# FORMULATION OF DESIGN STRATERGIES OF URBAN NODES IN STRENTHENING THE IMAGEABILITY OF A CITY WITH SPECIAL REFERENCE TO COLOMBO FORT



A history of architecture and socials studies essay presented

To

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# Introduction

## Introduction

### Background of the study

A city can be identified as a place; being a 'place', a city must be accomplished the necessary quality of a 'place', 'Imageability'. As a result each city posses a particular character unique to it.

A strong image is a prime requirement to achieve this quality in a city and symbolizing it as a 'whole'.

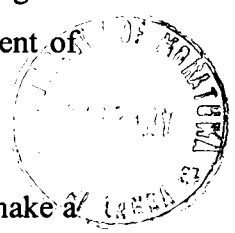
Urban environments or cities can be considered as the most imageable amongst human habitations around the world. There for persons like Kevin Lynch had been selected them for their studies on the image.

Structure and the meaning are the two prime characteristics necessary to making this strong image and together with these two characteristics, an 'identity' is automatically derived for the particular context.



This strong image is a product of vivid and integrated physical setting, which can be referred to as physical objects and spaces within a city.

These physical objects and spaces are organized in the form of physical elements in order to strengthening the image in the events of designing and development of cities.



Proper integration between these elements will make a positive image of any context. Here nodes are identified as one of the important element in urban context, that forms a city and which gives a special character and identity to it.

Basically nodes are man made spaces, which comes mostly the form of junctions of paths. Apart from this,

a node can be concentrations having a special use or function and a physical character.

**Intention of the study**

City forms is normally subjected to continuous growth and change to meet daily increasing needs of current industrialization, commercialization and urbanization prosses. On the other hand these changes in the physical environment are regained, acceptable and unavoidable.

Inequalities among such changes have to be avoided or minimized in order to maintain a visually pleasing and structurally meaningful cityscapes. Nodes, being one of the important constituents of a cityscape, in order to making image of the city stronger have been already neglected, due to individualistic approaches of urban design programs. Haphazard developments caused to destroy the existing characters of nodes and creating inhuman environments.



It is therefore the responsibility of architects and other designers who are engaged in shaping the urban environment, to understand the specific characters, meaning and structures of nodes and their role and importantance as a key element of city image.

Therefore the nodes must be thoughtfully designed in order to create a good and meaningful city environment importance of the present study lies in this connection.

**Aims and objectives**

Colombo is one of the cities, which is currently subjected to various kinds of development programs. It can be noticed that such approaches in the design and development of the city are rapidly changing and destroying its original character. This eventually

results their users disorientation. In order to minimize those circumstances a better view to be developed is essential in a broader perspective.

- Firstly, it is expected to identify various types of nodes in urban context.
- Then it is expected to examine and identify the principals and other various disciplines, which have been followed in designing of urban nodes. Deferent local and foreign examples will be found out for this purpose.
- It is expected to examine and illustrate the selected potential instances in the city of Colombo, which can be successfully utilized as urban nodes. Following two basic aspects of nodes will be examined under this as;
    - Their existing situation
    - The potential of them in order to function it as a node in strengthening the 21st century image of the city.
- By analyzing the above conditions it is expected to formulate some strategies to utilize the urban nodes in city of Colombo that could be apply for further development.
- Finally additional potential methods will be found out in order to utilize urban nodes particular in local context that the methods extracted from foreign instances.

**Scope and Limitation**

The intention of the study itself is to formulate the design strategy to strengthen the revitalization of urban nodes in order to strengthen the city image.

The scope therefore, widened to capture all possible aspects of urban nodes in order to make them meaningful, structural that contribute to the identity and imageability of the cityscape.

Image subjected to examination for the purpose of the study is the 'public' or the 'approximated' image, which is overlap or the generalized ground of many individual images.

Further the study intends to examine the urban nodes in a selected city.



City of Colombo will be the selected city based on a prepared questionnaire on the image of Colombo, and from the sketches that indicates the image is selected for the basic. (image of people about Colombo) from the results of the questionnaire 'Fort' identify as the main contributor of making the city image. So the studies limited to the Fort area, and nodes are discusses as a major element that can be use for strengthening imageability of the city.

**Methodology.**

- The main purpose of the study is to find ways and means of revitalize the urban nodes in 'Sri Lankan city' in order to achieve a strong image.
- The first, the study establishes what a node is, and what are special characteristics and functions of them through studying the examples in world context.
- Secondly, various types of urban nodes will be identified through a main typology. The main typology is based on the most important aspect, the physical form of urban nodes.
- Thirdly, the study will be identified different nodes according to the interview
- Then the study will discuss how these different nodes are created or reshaped by using certain design principles or certain architectural language.
- Basically, the international examples will be utilized to establish the theoretical context.
- Finally it discusses the selected nodes and their strategies as a base for future development

# Chapter one

# City as an Imageable place

## Chapter one: City as an Imageable place

### 1.1 The city

A city is the largest place of visual manifestation of man as an individual as well as a communal being. As a physical expression, the city is a thing that is seen should be as beautiful as man can take it.

The city must work properly and be economical sound, but it should also give pleasure to those who look at it. Couple with these the city gets it's "character" in which the city can be perceived and identical as a coherent whole. In other words, this character or uniqueness, made by the city is so strong, that it creates basic properties of environmental images, which is a vital importance of human existence. It can be said that the city character depends on overall character of city form and spaces.



Fig. I City of Sanfrancisco City

**"City form is the three dimensional composition of physical objects and spaces, which can be referred to as volumes and masses of a city. These physical objects and spaces are organized in the form of physical elements."**

**Lynch Kevin, (1960, p.46)**

According to Lynch, city form is consisted of five major elements such as paths, edges, nodes, landmarks and districts, thus adding environmental images to the city.

**"Physical forms can conveniently be classified in to five types of elements; paths, edges, districts, nodes and landmarks."**

**Lynch K. (1960,p.46)**

So the character or identity of a city can be taken as a cohesive collection or overall character of above mentioned elements and each element has its own distinctive characters.

## 1.2 The image of the city and its characteristics

Image of the city can be understood as the perception of a user and observer of the city. It is not sustained but rather partial, fragmentary and mixed with other concerns. Image is the composite of all moving and stationary or physical elements in a particular city.

A good or strong city image gives its observer an important imotional satisfactory and security whilst he can establish a harmonious relationship between the city and him self.



An image must have a value of orientation in the living space, by furnishing of several qualities. It must be sufficient, true, clear and not confused, adoptable to change and finally communicable.

In that sense, a workable and strong image must have three basic components, which are the structure, meaning and identity.

### 1.2.1 Structure

Structure is the knowledge about the relative positions of the objects to the overall fabric. According to Lynch "The image must include the spatial or pattern relation of the object to the observer and to other objects."

Different people have different strategies of structuring. The understanding of the structure facilitates the orientation, knowing where (or when) one in which implies knowing how other places are connected to the place.

Ralph (1977) analysis the image of a city in generalized terms, as consisted of the two essential structuring.

**"The vertical structure is one of intensity and depth of experiences of the place, while the horizontal structure is a one of the social distribution of knowledge about the place"**

**Ralph (1977, P.8)**

Therefore the imageable structure of a place is a result of an interaction between two distinct organizations of elements within the place. First is the one of physical events elements or the sensible organization, which supports the spatial and relation aspects of an image. Second is the one of abstract elements or the perceptual organization, which supports the emotional and value aspects of the image. The imagebility of a place therefore, is determined by these two organizations.



Lynch (1981) describes people have many different clues for establish structure the area or centers, sequential linkages, directional relations, time and structure, landmarks, path or edge, continuities, gradients, panoramas.

Thus the understanding of the structure makes it easier for us to identify a place by perceiving how it's parts fit together. For a place to achieve high level of imageability, in this sense, it must importantly have a powerful imageable structure, that's contributed by the strong organizations of sensibilities and perceptual ties.

### 1.2.2 Meaning

People cannot or attach meaning to the objects they experience. This happens after recognizing the structuring the objects. The object must have some meaning for the observer, whether practical or emotional.

Meaning is also a relation, but quite a different one from spatial or pattern relation.

To begin with the question of meaning in the city is a complicated one. Group image of meaning are less likely to be consistent at this level than are the perceptions of entity and relationship. Meaning moreover is not so easily influenced by physical manipulation, as are these other two components.

### 1.2.3 Identity

Identity of a workable image is normally obtained by amalgamation of both two components described above which are structure and meaning.



A meaningful structure of a city gives its identity or its distinction from other settings, its recognition as a separable entity.

Lynch strongly believed that physical attributes of the elements are the only tools of the identity of the objects.

**"A workable image requires first the identification of an object, which implies its distinction from other things. Its Recognition as a separable entity."**

**Lynch Kevin, (1965, P.8)**

Places in a city should have a strong visual identity. Be visually differentiated from other places, recognizable, memorable, and vivid. Identity is the, extent to which a

person can organize or recall a place as being distinct from other places as having a vivid or unique or at least a particular character of its own.

This intense familiarity can help to create a 'sense of place' is the corner stone of a handsome environment, without it, and observer can make no sense of the world, since we cannot distinguish or remember its parts.

With it, we can begin to make relations, we has the visible basis for a sense of belonging; we and savor uniqueness of places and people.

Lynch (1981) explaining the 'sense of place' "describes identity as the simplest form of sense. Sensible, identifiable are convenient pegs on which to hang personal memories, feelings and values." According to Lynch



**"Events can have identity: this is the sense of occasion."**

**Lynch K. (1981, P.132)**

Special celebration and great rituals have it in a heighten degree. Occasion and place will reinforce each other to create a vivid present. The result is an active enrollment in the immediate materiel world and an enlargement of the self.

**1.3 Imageability of a city.**

The urban environments or the cities are most powerful imageable settings amongst the human habitation. The Imageability of a city is available within the given cultural, spatial and time parameters.

Imageability of a city can be understood as the character or the personality, which is a strong and distinctive spatial quality, peculiar to the place, which differs from that of all the other places.

**"imagebility of a city can be described as the quality of that city, which evokes vividly identified, powerfully structured, highly meaningful and highly approximated images in its users"**

**Lynch K. (1960, p.9)**

**"A highly imageble city in this particular sense would seem well framed, distinct, remarkable; it would invite the eye and the ear to greater attention and participation"**

**Lynch K. (1960, p.10)**



One can notice that all the cities are not equally imageble. Some have strong imagebilities, while some are imageble only to much lesser degree. Such contradictory situations lead to query the necessities and determinate of the imagebility of a city.

Imageability of a city has a vital importance of human existence within a certain context. Futher, these definitions it selves enforce the necessity of creation, preservation and maintenance of such distinctive Imageability in any cityscape in order to understanding the context, in which the city exists.

## 1.4 Imageable structure of the city

The strength of an 'image' essentially depend on its components which are supported by the organization of elements within the place.

There are two determinant aspects, of the imageable structure of a city, which are associated with its elements. Those can be sorted as, physical and qualitative attributes. Physical attributes, in general terms can be basically explained, as the intensity and the depth of the place while the qualitative attributes are social distribution of knowledge about the place.

The organization of these physical and qualitative aspects and interacting of them with each other helps to form strong 'imageable structure' of a place. This imageable structure must consist of three basic principals of center, an enclosure and continuity, in order to strengthen its organization and heighten its Imageability.



Center

Enclosure

Continuity

## 1.5 Image making physical elements of a city

A way of analyzing the visual structure of cities, certain sorts of physical features play a key role in the content of it's shared image. This has been provided by Kevin Lynch-the American planner who pioneered studies in 1960's based on the cognitive images people have of the built environments that they inhabit or use. He identifies five elements that form people's mental image of cities or their components.

According to his suggestion those five key elements can be illustrated as follows.

- Paths
- Edges
- Districts
- Nodes
- Landmarks

Lynch' s categorization of the elements has proven to be useful in designing for imageability and legibility in cities and buildings.

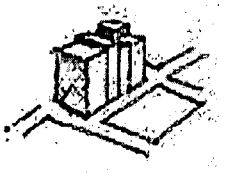
The elements when clearly organized are important in giving a visual organization to cities, so in this sense they can be regarded as elements of urban form.

**1.5.1 Paths**

Paths are channels of moment, according to Lynch "they are elements along with the observer customary, and occasionally, or potentially moves. They maybe streets, walkways, transit lines, canals, railroads. For many people these are the predominant elements in their image. People observer the city while moving through it, and along these paths the other environmental elements are arranged and related"

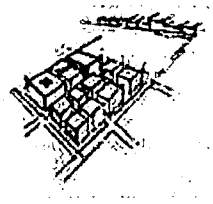


**1.5.2 Edges**



Edges are linear elements which are either not used as paths, or which are usually seen from positions where their path nature is obscured. These edge elements, although probably not as dominant as paths, are for many people important organizing features, particularly in the role of holding together generalized areas as in the out line of a city by water or wall.

### 1.5.3 Districts



Districts are the areas of the city that are visually homogeneous in texture and may also be homogeneous in land use. Districts are identifiable from outside. Most people structure their city to some extent in this way, with individual differences as to whether paths, nodes or districts are the dominant elements.

### 1.5.4 Nodes

Nodes are places of intensive activity, usually at the intersections of paths. Nodes that are the foci of districts have been called cores. They are the points

**" The strategic spots in a city into which an observer can enter and which are the intensive foci to an from which he is traveling."**

**Lynch K. (1960, P.47)**



They may be primarily junctions, places of breaking transportation, a crossing or convergence of paths, moment of shift from one structure to another. Many nodes of course, partake of the nature of both junctions and concentrations.

### 1.5.5 Landmarks

Landmarks are points of reference based on their visual distinctiveness from their surroundings. They are point reference elements but the observer does not enter within them, they are external. They usually rather similar define physical object: building, sign, store, or mountain. Their use involves the singling out of one element from host of possibilities.

## 1.6 Significance of nodes in strengthening the image of the city

When the perception of the urban structure and the image of the city is analyzed and examined, the node has been found to be one of the element which a city is recognized and understood. In short the node is an important element, which gives the city Imageability in a strong manner.

