

"مجموعة المحاضرات الخاصة"

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## Site Selection and Site Analysis

For every Site there is an ideal use, for every  
use there is an ideal site

If we as planners and architects are concerned with site planning and site selection; and are concerned with wedding a proposed function to a site, we all have seen structures or groups of structures that would seem foreign to their site... and we ask, how this happened... the total result is disturbing and unpleasant.

It would seem obviously not to site (locate)

- A shopping center without adequate parking space
- A farm without a source of water
- A cafeteria near a mosque
- A school in front of a major traffic road
- A huge building screened a fine view
- An Industrial area neighbouring a residential area
- A residential area in a polluted area...

These examples and many others are doomed to failure. We must do our best not to make such errors. This is a bad thing from a logical point of view, from the visual point of view, from ethical point of view, from scientific, artistic.... from all planning and architectural principles.



ALTERNATIVE SITES:

Of all men concerned, we, as experienced planners and architects, should be the most capable of determining the detailed site requirements for a given project, we should be the most aware of all site features and their relative importance and we should be the best qualified to weigh the relative merits of alternative locations. First, clearly, we must know what we are looking for. We must list those site features that we consider necessary or useful for our proposed project. For this job we have a number of helpful tools, such as:

- areial photographs
- geological survey maps
- road maps
- transportation maps
- planning commission data
- redevelopment authority data
- zoning maps
- chamber of commerce publications

With these information, data and maps, as a guide, we should visit the most likely places and explore them. This exploration may be carried out using an automobile, plan or better still a helicopter. Much can be noted from an automobile, especially the relation of proposed project site to traffic. However, ultimately we will have to visit and explore on foot.

Having narrowed our choice to several alternative of lands, we analyze them, their natural and man-made forms, features and forces - in detail.

The favorable and unfavorable aspects of each are carefully noted and assessed.

#### The Ideal Site

We have all seen buildings that appeared to be compatibly matched to their site

- subdivision of land fitted to the contours, trees, and other topographical features of a pleasant valley.
- A school with its playgrounds in a parkline placed at the Neighbourhood unit
- A Factory with ordered production units, tanks, storage yards and shaded parking space, all planned in admirable relationship to approach roads.

#### Site Analysis and the Program

Now that we have selected the site, what is our next concern? At this stage we have in fact, two concerns, which may be dealt with - the design of detailed program and the analysis of the site.

#### Design of the Program

Many completed projects function poorly, or actually cannot fully serve the purpose for which they were planned.

An unsuccessful project often has no reason for being, may be being forced on unsuitable site, or because it is not well-designed, not a beautiful expression of



of its function. Most often, however, the cause of failure lies in the fact that a program for it was never fully considered.

It is our responsibility as architects and planners to carry each work to the most successful conclusion possible to accomplish this aim, to plan a project intelligently: we must first understand its nature. We must develop a project program. By research and investigation we must organize a logical and accurate program of requirements on which we may base our design. This program will be as detailed and complete as possible.

#### The Program

- Research and investigation we must organize a logical and accurate program.

We might consult

- all interested persons
- the owners
- those who will use the project
- the maintenance men
- architects and planners with similar undertakings
- our collaborators
- those differ from us
- with any one who can give new concepts and thought
- we will look to history for the lessons of time
- New improvement based on nd new development techniques, new materials



Analysis of the site: At the same time the program requirements are being studied, we must thoroughly investigate and analyze the project site. Not only the specific site contained within the property boundaries, but the total site, which includes the site environs to the horizon and beyond.

It is usually necessary to conduct a survey for the specific site. Just what do we mean by a "survey" and how is one procured?

The licensed surveyor is professionally trained to produce survey information of a wide range of types and of varying degrees of accuracy. If we ask for a "property survey" we may very well get no more than a plan showing the property lines with their bearings and distances. If we ask for a "topographic survey" we may expect, in addition to the property lines, contour lines indicating the relative height above a point of known or assumed elevation. It would seem that to be sure of getting any particular information, we must ask for it. The best way of indicating to the surveyor the precise information required is to give him a survey specification, which is generally prepared for each project.

Specification for topographic survey

- Property
- Location

Information required:

- title of survey, property, location, scale, north point (direction) and date
- (track) boundary lines, courses, distances
- building lines, easements and height of way
- names of neighbouring owners
- names and locations of existing roads
- position of buildings and other structures



- Location of walls, fences, roads, steps, walks, paved areas
- Locations, types, sizes and direction of flow of all existing sanitary, sewerage
- Location, type and size of all water and gas pipes
- Location of swamps or baggy areas, streams,
- Outline of wooded areas (all trees diameter more than a meter)
- Road elevations (every 50 feet intervals;)
- Elevations

#### The Feel of the Land

Graphic survey information is essential, but it must be supplemented with at least one and preferably more visits to the site. Only by the actual site observation can we get the "feel" of the property, sense its relationship to the surrounding areas, and become fully aware of the lay of the land ... in short, the character of the site.

