HUMAN SETTLEMENT THEORIES

Sharon Macagba, EnP
Assistant Professor 1
DCERP, College of Human Ecology
University of the Philippines Los Baños
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URBAN FORM, FUNCTIONS, GROWTH AND URBANIZATION
THEORIES OF URBAN GROWTH AND URBAN LAND USE
THEORIES OF URBAN GROWTH AND URBAN LAND USE

CONCENTRIC RING MODEL
(Ernest W. Burgess, US)

CONCENTRIC ZONE MODEL
(Peter Mann, UK)

MULTIPLE NUCLEI MODEL
(Edward Ullman and Chauncy Harris)

GALACTIC CITY
(Peirce F. Lewis)

SECTOR / RADIAL / AXIAL MODEL
(Homer Hoyt)

INVERSE CONCENTRIC ZONE
(Third World Countries)

LATIN AMERICAN MODEL
KEY QUESTIONS

CITY

natural evolution

interests of a few

chaos

CITY STRUCTURE

URBAN STRUCTURING

FORMATION OF URBAN LANDSCAPE
Urban Structure

How is place put together and how do its parts relate to one another?

Administrative Divisions

Urban Form

Urban Spatial Structure

Land Use
HUMAN ECOLOGY

(Chicago School of Urban Sociology)

Six processes at work in the city

Roderick D. McKenzie, Amos H. Hawley, Robert Park, and Everett Hughes
– applied the principles of evolution and natural history to study social behavior
HUMAN ECOLOGY
(Chicago School of Urban Sociology)

Six processes at work in the city

**Invasion**
— traditionally, a process through which a new activity or social group enters an area

**Succession**
— a new use or social group gradually replaces the former occupants

**Segregation**
— the sorting out of population groups according to conscious preferences for associating with one group or another through bias and prejudice
HUMAN ECOLOGY
(Chicago School of Urban Sociology)

Six processes at work in the city

Assimilation and Accommodation
– diverse social groups find a mode of peaceful co-existence

Concentration
— differential distribution of population and economic activities in a city, and the manner in which they have focused on the center of the city

Decentralization
— the location of activity away from the central city
HUMAN ECOLOGY

(Chicago School of Urban Sociology)

Six processes at work in the city

Filtering
- Every community or neighborhood goes through a process of decline

Survival of the fittest
- Cities evolve through a process of survival by different communities in which the most powerful groups acquire the best locations and weaker groups make do with the remaining space.
CONCENTRIC RING THEORY

The theory representing American city first suggested by American sociologist Ernest W. Burgess (Human Ecology) based on reflective analysis of the growth of Chicago over a period of 50 years (1875-1925)

Before the 1870s, cities such as New York had mixed neighborhoods where merchants’ stores and sweatshop factories were intermingled with mansions and hovels. Rich and poor, immigrant and native-born, rubbed shoulders in the same neighborhoods.
In Chicago, Burgess’s home town, the great fire of 1871 leveled the core. The result of rebuilding was a more explicit social patterning. Chicago became a segregated city with a concentric pattern.

This was the city Burgess used for his model. The actual map of the residential area does not exactly match his simplified concentric zones. This is an application of Von Thünen’s theory to urban areas.
Hypothetical pattern of land use within an urban area, in which different activities occur at different distances from the urban center. The result is a sequence of rings. Towns expand outward evenly from an original core so that each zone grows by gradual colonization into the next outer ring.
CONCENTRIC RING THEORY

Burgess Model (1925)

In addition, the cost of land may decrease with increased distance from the city center as demand for it falls. This means that commercial agents that can afford high land values will be concentrated in the city center.

