



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Form Based Codes in District Centre

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Abstract: District centres in class I metropolitan cities play a vital role in the overall development of the cities. The district centres influence the commercial and social activities of an area and must be designed in order to give the visitors a quality time. Over time, district centres have become mechanical in nature and cater to the needs of some sections of the society. Their role is to have certain amenities for everyone to visit once in a while. Thus it has been observed that the latest district centres target the upper class audience and ignore the middle and lower income groups. This can be solved by creation of an affordable informal market within the precinct of the district centre. At Nehru Place District Centre, an informal market has been developed organically over the course of time. Thus the district centre can be analysed on the basis of architectural design to see which factors affect the development of these informal markets.

Form Based Codes are a way of regulating and designing certain areas to achieve a desirable public space. The aforementioned informal markets are best developed in open spaces and act as public areas. Thus the concepts of Form Based Codes can be implemented in district centres to achieve a public space that can be used as an informal market. These codes regulate various aspects of urban areas such as building form, landscapes, frontages, open spaces, civic spaces and streets. Thus these elements are studied with respect to district centres.

The conclusions will include architectural recommendations for district centres from the point of view of Form Based Codes to promote informal markets and thus make district centres more efficient in achieving their motive of being a commercial area which has something for every section of the society.

Index Terms - Form Based Codes, District Centre, Built Form, Public Realm

I. INTRODUCTION

1.1 Hierarchy Of Commercial Areas

Commercial areas in a city are creators of livelihood and business for the entire city. Thus it is necessary to classify them on the bases of their scales. The classification is directly influenced by the population which the commercial centre serves. [1]

1.1.1 Metropolitan City Centre/ Central Business District

Metropolitan City Centre/ Central Business District is the core commercial area of a city. The city centre or CBD has evolved over time and thus has historical significance which gives it prominence over other commercial areas. The metropolitan city centre/ CBDs have been historic markets with many trades whose generations have passed trading and doing business in core of the town.

These centres have become extremely popular and have extraordinary land prices which make it hard for new traders to establish a new business in these areas. This is the most popular place of a city and thus are extremely popular amongst the consumers as well who love to visit these centres to shop. This makes these centres of great commercial, historical and socio-cultural significance.

1.1.2 Secondary Business District/ District Centre / Sub- Central Business District

District Centres are places which help to decongest the City Centre by attracting certain sections of traders and consumers. By doing this it reduces the load on the City Centre and thus becomes an important node of commercial and socio cultural activities.

The major function of these District Centres is to cater to the commercial needs of different zones of the city. Since District Centres have a large consumer base, they inevitably become nodes of social and cultural activities as well.

Thus we can observe that the functions of a District Centre are similar to those of a Central Business District. The difference lies in the population which they both serve. CBDs have a city wide consumer base while District Centres are supposed to serve different sections of the city.

1.1.3 Community Centre

Community Centres are shopping and business centres which serve population on a community level. They may have Retail Shopping, Commercial and Government offices, Hotels, Nursing homes, Guest House, Banquet halls and other community level facilities.

1.1.4 Local Shopping Centre And Convenience Shopping Centre

These are shopping places which are used by people on a day to day basis. These centres mostly have retail activities and have amenities for the populations daily needs. [1]

1.2 Form Based Codes

Form-based codes foster predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle for the code [2]

Form based Code is a technique of perceiving and designing built forms in which the built form itself governs the functions it and its surroundings execute. Thus the built form plays the pivotal role for the area. Conventionally, our methods are more focussed on use-based zoning and two dimensional planning. This method fails to predict various unexpected issues that come to light at different phases of the lifetime of the built form. [3]

Unlike the conventional design methods, the form based codes uses the character, built form and its relation with the surroundings as the governing principle for design. These codes and regulations focus on designing high quality places instead of individual buildings. The Form Based Codes primarily regulate the physical form of buildings and secondarily the character and functions of a place. Both these aspects become interdependent and one cannot be perceived or designed neglecting the other. The guiding principles of Form Based Codes are-

1. Coordinated built form
2. Complete Streets
3. Accessible public spaces
4. Effective mobility management
5. Contextual landscapes
6. Environmental and cultural inclusivity. [4]

Conventional design and zoning.	Form Based Codes.
Land use and zoning.	Relationship with surroundings and context.
Top to bottom approach.	Bottom to top approach.
Based on segregation of uses.	Based on integration of uses.
Ends up focussing on what should not be allowed.	Inculcates the requirements of the surrounding communities.
Promotes automobile dependency.	Promotes Non Motorised Transit,

Table1.2- Comparison Between Conventional Zoning and Form Based Codes

II. Case STUDIES

2.1 Nehru Place, Delhi

- Built to attract people going to Chandni Chawk and Connaught Place.
- Area- 49 Acres.
- Access- Nehru Place metro station
- o Nehru Place Bus terminal
- o Ring Road
- o Kalkaji Metro Station.
- Has become the largest IT hub of South Asia.
- Key feature is the informal market.
- Construction completed in 1980s

2.2 Saket District Centre, Delhi

- Built as the main shopping, entertainment and commercial hub of south delhi
- Area- 52 Acres.
- Access-
- o Press Enclave road on the way to Qutb Minar
- o 4km from Greater Kailash.
- o 1.3 km from Malviya Nagar metro station.
- Has become a brand destination for shoppers from all over Delhi.
- Controlled built form gives a sense of place in the District Centre.
- Key feature is the connectivity between different structures.

