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This work and its defense approved by:

Committee Chair: George Bible, MCiv.Eng

Michael McInturf, MARCH

804
Fostering Connectivity:  
Mediating the Urban and Human Scale through Architecture

A thesis submitted to the  
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Design, Art, Architecture and Planning

By

Caitlin E. Osborn  
M.Arch University of Cincinnati  
June 2010

Committee Chair: G.T. Bible
Fostering Connectivity:
*Mediating the Urban and Human Scale through Architecture*

Approved By:
G.T. Bible, Advisor

Date Approved:
This dissertation is dedicated to all of those who have supported and challenged me throughout my personal and academic endeavors. To my parents, Clint and Geri, who taught me never to quit and my ever supportive husband Stefan who has provided endless love, laughter and care along the way.
chapter 1

**introduction**

The Urban Condition
The Human Condition

chapter 2

**defining theoretical parameters**

HUMAN PERCEPTION:
- A. Activity Types
- B. Movement
- C. Intensity of Contacts
- D. Senses
- E. Public vs. Private Space
- F. Physical Organization

Theoretical Conclusions

Theoretical Sources: Jan Gehl, Rob Krier and Camillo Sitte

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chapter 2

**APPENDING THEORETICAL CONCLUSIONS TO SPECIFIC URBAN CONDITIONS:**

1. Circulation/Transportation
2. Public Spaces
3. Program
4. Landscape
5. Material Use and Light
INTRODUCTION TO SITE

SITE GOALS

APPLY DESIGN MECHANISMS TO SITE

1. Streets, Squares & Buildings
2. Water
3. Forest, Trees or Natural Vegetation
4. Highway/Open
5. Slope or Topography

CONCLUSIONS
# List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1(A &amp; B)</td>
<td>The interrelationship between activity types, movement types and the level of contacts which can take place. Raw data.</td>
</tr>
<tr>
<td>2.2</td>
<td>Horizontal vs. Vertical Visual Field. Raw data.</td>
</tr>
<tr>
<td>2.3</td>
<td>Visual and Auditory Fields. Raw data.</td>
</tr>
<tr>
<td>Figure 2.8</td>
<td>Analytical Research Diagram. Raw data.</td>
</tr>
<tr>
<td>Figure 2.9</td>
<td>Circulation &amp; Transportation Matrix. Raw data.</td>
</tr>
<tr>
<td>Figure 2.10</td>
<td>Diagram. Raw data.</td>
</tr>
<tr>
<td>Figure 2.11</td>
<td>Diagram. Raw data.</td>
</tr>
<tr>
<td>Figure 2.12</td>
<td>Diagram. Raw data.</td>
</tr>
<tr>
<td>Figure 2.13</td>
<td>Public Space Matrix. Raw data.</td>
</tr>
<tr>
<td>Figure 2.14</td>
<td>Levels of Public and Private Spaces. Raw data.</td>
</tr>
<tr>
<td>Figure 2.15</td>
<td>Spatial Configurations for Sitting. Raw data.</td>
</tr>
<tr>
<td>Figure 2.16</td>
<td>Spatial Configurations for Eating. Raw data.</td>
</tr>
<tr>
<td>Figure 2.17</td>
<td>Spatial Configurations for Walking. Raw data.</td>
</tr>
<tr>
<td>Figure 2.18</td>
<td>Spatial Configurations for Street Venders and Performers. Raw data.</td>
</tr>
<tr>
<td>Figure 2.20</td>
<td>Section of Outdoor Market Space. Raw data.</td>
</tr>
<tr>
<td>Figure 2.21</td>
<td>Elevated Sidewalks at Findlay Market. Raw data.</td>
</tr>
</tbody>
</table>
Figure 2.22  Plan of Findlay Market. Raw data.

Figures 2.23 - 2.27 Images of Findlay Market. Raw data.

Figure 2.28  Program Matrix. Raw data.

Figure 2.29  Unknown. Village at SanLiTun - Shopping Center. Photograph. Beijing.
20 Feb. 2010.
<http://www.ifoapplestore.com/db/2008/03/20/first-china-store-location-is-revealed/>.

Figure 2.30  Image from Village SanLiTun. Raw data.

Figure 2.31  Diagram of SanLiTun Village. Raw data.

Figure 2.32  Diagram of SanLiTun Village. Raw data.

Figure 2.35  Landscape Matrix. Raw data.

Figure 2.36  Spatial Configurations for Landscape & Vegetation. Raw data.

Figure 2.37  Various Spatial Configurations for Landscape & Vegetation. Raw data.


Figure 2.39  Payne, Samantha. The High Line. 2009. Photograph. New York.
Figure 2.40  Payne, Samantha. *The High Line*. 2009. Photograph. New York.

Figure 2.41  Payne, Samantha. *The High Line*. 2009. Photograph. New York.


Figure 2.44  Material Matrix. Raw data.

Figure 2.45  Green wall at the Caixa Forum, Madrid, Spain. Personal photograph by author. 2009.

Figure 2.46  Material Diagram. Raw data.

Figure 2.47  Material Use Diagram. Raw data.

Figure 2.48  Highrise Setbacks. Raw data.

Figure 2.49  Spatial Configurations for Streets. Raw data.

Figure 2.50  Highrise Setbacks Facing Squares. Raw data.

Figure 2.51  Configurations for Squares. Raw data.
Figure 2.52 Configurations for Squares. Raw data.

Figure 2.53 Diagram Illustrating the Raised Carpet. Raw data.

Figure 2.54 Schematic Diagram of an Elevated Carpet, BIG. *Figure 2.54 High Square.* Digital image. BIG. BIG. Web. <BIG.dk>.

Figure 2.55 Programmatic Diagrams, BIG. *High Square.* Digital image. BIG. BIG. Web. <BIG.dk>.

Figure 2.56 Model Images, BIG. *High Square.* Digital image. BIG. BIG. Web. <BIG.dk>.


Figure 2.60 Configurations for Water Edge. Raw data.

Figure 2.61 Transition between the Ground Plane and Facades., BIG. *Stavanger*
Figure 2.62  Concert Hall. Photograph. BIG. BIG. Web. <BIG.dk>.


Figure 2.64  Configurations for Highway Edges. Raw data.

Figure 2.65  Configurations for Sloped Edges. Raw data.


Architecture is the critical component in mediating the urban and human scales, however consideration of the human perceptual system must be addressed in order to be successful.

High density architecture within the United States has historically neglected human perception. The consequence of flagrant disregard to the human condition within the built environment is the ever present “skyscraper canyons” which now define American cities. The skyscraper canyon is best articulated as solid facades that extends infinitely upward and indefinitely in section. Within such conditions, the architecture holds little influence at the ground level, offers minimal transition between public and private spaces or between the street to the architectural facade. Ignorance of site and environmental forces are additional effects of the disregard to human perception and urban way-finding. On the whole, much of high-rise architecture has disengaged the social sphere and resulted in environments that are
non-conducive to connection making and productive life on the street.

For decades, theoreticians such as Jan Gehl, Rob Kreir, and Camillo Sitte have done extensive analysis on the relationship between the success of public (and private) space with the careful consideration of human perception. To date, these theories have predominately been tested on European cities and have yet to make way into the highly dense American cities. This thesis aims to translate such concepts onto the “skyscraper canyon” with the intention to prove that architecture of every size can mediate between the human and the urban scales via new configurations of the ground plane and the first through fifth floors. Conclusions emerging, via precedent analysis and theoretical overlays, will render the potential for an architecture that provides an improved quality of living, optimal conditions for connection making and links the site to its surrounding context.
The large-scale metropolis was conceived within a period of unprecedented technological and informational advances. Between the period of 1876 -1903, such expansions include: incandescent light bulbs, the hydraulic lift, skyscrapers, electric trolleys, subways, and the first automobiles. As a result, technological advancement developed so strongly into the foreground that it overpowered the human celebration in the organization of the physical environment. Thus, “the life-world in Europe and America was being transformed in depth - the unparalleled technical saturation of the human perceptual apparatus (innovations in transport and communications) was redefining the body and its relations to the world beyond it.” (Kwinter, pg 588). These changes were the stimulus for a new architecture, new construction and a new perspective to view the world - one which would eventually lead to human beings in a state of constant
removal from the ground plane - their natural social plane. From the onset, high-rise architecture was isolating and limiting in terms of visual and physical exchange. Private became more private as it became elevated into the sky, and public became more public on one small ground plane; but semi-public spaces of interaction between disappeared in an undefined and infinite singular kind of hard edge.

The Modernism movement extenuated this disconnection through minimalism, higher order, and universal design. The works of Corbusier, Mies Van de Rohe and Phillip Johnson were successful in redefining architecture in terms of theory, stylization and representation. With relevance to high-rise, modern architecture forced the human into less diverse experiences in their living and working environments. It stimulated the drive to one ideal solution, where nuances of individuality were neglected and modern architecture became unrelated and distant to its site.

The open floor plan defined the interior organization and reduced the architecture to a disjointed shell from its interior; trading levels of spatial intimacy and differentiated events for a singular experience. In terms of site response, Modernism removed architecture from its site by lifting the building off the ground plane and placing it on columns. The structure and internal program become visually and physically unconcerned with activity at the street level. In
conclusion, to break all ties to achieve universality, the movement eliminated historical context, site, people, and its role in supporting life on the street. Though urban density has witnessed other styles, Modernism’s open floor plan and removal of the shell as a mediator in variety of experiencing became the model for high-rise architecture. By neglecting the role of mediator between the human and the urban scale, the “skyscraper canyon” was born.

Early cities relied heavily on parks, squares and districts, with architecture playing a passive role in the establishment of social and formal networks. However, “as infrastructure and material flows have emerged central in our contemporary setting, the urban landscape continually becomes more dispersed and diffused and infinitely enabling” (Alex Wall p.233). A transformation relying on architecture to become active members within the landscape to sponsor remote social connections as well as networks within the overall urban fabric.