The concept of node is typically the convergence of paths or events on the journey. As Lynch describes, the nodes are places where number of links comes together. If each linkage is imageable within it and spans the entire region, and each node is recognizable placed within its proper linkage, as well as been recognizable part of the family of centers belonging to that linkage, then all places can be referenced by the nearest node.



**"Nodes are points, the strategic spots in a city in to which an observer can enter, and which are the intensive foci to and from which he is traveling."**

**Lynch K. (1960, P.102)**

Christopher Alexander makes much the same point.

**" Every node must be a 'center' in itself, and must also produce a system of centers around it."**

**Alexander C. (1977, P.166)**

Node is an essential element to make a vivid and integrated physical setting, capable of producing a sharp image, places a social role as well. It should

furnish the raw materials for the symbols and collective memories of group communication.

None of the image making, element types isolated above exist in isolation in the real case. Districts are structured with nodes defined by edges, penetrated by paths, and sprinkled with landmarks. These elements regularly overlap and pierce one another. If this analysis begins with the differentiation of the data into categories it must end with their reintegration in to the whole image.

But although conceptually the nodes may small points in the city in its size but most significant points in making the imageable structure of the city.

# Chapter two

# Urban Nodes

## Chapter two: Urban Nodes

### 2.1 The concept of node

Node being one of the constituent elements, should possess certain physical characteristics in order to create a good city form.

This chapter therefore defines 'nodes' by identifying factors, which makes it a strong physical element in making of a good city form.

### 2.1.1 Nodes in general

The term node generally refers to kind of crossing points of a cords or line. The physical interconnection of several paths in a town simply a junction can there for be called as a node, based on this general definition.





### 2.1.2 Node in the subject of urban design

In the urban context the word 'node' has a wider meaning. The node can be considered as one of the elements by which a city is recognized and understood. Briefly, the node is an important element, which gives the city 'Imageability', or a 'strong image'.

It is possibly the most important way of designing a good setting both for physical objects or the public and commercial buildings and spaces in cities.

According to Cliff Moughtin,

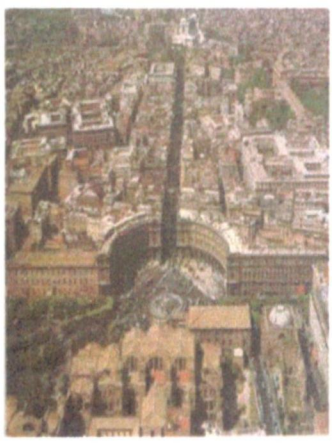


Fig. 2 Group of squares in Bath, Rome unique in the relationship between space, and the surrounding buildings

**"A square or a 'node' is both an area framed by physical objects or buildings and an area design to exhibits the buildings within its context to the greatest advantage."**

**Mougtin Cliff, (1997, p.87)**

As Lynch advocates,

**"Nodes are the strategic spots in to which the observer can enter, and which are the intensive foci to and from which he is traveling. They may be primarily junctions, places of break in transportation, a crossing or convergence of path, movement of shift from one structure to another."**

**Lynch K. (1960, p.47)**

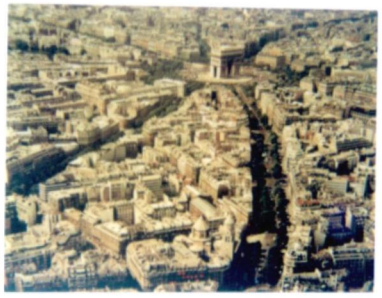


Fig.3 Urban Node in Prais
Urban node as a foci, junction, center or convergence of path.

Therefore nodes are, strategic spots, foci, junction and crossing or convergence of paths etc. Lynch also explains,

**"The nodes are the conceptual anchor points in our cities and they have a form adequate to support his attention other than a certain concentration of activities."**



**Lynch k. (1960, p.102)**

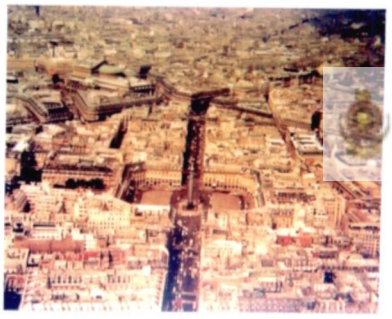


Fig4. Node as a conceptual anchor point.

According to Norberg Schoulz,

**"All the centers are places of action, places where particular activities and social interaction take place."**

**Schoulz Norberg, (1971, p.2)**

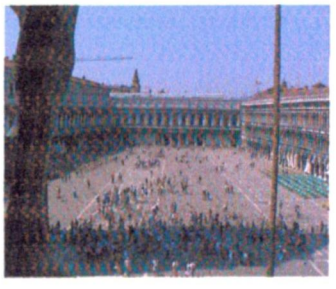


Fig.5 St. Marks square, Venice
Has a great civic composition.

Christopher Alexander explains in his book Pattern Language, nodes as places where concentration of activities takes place or intensity of action take place. He even names the nodes as 'activity nodes'.

**"Create nodes of activity throughout the community, first identify the existing spots in the community where actions seems to concentrate**

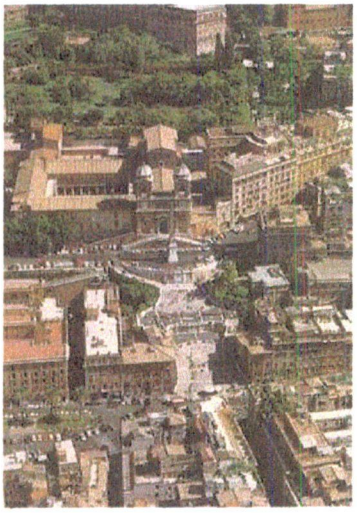


Fig.6 Piazza Mignaaelli, Rome
An activity node

Fig.7 Piazza del Popolo, Rome.
Node become significant in the heart of the Rome.

Fig.8 Mecca, Saudi Arabia.

**itself. Then modify the layout of path in the community to bring as many of them through these spots as possible. This makes each spot function as a 'node in the path network'."**

**Alexander C. (1977, p.166)**

A node has compelling importance for a user of the particular city. Because decisions must be made at those junctions, people heighten their attention at such places and perceive nearby elements with more than normal clarity.

Important buildings, such as religion, historical, commercial, transportation etc, found within or around the node. Some times there can be a natural elements like trees, mountains, bridges or water bodies. When a node comprises of such important element or natural settings, it becomes significant in that context.



Meaning wise also node gains significance too. As Mougtin explains nodes are centers of meanings. (Fig. )

**"One of the most important functions of the node is the symbolic meaning attached to it. Symbolism is recognized as central to the design process and also a willingness to manipulate urban form to achieve meaning."**

**Moughtin Cliff (1997, p.88)**

By considering above examples it is evident that nodes are activity wise, meaning wise and contextually special and significant from other places of a particular cityscape. They become the focus and symbol of an important region.

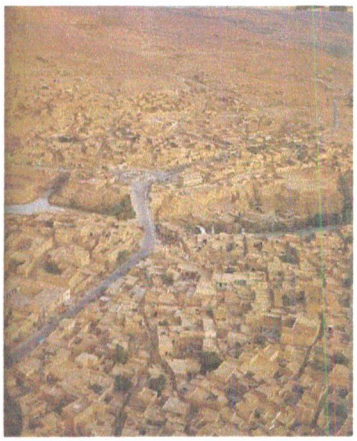


Fig.9 Shushtar, Iran.
Node has a potential to grow and end up as a city center.

Scale wise node show a hierarchy varying from small junction to larger district. Further more, a small junction has a potential to grow and become a larger district. As Norburg Schulz explains, every node has a potential to become a center one day. Therefore nodes can be expected to grow, expand and end up as a city center in its hierarchy.

Thus the world has numerous meanings, numerous types and numerous scales of nodes available, in this particular study, nodes are consider as scale wise 'small junctions' but not vast scale nodes, squares districts which are coming under European nodes interpretation.

For the purpose of the study node is considered as the chief method by which a city is both decorated and given distinction.



## 2.2 Urban nodes and their characteristics

Major character of the city is reflected in its many nodes. This is like the child reflecting the mother's character. Even though the child retains his or her own character, similarly the nodes too retain their own unique characters.

Character of a city /node is not a thing to be identified easily. Relph expresses character components as physical context, functional or activity and symbolic or meaning.

According to him, character components are explained as,

**"These three components of place... the static physical setting, the activities, and the meaning constitute the three basic elements of identity of place."**

**Ralph E. (1976,p.47)**

### 2.2.1 Physical character

The physical character of a node is comprised with three main components.

- Shape
- Form
- Composition

### 2.2.1.1 Shape

Rob Kier has formulated a typology of space according to the shapes of them and their derivatives in to three main groups, 'according to the geometrical pattern of their ground plan' The groups are ordered around,

- The squire
- The circle and
- The Triangle



Fig. 10 Basic shapes of urban node.

'Organic and formalist squires' are included in the same family. This was an excellent analysis of urban spaces as systems, but it is also an abstract discussion. The major drawback is his example come from everywhere regardless of time; Some are historical, some are proposed new designs.

### 2.2.1.2 Form

Paul Zucker and Sitte outlined two of the most influential theories. According to them, five basic archetypal forms can be identified.

Enclosed node - where the space is self contained.

Dominated node - where the space is directed towards the main building.

Nuclear node - where the space is formed around a center.

Grouped node - where the spatial units are combined to form larger compositions.

Amorphous node - where the space is unlimited.



### 2.2.1.3 Composition.

Fig.11 St. Peter's Rome.

Composition means the three-dimensional arrangement of forms and spaces in an around the urban node. Composition of built forms and spaces around the node generate a character to the node. (Fig. )

Urban design is concern with the design of building configurations and the spatial and use relationship between buildings and the spaces created between them. The focus of attention is on organizing the public realm. Thus it is concerned with the way open spaces are framed by buildings. When designing cities the identity of character made by the city is so strong. That it creates basic properties of environmental images, which is a vital important of human existence. It can be said that the city character depends on overall character of city form and spaces.

It can be further said that character of a city stands for its integrity and wholeness and node as ones such element with a distinctive character contribute grate deal to form overall city character. Likewise, when considering node as a place in a city, spatial quality of the node and composition of built forms and spaces around the node generate a character to the node.

### 2.2.2 Functional character

According to Schulze and Christopher Alexander, it is very important that an urban node processes a convergence or centralized relationship to activities of a region. Functional wise there could be commercial administrative, residential, cultural or religious nodes etc. Also it can be said that the node has a significance of being a public place, which attracts them through its concentrated important socio-cultural activities.

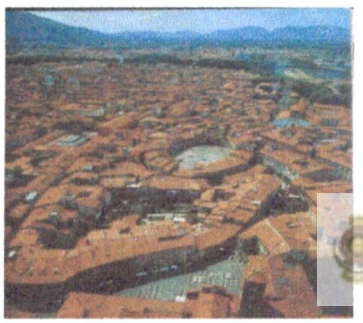


Fig.12 Lucca in Tuscany, Rome.
A residential node.



It is a resting place for people, for journeys or for movements etc. After finishing one journey people tend to rest physically or mentally at a node and then proceed on the next part of the journey. There fore, an urban node has a strong characteristic static ness irrespective of the surrounding dynamic activities.

Fig. 13 Pizza Venezin, Italy
Administrative node.

**" There is no doubt that the small cozy medieval node found in cities like York or towns like Stanford are a safe heaven where people can stop, relax' and escape from the mad bustle of modern urban life"**

**Moughtin Cliff (1992, p 100)**

Fig. 14 Brussel square, Belgium.
Functioning as great social spaces.

So it can be said that this nodal spaces unable social contact thus functioning as grate social spaces. This is another reason for the 'need to go' rather than a space get away from.

These dynamic spaces are an essential counter part to the more settled places and routines of work and home life providing channels for communication and moment. They link different activities and spaces that functioning as linkage spaces.

Other than a physical focus or a connector of several routes or streets in an urban area, a node can be a center of several connected areas in a same urban context. Closely related to that aspect, a node becomes a physically transition point in between to different areas.

Thus a node may have a function as an entry point or an exit point to or from certain areas.



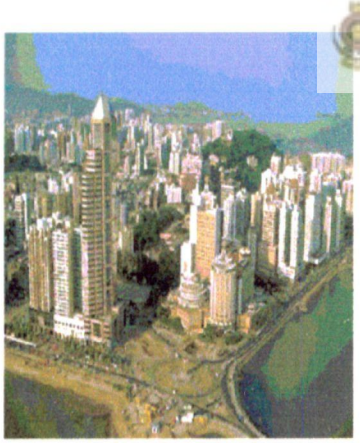


Fig.15 Trade node in South Africa.

Another functional importance of a city node can be referred to as transport terminals. Major railroad stations or bus stations are almost always important nodes in designing a city, since they are functionally vital for a traveler, as their starting or finishing points. They are usually impressive for its strong physical form and when this fact is neglected the node usually becomes dead.

### 2.2.3 Symbolic Character

**"One of the most important function of a node is the symbolic meaning attached to it. Symbolism is recognized as central to the design process and also a willingness to manipulate urban form to achieve meaning."**

**Mougtin Cliff (1992, p 88)**

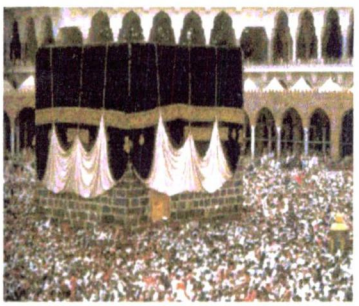


Fig.16 Macca, Saudi Aeabi.
Nodes become the focus and symbol of an important region.

Meaning wise node gains significance too. As Moughtin, nodes are centers of meanings. Nodes become the focus and symbol of an important region. So it is evident that nodes are activity wise, and meaning wise and contextually spatial and significant from other places of urban context.

In the urban environment as symbolic elements such as land marks create and identity. Thus they not only act as symbolic spaces for direction and identification but also help in shaping the city scope.



