

18ARC101 ARCHITECTURAL DESIGN PROJECT THESIS
2023- 2024

AI - THE UPRISING

**THESIS REPORT
DECEMBER 2023**

A project report submitted in partial fulfillment of the requirements
for the degree of
BACHELOR OF ARCHITECTURE (B.ARCH.)



R V College of Architecture
(Affiliated to Visvesvaraya Technological University, Belagavi)

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AUGUST- DECEMBER 2023



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DECLARATION

I, Dishita Goel, USN , 1RW19AT035 hereby declare that the Thesis Titled **AI (Artificial Intelligence) - The Uprising** submitted me, in partial fulfilment of the requirement for the award of Degree of Bachelor of Architecture as per the university norms, to R V COLLEGE OF ARCHITECTURE, BENGALURU, is a record of my original work with credits given for information collected from any other source.

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CERTIFICATE

This is to certify that the thesis project entitled AI (Artificial Intelligence)- The Uprising is a bonafide work carried out by Dishita Goel.

EXAMINERS:	INTERNAL	EXTERNAL 1	EXTERNAL 2
SIGNATURE			
DATE			

Dishita Goel towards partial fulfilment of the requirements for the Degree of Bachelor of Architecture
AUGUST TO DECEMBER 2023.

We recommend that the thesis be placed before the examiners for their consideration for the award of Bachelor of Architecture Degree.

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This thesis is a collective effort, and I am truly thankful to everyone who has been a part of this journey.

Dishita Goel
Bengaluru, December 2023

Terms & Abbreviations Used

Acre: The acre is a unit of area used. An acre is about 40% of a hectare , slightly smaller than an American football field. The acre is no longer used except in a few countries. As of 2010, the acre is no longer officially used in the United Kingdom but is still often seen on estate agents' boards. The most common use of the acre is to measure tracts of land. One international acre is defined as 4046.85 square metres.

Square Metre: The square metre (International spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is unit of area in the International System of Units (SI) with the symbol m². It is the area of a square with sides one metre in length.

GHMC: The Greater Hyderabad Municipal Corporation (GHMC), established in 2007, serves as the keystone in steering the rapid urbanization and development of Hyderabad, Telangana's capital. Operating under the GHMC Act, 1955, the corporation holds jurisdiction over Hyderabad and adjacent municipalities, overseeing a vast expanse undergoing continual growth. GHMC's multifaceted role encompasses urban planning, essential municipal services, property tax collection, building regulations, street lighting, traffic management, community development, and public health initiatives. In the face of challenges posed by burgeoning population and urban complexities, GHMC continually adapts its strategies. It stands as a dynamic force, striving to balance development with sustainability, address traffic congestion, and implement smart infrastructure solutions, ensuring the well-being and progress of Hyderabad and its residents.

HMDA: The Hyderabad Metropolitan Development Authority (HMDA) is a key administrative body entrusted with the responsibility of planning, coordinating, and supervising the development of the Hyderabad Metropolitan Region (HMR). Established in 2008, HMDA operates under the HMDA Act, 2008, and covers an extensive area that includes the core city of Hyderabad and its surrounding municipalities and urban pockets. The primary goal of HMDA is to foster sustainable and planned development within the metropolitan region, addressing challenges associated with rapid urbanization, infrastructure requirements, and environmental considerations. The authority engages in strategic urban planning, infrastructure development, and coordination of various development activities to enhance the overall quality of life for residents within its jurisdiction. HMDA plays a vital role in promoting integrated and balanced growth, aligning with the broader vision of positioning Hyderabad as a global city with world-class infrastructure and amenities. It collaborates with local municipal bodies, government agencies, and stakeholders to facilitate coordinated efforts in achieving the goals of planned urban development within the Hyderabad Metropolitan Region.

AI: Artificial Intelligence (AI) is a branch of computer science focused on creating systems and algorithms that can perform tasks requiring human intelligence. These tasks encompass a wide range of activities, from learning and problem-solving to understanding natural language and making decisions. AI is classified into two main types: Narrow or Weak AI, designed for specific tasks like virtual assistants or recommendation systems, and General or Strong AI, an aspirational level of intelligence mirroring human cognitive abilities. Machine Learning, a subset of AI, enables systems to learn from data and improve performance over time. Natural Language Processing allows machines to understand and interact with human language, while computer vision enables visual data interpretation. AI applications, from robotics to healthcare and finance, continue to evolve, with ongoing considerations about ethical implications and societal impact as AI increasingly shapes the technological landscape.

AR: Augmented Reality (AR) is a transformative technology that merges digital elements seamlessly with the real world, enriching the user's perception of their surroundings. Unlike Virtual Reality, AR enhances the physical environment by overlaying digital information in real-time, accessible through devices like smartphones, tablets, or AR-specific wearables. AR applications leverage spatial mapping, allowing digital content to interact with and anchor to the user's physical space. This technology finds diverse applications in gaming, education, healthcare, and industry, offering interactive and immersive experiences. Whether in marker-based systems using predefined triggers or markerless setups relying on spatial understanding, AR is reshaping how people interact with information and engage with their environment, promising continued innovation and integration into various aspects of daily life.

VR: Virtual Reality (VR) is an immersive technology that creates a simulated environment, allowing users to experience a three-dimensional, computer-generated world. Through the use of VR headsets or other devices, individuals can engage with a digital realm that often feels incredibly lifelike. VR provides a fully enclosed and interactive experience, responding to the user's movements and actions in real-time. It has diverse applications, ranging from gaming and entertainment to education, healthcare, and professional training. VR technology enables users to explore virtual landscapes, interact with objects, and even participate in scenarios that replicate real-world situations. As VR continues to advance, offering more realistic graphics and enhanced sensory experiences, its potential for transforming various industries and providing new forms of interactive entertainment becomes increasingly evident.

HMDA: The Hyderabad Metropolitan Development Authority (HMDA) is a key administrative body entrusted with the responsibility of planning, coordinating, and supervising the development of the Hyderabad Metropolitan Region (HMR). Established in 2008, HMDA operates under the

NBC: The National Building Code of India (NBC) is a comprehensive building code, providing guidelines for regulating building construction activities across the country. It serves as a Model Code for adoption by all agencies involved in building construction works.

According to NBC Buildings are classified according to use or the character of occupancy in one of the following groups:

Group A Residential

Group D Assembly

Group G Industrial

Group B Educational

Group E Business

Group H Storage

Group C Institutional

Group F Mercantile

Group J Hazardous

The building code mainly contains administrative regulations, development control rules, and general building requirements; fire safety requirements; stipulations regarding materials, structural design, and construction (including safety); building and plumbing services; approach to sustainability; and asset and facility management.

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PREFACE

The journey chronicled in this thesis report represents a convergence of passion, curiosity, and a profound belief in the transformative power of architecture, technology, and community engagement. As I delve into the pages that follow, I invite you to embark on a voyage of exploration, a narrative that unfolds the genesis, development, and realization of a vision that seeks to redefine the relationship between urban governance, data, and the citizens it serves.

The inspiration for this endeavor germinated from a deep observation of the intersection between technology and the urban landscape. Looking beyond the conventional, I envisioned a space where the tangible and intangible aspects of a city could harmoniously coexist, fostering transparency, inclusivity, and informed decision-making.

This thesis is not merely a documentation of architectural processes; it is a testament to the belief that architecture can be a catalyst for change, a bridge connecting the aspirations of a community with the potential of modern technology. Each chapter unfolds a layer of this narrative, from the conceptualization of the Data Digitization Hub and Urban Experience Center to its physical manifestation within the HMDA office.

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CHAPTER 1 - INTRODUCTION

1.1 Project Description

The project emerges as an innovative endeavor situated in the heart of Hyderabad, seamlessly integrating technology, community engagement, and urban governance. At its core is the Data Digitization Hub, a dynamic center harnessing artificial intelligence (AI) to process extensive datasets encompassing census, roadways, and civil works. This hub serves as a digital conduit, translating raw data into comprehensible insights, thereby fostering transparency in urban governance.

Complementing the hub is the Urban Experience Center, a visionary space offering immersive Augmented Reality (AR) and Virtual Reality (VR) experiences. Here, residents embark on a journey to explore the city's rich history, cultural heritage, and future development plans, making urban data accessible and engaging.

The architectural innovation of the project re imagines the existing HMDA office, retaining only essential columns, a symbolic representation of the foundational elements that support the project's core principles. This design promotes an open, inviting space that encourages community engagement and informed decision-making.

Going beyond a technological hub, becomes a platform for community participation. Through workshops, discussions, and interactive exhibits, residents actively contribute to shaping urban development, fostering a sense of ownership and connection.

Collaborations with educational institutions further enhance the project's impact, turning it into a learning ecosystem. Workshops and programs promote skill development, cultivating a culture of innovation and technological literacy.

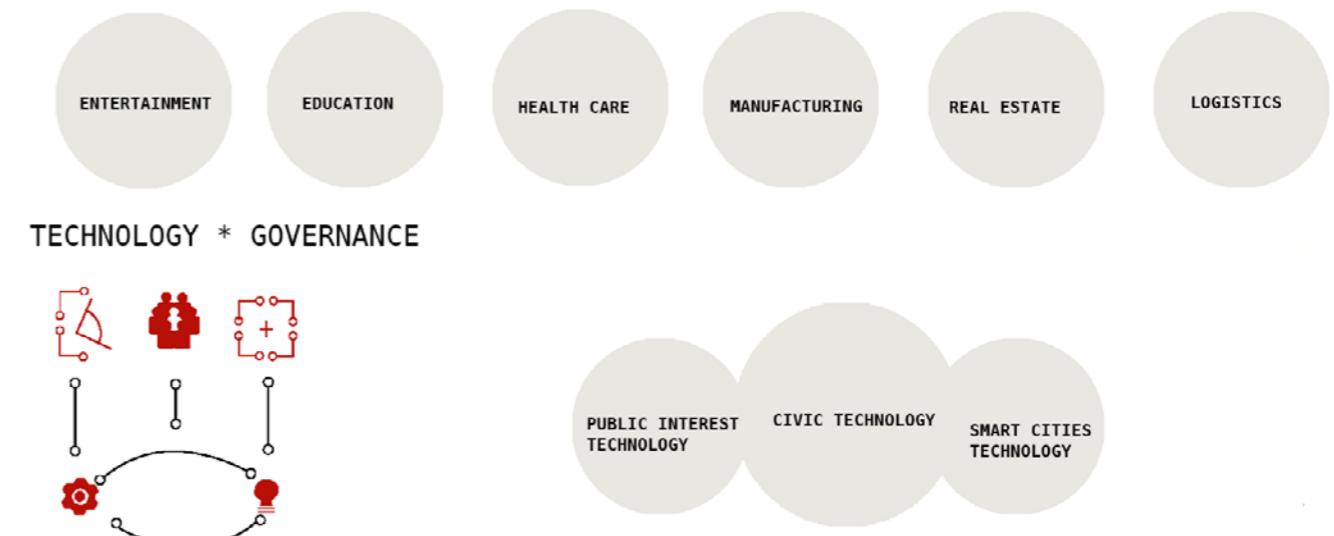


Fig. 1

1.2 Validity of Project

In an era where information is a currency, the project's emphasis on data digitization and the creation of an archival library speaks directly to the growing need for accessible urban data. Open data initiatives have become a global priority, and the Ameerpet Urban Nexus positions itself at the forefront of this movement, democratizing information and empowering citizens with a profound understanding of their urban environment.

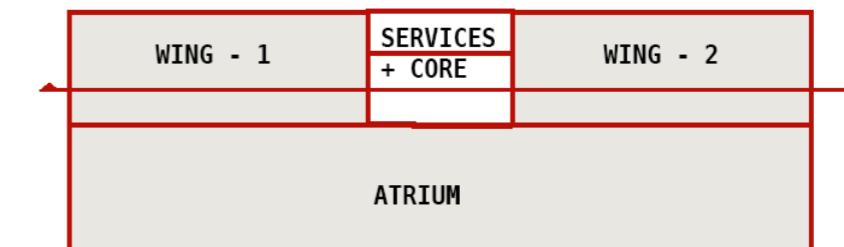
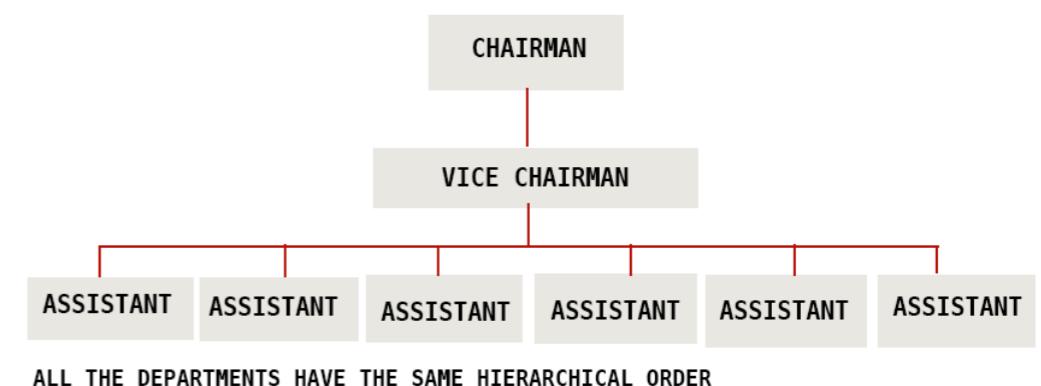
The adaptive reuse of the HMDA office underscores a sustainable approach to urban development. Repurposing underutilized spaces aligns with global trends advocating for the revitalization of existing structures over constant construction. This not only reduces environmental impact but also resonates with the principles of adaptive and resilient urban planning.

Community engagement lies at the heart of the project, recognizing that the success of urban initiatives hinges on the active involvement of the people they serve. By providing spaces for workshops, discussions, and interactive exhibits, the project aligns with the contemporary shift towards more inclusive and participatory approaches in urban planning. This approach promotes a sense of community ownership and ensures that the development aligns with the actual needs and aspirations of the residents.

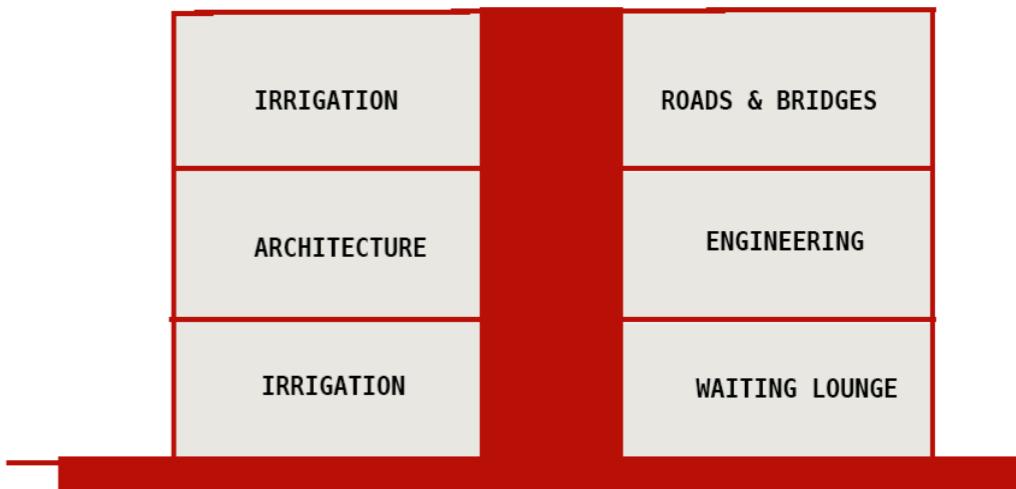
The incorporation of AR and VR experiences signify an acute awareness of the contemporary preference for immersive technologies. This not only caters to the expectations of a tech-savvy generation but also transforms urban history and development into accessible, engaging narratives.

In conclusion, the project's visionary response to the challenges and opportunities of our times. By addressing the needs for accessible data, sustainable development, community engagement and immersive experiences. The project not only aligns with current urban development trends but also contributes to shaping a more informed, connected and sustainable urban future.

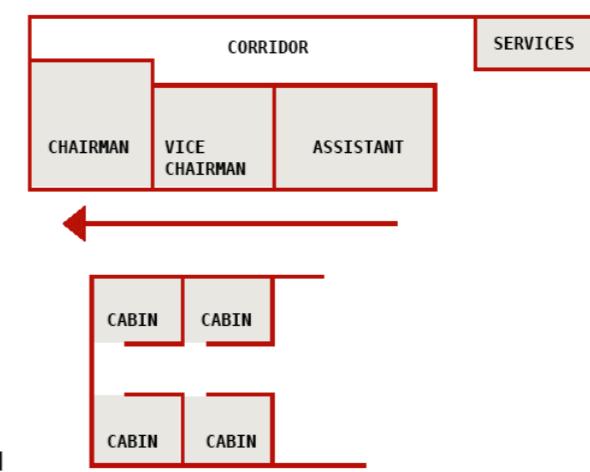
PUBLIC WORKS DEPARTMENT



PLAN



SECTION

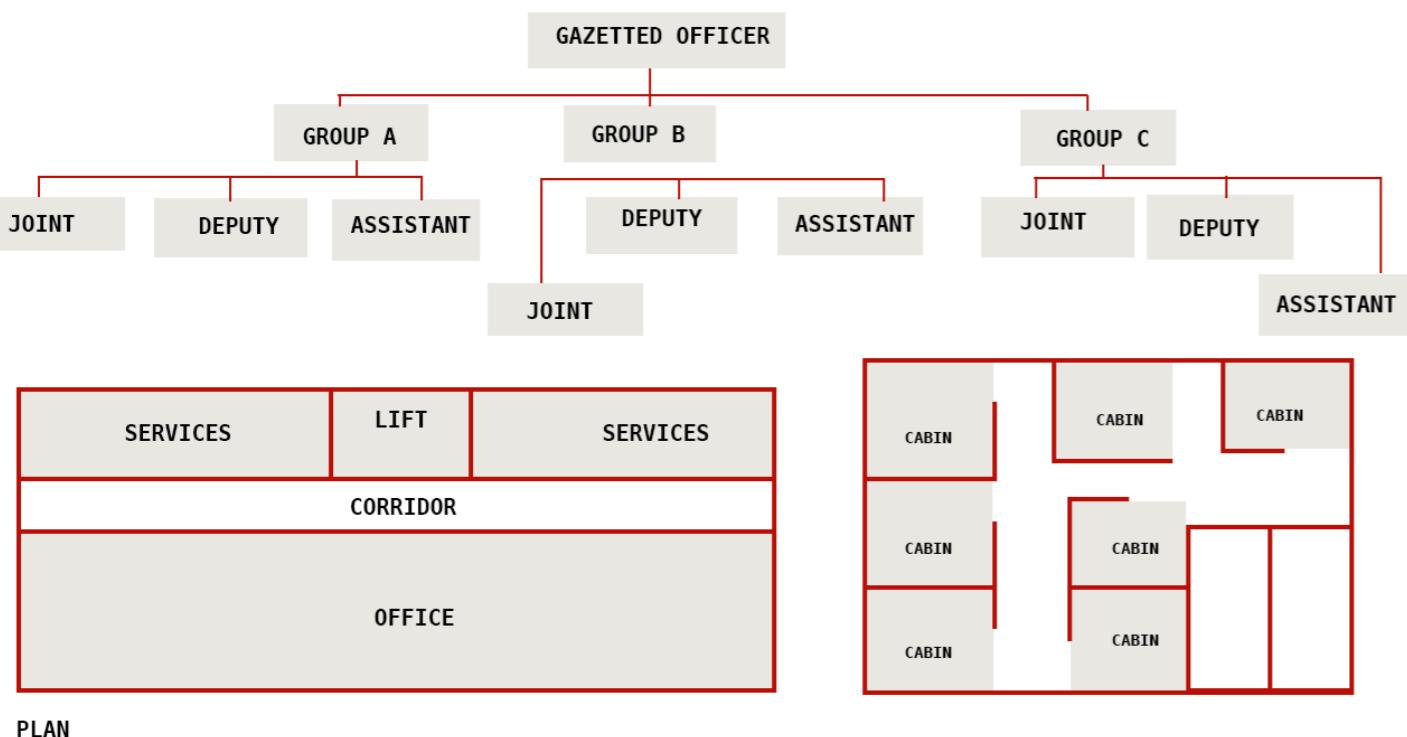


PLAN

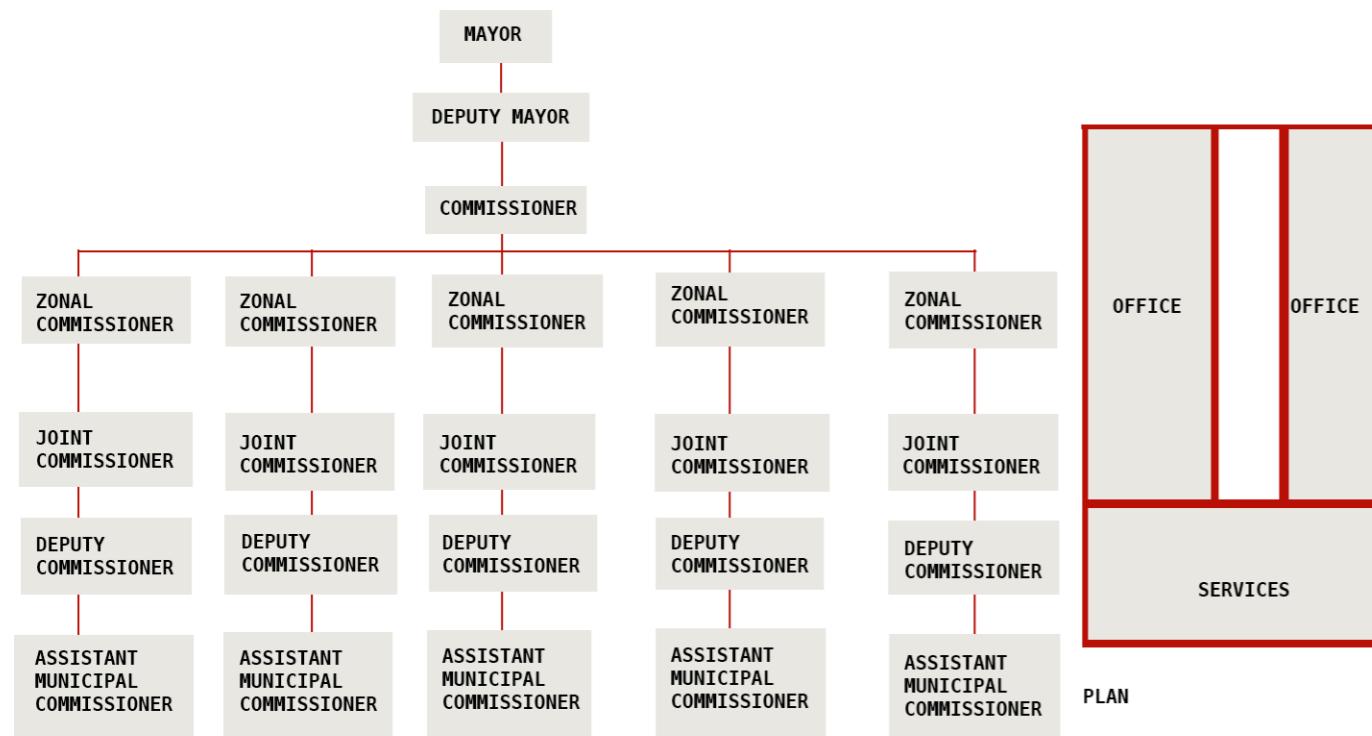
1.3 Precedent Study

The precedent study for the thesis involves a comprehensive exploration of various urban governing authorities, wherein I conducted on-site visits to study their buildings and understand their functioning. The objective was to gain insights into the existing infrastructure, operational workflows, and the architectural considerations that contribute to efficient governance. The study included visits to municipal offices, planning departments, and relevant government bodies within and around Hyderabad. By physically immersing myself in these spaces, I aimed to grasp the spatial dynamics, organizational structures, and the integration of technology in day-to-day operations. Each visit involved interviews and discussions with key personnel, allowing me to appreciate the challenges and opportunities faced by urban governing authorities. This firsthand exploration served as the foundation for the architectural proposition, ensuring that the proposed Data Digitization Hub and Urban Experience Center would seamlessly align with the practical needs and aspirations of contemporary urban governance. Through this precedent study, I endeavored to bridge the gap between theory and practice, enriching the architectural proposal with real-world insights and contributing to a more informed and contextually relevant urban intervention.

CENSUS OFFICE



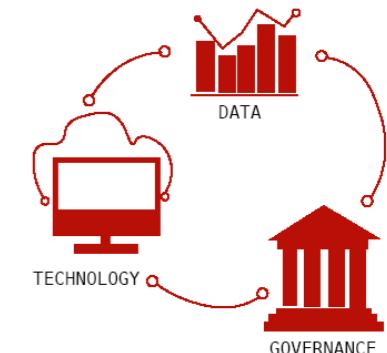
GHMC OFFICE



1.4 ARCHITECTURAL INTENT

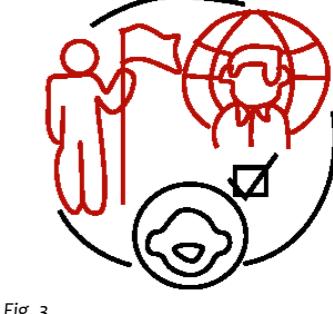
Blend of technology, data and governance

The project establishes a centralized Data Digitization Hub that serves as a repository for diverse datasets, including census data, roadway information, and civil works records. This centralized approach streamlines data management, ensuring efficiency and accessibility for urban governance.



