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Redevelopment of Conventional HITS Campus into a High-Rise Development and Work Integrated Education Hub

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Abstract: Campus design is the art of campus planning, the culminating act of those processes and procedures that give form, content, meaning, and delight to the physical environment serving higher education. Designs can communicate an institution's purpose, presence, and domain; and generate an image charged with symbolism, graced by history. Colleges and universities cover a broad range of human activity and habitation.

The campus has a deep-rooted prestige as a place of teaching, learning, and nurturing. Conjuring images of cloistered quadrangles, of sunny lawns, of wood-paneled libraries cloaked in an ethereal hush, it is a word viscerally charged with centuries of scholarly tradition. And yet it is also a place of cutting-edge science, of youth, vibrancy, and energy. It is this dual nature, this concurrent adherence to tradition and innovation, which renders the physical environment of the university such a redolent, enduring, and dynamic realm. However, it also means that the twenty-first-century campus is a highly challenging and exacting landscape to design and manage successfully. A city in miniature, it must continually respond to external political and fiscal pressures, whilst simultaneously adapting to changing pedagogies and technology.

Index Terms - Campus Designing, Vertical Development, Vertical Circulation, Biophilic Design, Flexible Architecture, Work Integrated Learning Space

I. INTRODUCTION

Technology, urbanization, international causes, and national ambitions have led us as a society to give a special place to higher education. Whether as a requirement for survival or simply to the next plateau on to which a maturing civilization must scramble, we have committed ourselves to use colleges and universities for training all our professionals, conducting much of our pure research, and providing the main body of the community, state, and national leadership.

The present built environment of most institutional campuses shows the extent of the challenge of planning space effectively: heroic successes sit alongside occasional failures, both aesthetic and functional. The purpose is to try to show:

- Why good design matters
- How best it can be encouraged and procured, and
- How experience can be developed into a perfect solution

And how the above-mentioned purposes can be achieved through vertical development. Because cities need more space—and plenty of bragging rights. A skyscraper, after all, is the ultimate monument to technological genius.

AIM

Redevelopment of Conventional HITS campus into a High-Rise Education and Research Integrated Hub.

OBJECTIVES

1. To redesign the existing HITS campus into high-rise building and create space for additional Educational and Research Spaces with the concepts to bring transparency, openness, and fluidity of space.
2. To design Spaces which enhances the physical and visual interaction and reduce isolation through vertical planning.
3. To design spaces that bring closer to nature and harmony.
4. To design flexible spaces for multiple functionalities.
5. Integrating Services to sustainable and functional requirements.

SCOPE

1. The design focuses primarily on saving land for the future.
2. The design will enhance the various possibilities of bringing all the different departments of a campus closer with better linkages.
3. Opportunities to be created for the design for the future.

LIMITATIONS

1. The thesis does not deal with the economics of the project.
2. The Construction detail will not be dealt with in minute details.
3. The services would not be dealt with in minute details.
4. The details of high-rise buildings will not be studied.

II. WAY FORWARD TO THESIS

CAMPUS DESIGN FACTOR

Several themes emerge as particularly important. First, though most universities have evolved into a mix of architectural styles and approaches as they have expanded, most do have a legacy of previous, often ambitious, masterplans.

Second, flexibility and sustainability need to be built into projects as approaches to research and teaching evolve. This might involve creating new, or adapting existing, space to suit large, often collaborative, scientific research projects of international impact; other.

Third, is the aesthetic - where universities have long sought to create buildings that enhance their reputation. Many of the leading architects in each generation, and perhaps most of all today, have been involved in university design, often producing striking and innovative buildings.

PLACE-MAKING

As both an overarching idea and a hands-on approach for improving a neighbourhood, city, or region, Placemaking inspires people to collectively reimagine and reinvent public spaces as the heart of every community. Strengthening the connection between people and the places they share, placemaking refers to a collaborative process by which we can shape our public realm to maximize shared value. More than just promoting better urban design, placemaking facilitates creative patterns of use, paying attention to the physical, cultural, and social identities that define a place and support its ongoing evolution.