2.3 Comparison

2.3.1 Site Planning

Nehru Place

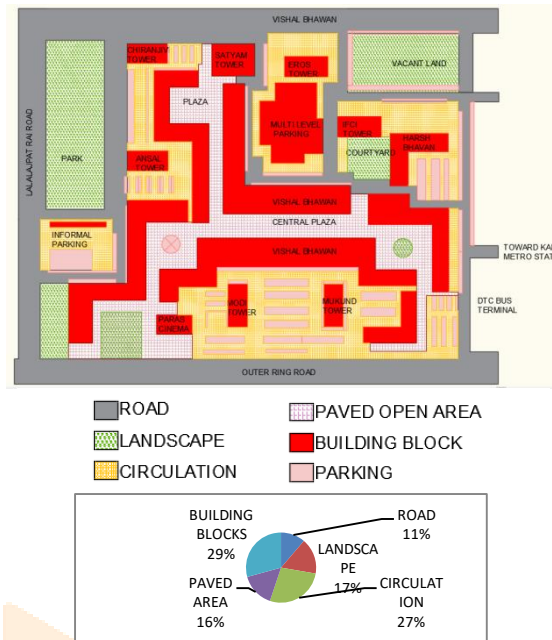


Figure 2.3.1.1- Nehru Place Site Plan

Saket District Centre

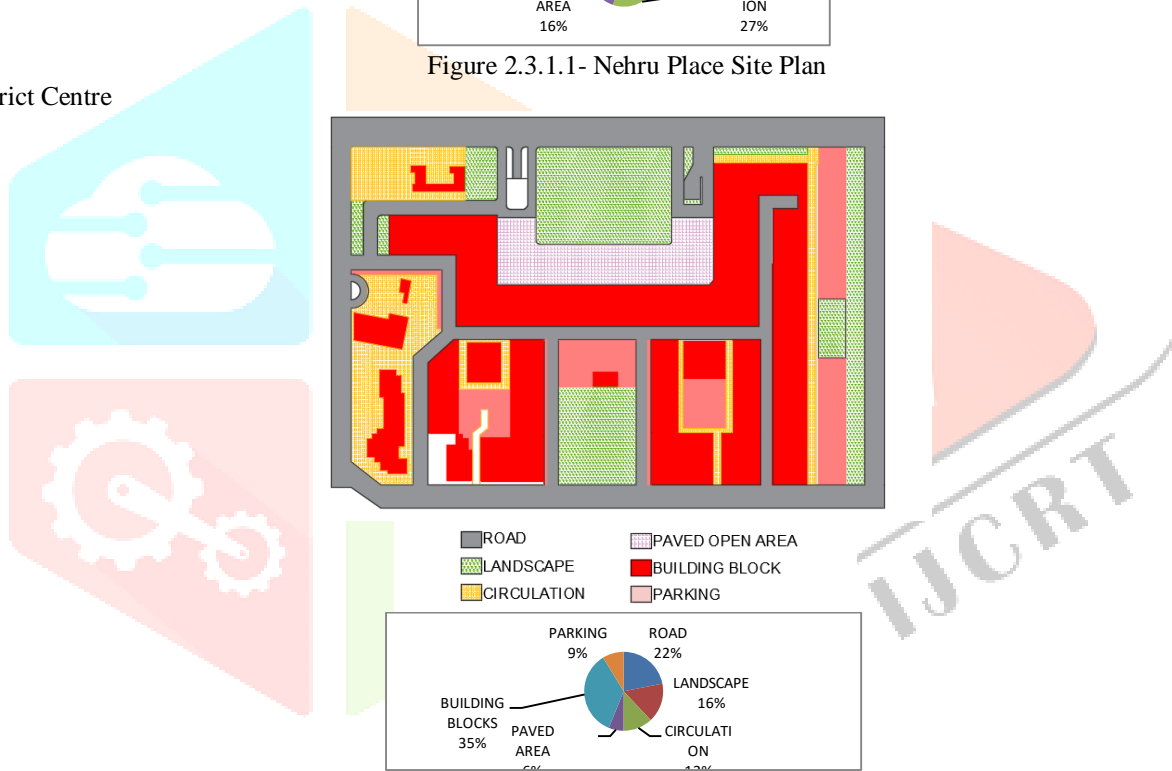


Figure 2.3.1.2- Saket District Centre Site Plan

Inferences-

- Linear built structures are used for retail and commercial buildings whereas offices and hotels are situated in high rise structures.
- % of paved open areas is higher in Nehru place and lesser in Saket.
- Informal market is present in the central plaza of Nehru place which is enclosed by buildings on all sides whereas the weekly informal markets in Saket is surrounded by buildings on 3 sides and the park on the 4th side. (Author)