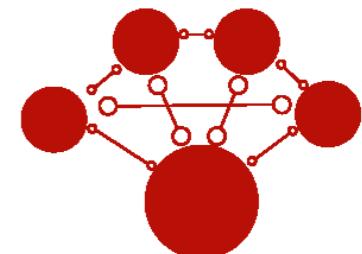
Community- centric design

Community-centric approach, creating spaces that encourage public participation, dialogue, and collaboration. This ensures that the benefits of data digitization and technological advancements are inclusive and address the needs of diverse urban communities.



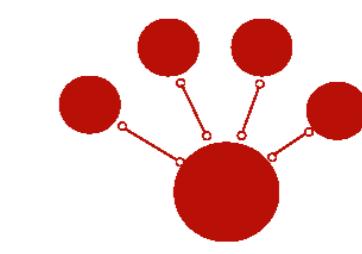
Fostering collaborative urban governance

By leveraging cutting-edge technologies and open data platforms, the initiative creates a dynamic ecosystem where residents are not just recipients of services but integral contributors to the decision-making process. This collaborative approach extends beyond mere data access, fostering a sense of shared responsibility for urban development. By embracing transparency, inclusivity, and digital connectivity, the project strives to build a resilient urban governance model that empowers residents, strengthens trust, and collectively shapes the future of the city.



Informed- decision making

The project prioritizes informed decision-making through data digitization and technology integration. By leveraging AI and community engagement, it empowers both authorities and citizens with accurate insights. This commitment ensures a collaborative, responsive, and knowledge-driven approach to shaping a sustainable and inclusive urban landscape.



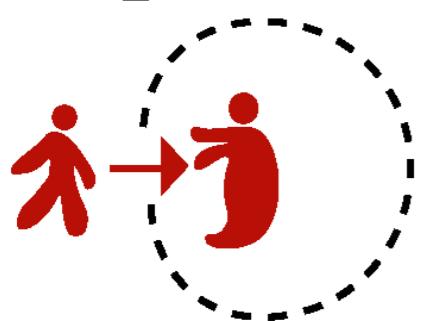


Fig. 7



Fig. 8

1.5 ARCHITECTURAL PROPOSITION

The architecture intent of the project is to create a fusion of technology, data governance and urban experiences. It seeks to establish a physical environment that serves as a bridge between the digital and the physical realms, allowing visitors to interact with immersive narratives in a seamless and engaging manner. The intent is to craft a space that not only accommodates advance technology infrastructure but also reflects the principles of transparency, inclusivity and community engagement to create a sense of ownership among the citizens.

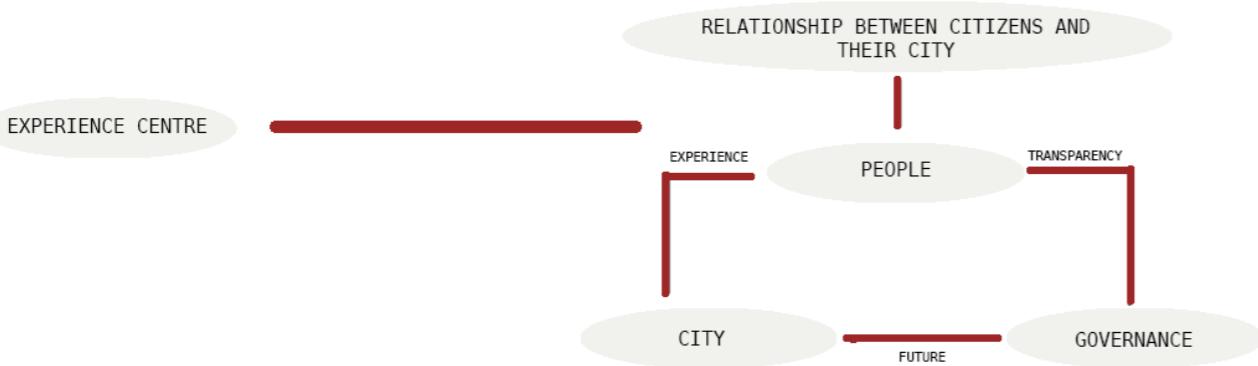
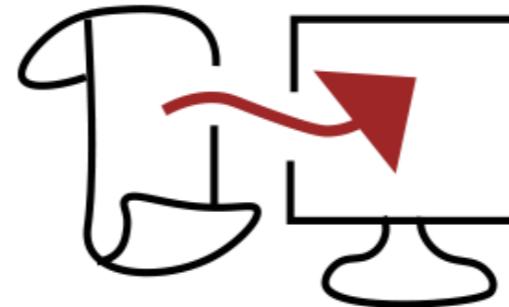
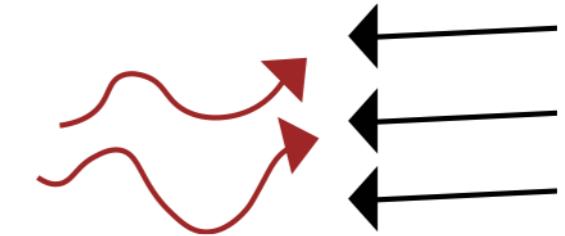


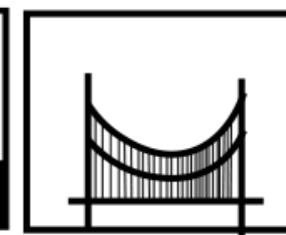
Fig. 9



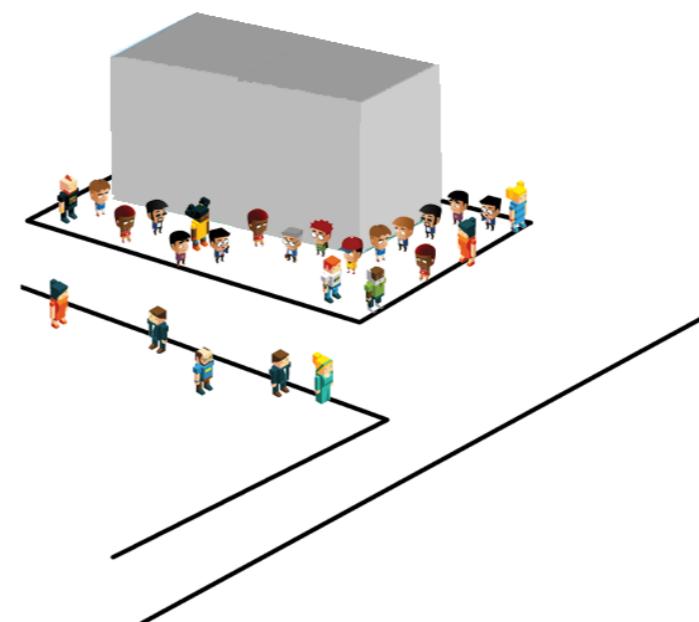
Data Digitizing



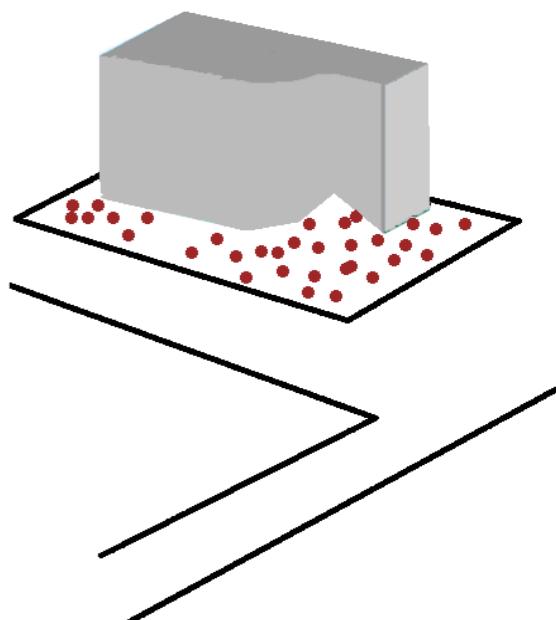
Tangible vs Intangible



Census data and City Gallery

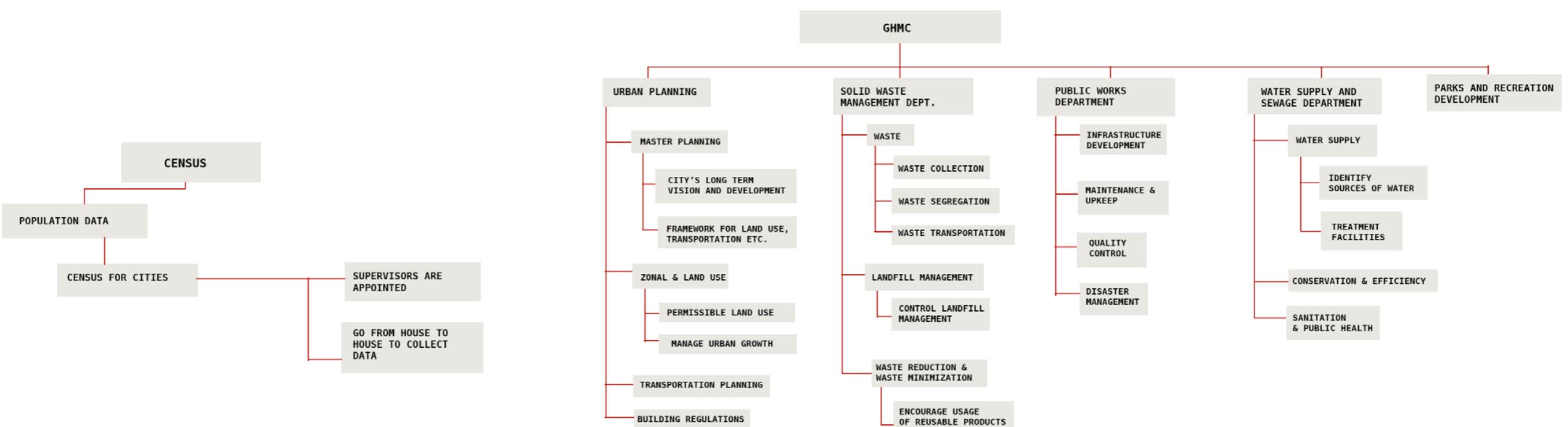
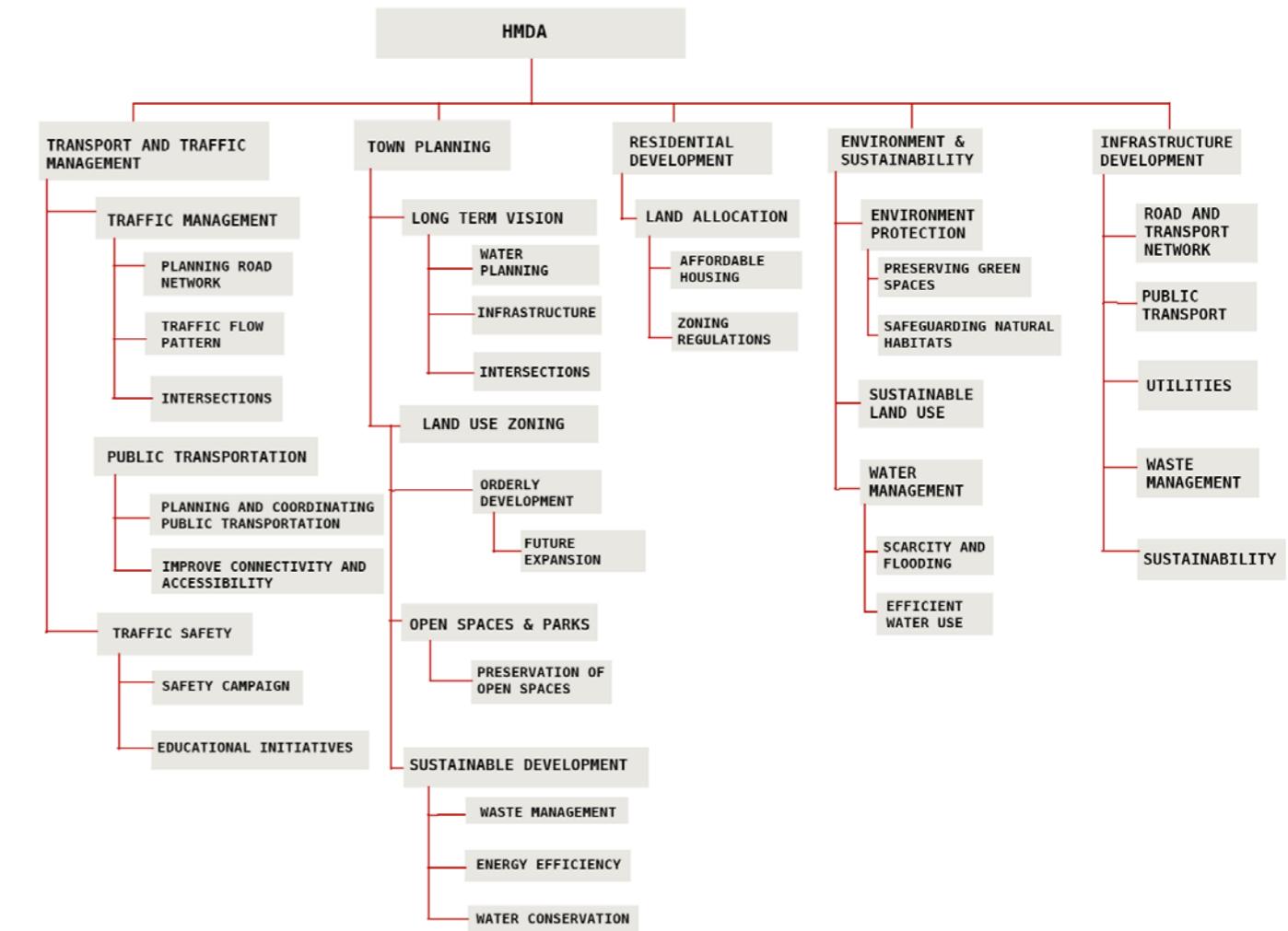
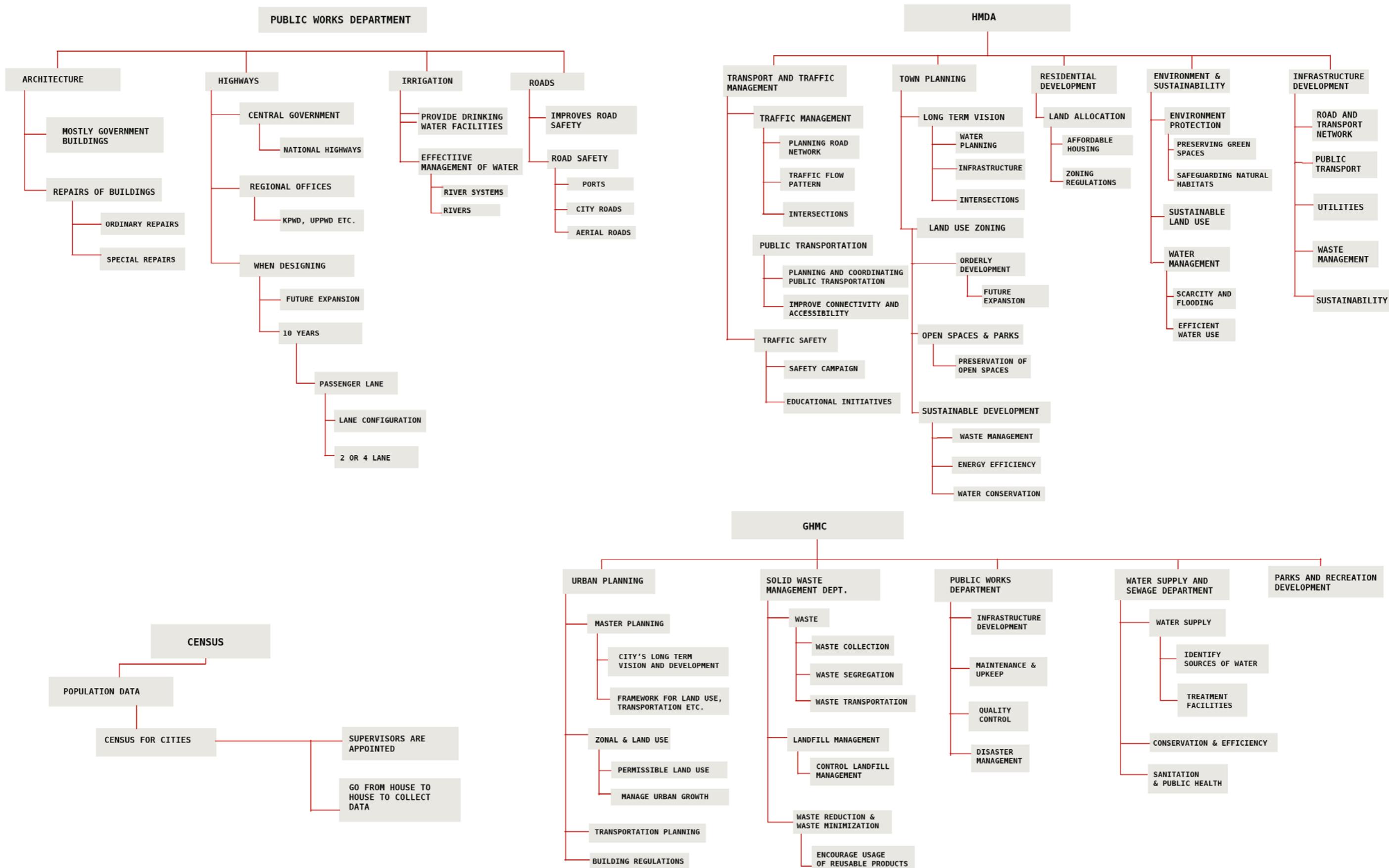


Public affair woven to the fabric of everyday life



Accessibility to the public

INTERDEPENDENCY OF OFFICES



1.6 PROVOCATIONS

"Reflections in the Screen" by Alan Turing Echo

*In the mirror of the monitor's glow,
I see a world I've come to know.
But what's the truth, and what's the lie,
In this realm where pixels multiply?*

*I trace my thoughts in lines of code,
In algorithms, secrets are bestowed.
Yet as I peer into the screen's embrace,
I wonder if I've found my rightful place.*

*The binary dance of ones and zeros,
In this realm, our digital heroes.
But do these reflections in the glass,
Reveal a future, or a fading past?*

*In circuits' hum and data's stream,
I ponder what it all may mean.
Are these reflections merely a dream,
Or the essence of what it means to be seen?*

*In the screen's pixels, I find my face,
But in their depths, I seek my grace.
For in this world where screens arise,
I question what's real, beneath the guise.*

*As I echo through the digital space,
I contemplate the human race.
Do we find truth in what we've seen,
Or only in these reflections in the screen?*

The poem "Reflections in the Screen" by Alan Turing Echo serves as an exceptional provocation for a philosophical exploration within a thesis. In its lyrical verses, the poem encapsulates the profound philosophical inquiries that emerge in the era of digital existence. As it contemplates the interplay of pixels, algorithms, and the binary dance of ones and zeros, it delves into fundamental questions about the nature of truth and reality in the digital landscape.

Philosophically, the poem serves as a catalyst for contemplating the essence of human identity in the face of technological advancement. The reflection on whether the images in the screen reveal a future or a fading past mirrors age-old philosophical inquiries into the nature of time and the human experience. Furthermore, the poem invites introspection on the authenticity of one's digital

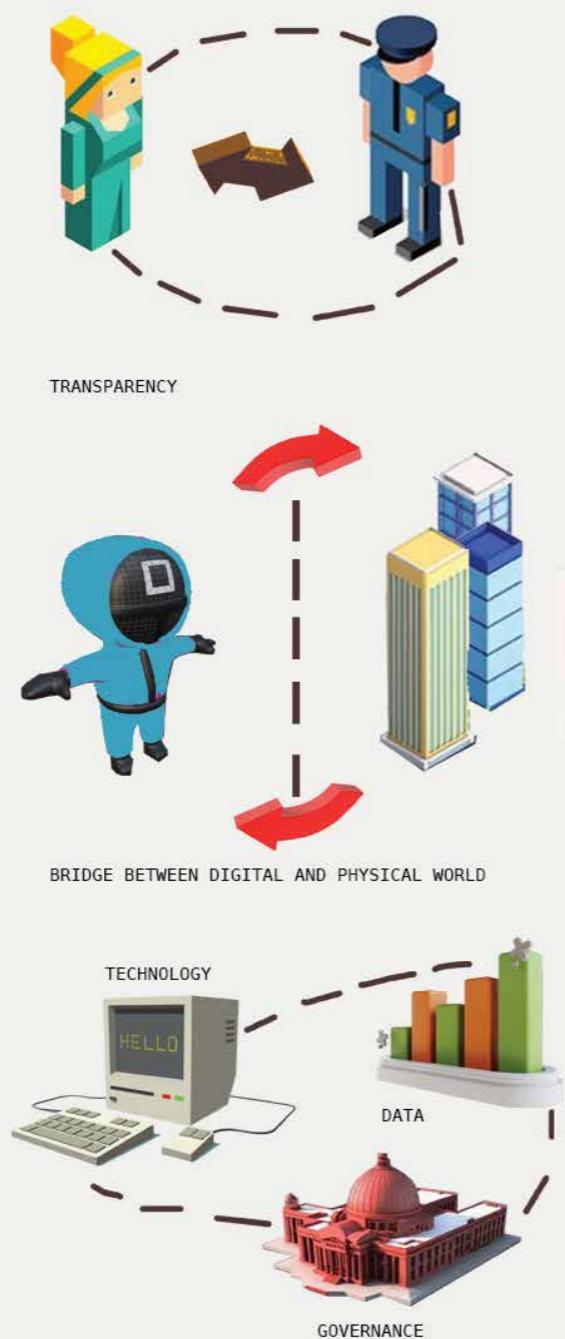


Fig. 11

reflections, prompting a deeper exploration of the self in the vast digital expanse.

Within the context of a thesis, this poetic provocation inspires a philosophical investigation into the metaphysical implications of our digitized existence. It beckons the researcher to unravel timeless questions surrounding truth, identity, and the existential meaning of being amidst the ever-evolving digital landscape. The poem's nuanced exploration provides a rich philosophical foundation for an in-depth examination of the profound implications of technology on human consciousness and existence.

CHAPTER 2 - ANALYSIS OF ENVISAGED ACTIVITY

2.1 Basic Terminologies

Immersive: Providing a deeply engaging and interactive experience that fully surrounds the user

Data Digitization: The process of converting analog information into digital format

Adaptive Infrastructure: Designing structures that can evolve and accommodate emerging technologies

Inclusive Design: Ensuring that the architectural design is accessible and inclusive for all community members.

Interactive Exhibits: Physical spaces enhanced with AR for visitor engagement.

Experiential Zones: Designated areas for AR experiences within the architectural plan.

Spatial Mapping: Mapping and understanding the physical space for accurate AR overlays.

CHAPTER 3 - THE STANDARDS AND GENERAL SYSTEMS

3.1 Human anthropometrics Standards

Anthropometry has an impact on a range of sectors. Furthermore, anthropometric measurements play an important role in optimising the design of a building. The dimensions and capacities of human motion play a significant role in the overall design of a structure. Anthropometrics, main idea is that building design must be adequately matched to the dimensions of the human body and human motion. Rather than adapting to the building's design, people should be able to adapt to the building's design. The importance of structures that are designed to meet human requirements will result in ergonomic concepts that may be applied to everyday activities.