Spaces of this nature could also become symbolic to people through history. History offers us many examples of such places. One such example of the urban public spaces that have become symbolic to people, when people exercise their rights using numbers to communicate their massages. In many cities it is the link between places, rather than the places themselves that are often the mechanisms for helping to provide a sense of community. Some times it is their symbolic value that is the important character One of the major functions of the symbolic esthetic of the node is to provide a sense of identity. In urban design there is consideration of providing and overall identity for an area by providing the symbols of association of the people who use or dwell in it.

**"Urban public spaces provide the urban dweller with the sense of belongingness thus forms an existential foothold space to assist him to dwell on earth. How, through spaces that symbolizes mans being on earth through conveying meanings. By being meaningful spaces, that allow man to make strong connections between the places, the personal life and the larger society "**

**Ralph (1976, p 12)**

# Chapter three

# Typology and Design dimensions of

# Chapter three: Typology and Design dimensions of Urban Nodes

## 3.1 Typology of Urban Nodes

Evolving a typology means analyzing a certain phenomena and then grouping it or its elements in to various categories by identifying similler physical, functional or any other characteristics in the constitution, using a certain basis. A typology can be based on theoretical assumptions, for a particular usage.

One can describe and observe an object through various angles. In a case of evolving a typology, it is possible to be choosing only one angle and accordingly, the selected aspect is observed. The typology could subsequently be based on that selected angle and aspect observed.



When that same object is observed through a different angle and different aspect, the evolved typology will be different from the earlier instance.

The main drawback of selecting only one aspect for formulate a typology, the other aspects are automatically omitted. Even where the most important aspect is selected, still the other aspects, that could be important to a certain extent, have to be neglected.

If all the aspects taken in to consider, one cannot evolve a typology, then it becomes a case study. In that case, specifications have to be made by taking individual objects in to consideration.

These shortcomings and limitations are common characteristics of most of the typologies. In order to minimize these weaknesses the basic typology has to be evolved for this purpose of study, depending on the

most important aspects and there should be a sub typology to catch up the other aspects.

Accordingly the formulation of the typology for this particular study will be based on the most important aspect, the hierarchy of urban nodes and to catch-up the other aspects, the sub typology, based on the physical character of urban nodes will be evolved.

### 3.1.1 The main typology

Physical hierarchy of nodes is considered as the prime determination factor in evolving the main typology for urban nodes in urban spaces.

The principal of the physical hierarchy depends on the differences of characteristics like architectural composition of forms and spaces, size, shape, location and functional importance etc.

Such differences reflect the degree of importance of these forms and the functional, formal and symbolic role they play in their organization.



The relative importance of nodes is normally measured according to the value system for them. This depends on the basic factors of specific situation, the need and the usefulness for the people. The values expressed may be individual, collective or cultural oriented. In any case, the manner in which these differences among nodes are revealed is critical to the establishment of a hierarchical order.

In each case the hierarchically important form or space is given meaning and significance by being an exception to the normal. Following characteristics have been identified as the basic determinants on which the hierarchical order of nodes depends.

a) A focal point or a center, which connect things.
b) A resting place for people, for journeys for movements etc.
c) A physical focus, traffic movement, directional quality.
d) A social focus-associational significance.
e) A symbolic focus

The above aspects are already mentioned and explained in the previous chapter.
Depending on the above characteristics nodes have been identified according to the physical order in three main urban spaces.

- Squares
- Junctions
- Urban / city edges



### 3.1.1.a Squares

Squares are the supreme state in urban nodes. There possesses all the above aspects and other than those, squares have special characteristics.
Cliff Moughton advocates, " A square or a plaza is both an area framed by buildings and an area designed to exhibits its buildings to the greatest advantage" According to it, the square form of nodes are well defined by the bordering buildings while the entry and exit points are emphasized. Continuity of the node and the contrast of space are clearly evident.

Fig.17Compidoglio, Rome.

According to the geometrical pattern of their ground plan, squares take different shapes and forms. Those shapes may be basically comprised in square, circle, ellipse, triangle, trapezoid, rectangle, L – shaped, hemicycle.

I. Triangle - Place Dauphine

II. Trapezoid - Square at Pienza.

III. Square - Place des Vosges Paris.

IV. Rectangle - Pompei

V. L-shaped - Piazzetta S. Marco Venice.

VI. Circle - Place De l' Etoile Paris.

VII. Ellipse - Foro Bonaparte Milan.

VIII. Hemicycle- Place Del'Odeon Parise.

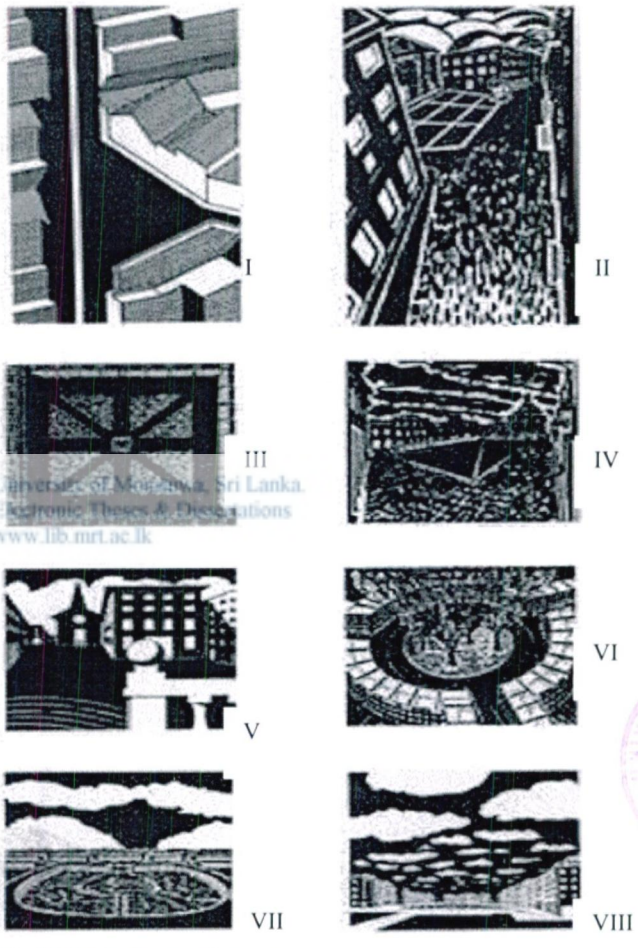





Fig.18 Basic shapes of squares.

The overriding quality of the square is the sense of enclosure. The key to enclosure in a square is the treatment of its corners. Generally, more open the corners of the square then the less sense of enclosure.

Node is a place; people normally tend to rest both in physically or mentally. However in this case, after arriving at the square, the journey ends as opposed to junctions or edges. It is climax of the journey.

### 3.1.1.b Junctions

Fig.19 Junction in Bath.
A strong pattern of streets and junction.

Junctions are typically the convergence of paths, events on the journey. They are the basic state of nodes in city mere intersections of streets.

Junctions or places of break in transportation, has compelling importance for the city observer. Because decisions must be taken at those junctions and people heighten their attention as such places and perceive nearby elements with more than normal clarity. Therefore elements located at junctions may automatically be assumed to derive special prominence from their location.

Therefore it is necessary to examine the function and role of the particular junction and the related streets within the urban fabric. So that the designer is better able to understand and give form to this important element of city design.



Fig.20
The modern junctions are purely designed for it's primary function, traffic movement.

### 3.1.1.c City edges

Edges are linear elements not considered as paths. They are usually comprising with boundaries between two phases, linear breaks in continuity; shores, railroad cuts, edges of development, walls, water ways, boulevards etc. They are lateral experiences rather than coordinate axes. These edges may be barriers, more or less penetrable, which close one region off from another; or they may be seams, lines along which two regions are related and joined together.

Fig. 21Charles river, Boston.

These edges possess almost all the above aspects and characteristics and they stand as symbolic centers in the urban context.

One continues node or series of nodal points may be linked together to form a linear node along such an edge.

Charles river in Boston is one of the best examples that have all the qualities. (Fig. )



The Charles River edge, once a swampy backwater, is now well defined and developed.

### 3.1.2 Sub Typology

The physical character of urban nodes has been described in the previous chapter. Physical form of the node is the main component in deriving the physical character of urban node. Evolving of the main typology of urban nodes is based on that physical form.

The manner in which the spaces are arranged can classify their relative importance and functional and symbolic role in a nodes organization.

Depending on the form nodes can be divided in to five groups.

a) Enclosed node
b) Dominated node
c) Centralized node
d) Grouped node
e) Amorphous node

### 3.1.2.a Enclosed node

In this type, nodes are self contained and static. The overriding quality of this type is the sense of enclosure. The enclosure of the space in this manner is the purest expression of a sense of place, or the center. Cliff Moughtin expresses,

Fig. 22 Place Des Voges, Paris.
An ideal example for an enclosed node.

**"A node is an outdoor room and with the room it share the quality of enclosure."**

**Moughtin Cliff (1992, p.105)**



The key to enclosure in the node is the treatment of its corners. The more open corners of the square normally cause the less the sense of enclosure, the more complete they are, the greater feeling of being enclosed.

Fig.23 Piazza del Compo.

Another important aspect of nodes and their surrounding buildings affect the degree of enclosure. These include the nature of enclosing buildings, roofline, height of the buildings etc.

These aspects will be hoped to discuss widely in a latter chapter in this study.

Fig.24 Zocala plaza, Maxico.
The node itself has lost it sense of enclosure due to failing of corner treatments.

These nodes have simple geometrical form / volumes built from a square, rectangular or circular ground plan.

### 3.1.2.b The Dominated node

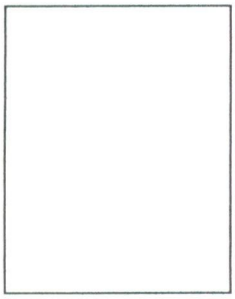


Fig. 25 Plan of Piaza Santa Croce, Florence.

The dominated node where the space is dynamic. In this type the space is directed towards a terminal object. The physical object can be a church, a gate, an arch or a fountain, or a view.



Fig.26 Piaza Santa Croce.

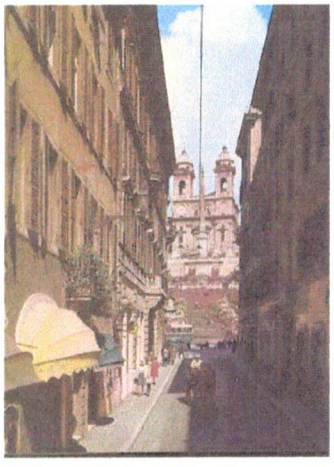


Fig. 27 Spanish steps, Rome.

One individual structure or a group of buildings toward which the open space is directed to which all other surrounding structures are related characterizes this.

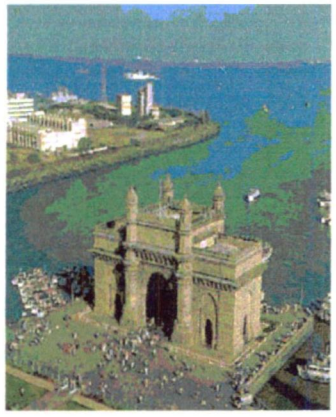


Fig. 28 The gateway of India.

These dominated nodes can be in two major forms either 'deep' or 'wide'.

A vista or a void rather than a building or a great sculpture could dominate Some times these nodes.

### 3.1.2.c The centralized node

In this type of node, the space is formed around a center. The spatial shape of the centralized node is of definite order, although not so tightly knit... an entity, even without the frame of a continuous row of buildings without the domination of a frontal structure.



Fig.29 Place de l'Etoile, Parise

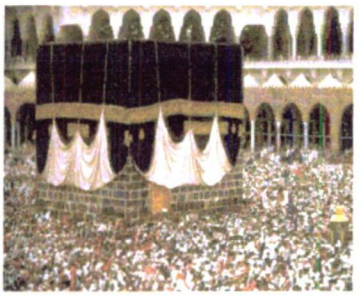


Fig.30 Kaba in Macca.
The center or the nuclear object is the shrinewhich symbol of god.

A strong vertical object acting as a nucleus, which is powerful enough to charge the space around with a tension, that keeps the whole together, the impression of a node will be evoked. These objects may be a monument, a fountain, and an obelisk.

Centralizes nodes do not always require the visual dominance of a geometrically centered or centrally located form. The setting of surrounding buildings themselves in relation to the center can create a perceptual center in the node.

### 3.1.2 d. The Grouped nodes

It is a combination of spatial units to form a large composition. Thy type of nodes consists of two or more overlapping or interpenetrating spaces, where streets may physically connect series of spaces and one or two major public buildings may be surrounded by series of spaces.

These combine series of spaces may be related by an external reference point, a dominant elements such as a tower. So that, this type of node may be a complex structure.

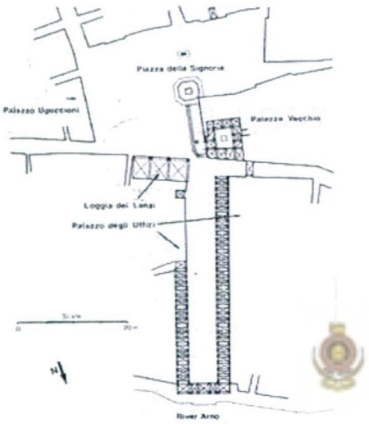



Fig.31 Plan of Piazza Della Siggnoria, Florence

Fig.32 Palazzo Vecchio, Piazza Della Signoria, Florence.

### 3.1.2.e Amorphous node

This type of node the boundaries are not clearly defined, the space of a node is unlimited, and whose spatial experience is too diffuse to be positive.

When the space is unlimited so that there is a special public attraction in to some activities can be found in this kind of nodes.

Fig.33 Darban South Africa.

### 3.2 Design Dimensions of Urban Nodes

Nodes are the special place in an urban context. There fore as any other type of 'place' it must easily be understood as a defined environment within a particular urban context.



### 3.2.1 Imageable structure of an urban node

At the same time as a place an urban node must greatly contribute towards the evoking of images of the certain context and as well as the users of that context.

According to Shulz, image of a place can be explained and identified through three fundamental principles of organization in all environmental images.