In viewing architecture as individual activators of social networks, as opposed to simply in terms of stylization or representation, buildings hold an opportunity to expose the different scales of the city - making it more accessible and relatable to people (Alex Wall, p. 233). Such an exchange of scales is optimal when architecture is informed by human perceptual capabilities and contextual forces within the site that interlock with the overall urban landscape. Further, as Alex Wall states in his book, “Recovering Landscapes”, “the grafting of new instruments and equipment onto strategically staged surfaces allows for transformation of the ground-plane into a living, connective tissue between increasingly disparate fragments and unforeseen programs.”
When designed to support connectivity, the built environment is capable of engaging and enhancing human perception, creating opportunities for chance and planned interaction, and generating a new way for people to engage their natural surroundings. In order to achieve such built environments, it is imperative to consider: What attracts people to the streets and what do they do when they are outside? Asking these basic questions re-acknowledges the individual within his built environment and eliminates the concept of universality. The question also recognizes the influence of architecture on human behavior and interaction. In viewing the individual as a collective, as the modernist movement did, there is a much different type of interaction then in a typical medieval city such as Mechelen, Belgium. Where by its size, dimensions and irregularity the singular is recognized in the physical limits of a person. For example, an individual is able to walk across or even outside of the city by foot and experience all of its diversity. Thus, allowing one to identify with the individuality of each square and therefore dictate how he can engage each space differently.

When individuals are viewed as a collective and architecture is made universal, a limitation is placed on differentiation of space. In this instance, there is minimal consideration of how individuals may perceive, understand or experience space in different ways. Therefore, with the intention of designing for everyone, no one is actually considered in modern architecture. For instance, when you look in nature, the spatial character of a forest as "place" is formulated through multiple levels of differentiation. The height of each tree, the thickness and texture of its bark, distance to surrounding trees, the location and density of its leaves, the shape and color, or light
penetration - all of these parameters are never identical to each tree and location in the forest. There are only a few factors that determine a common language in a forest which allows for a massive amount of differentiation. Now let us analyze the gridded forest planted by humans. There is a sense of senselessness, all is the same, so one might as well stay where he is as the same experience occurs in that location. There is little interest or invitation to explore beyond what one knows. What is exciting about a real forest is the spontaneity. A branch can show up suddenly, bushes force you to jump over or around them, water, caves, and lightened spots, or fruits can be discovered to nest nearby. People are able to connect to “place”. The same happens in cities, it is up to people to decide whether or not they are going to connect to a “place” but it is up to designers to implement enough diversity into a city to keep the interest and excitement.

In modern architecture, the free plan called for solutions which inadvertently limited the perceptual experience of space to a series of one-liners. Le Corbusier incarnated “The Five points of a New Architecture”, calling for an architectural system made up of the following components: the use of pilotis, flat roofs as a terrace, free plan, free facade, and the use of long horizontal windows (Weston p.5). When applied to urban architecture, scale was eliminated in
order to accommodate for aesthetic unity. Circulation and movement became point to point connections due to a lack of spatial nuance, and the lines between public and private as well as indoor and outdoor space grew increasingly rigid. These simple gestures, which resulted from the disregard of the human condition, drastically altered how individuals interact with other people and their constructed environment.

A historical city such as Rome, for example, is fundamentally different from those described above due to an overlay of different strategies in urban planning, building techniques, material use, and program which has evolved over hundreds of centuries. This results an urban fabric that provides multiple levels of different spatial experiences and supports a greater overall sense of connectivity at the street level. Another contributing factor to its success is the lack of reliance on the automobile. Instead, this city has a rich network of tightly woven streets and public squares which lends to increased density, programmatic flexibility within the squares and higher mobility on foot or bike. According to Jan Gehl, reducing speeds is an important factor in providing improved safety on the street (Gehl p.30). Not only are there more eyes on the street, the individual is free to fully engage his surrounding as the concern for crossing multiple lane traffic is removed. Reduced speeds also increase the amount of time an individual spends moving from place to place and is optimal for connection making and chance interactions.

The predominate obstacle facing the American skyscraper canyon seems to be the sheer magnitude of buildings. In cities such as Paris, Copenhagen, and Vienna, historical buildings average between 5-8 floors which eliminates the potential for overwhelming the human scale vertically. In addition, facades are intricately detailed in masonry which is conducive to the human scale as it illustrates the nature of hand craft and links it to its master. Horizontally, street cafe’s and shops are used to diffuse the edge of the buildings and people are generally able to circulate at will as there is less auto traffic and narrower streets. A clear differentiation would be to compare Michigan Avenue in Chicago, Illinios as a shopping district versus the Meir in Antwerp. Michigan Avenue has sidewalks of ten feet with 5-6 lanes for cars. The Meir is roughly the same width as Michigan Avenue, however during the day is inaccessible to cars in order to allow pedestrians to occupy the whole surface. While at night, once the streets close, it becomes accessible for cars to drive and park.

Though increasing cafes, improving pedestrian circulation, vegetation, and reducing automobile traffic are all means to the same end, in terms of high-rise, architecture is the critical component in the mediation between the urban and human scales. Jan Gehl, Rob Krier,
Camillo Sitte have done ample analysis on humanizing cities based on the European model, however, these principles have not been fully translated into high-rise architecture. This analysis will begin by outlining the principles of Jan Gehl, in particular, and illustrate how the theories he used in Copenhagen can be effectively implemented within specific urban situations found in large-scale American cities.

The goal of this thesis is to implement a set of principles that sponsor social interaction and simultaneously creates context and identity. The later occurs through the analysis of specific edge conditions which make a site an identifiable place that adds to a cities variety.

These methods of Analysis include:

**Activity Types**

Movement

Intensity of Contacts

Senses

Public vs. Private

Physical Organization

**Urban Situations:**

Density

Circulations & Transportation

Public Spaces

Environmental Aspects of Architecture

Landscape

Material Use and Light

Program
“THE ESSENTIAL VALUE AND VIRTUE OF A CITY IS ALMOST ENTIRELY DEFINED IN HOW SUCCESSFULLY IT IS ABLE TO HELP PEOPLE CONNECT, WHETHER FOR FORMAL OR INFORMAL EXCHANGE. THIS CRUCIAL FUNCTION IS DEFINED AND EXPRESSED IN THE NETWORKS OF CITY STREETS, SQUARES, PARKS AND PLAZAS, ALL OF WHICH REQUIRE DISCIPLINED AND WELL-ARTICULATED BUILDINGS TO FORM AND FRAME THEM.”

- A SPEECH BY HRH THE PRINCE OF WHALES TITLED “TALL BUILDINGS,” IN VENSYS CONFERENCE

CHAPTER 2
PART 1: THEORETICAL ANALYSIS

The physical environment in which we live, work and play holds paramount influence to the levels of connectivity between good friends versus strangers and the amount of time one chooses to spend on the street. Optimal conditions are created through a careful balance between the built environment, the streetscape and the activity types that mediate between them. According to Gehl, there are three types of outdoor activities types: necessary, optional and social. Each of which hold a different demands on the physical environment, result in different types of movement and in effect support varying levels of connection making (Gehl 1987).

Necessary activities require the least support from the physical environment as they occur despite the quality of outdoor conditions or time of year. Necessary activities are required in everyday life and
range from: school, work, shopping or waiting for a bus.

Optional activities occur only when conditions are optimal and depend significantly on the physical environment. These activities are predominately recreational and include: running, taking a walk, sitting on a front stoop or bench, window shopping or sunbathing.

There is a direct correlation between outdoor activities and the quality of space. If outdoor quality is poor, only necessary activities will occur. Such activities only sponsor point to point movement that requires minimal interaction and time on the street. As demonstrated by figure 2.1, supporting only necessary activities limits individuals to high-intensity contacts that occur only between close friends or partners. Additionally, such meetings occur via appointment and often include leaving the neighborhood to meet.

When outdoor quality is high people spend more time running errands and optional activities are produced as there is greater accommodations made for sitting, eating, playing or simply watching people pass by. Figure 2.1 illustrates this with a diverted path. Further, there is a broader potential for chance contacts between acquaintances.

The third type of activity is resultant. These are “social activities that depend on the presence of others in public spaces” (Gehl pg 14) Children playing, casually talking to a neighbor, or simply passing a person on the street are all resultant activities. Nearly all instances “evolve from activities linked to the other two activity categories” and they only occur when necessary and optional conditions are optimal. If only necessary activities are considered, resultant activities are likely never to occur.

Social behaviors are the true indicator of a successful street as they promote extended stay, multiple changing activities throughout the day and provide the highest potential for passive contacts.
D. The Senses
The human sensorial range is a critical component when designing environments intended to support connection making. Sight is the dominant sense as it offers the greatest amount of direct information in terms of perceiving one’s relationship to their surrounding context. This is not to exclude hearing, or the other senses, as they are supplemental and can be implemented in ways to enrich the spatial experience as well as provide a clear and distinct memory of a place.

The visual apparatus is comprised of a horizontal and a vertical field. The horizontal field is stronger with peripheral views extending up to 90 degrees. The vertical visual field is much narrower and angled 10 degrees downwards in order for the body to see where it is going. Thus, when walking down a street an individual only sees what is directly in front of them, this typically ranges between the first floor and the ground plane. Figure 2.2 illustrates how contact making

**Visual Field**
- **3-10'**: Other senses supplement sight
- **60-80'**: One is able to discern feelings & moods. At this point, one is a relative distance in a social context.
- **0-100'**: Social field of vision. One can make out facial features, hair styles, age and recognize acquaintances.
- **250'-325'**: Possible to know a person’s sex, approximate age, what they are doing, or who the person is based on walk or clothes.