PLACE-MARKING

Campus design methods should aim to promote a sense of place that will be favorably remembered because the campus works well functionally, is attractive aesthetically, and helps symbolize the institution's history and existence. Thus articulated, the results of a visually engaging campus design concept will locate us in space and time, as do many skillful artworks. In creating such campus designs. in most instances, the desired sense of place will be first described through maps and drawings.

LANDMARK

By dictionary definition, landmarks are prominent features that identify a locale, five landmarking techniques are illustrated in the examples and notes below: buildings, architectural elements, monuments, color, and special spaces. Some campus landmarks, from their beginning. were conceived to play a landmark role. As worthy works, they would ennoble and equip the institution with an architectural statement that demonstrated institutional advancement.

STYLE

Purpose, size, location, style, and cost are the primary architectural issues. addressed, and resolved, produce feasible college and university buildings. Of these five intertwining factors, style is the least tangible to rationalize, though the most visible part of the architectural undertaking. Stylistic questions involve status, taste, emotion, symbol, philosophy, and a perception-a full range of cognitive, scientific, and aesthetic matters.

MATERIALS

Building materials are the elementary stuff of campus architecture. Wood, stone, brick, concrete, glass, metal-colored, textured, and formed, they constitute the design fabric, a building's immediately perceptible aspect.

Climate determines habitation patterns; materials determine as architecture. In the broad scale of human existence. admirable examples of the built environment are relatively recent in origin.

Building materials serve as a metaphor of institutional presence: referential architecture, that is design concepts in which consistency and continuity in materials on the building exteriors help create a sense of place. The materials convey not just a distinctive sense of place visually, but the images also stir recollections and associations enriched by the institution's history. For example, usage of Red Brick vastly in IIM Ahmedabad has become an image of the institute.

LANDSCAPE

The landscape is one of the important key features in any campus designing. Most campuses have significant acreage devoted to lawns, greens, and playfields. Areas between buildings have aesthetic, functional, and symbolic purposes which landscape defines and sustains. Landscape can serve as the skeleton for the overall campus plan, the interior circulation systems such as walks and roads, as well as provide a background for subtle and finer grain landscape motifs. The greenery includes the campus edges, gateways, gardens, arboretums, memorials, bell towers, fountains, outdoor sitting areas, signs, site furniture, and natural features on the site, including ponds, woodlands, and rock formations. These landscapes and plant material can abate noise, control dust, divert traffic, secure boundaries, afford privacy, and be arranged for pleasure.

CAMPUS PLANNING

There are four major factors which in combination helps in distinguishing the type of campus plan as listed below:

1. The span of time reflected in the plan.
2. The physical is encompassed by the plan.
3. The precision of the program
4. The Characteristics of the design

TIME SPANS

The time span of any plan will vary from institution to institution, the following considerations being the determining influences:

1. The number of years covered by the estimates of future enrolments and other program statistics.
2. Capital budget program periods.
3. Degree of control the institution has in regulating growth or acquiring resources for development.
4. The time span of planning programs beyond the campus boundaries.
5. Consideration of special target dates such as a centennial celebration or construction schedules.

AREAS ENCOMPASSED BY CAMPUS PLANNING

The area encompassed by a campus plan is extremely important to the success of the plan. Many institutions rely on the narrow definition of a campus plan and confine such activity only to the land it owns. This approach lacks the vision required to develop the campus in its entity. Most colleges and universities are directly dependent upon the communities in which they are located for services, supplies, and other commodities the institutions cannot or do not provide for themselves. Housing, commercial services, and recreational facilities are a few examples of particular needs which link the campus to its environs.

Not only are the campuses dependent upon the environs which surround them, but they are also affected by the social and economic situations found in these areas. In the past, some institutions have moved to entirely new sites because the neighborhoods in which they were located were not compatible with the institution or purpose. The expansion of campus areas also presents excellent opportunities for college and university participation in local urban renewal and redevelopment objectives.