2.3.2 Building Height Nehru Place

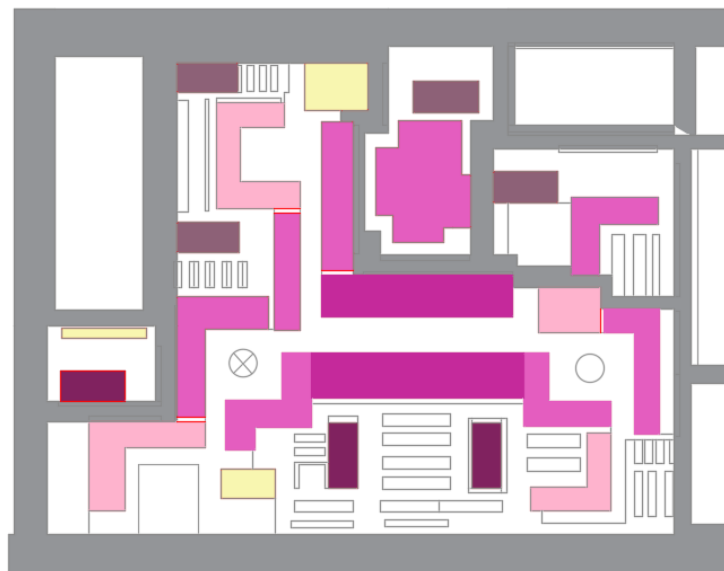


Figure 2.3.2.1- Nehru Place Building Heights

Saket District Centre

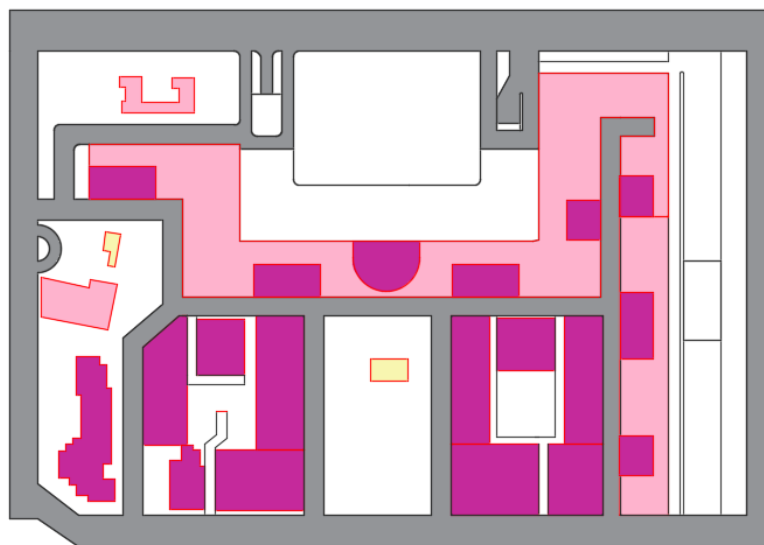


Figure 2.3.2.2- Saket District Centre Building Heights

Inferences-

- 1- Nehru Place has a variety of building heights and the pattern that can be observed is that the structures near the central plaza are G+8 which decreases as we move away.
- 2- The retail buildings are G+3 in height and office buildings and hotels are G+8.