**Auditory Field**
- **23'**: Hearing is effective - one can hold a conversation up to 23' without difficulty
- **100'**: Hear Lectures - question/answer situation. Not a conversational distance
- **100+**: Very difficult to hear - not understandable

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Figure 2.2 Horizontal vs. Vertical Visual Field

Figure 2.3 Visual and Auditory Fields
that occurs between the ground level plane and the second floors (and higher) work by these same principles. Therefore, if you want to make contact between the ground floor and the upper levels, greater distances from the base of the building are necessary in order to be within the visual field. With greater distances comes a reduced intensity of contact. Level five is the maximum distance at which a connection to the street can be made (Gehl 1987).

Hearing is the other effective long range sense for connection making. The auditory field allows an individual to communicate and participate in an event up to 100 feet away. Lectures or an outdoor theater are both examples of social situations that occur from a distance. It is important for active outdoor program to be spaced accordingly on a street in order to generate diverse activity along the entire path. The leads to passersby’s roaming to activities within earshot and spending greater periods of time on the street.

The ranges that mark when visual and auditory communication is possible are called social distances. Space intended to support random exchange between strangers must take these distances into account in order to optimize the connection and promote street life. As the auditory and visual receptors work to construct a scene, each gather different information at different distances to paint a holistic scene. Intimacy of space is directly correlated with the

![Diagram](figure2.jpg)  
**Figure 2.4 Gehl's Diagram Differentiating between the Capabilities of Upward vs. Downward Vision**
Human Senses

Assemble Disperse Invite

Invite Repel

Physical Organization

240 ft. (80 m)
150 ft. (50 m)
60 ft. (20 m)
25 ft. (7.5 m)
6 ft. (2 m)
14 in. (40 cm)

Social Distances

Visual Field Upward vs Downward

4 ft. (1.2 m)
33 ft. (10 m)
22 ft. (6.7 m)
13 ft. (4 m)

Threshold

Activation of elevated floor planes by:
1. Urban Public Carpet between the first 5 floors
2. Programmed Roofs on Different Levels

Figure 2.5 Levels of Perceivable Detail from Various Distances
intensity of contact. The closer the proximity between two people the more able they are to have intense communication. For instance when someone wants to make a clear point to another person they will move closer or bend forward. The opposite occurs when someone wants to exit a conversation or interaction, they will step back to mark their removal. Space needs to be dimensioned appropriately as to permit all parties to take comfortable distances and allow the participants to play-up or down the levels of intensity. For example, in order to feel engaged at a sports arena and have an overview of the play, a limit in distance of 250 to 325 feet is needed in order to still be within the realm of the activity. However for theaters, where the clearly perceiving of feelings and moods is important, the maximum distance is between 100 and 115 feet (Gehl p.67).
The physical framework that supports resultant activities are grounded in the principle of assembling people. Though assembly is not always the answer, if designing for dynamic urban conditions it is usually applicable. Dispersal is effective in creating quieter living areas surrounding the major arteries. The framework for development includes the examination of the general path, access to the path and programmatic placement along the path. In order to sponsor the greatest number of interactions and life on the street and between buildings there should be multiple entry points onto the path (Gehl p. 68). This promotes greater surface area for small shops, cafes and restaurants within the side streets. This allows for gradual transitions between the major and minor paths. Increasing public program that diffuses the built and outdoor space offers the opportunity for higher circulation, roaming between shops and lingering on the street. Another benefit is the capability of differentiating between scales of major and minor streets and add to the overall experience (Kreir p. 92). As mentioned briefly before, program is a key component to the success of the street. Tightly placing program along the path increases business along the street, reduces time spent traveling between necessary activities, supports optional activities and results in the highest number of social interactions (Gehl p. 66). In conclusion, the more the buildings connect to each other the more...
they will assemble people and events. The less the buildings connect

to each other the more they will disperse people and events. In

addition, entries facing each other will assemble people and events.

Further, the more compact the public space is, the more compact the

sensorial effect and the higher the level of contact.

Streets

Streets and squares are the most common means for collection within
dense high-rise cities. The largest struggle the U.S. faces in terms
of its streets is its complete reliance on the automobile. The optimal
condition is to have narrow streets that are completely dedicated to
pedestrian use. In cities like Chicago, on a major artery such as
Michigan Avenue, there are eight lanes of traffic and cross streets
with four lanes. Jan Gehl perfectly states, “if you design for cars
and traffic, you get cars and traffic. If you design for people and
places, you get people and places.” Streets should accommodate
first and foremost for pedestrians, bikes, public transportation and
then personal automobiles.

Walking is physically demanding. In several studies taken in
Copenhagen, it was determined that the typical walking distances
for most people on an ordinary day is around 1,300 to 1,600 feet.
This number is greatly reduces for children, young people and old
Therefore, when designing for pedestrians on foot, the physical distance and the experiential distance must both be considered. If a physical distance is longer, it can be reduced if the qualitative experience is heightened. This can be accomplished by cutting the length up so it is perceived in stages or winding the path so it is not all exposed at once. The width of paths is also key in creating spaces that appeal to the senses. When designing a street for pedestrians, take for instance Venice, street widths are 3 meters wide (Gehl 93). A dimension that provides pedestrian flow of 40-50 people per minute. The advantage of narrow spaces versus open is that it is usually more interesting as the individual can simultaneously perceive the whole and the detail (Gehl 93).

Squares

Squares are the other most important factor when encouraging life between buildings. Squares are gathering spaces that are differentiated from streets by performing as a central location where people gather. That central location can differentiate in dimension, size, program and ways of entry (Krier). Squares offer a special experience separate then that of a street in terms of the distance between buildings, level changes, light, movement and program. In regard to movement, the square is a moment of pause, a meeting place or can continue or change a traveler’s path in a new direction.
**Physical Organization of a Path**

**General Path**

1. **Assemble**
2. **Disperse**

**Path Access**

1. **Invite**
2. **Repel**

**Program Placement**

1. **Invite**
2. **Repel**

General Rule: To gather people on one path as opposed to dispersing them.

Benefits/Drawbacks
1. Assembly - The greater number of people on one path allows for the greatest number of chance interactions between strangers and friends.

With high activity levels on one street, there is a greater chance that people will spend more time hanging out in this area. This offers more eyes on the street in terms of public safety as well as a greater sense of community and belonging.

2. Dispersal - The opposite occurs. Areas of interest are spread out with little connection. This situation relies on public transportation between points and there is overall a loss of community. With dispersal there is little repeated chance interaction and more random eyes on the street.

General Rules: To have multiple entries to the site vs. minimal.

Benefits/Drawbacks
1. Inviting - Higher connectivity and accessibility to surrounding areas. Increased surface area to generate more businesses along the streets. Differentiation between scales of major and minor arteries that add to the overall experience. Gradual flow from public to more private spaces. Greater opportunity for active public area and random paths of movement.

2. Repelling - Minimal entry points may be optimal for larger program, however there is less connectivity to surrounding areas. All business along one street create a tunnel effect and limits expansion and paths of movement.

General Rules: Programmatic placement tightly on path or Dispersed.

Benefits/Drawbacks
1. Inviting - Differentiation between scales of major and minor arteries that add to the overall experience. Gradual flow from public to more private spaces. Greater opportunity for active public area and random paths of movement. Benefits business in that the more time people spend in a given area, the more they tend to spend.

2. Repelling - Dispersing program limits the number of tasks one can accomplish on a given trip out. This forces people to move in a point to point fashion as opposed to a more random path. It reduces the amount of time people spend in a given place and in many cases results in increase personal transportation, i.e. cars.

Figure 2.6 Illustrates the advantages and disadvantages of assembly and dispersal on a street.
(Krier). Squares are also significant in terms of urban way finding and are a means to locate oneself within the surrounding context. In addition, these spaces are highly ranked in the public memory and therefore hold a large role in defining the city. Times Square in New York City, the Grand Place in Brussels and the Piazza del Campo in Sienna are all proof of this fact. Programatically, squares can range from markets, to libraries, to open leisure space for people to enjoy their lunch. All of these things can and should occur simultaneously.

The organization of the square and its entry points greatly influences movement and programmatic arrangement. The following analysis shows a study of how squares are effected based on its entry points.

<table>
<thead>
<tr>
<th>SQUARE CONFIGURATIONS</th>
<th>ADVANTAGES &amp; DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Multiple entry points is inviting</td>
</tr>
<tr>
<td></td>
<td>Deep Perspective from square down surrounding streets</td>
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<td></td>
<td>The square is cut off from surrounding streets and buildings if surrounding by cars</td>
</tr>
<tr>
<td></td>
<td>Limits extended outdoor program from surrounding architecture</td>
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<td></td>
<td>Disperses people as there is no hierarchy in access points</td>
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<tr>
<td>2.</td>
<td>Good space for architectural activation in corners and extended program - can be seen as 4 smaller squares separated by roads, greater connection to architecture and increased intimacy</td>
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<tr>
<td></td>
<td>Inviting to use square and limits auto traffic. There are less roads to cross versus the previous example and it allows for more dynamic circulation paths</td>
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<tr>
<td></td>
<td>Less light penetrating to corners of the buildings.</td>
</tr>
<tr>
<td>3.</td>
<td>Inviting - buildings guide people into the square.</td>
</tr>
<tr>
<td></td>
<td>Square is the end location for the roads, pedestrian friendly over cars as there is no straight through passage.</td>
</tr>
<tr>
<td></td>
<td>Limited views out of the square</td>
</tr>
</tbody>
</table>
Figure 2.7 Spatial qualities in relation to square configurations

<table>
<thead>
<tr>
<th>Square Configurations</th>
<th>Advantages &amp; Disadvantages</th>
<th>Spatial Qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>• Atrium - completely private to the interior program and not accessible to public.</td>
<td><img src="image1.png" alt="Square Configuration 1" /></td>
</tr>
</tbody>
</table>
| 2.                    | • Lack of access points makes it less inviting  
                        • Good for pedestrian circulation as there may be less access to cars.  
                        • Plaza space is could be connected to the architecture  
                        • Both enclosed and exposed do to central axis. Good because there is only one road to cross. Cars cut through, but people gravitate towards structure in order to be less exposed  
                        • Creates a tunnel effect | ![Square Configuration 2](image2.png) |
| 3.                    | • Not as effective as the previous because the square is now separated from the long stretches of program adjacent. Since there is no east-west axis it allows for program.  
                        • Greater access to streets north and south.  
                        • Creates a tunnel effect | ![Square Configuration 3](image3.png) |
| 4.                    | • Promotes diagonal movement  
                        • Architecture and program can extend to define the public space | ![Square Configuration 4](image4.png) |
Conclusions

1. Design for optional and social space instead of only necessary activities.

2. This can be achieved by designing experiential connections.

3. The closer people are together, the higher the intensity of connectivity. Space has to be flexible and allow people to dictate the level of intensity.