A city extends radially from its center, to form concentric zones and that as distance from the center increases, there would be a reduction in accessibility, rent and densities. A series of 5 concentric rings divide the city into five zones.
CONCENTRIC RING THEORY

Burgess Model (1925)

ZONE 1

• The central business district (CBD)

• Distinct pattern of income levels out to the commuters’ zone

• Extension of trolley lines had a lot to do with this pattern
ZONE 2

• Characterized by mixed pattern of industrial and residential land use
• Rooming houses, small apartments, and tenements attract the lowest income segment
• Often includes slums and skid rows, many ethnic ghettos began here
• Usually called the transition zone
CONCENTRIC RING THEORY

ZONE 3

• The “workingmen’s quarters”; Solid blue-collar, located close to factories of zones 1 and 2

• More stable than the transition zone around the CBD
CONCENTRIC RING THEORY

Burgess Model (1925)

ZONE 3

- Often characterized by ethnic neighborhoods — blocks of immigrants who broke free from the ghettos

- Spreading outward because of pressure from transition zone and because blue-collar workers demand better housing
CONCENTRIC RING THEORY

Burgess Model (1925)

ZONE 4

- Middle class area of “better housing”
- Established city dwellers, many of whom moved outward with the first streetcar network
- Commute to work in the CBD
CONCENTRIC RING THEORY

Burgess Model (1925)

ZONE 5

- Consists of higher-income families clustered together in older suburbs

- Located either on the farthest extension of the trolley or commuter railroad lines
CONCENTRIC RING THEORY

Burgess Model (1925)

ZONE 5

- Spacious lots and large houses

- From here the rich pressed outward to avoid congestion and social heterogeneity caused by expansion of zone 4
CONCENTRIC RING THEORY

Model

Chicago, years ‘20

I – Loop (downtown; CBD)
II – industries
III – transition area
IV – working class area
V – residential area
VI – suburban area
CRITIQUE

CONCENTRIC RING THEORY

1 Even though portions of each zone did exist, rarely were they linked to totally surround the city; Burgess countered there were distinct barriers, such as old industrial centers, preventing the completion of the arc.

2 Critics felt that Burgess, as a sociologist, overemphasized residential patterns and did not give proper credit to other land uses, ignored physical features, took little account of industrial and railway use, and disregarded the effect of radial routes upon land values and uses.
CRITIQUE

CONCENTRIC RING THEORY

Land uses within many parts of the urban area are **heterogeneous** – shops, offices, factories, and housing may all be located close to each other although they may have notionally different sites and locational requirements.

There maybe many possible locations for different activities which do not conform to **idealized model**.
CRITIQUE

CONCENTRIC RING THEORY

Accessibility is an important consideration for many uses especially housing and commercial uses.

Neglected the possibility of sites being purchased for future development with current use being at a sub-optimal value (land banking and land hoarding).
CONCENTRIC ZONE MODEL

(Peter Mann, United Kingdom, 1965)

- Peter Mann took Burgess's model and combined them with his own to typify a British City in 1965.

- He based his model on studies of Sheffield, Nottingham and Huddersfield.
CONCENTRIC ZONE MODEL

(Peter Mann, United Kingdom, 1965)

- Urban area should be large enough to have distinct internal differentiation, but not too large to exhibit the complexities of a conurbation

- **Main feature**: commuter village separated from built up areas

1. City centre
2. Transitional zone: zone of small terraced houses in Sectors C and D, larger bye-law houses in Sector B, large old houses in Sector A
3. Pre-1918 housing
4. Post-1918 residential areas, with post-1945 development mainly on the periphery
5. Commuting-distance villages
   - A: The middle-class sector
   - B: The lower-middle-class sector
   - C: The working-class sector and main municipal housing areas
   - D: Industry and lowest working-class sector
SECTOR OR RADIAL MODEL

(Homer Hoyt, 1939)

• Homer Hoyt, an economist, presented his sector model in 1939 based on 142 American cities. He had the advantage of writing later than Burgess — in the age of the automobile.

• relates accessibility (transport), land use and land values
• recognizes the influence of lines of transportation-communication on land use.
SECTOR OR RADIAL MODEL

(Homer Hoyt, 1939)

• cities tended to grow in wedge-shaped patterns - or sectors - emanating from the CBD, growth occurring along major transport routes.