That stable perceptual schemata provides a holder with a stable ordering of elements within a place, and which is essentially consists of

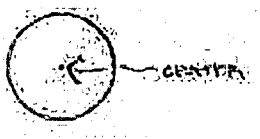
- A center
- An enclosure
- A direction or continuity

Norburg Schulz, (1971, p.17)

The center of every image corresponds to an element that exists within the place. Similarly the continuity and the enclosure of those images are corresponding with the organization of elements within the place.

This shows that the clear understanding of the contribution of the elemental organization of a place is possible by an analysis of it, in relation to these principals of the structure of an image. The organization of elements in a place that is analyzed with reference to the principles of the center, enclosure and the conspicuity is named the 'imageble structure' of the place.

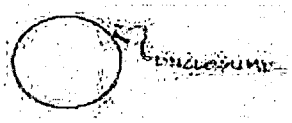
### 3.2.1.a The center



The structuring of the image is subjectively centered. Each user of the place may consider his preferable element as the center of 'his place' and therefore, centralizes that element within his image. When all users for cultural or some other reasons tend to prefer the same element to be at the centers of' their images of the place' that particular element become the common imageable center of the place.

The center is the most active element in an imageable structure of a place.

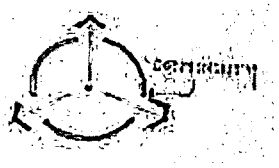
### 3.2.1.b The enclosure



A place is characterized by a certain size. Hence, it needs a pronounced limit or border. The place is experienced by a user as an ' inside' in contrast to its surrounding ' outside' the demarcation of the 'inside' makes the place a domain that allows it to be perceived as a profound 'whole'. (Shulz, 1971, p.19)

The size of the enclosure can be determined both by either physical parameters or conceptual parameters.

**3.2.1.c Continuity**



Once an element at the place, the rest of the elements need to be structured in relation to it within the enclosure. The directional relationship of the other objects to the center and to the enclosure establishes continuity within a place.

**3.2.2. Components of an imageable structure of an Urban node**

An imageable structure of a node as a 'place' can be introduced as a result of relationship between three main components, in order to achieve above described main principals of center, enclosure and continuity.

A node can be fully understood when it's known with,

- The physical attributes of node
- The qualitative attributes or conceptions
- The social or behavioral pattern associated with the node.



For the purpose of this study, the focus will be mainly paid on both physical and qualitative attributes rather than social factor associated with the node.

**3.3. Formulation of design dimensions for strengthening the imageable structure of urban nodes.**

In this stage it is expected to discuss the design dimensions possibly formulated in order to reinforce the imageable structure, of an urban node. For this purpose of it will be attempted to formulate the design dimensions both for physical and qualitative components.

### 3.3.1. Formulations of design dimensions for physical attributes of the structure of urban nodes

These physical attributes are essential to express the intensity and the depth of experience of the imageable structure of a particular 'place'. It has a direct relationship with the organization of physical elements within the place.

This depth and intensity of the experience are determined by the presence basically of following aspects.

- Roads or streets
- Built fabric
- Natural Features

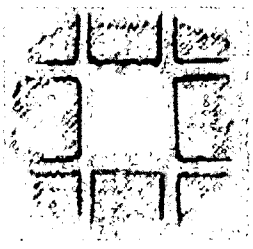


#### 3.3.1.1 Roads or streets

#### 3.3.1.1.a Road network

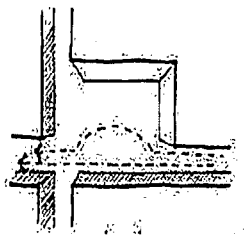
The road network related to a particular node contributing greatly to the reinforcement of the said node. The road network significantly affected to the sense of enclosure and continuity of nodes.

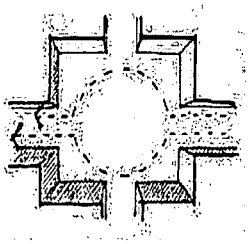
In many urban nodes streets meet at the corners, the space in this case disintegrates. Each building block is isolated.

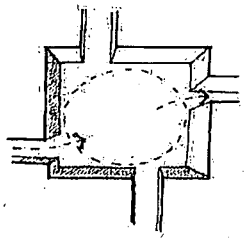


Strengthening the sense of enclosure can be achieved by a complete building up of the corners.

Where nodes are large, there are more possible entrance positions of paths.







If the wall defining the entrance path continues uninterrupted to form the wall of the node, then the node itself may read as a mere widening of the path.

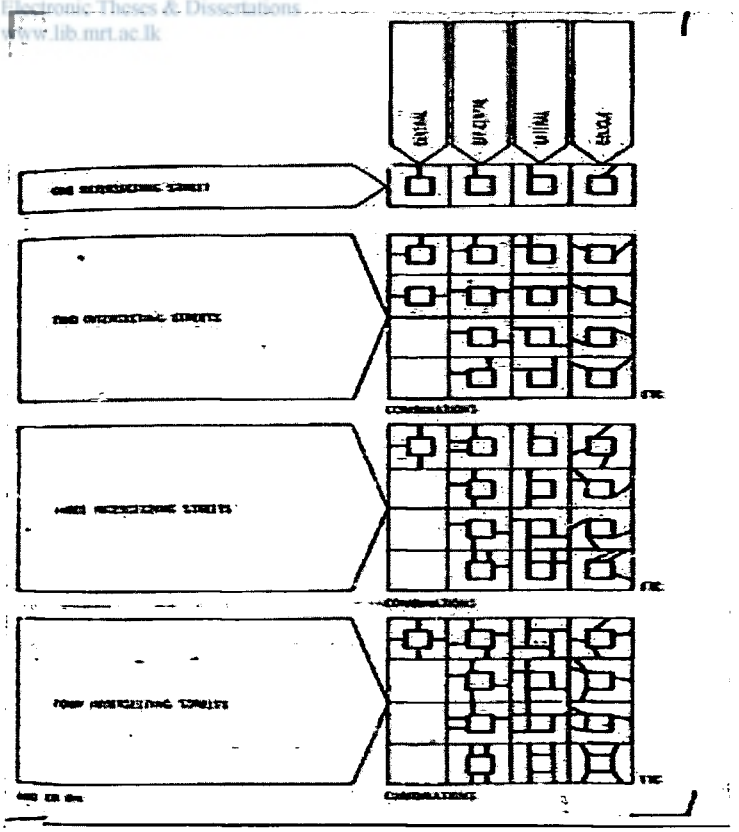
With entrance located away from its corners the node seems more distinct from the paths leading into it.

This effect is strengthened if it is impossible to see straight through from entrance to exit. But here the increase in spatial definition must be weighed against the possible loss of visual permeability.

There are numerous ways of connecting path to a node. The following chart should only be taken as an indication of the almost unlimited range of possible permutations of spatial forms.

In this example, a set of permutations for up to four intersections at four possible points of entry has been taken.





The vertical columns of this graph show the number of streets intersecting with an urban space. Horizontally, it shows four possible ways of which one or more streets may intersect with a square or street.

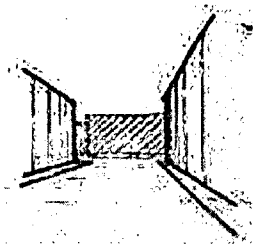
1. Centrally and at right angles to the side.
2. Off center and at right angles in one side.
3. Meeting a corner at right angles.
4. Oblique at any angle and at the point of entry.

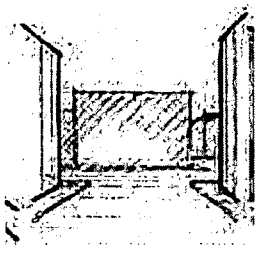
Fig. 34 Permeability to the square

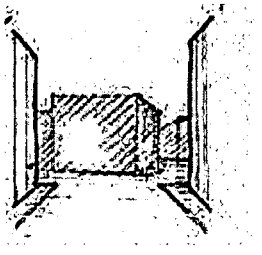
**3.3.1.1.b Junctions**

When considering junctions, all of them are potential nodes. The streets / roads forming the particular junction should have a role of specific function or character.

Offsetting the junctions help to increase the sense of enclosure of the node.









**3.3.1.2. Built fabric**

A quality of surrounding built fabric is another aspect, which affects the imageable structure of the particular node.

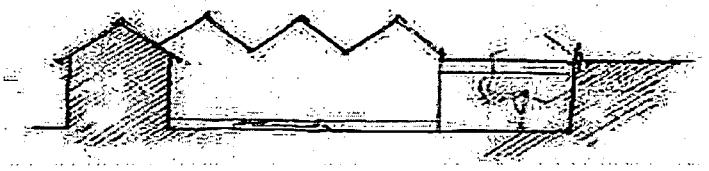
**3.3.1.2.a. Proportions**

-The degree of enclosure of the imageable structure of nodes is depending on the relationship between the 'effective height of the buildings around it' and the width of the space. This is critical in creating a harmonious urban space.

The acceptable theory suggested achieving the maximum harmonious proportion or minimum enclosure of height to width as being 1:4

If too high in relation to width, a feeling of oppression may result on other hand if that relationship too low, a feeling of exposure and vulnerability.

-But in the cases of larger nodes, the above ratio seems too weak. That lower ratio causes the lack of sense of enclosure of the space. Therefore, in order to higher the ratio the effective width of the larger node should be reduced. It can be done by,



-To occur the sense full enclosure the façade height should be equal to the distance we stand from a building. (1:1 or greater proportion) The minimum with of the space is therefore determined by an angle of $45^0$ from the eves of the surrounding building, as the eye and we mobile can be moved horizontally the critical dimension is the height.



**3.3.1.2.b Three-dimensional Modeling of a building**

**"The greater the three-dimensional modeling of surrounding buildings, the greater will be the reduction of the sense of enclosure in a node."**

**Moughtin Cliff, (1992, p.101)**

**3.3.1.2.c Architectural unity**

The built fabric around a particular node should form a continuous surface and present to the observer an architectural unity. The effect of the mass of individual buildings has been reduced in order to preserve continuity. The effect of continuity is heightened if there is a repetition of individual elements facing the node.

Fig. 35 Basilica Santissina Annunziata, Florence.

Using either the colonnade or arcade as a continuous feature linking the ground floors can further strengthen the sense of enclosure of the space of individual buildings in a covered walkway.

### 3.3.1.2.d. Façade treatment of surrounding built fabric

The façade treatment of the surrounding built fabric can be achieved by continuance of walls, floors, details, lighting, vegetation, topography, skyline, repetition of rhythmic interval or harmony of surface.

The significance of the elements designed in this case is a distinct, unforgettable place not to be confused with any other.

Fig. 36 Façade treatment



### 3.3.1.2.e. Roofline

The dome of the sky is the perceptual ceiling to the node. This dome to the node appears to sit more securely when the roofline is more or less of equal height throughout its length.

Fig. 37 Roofline.

Fig. 38 Roofline.

### 3.3.1.2.f Directional quality

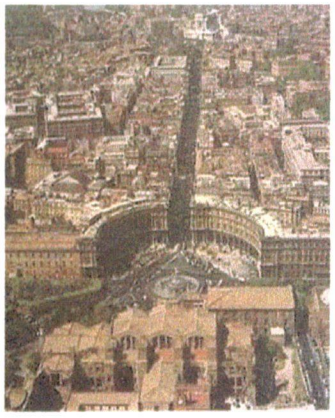


Fig. 39 Node at Bath,

The surrounding buildings can be used as effective push factors towards the urban nodes, by using the sense of continuity.

To reach the destination (node) continuity of directional sense is always important. This can be achieved by numerous ways, using various elements like colonnades, arcades, round slopes, gradient of color, or texture of planting etc.

The progression from one space to another happens while push factor pushes from one space to intending direction or position. Push factor always donates directional sensation.

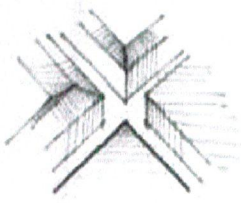
### 3.3.1.2.g. Corner treatment of buildings around nodes

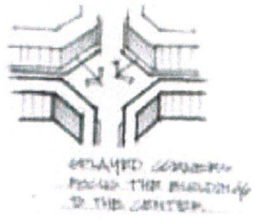


Splayed corners

Splayed corners can help at cross roads because they focus the buildings on the center of space. Splayed corners also gave the node a greater sense of enclosure because they start to form a concave shape.

Fig.40 Corner treatement of Seylan Bank Fort





Terminating buildings

A view of an enclosed space is terminated with a building at right angle to the axis of the enclosure where the enclosed space assumes a complete sense of enclosure. Similarly when the space is curving, the view out is closed and a perceptible enclosure affected.

### 3.3.1.2.h Building line

**"The plane shape or building line is the basics of the continuity of a group of buildings. The line of facades along street or around a node will condition building and the next"**

**Wonskett Ray, (1969, p120)**

Fig. 41 Building Line.

While the firm uniform building line can determine the character of a node with a group of buildings, the change of building line can be either create some points of interest or disastrous, depending on the way the change is done.

### 3.3.1.3. Natural feature

Natural features can be considered as an important category of physical attributes in forming the imageable structure of a node by fulfilling the characteristics of center, enclosure and continuity.



These natural features may include with water bodies like seas, rivers, hillocks or mountains, sceneries etc.

Vista or void rather than a building or a piece of great sculpture can dominate each nodal space. Many of the lovely hill towns of Italy and Sicily have examples of such places where the surrounding buildings on three sides from the space. The fourth side of square is a belvedere giving views of the countryside.

Fig.42 The main market square of San Giorgio Morgeto.

### 3.3.2. Design dimensions for qualitative attributes of the structure of urban nodes.

#### 3.3.2.1 Identification of node

Presence of a node can be signalized in various ways. (Building as an identification factor was explained under 3.3.1.)

A gradient of use or other characteristic may lead up to the node, or its space may be visible from outside.

Characteristics of a node some times may be emitted, light or sound or its presence is hinted at by symbolic detail in the hinterland, which echoes some quality of the node itself.

Fig. 43 Duomo Florence.