4. Promoting Optimal Contact on the Streets:
   • Assembling everyone on the same path
   • Provide multiple entries to that path
   • Use tightly placed program to create density along the path

5. Promoting Optimal Contact in Squares:
   • Pedestrian only is ideal
   • Program is adjacent to buildings
   • No automobile obstructions between the public square and the path of entry

6. Vision: The visual experience is most profound at the street level and can connect to those within buildings up to the 5th level. Strong visual contact is between 0-80 feet.

7. Hearing: Conversations can be held up to 23’, question and answer situations up to 100’. Social distances should support the experience.

8. Walls, long distances, high speeds, multiple levels and back to back interactions DISCONNECT people. Terraces, short distances, low speed, single level and face to face interactions CONNECT people.
This chapter analytically takes use of each of the concluded theoretical principles to overlay and compare them in specific urban conditions. These parameters are Circulation, Public Space, Program, Landscape and Material Use. Matrices are used as a method to analyze all possible relationships between the theoretical and urban conditions. Following are a series of complimentary diagrams and precedents to fully illustrate the ways in which physical relationships can support the human scale and connection making.
AN OVERLAY OF THEORETICAL CONCLUSIONS ONTO SPECIFIC URBAN CONDITIONS

THEORETICAL CONDITIONS:

1. Activity Types
2. Movement
3. Intensity of Contacts
4. Senses
5. Public vs. Private Space
6. Physical Organization

URBAN CONDITIONS:

1. Circulation/Transportation
2. Public Spaces
3. Program
4. Landscape
5. Material Use and Light

FIGURE 2.8 ANALYTICAL RESEARCH DIAGRAM
### Activity
- Necessary
- Point to point

### Movement
- Too fast - not healthy physically
- Isolated - non participating to automobile
- Passive
- ↓ time spent in the area
- No connection made to other people

### Intensity
- No connection - glass partition

### Senses
- ↓ street influence b/c of glass
- Numbing - not social-tunnelvision forward
- Visual reduced to speed, lost visual detail
- Physically not engaging - lack of physical connection
- Audio further separates

### Public/Private
- Completely private
- Most private way of transportation

### Physical Organization
- Dominates street scape
- Lanes create barriers between pedestrians
- ↑ social dist. b/w pedestrians
- Parking: visual obstruction

### Cars
- Necessary
- Point to point

### Public Transportation
- Optional
- Supplemental to walking capabilities
- Faster than walking
- Same accessibility reach as cars, but social space where there is a bigger change for interaction

### Biking
- Resultant or Optional
- Slower than car
- Faster than walking
- More accessible, you can park anywhere
- Stop & Go as you please

### Public Transportation
- Optional
- Slower than car
- Faster than walking
- More accessible, you can park anywhere
- Stop & Go as you please

### Biking
- Resultant or Optional
- Slower than car
- Faster than walking
- More accessible, you can park anywhere
- Stop & Go as you please

### Senses
- Always some level of interaction in smell, conversation, direction help, overhearing conversations, you’re connecting

### Public/Private
- Public
- More public than cars
- Semi-public
- From pedestrian

### Physical Organization
- Dominates street scape
- Lanes create barriers between pedestrians
- ↑ social dist. b/w pedestrians
- Parking: visual obstruction

### Biking
- Resultant or Optional
- Slower than car
- Faster than walking
- More accessible, you can park anywhere
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### Public Transportation
- Optional
- Slower than car
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### Biking
- Resultant or Optional
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- Public
- More public than cars
- Semi-public
- From pedestrian

### Physical Organization
- Dominates street scape
- Lanes create barriers between pedestrians
- ↑ social dist. b/w pedestrians
- Parking: visual obstruction
PEDESTRIAN
- Resultant

- Slowest, but most flexible

- ↑ level of intensity
- Slower pace
- ↑ detail
- ↑ connection to street life
  + participation
- ↑ chance of interactions

- Most active
- Seeing
- Hearing
- Smelling
- Tasting
  All sense possible

- Public

- Sidewalks
  The wider, the ↑ pot. for
greater conn. to 1-5 floors
- Crosswalks: currently are
  limiting + dangerous
- Disruptive to circulation
  & personal comfort levels

CONCLUSIONS FOR CIRCULATION & TRANSPORTATION
- Pedestrian only is ideal
- Widen Sidewalks
- Accommodate Bikes and Public Transportation by supporting separate lanes
- High speed transportation is preferred underground

FIGURE 2.9 CIRCULATION & TRANSPORTATION MATRIX
1. **Circulation and Transportation: Diagrams**

**Street Use vs. Current Street Condition**

- **Bike**: Speed: Decreases, Social Interaction: Increases, Experience: Increases, Views: Increase
- **Car**: Speed: Decreases, Social Interaction: Increases, All on the Ground Floor
- **Bus**: Social Interaction: Increases, Separate Lanes for Bus/Streetcar: Increases Efficiency
- **Streetcar**: Speed: Decreases, Social Interaction: Increases, Separates lanes
- **Subway**: Distance: Decreases, Social Interaction: Increases
- **Elevated Line**: Social Interaction: Increases
- **Ground Train**: Social Interaction: Increases
- **Taxi**: Speed: Decreases
OPTIMAL CONDITIONS

LESS-THAN OPTIMAL CONDITIONS
<table>
<thead>
<tr>
<th>Activity</th>
<th>Sitting</th>
<th>Eating</th>
<th>Walking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Movement</strong></td>
<td>- Zero movement&lt;br&gt;- with friend= ↓ chance interaction w/ strangers</td>
<td>- None / Zero speed&lt;br&gt;Optimal for intimacy</td>
<td>- Slow + engageable</td>
</tr>
<tr>
<td><strong>Intensity</strong></td>
<td>- ↑ Intensity contact&lt;br&gt;between close friends</td>
<td>- ↑ Intensity contact</td>
<td>- High chance contacts&lt;br&gt;if street life is active</td>
</tr>
<tr>
<td><strong>Senses</strong></td>
<td>- Hearing &amp; sight&lt;br&gt;to participate in crowd</td>
<td>- In close proximity&lt;br&gt;(visual, smell, hearing)&lt;br&gt;All optimal + focused around table&lt;br&gt;- Outside furthers senses</td>
<td>- Engaged:&lt;br&gt;- smells&lt;br&gt;- visually ↑ level of detail&lt;br&gt;- can hear everything</td>
</tr>
<tr>
<td><strong>Public/Private</strong></td>
<td>- Semi- Private&lt;br&gt;(Vegetation Barriers)&lt;br&gt;- Completely open on stairs</td>
<td>- Private if enclose rest of street&lt;br&gt;- Semi-public if its street cafe with tables + chairs</td>
<td>- Public</td>
</tr>
<tr>
<td><strong>Physical Organization</strong></td>
<td>- Stairs&lt;br&gt;- Trees that define an enclosed edge</td>
<td>- Tables &amp; chairs&lt;br&gt;- On street is ideal as transitional space&lt;br&gt;- Intimate &amp; private, but public + connecting to street use</td>
<td>- Visual separation from cars&lt;br&gt;- Diff. in heights:&lt;br&gt;- Trees - protect from cars visually, auditory + smell&lt;br&gt;- Small plants are good for color&lt;br&gt;- Buildings offer program + a border</td>
</tr>
<tr>
<td><strong>SHOPPING</strong></td>
<td><strong>STREET VENDOR</strong></td>
<td><strong>PEOPLE WATCHING/SUN BATHING</strong></td>
<td><strong>CONGREGATING/STREET PERFORMER</strong></td>
</tr>
<tr>
<td>--------------</td>
<td>------------------</td>
<td>--------------------------------</td>
<td>----------------------------------</td>
</tr>
</tbody>
</table>
| - Point to point along a street  
- Walking or public transportation | - Waiting  
- Standing  
+ order & carry away  
- Quick | - Walking or sitting for long or short spirits of time | - Come + go - light for ped.  
- Performer is there up to hours at a time  
- Dancing in the street and getting loud  
- Acrobats or magic show takes some space |
| - ↓ intensity contacts are possible, but most shops are big + keep people inside for a long time (not as much time on the street) | - ↓ intensity contacts | - ↓ intensity contacts | - ↓ Intensity  
- ↑ chance interaction |
| - Aware of hunger, exhaustion or fatigue nerves get shot  
- Lots of overload (Highs + lows) | - Highly engaged  
- Smell, taste  
- Not usual, so it's special  
- Uniquely urban scene so it's special experience | - Highly engaged to detail Arch. + human | - Sound & Vision  
Adds music to street, big plus  
- Active participant trying to understand what's going on so heightened senses. |
| - Semi-public if there is window shopping  
- In US mostly private stores | - Public | - Public or semi-public | - Public |
| - Need to regulate highs and lows with public.  
- Piazzas, chairs, hot dog vendors, waterfountains, outdoor cafes, anything for a small quick break + affordable | - Benches  
- Tables - high  
- Trees - makes quick meal a bit more intimate  
- Trash cans & recycling | - Sitting on a bench  
- Stairs  
- Something that offers a vantage point of entire situation  
- Sitting devices  
+ feet in water (Chicago) | - Street Level  
- Standing  
- Space for performance to set up  
- formal or unformal change of floor material |
### 2. Public Space: Matrix & Conclusions