2.3.3 Sciography

Nehru Place

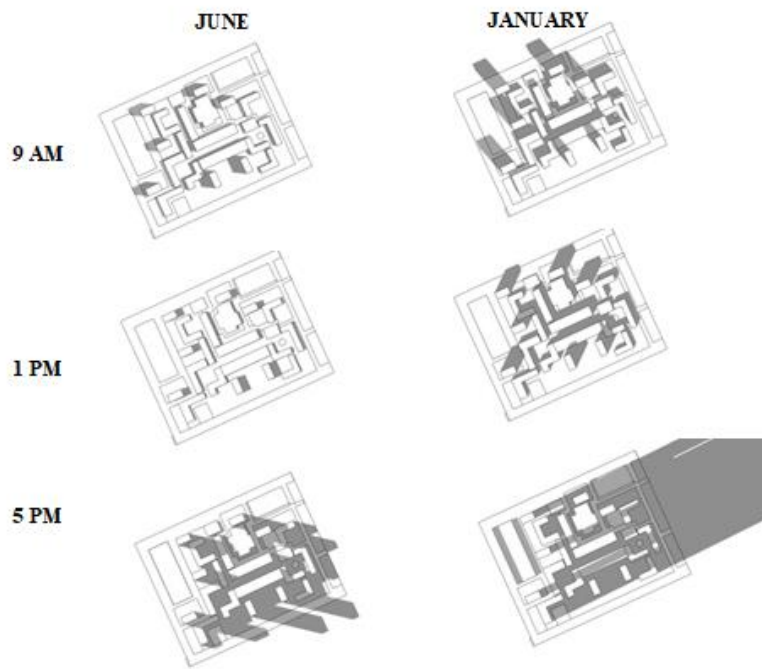


Figure 2.3.3.1- Nehru Place Sciography

Saket District Centre

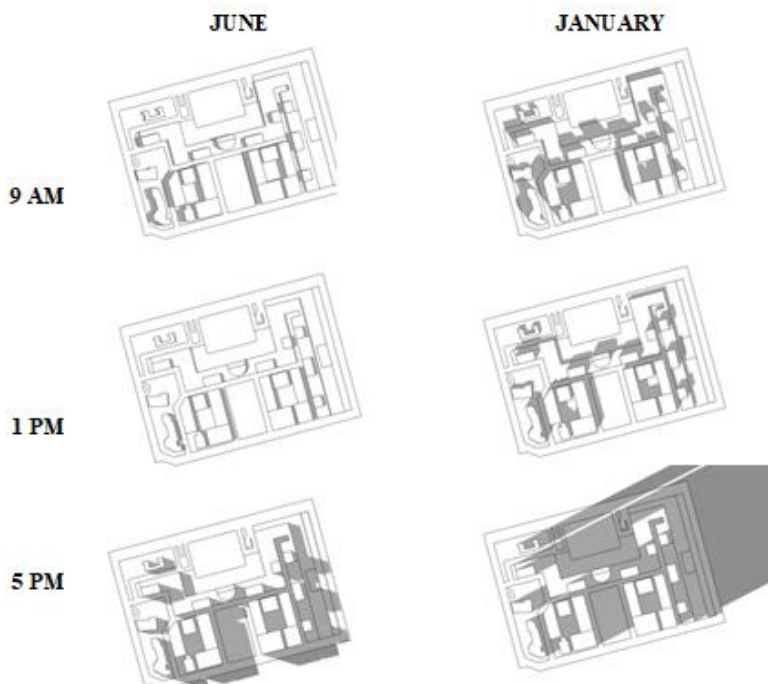
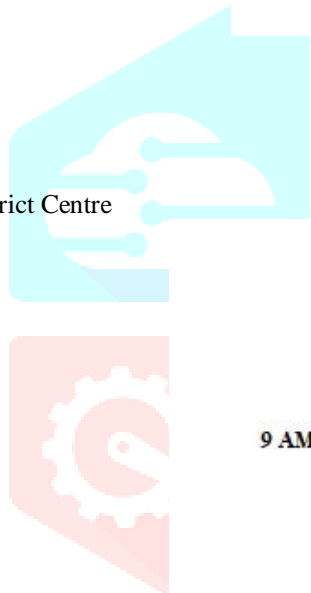


Figure 2.3.3.2- Saket District Centre Sciography

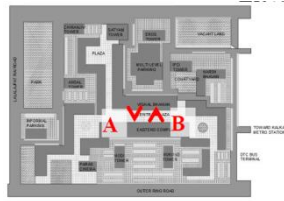
Inferences-

1- After 1 PM, the central plaza begins to get shade of the higher buildings surrounding it during the summers which makes it favorable for informal markets.

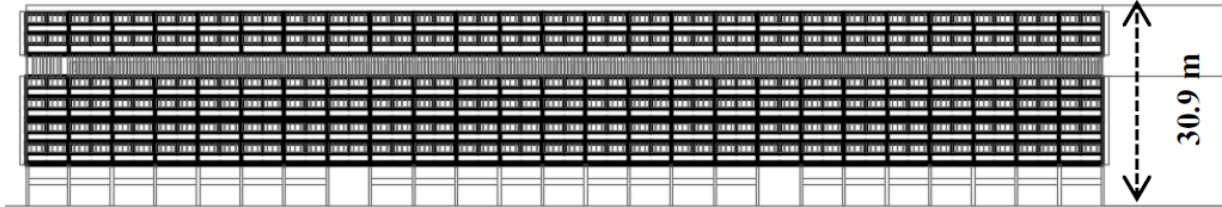
2- At Saket, since the main open area is not surrounded by high structures, it does not get sufficient shading from the sun during the summers making it less favorable for an informal market. (Author)