• Higher levels of access meant higher land values, thus, many commercial functions would remain in the CBD but manufacturing functions would develop in a wedge surrounding transport routes.
SECTOR OR RADIAL MODEL

(Homer Hoyt, 1939)

• suggests that various socio-economic groups expand outward from the CBD along railroads, highways, seaports, tramlines, and other transport arteries and that each socio-economic class creates relatively homogenous use zones that extend outwards from the center.

• Growth along a particular axis/way follows the dominant land uses already prevailing; their patterns are reinforced by transportation
SECTOR OR RADIAL MODEL

(Homer Hoyt, 1939)

• Moving away from major transport routes, rents go from high to low

• Compatible land uses lay adjacent to each other; incompatible land uses repel each other.
SECTOR OR RADIAL MODEL
(Homer Hoyt, 1939)
SECTOR OR RADIAL MODEL

(Homer Hoyt, 1939)

- Hoyt's model attempts to broadly state principles of urban organization. His observations:

- Wealthy residents choose to live where they could afford to, e.g. services etc.

- Wealthy residents use their cars as transport from home to work and vice versa thereby living farther from industry but close to main roads.
SECTOR OR RADIAL MODEL

(Homer Hoyt, 1939)

- High-rent districts for the wealthy are instrumental in shaping land-use structure of the city; as wealthy sector tends to locate farthest away from factories, the middle-class would occupy these areas, drawing on their past prestige.

Middle-rent areas move directly next to high-rent areas.
SECTOR OR RADIAL MODEL

(Homer Hoyt, 1939)

- High-rent sector would expand according to four factors:

1. along established routes of travel, toward another nucleus of high-rent buildings
2. toward high ground or along waterfounds, when these areas are not used for industry
3. along the route of fastest transportation
4. toward open space
SECTOR OR RADIAL MODEL

(Homer Hoyt, 1939)

• Commercial establishments tend to be along business thoroughfares

• Residential functions would grow in wedge-shaped patterns with a sector of low-income housing bordering manufacturing/industrial sectors (traffic, noise, and pollution makes these areas least desirable)

• Low-rent areas fill in the remaining areas

• Low-income households tend to be near railroad lines.
CRITIQUE

SECTOR OR RADIAL MODEL

Used Chicago as a model, an upper class residential sector evolved outward along the desirable Lake Michigan shoreline north of the central business district, while industry extended southward in sectors that followed railroad lines.

Few zones or urban clusters can be said to be homogenous socio-economically.

Many transport routes today are surrounded by low-rent districts.
CRITIQUE

SECTOR OR RADIAL MODEL

Freeways are today’s major transport routes, yet these did not develop spontaneously but were imposed on existing urban pattern. Freeways were built through low-rent areas where land was cheaper and political opposition was less.

With the popularity of the car, commuter villages or middle-class subdivisions proliferate, such that it cannot be claimed that only the elite can afford to live far away from the city.
AXIAL MODEL

(Transport Model based on Homer Hoyt’s Sector Model)

- **Travel time** rather than transport cost is the important determinant of land use
- Takes into account the effect of route ways for land use
- **Major roads** radiate from center of town
- **Commercial development** follows transport routes resulting in Star-shaped pattern of land use
MULTIPLE NUCLEI MODEL

(Ullman and Harris, 1945)

- Proposed by Chauncey Harris and Edward Ullman in 1945; Initially related to US cities where the gridiron road patterns separated land uses geometrically.

- A city develops with equal intensity around various points.

- The CBD was not the sole generator of change; urban growth takes place around several distinct nuclei.
MULTIPLE NUCLEI MODEL

(Ullman and Harris, 1945)

• A city grows from several independent points rather than from one central business district. Each point acts as a growth center for a particular kind of land use, such as industry, retail, or high-quality housing. As these expand, they merge to form a single urban area.