Fig 4.1

Space requirements between walls (for moving persons add $\geq 10\%$ to w)

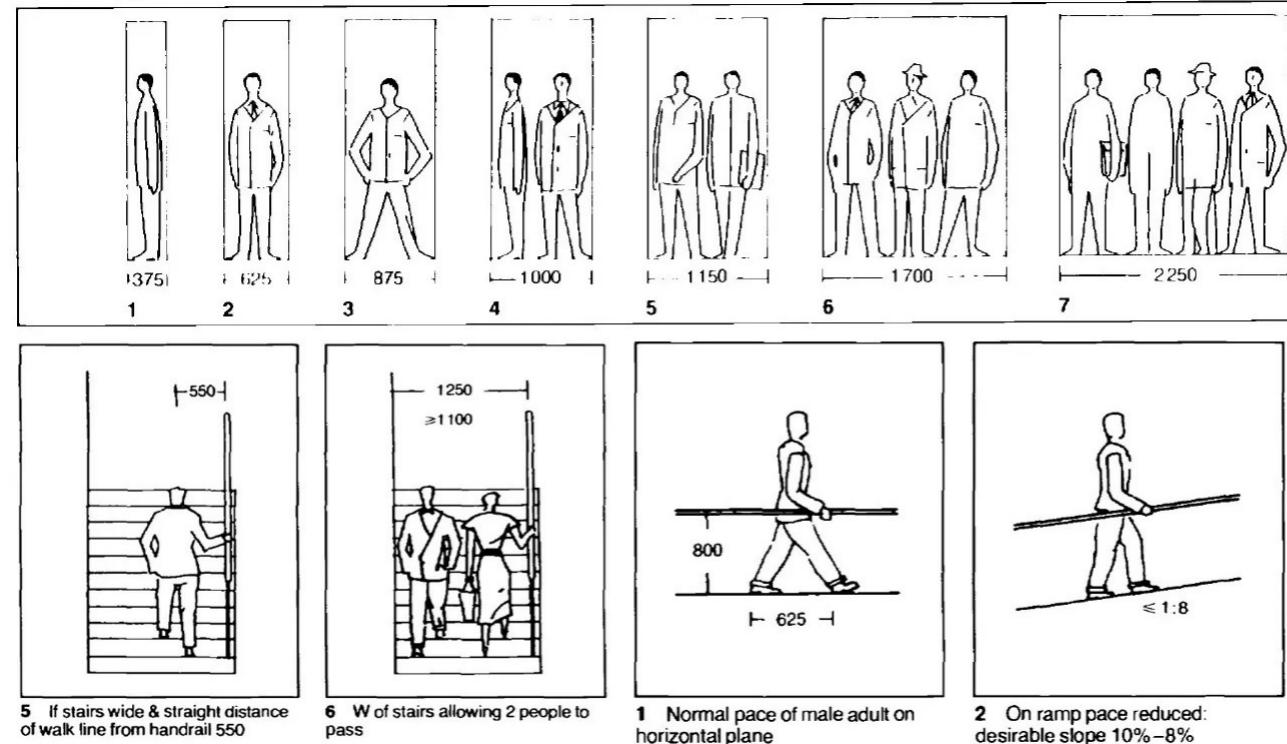


Fig. 12

MAN: DIMENSIONS AND SPACE REQUIREMENTS

Body measurements

In accordance with normal measurements and energy consumption

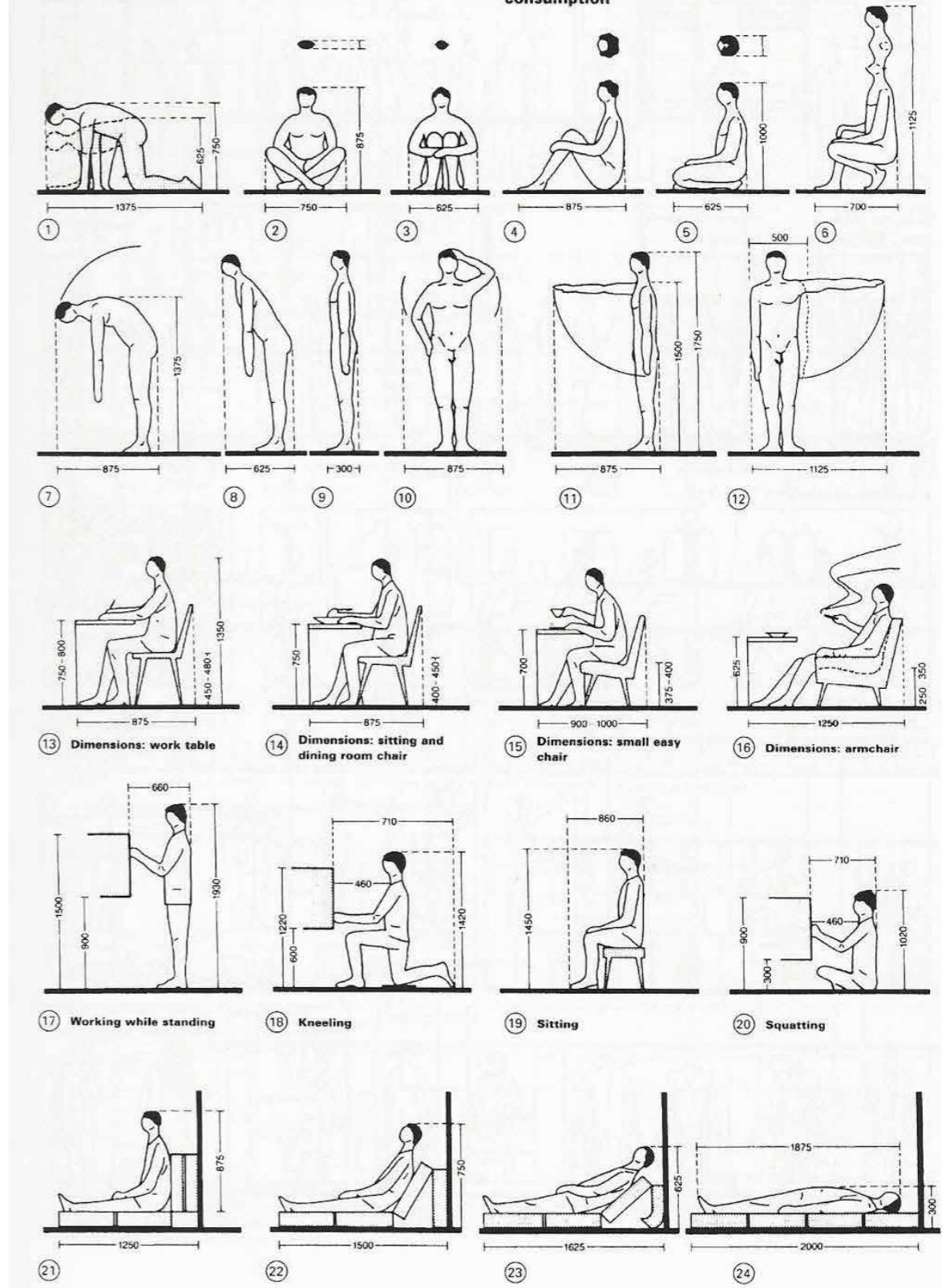
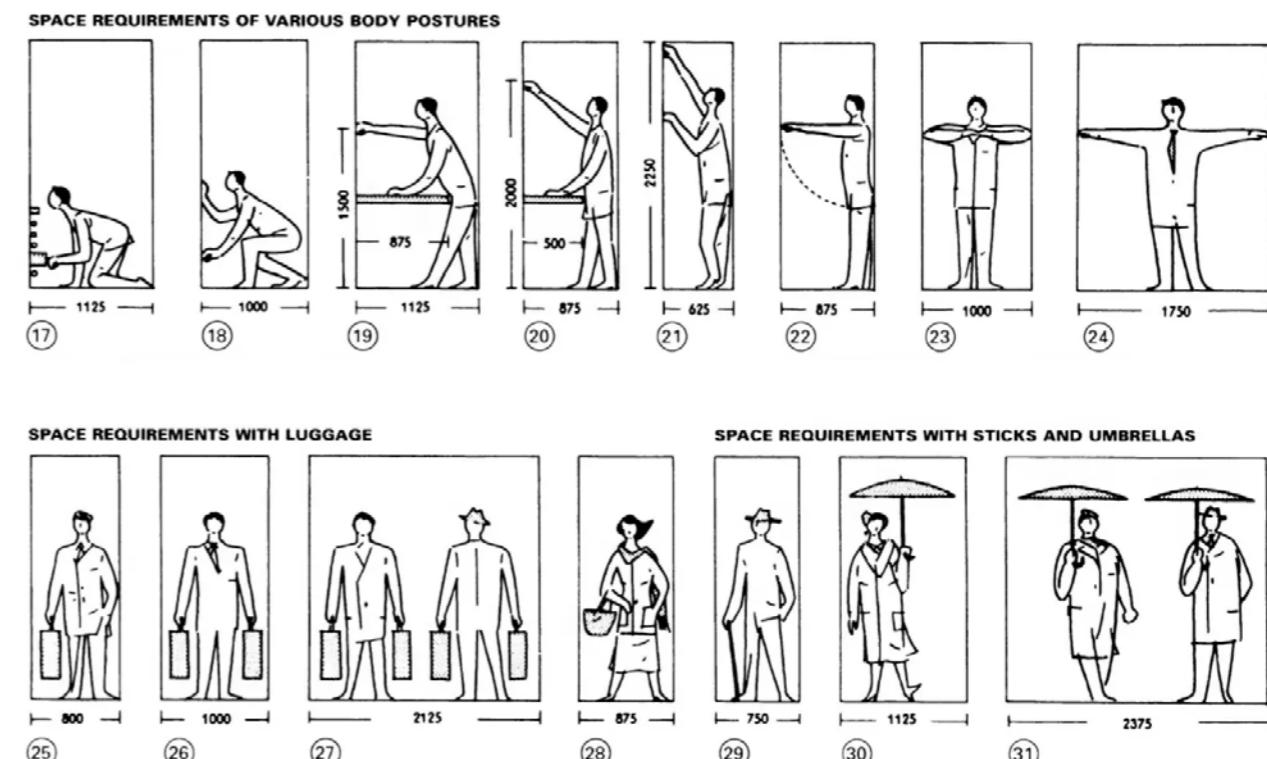
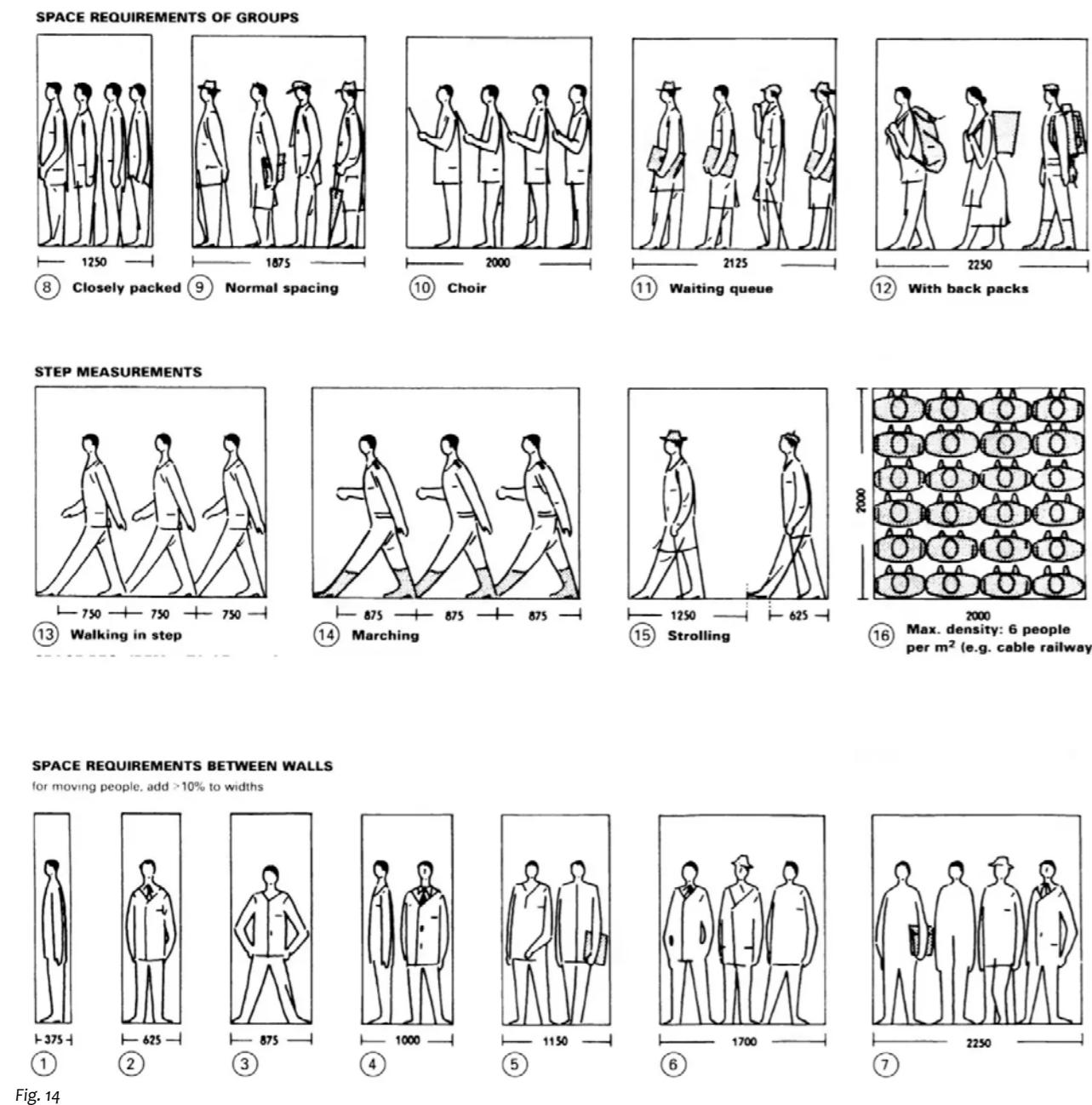


Fig. 13

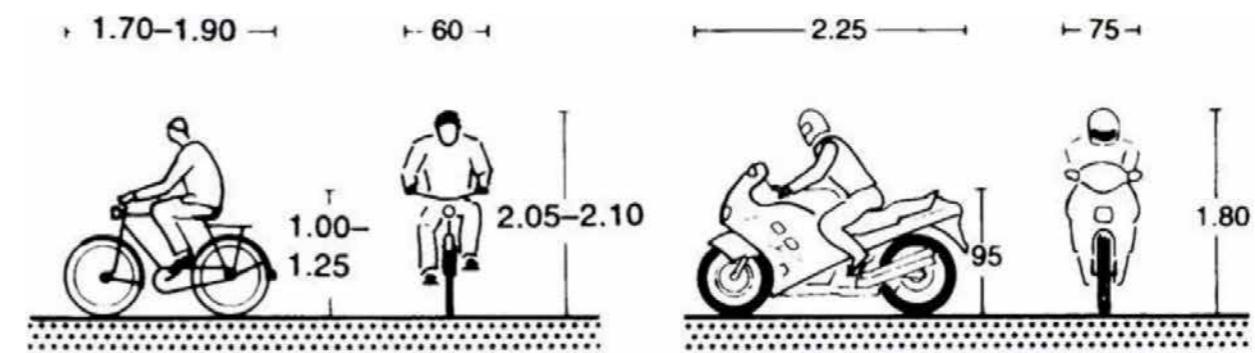
3.2 Spatial Standards

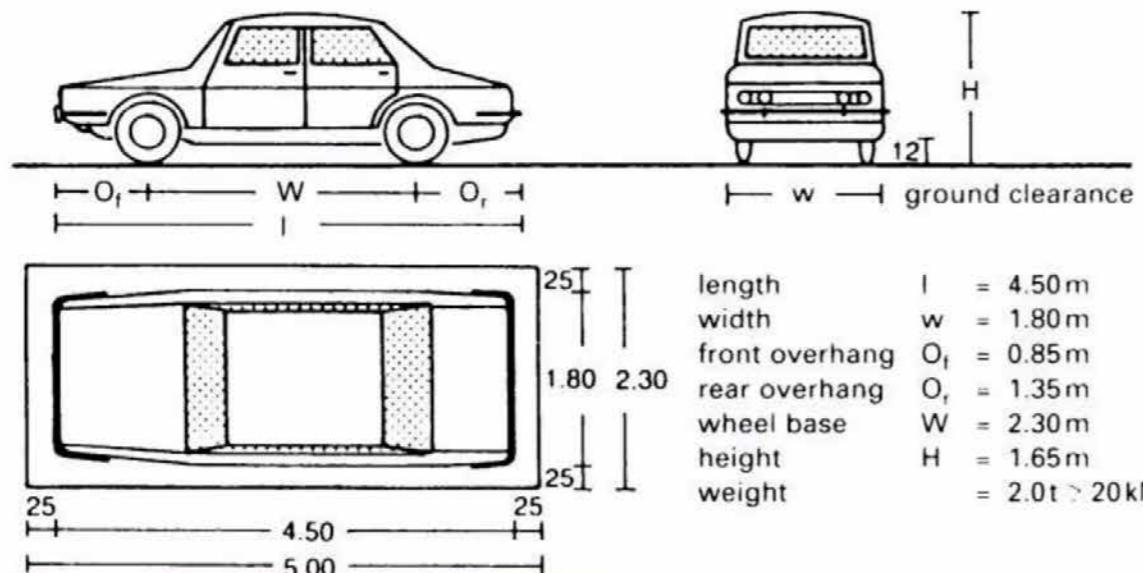
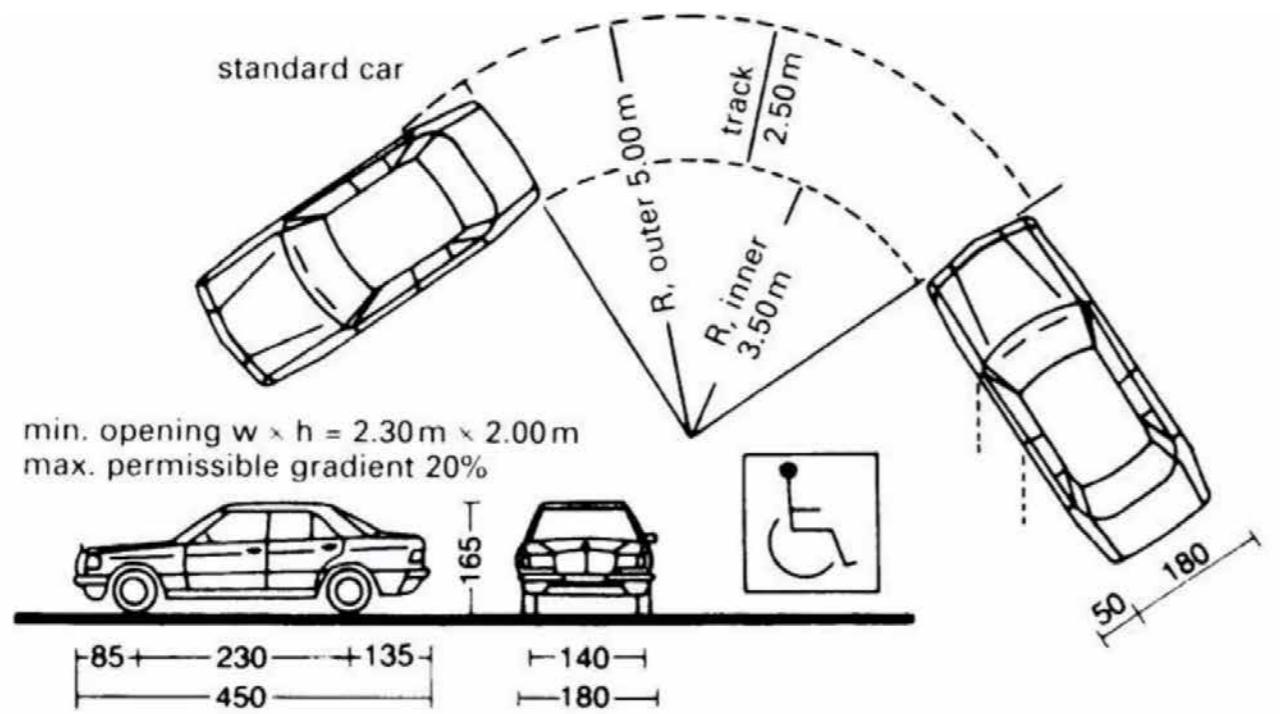
The minimum amount of space required for a specific activity or function. The number of people who will use the space, the type of activities that will take place there, and any special equipment or furnishings that will be needed are all factors that can influence spatial requirements. In order to create a functional and comfortable space, all spatial requirements must be carefully considered.



3.3 Parking Standards

As per MHADA, each off street car parking space provided for motor vehicles shall not be less than 18sqm (3m x 6m). For motor cycles and scooters, each parking space shall not be less than 2.5sqm. (1.25m x 2m) and for cycles it shall not be less than 1.5sqm. (0.75m x 2). Off street car parking space shall be provided with adequate vehicular access to a street and areas of drives of not less than 2.5m. wide, aisles and such other provisions required for adequate monitoring of vehicles shall be exclusive of the parking space.





CHAPTER 4 - SITE AND CONTEXT STUDY

Fig. 17

4.1 SITE & CONTEXT STUDY

Why Hyderabad?

Hyderabad was strategically chosen for the project based on several key factors. Firstly, the city boasts a diverse and dynamic urban environment that encapsulates both historical significance and modern development. The coexistence of iconic landmarks such as Charminar, Mecca Masjid, and the Salarjung Museum with the burgeoning HITEC City and financial district provides a unique canvas for exploring the integration of technology, governance, and community engagement.

Furthermore, Hyderabad has been at the forefront of embracing technological advancements, earning it the moniker of Cyberabad. The city's robust IT infrastructure, coupled with initiatives by the government to promote innovation, positions it as an ideal setting for experimenting with cutting-edge technologies like AI, AR, and VR in the realm of urban governance.

Additionally, Hyderabad's rich cultural heritage and diverse demographic composition present an opportunity to tailor the project to address the specific needs and aspirations of a varied population. The city's willingness to embrace change and its active engagement with urban development initiatives make it a fertile ground for implementing a forward-thinking model that aligns with the evolving needs of a smart city.

In summary, Hyderabad's blend of historical significance, technological readiness, and cultural diversity makes it an ideal canvas to manifest the vision of a data-driven, technology-infused, and community-centric urban governance model. The project seeks to capitalize on these attributes to create a blueprint that can potentially be adapted and replicated in other urban contexts.

CASE 1



Fig. 18

A person who recently bought a property

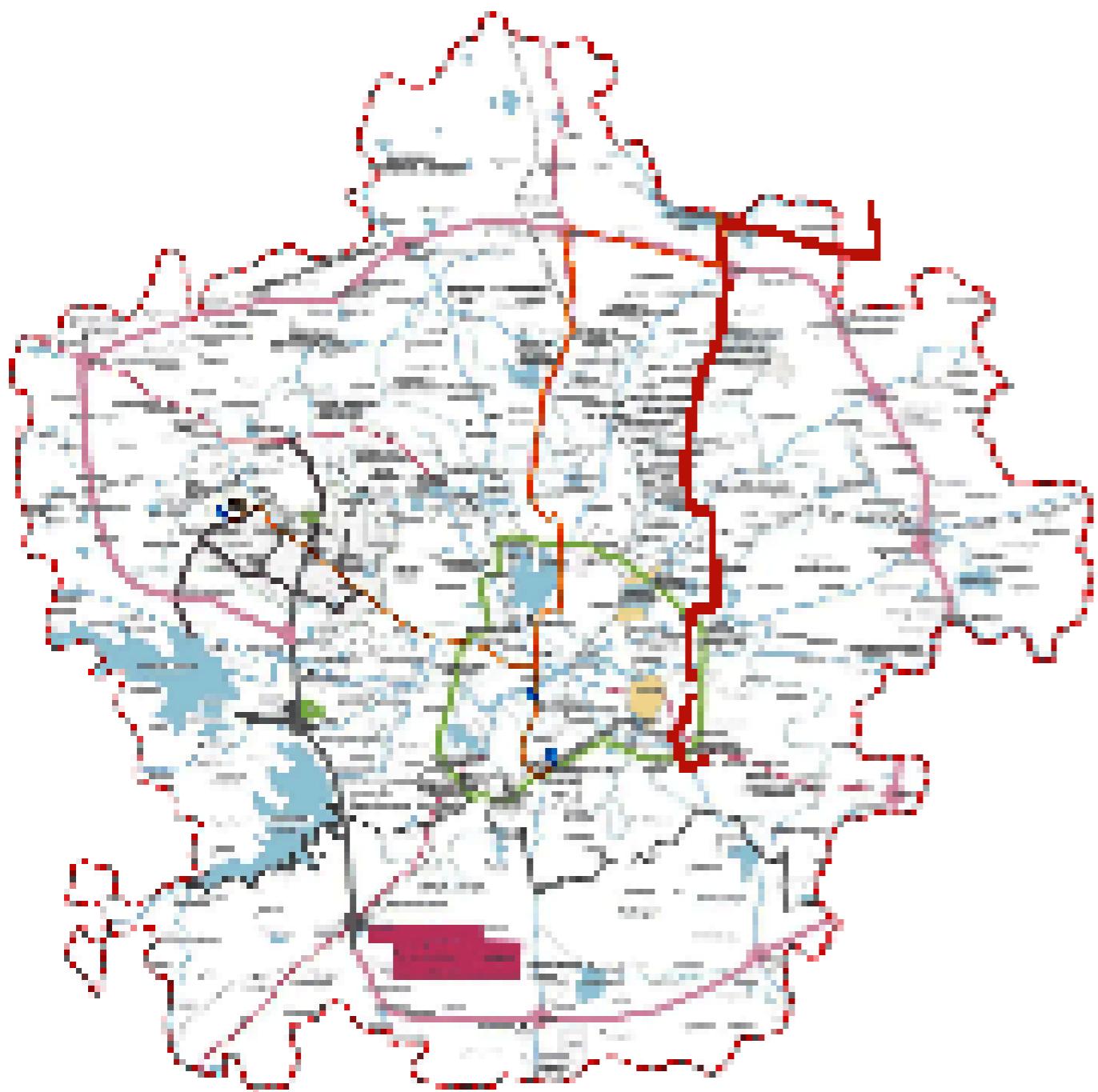
CASE 2

Fig. 19

The principal of a school who had to lodge a complaint against the bad roads in front of his school