2.3.4 Elevations/ Facade

Nehru Place



Key Plan



Elevation A



Elevation B

Figure 2.3.4.1- Nehru Place Elevations

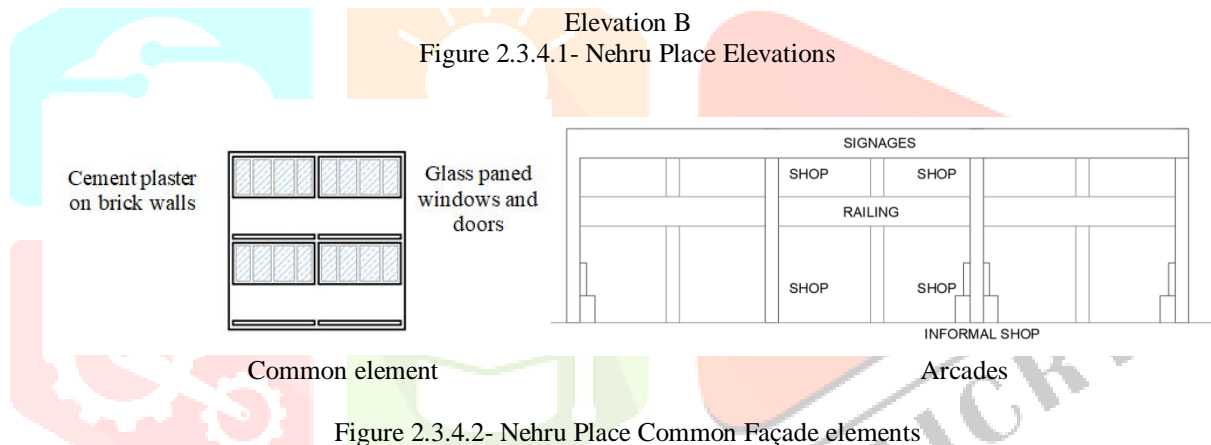
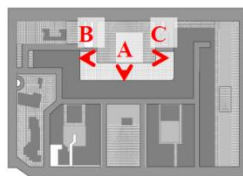


Figure 2.3.4.2- Nehru Place Common Façade elements

Saket District Centre



Key Plan



Elevation A



Elevation B



Elevation C

Figure 2.3.4.3- Saket District Centre Elevations

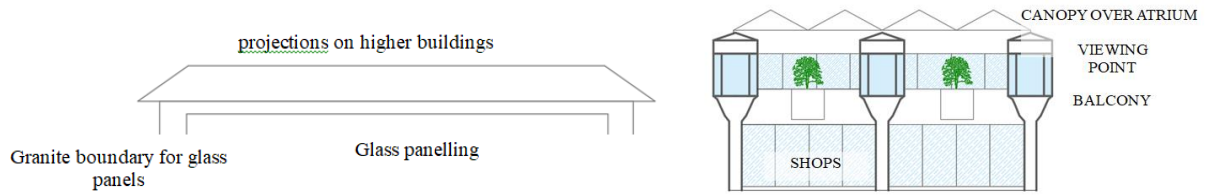


Figure 2.3.4.3- Saket District Centre Common Façade Element

Arcade

Inferences-

- 1- The elevation of the buildings surrounding the open spaces have a common element which can be seen.
- 2- Simple brick wall and cement plaster was used as materials.
- 3- The design is such that it gives the appearance of a plane surface with similar punctures all over it. These punctures are given depth by using them as balconies.
- 4- At Saket the elevation is controlled and similar elements are seen throughout the district centre.
- 5- The use of granite and glass is common in all buildings.
- 6- The high rise buildings are designed with a common projection.
- 7- A double heightened arcade is provided at Nehru Place.
- 8- At Saket, the arcade is single heightened with ornamented pillars. (Author)