#### 3.3.2.2. Integration of node

Urban nodes is merely most significant open spaces in a particular urban context. They provide necessary relief from congestion but need not be ill defined and physically diffused. Therefore the 'integration' of those spaces with the rest of the cityscape is a must. They must be often located not away from the pulse of urban life but more close or within it. They must be designed more efficiently by in order to receive social meaning. Which must organize a city around a clearly defined network of interconnected streets and nodes

Allowing for few, if any loose ends or buildings that may not integrated in to the pattern as a whole and consequently very little lost space.

# Chapter four

# Formulation of designs strategies for urban nodes in the city of Colombo

## Chapter four: Formulation of design strategies for urban nodes in the city of Colombo

### 4.1 Historical evolution of Colombo fort and its contribution to the Imageability of the city

The name Colombo is believed to be a corruption of a local word. Some say if is derived from the sinhala term for a mango (amba) leaf or a mango tree, which grew in the city, but bore no fruit Kola amba.

Others prefer the derivation from the term Kolon-tota which translates into 'ferry at river Colon and then to Kalanbu by the moors or Colombia (ferry, porfor harbour) by Singhalese and its subsequent Anglicization.



However with the development of trade link between the westerners, Asians even with East Asian such as the Chinese, Colombo's impotents as a harbor city increased. Wang Ta-Yonana Chinese traveler (1330 AD) describes Colombo as "Kao-lan-pu as a low lying land the soil poor, rice and corn very dear the climate hot".

A Moroccan traveler Ibn Batuta (1344 A.D) and Ching Ho (1411 A.D) etc have made later references of Colombo and it had been called "Kolamba, kolontota, Claleumbe, Calenbo & Colombo"

Between 9$^{th}$ and 16$^{th}$ centuries Colombo was a small seaport used by Arab, Indian, Persian & Chinese sailing crafts. When the maritime provinces of the island Sri Lanka then known as Ceylon, came under successive occupation by the Portuguese, Dutch and finally the British, Colombo was their metropolis and

in 1815 when the island finally capitulated, Colombo became the capital of the island.

The accident arrival of Portuguese occurred in 1509 they were open compition with Moors who were having a firm footing in Colombo. In 1518 they built a regular fort, which was insulated by cutting a deep ditch from harbor to the open sea. The Portuguese with the stabilization of their authority, enlarged the city to include modern Pettah extending as far as what is known as Kayman's Gate Today. Then began to introduce this laws and customs & Colombo was declared as the city of administration & capital for its military government.

Then Hollanders arriving in 1659,found themselves virtual masters of the entire seaboard and the lowlands of Sri Lank. As soon as Colombo fell into the hands of the Dutch they began the re-planning and re shaping of the city Fort and Pettah.



After area of 140 years Colombo come under the sway of England in 1976. The remarkable physical change took place when forts & ramparts of the past were pulled down making Colombo more spacious. In 1815, Colombo became the capital city of the whole country after the Kandian Kingdom was captured. The British developed the city & made if the administrative and commercial capital of the country. The administration activities were concentrated in the Colombo Fort, & trade activities in the Pettah area.

Fig:44 the Portuguese Fort

Fig: 45 the Dutch Fort

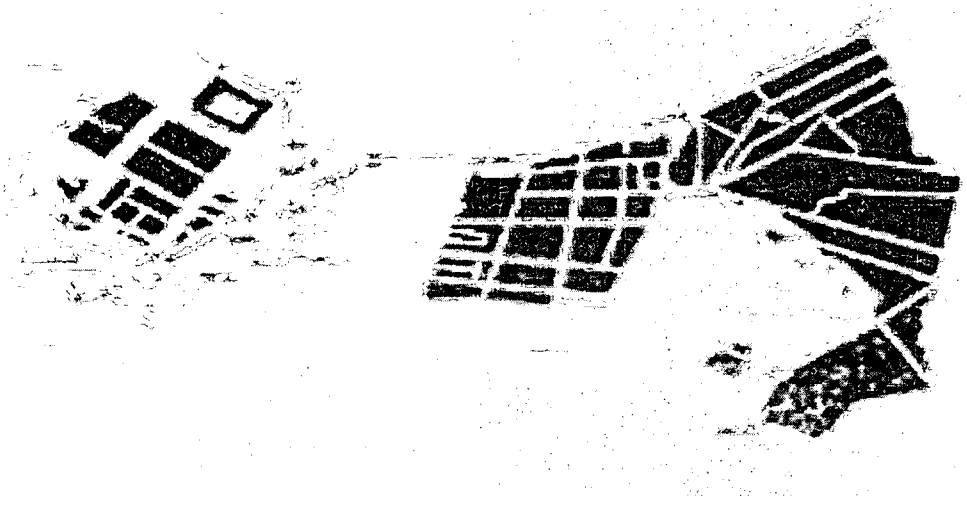


Fig46 the British Fort

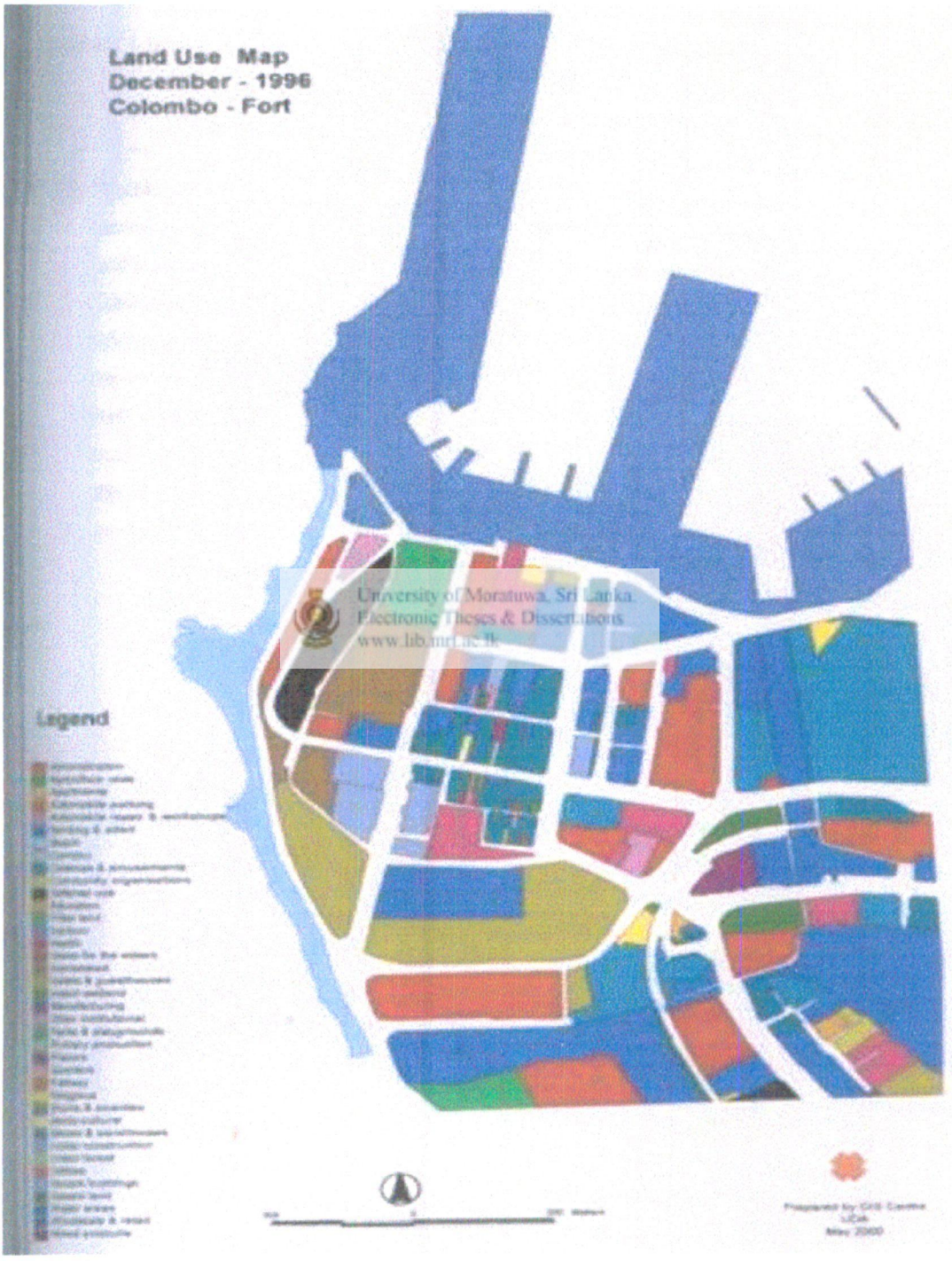




Fig. 47 Land use map Colombo fort.



Fig. 48 The existing three dimensional image of Colombo.

## 4.2 Some selected case studies

### In Colombo Fort

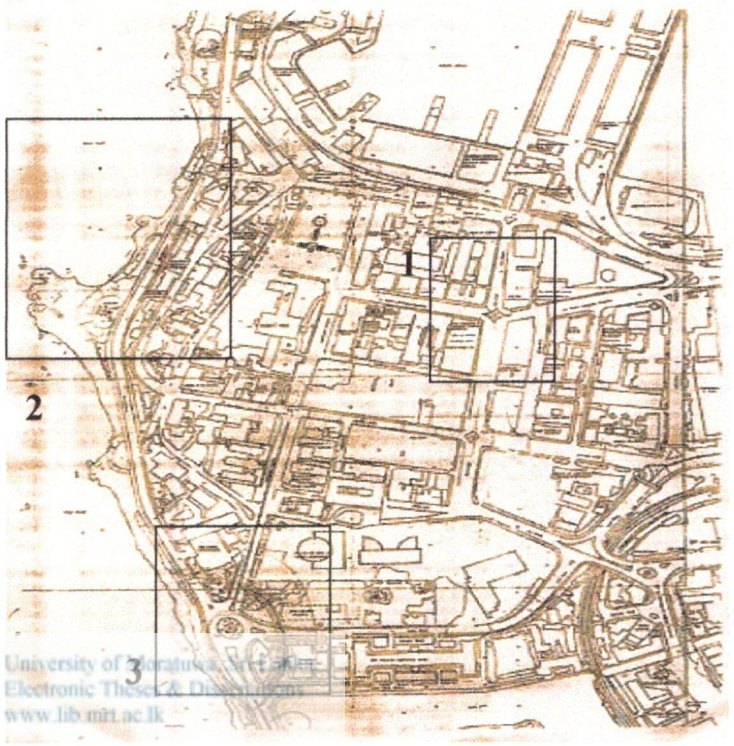


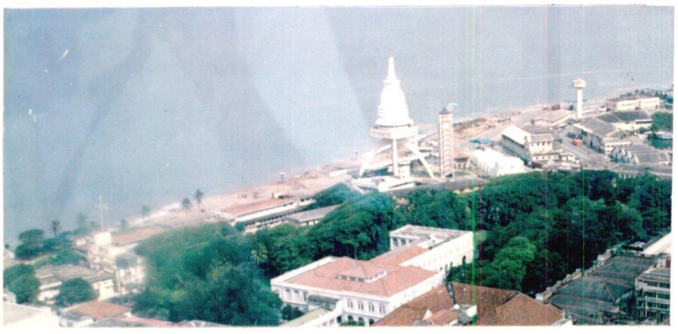



Fig. 49. Plan, Colombo Fort.

1 Cargills junction, Node

2 Marine drive edge, Node

3 Galle Face green, Node



### 4.2.1 Cargills junction, Node

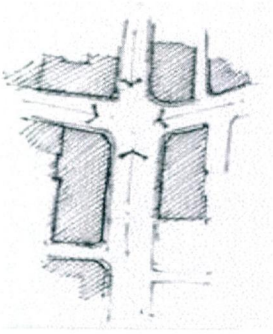


Fig.50 Building forms the shape of the node.

Fig. 51 Cargills Millers and Saylan bank.

Fig.52 Greendlays Bank and Hemas building.

York Street and Sr. Baron Jayathilaka mawatha intersect each other and has formed a significant junction, in the urban context of Fort.

This node is a busy and an active place, due to both the heavy vehicular and pedestrian traffic.

This node has been achieved a special significance itself merely due to the experience of the surrounding built fabric. Among these buildings, Cargills and Milllers buildings are identical.

Normally that junction is well known as the 'Cargills junction' by referring the identical buildings of Cargills and Millers.

The other three buildings which are the Hemas Bldg, the Seylan Bank building and the Greendlays Bank were bordering the junction.

The surrounding building has created physical form of the node, which is not appropriate in scale to the space. As a result the space is lack of sense of enclosure. As

Fig. 53 Lack of sence of enclosure.

Fig. 54 Less contribution to the edgs.

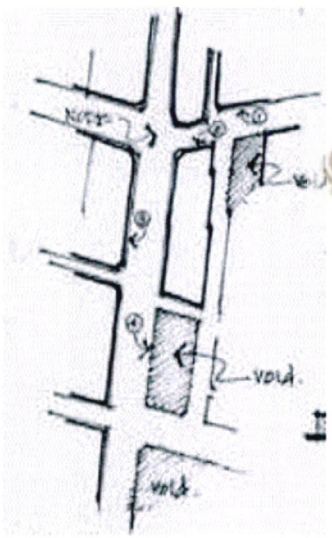



Fig. 55 Void areas decrease the degree of visual completeness

described in the previous chapter, the form of surrounding buildings determines the form of a node. But, in the case of this node, the major buildings around the node do not provide sufficient enclosure or consistency of alignment to define the edges adequately.

The contribution of the corner buildings like the Hemas building and the Greendlays bank building other than the Cargills, were not in satisfactory level.

The form and the continuous rhythm pattern of facades and their details are not sufficient enough for create proper sense of enclosure or continuity within that node respectively.

The surrounding buildings, which create the form of the node, have failed to a certain extent, to provide the proper sense of enclosure due to inappropriate visual completeness in the form of surrounding buildings.



In the southern part of the node, there are void areas, which cause to decrease the degree of visual completeness

Firm building line, the straight and continuous skyline have been maintained along most of the existing buildings to strengthen the sense of enclosure and continuity.

Contrary like Greendlays bank has failed to maintain that skyline.