CAMPUS PROGRAM

The comprehensive campus development plan is a design formed as an answer to a set of criteria called the program. The program is based on the policy decisions of the individual institution and is also basic for the formulation of the academic plan. To establish a program, the institution must take action and make such policy decisions on the number of enrollments, educational offerings, college curriculum etc.

CAMPUS DESIGN

The design of the campus is particularly concerned with the search for an appropriate style and campus form which is directly related to the structure or skeleton of the institution. To provide a design structure for the campus, the individual uses are grouped according to their program relationship. Such buildings as the library, administrative, and union building are instructional support activities which are given high priority and are typically located in the central academic area.

The design size of the central academic area or campus is usually related to space and time elements and based upon the maximum distance that can be traversed between classes. Though ten minutes is the typical period allotted for changing classes, it is not a standard by which the limits of the central campus may be designed. Instead of the maximum distance, it is the critical factor in the interchange or convenient movement.

of many people from place to place on a timetable schedule. This interchange must be carefully measured when establishing the central zone limits. Because of campus activities, lack of planning, site impediments, and other physical problems, this factor will vary from campus to campus and will establish different sizes for central academic zones to meet the needs of each college or university.

Outside the central campus are established the organized sectors which bring together such related programs as housing, recreation, and athletic areas. Even though each of these programs has defined the relative importance for the internal development in each sector, the programs are also arranged so that they express and complement the interrelationship between all land uses established in the development plan.

The character of the campus must also be considered in the design of the overall plan. In the past, campus design favored the classical or formal structure. This formal structure was obtained by determining the sites for buildings in advance, by establishing massing and scale, by exploiting topographical advantages and special incidents, and finally by integrating roads, paths, and landscape into a unified whole. Through the years these formal plans have lost prestige and colleges and universities of today lean toward the functional campus layout.

The functional structure is less rigid than the formal plan, but still precisely defines sites for both construction and open spaces. The construction sites are organized into building zones with permissive standards such as floor area ratios, set back lines, parking requirements, and ground coverage ratios established for each zone, and which are based on design studies. These standards how great flexibility in project design, but at the same time control the density, character, and location of the development.

The utilization of zoning districts or areas as a means of developing a comprehensive plan has been particularly effective in developing the functional campus design. Three different zones are defined, and each is reserved for the purposes or uses designated by previous studies and analysis. One zone has been provided as the academic core, restricted to the instructional processes and the area of contact between students and faculty. Another zone is set aside for residential purposes and limited to the student residence. The third zone is the activity zone, where the students, the faculty, and the public come together for athletic, recreational, and cultural events or as part of the administrative process. In some cases, separate zones and even separate campuses are designed for research, varsity athletics, and other facilities.

Amenity also has an important role in the design of the comprehensive campus plan. Though amenity is the desired goal in its own right, it has a special purpose in campus planning because of the peculiar nature of colleges and universities. This special purpose or role is to provide the physical and psychological relief from the heavy demands placed on students and faculty who live, work, and play in the single environment established by the institution. A well-designed building or growth of buildings may produce amenity; but in campus planning, amenity will depend largely on how the landscape is treated.

BACKGROUND STUDIES

The key areas of research arising from the theoretical proposition and nature of the project are as follows:

Designing in context with High Rise development

Given the direction and scale of development in our country, the way the education system is booming and adapting to the new trends of globalization hence its redevelopment becomes extremely important. The learnings can be directly applied in articulating the campus form being created.

Physical and Visual Interaction with Biophilic Design

In the dynamic way of life that people in metropolis lead, most of the architecture surrounds are static and represents as a concrete jungle. The idea of inserting biophilic design to rejuvenate the interaction spaces.

Flexible Spaces for Multiple Functionality

Flexibility is also key to create contemporary environments which rely heavily on collaboration and discussions. Providing for innovation is thus important to stay relevant in today's world built on communication and interaction.

Design of the Work Integrated Education Hub

In the era of growing industries and technology the leading companies aim to upgrade the standard of training for their employees. Hence it demands a work integrated education hub which aims designs work-based learning and teaching for the future of work.

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