



CAN ARCHITECTURE AND ITS PLANNING PARAMETERS REDEFINE A CITY? AN ANALYSIS

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Abstract

Redefining a city – Architectural significance - The fabric of the city, as well as the quality of living, is composed of architecture that depicts society, its ideals, accomplishments, and failures. The sense of belonging, connection, recognition of the traditions where all communities come together with all artistic lore arise. Architecture has a huge impact on the environment, the culture, the people ultimately impacting human psychology. By modifying our perspective, architecture takes us on a journey and inspires an emotional response to space or the environment.

INTRODUCTION

Redefining a city through architecture is one of the most inspiring tasks.

Restructuring or redefining a city through architecture means constructing buildings according to the city's culture and changing or restructuring buildings with respect to its culture and other specific parameters of architecture.

Constructing or restructuring a few important and selected buildings helps in redefining the city.

Redesigning of the cities also helps in the economic growth of the city and increases the wealth amongst

AIM

This research outlines about how architecture transforms cities through structures and buildings, how these buildings are chosen strategically according to various specific architectural parameters and how they play a huge role in changing the city's outlook and feel.

PLANNING PARAMETERS

Architectural parameters in short, it is a factors that have to considered while designing a structure. It is also applicable in case of redesigning a structure. Before designing or structuring, it is always very important to follow the design considerations of architecture. This research paper deals only with some specific and selective architectural parameters. Some of the Architectural parameters are as follows:

SITE ANALYSIS

Site analysis in architecture is a preliminary phase of architectural design process.

Many of the decisions that are taken on the project will be a response to the site of the proposed building and its context. The site analysis will provide a wealth of information to learn about the requirements of the site, the local area, the history, the climatic conditions and many more factors that will need to be considered.

SITE LOCATION

The site location and detailed site analysis will give you an idea of the economic feasibility of the project. It means that the type of building or construction you are looking forward to proposing on that site would be a successful venture or not depending on the conditions of the site.

Most planning applications need a site location plan which shows the proposed development in its surround in context and a block plan or site plan which shows the development in more detail

NEIGHBORHOOD CONTEXT

Neighborhood context – the immediate surrounding of the site including data on zoning and buildings and other impacts on our project.

The reaction of the surrounding buildings towards the site and people moving around should be analysed. Other important components of the neighborhood context include an analysis of existing paths (pedestrian, cyclist, and vehicle), landmarks and nodes.

ZONING

Zoning and size – dimensional considerations such as boundaries, easements, height restrictions, site area, access along with any further plans.

A **Zoning Analysis** is a formal, expertly-researched report that examines the land use and zoning feasibility of your proposed project on your specific site, explaining everything in plain language, in both words and drawings.

NATURAL PHYSICAL FEATURES

Natural physical features – actual features of the site such as trees, rocks, topography, rivers, ponds, drainage patterns

STREET PATTERN

When the road is constructed in patterns like rectangular, radial, hexagonal, etc for the proper management of traffic and also to interconnect the branch roads with main roads then it is called road pattern

LAND USE

Land use planning is the collective effort to develop and approve a land-based project and is generally regulated by government authority. It provides the basis for our zoning laws and restricts certain uses of land in order to promote the orderly development of land in a way that protects our environment, conserves resources, promotes social gathering, enhances a community, and provides for transportation, industry, and economic needs.

TYOLOGY

The classification of (usually physical) characteristics commonly found in buildings and urban places, according to their association with different categories, such as intensity of development (from natural or rural to highly urban), degrees of formality, and school of thought (for example, modernist or traditional).

CIRCULATION

The external access and internal circulation strategy are defining factors for the dwelling layout. Does the site have one or more access options? Is there an obvious main and secondary access? Does the form of the site dictate a specific circulation strategy or layout? For multi unit design, fire regulations, maintenance and vertical circulation are a few of many variables to be taken into account.

FUNCTIONAL RELATIONSHIP

External functions should be considered in relations to the interior. Are there commercial or other residential programs around the dwelling, landscape functions, transport nodes etc? How are these dealt with in terms of use? A nice café will have different relationship to the dwelling than a kindergarten.

Multi-unit dwellings will have shared and **common functions** such as cycle and refuse storage, common storage, parking, post and in more recent cases home-office and commercial functions.

Internal functions are the spaces inside the dwelling. Where is the sitting room in relations to sunlight and external spaces? Where are the bedrooms in relations to escape routes

SERVICES

Closely related to the organisation of functions and circulation, services need to also take note of external connections as well as the need to vertically stack services in their placement. Services are also one of the core considerations in terms of sustainability. How can the proposal for the home reduce use of parameters such as water, material and energy? Will it have rainwater storage for grey water? Solar or wind energy with battery storage? Bidet loo to reduce loo-paper use? The material solutions are many and determined by the scale and location of the dwelling/s.

STRUCTURE

The ability to analyse and optimise structure as the building goes through the design process is one of the greatest tools available to parametric architects. Material properties and calculations are easily coded into computational models with responsive structural models to simple pass-fail outputs. Input variables need to include the material properties of the structure, whether it is timber, steel, concrete or carbon, along with Dead loads etc.

DAYLIGHT

Light from different directions is not the same in colour, strength or effect. Architects use light and shadow to “paint” space for atmospheric effect.

Size and location of window openings will control the daylight factor in internal spaces. An architect will want to use daylight information to control the light effects.