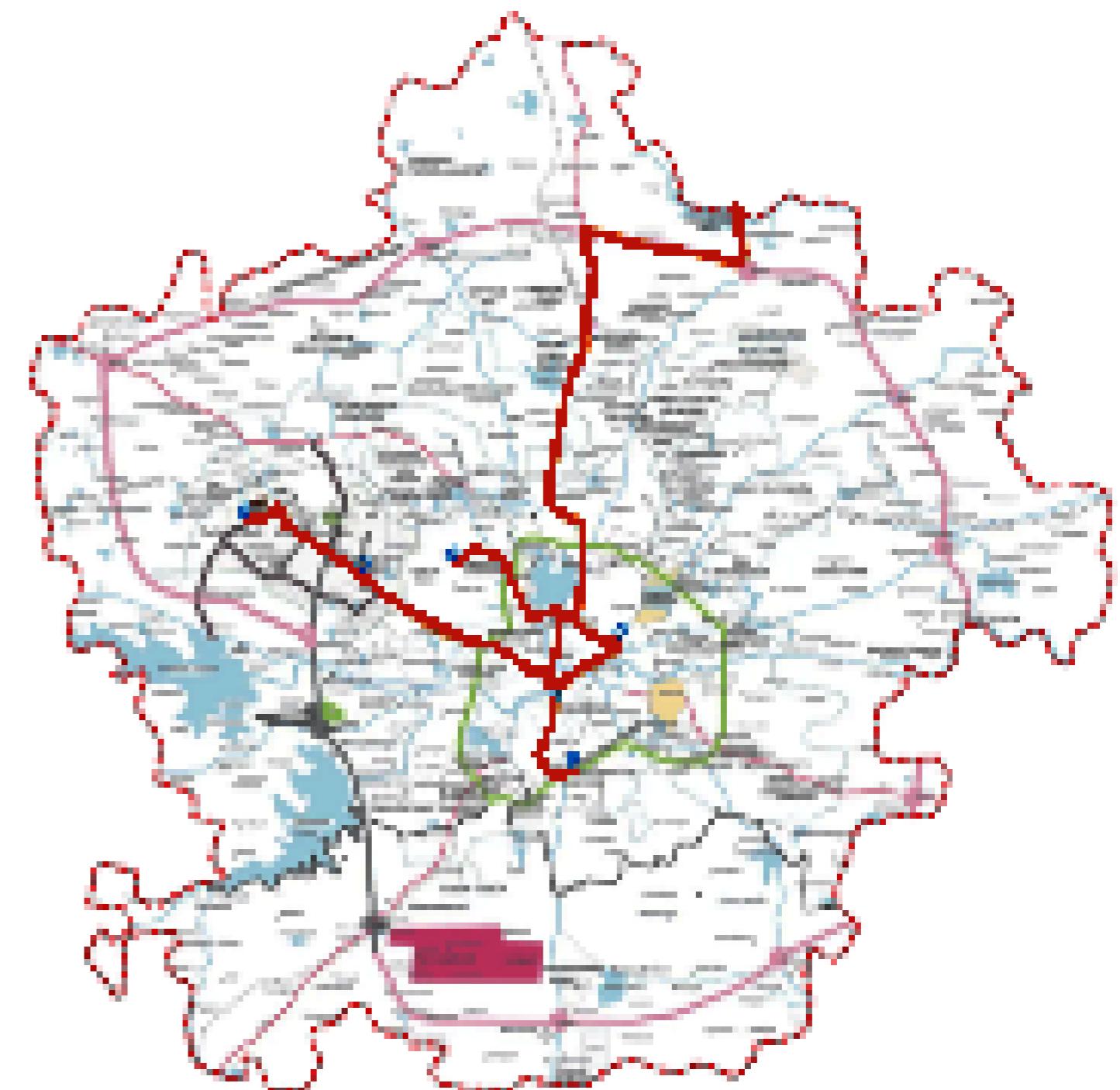
CASE 3

Fig. 20

A student who wanted to conduct a research to study all the various urban governing bodies

4.2 ARCHITECTURAL QUESTIONS

How can the architectural design seamlessly integrate the existing HMDA building with cutting-edge technologies like AI, AR, and VR?

What spatial configurations and zoning strategies will optimize the functionality of the Data Digitization Center and AR/VR Experience Zones within the urban hub?

In what ways can the architecture foster community engagement and inclusivity, providing spaces for dialogue and collaboration between citizens, government officials, and urban planners?

How can the design adaptively incorporate emerging technologies to create interactive displays, holographic projections, and data visualizations that enhance the immersive experience for visitors?

What cultural elements and references can be seamlessly integrated into the architecture to provide a contextual backdrop, connecting the urban hub with Hyderabad's rich heritage?

How can the architectural design symbolize transparency in governance, utilizing elements such as glass facades, open layouts, and interactive data displays to visually represent the transformation of raw data into actionable insights?

What are the innovative strategies for incorporating sustainable and eco-friendly architectural features within the urban hub?

How can the architecture contribute to a sense of place and identity within the urban hub, considering the cultural diversity and historical significance of Hyderabad?

What measures can be taken to ensure the adaptability and flexibility of the architectural design to accommodate future technological advancements and changing community needs?

In what ways can the architectural proposition inspire and redefine traditional notions of urban governance, community engagement, and the overall urban living experience?

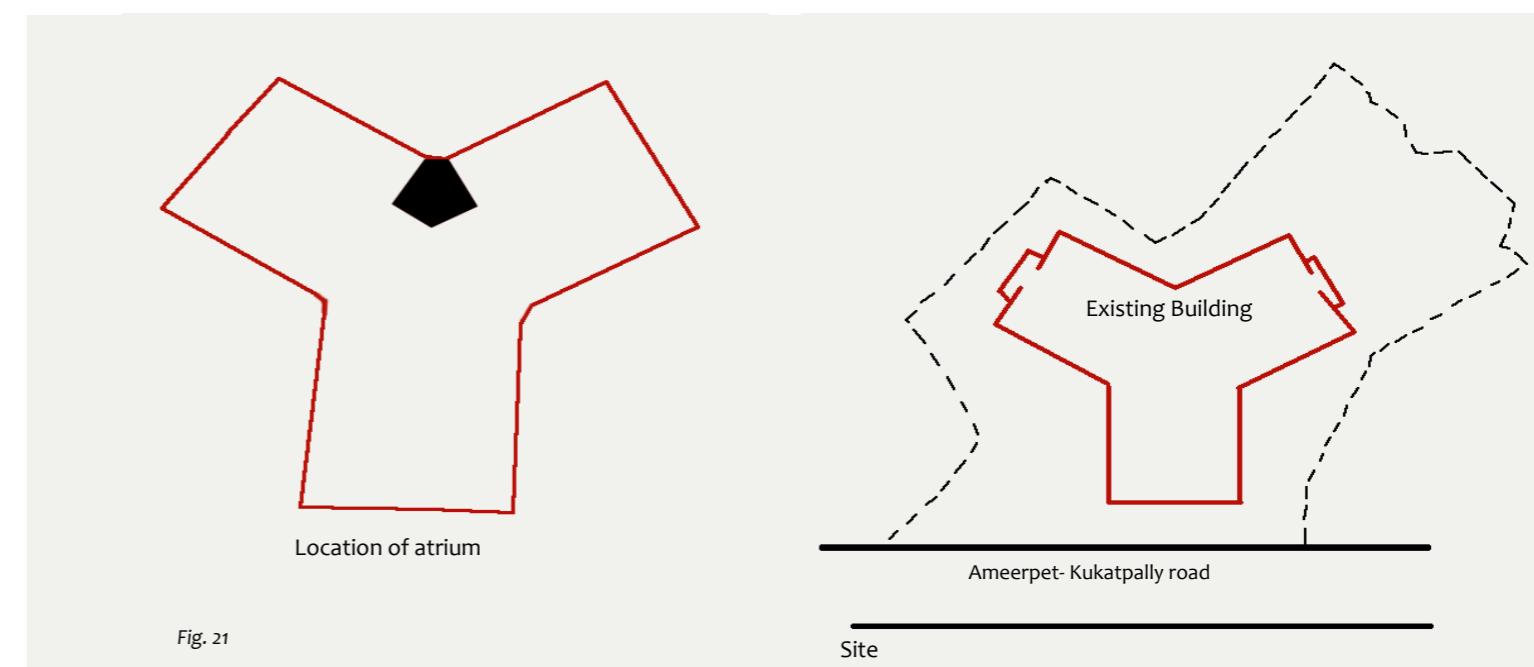
4.3 SITE CHOSEN

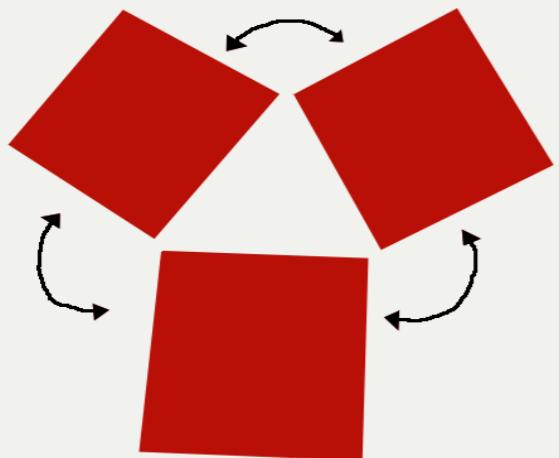
Already existing HMDA office

Why?

The choice of the existing HMDA (Hyderabad Metropolitan Development Authority) building as the project site is a deliberate decision driven by strategic considerations. Situated in a central location within the city, the HMDA building offers unparalleled accessibility, serving as a focal point for engagement with residents, government officials, and stakeholders. Its status as a hub for urban governance functions positions the project at the heart of administrative activities, fostering seamless collaboration with existing governance structures. Repurposing the HMDA building holds symbolic significance, representing a transformative shift towards a technologically advanced and community-centric approach to urban governance.

The decision aligns with principles of sustainability, as the adaptation of an existing government facility minimizes the need for extensive new construction. Moreover, this choice serves as a demonstration of innovation within established bureaucratic frameworks, setting a precedent for introducing modern technologies and community-centric spaces into traditional administrative settings. In essence, the HMDA building is strategically chosen to not only meet practical criteria but also to symbolize adaptability, innovation, and a forward-looking vision for urban development.

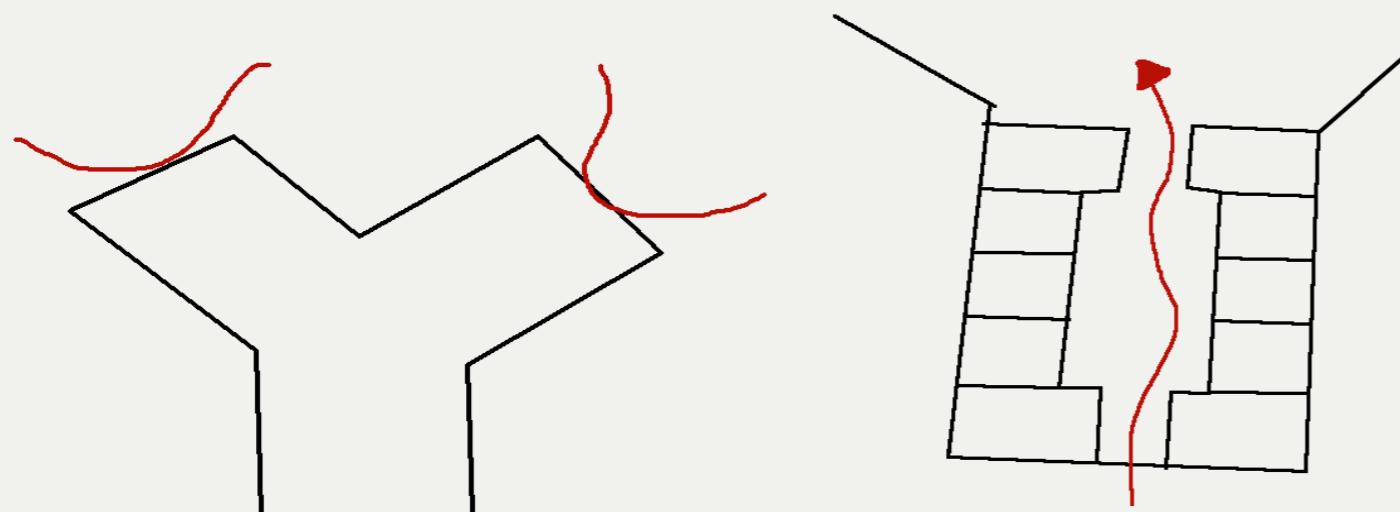
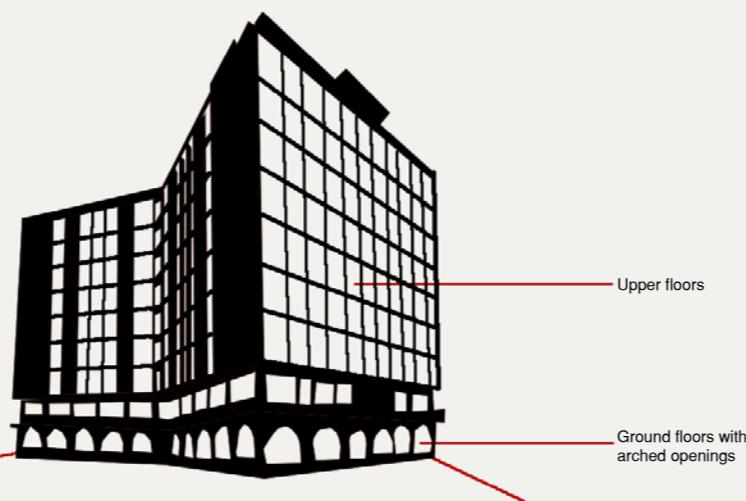




3 distinct wings



Facade of the building

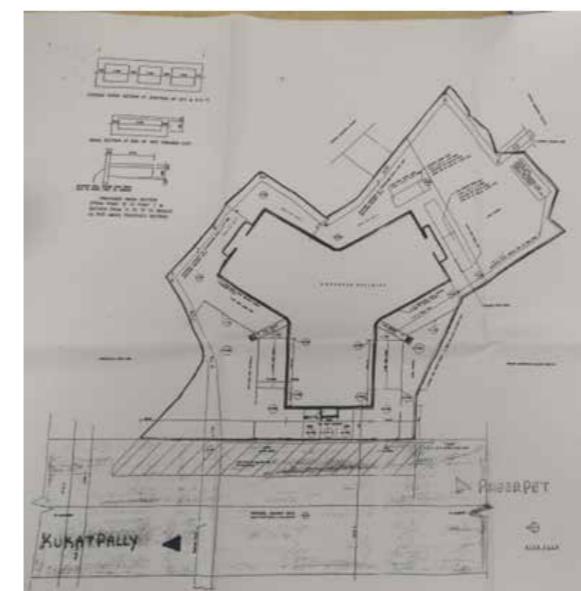
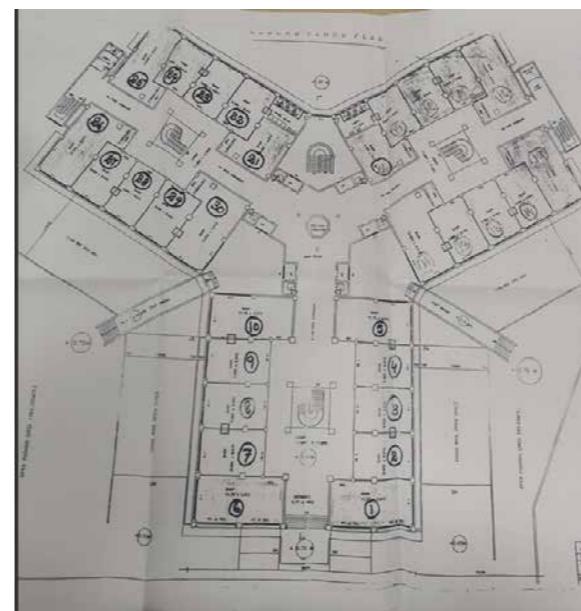


Building has a rigid geometry

Linear Arrangement

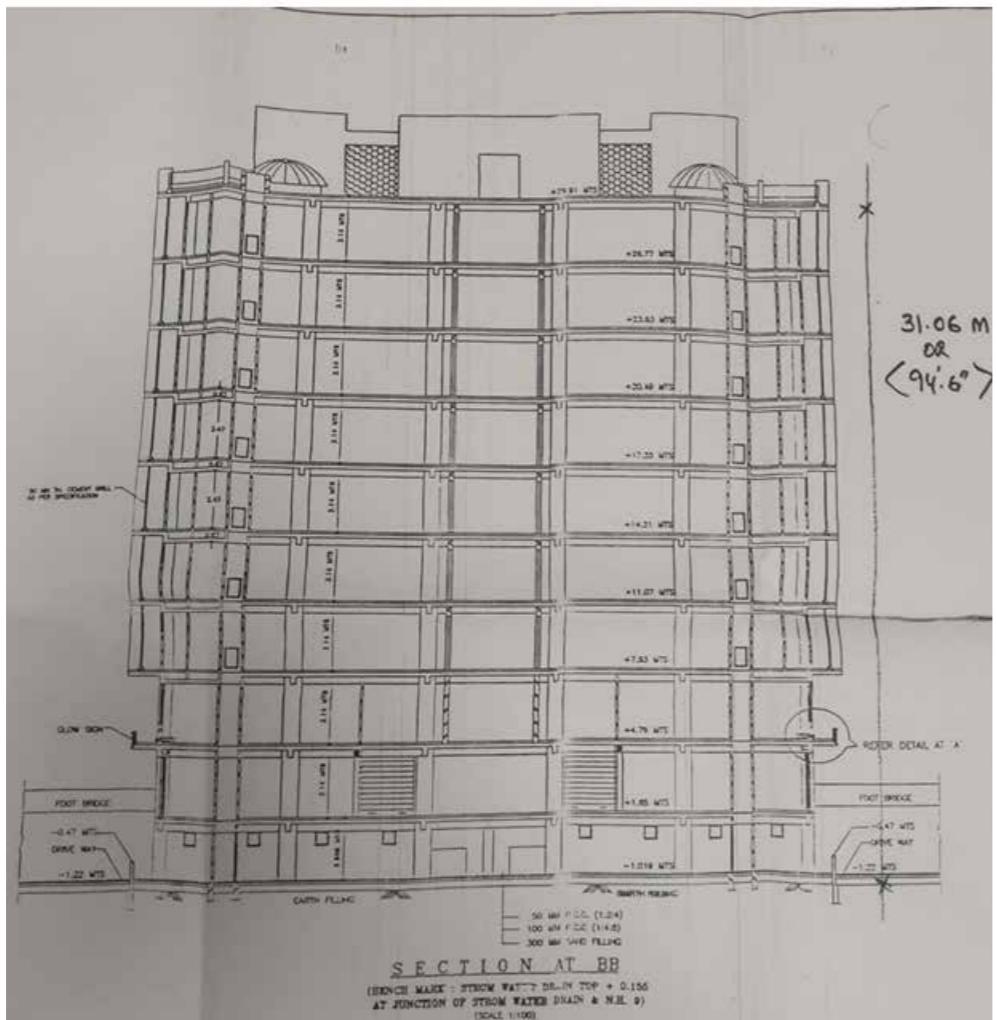
Fig. 22

4.4 ORIGINAL BUILDING DRAWINGS



AI - THE UPRISING

Fig. 23



4.5 Relevance of the building

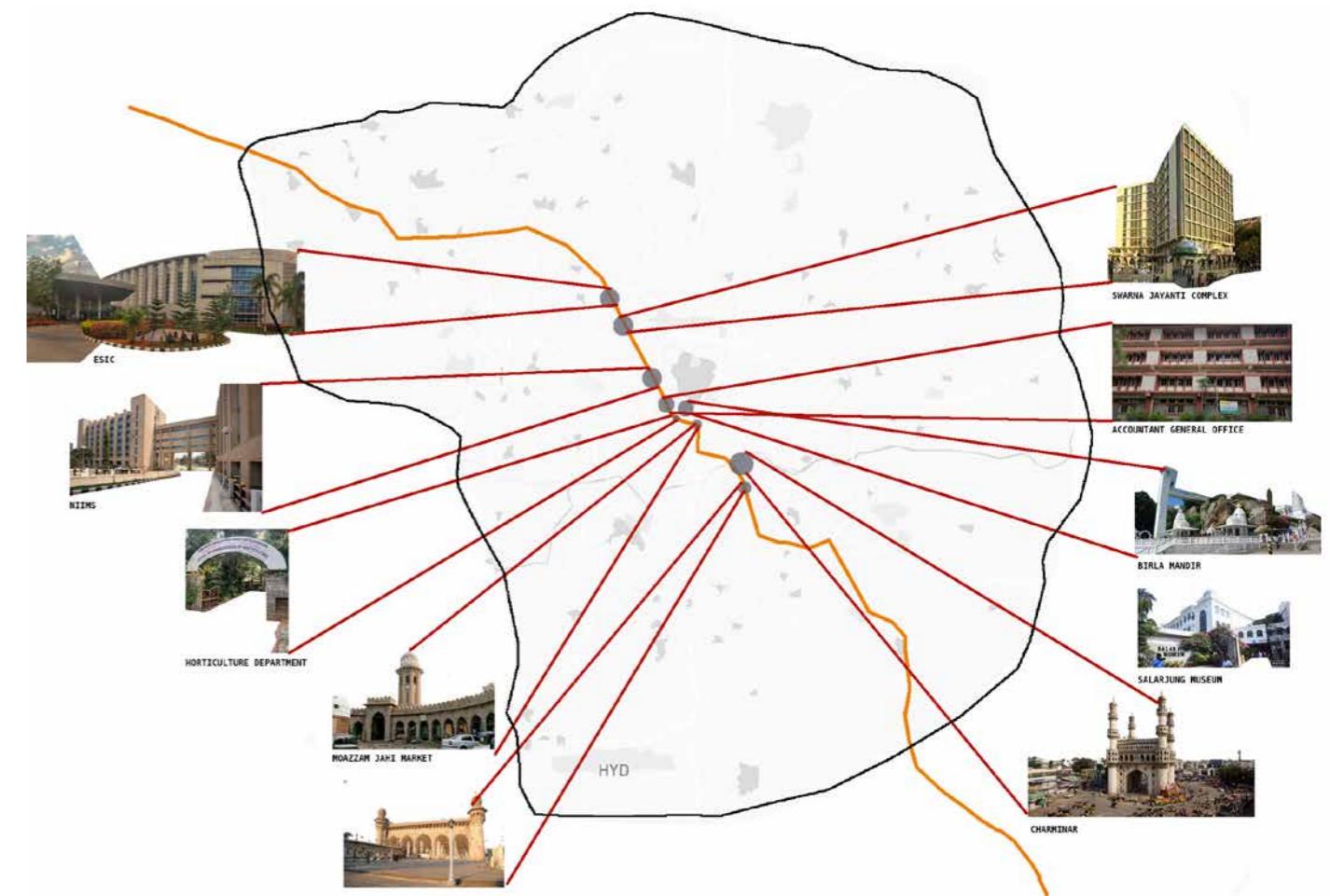


Fig. 25

The relevance of the road on which the building is located holds significant importance in the overall context of the project. The road serves as more than just a physical pathway; it embodies a symbolic and practical connection to the city's history, culture, and ongoing development. Situated amidst landmarks such as Charminar, Nizamia Unani Hospital, Mecca Masjid, and the Salarjung Museum, the road carries historical weight and cultural richness.

Practically, the road's centrality contributes to the accessibility and visibility of the project, ensuring that it becomes an integral part of the city's urban fabric. Being part of such a historically and culturally significant route enhances the project's visibility and underscores its role as a transformative initiative.

Furthermore, the road's position within the city's landscape connects the project to the larger urban dynamics, reflecting the city's evolution from historical roots to contemporary developments. Leveraging the road's relevance adds layers of context to the project, creating a dialogue between the past and the future, and aligning the initiative with the broader narrative of Hyderabad's growth and cultural heritage.