2.3.5 Open Spaces/ Landscape

Nehru Place

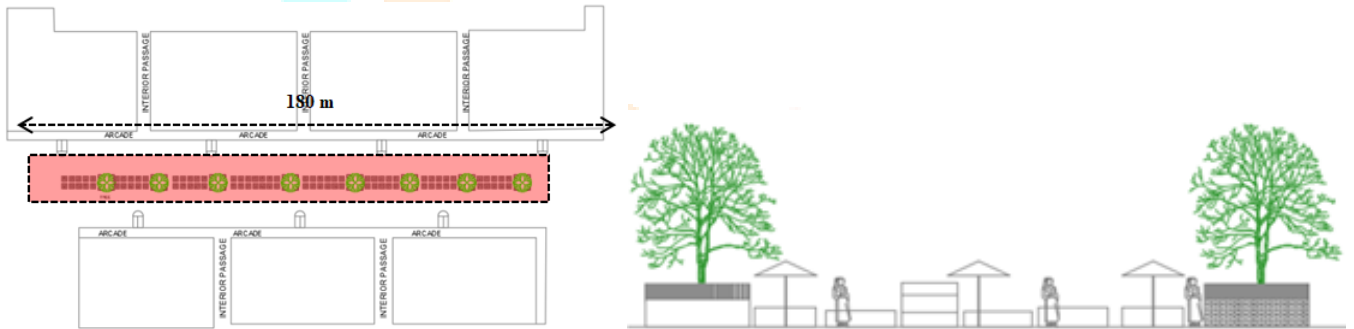


Figure 2.3.5.1- Informal Market in Open Area

Figure 2.3.5.2 -Elevation of Informal Market

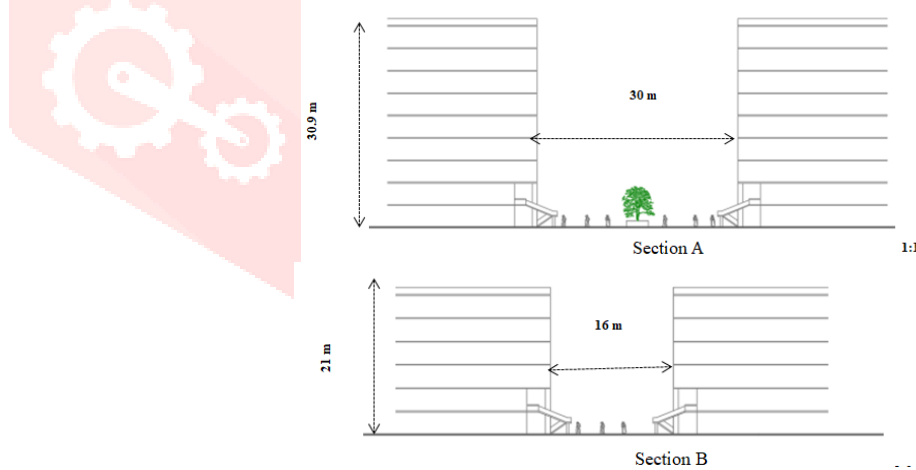


Figure 2.3.5.3 -Open Area to Building Height ratio

Saket District Centre

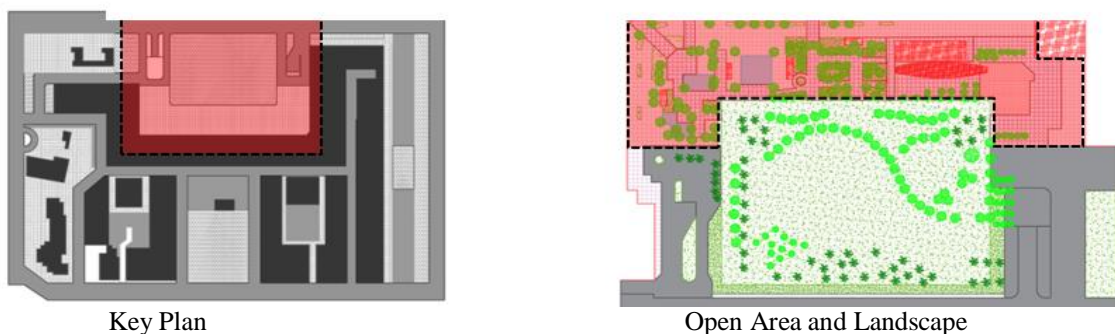


Figure 2.3.5.1 – Saket District Centre Open Area Plan

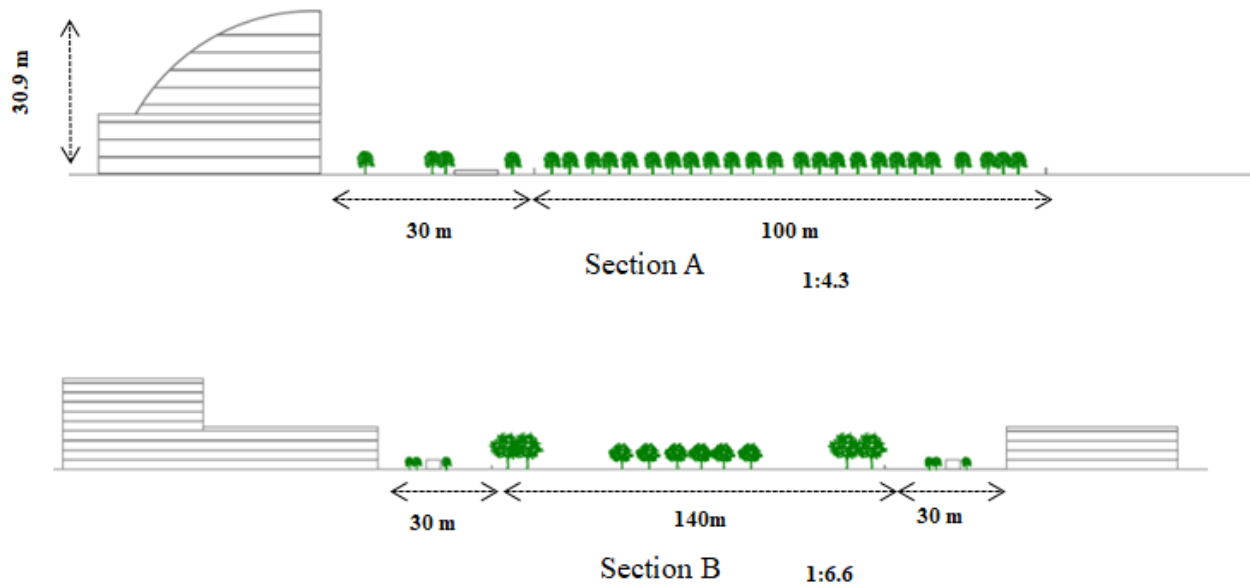


Figure 2.3.5.1 - Open Area to Building Height ratio

Inferences-

- 1-The informal market at Nehru Place has developed because of the shade provided by the trees in the central plaza.
- 2- The exhibition area in Saket is distorted and thus not favourable for an informal market. (Author)
- 3-The height of the buildings give enough shade to the walkers for a pleasant experience.
- 4- At Saket, the only source of shade are the trees.