#### Activity

<table>
<thead>
<tr>
<th>Walking Dog</th>
<th>Market</th>
</tr>
</thead>
</table>
| **Movement** | - Along path of vegetation  
- Usually separated from general path because of smell + landscape  
- Merchants move between car + display & customers |
| **Intensity** | - ↓ Intensity contacts are optimal |
| **Senses** | - ↑ Intensity with other dog walkers  
- ↑ Smell  
- Chance to just walk around  
So more for experience & able to talk in surroundings  
- ↑ senses  
visual  
hearing  
smelling  
tasting |
| **Public/Private** | - Semi-public  
it’s public, but usually there is a place to walk dog away from general path of public  
- Public  
with bits of private/semi-private in terms of taking a break + relaxing |
| **Physical Organization** | - Open space for dog to run or spaces for dog to go to the bathroom in certain areas  
- People have to clean up, so trashcans & bags/sloops  
+ waterizer area to clean tools & wash dog/ hydrate  
- Overhead tents to protect goods + sun burn  
- Clear paths for circulation  
- Seats, tables to take a break + relax, enjoy view |

*Figure 2.13 Public Space Matrix*

### Conclusions for Public Space

- Public outdoor spaces and organization must be conducive to different levels of participation, public vs. private, active vs. passive involvement while still maintaining people of different ages on the street.
- Benches, steps, tables, chess boards, vegetation, water fountains, material and buildings are all means of creating that physical framework.
2. Public vs Private

INTERACTION / CONTACT MAKING WITHIN

SEMI-PUBLIC SPACE

INTERACTION / CONTACT MAKING WITHIN

PUBLIC SPACE

PRIVATE SPACE

Figure 2.14 Levels of Public and Private Spaces
2. PUBLIC SPACE: SITTING

- **Seat on wall**
  - People watching
  - 10'-0''

- **One table sitting/people watching**
  - 10'-0''

- **Social sitting/walkway**
  - 10'-0''

- **Square sitting/people watching**
  - 10'-0''
  - 10'-0''

- **Gallery sitting**
  - 10'-0''

- **One table sitting/people watching**
  - 10'-0''

---

**Figure 2.15: Spatial Configurations for Sitting**
2. Public Space: Eating

Figure 2.16 Spatial Configurations for Eating

- Hotdog stand eating
- One table eating/people watching
- Gallery eating
- Indoor cafe
- Indoor/outdoor bar/restaurant
- Restaurant with outdoor patio
- Steps define terraced space
- Bag lunch Trees
- Bag lunch Planters
- Bag lunch Water

To create enclosure:
- Trees
- Umbrellas
- Rails
- Potted plants
- Stairs
2. **Public Space: Walking**

Venice street width
- designed for pedestrians only
- Allows 30-40 ppl/min./10'
- rule of thumb: 3-4 ppl/min./ft width

---

**Figure 2.17 Spatial Configurations for Walking**
2. **Public Space: Street Vendors & Performers**

- **Major Intersections**
- **Designated space**
- 'Street' place vibe
- Needs: tables (high), trash cans, concrete pad for cart

- **Corners or Mid-block**
  - Designated space w/in public thoroughway
  - Highly visible areas

- **Street vibe**
  - Needs differ for performance
  - Security for personalities
  - Electrical outlet?
  - Can be against wall or open—depends on act
  - Proximity to surrounding more public/private spaces should somewhat regulate the performance
  - Social pressure/respect

- **Dance acts — squares, Parks, Piazzas**
- **Instrument — Subway, open street, park, plaza** (clone)
- **Group instrument — Parks, Streets (if space permits)**
- **Indoor/outdoor cafes**
- **Piazzas**
- **Artists — can be anywhere — parks, streets (not optimal use), piazzas, squares w/lots of ppl. tourism areas**

*Figure 2.18 Spatial Configurations for Street Vendors and Performers*
2. Public Space: Precedent

Project: Findlay Market
Location: Cincinnati, Ohio

Strengths:

- Large number of shopping, outdoor spaces and restaurants/cafes.
- Elevated crosswalks connect public space between first three levels. These allow for visual access over the whole space while simultaneously having a feel for detail.
- Public on the ground floor and more private program in higher floors and is expressed through light.
- Physically it is all pedestrian squares and narrow passages. There is a central open plaza with a water feature which is highly used during hot summer months.
### Program: Matrix

<table>
<thead>
<tr>
<th>Activity</th>
<th>Grocery</th>
<th>Residential</th>
<th>Private Office</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MOVEMENT</strong></td>
<td>- Point to Point</td>
<td>- General green carpet Hangout leisure Recreational Walking=paths (pavers)</td>
<td>- Bushes obstruct or kill boarder condition</td>
</tr>
<tr>
<td><strong>INTENSITY</strong></td>
<td>- ↑ + ↓ Contacts can occur</td>
<td>- ↓ intensity contacts</td>
<td>- ↓ intensity contacts</td>
</tr>
<tr>
<td><strong>SENSES</strong></td>
<td>- ↑ Visual Stimulation</td>
<td>- Low height= ↑ vision</td>
<td>- Flower smells Visually stimulating Colorfull</td>
</tr>
<tr>
<td><strong>PUBLIC/PRIVATE</strong></td>
<td>- Public</td>
<td>- Public/Open space</td>
<td>- Low in scale (depend on spaces) Can enclose space to make a public space more private Green Walls - enclosing</td>
</tr>
<tr>
<td><strong>PHYSICAL ORGANIZATION</strong></td>
<td>- Isles Perimeter vs Interior All inside</td>
<td>- Can vary from big to small plots Usually open space Problem is it dies if trampled, so not good for public squareμ or heavy continuously used spaces, more for sporadic use</td>
<td>- Can be on periphery of space Can separate spaces Garden (specific) Native along watershed At entry of buildings to frame In window sills Planters @ street intersections Divide/Transition between street sidewalk: “Protective visual barrier” Seasonal Walks Brightens environment</td>
</tr>
<tr>
<td><strong>NUMBER OF PARTICULAR PROGRAM ON A GIVEN STREET</strong></td>
<td>1 Every couple of blocks</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PLACEMENT</strong></td>
<td>- Best at the ground floor in terms of accessibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail</td>
<td>Bars</td>
<td>Cafes</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>----------------------------------------------</td>
<td>------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>- Slow growth</td>
<td>- Continuing grid</td>
<td>- on top of Arch/Roof</td>
<td></td>
</tr>
<tr>
<td>Slow movement</td>
<td>or city masterplan</td>
<td>offers visual connection</td>
<td></td>
</tr>
<tr>
<td>Work for several hours</td>
<td>or urban/site plans</td>
<td>and transfers movement</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>in, up and around buildings</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- ↑ + ↓ intensity contacts</td>
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</tr>
<tr>
<td></td>
<td>(if everyone in a building</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>has personal, they may share tips for food</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- automatically have something to talk about</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Visually stimulating</td>
<td>- Visually engaging b/c</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Intellectually stimulating</td>
<td>building becomes occupiable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Fragrant</td>
<td>on all surfaces</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Multiple &amp; different views to surrounding</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>context</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Offers transitions</td>
<td></td>
</tr>
<tr>
<td>- Public or Private</td>
<td>- Public with private:</td>
<td>- Both: Public and/or Private</td>
<td></td>
</tr>
<tr>
<td>based on neighborhood</td>
<td>- public streets</td>
<td>Roof can transition between</td>
<td></td>
</tr>
<tr>
<td>organization</td>
<td>- private highrise:</td>
<td>public ground floor and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- office towers</td>
<td>floors 1-5.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>residential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Rows</td>
<td>- Connect to water (Chicago)</td>
<td>- Varies based on landscape, can be:</td>
<td></td>
</tr>
<tr>
<td>- Individual plots</td>
<td>- Topo</td>
<td>- Roof gardens</td>
<td></td>
</tr>
<tr>
<td>- Complex plots</td>
<td>- Roads/Infrastructure</td>
<td>- Urban carpet</td>
<td></td>
</tr>
<tr>
<td>- Educational plots</td>
<td>- Same widths to roads+</td>
<td>- Folds in earth</td>
<td></td>
</tr>
<tr>
<td>- Can become too large scale</td>
<td>sidewalks</td>
<td>- Bolders if of a cliff</td>
<td></td>
</tr>
<tr>
<td>if on ground plane</td>
<td></td>
<td>- “Valleys”</td>
<td></td>
</tr>
<tr>
<td>- Individual planters per housing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unit/per floor</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CONCLUSIONS FOR PROGRAM

- Necessary and Optional program needs to supplement each other in order for a city block to stay active during the day.
- Those optional activities need to gear towards different age groups and backgrounds.
- Necessary and optional program need to be placed at least every 80’ in order to sponsor the social/resultant activities to occur.
- Location of program is specific and varies for public program between level 1-3 and private from the first floor up.
- The highest point to start an urban carpet would need to be at the 3rd level. Anything beyond is reliant on escalators or elevators.
- The more cafes and restaurants the better.

3. PROGRAM : PRECEDENT

PROJECT: VILLAGE AT SANLIHUN - SHOPPING CENTER
ARCHITECT: KENGO KUMA
LOCATION: BEIJING, CHINA

PROGRAM:

- Large number of shopping, outdoor spaces and restaurants/cafes.
- Elevated crosswalks connect public space between first three levels. These allow for visual access over the whole space while simultaneously having a feel for detail.
- Public on the ground floor and more private program in higher floors and is expressed through light.
- Physically it is all pedestrian squares and narrow passages. There is a central open plaza with a water feature which is highly used during hot summer months.
Figure 2.30 Controlled heights respond to the surrounding context.

Figure 2.31 Elevated walkways have visual access to a communal courtyard.