• The multiple-nuclei is the most complicated of urban land-use models and gives some insight into the growth of cities in the developing world.
MULTIPLE NUCLEI MODEL

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MULTIPLE NUCLEI MODEL

(Ullman and Harris, 1945)

Rooted their model in four geographic principles
Certain activities require highly specialized facilities

• Retail district with need for accessibility
• Port with need for waterfront
• Factor with need for accessible transportation

Certain activities cluster because they profit from mutual association

• Profitability of agglomeration (retail districts for concentration of customers, finance for ease of communication, etc.)
MULTIPLE NUCLEI MODEL

(Ullman and Harris, 1945)

Certain activities repel each other and will not be found in the same area

• E.g. factories and high class residential, schools and red-light district

Certain activities could not make a profit if they paid the high rent of the most desirable locations

• Housing tract with need for large areas of open land
MULTIPLE NUCLEI MODEL

(Ullman and Harris, 1945)

Equal weight must be given to:

• An old community on city outskirts around which new suburbs clustered

• An industrial district that grew from an original waterfront location

• Low-income area that began because of some social stigma attached to site
MULTIPLE NUCLEI MODEL
(Ullman and Harris, 1945)

1 CBD
2 Wholesale and light manufacturing
3 Low-class residential
4 Middle-class residential
5 High-class residential

6 Heavy manufacturing
7 Sub business district
8 Residential suburb
9 Industrial suburb
MULTIPLE NUCLEI MODEL
(Ullman and Harris, 1945)

Multi-centric or Multi-Nodal
GALACTIC CITY

(Peirce F. Lewis)

Galactic Metropolis is a result of leapfrog development

nucleations resemble a galaxy of stars and planets → some of the nucleations become cities

Edge cities form in suburbs –
Edge cities are analogous CBDs of newly emerging urban centers scattered through the suburban ring that surround older central city

Result → Doughnut Shape.

Doughnut like, because center is kept at very low density, while more activity distributed along ring roads.
HYBRID MODEL

(Walter Isard, 1955)

Combines the strengths of the Concentric, Sector, and Zonal Models of American planners.

This model illustrates that some urban land uses are oriented along major transport axis (sectors), while others, notably industrial and commercial, are located in nuclei where they reach both scale and agglomeration economies. The urban land use is thus an overlay of different transport effects.
It is not true that the rich are moving away from the central city as in Burgess’ Concentric Model.
It is the poor who are moving away from the Central City.
Elite keeps its stranglehold of Central City
social status declines with increasing distance from the center
Inverse Concentric Model

Observed mostly in LDCs, inverse concentric pattern where the elite and upper class reside in central areas. Center is more desirable than suburbs.

Social status is related to distance from center of the city and declines with increasing distance from the center.

Reversal of concentric zone model of Burgess: instead of the rich moving away from central city, it is the poor who are moving away from central city.
INVERSE CONCENTRIC MODEL

Cities where this pattern exist are mostly not fully industrial

- Primarily administrative and/or religious centers (or were at the time of their Founding)
- Central area is the place of the residence of the elite class
- Low income families live on the periphery

Reasons for this pattern:

- The lack of an adequate and dependable transportation system restricts the elite to the center of the city so they can be close to their places of work
- The functions of the city (administrative, religious, cultural) are controlled by the elite and concentrated in the center of the city
Urban Patterns in South and Southeast Asian Cities

Bazaar City
Colonial City
Planned City
METRO MANILA

- Global surface (territory)
- Ports, airports, teleports
- Mega-urban regions
- Secondary centres
- Excluded regions
- Commodity, information, people and capital flows

Legend:

- CBD
- INSTITUTIONAL COMPLEX
- INDUSTRIAL ZONE
- AIRPORT
- PORT
- COMMERCIAL COMPLEX
- SUBURBAN CENTER
- COMMODITY

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AFRICAN MODEL

- More complex because of influence of local cultures on urban development
- Difficult to group cities into one or two comprehensive models
- Generalized scheme has to be both sensitive to local cultures and to articulate pervasive influence of international forces, both Western and non-Western

One-storey traditional building

Open-air informal market zone

Squatter settlement

Waza Logone, Cameroon
Commercial/Industrial Areas
CBD = Central Business District, the original colonial city
SPINE = High-quality expansion of the CBD, catering to the wealthy