We must climb from hollow to hill, dig into the soil. We must look and listen and fully sense those qualities that are characteristic of specific landscape area.

Anything that can be heard, smelled or felt from the property is part of the property. Any topographical features, natural or manmade that has any effect on the property or its use is, from the architectural and planning point of view, a property feature and must be considered as an architecture and planning factor.



Site Observation:

All site features or factors that supplement or interpret the survey are plotted on it in the planner's own symbols. Such additional information might include:

- 1- Best views, poor views, objectionable views
- 2- Which trees of those plotted should be preserved if possible and which removed
- 3- Undrained or swampy land, flood level
- 4- Off-site outside polluted nuisances with their bearing and approximate distance
- 5- Logical building areas of the site, logical points for entrances or exit.
- 6- Sectors where high or low points give protection from or add force to sun and wind.
- 7- Sun diagram
- 8- Prevailing wind and breezes
- 9- Micro-climatic analysis of the area
- 10- Other natural features...
- 11- Any other features of special importance to the particular project proposed.

Data from careful research:

In addition to such information observed in the field, supplementary data gathered from careful research may be plotted directly on the survey or included in the survey file. Such information might include:

- 1- Water pressures, electricity power capacity and voltage
- 2- Names of utility companies whose lines are shown, company addresses, phone numbers, engineers
- 3- Routes and data on projected utility lines
- 4- Projected approach roads
- 5- Approach patterns of existing roads drives and walks



# S I T E   P L A N N I N G

## Ch. I

### The Science and Art of Site Planning

#### Definition:

Site Planning is the art of arranging an external physical environment in complete detail, to support human behaviour.

Lynch,.....

Site Planning is the art of arranging buildings and structures on the land in harmony with each other.

Lynch,.....

Site Planning is the art and science of arranging the uses of portions of land.

Rubenstein...

A guide to site and  
Environmental Planning

For every site there is an ideal use, for every use there is an ideal site.

Simonds

Landscape Architecture

Site Planning is the science and art of arranging structures and activities on a site which must be selected (chosen) to be suitable for its use. The arranging of buildings, structures and activities must fulfill the goals and functions for which they are intended.

### Site Planners:

Site Planning is not an independent profession but there may be some who are interested in this field. Site Planning is cooperative work between Architects, planners, civil engineers and landscapers.

"Site planning along the boundaries of architecture, engineering, landscape architecture and city planning, and it is practiced by members of all these professions"<sup>1</sup>.

Site Planners normally deal with a particular contiguous (attached neighbour) area under the control of one agency. They may be concerned with a single building and its grounds, with a small cluster of housing, a small neighbourhood unit, or with a small town.

Site plans are prepared whenever groups of buildings are erected, houses, factories, shopping centres, institutions, cultural centres,.....

for example:

- The King Faisal University
- The University of Petroleum & Minerals (UPM)
- The Dhahran Airport
- The Stadium of Damman

### The Site Planning Process

The formal process begins with

- understanding of the persons for whom the site is being planned.
- the analysis of a site and also the study of the whole structure and the technology within which the work must be carried out.

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<sup>1</sup> Kevin Lynch - Site Planning - P.4



- The purpose of the plan are stated in concrete terms leading to the program that details the behaviour that the plan will support.
- Finally a design is created - a form that the site will be giving, to fulfil the program.

Building must not be allowed to grow haphazardly (spontaneous) as happened in the past and present. Streets, buildings, parks.... are not plants to grow, but their functions must be ordered on the right site and also there must be site planning.

### Pioneers of Site Planning

Those who are pioneers of site planning are also the pioneers of Architecture and Planning.

#### Frank Lloyd Wright

One of the famous pioneer of modern architecture. His main criteria in design is that the building must be in good relation with nature, not to destroy it. He is also one of the pioneers of Organic theory of Architecture.

One of his master piece is ~~Kufman~~ Taliesin House or Falling Water House.

Broadacre City is a planning theory which emphasize the relation between nature and city planning. It gives each family an acre of land to live in... to allocate humanbeings in a good relationship with nature, at the same time to avoid the damage of an atomic bomb in large high density cities. (decentralization theory of Planning).