Figure 2.32 Using light to reduce scale.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Trees</th>
<th>Grass</th>
<th>Flowers/Bushes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Movement</strong></td>
<td>- Direct movement lineair/non-lineair assemble/disperse - Can move around trees non-obstructive</td>
<td>- General green carpet Hangout leisure Recreational Walking=paths (pavers)</td>
<td>- Bushes obstruct or kill boarder condition</td>
</tr>
<tr>
<td><strong>Intensity</strong></td>
<td>- ↑ + ↓ intensity contacts Range in height means you can create outdoor “Rooms”</td>
<td>- ↓ intensity contacts</td>
<td>- ↓ intensity contacts</td>
</tr>
<tr>
<td><strong>Senses</strong></td>
<td>- Nice smell, fresh air, color is soothing visually pleasing - improves spatial quality - experience</td>
<td>- Low height= ↑ vision</td>
<td>- Flower smells - Visually stimulatin - Colorfull</td>
</tr>
<tr>
<td><strong>Public/Private</strong></td>
<td>- Can be/support public or private spaces</td>
<td>- Public/Open space</td>
<td>- Low in scale (depend on spaces) - Can enclose space to make a public space more private - Green Walls - enclosing</td>
</tr>
<tr>
<td><strong>Physical Organization</strong></td>
<td>- Random or ordered - Clustered or dispersed - Type/tree species influences its yearly seasonal effect on landscape &amp; thickness or visual penetrability. - ↓ maintenance - may clear leaves when they fall</td>
<td>- Can vary from big to small plots Usually open space - Problem is it dies if trampled, so not good for public square or heavy continuously used spaces, more for sporadic use</td>
<td>- Can be on periphery of space - Can seperate spaces - Garden (specific) - Native along watershed - At entry of buildings to frame - In window sills - Planters @ street intersections - Divide/Transition between street sidewalk: “Protective visual barrier” - Seasonal Walks - Brightens environment</td>
</tr>
<tr>
<td><strong>Urban Garden</strong></td>
<td><strong>Urban Fabric</strong></td>
<td><strong>Architecture becoming the Landscape</strong></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------</td>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td>- Slow growth</td>
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<td></td>
</tr>
<tr>
<td>↑ + ↓ intensity contacts (if everyone in a building has personal, they may share tips for food - automatically have something to talk about)</td>
<td>↑ + ↓ intensity contacts If continuing same grid as currently used ↑, if streets are improved then ↓</td>
<td>↑ + ↓ intensity contacts</td>
<td></td>
</tr>
<tr>
<td>- Visually stimulating</td>
<td>- Continuation of same visual language &amp; smells</td>
<td>- Visually engaging b/c building becomes occupiable on all surfaces</td>
<td></td>
</tr>
<tr>
<td>- Intellectually stimulating</td>
<td></td>
<td>- Multiple &amp; different views to surrounding context</td>
<td></td>
</tr>
<tr>
<td>- Fragrant</td>
<td></td>
<td>- Offers transitions</td>
<td></td>
</tr>
<tr>
<td>- Public or Private based on neighborhood organization</td>
<td>- Public with private: - public streets - private highrise: office towers residential</td>
<td>Both: Public and/or Private Roof can transition between public ground floor and floors 1-5.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Connect to water (Chicago) - Topo - Roads/Infrastructure - Same widths to roads+ sidewalks</td>
<td>Varies based on landscape, can be:</td>
<td></td>
</tr>
<tr>
<td>- Rows</td>
<td></td>
<td>- Roof gardens</td>
<td></td>
</tr>
<tr>
<td>- Individual plots</td>
<td></td>
<td>- Urban carpet</td>
<td></td>
</tr>
<tr>
<td>- Complex plots</td>
<td></td>
<td>- Folds in earth</td>
<td></td>
</tr>
<tr>
<td>- Educational plots</td>
<td></td>
<td>- Bolders if of a cliff</td>
<td></td>
</tr>
<tr>
<td>- Can become too large scale if on ground plane</td>
<td></td>
<td>- “Valleys”</td>
<td></td>
</tr>
<tr>
<td>- Individual planters per housing unit/per floor</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CONCLUSIONS FOR LANDSCAPE

• Different plants have different organizational capabilities.
• Trees - due to various heights and widths - can create outdoor rooms that feel private but still allow free movement.
• Bushes limit movement while allowing visual access.
• Grass is good for parks and bad for squares or highly trafficked areas due to maintenance.
• Options for Urban Farming: Small scale individual herb gardens or larger individual plots at the ground floor.
• Landscape can be used to transition between the ground plane and higher floors.
Figure 2.36 Spatial Configurations for Landscape & Vegetation
3. **PUBLIC SPACE : PRECEDENTS**

**PROJECT:** **HIGH LINE**  
**ARCHITECT:** **DILLER AND SCOFIDIO**  
**LOCATION:** **NEW YORK, NY**

- Sponsors Optional Activities
- Movement is either static or meandering along a path
- Physical Organization supports Active or passive participation through the placement of benches, vegetation, stadium seating, wide grass vs. narrow strips, and the path creates the narration between spatial configurations
- Low Intensity contacts are possible as most people are casually hanging out
- Views are optimal as they are raised from the typical street perspective - breaking down the canyon visually.
- As pedestrians are removed from the street, both sound reduction and ease of circulation are possible.

![Various Spatial Configurations for Landscape & Vegetation](image-url)
Figure 2.38 Aerial View of the High Line

Figure 2.39 Elevated Visual Connection to Street

Figure 2.40 Theater Overlooking the Street

Figure 2.41 Visual Connection to the Street

Figure 2.42 Paths, Vegetation and Seating are Simultaneously used to Establish Organization

Figure 2.43 Vegetation Shaping Circulation and Seating
<table>
<thead>
<tr>
<th>MATERIALS</th>
<th>Scale</th>
<th>LIGHT</th>
<th>TRANSPARENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACTIVITY</strong></td>
<td><strong>MOBEMENT</strong></td>
<td>- small scale, more detail will keep you longer at place more contactmaking - big scale, less detail speed ↑</td>
<td>- Light attracts, assembles - Dark disperse - People want to be able to see - People move towards light</td>
</tr>
<tr>
<td></td>
<td><strong>INTENSITY</strong></td>
<td>- scale ↑, intensity ↓ - scale ↓, intensity ↑</td>
<td>- light ↑, intensity ↑ - light ↓, intensity ↓</td>
</tr>
<tr>
<td></td>
<td><strong>Senses</strong></td>
<td>- Small scale: all pieces within view, awareness of human action of construction proces - Small scale: makes spaces 'look' bigger - Big scale: makes spaces 'look' smaller</td>
<td>- Light: better view on details &amp; environment, enlarges spaces - Dark: 'narrors' spaces</td>
</tr>
<tr>
<td></td>
<td><strong>Public/Private</strong></td>
<td>- Individual expression of private space to public space: Different material use per living unit: - in rowhouse: vertical material separation - in midrise/highrise: patchwork</td>
<td>- Light promotes contact, overview, assembles, opens - Dark disconnects, borders - Public: light colors, safe feeling - Private: light colors, good quality of light.</td>
</tr>
</tbody>
</table>

**Figure 2.44 Material Matrix**
<table>
<thead>
<tr>
<th><strong>COLOR</strong></th>
<th><strong>TEXTURE</strong></th>
<th><strong>RHYTHM</strong></th>
<th><strong>ORNAMENT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Red makes you go faster</td>
<td>- Meaning in texture or special effect makes you pause in movement to reflect and/or interact</td>
<td>- Rhythm low, less detail, movement ↑</td>
<td>- stand still to look at interaction</td>
</tr>
<tr>
<td>- Blue makes you slow down</td>
<td></td>
<td>- Rhythm high, more detail, movement ↓</td>
<td></td>
</tr>
<tr>
<td>- Green = neutral/calming</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Hard, sharp colors are</td>
<td>- More detail, slower move, intensity ↑</td>
<td>- Rhythm low, less detail, intensity ↓</td>
<td>- intensity ↑, close to it</td>
</tr>
<tr>
<td>aggresive, attractive, temporary</td>
<td></td>
<td>- Rhythm high, more detail, intensity ↑</td>
<td></td>
</tr>
<tr>
<td>short, Intensity ↓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Soft colors are relaxing,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>longer stay, Intensity ↑</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Red, Orange are felt as warm</td>
<td>- Texture or perforation on materials work as acoustic absorption for pollutant noise like car, traffic noise. Use of these materials with improve auditive possibilities quality for communication</td>
<td>- In relation to human scale: Can you pass through, hold, detach, climb on it?</td>
<td></td>
</tr>
<tr>
<td>- Blue, purple are felt as cold</td>
<td></td>
<td></td>
<td>- View to details</td>
</tr>
<tr>
<td>- Warm colors engage, invite</td>
<td>- For private space: different textures for express of individuality and personal taste/ preference</td>
<td>- Rhythm in public: attention taking, symbolic</td>
<td>- Public or private: symbolic, expression, art</td>
</tr>
<tr>
<td>- Cold colors disperse, repel</td>
<td>- For public space: texture with symbolic reference</td>
<td>- Rhythm in private: functionality, quality</td>
<td></td>
</tr>
</tbody>
</table>

**CONCLUSIONS FOR MATERIALS**

- Scale, light, transparency, texture, rhythm and ornament reveal an amount of detail to material. The greater the amount of detail, the more people will reduce their speed to experience it and the more chance of contact making.