[4][5]

2.4

Conclusions From Case Studies

Building Type-

Coordinated built form is always preferable for District Centres as it gives unity and harmony to the design.

Building heights-

Building heights and the adjoining open areas work in coordination.

The open areas must experience maximum hours of shading during the summer season.

Elevations

The aesthetics of the buildings district centre play a vital role for the visitor's experience.

Arcades

Arcades are an interacting place for the visitors and the shops.

Open Spaces

Plazas are the best civic spaces for district centres as they allow social activities with respect to the buildings.

Contextual landscapes

The contextual landscape can support the informal market by creating a pleasant open space

III. DESIGN RECOMMENDATIONS

3.1 Layout

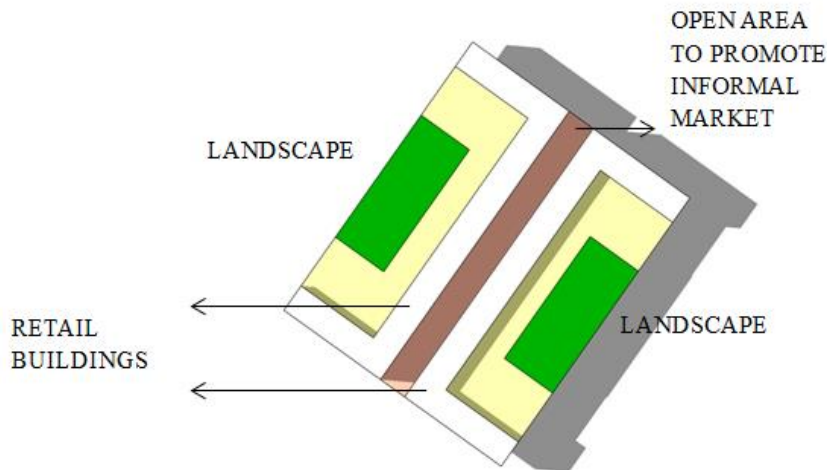


Figure 3.1- Recommended Orientation

- 1) The building orientation will make sure that the open space receives maximum shading during the hottest hours of summers.
- 2) The placement of formal landscapes must be such that it is easily accessible for all.
- 3) The informal market must be placed in between two structures which will act as a control and segregate it from the rest of the open areas. (Author)

3.2 Building Typology

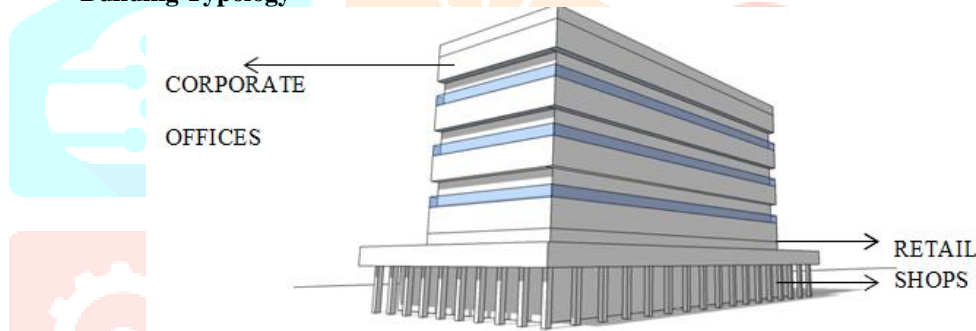


Figure 3.2- Conceptual Building Type

- 1) Tower on podium.
- 2) A visual separation between retail and corporate portions of the building must be incorporated.
- 3) Thus the retail shops will be designed on the bottom three floors of the buildings where as the upper floors may be used for various purposes such as corporate offices, hospitality and food courts. (Author)