#### Le Corbusier

French Architect, one of the pioneers in Architecture and Planning. The Planning of Chandigarh in Punjab Region, India... and it was one of his famous works because its famous site between two rivers...



Also his theory in the city of tomorrow as the theory of centralization.

Some of those who work with a scientific approach of Site Planning are..

Kevin Lynch	Site Planning Image of the City
John Simonds	Landscape Architecture
Harvey M. Rubenstein	A Guide to Site and Environmental Planning
Lawrence Halpirin	Cities
Fredric Gibbered	Town Design (Spaces)

#### Dimensions of Site Planning:

Architecture mainly deals in three dimensions:

1) Length 2) Width 3) Height ...

Planning has other dimensions:

1) Uses 2) Areas 3) Densities, 4) Time...

Site Planning deals with the relation between building and land and includes:

1. Spaces between buildings
2. Land, Built on, around, neighbour,....

#### Site Planning and Architecture

The site planning process does not differ from that used in designing architectural elements:

These are:

- 1- Uses and Functions
- 2- Circulation
- 3- Form,..shape which express the functions...



In site planning we deal with the same procedure but in a different concept -

These are:

- 1- Uses and functions of the group (May be one building) of buildings, spaces, activities...
- 2- Linkage between functions include human circulation, spaces, streets, cars, pedestrian...
- 3- Form ..., shape, visual form is the conclusion of good relation between functions, uses and circulation.. the concept which define the relation between buildings, spaces and site.

#### Purposes, Goals:

The goals include a well-defined program for the functions and buildings which have to be planned on a site to fulfil a particular purpose.

In which case are the goals placed first on the site analysis? It is an integral process... determination of goals will not conflict with the site analysis ... also the site analysis will not conflict with the determination of the goals.

The main direct functional goals are simply chosen. The general goals are more complex.

The main direct functional goals deal with:

- Density
- Traffic, circulation
- Areas
- Spaces
- Privacy
- The distance from neighbours

General Goals; deals with vague concepts and trends, good environment, good physical, social and economical conditions.

Main Goals; The Main goals to any project are not limited. There are some general goals. These goals must be taken into consideration when there are comparisons to be made between sites.

These are some of the criteria.

- 1- Functional goals (uses...sun,light, uses for buildings in site and spaces (land)
- 2- Communication
- 3- Physical conditions - reasonable or not slopping, neighbours, environmental study.
- 4- Economic study for the project and site , maintenance cost, soil and foundation.
- 5- Hiegenic and Health conditions - Sun - orientation, pollution.
- 6- The project and site - suitable for the new use.
- 7- The visual study

The Main Goals and Projects:

The main points for measuring and comparison are not for all projects, for each project there are main goals, functions, elements and characteristic. Each project must be measured in a special way. Some projects take all points in consideration, some will concentrate on some points only.



As an example:

A Housing project for an industrial area where labourers and employees work in air polluted manufacturing district, we must not choose a site for the housing project in the same polluted area, inspite of the advantages of housing the labourers near to their work..

In a Tourist housing project; the economical factor is not the same as local housing ...

Goals and the Site:

The site must fulfil the main goals for the project:

Physical: - Area

- Location and its relation to the goal (far, near... the site of the university, the site of a new city)
- Land uses: and relation to the other uses of the site agriculture land for instance, should not be used when there is desert nearby.
- Visual Study; to benefit from nature harmony ...  
variety ...  
unity ...

Social:

- Human scale;
- Human relaxation, Psychological effects, visual effects
- Privacy
- Social activity, and relations.

Physical, Social and Economical Factors:

At one time, they said that the physical conditions and factors affected (the life) the environment... All factors, physical, social and economical will affect the planning, Urban planning and site planning.

The humanbeing is always the basic unit in human scale, in planning, in urban planning, rural planning...

" The unit of measurement for space in urban society is the individual..."

Arther B. Gallion

Happiness, relaxation, health.. privacy, climate conditioning,.... is the main goal.

Economical factors, economical conditions affect to a large extent.....

Economical evaluation of the site, for tourists projects different from that of housing, industry.

### Site Planning in the History

History always provide lessons

Ancient Egyptian

Greek..

Roman..

.....

Japanese

The site of Makka.

" اول اول بيت وضع للناس للذي ببكة مباركا فيه مقام ابراهيم ، ومن دخله كان آمنا "

"رب انى سكنت من ذريتى بواد غير ذى زرع ، عند بيتك المحرم ، ربنا ليقيموا

الصلاة فأجعل افئدة من الناس تهوى اليهم وارزقهم من الثمرات لعلهم يشكرون"

صدق الله العظيم

The site of Al-Madina