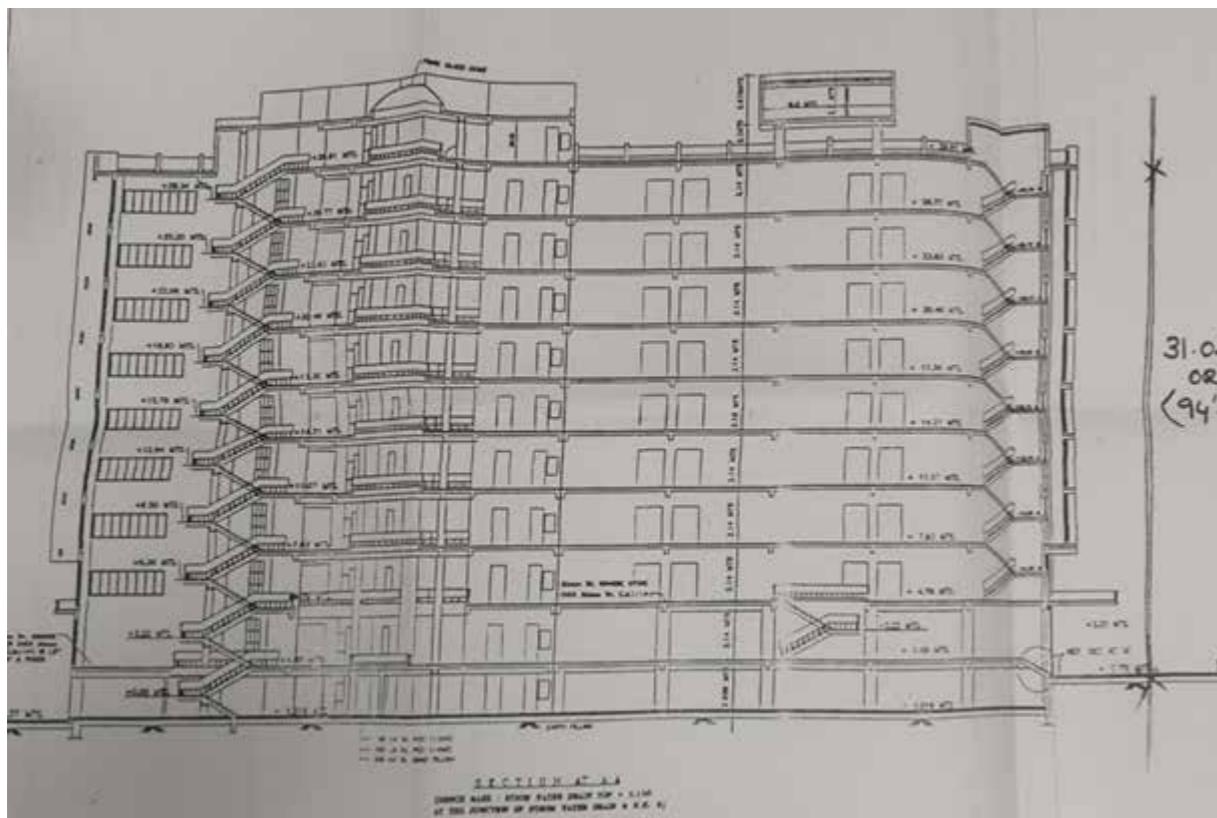


Fig. 24

4.6 SITE STUDY

BUILT- UNBUILT MAP



Fig. 26

INFERENCES- Very high density of built environment and minimal spaces
Pattern of settlement seen very rarely
Open spaces are also seen

CONNECTIVITY



Fig. 27

INFERENCES- Wide primary roads with minimal footpath
Main roads occupied with vehicular movement
Second and tertiary roads have minimal or no footpaths

VEGETATION

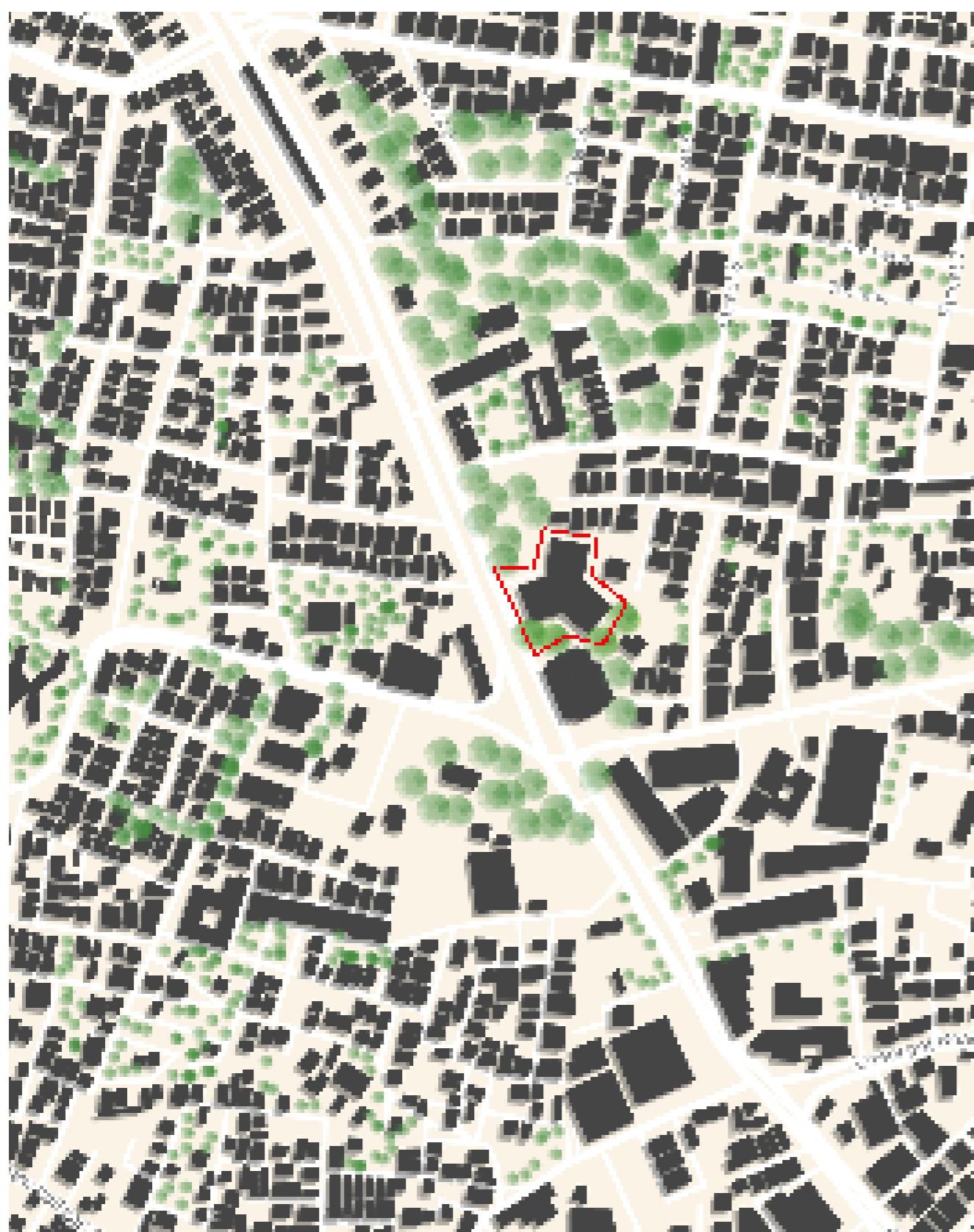


Fig. 28

INFERENCES- Densely populated area in the heart of the city of Hyderabad
Its a mixed use kind of setting with residence, shopping complex, street markets etc.
Vegetation is presently prominently

IMPORTANT BUILDINGS



Fig. 29

INFERENCES- Landmarks having significance of various types like economical, cultural backgrounds can be done

CHAPTER 5 - ARCHITECTURE BRIEF OF THE PROJECT

5.1 BRIEF OF THE PROJECT

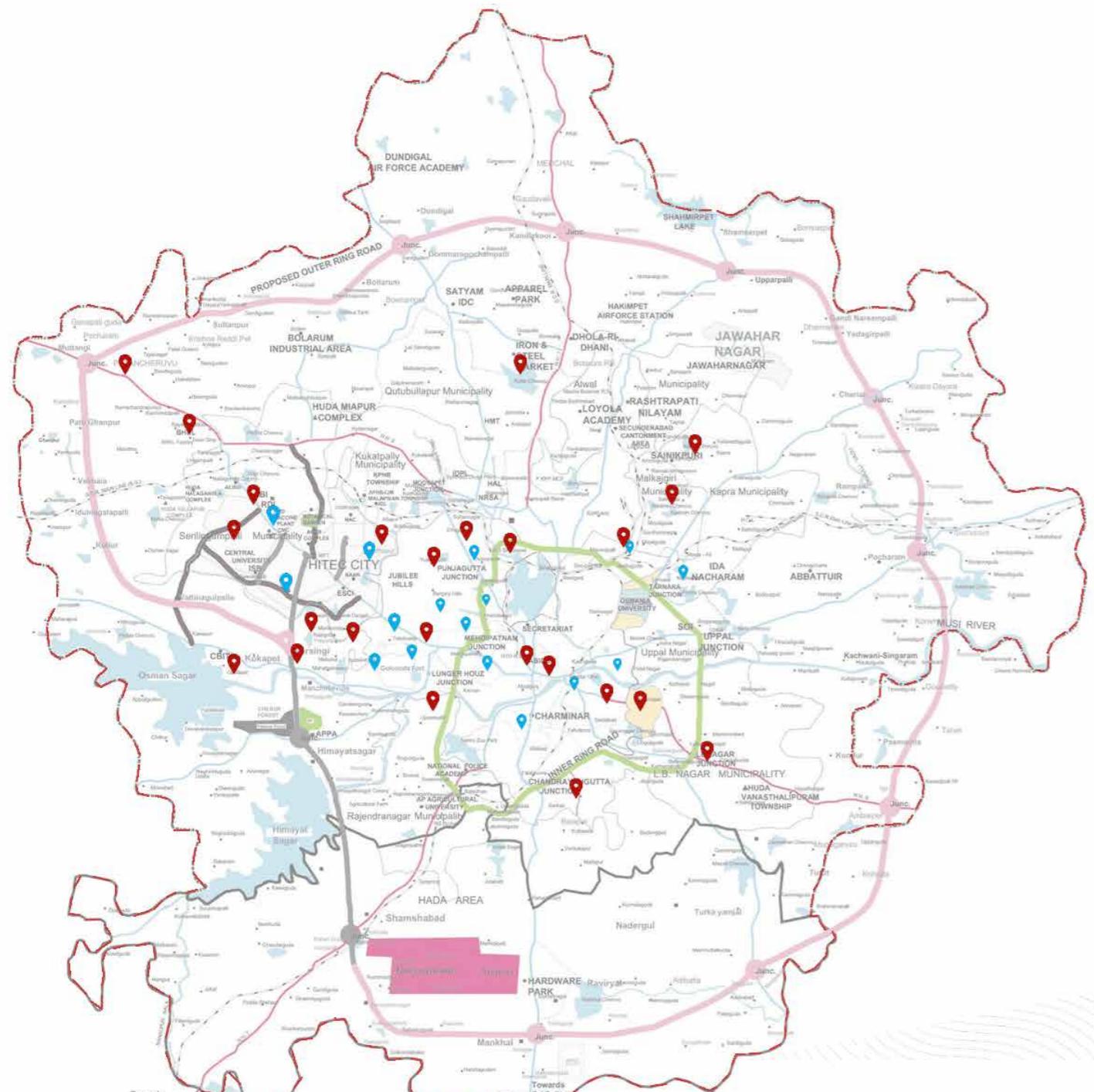
The architectural vision for this transformative urban hub hinges on a delicate integration of history, innovation, and community engagement. The existing HMDA building serves as both a canvas and a foundation for this metamorphic project. The design principle revolves around symbiotic integration, where the historical and administrative essence of the building converges with cutting-edge technologies seamlessly. Dedicated zones within the space cater to specific functions: the Data Digitization Center champions the efficient management of urban data, while immersive AR/VR Experience Zones transport visitors through the city's temporal landscape.

Community-centric spaces, strategically embedded in the design, prioritize inclusivity and engagement. These areas are conceived as dynamic forums for communal dialogue, workshops, and collaborative activities. The adaptive integration of AI, AR, and VR technologies is not just a feature but an intrinsic element of the architectural narrative, creating interactive displays and holographic projections that redefine the traditional understanding of urban spaces.

In emphasizing transparency, the architecture becomes a showcase for open governance. Glass facades, open layouts, and interactive data displays visually articulate the transformation of raw data into actionable insights, fostering transparency and informed decision-making. Rooted in Hyderabad's rich cultural context, the design incorporates local art and aesthetics, providing a sense of place and identity within the urban hub. In essence, the architectural proposition aspires to reshape urban living by harmonizing the past, present, and future into a cohesive and interactive urban experience.

5.2 EXPERIENCE ZONE

Location of post offices and Sub- post offices in Hyderabad



SUB- POST OFFICE

POST OFFICE

Fig. 30

POST- OFFICE ZONING

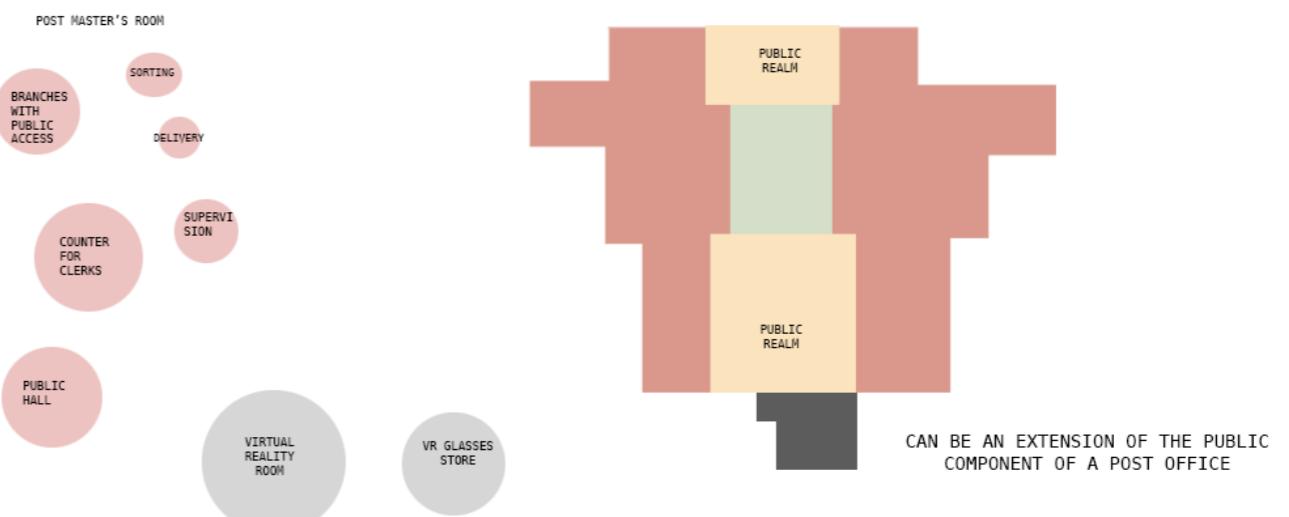


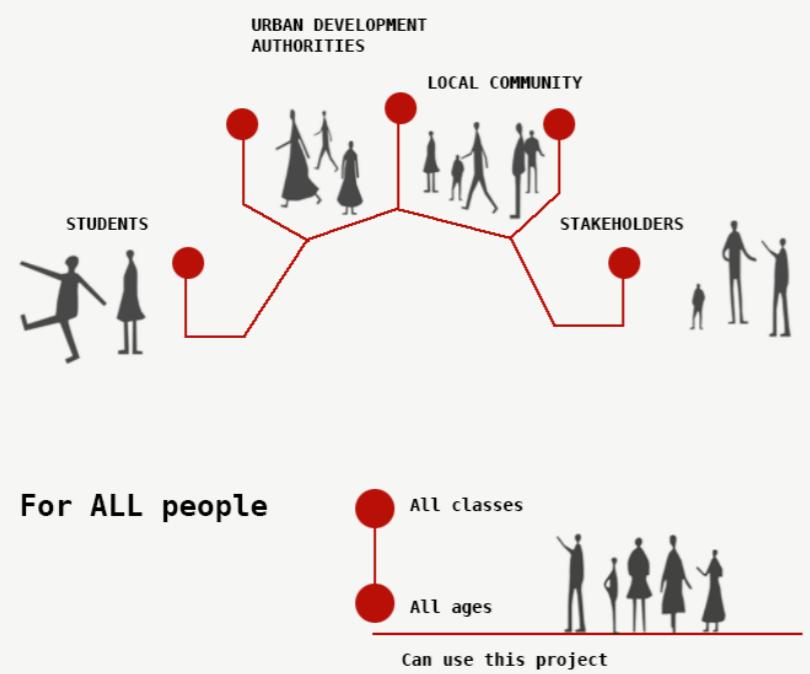
Fig. 31

Transforming post offices across Hyderabad, the aim is to introduce Experience rooms, dedicating spaces for residents and visitors to explore the city's history and future. These interactive hubs aim to foster civic pride, serve as educational centers, and attract tourists. Collaborating with local experts, we'll use modern technologies for an immersive experience. By seamlessly integrating these rooms into post office structures, we envision creating inclusive, and engaged communities.



Fig. 32

5.3 TARGET PEOPLE



The relationship between target group and the project

The project places for the need of the citizens at the center, with the emphasis on creating a space to foster a sense of ownership. The design excels in its ability to create value for all stakeholders, students and the local community



TOTAL BUILT UP- 3000 SQ.M

5.4 THE ACTIVITIES

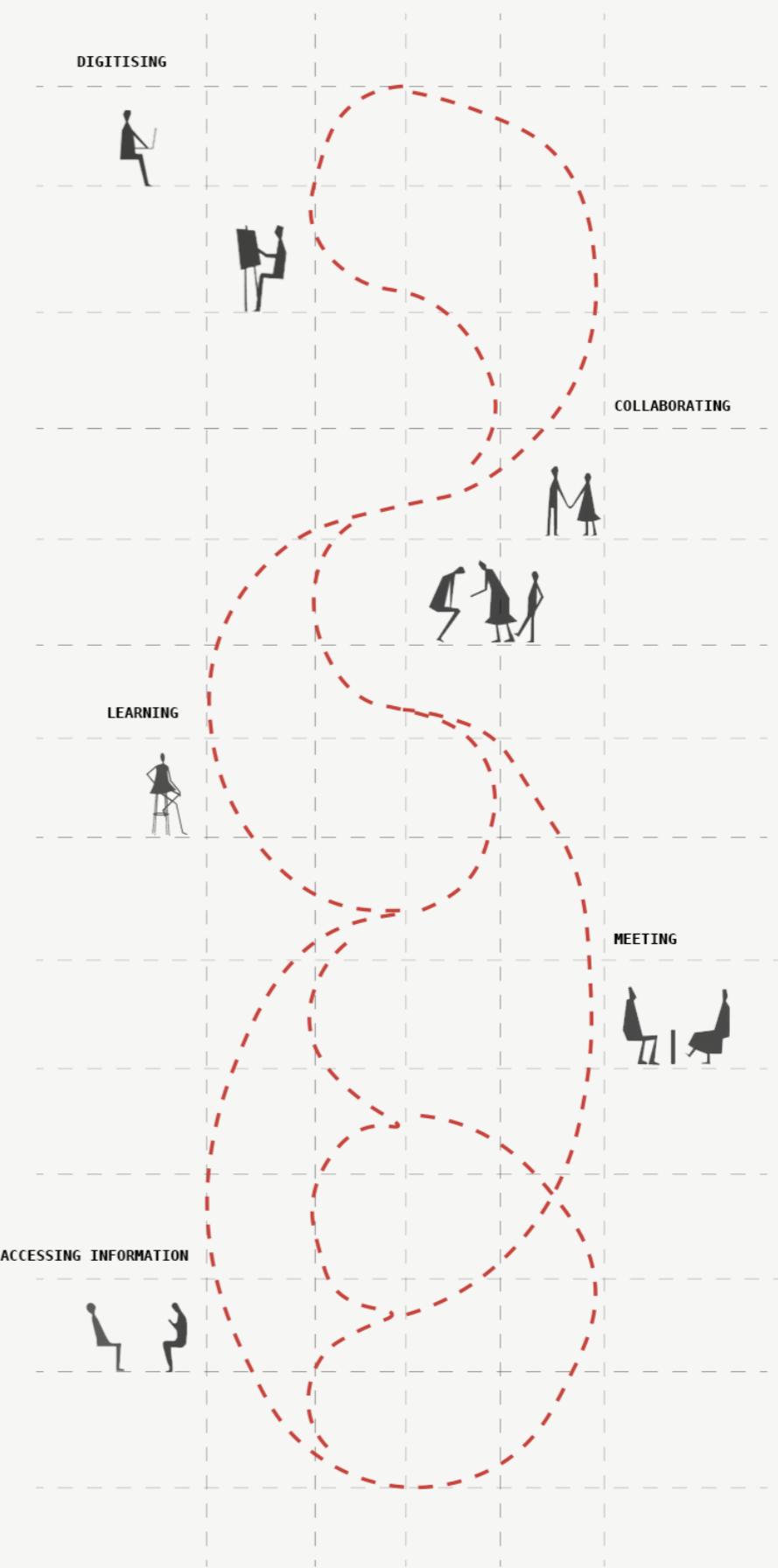
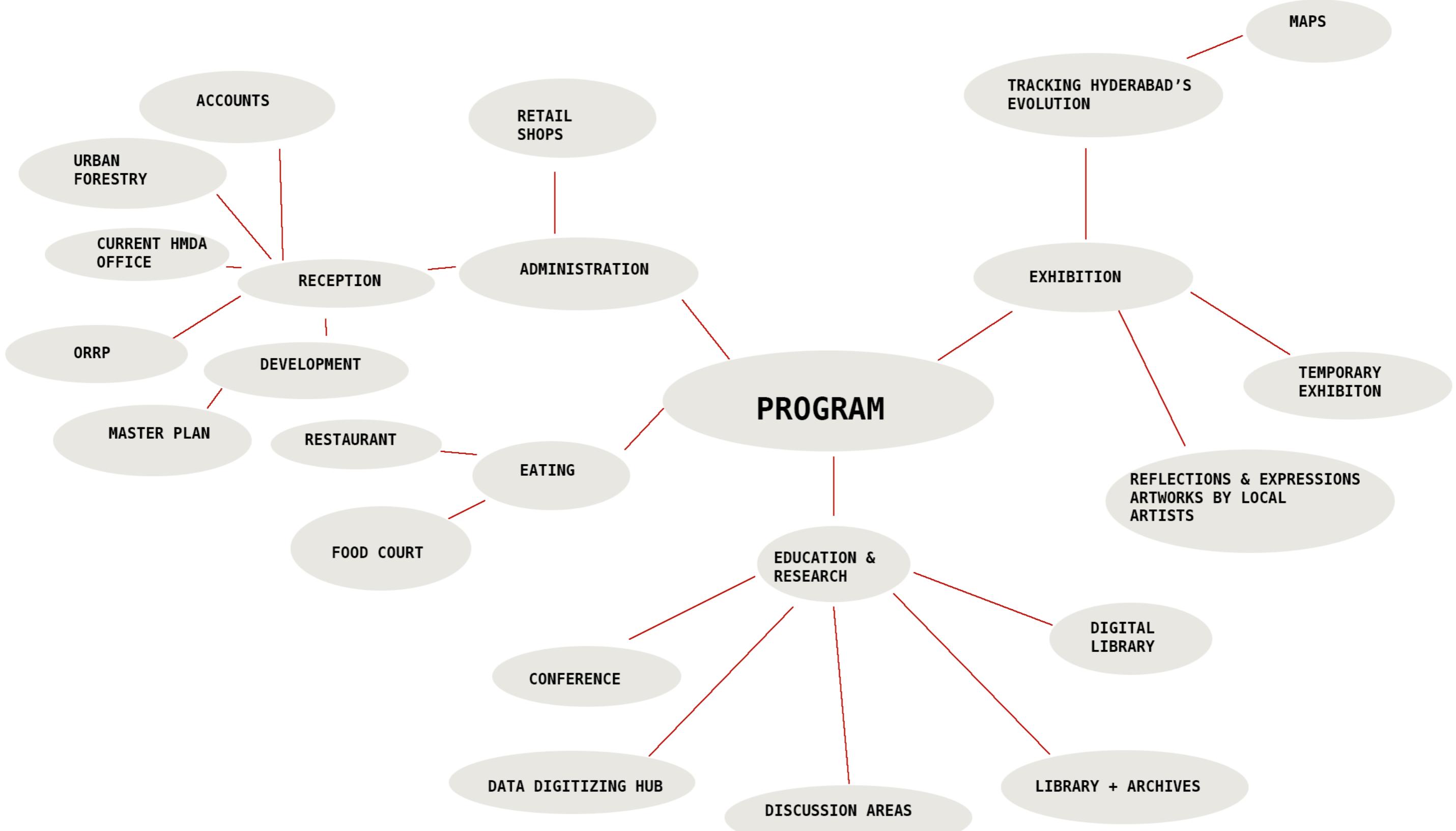


Fig. 33



5.5 ZONING AND AREAS

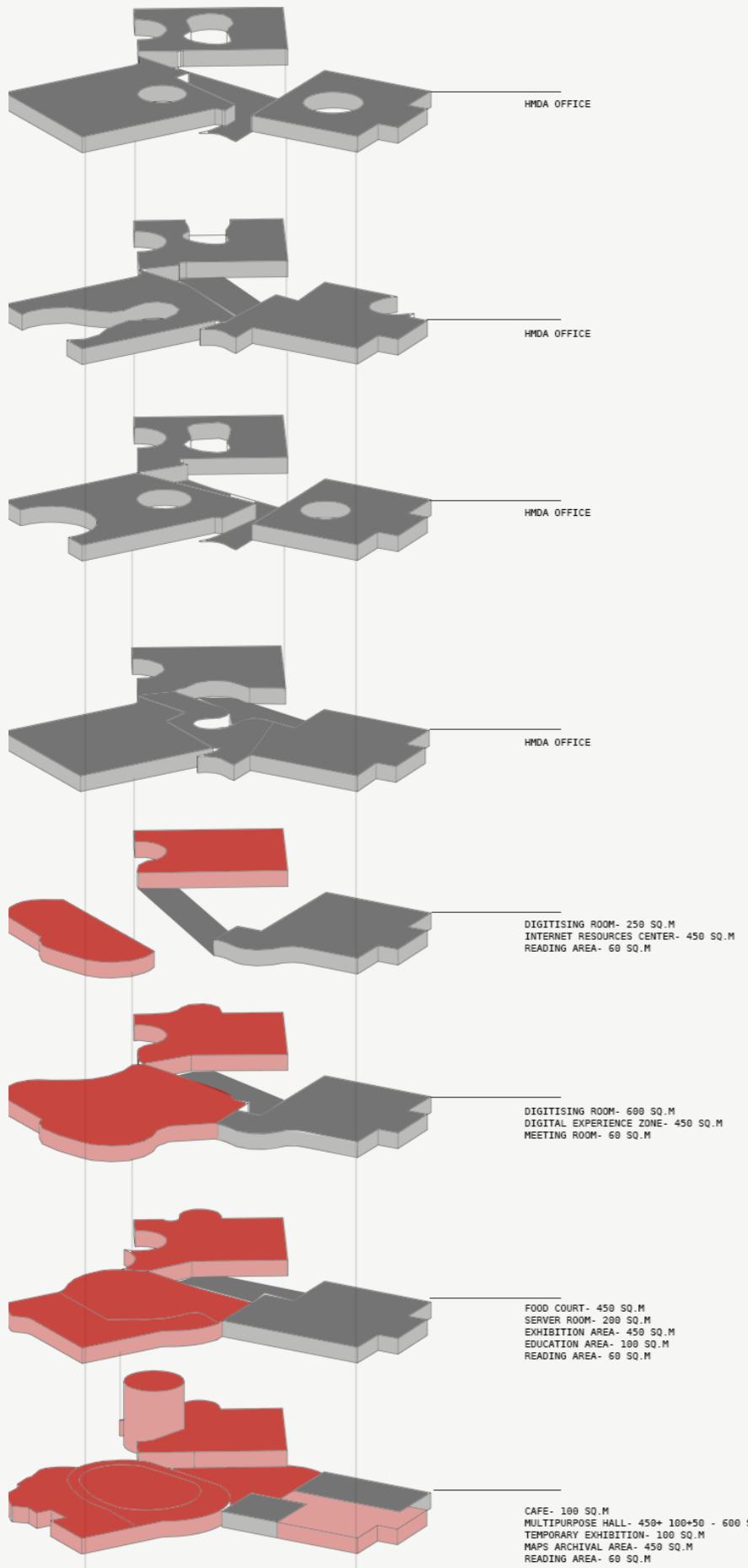


Fig. 34

5.6 CASE STUDIES

In the process, the project looks into several literature and theories by particular theorist, architect or thinkrs, besides it help supporting the idea or design it also helps to look at the project in several different point of view from different people.