- Promotes Contact Making:
  - Smaller Scale
  - Light, bright materials - Kengo Kuma
  - Sound Absorptive Materials
  - Ornaments
  - Appropriate Color-use
  - Appropriate Transparency between public, semi-public and private spaces
  - Human proportions in window framing
6. Material Use

Figure 2.45 Green wall at the Caixa Forum

Figure 2.46 Material diagram
CHAPTER 3
THEORETICAL APPLICATION TO THE EDGE

INTRODUCTION

DEFINING EDGE CONDITION

TREATMENT OF VARIOUS EDGE CONDITIONS:
1. Streets, Squares & Buildings
2. Water
3. Forest, Trees or Natural Vegetation
4. Highway/Open
5. Slope or Topography

CONCLUSIONS
INTRODUCTION
Up to this point, the document has investigated the ways in which architecture - regardless of scale - can support productive social life on the street by designing with the human perceptual system. The second portion of this document focuses on how architecture responds to the urban scale via the edge condition. Therefore the conclusions taken from chapter two will be applied to five chosen urban edge conditions, including: water, vegetation, highways, streets/squares/buildings, and topography. These edges were chosen as they are present on the site that will be investigated in chapter 4. Therefore all the conclusions found can be used for project related topics. Once placed on a site these principles can become more specified based on the contextual and programmatic needs of people living and working in the area.

THE EDGE CONDITION
The meeting between two separate systems forms an edge. This intersection allows one to recognize what is unique and special to each condition through a dialogue (Spellman 2003).

Urban environments consist of a broad range of social and physical edges. By recognizing each various edge as a design element one makes evident the inter-workings of a holistic system to its user (Spellman 2003).
REDEFINING THE SKYSCRAPER CANYON: STREETS

Typical street canyon:

- darkness at base of the street
- social interaction mainly through glass
- privacy level raises as going higher
- other side of street within communicative distance
- many buildings without terraces
- opportunity for more ways of interaction between both sides of the canyon (public at bottom, private at top)

Stepped base to street

- intensification on for public program (bar/restaurant) to develop in the lower stepped base higher up
- outdoor quality space for public levels 1-3
- public activity increases and therefore social interaction increases to higher floors
- social control and interaction with street increases

Setbacks in base near street

- Doesn’t solve the problem of light in street
- Does give protection for rain, snow, falling ice
- Provides outdoor space to public program of base
- Clerestory windows on levels 2-4 with view on extra wide public side walk
- Social contact improves in base.

Cut outs in body street canyon

- Cut outs provide interaction between different units/spaces of the buildings
- Provides setback terraces to living units in the streets body, improves quality of units
- Newly created bay and clerestory windows create new views outside for indoor spaces
- Activation of body of facade
- Social control street increases
- Cut out bridges contact and activity from street level to the higher levels

Angled rooftop to street

- brings in extra light to street level
- solar energy gain on angled rooftops or through transparant solar gain panels used as glazed facade

Stepped rooftops to street

- brings in extra light to street level
- Terraces with units isolated from the street People won’t even know they are there
- Terraces have no relation to the public activity on the ground floor
Ground floor extension
- Activates only 1st and 2nd floor
- Creates semi-public terraces on level 2
- Car noise reduction to public levels
- Width of street critical
- Preferable setback higher levels over extension on ground level to street
- Scale intervention doesn’t relate to the scale of the canyon

Top level setback
- One floor setback will have almost no effect on light in street
- Public or communal program on the top floors and/or roof could create a very active social environment with great open views

Street level setback
- 
- 
- 
- 
- 

Gradient setback to street
- Extra light to very deep in street canyon
- Terraces on all floors provide outdoor social interaction
- Sound dispersion of cars quicker up in the sky, less sound reflection
- Terraces break the wind
- Biggest terraces on lower floors improve living quality of those units

Angled setback in body of canyon
- 
- 
- 
- 
- 

Typical canyon on square:
- Terraces tapering down
- Bigger terraces on bottom: improvement of units for living in base and body
- Opens view to sides of other buildings
- Other buildings can see square too
- 
- 

Figure 2.48 Highrise Setbacks
**STREETS**

**REDEFINING THE SKYSCRAPER CANYON: STREETS**

**CONCLUSION:**

**MAJOR STREETS**

- Major Streets require multiple transition zones to shift the focus on car dominant roads to pedestrian friendly streets. This can be achieved through trees, lower vegetation such as flowers and bushes and providing private lanes for bikes and less lanes for automobiles.

**SMALLER STREETS**

- Smaller streets should be able to accommodate emergency vehicles but be primarily pedestrian dominant.
- Streets may alternate in auto accessibility - allowing some to become intimate paths that support small scale restaurants or boutique shops.

**Figure 2.49 Spatial Configurations for Streets**
Typical canyon on square:
- social interaction mainly through glass
- many buildings without terraces
- higher up in the building, more private
- opportunity for many ways of interaction between public and private

Stepped base to square
- intension for public program (bar/restaurant) to develop in the lower stepped base.
- outdoor quality space for public levels 1-3
- public activity increases
- social control and interaction with square increases

Setbacks in base near square
- protection for rain, snow, falling ice
- no effect on light because of width square
- extended public outdoor program for buildings with view on square
- Clerestory windows on levels 2-4 with view on extra wide public side walk - social contact improves.

Cut outs in body canyon to square
- Cut-outs provide interaction between different units/spaces of the buildings
- Clerestory windows + setback terraces
- Quality units improvement
- Activation of body of facade
- Social control streets+ square increases
- Min. interaction between both sides

Figure 2.50 Highrise Setbacks Facing Squares
Raised Square
- Activates higher first floors to public interactions
- Elevates people from traffic
- Car noise reduction on square
- Not ideal for connection on program located along the building edge

Sunken Square
- Overlooking square from streets
- Seeing=inviting
- Limits views from square to entries of bases (supermarkets, bars, etc.)

Extension base over square
- Semi-public/semi private public extension space on bases
- Square split in two less public squares
- Functioning of 2 squares related to program of base
- Car noise reduction on squares

Stepped rooftops to square
- Effect of extra light on square is minimal
- Solar gain for angled roofs is greater

Angled rooftop to square
- Effect of extra light on square is minimal
- Solar gain for angled roofs is greater

Stepped rooftops to square
- Effect of extra light on square in minimal
- Terraces less alienated than in street
- Terraces see street on other side of square

Cut outs in body canyon to square
- Cut-outs provide interaction between different units/spaces of the buildings
- Clerestory windows + setback terraces
- Quality units improvement
- Activation of body of facade
- Social control streets + square increases
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Stepped rooftops to square
- Effect of extra light on square is minimal
- Terraces less alienated than in street
- Terraces see street on other side of square

Angled rooftop to square
- Effect of extra light on square is minimal
- Solar gain for angled roofs is greater
- Terraces see street on other side of square
Stepped base to square

- clerestory windows/terraces
- overlooking square
- shading for strong summer sun
- only little influence on reducing light on square

2 public floors on square: stepped

- More private terraced outdoor space for public program.
- Rooftop still possible for public use
- Rooftop gets isolated from ground floor but still socially controlled by surrounding buildings

3 public floors on square: stepped

- Limit for public accessibility rooftop
- Social control from surrounding buildings
- Terraced public program: bars, restaurants, fitness workout, etc.
- Public program becomes semi-private

Typical canyon on square:

- terraces tapering down
- bigger terraces on bottom: improvement of units for living in base and body
- opens view to sides of other buildings
- other buildings can see square too

Landscaping on square: low

- program on ground level
- program under ground level
- short steps either up or down
- view from street down in park
- public carpet
- many different experiences

Landscaping on square: tall

- program on level 1-3
- steps longer to reach for level 3
- different spaces more defined
- part of park more hidden/semi-private

Figure 2.51 Configurations for Squares
**CONCLUSION:**

**Squares**

- Optimal layout for public squares is one that allows program to be adjacent to buildings as opposed to separated by streets.

**Benefits of the Raised Carpet**

- Activation of higher floors and roof tops
- Elevation offers better views that can not be obstructed by traffic
- Connecting different program over multiple floors
- Greater consideration of programmatic placement can result in higher connection making on levels 1-5
- Activating the facade of the building from floors 1-5 responds to human perception and optimizes a persons ability to understand and related to their built environments.

**Figure 2.52 Configurations for Squares**
CONCLUSION: RAISED CARPET

BREAKING THE CANYON: FLOORS 1-5

1. Moving Buildings Horizontally

2. Building at Different Heights

3. Raising the Ground Floor to Transition between the 1-5 Floors

Activation of elevated floor planes by:

1. Urban Public Carpet between the first 5 floors
2. Programmed Roofs on Different Levels

Figure 2.53 Diagram Illustrating the Raised Carpet
ELEVATING THE ACTIVE GROUND PLANE TO THE 4-6TH FLOORS - CREATING AN URBAN CARPET OFFERS:

• Programmatic Variety Through Landscape. Additional enclosed spaces can be used for inside program or outside. No entry cost for movies or hanging out allows everyone to participate.
• Visual Access to Surrounding Communities
• Sound can most likely be heard at the ground plane drawing interest from street.
• Eliminates the fear of getting hit by a car - allowing people to occupy and play in the space freely
• Year round occupancy due to direct sunlight
• Transition between ground plane and urban carpet is through circulation, color and light.
• Provides sq.ft. not available at the ground level.
• Floor plates have a setback to the street
PUBLIC SPACE:

• Set-backs in higher floors allows light and air into circulation paths. Also provides a level of intimacy of space - breaking down the canyon

• Supports Necessary and Optional Activities

• Vegetation is used to further accentuate the human scale and frame space while having openings to cross. Vegetation is also used for runoff.

• Individual living units are provided with sun screens that can be used as personal herb gardens.

• On-Site Compost, waste water management, and energy storage.
2. Water

- Building edge to river
- Gallery edge to river
- Restaurant edge to river
- Stepped edge to river

Options:
- Outdoor theater
- Riverwalk
- Pools
- Concerts
- Restaurants
- View/seating

- Docks on water
- Performance/theatre on the water
CONCLUSION:

BREAKING THE CANYON: FLOORS 1-5

- The ground plane feeds the built slope by splitting the building in two.
- Optimal views for people watching and of the water.
- By feeding people down, an individual can choose how far they can descend - making distances and the climb more manageable.