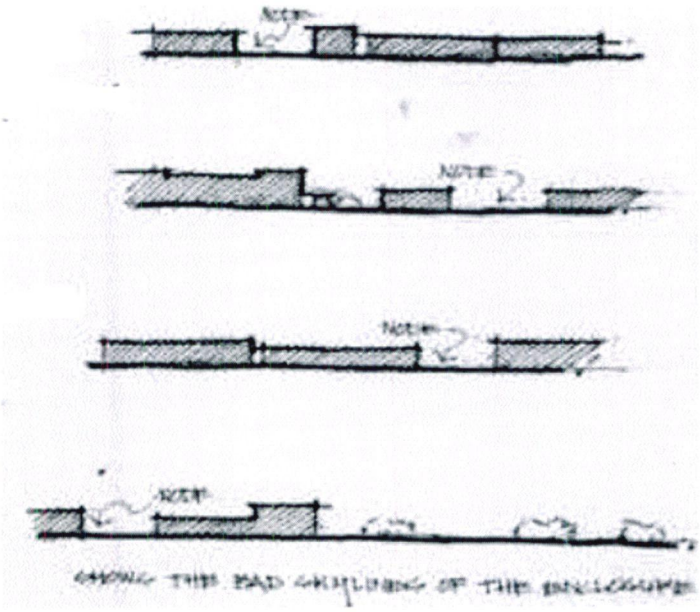


Fig.56 Shows the bad skyline.

Fig.57 Horizontal rhythm in Colonial buildings.

Fig.58 Facades rhythem totally fail in the Greendlays Bank.

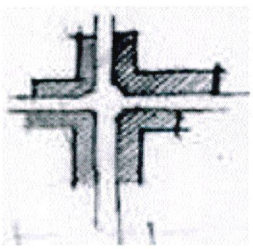
Façade treatments of surrounding and corner buildings are greatly contributed to strengthen the continuity of node. In this junction, horizontal rhythm is shown particularly in the colonial buildings like Cargills building. Greendlays bank, one of the new building which has followed this rhythm for a certain amount, but the other corner building, the Hemas building has totally failed to maintain this hence lacks sensitivity to the rhythm established by other buildings.

Fig.59 Shopping arcades.

Continuous arcades of the Cargills and Millers building have made the node visually interesting. The arcades are providing mainly an ample space for social interaction. Arcades of Cargills and Millers buildings can be taken as a best example, mainly used as shopping arcades. During the festival season, this was the most functioning shopping center in Fort.

Fig.60 Continues arcades of the Cargills and Millers.





By treating of curved or chamfered corners, make the node more spacious. And a way of strengthening the sense of enclosure, most of the buildings around the junction have responded to it.

But Hemas Building, display building masses that confuse the built environment and the activity pattern of the whole street.

Fig.61 Hamas building.

There are some designs strategies have been identified for strengthening the exciting poor situation, of nodes in the previous chapter. Those strategies have been formulated basically for strengthening the enclosure, continuity and the center by which strengthening of the node, hoped to be achieved.

There are number of theories and strategies have been formulated for strengthening of nodes. But they have been initially formulated for the examples especially in western world.

In the pervious chapter, therefore has been attempted to identify the strategies and reshape them to relate with the local purposes and contexts. Otherwise those strategies will be purpose less and will be failed to apply for our cities.

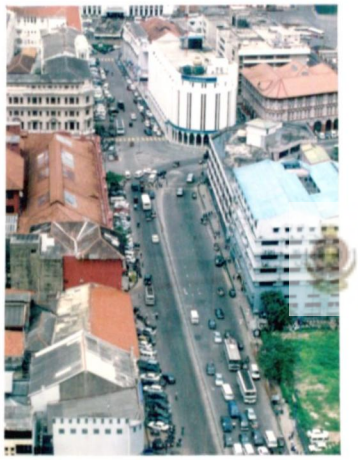


Fig.62 Edges of the buildings forms the shape of the node.



Where most of nodes in local context where small in scale, the transport system, the passengers who uses these systems was also less than comparing to other developed cities.

Accordingly the design dimensions have been identified for reshaping the quality of the nodes in Colombo Fort.

Some strategies are applicable in reshaping the streets around the node.

In this junction node, the edges of the buildings form the shape of the node. Edges of the each corner building have splayed out in order to splay the streets at the junction. It helps to make the node more spacious.

The vacant or open spaces around the node may cause for the sense of enclosure of the space. And if there are more vacant spaces and voids the degree of enclosure is decreasing.

There are many open voids can be found around this junction node, which Leads to the visual disturbance too. And there are several design strategies can be applied for the vacant lands to strengthen the node.

In the case of visual disturbance due to the open areas, special attention has to be paid, for above mentioned areas.

Thus having a car park, or open area, by filled it with a built form, the visual disturbance can be minimized. As a result it may lead to a good enclosure at the end.

Some design dimensions are applicable on built fabric. The height and breath ratio, which is an important aspect for the physical being of a node.

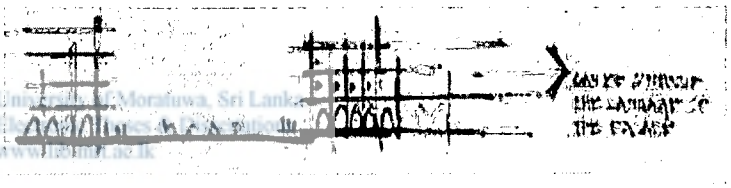




Fig.63 Façade continuation

Normally accepted ratio as described in the previous chapter; that the full enclosure occur when the height and breath ratio of 1:2, and by having a minimum enclosure, and often the loss of sense of place happens when the ratio is about 1:4. In order to provide a proper sense of enclosure this factor becomes important.

This ratio has not been applied in this particular example; the ratio applied in this node can be analyzed as approximately 1:5.

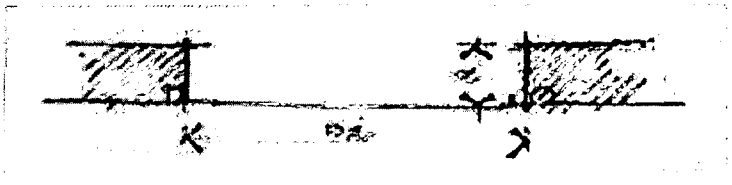


Fig.64 Existing height and breath ratio.

Therefore the possible methods can be identified in the ways of,

By reducing the width of the space by extending the building towards the road.

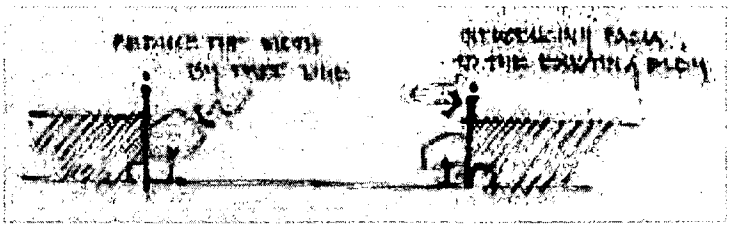


Fig.65 Extending the building or the building elements to reduce the breath of the road.

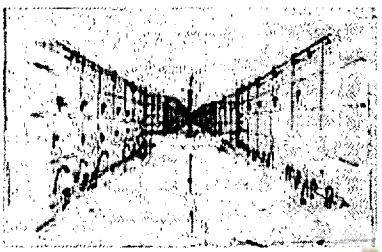


Fig.66 Provide a element to focusing of views.

When strengthening the nodes, the heights of the corner buildings play an important role. For that introducing fascias, on the top edge of the buildings, can increase the heights of the edge buildings. as a preserved city, Colombo Fort, the old buildings are preserved. So that the strategy may not apply for this situation.



By reducing the width of the space by extending the building element towards the road.

Façade treatment of buildings maybe come up with by introducing large arch ways to the alleyways to continue the sense of enclosure.

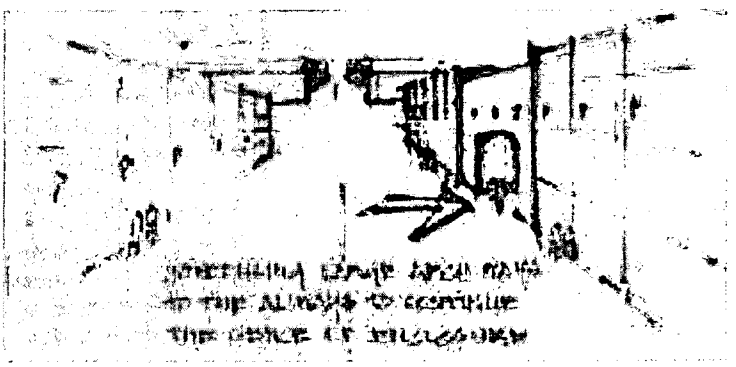
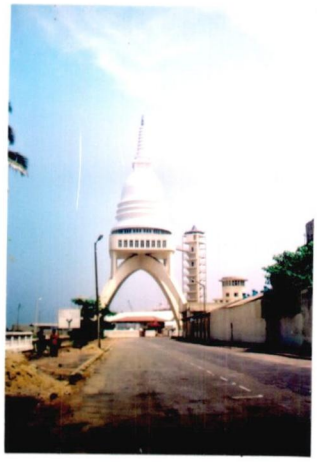


Fig. 67 New archways to alleyways

### 4.2.2. Marine drive edge-node



According to the hierarchical order depend on which main typology was derived for nodes in the local context.

The last type in this typology as mentioned in the previous chapter is the urban edges, which can be treated as urban nodes.

An ideal location for this kind of node can be found within the Colombo Fort is the marine drive edge. (Segment from Lighthouse to Sambodhi Chaithya).



Fig: 68
Marine drive edge-node
(Lighthouse to Sama Chaithya)

This located at the western edge of Colombo Fort. The segments, which are considered for this study stretches along the area from the lighthouse to the 'Sambodhi' chaithiya.

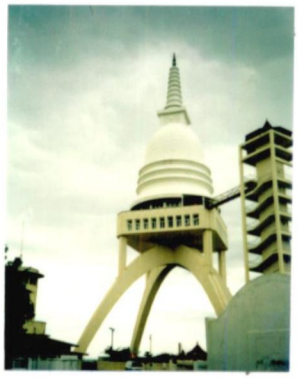


Fig.69 Sambodhi chaithya

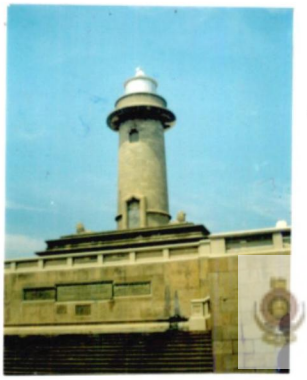
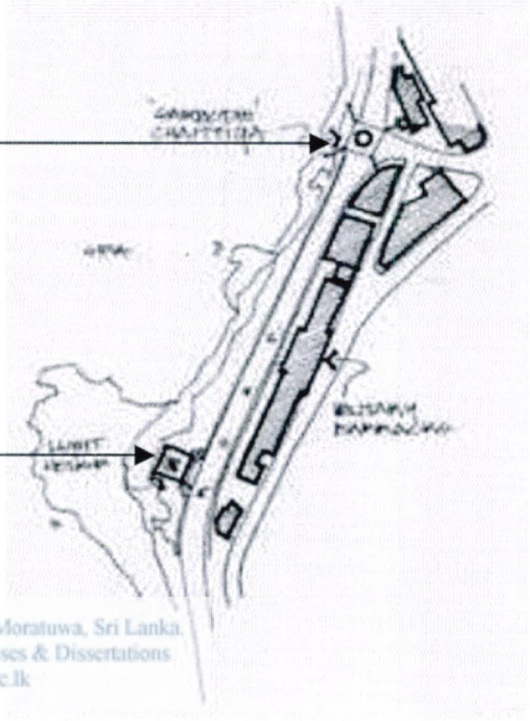


Fig. 70 Light house





This node consist with two main overlapping segments, they are;

- The segment along the Chaithya road, which starts from the old lighthouse to the point where Chaithya is located.
- The inter section of the Chaithya road and church street.

The existing situation and the potentials of the place to be developed, as a vital node in the Colombo Fort will be hoped to examine in this section.

This plays posses a great significance by it self due to several reasons. One reason is defined by the city geographical location; the Indian Ocean by which the edge is naturally demarcated. The second significant feature is the 'Sambodhi' Chaithya, which is a

landmark to the city of Colombo located at one end of the stretch.

Sama Chaithya and lighthouse of the edge are the important landmarks can be used to enhance the legibility setting of the edge.

This can be treated as continues node along which the edge at landside is demarcated by an abandoned buildings. As junior police officers mess, wild life and nature protection society which now function as military barracks.

Fig: 71
The abandoned buildings along the landside boundary.

Fig.72 The abandoned buildings along the landside boundary.

The abandoned buildings along the landside boundary. Any of these buildings do not often the sense of it as the edge of the buildings in historic core of the Fort. Instead of that these buildings game a chaotic effect to the edge.



The edge is very loosely composed due to the uncontained in between gaps. among some of the buildings, greatly effected to this situation. Wild life and nature protection society buildings were set back and make the situation worst.

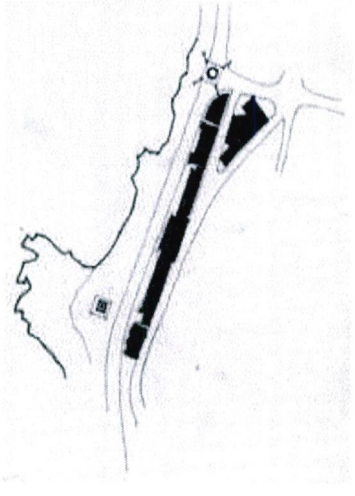


Fig:73
The gaps between existing buildings loose the continuity of the edge.

The gaps between existing buildings loose the continuity of the edge.

There fore in ability to create a continues boundary with an uninterrupted building line make role of this scale and proportion of individual buildings along it further makes the edge in harmonized.

Denying accessibility to the general public, checkpoints, barriers with sand bags and tires indicate this node as totally dead space to the city.

The edge is totally detached from the rest of the city due to security reasons.