Using public spaces, how to study and analyse about people behavior in public spaces and how it generates more social activities.

1. THE EDGE

ARCHITECTS - PLP Architecture

AREA - 40000 sq.m

LOCATION - Amsterdam

YEAR OF COMPLETION - 2015

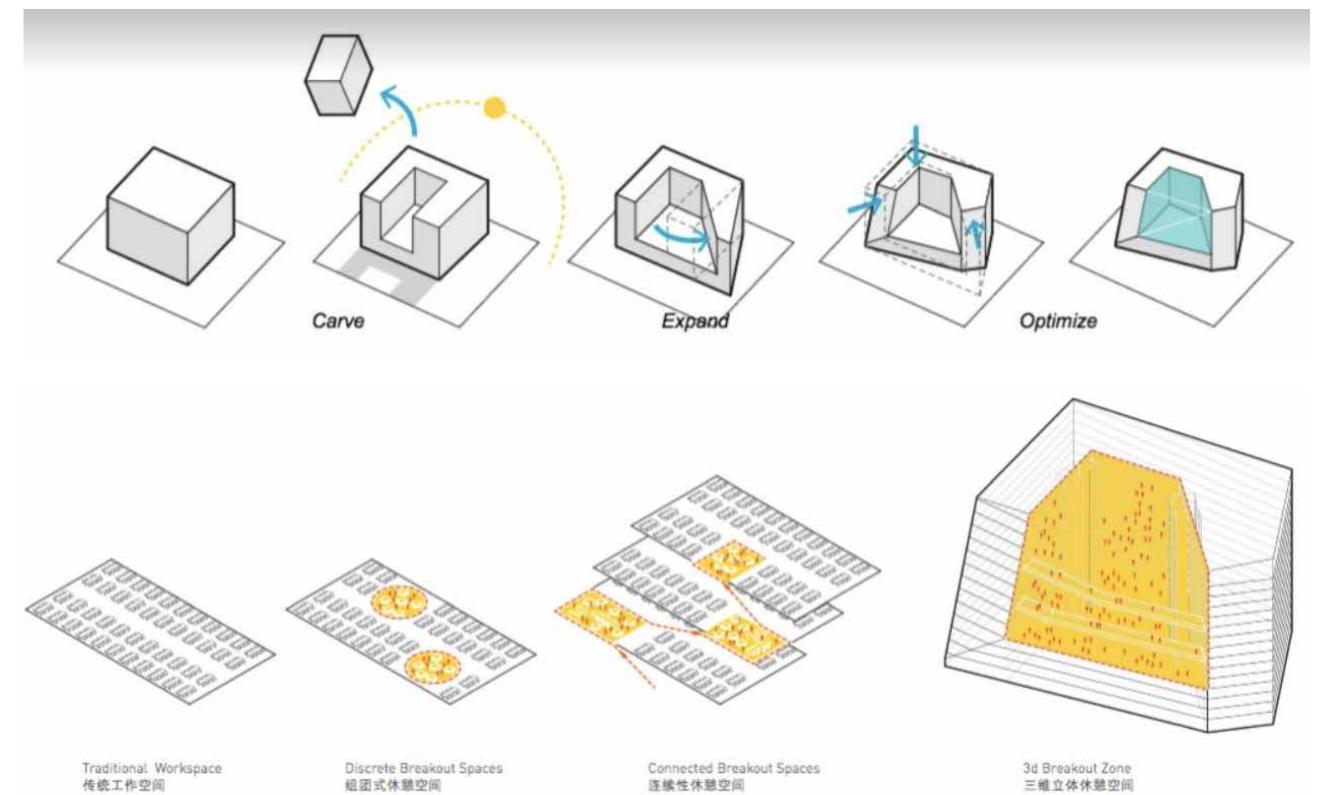


Fig. 35

The concept of transparent, flexible, and collaborative spaces has become a hallmark of contemporary architectural design, reflecting a shift in the way we approach work environments. Transparency, both literal and metaphorical, is embodied in the design of spaces characterized by extensive use of glass facades, open layouts, and interconnected zones. Such architectural choices aim to dissolve physical barriers, allowing natural light to permeate and creating a sense of visual connectivity between indoor and outdoor surroundings. This not only contributes to a more uplifting and spacious atmosphere but

atmosphere but also symbolizes organizational transparency, fostering a culture of openness and communication.

Flexible and collaborative spaces within architectural design respond to the evolving nature of work dynamics. The traditional cubicle-centric layout is replaced by multifunctional areas that can adapt to different tasks and team sizes. These spaces are intentionally designed to be agile, accommodating various work styles, from focused individual work to dynamic group activities. Incorporating modular furniture, movable partitions, and adaptable layouts, architects create environments that empower users to tailor their surroundings to specific needs. Emphasizing collaboration, these spaces often feature communal areas, shared workstations, and integrated technology, encouraging spontaneous interactions and teamwork. This architectural approach aligns with the changing paradigms of modern work culture, emphasizing flexibility, collaboration, and the creation of vibrant, interactive work ecosystems.

2. Elphilharmonie Hamburg

ARCHITECTS - Herzog & de Muron

AREA - 40000 sq.m

LOCATION - Hamburg, Germany

YEAR OF COMPLETION - 2016

The Elphilharmonie Hamburg is an architectural marvel that stands as a symbol of cultural vibrancy and innovation. Perched on the banks of the Elbe River in Hamburg, Germany, this iconic structure was designed by the

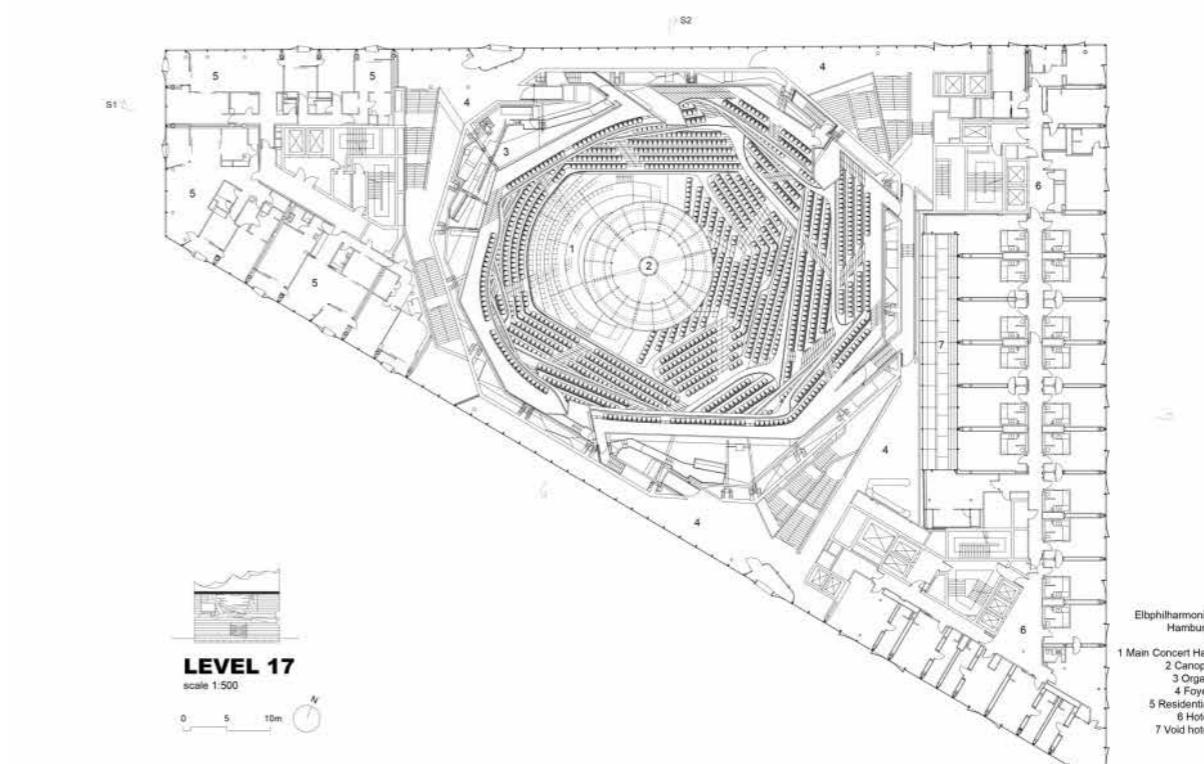
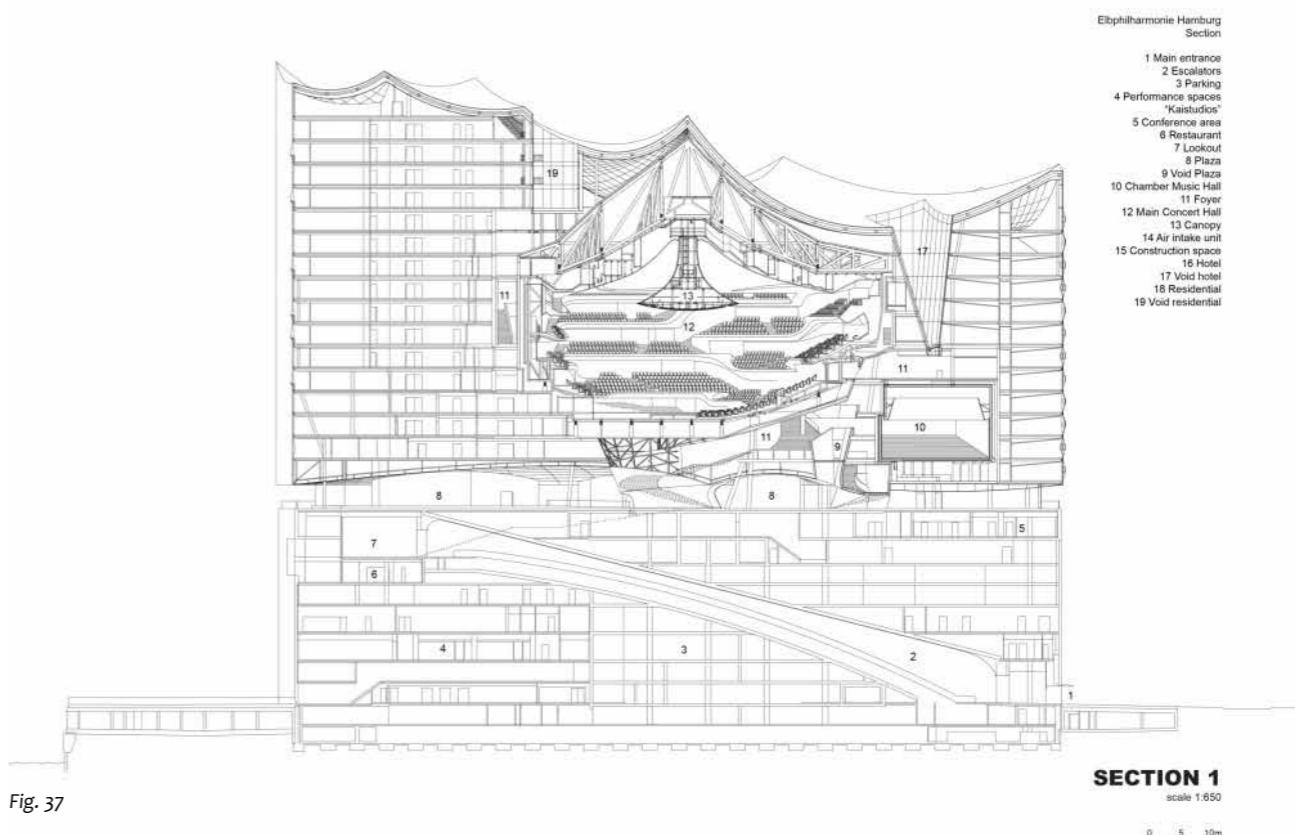


Fig. 36

renowned Swiss architecture firm Herzog & de Meuron. The Elphilharmonie was inaugurated in January 2017 and has since become an integral part of Hamburg's skyline.

The design of the Elphilharmonie is a stunning example of modern architecture seamlessly integrated with historic elements. The building is characterized by its wave-like glass structure that sits atop an old warehouse, creating a harmonious blend of the old and the new. This unique design not only serves an aesthetic purpose but also contributes to the building's exceptional acoustics.

The heart of the Elphilharmonie is its grand concert hall, which is renowned for its outstanding acoustics and distinctive design. The undulating walls and reflective surfaces within the hall ensure an immersive auditory experience for the audience. The building also houses a smaller concert hall, a hotel, and residential apartments, making it a versatile and dynamic cultural hub.



3. Marina Bay One

ARCHITECTS - Ingenhoven Architects
AREA - 367 million square feet
LOCATION - Singapore
YEAR OF COMPLETION - 2017

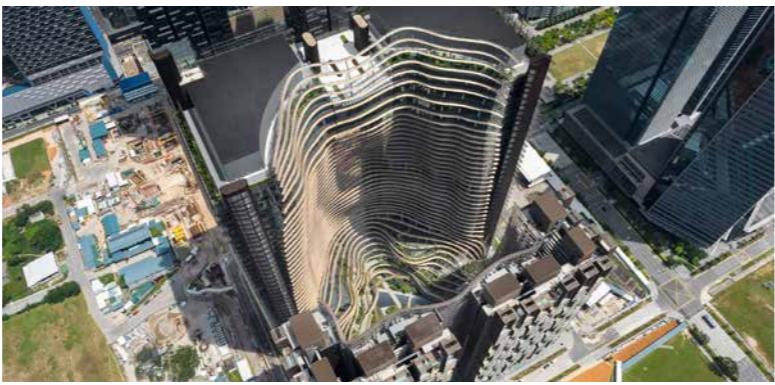


Fig. 39

As an international role model for living and working, Marina One, makes an innovative contribution to the discourse on mega-cities, especially in tropical regions, which, in the context of increasing population and climate change, face enormous challenges.

The high-density building complex with its mix of uses extends to over 400,000 square meters and, with its group of four high-rise buildings, defines the ,Green Heart, a public space extending over several stories.

This three-dimensional green oasis reflects the diversity of tropical flora. Aedes presents diagrams and interviews with project participants, as well as a documentary film on the architecture.

The interaction between the geometry of the buildings and the garden facilitates natural ventilation and generates an agreeable microclimate.

The largest public landscaped area in the Marina Bay Central Business District of Singapore provides living space close to nature, the usable area of which is 125 percent of the original site surface area.



Fig. 40

3. Embryological House



Fig. 41

As a designer Greg Lynn is preoccupied with the potential of digital design and manufacturing to generate an architecture expressing the cultural and technological conditions of our time. Lynn has produced theoretical projects, competition entries, collaborations with other designers and artists, and a corpus of built work that pushes the boundaries of architectural form. His work has been described as "BLOB" architecture (from the computing term "Binary Large Object"), a reference to its use of curving, non-Euclidean geometries. It employs a rigorous experimentation with digitally-generated realizations of flows and forces: what Lynn refers to as "animate form." Lynn himself describes his architecture with a language of organic and digital metaphor: flower, strand, shred, skin, lattice, branch, bleb, teeth.

The Embryological House is paradigmatic of this work: a born-digital project developed through the application of principles of animate form. It had several goals:

to rethink the idea of house typology beyond the modernist "kit of parts" model to an organic, flexible, genetic/generic prototype from which an infinite number of iterations can be generated.
to extend the interplay of "generic" and "variation" implied in this rethinking to notions of product "branding" and the satisfaction of individual desire through consumer-specific, unique versions of the product.

to push the capabilities of existing automated manufacturing technologies for the production of non-standard architectural forms.

The House therefore makes contemporary commercial and technical realities part of its conceptual discourse.

5.7 CONCEPT

The central tenet of the thesis is rooted in the idea of symbiotic urbanism, where the relationship between the city and its inhabitants is envisioned as a harmonious interdependence. The architectural concept seeks to mirror the intricate balance found in natural symbiotic relationships, translating this ethos into the complex fabric of urban landscapes.

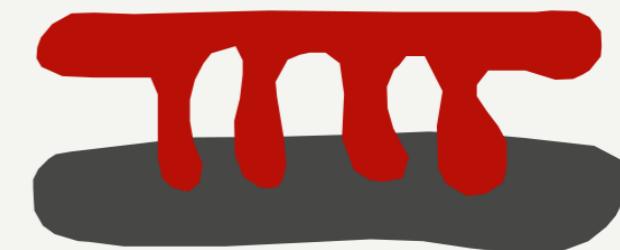
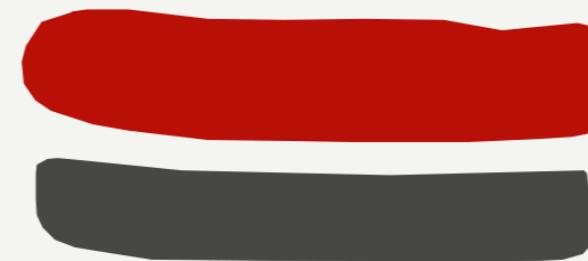
The design philosophy extends to the unveiling of the hidden narratives within the city. Inspired by the layers of history, culture, and untold stories, the architecture employs immersive technologies such as AR and VR to bring to light the latent richness concealed in the bustling urban environment. This approach aims to create a dynamic interplay between the seen and the hidden, enriching the urban experience with layers of contextual significance.

Integral to the concept is the notion of structured symbiosis, emphasizing the importance of the architectural framework. Retaining the existing structure symbolizes the resilience of urban environments, while the integration of new elements reflects the adaptability required for the city's continuous evolution. The design aspires to be a testament to the enduring nature of cities and their capacity to absorb and reflect the diverse stories they encompass.

In tandem with the gradual integration of AI, AR, and VR into daily life, the architecture serves as a canvas for these transformative technologies. Spaces are thoughtfully designed to seamlessly incorporate these advancements, creating an environment that mirrors the evolving urban experience shaped by digital interventions. The design ethos reflects the gradual takeover metaphor, illustrating how these technologies subtly but profoundly transform our world, inviting users to engage with the intersection of the digital and physical realms.

In summary, the thesis conceptualization revolves around fostering a symbiotic relationship between the city and its inhabitants, unraveling the hidden narratives, emphasizing the significance of structure, and embracing the transformative influence of emerging technologies. The envisioned architecture aims not only to reflect the evolving urban landscape but also to actively contribute to shaping its future trajectory.