Elite Residential Sector

Zone of Maturity
Gradually improved, upgraded, self-built housing

Zone of Accretion
Transitional between zones 3 and 5, modest housing, improvements in progress

Zone of Peripheral Squatter Settlements
Slum housing

LATIN AMERICAN MODEL
“City Life” is the cultural norm in Latin America. Most people live in primate cities. (11.43d)

• Most jobs are in downtown. People live in city or in edges and commute to work. They rely on public transit from the central city
Latin American cities are vibrant, dynamic, and increasingly specialized

- **Latin American cities have two parts** - modernized CBD and traditional “market” segment of small, street-oriented business and shops. These two zones are interrelated and called the *spine/seCTOR*
Latin American cities are vibrant, dynamic, and increasingly specialized

- **“Spine”** - continuation of the features of the city center outward along the main wide boulevard (upper-middle-class housing) - connecting to the mall (at the end of the elite commercial spine). Essentially an extension of the CBD down a major boulevard.

- The relatively affluent population live closest to CBD.
Outside the CBD, the dominant component is a commercial spine surrounded by the elite residential sector

- Here are the city’s important amenities — parks, theaters, restaurants, and even golf courses
- Strict zoning and land controls ensure continuation of these activities, protecting elite from incursions by low-income squatters
3 Outside the CBD, the dominant component is a commercial spine surrounded by the elite residential sector

- A ring highway (*periferico*)
  - connect the mall and developing industrial parks

- Three established *residential districts* arranged in *concentric rings* around the core.

- Opposite of many US cities.
INNER-CITY ZONE OF MATURITY

• Less prestigious collection of traditional colonial homes and upgraded self-built homes

• Homes occupied by people unable to participate in the spine/sector

• Area of upward mobility
Latin American Model

Zone of accretion

- Diverse collection of housing types, sizes, and quality
- Transition between zone of maturity and next zone
- Area of ongoing construction and change
- Some neighborhoods have city-provided utilities
LATIN AMERICAN MODEL

Zone of accretion

• Other blocks must rely on water and butane delivery trucks for essential services

• *Barrios* and *Favelas* (slums) - on the outskirts of the city. House Upgrading in the zone of “in situ accretion” when times are good.
Zone of peripheral squatter settlements

- Surrounded by landscape bare of vegetation that was cut for fuel and building materials
- Streets unpaved, open trenches carry wastes, residents carry water from long distances, electricity is often “pirated”
- Residents who work have a long commute
- Many are transformed through time into permanent neighborhoods
Fuentes on Historical Evolution of Latin American cities

1. The establishment of border open the opportunities for commerce & services.

2. The surge of maquiladoras (industry) reorganize the urban structure and started competing with commerce & services for location near the bridges.

3. The transition from a monocentric to polycentric city.
URBAN FORMS

- Strip/Linear Development
- Grid Development
- Concentric Development
- Central and Nodal
- Radial and Circumferential System
URBAN FORMS

Strip/Linear Development
Grid Development
URBAN FORMS

Concentric Development
Central and Nodal
URBAN FORMS

Radial and Circumferential System
FORCES SHAPING A CITY

Centripetal – Pull forces of the city

- Clustering of certain functions
- Maximum accessibility
- Maximum potential
- Threshold population
- Proximity of residence to range of entertainments
- Prestige of central address
- Huge urban-rural wage differentials -- Very low rural incomes versus better paying jobs in cities
- Better quality urban services and facilities
- Possibility of publicly subsidized goods and services
- Lure of "bright lights"
FORCES SHAPING A CITY

Push forces from rural towards the city

- Wars and civil strife
- Natural calamities
- Difficult access to land
- Labor surplus due to farm mechanization
- Price of agricultural inputs and outputs manipulated by traders

Centrifugal or Push Forces from the city

- Increasing bid rent
- Congestion
- Restrictions on city centre developments
- Lack of space
STAGES OF URBAN GROWTH

**Stage of Export Specialization:**
The local economy is centered on one principal industry/product/firm.
Examples: Natural resource towns, tourist towns

**Stage of Export Complex:**
Local economy broadens to other related products and/or expands to other facets of the production of this single industry/product/firm.
Examples: Detroit as car manufacturing center
Stage of Economic Maturation (Local Service Sector Puberty):
The local economy replaces imports with local products and services.