3.3 Elevations

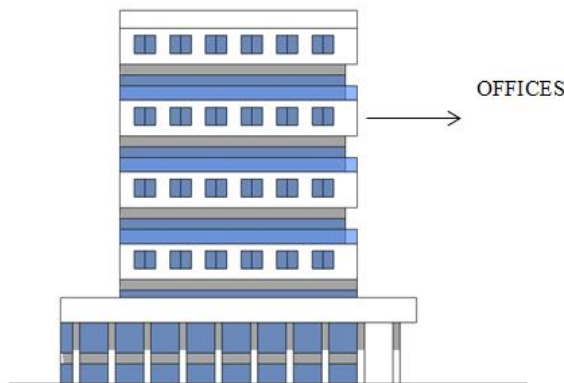


Figure 3.3- Conceptual elevation

- 1) The use of common elevation elements must be incorporated in the design to give the open space a unified appearance.
- 2) The elevation must not use materials which reflect a high percentage of the sun's rays. (Author)
- 3) No height restrictions are recommended for the buildings. (Author)

3.4 Arcades/ Colonnade

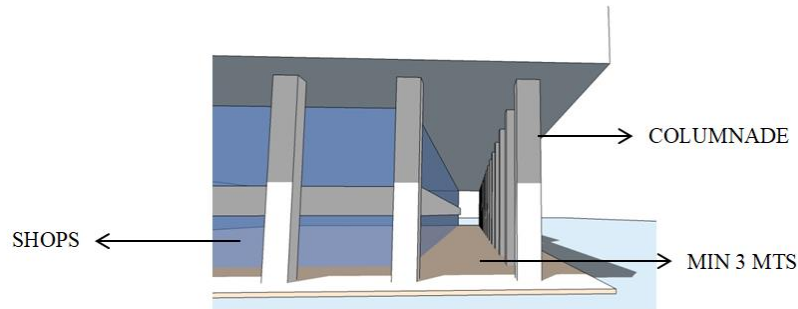


Figure 3.4- Conceptual collonade view

- 1) The arcades must be designed keeping in mind the entire appearance of the open space.
- 2) The arcade must be at least 6 meters wide for sufficient space for both walking and certain activities for which it might be used by the shop owners.
- 3) Double heightened arcades are recommended as they are more inviting for the visitors. (Author)

3.5 Open Areas

- 1) The informal shops and landscapes must be designed simultaneously.
- 2) The vegetation will provide the required shelter during the summers.
- 3) The central space of the district centre will be used for as informal market.
- 4) It will have retail shops on either side. (Author)

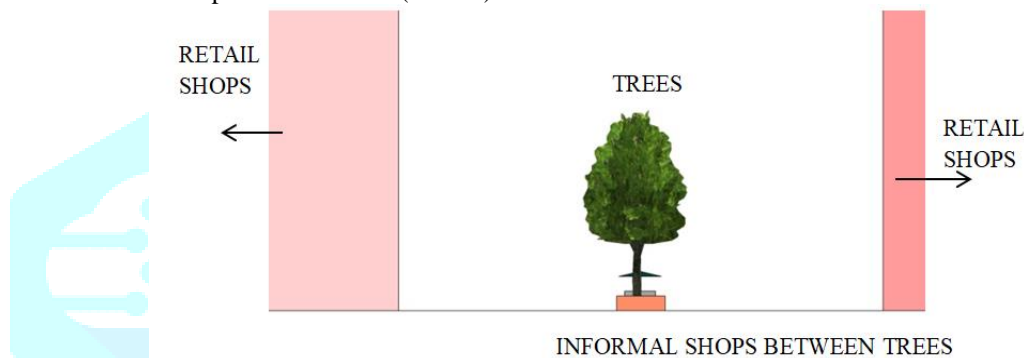


Figure 3.5- Conceptual Open Area Design

IV. CONCLUSIONS

During the course of the research, it was observed that the newer district centres are designed in ignorance of the informal markets. However the master plan recommends that the informal market must be included in district centres.

The reasons for the development of informal market at Nehru Place District Centre were explored and design recommendations were based on the observations and analysis. Similarly the reasons of Saket District Centres failing to provide a comfortable open space for an informal market were also explored.

Furthermore the District Centres were studied with the point of view of Form Based Codes and it was found that the architectural recommendations of Form Based Codes could enhance the visitors experience in the open spaces of the district centres

The recommendations suggested in this dissertation are based on Form Based Codes as they can help to improve the quality of visitor experience in district centres and promote informal markets at the same time. These codes include several recommendations under the broad headings of Building Form, Landscapes, Open spaces and streets.

Based on the studies conducted by referring to available literature, manual site visit and sample surveys, the recommendations have suggested ways to coordinate the above mentioned architectural aspects of district centres.

A coordinated and predefined built form must be determined for every district centre. This can be done by specifying the design of elements such as Building volume, Building height, Frontage and projections, elevation elements, arcades and the materials used in elevations.

The recommendations suggest strategical use of landscapes to provide shading for the informal market and ways to make formal green spaces easily approachable by reducing distances from main buildings.

The recommendations for open spaces work in coordination with buildings surrounding them. The open space width to building height is recommended to be between 1:1 and 1:5 to provide sufficient cover from the heat of the sun during the summer season.

The recommendations for streets state measures for reducing on street parking by designing footpaths at a higher level and using sufficient infrastructure which will provide

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