PEOPLE AND CITY HIDDEN AND SEEN



IDEA OF SYMBIOSIS

STRUCTURE IS IMPORTANT

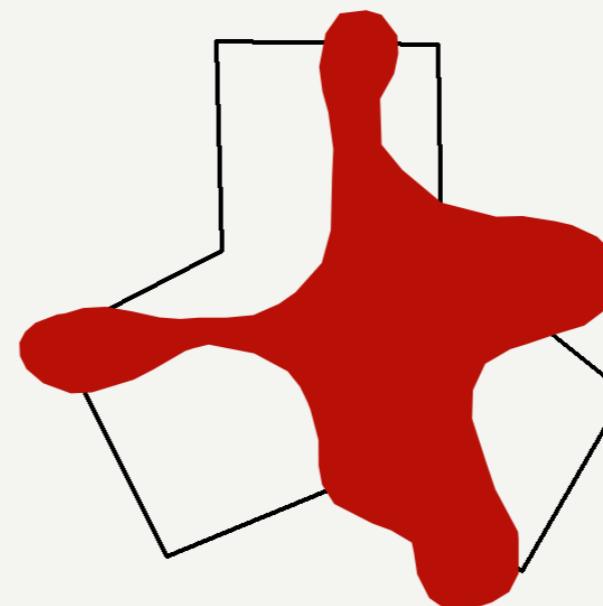


Fig. 42

Sectional Explorations

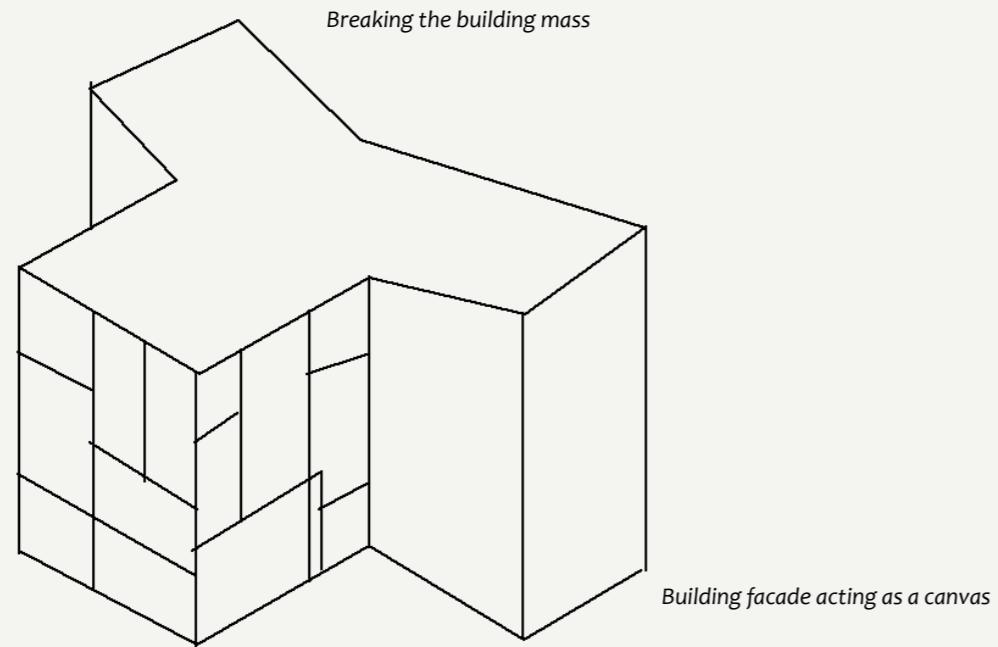
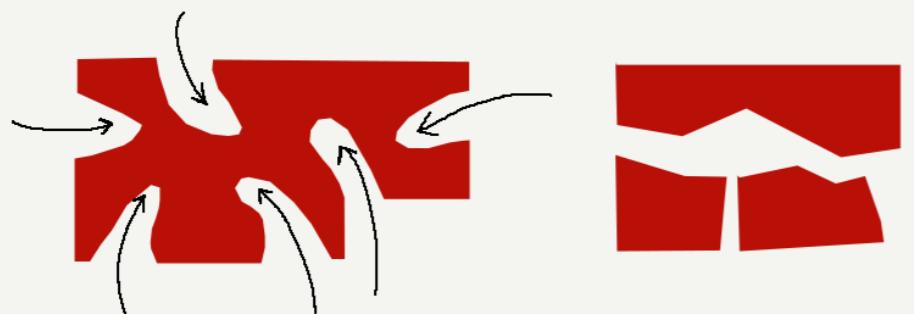
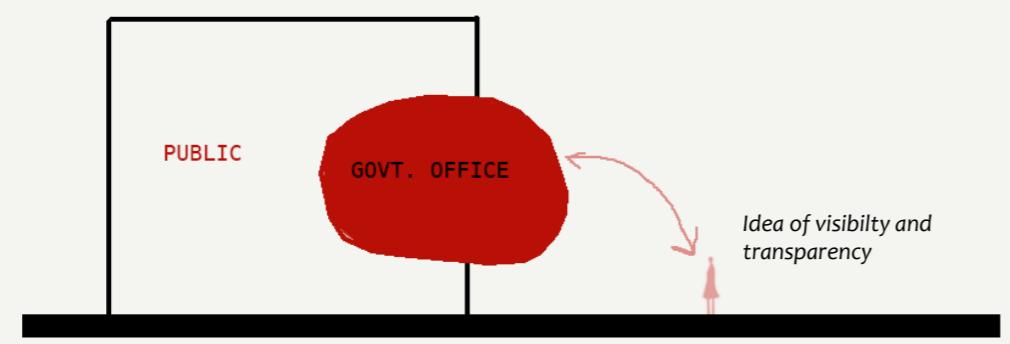
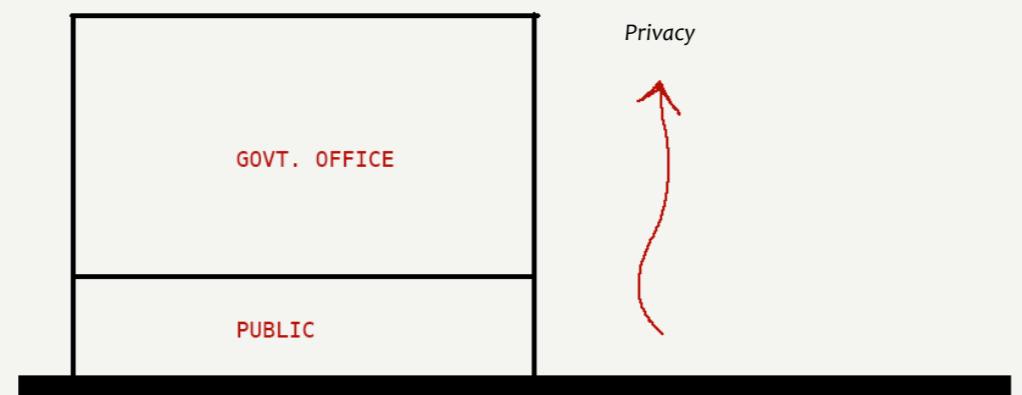
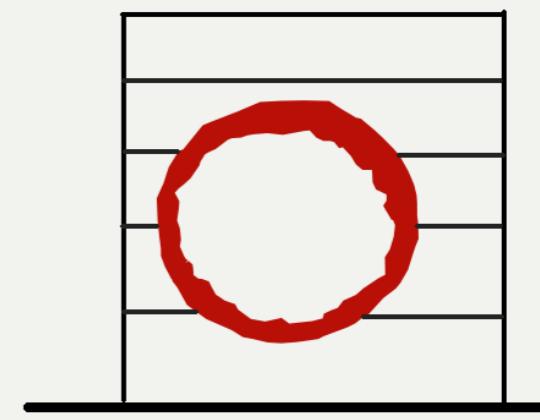
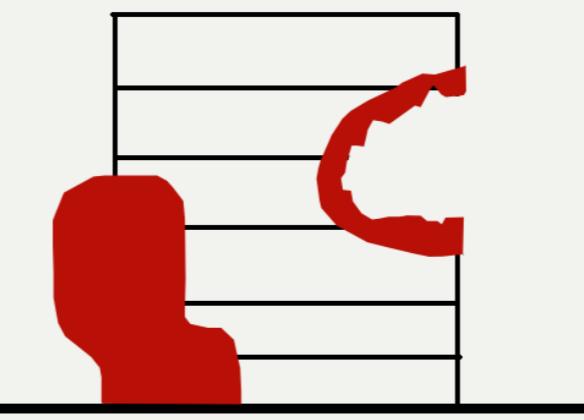
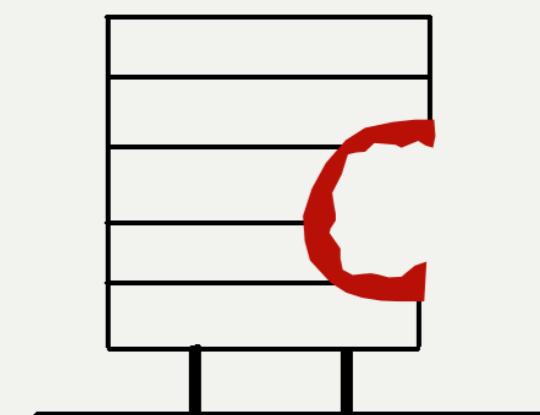
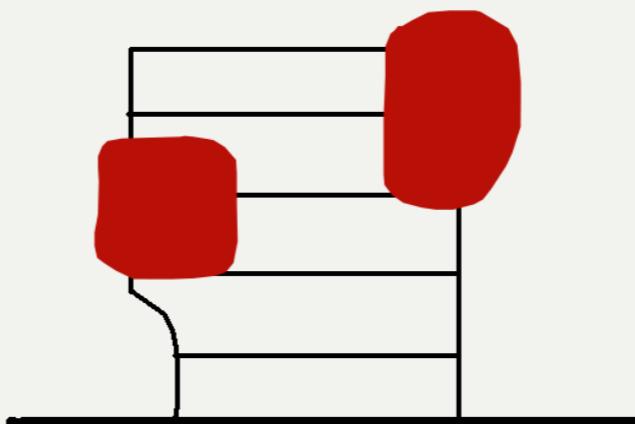
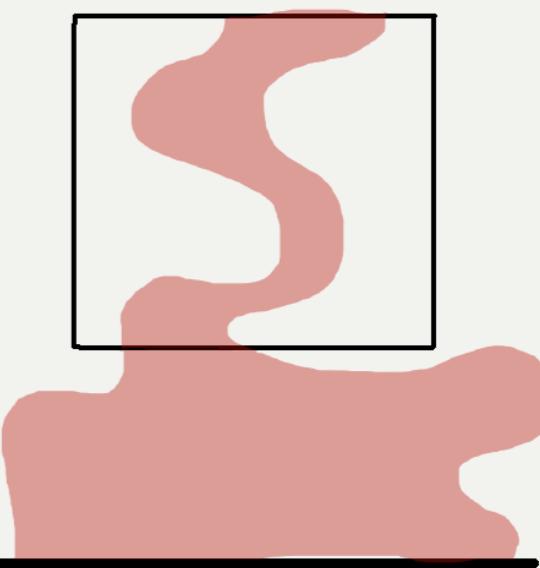
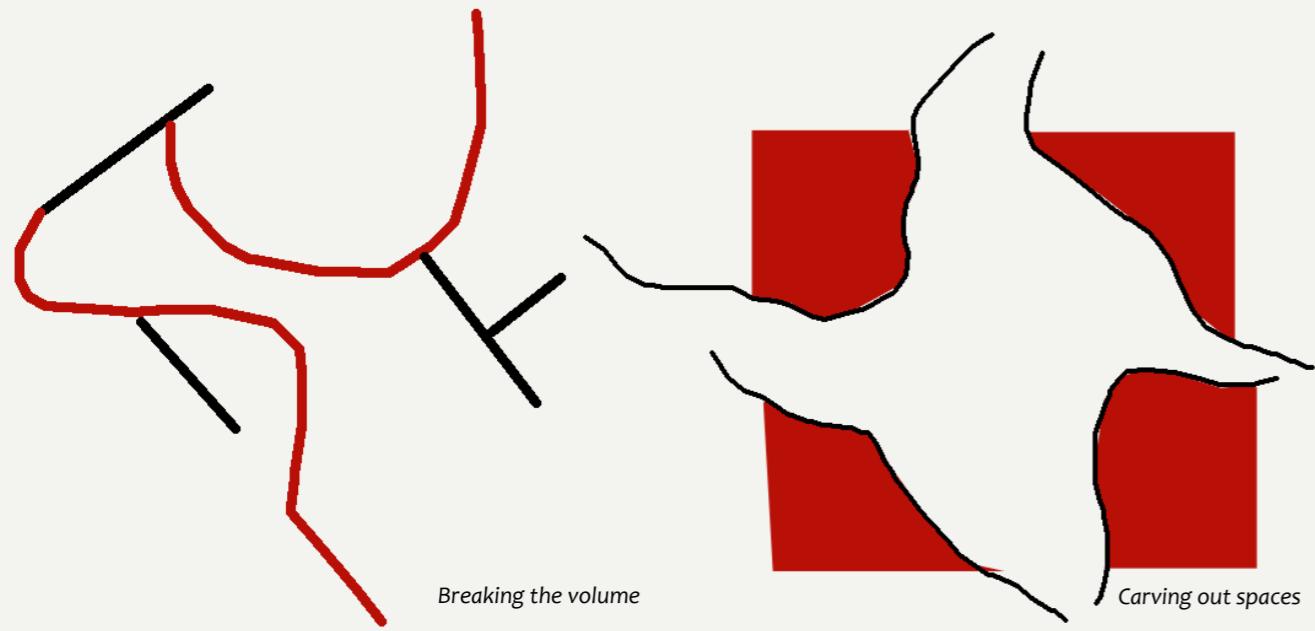


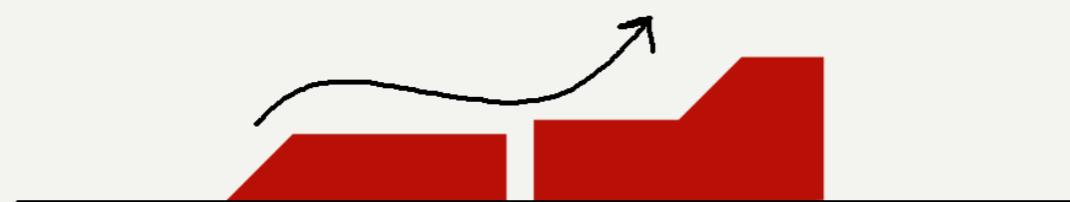
Fig. 43

Fig. 44

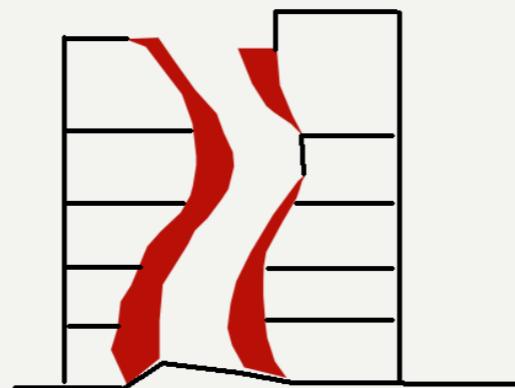


Breaking the volume

Carving out spaces



All spaces open into the atrium



Scooping in volumes

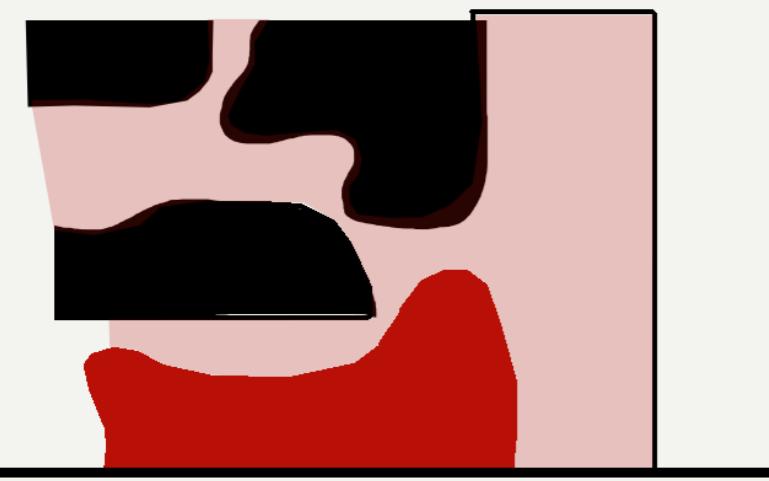
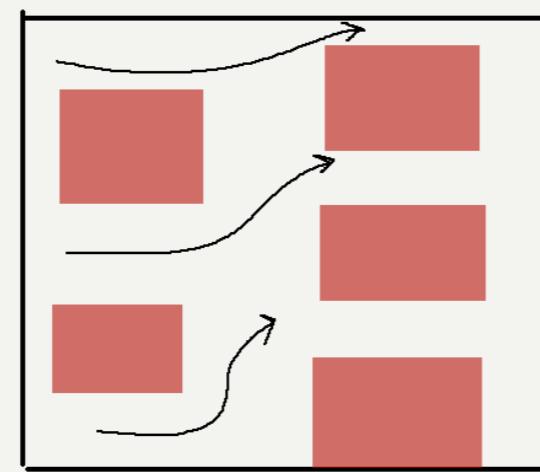


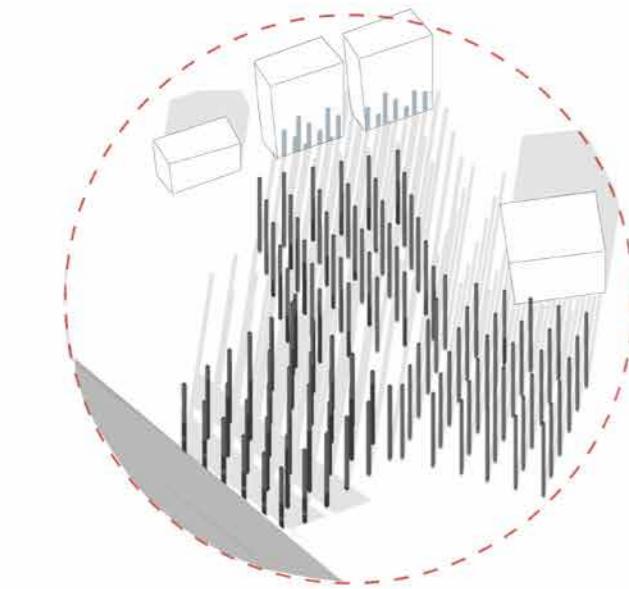
Fig. 45



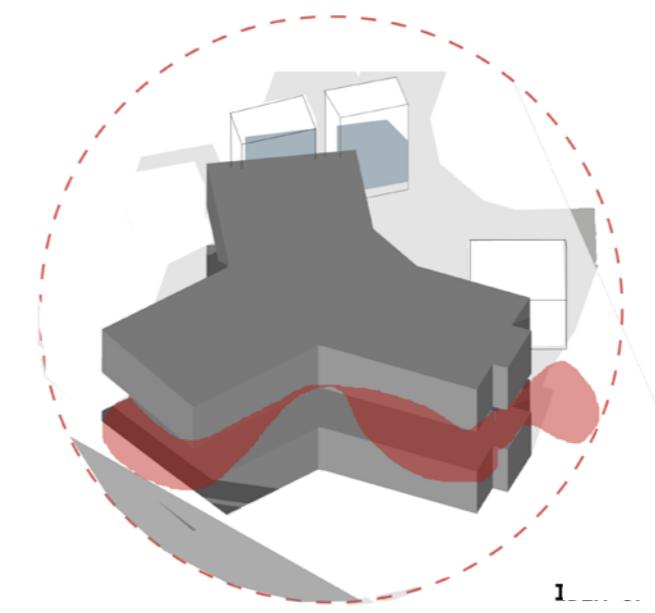
Idea of continuous uninterrupted spaces

CHAPTER 6 - DESIGN DEVELOPMENT AND DRAWINGS

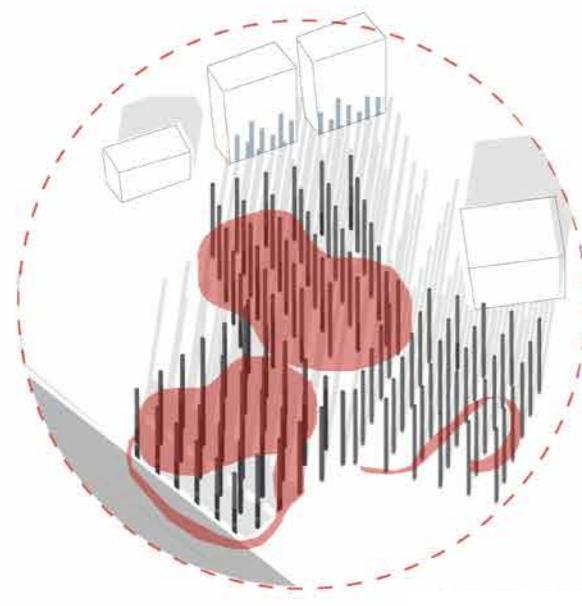
6.1 DESIGN DEVELOPMENT



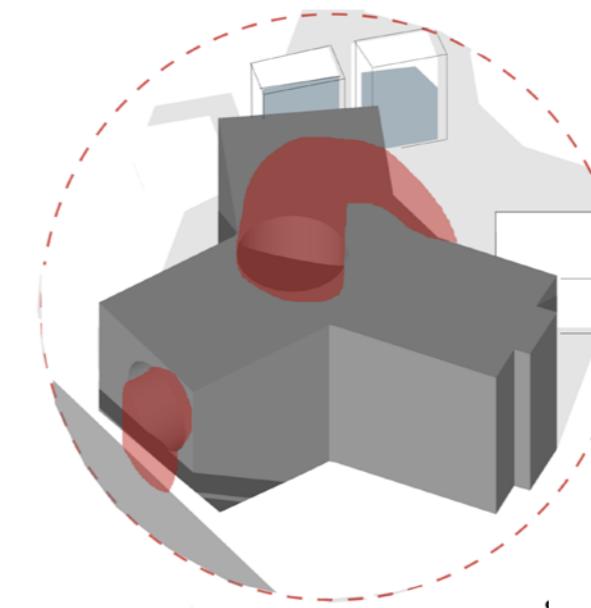
Idea of retaining the original structure of the building



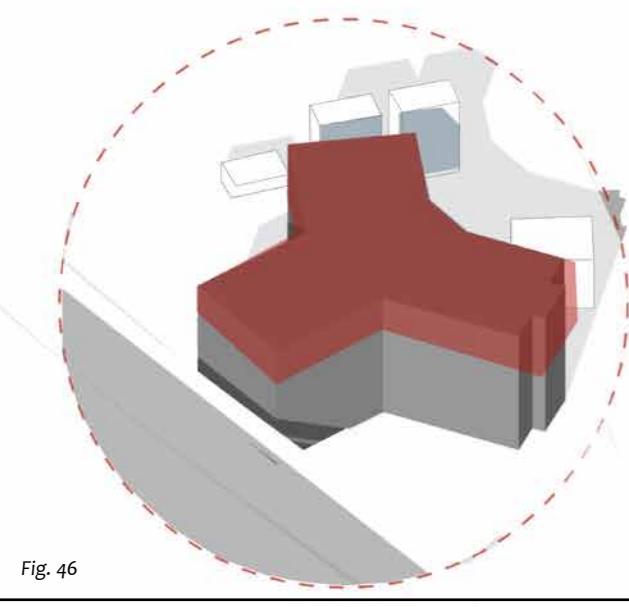
Idea of pushing the intervention between the building



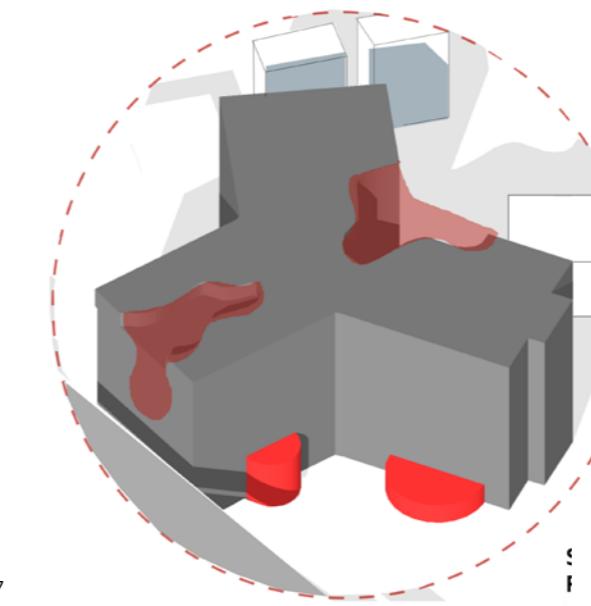
Idea of breaking the grid of the original building which was very rigid



Scooping out volumes from the original building, and these scooped out volumes could become the intervention



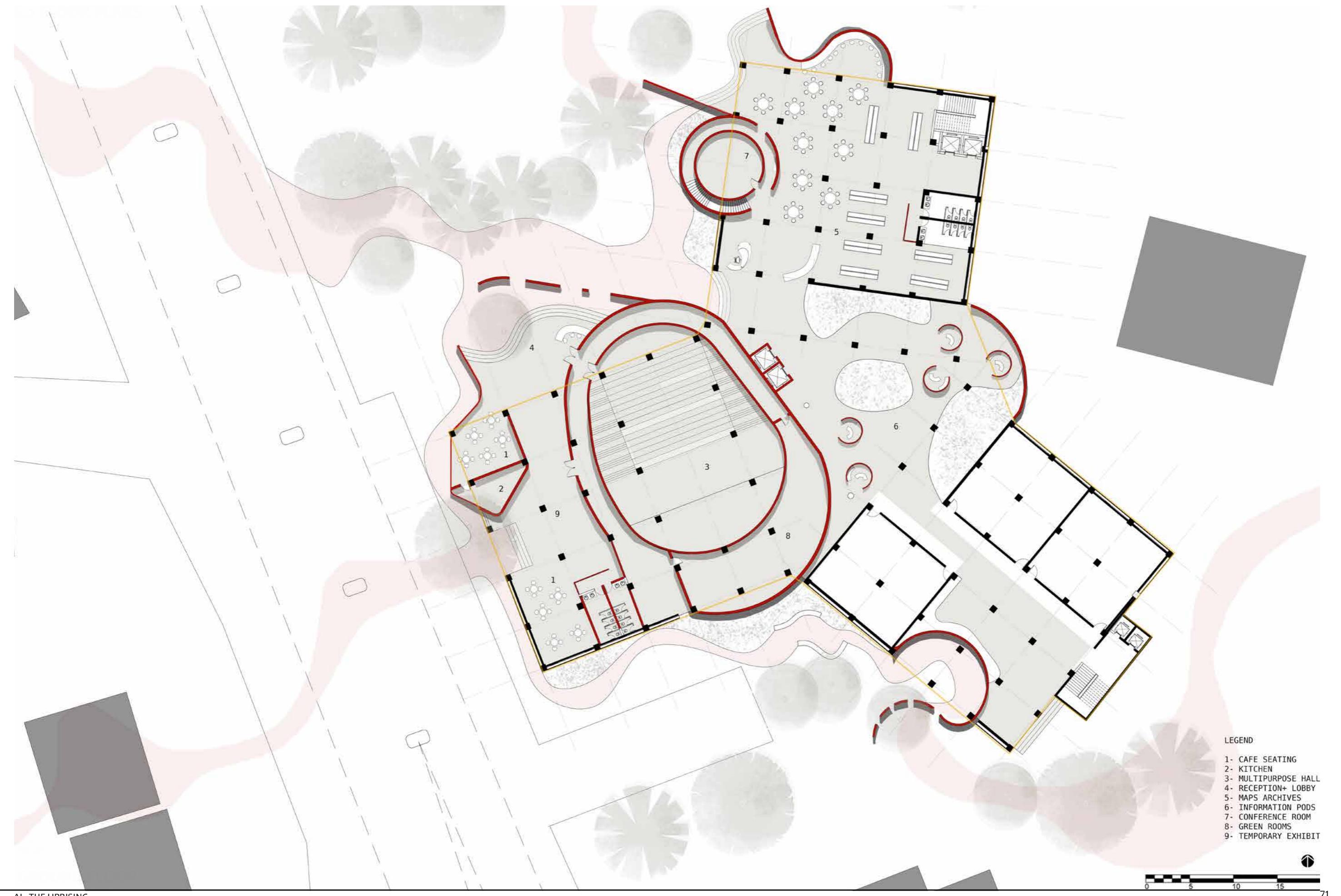
Idea of breaking the grid of the original building which was very rigid