This edge has become a totally lost edge to the city. The causative factors for being a lost space are, changing land use, privatization of public spaces and irresponsiveness of buildings along the land side due to in humanize way of composition of them Etc:

But this edge, which explore historic core at one side and the other by sea, which denotes many potentials of identity to the location.

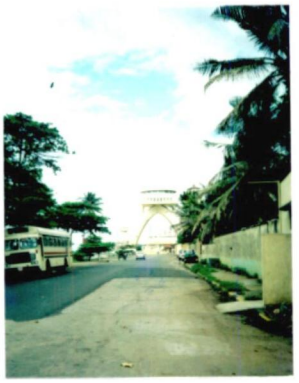


Fig.74 Edge of the historic core.

Some design dimensions have been identified in the previous chapter for strengthening the nodes by strengthening of their physical and qualitative attributes. The main principals of center, enclosure and continuity will be achieved and by following these design dimensions.



Through analyzing this particular example it was detected that the principal of continuity as the most prominent aspect in order to strengthen this edge as a linear shaped node. Application of the sense of enclosure and continuity for this particular example is almost invincible.

The relevant design dimensions among them and other potential dimensions will be examined in order to reshape this node will be discussed in this section.

Fig.75 Boundary walls along the road

Some strategies/design dimensions are applicable in reshaping street along the node.

- Demolishing the boundary walls at some instances along the road can increase the existing width of the street.

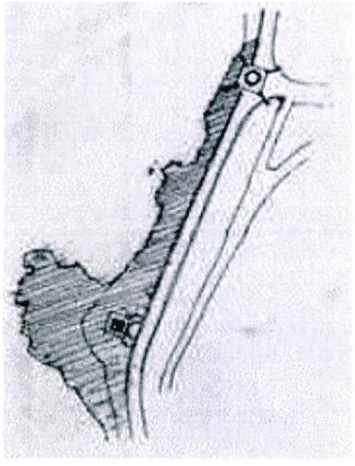


Fig.76 Open strip in-between road and sea.

Fig.77The stretch can be developing as a linear town park.

Boundary walls of the buildings can be demolished. and the open space between the buildings and the road can be added to the road. In order to increase the effective width of the road.

- Revitalize the unutilized space between road and the sea.

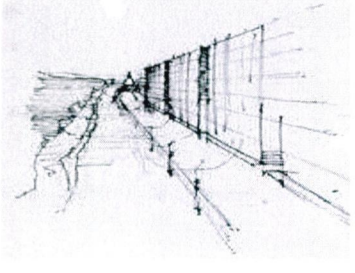
There is an unutilized stretch of space along the road and the sea, which has a great potential to use as recreational purposes by,

- Paving
- Turfing
- Landscaping that stretch as a linear town park

Some design dimensions are applicable for designing the buildings along the nodes. There are main determinant factors effected the design dimensions for the buildings along this particular stretch.



- The most significant aspect or the architectural characters of these building have been defined by its locality as being them at the edge of the historic building core of the city.
- In order to activate this edge with human activities and the rest of the Fort, the fundamental phenomena to be maintained is 'the permeability'. This quality must be a unique character to this space unless it will become a dead space.



The quality of 'permeability' can be achieved by different ways.

The most potential features can be utilized for doing this are the gaps between the existing buildings by treating them as permeable elements.

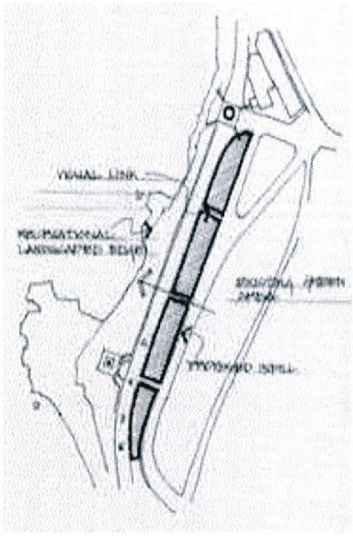


Fig.78 Gaps between the building blocks.

The gaps between the buildings can be designed as,

- Pedestrian walk ways with the waterfront and the rest of the city. They will act as spatial bridges between two sites. Those spaces retain facilities for pedestrians.
- These gaps can be treated as transitional stretches by introducing potential activities to functioning them. The ideal type of activity can be proposed for these spaces are penetrable trade and recreational activities at either side of these spaces. It can be done by using slight Laval different colonnades, paving Etc;

By introducing cultural and public oriented activities helped to achieve richness of variety as most essential character to such an achievement provides personal spaces along the edge.



The built mass along the stretch can be considered as the judicious in fills at these sites could restructure the space as a series of urban rooms and reestablished the links to the waterfront.

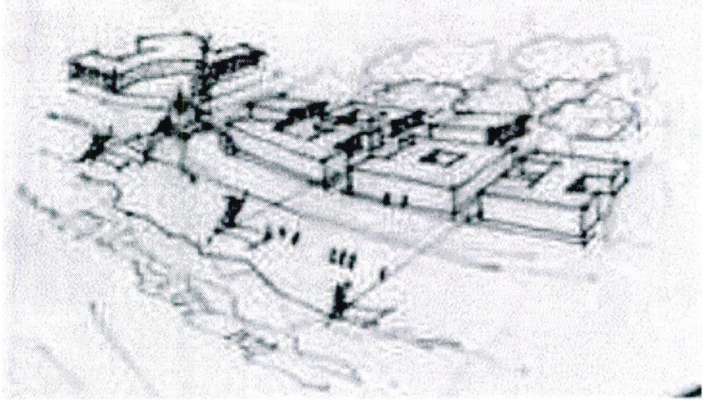
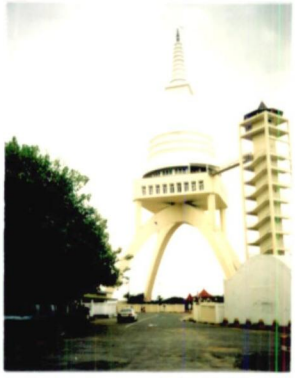


Fig.79 Transitional space.



The perfect composition of these built infills and the gaps between them can form a linear park for the recreational function, which is the ideal for particular node.

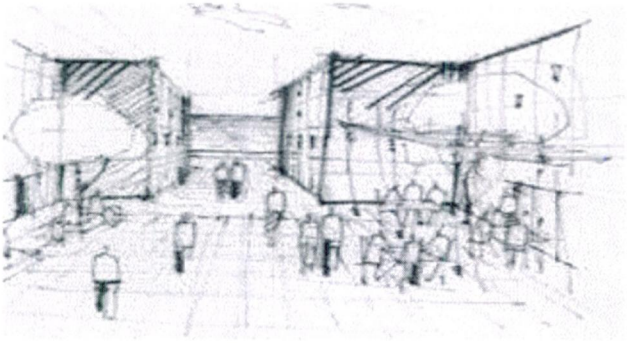


Fig.80 The perfect composition of built in fills and in-between gaps.

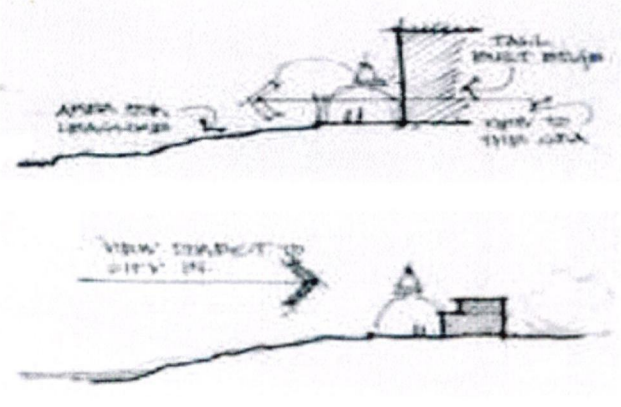
These in fill blocks could extend the architectural integrity of neighboring areas.



The building in these structural in fill development is being automatically derived or characterized by its locality. As mentioned earlier this structural in fill is located at one edge of the historic built fabric of the Colombo Fort.

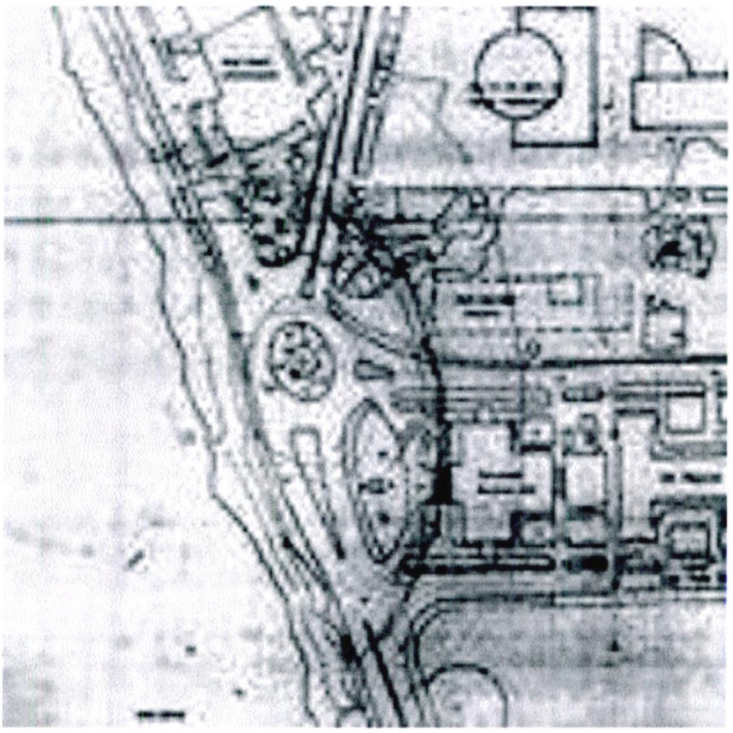
In the case of unifying visual appropriateness, continues built mass has to introduce. The new buildings to be introduced at the edge must be totally responded to the existing historic core and be merged with.

Fig. 81 Edge must response to the existing historic core.



### 4.2.3. Galleface green-node

Fig. 82 Arial view of the node





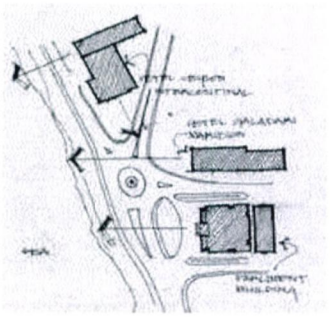


Fig. 83 Poor orientation of the buildings to the node.

The typology which can be considered as one of the main aspects in studying nodes has been formulated in the previous chapter of this study. According to that, the main typology was derived on the basis of the hierarchical order of the urban nodes. **Squares, junctions** and **edges** can be stepped down perceptivity according to the perceptual hierarchy of them. Squares are coming to the first order in that hierarchy, and one of the ways in which a node can be found within an urban context.

By studying the physical setting of Colombo Fort, Galleface junction (intersection of Galle road, Janadhipati Mawatha, Lotus road, Chaithya road) was found to be a one of the best potential place for a square in the city of Colombo.

Fig. 84 Poor orientation of major buildings around

It plays the role of the gate or an entry point to the Fort and on the west edge of the Fort.

This node has a dynamic quality. A person can feel a clear transition from one structure to another when passing through this nodal space. The view if the Fort building at the distance perceptually accentuates the movement towards Fort. The central road stretching straight for a great distance, taken a bend towards the sea and descends towards the same. This variation of street layout prepare the mood for the transition expected.

The rare view of Chaithya road and Janadhipathi mawatha the uninterrupted continuity of skyline of buildings can be seen and help to further strengthen this quality.

Fig:85 rare view of the individual towers from the Galleface

In addition to that the rare views of buildings like individual towers, Central banks, Bank of Ceylon, Twin towers, and hotel Intercontinental contribute chaotic effect to that node.



The western boundaries of this space the panoramic view of the blue Indian Ocean.

The strategies can be identified for this particular node for strengthening it as a possible square and basically in functional and architectural aspects.

Fig. 86 Integration of the view of the sea, this junction becomes dynamic social space in-between sea and the historic core.

- When considering the functional aspect;

As the marine drive that is allocated to be the green web of the Fort, according to the development guide plan- Colombo Fort 1999, this area is expected to promote leisure and recreational activities and to be developed as an accessible space for general public.

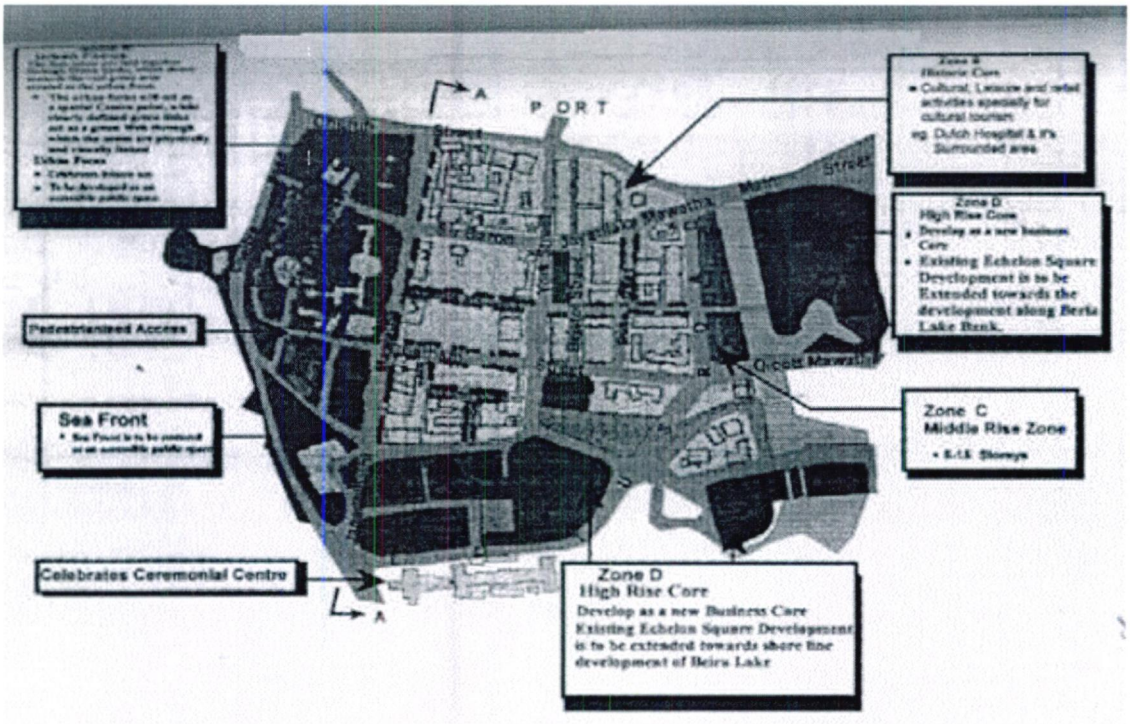



Fig.87 Zoning Plan - Fort

- Variety of experience as stated above, is another strategy to be achieved.

