident or a health problem. So we need to have a place where we can give care and get medical help quickly.

Security Threats

There are things that can happen at the mall that're not safe like someone leaving a suspicious package or someone stealing something. To keep everyone safe we have people watching on cameras and security guards walking around.

Technical Failures

If the power goes out or the elevator stops working it can be very dangerous and disrupt everything. The same thing can happen if the air system is not working right.

Natural Disasters

If there is a storm or an earthquake we might need to leave the building right away and close it for a little while.

Emergency Response Procedures

- Activation of the emergency alarm systems to alert everyone.
- People are guided towards the emergency exits so they can get out safely.
- Use of emergency lighting systems to help people see in the dark.
- Close contact with emergency services like police, fire and ambulance.
- Public announcements to keep everyone informed about whats happening.
- People are evacuated to designated assembly areas where they can be safe and accounted for.

Conclusions to Section 5

Occupational health and safety are essential elements in the architectural planning and operation of shopping malls. The multifunctional character of these buildings and the large number of users require effective risk management strategies and emergency preparedness systems.

The application of international safety standards, fire protection measures, evacuation planning, and preventive maintenance contributes to creating safer and more efficient commercial environments. Through proper safety management, shopping malls can improve user protection, operational reliability, and overall building sustainability.

GENERAL CONCLUSIONS

The architectural design of the contemporary luxury shopping mall goes way beyond the mere creation of commercial retail spaces. Shopping malls today serve as all-purpose urban spaces that incorporate both shopping and leisure activities in one architectural space. Their success is dependent on the synergy of architecture, functionality, technology, environment, and user comfort.

As revealed through theoretical analysis, shopping mall architecture has evolved from being a simple economic space to a complicated urban place defined by evolving consumer behavior, globalization, and technological advancements. Such spaces should be designed for economic functions as well as social, cultural, and experiential goals.

It has been shown through the practical analysis of international cases that effective luxury shopping complexes combine sophisticated architectural approaches, mixed use, sustainability practices, and innovative spatial design. This indicates that flexibility, intelligent technology usage, strong visual identity, and contextual considerations have become critical factors in retail architecture.

The proposed shopping mall design in Agadir represents these modern principles by virtue of its strategic urban placement, architectural configuration, zoning, circulation, and environmental design solutions. The design unifies all these elements in one building, thereby increasing its significance as an urban landmark in the future. The inclusion of green terraces, natural light solutions, smart systems, and sophisticated structural solutions helps in achieving these objectives.

In conclusion, the study shows that the future of shopping mall architecture should involve the creation of flexible, sustainable, and experiential spaces that take into account the fast-changing urban environment. Luxury shopping malls have become much more than mere shopping buildings. They are dynamic centers of social and economic activity that make important contributions to the identity and development of modern cities. With the help of careful architectural planning and creative design ideas, these multi-purpose centers will be able to make an important contribution to urban development in the future.

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