Scooping out volumes while retaining parts of the building

Fig. 46

Fig. 47









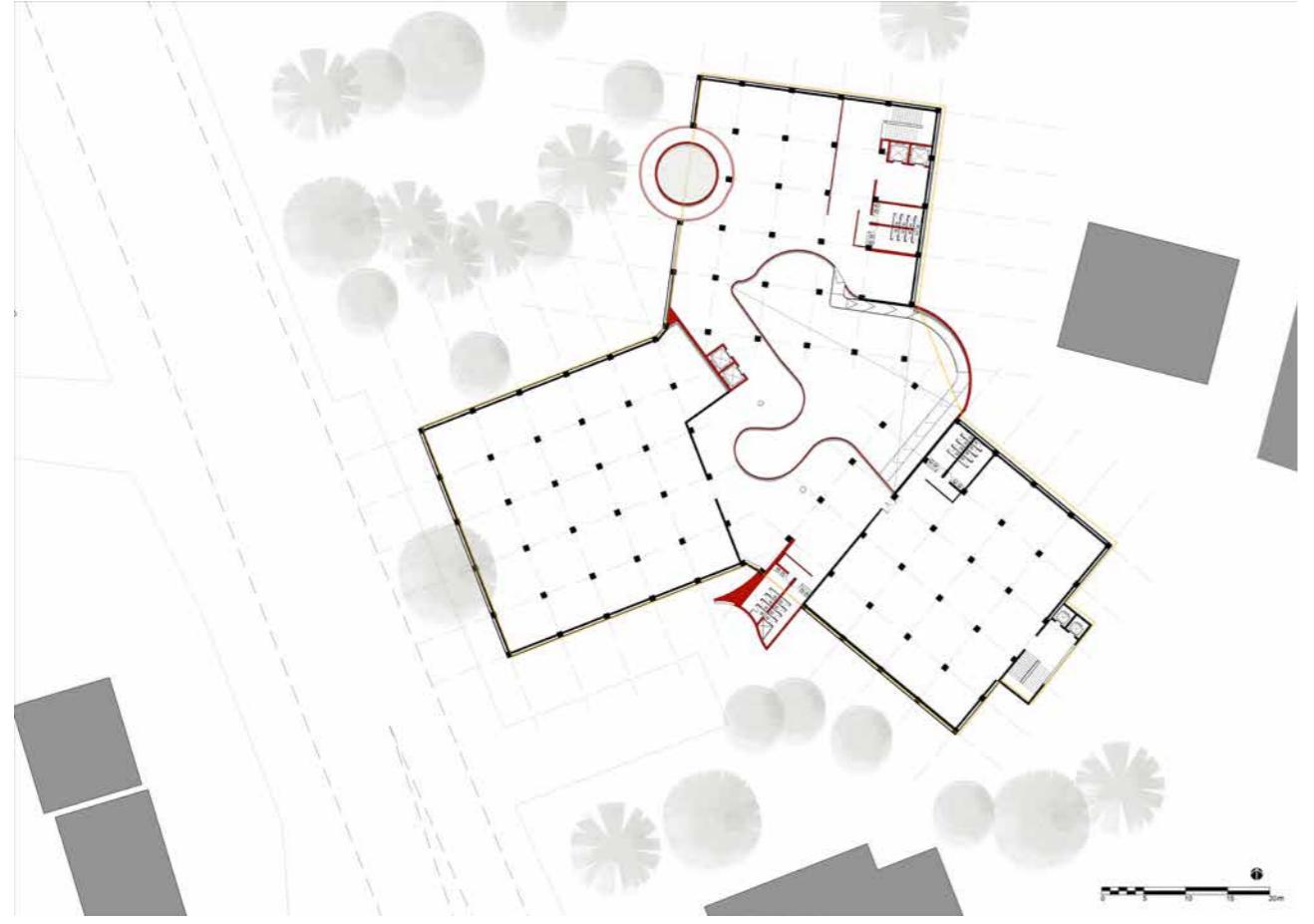


Fig. 52

Fourth Floor Plan



Fig. 54

Sixth Floor Plan



Fig. 53

Fifth Floor Plan

AI - THE UPRISING



Fig. 55

Seventh Floor Plan

AI - THE UPRISING

6.5 FINAL MODEL

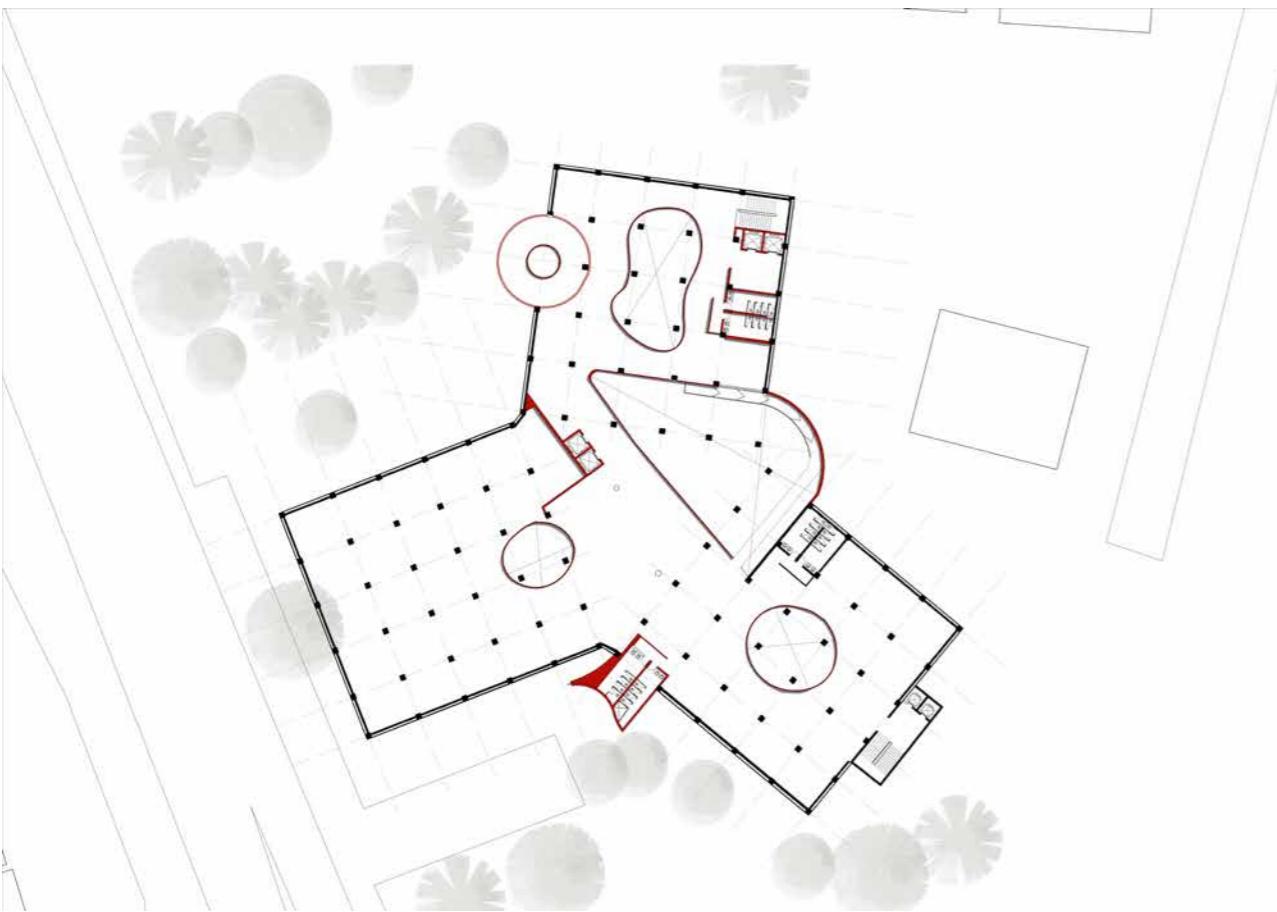


Fig. 56
Eighth Floor Plan



Fig. 66



Fig. 67

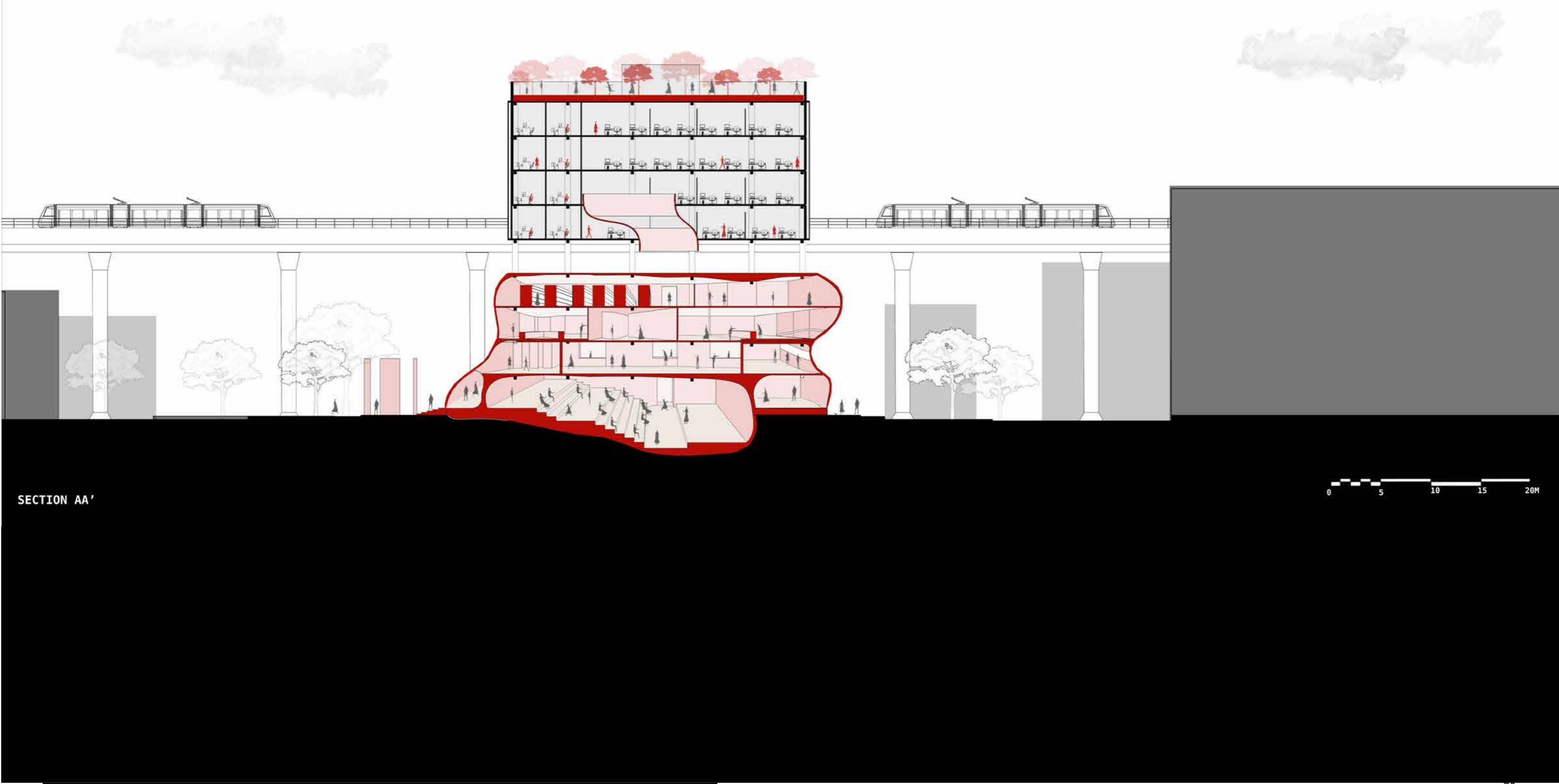


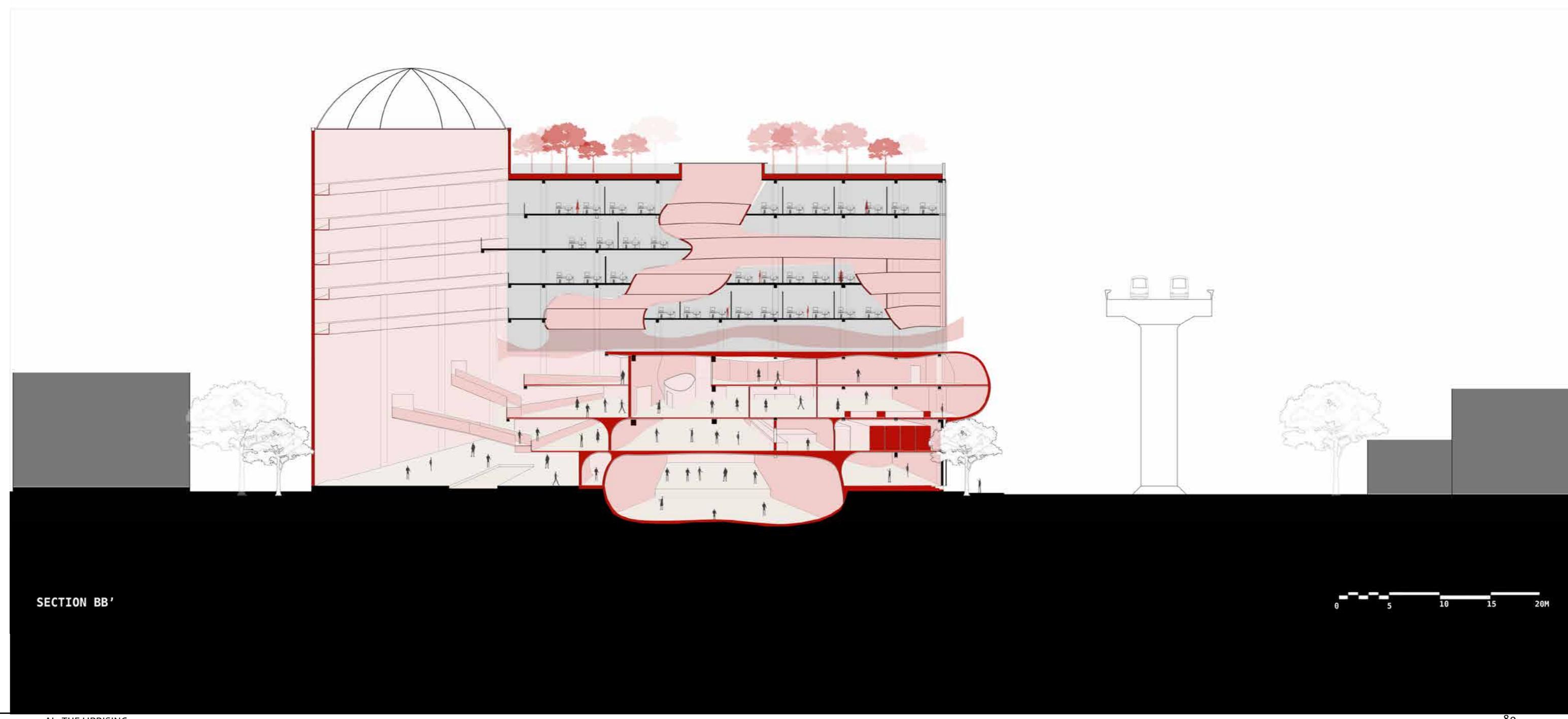
Fig. 68



Fig. 69

6.3 SECTIONS





SECTION BB'

6.4 ITERATIONS



Fig. 59

Iteration 1



Fig. 60

Original Building



Fig. 63

Iteration 4

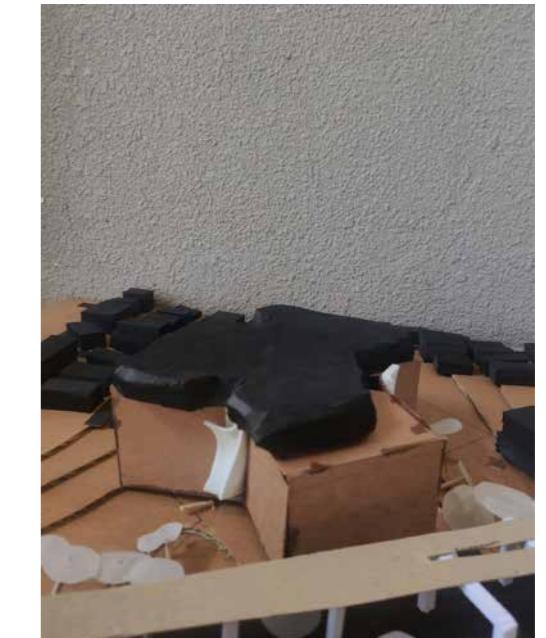


Fig. 64

Iteration 5



Fig. 61

Iteration 2



Fig. 62

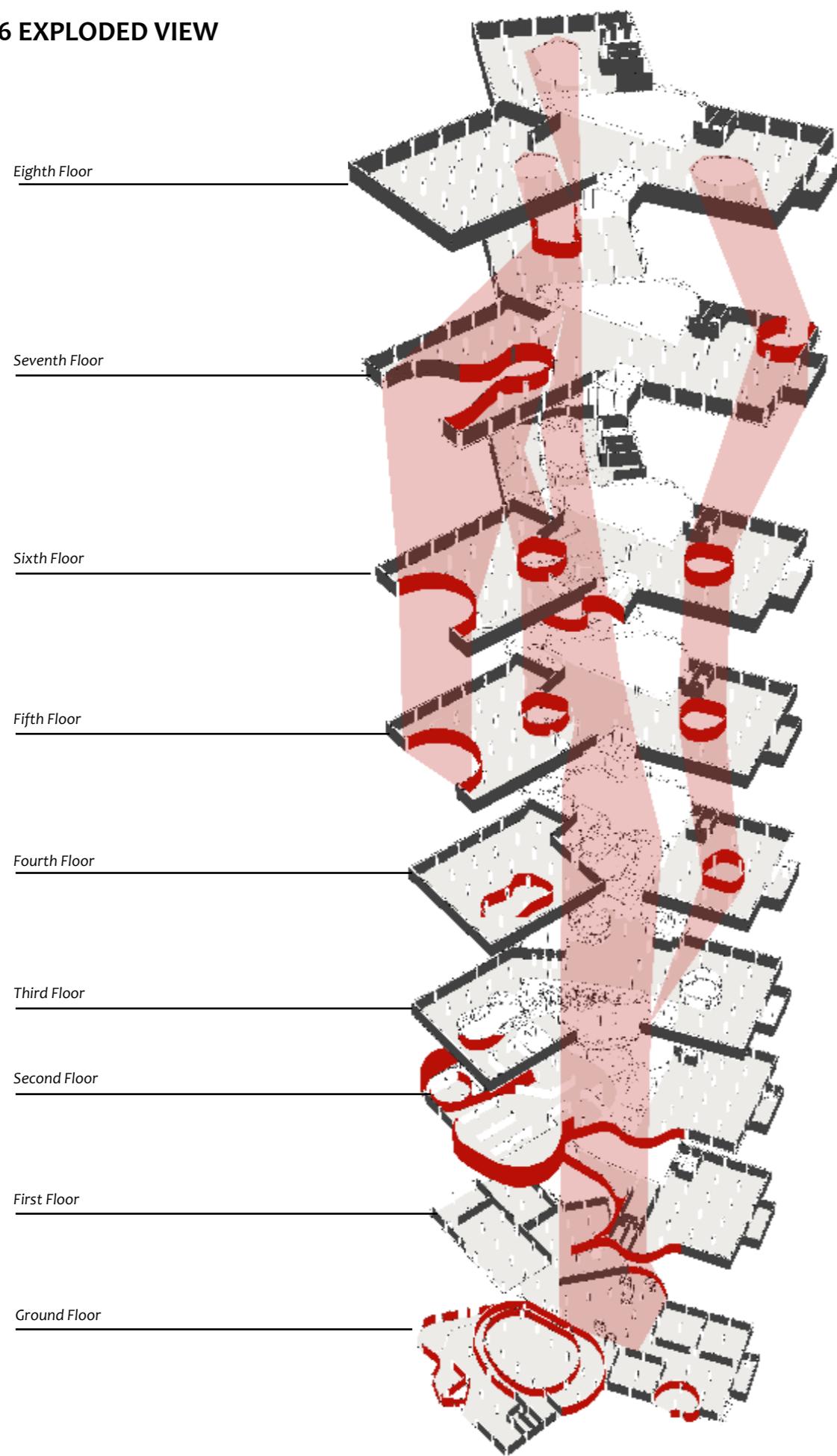
Iteration 3



Fig. 65

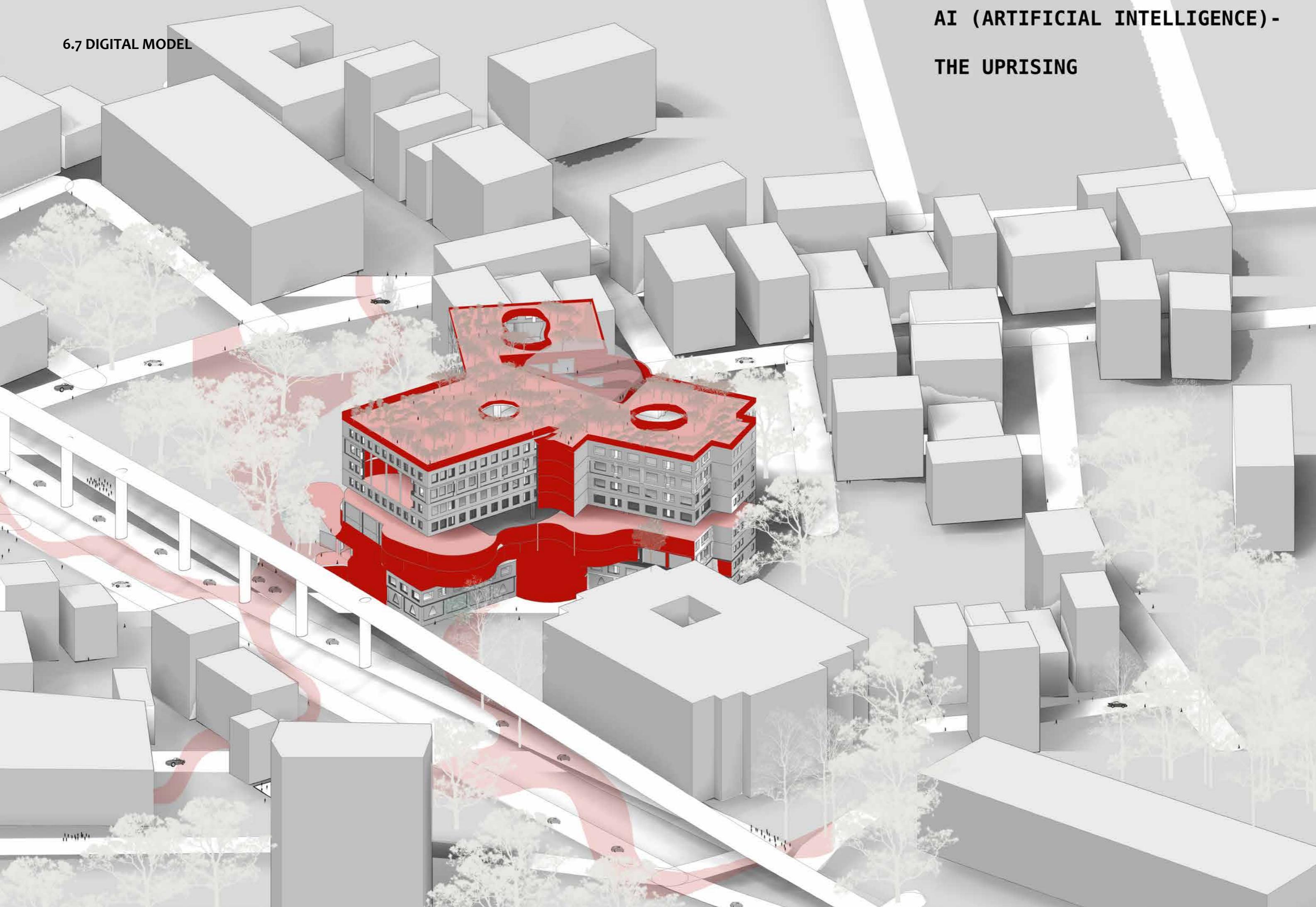
Iteration 6

6.6 EXPLODED VIEW



AI (ARTIFICIAL INTELLIGENCE) -
THE UPRISING

6.7 DIGITAL MODEL



CONCLUSION

The conclusion of this thesis underscores the transformative potential that architecture holds in shaping urban experiences through the fusion of technology, data, and community engagement. The exploration of architectural concepts, case studies, and design principles reveals a vision for a dynamic urban hub that seamlessly integrates a Data Digitization Center and an Urban Experience Center within the existing HMDA building in Hyderabad. By drawing inspiration from successful architectural precedents, such as The Edge in Amsterdam and the Elbphilharmonie in Hamburg, the thesis proposes a holistic approach to design, one that prioritizes transparency, sustainability, and cultural integration.

The envisioned urban hub goes beyond a mere architectural structure; it is conceived as a catalyst for positive change, fostering community dialogue, technological innovation, and informed governance. The design prioritizes inclusivity, offering spaces for collaboration, workshops, and immersive experiences that transcend conventional boundaries. As a response to the evolving needs of modern society, the thesis advocates for flexible and adaptable spaces that reflect the dynamic nature of work, collaboration, and cultural interaction.

In conclusion, the proposed architectural intervention aspires to redefine the relationship between the city, its data, and its residents. It envisions a space that not only embraces the cutting edge of technology but also roots itself in the cultural and historical fabric of Hyderabad. Through this holistic approach, the thesis asserts that architecture has the power not only to shape physical environments but also to inspire, connect, and propel communities towards a future where urban living is a dynamic, inclusive, and enriching experience.

CHAPTER 7 - CONCLUSION

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