In the case of uniting visual appropriateness integration between built mass and the open spaces has to be enhanced. The new buildings, if any which will appear in the future, at the radios on which the parliament locates.



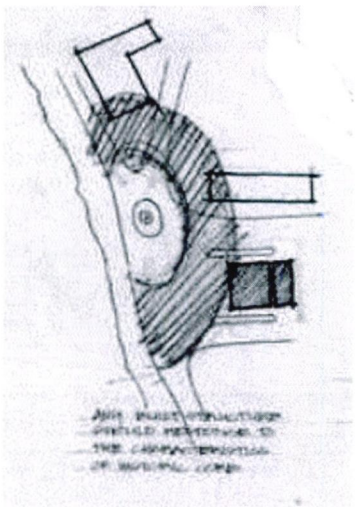


Fig 88 Any unlit stretch should response to the characteristics of historic core

The most superficial feature close to the junction is the old parliament building.



- Response to the existing character of historic buildings.

Fig.89 Visual incompleteness of existing situation

Though the node is in the edge of historic core, any development in the radius should be according to the characteristics of the historic core. And also the design strategies, which indicate in the previous chapters, should be considered.

- Visual completeness of the built fabric

In the case of unifying visual appropriateness, continues built mass has to be introduced. The visual completeness is destroyed from the individual high-rises. Bt the continuation of the roofline in future in fills may achieve the visual completeness for certain extent.

This perceptual continuation is important to achieve a lateral enclosure and creating a setting for street level activities appropriate to the area being redesigned.

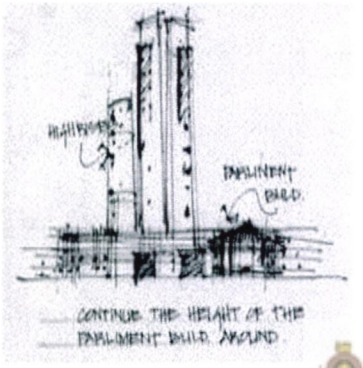





Fig.90 visual completeness of the building

- Sense of enclosure to a certain extent.

unbuilt spaces of the surrounding lands can be landscaped in a cohesive manner and those exterior landscape corners can be used as links between surrounding buildings and directing sequential movement through a series of spaces.

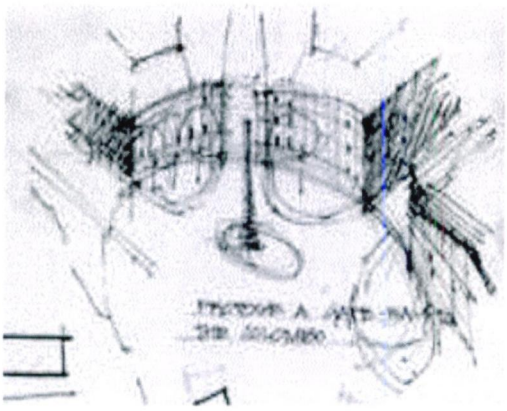


Fig.91 Un built open areas integrate to the node

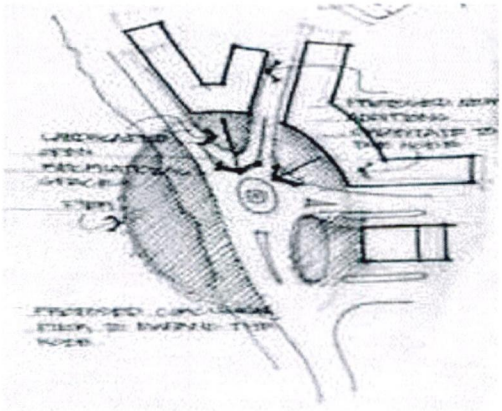


Fig.92 Extend pier enlarge the node

Fig.93 Un built open areas can be landscaped in a cohesive manner

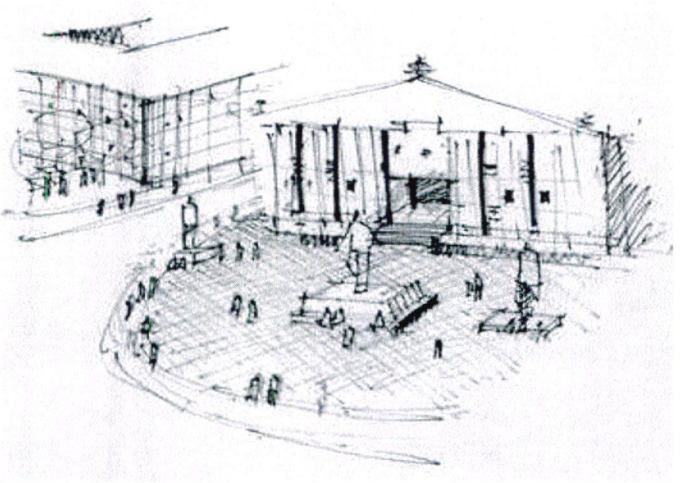


Fig.94 Open areas can be threaten in a cohesive manner to strengthen the node

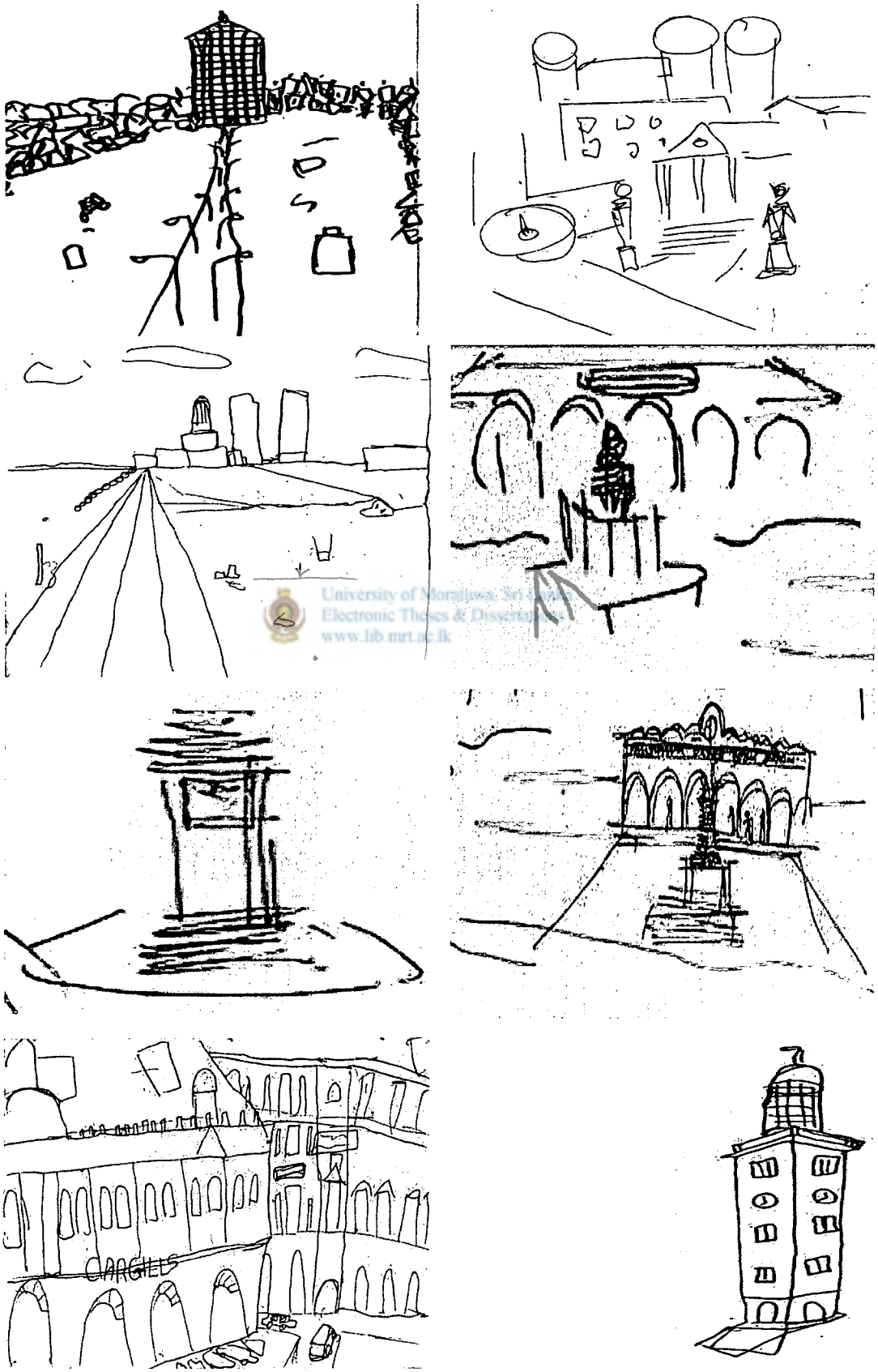
In the use of urban space, integration is also desirable. Spaces that can accommodate mixed or integrated uses have much greater richness and vitality than single use spaces.

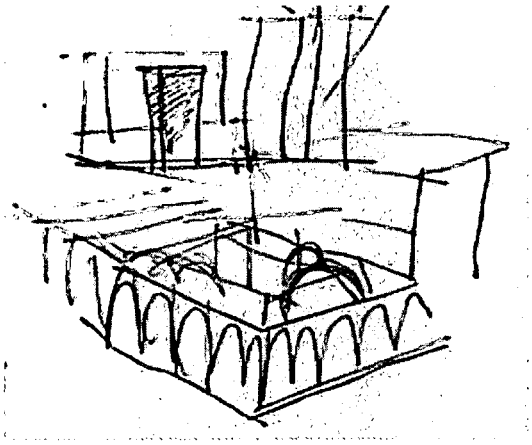
Museums, restaurants, cafes can be introduced as street level activities.

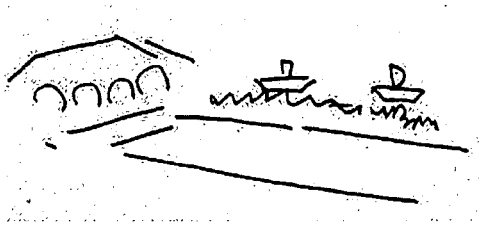


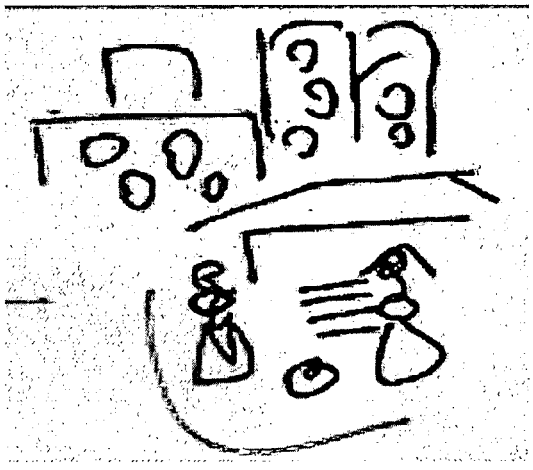
Fig.95 Individuality of existing major buildings

Sketches Showing a Buildings & Public image on Colombo









# Conclusion

## Conclusion

Cities have utmost importance as manifestation of human development hence the organization of their physical environment in a functional and meaningful way is greatly needed. Nodes play a vital role in this organizational structure as specific places of physical, symbolic to social characters a unique form, within the urban fabric.

Amalgamation of Imageability of those places help to draw the picture of uniqueness or the wholeness of the city to its observer.

When considering the Sri Lankan context, city of Colombo is one of the cities subjected to drastic changes from the time of its origin up to the present situation. As many other cities in the world it had an originally developed "image" which has been subjected to gradual change due to continues development process. Nodes is an important element in the physical setting of the city of Colombo which have a higher probability of evoking a strong image in any observer has been significantly subjected to the changes due to said development process. Then it was derived the determinant factors must be maintained in order to treat the "node" as a "place" with a particular urban context. Those determinant factors are ;



The sense of enclosure
Continuity
Center

Then it was founded the degree of above said determinants are highly effected by two basic types attributes associated a node. Those are ;

i. Physical attributes

ii. Qualitative attributes

Then the possible design dimensions have been formulated to strengthen each of these attributes, by strengthening of the associated characteristics and qualities of surrounding buildings, streets or natural features.

Throughout the study it was understood that the "center" as a determinant factor of node in local context rarely detectable. The sense of enclosure and continuity as identified as the apparent determinant factors in the nodes of the local context. These factors enhance the physical qualities of the node and they make the node visually more imageable.

As a result most of them have found to be hidden unstated fail to emphasis to their role of functional, symbolic and meaning.



In order to do this, an area was selected within which strong nodal points located, and identified the possible nodal spaces.

An attempt was made by this study to formulate a possible typology, which may applicable for local contexts by considering the existing situation. For this purpose, functional aspect was not taken into consideration, as the functions are overlapping in most of the nodes due to the city is still in developing stage.

It was examined by this study, that the nodes in city of Colombo cant be put into a definite type. Then the typology was formulated depending on the prominent aspects of;

Hierarchical order : based on which main typology was formulated.

Physical form : based on which sub typology was formulated

Intersecting place

These design dimensions could be used as a basis for any architectural, design or planning exercises associated with nodes or related public spaces in an urban development project.



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