The depth of the building plan versus the space height and window sizes determine the functionality of internal spaces. Light quickly falls away from windows.

The massing of new building mass will affect the neighbour’s access to daylight. This is legislated in many areas and can have a major impact on the building design

CULTURE

Culture is a variable that clearly demarcates the Internationalist ideology of the Modernist and Post-Modernist movement from what came before and after. Culture was dismissed modernism in place of a machining vision of society. Seeing culture as a social construct that needs to be stripped away from humanity for an architectural purity.

COMPARATIVE ANALYSIS OF BARCELONA AND GLASGOW

ARCHITECTURAL PARAMETERS	BARCELONA, SPAIN	GLASGOW, SCOTLAND
SITE ANALYSIS	High-rise housing, gated communities and Japanese investment) with distinctive and local characteristics.	Basically cathedrals and some institutional buildings were found in abundance among the city.
LOCATION	Located in north-west Coast of Mediterranean Sea in the north-east of Spain	Glasgow is a port city on the River Clyde in Scotland's western Lowlands.
NEIGHBORHOOD CONTEXT	The Neighborhood Divisions Of Barcelona Were Drawn In Both Roman And Medieval Times.	The city centre is bounded by High Street up to Glasgow Cathedral at Castle Street, Glasgow Cross, Saltmarket including Glasgow Green and St Andrew's Square to the east
ZONING	Gothic Quarter: a maze-like network of streets shooting out of one another in every direction	They have been designed to lessen congestion in the streets; to secure safety from fire, panic and other dangers; to provide adequate light and air
NATURAL PHYSICAL FEATURES	Barcelona, facing the Mediterranean to the southeast, is located on a plain generally confined by the Besos River (north), the Llobregat River	Glasgow's trees begin to flower at time of the year and Glasgow's parks and gardens are filled with spring colour
STREET PATTERN	The majority of Barcelona is dominated by the regular grid pattern of Ildefons Cerdà's Barcelona Eixample , which is characterized by long streets, large square blocks	Glasgow is a great example of town planning, in the style of a "Grid Plan" that is so ubiquitous in the "new" cities of the US

LAND USE	Exhibits a land use rate of 48% – against a 52% of vacant land.	Land uses such as housing and industry can be grouped together into land use zones
TYOLOGY	Barcelona is famous for its block type form and this structure is most commonly followed in the entire city	Tenements built to very high standards had the external appearance of the more luxurious terraced houses, while others, designed for artisans and their families
CIRCULATION	The city has a good and spacious circulatory network. Various road networks were allotted for different modes	Most streets in the centre of Glasgow are organised in a grid-iron pattern laid out in the early 19th century, with streets running north to south and east to west which is also good as a circulatory space.
FUNCTIONAL RELATIONSHIP	Functional relationship differ from these spatial distributions which only focused around tourist attractions	Glasgow architecture focuses on ecclesiastical structures.
DAYLIGHT	The daylight basements of Casa Mila have large openings that were provided with iron grilles for protection.	Daylight saving time is observed in Glasgow during 2022, but it neither starts nor ends during the summer, so the entire season is in daylight saving time
VIEW	The most iconic symbol of Barcelona, Sagrada Familia, has a fantastic viewpoint in its towers.	The most iconic symbol of Glasgow , Glasgow tower, has a fantastic viewpoint in its towers
WIND AND VENTILATION	Natural ventilation provided by wind flowing through the streets of a city might be considered as a first priority for passive cooling. It is intuitive that if the street grid coincides with wind flow direction, a city will get more wind in the street. Otherwise, building walls will stop the wind.	Environment is embracing in several sustainable design strategies such as automated natural ventilation. To reduce heat loads and maintain air quality, the atrium acts as a natural stack to drive cross ventilation through the building.

CULTURE	The Catalan culture (very much repressed during the dictatorship) has experienced a rebirth, both by recovering works from the past and by stimulating the creation of new works.	The city, with the trademark of artisanal stained-glass windows being a reoccurring feature. The merchant city is an elegant shopping district with architectural flair, featuring stone arches and pillars.
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RESULTS

Comparative study of the both cities were done. Various architectural parameters of the cities from different parts of the European country were studied. Many similarities and dissimilarities of the cities were keenly observe strategically and could be inculcated in the future designs.

Thus, making the research effective, the comparison were made between these cities based on their architectural design parameters.

RESEARCH INFERENCE AND SIGNIFICANCE

It is useful to study the cultural aspects of the cities to restore the identities and cultural heritage of the city. The architectural parameters on planning of the cities will also improve the economic development of the cities.

The fabric of the city, as well as the quality of living, is composed of architecture that depicts society, its ideals, accomplishments, and failures. The sense of belonging, connection, recognition of the traditions where all communities come together with all artistic lore arise. Architecture has a huge impact on the environment, the culture, the people ultimately impacting [human psychology](#). By modifying our perspective, architecture takes us on a journey and inspires an emotional response to space or the environment.

The sense of space, [colors](#), and even the facade of a building creates a sense of belonging, connection, and recognition between man and nature. Variation in spaces triggers emotions thus, making them more aware and motivated or even ancient and fearful. Environments with natural light, good south induced light, and views have shown significantly better and faster odds of recovering than those who don't. Architecture, with its impact on psychology, plays a huge part in triggering [emotions](#). Blue signifies creativity, trustworthiness whereas Red is often associated with bold, solid focus, and aggression. Green symbolizes peace and stability, an abundance of nature, and prosperity.

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