PRECEDENT

PROJECT: STAVANGER CONCERT HALL
ARCHITECT: BIG/PLLOT
LOCATION: STAVANGER, NORWAY

TRANSITION BETWEEN PLANES

- The ground plane feeds the built slope by splitting the building in two.
- Optimal views for people watching and of the water.
- By feeding people down, an individual can choose how far they can descend - making distances and the climb more manageable.
3. Forest, Trees or Natural Vegetation

- Current/common edge
- Trees as noise buffer
  - Trees soften edge
  - Protect/creates visual barrier
  - Visually more accessible

- Noise screen edge
  - Wall: aggressive to street
  - Blocks noise to sidewalk/roads louder
  - Visually enclosing

- Bikepath between trees as extra, double noise buffer

- Noise absorbent walls

- Green walls

- Trees as noise buffer
  - Trees soften edge
  - Protect/creates visual barrier
  - Visually more accessible

- Cantilevering noise buffer

- Gallery noise buffer

- Raised gallery noise buffer
PRECEDENT

PROJECT: CAIXA FORUM
ARCHITECT: HERZOG AND DE MEURON
LOCATION: MADRID, SPAIN

FOREST & MAJOR STREET

- The power of the vegetated wall allows a visual connection to the Royal Botanical Gardens even as the Paseo del Prado acts as a physical barrier.
- The two buildings frame a public square to support openings, daily public use.
4. **Highway or Open Space**

- Current/common edge
- Trees as noise buffer
  - Trees soften edge
  - Protect/creates visual barrier
  - Visually more accessible
- Noise screen edge
  - Wall: aggressive to street
  - Blocks noise to sidewalk/roads louder
  - Visually enclosing
- Trees as noise buffer
  - Trees soften edge
  - Protect/creates visual barrier
  - Visually more accessible
- Bikepath between trees as extra, double noise buffer
- Cantilevering noise buffer
- Bikepath between trees as extra, double noise buffer
- Gallery noise buffer
- Noise absorbent walls
- Green walls
- Raised gallery noise buffer
CHALLENGES WITH HIGHWAYS

• Unwanted noise resulting from cars
• High speeds are visually and physically threatening to pedestrians
• Visual Pollution due to large expanses of asphalt which also increase surface temperatures
• These issues reduce the amount of people traversing large roads and expressways by foot as there is no consideration to the edge in a way that protects the pedestrian.

CHALLENGES WITH LARGE OPEN SPACES

• The entire space becomes nondescript as it is hard to provide necessary levels of public and private outdoor spaces. Resulting in spaces that are rarely occupied.

CONCLUSIONS FOR HIGHWAYS & OPEN SPACES

• Setbacks filled with landscaping is great for noise reduction and views
• Elevated platforms with partitions buffer noise and provide more usable space for social contact. It also offers views above and beyond traffic as opposed to into it.
• Hard edges work if noise is reduced by implementing sound reductive materials, however this does not eliminate visual and physical insecurities.

Figure 2.63 (Left) Configurations for Highway Edges
5. Slope

- Slides
- Amphitheater
- Stairs
- Sun bathing
- Bar/restaurant Terraces
Figure 2.64 Configurations for Sloped Edges

Outlining to top slope

Cantilevering over slope

Building on pilotis

Vegetation to control runoff
CONCLUSIONS FOR SLOPES

• Terracing can transition between level changes and support social interactions with programs ranging from cafes, bars, restaurants, retail or gallery space - depending on the context.
• Slides can be used for a more playful means of descent.
• Amphitheaters provide entertainment and a place to people watch,
• When building on a slope there are a couple basic options;
  1. Set back away from slope
  2. Cantilever over the edge
  3. Cut into the edge
  4. Create a catwalk to a raised structure

CHALLENGES WITH SLOPES

• Accessibly bridging between multiple ground planes.
• Digging into the ground can result in issues with runoff.
**PRECEDE NT**

**PROJECT:** WEILBURG TERRACE - OFFICE AND RETAIL
**ARCHITECT:** ACME
**LOCATION:** GERMANY

- Visually Supports surrounding context and views
- Steps down through landscape with integrated program
- Roof gardens provide hangout spaces - but since removed from the street and not connecting between ‘bowlders’ is not great.
- Circulation is a different level from park landscape
CHAPTER 4
611 S. WELLS STREET - CHICAGO, ILLINOIS

INTRODUCTION TO THE SITE
SITE GOALS
APPLY DESIGN MECHANISM TO THE SITE
1. Streets, Squares & Buildings
2. Water
3. Forest, Trees or Natural Vegetation
4. Highway/Open
5. Slope or Topography

CONCLUSIONS
This thesis investigates architecture as a vehicle to forge networks on both the urban and human scale. Interest for the topic arose with the discovery of an eight acre plot of land located three blocks south of the downtown loop. Due to its location on the Chicago River, the site operated as a rail yard to transport both goods and commuters for nearly a century. The declining use of the tracks eventually lead to their removal in the 1970’s. Other than a few mid-scale projects, a majority of the roughly 78 acres remains vacant. Of that 78 acres, this project will focus on the most northern plot consisting of 8 acres and hopes to perform as the integral axis, or knuckle, between the downtown loop and the Near-South district.

Although it is not clearly documented as to why such an area remains undeveloped, after analyzing its site situation, assumptions can be made - most of result from physical dislocation. The first issue appears to be that by time the tracks were removed, the city’s physical and social infrastructure had been already been established. As the site was strictly utilitarian in program and both visually and audibly unpleasant, the rest of the City intentionally distanced itself from the location. Thus, tearing the site from the city’s social fabric. The physical tear is due to the City’s failure to reinstate the urban grid after the tracks had been removed. The streets which had formerly operated as connectors between North and South Chicago
were abruptly truncated to accommodate the installation of the train tracks but failed to be re-united upon their removal; therefore leaving the site inaccessible to vehicular or pedestrian traffic. The site is further removed as the two blocks located between it and the Loop’s business district are dedicated to major vehicular traffic to and from the west - linking both sides of the River. Harrison Boulevard and Congress Parkway are large physical and visual barriers that must be overcome in order to have the site appeal to private businesses.

In addition, a majority of the redevelopment has been in the form of small scale neighborhoods and a few mid-rise apartment buildings. This last fact creates interest within the residential sector more-so then to the mid-large scale private business that may end up proving necessary in order to programmatically link the site to the Loop.

Though it is currently dislocated from its surrounding context, the site is situated in an optimal location for a number of potential cultural and economic advantages. Therefore it is imperative that this designated space be re-woven into the urban fabric through the development of a site that is simultaneously responsive to the physical and social networks that define Chicago as a thriving metropolis as well as be relatable to the human scale.

**THESIS GOALS:**

To create a framework by which we can study urban flows and site to form architecture that:

1. Responds to the “Skyscraper canyon”
2. Links the site to the rest of the city and surrounding context
3. Offers new ways for people to experience the Chicago River.

**SITE LOCATION (RIGHT)**

Grand Union Station occupied the site for nearly 100 years. The tracks occupied a total of 72 acres - the portion being investigated is the northern, 8 acres nearest to the Loop.
SITE BENEFITS
1. The Site is a knuckle between the Loop, Residential, and the River.
2. Located directly on the Chicago River.
3. Though the site has clearly defined edges, two of its flanks are the River and Congress Blvd. This opens the site up to a lot of light and stunning views of the skyline, river and surrounding architecture.
4. People are already using surrounding areas within a 5 minute walking distance. The site is currently used as an informal dog park to adjacent mid-rise housing. Several visits indicate that people come as much for the views as to walk their dogs.

SITE DRAWBACKS
1. The Northern part of the site is flanked by a highway.
2. The potential for connecting over the Chicago River are limited due to the Post Office - which is limited access to the public.
1812

1835
The Illinois and Michigan Canal Commissioners hired James Thompson, a surveyor from Kaskaskia in downstate Randolph County, to create Chicago's first plat (or map showing proposed lots) in 1830. He laid out the town with straight streets uniformly 66 feet wide (the length of a surveyor's chain) with alleys 16 feet wide bisecting each block.

1909
Burnham’s Radial - Grid Plan established a uniform vision of hierarchy, connectivity between major points and intention to support ‘livability’ in Chicago.
Proposed River Straightening. The bend cuts off several north-south streets and creates irregularly shaped pieces of real estate in the city’s general grid pattern. The image below shows the river straightening in progress as well as the dominance of the shipping industry in the City’s landscape.
1934
The Post Office Northwest of site is constructed in 1921 and extended in 1932. Congress Boulevard has yet to have been extended.

The Old Chicago Main Post Office is a nine story tall building in Chicago designed by Graham, Anderson, Probst & White, built in 1921. The original structure was a brick sided mail terminal building that still sits just east of the main building that engulfs the Eisenhower Expressway right before it turns into the Congress Parkway. Its building site, as originally designed, would have blocked the proposed Congress Parkway extension. As a compromise, a hole for the Parkway was purposely designed in the base of the Post Office that would eventually be utilized twenty years later.

1955
Major expressways were constructed between 1955-1965. This included Congress Boulevard.
Obstructions caused by lack of Infrastructure
New Site Accessibility
Gateways & New Main Street for the Near South District
Theoretical Investigation
Sensorial Components

Relative Distances for People

**Visual Field**

3 - 10': Other senses supplement sight
60 - 80': Feelings & moods - At a relative distance in a social context.

0 - 100': Social field of vision.
- Facial features, hair styles, age and acquaintances are recognizable.

250' - 325': Possible to know a person's sex, approximate age, what they are doing, etc.

**Auditory Field**

23': Conversational up to 23'

100': Hear Lectures - question/answer situation.

100+ : Very difficult to hear
Conclusions: Maximum Space for Optimal Social Interaction

Path Dimensions

Square Dimensions

Visual

Hearing

Other Senses:

Feelings and Moods:
Max Social Field of Vision:

Recognition of persons gender - no interaction.
Plan: Street Edge

Plan: Water Edge

Plan: Open Street