Stage of Regional Metropolis:
When the city serves as a node for travel, products, etc. from nearby cities, and now exports products and services to these satellite cities. (can be followed by the…)
STAGES OF URBAN GROWTH

Stage of National/International Metropolis:
Examples: Atlanta in 1960s,

Stage of Technical/Professional Virtuosity:
National eminence in some specialized skill.
Examples: Detroit, Los Angeles
Why Cities Grow (or don’t grow)

What factors can act to limit urban growth?

1. Failure of Momentum
2. Competition
3. Lack of Natural Advantages
4. Lack of Cultivated Talent/Urban Management
5. Economic restructuring
‘POST-INDUSTRIAL CITIES’

Age of Information Revolution (1970s-2000s)

The phenomenon of ‘de-industrialization’ in historic cities in Europe and North America witnesses the decline of industries, closure of dirty factories and their relocation to remote regions or to Third World countries – consistent with the international division of labor (NIEO) conceptualized by neo-liberal economics. (Clarification: “Neo-liberal” in USA is called “Neo-Conservative” in UK)
‘POST-INDUSTRIAL CITIES’

Age of Information Revolution (1970s-2000s)

The **Information Revolution** since the 1970s and the **Baby Boom** (Population Explosion) combined to create the **Post-industrial society** which is organized around knowledge and innovation.

ICTs have implication for **spatial organization** of all human activities; they allow people to work in urban peripheries or at home offices; they cause the so-called “**annihilation of space.**” Use of computer, internet, and transport technology is changing production dramatically.
‘POST-INDUSTRIAL CITIES’

Age of Information Revolution (1970s-2000s)

City economies are dominated by **tertiary** (service), **quaternary** (finance, information and knowledge), **quinary** (pleasure technologies) sectors that can cater to large markets.

Emergence of information-processing technologies that require a highly skilled, intellectual, creative, and imaginative labor force; preeminence of the professional and technical class.
‘POST-INDUSTRIAL CITIES’

Age of Information Revolution (1970s-2000s)

Growth primarily benefits highly skilled professionals and offers little benefits for displaced workers in manufacturing sector and those who are unskilled.

Dominant city form is the sprawling extended metropolitan region without clearly defined urban edges – which tends to overrun farmland and open space and to damage nature.

New York City’s Central Park
Edge or Fringe Cities are alternate CBDs in urban peripheries and these are gaining on older central cities. Capital and skilled people are moving away from historic central cities.

Former functions of historic central cities are now distributed to multiple urban nodes or Edge Cities

Edge cities are centered on suburban shopping malls, Office-Parks, technology parks or techno-poles. Most have 5 million sq ft of office, 600,000 sq ft of retail and more jobs than bedrooms.
EDGE CITIES

Joel Garreau (1991)

Financial Globalization, Firm re-structuring (streamlining, rationalization, break-ups and mergers), fragmentation of production (business process re-engineering), and neo-liberal tenets of liberalization, de-regulation, privatization, de-bureaucratization - all contribute to de-concentration away from historic central cities.

Thus historic central cities become vulnerable to cycles of investment and dis-investment. They have to be deliberately re-developed to avoid economic collapse as in the “donut shape model” of Peirce Lewis.
OPTIMUM SIZE OF CITY

Leo H. Klaassen

The concept of “optimum size of city”

City must be large enough to take investment decisions of an economic size to have a common approach to and awareness of its problems

Must contain at least one growth pole

Must be able to supply its own industry with necessary labor

Fig. 3.19 The optimum size of a city
OPTIMUM SIZE OF CITY

Leo H. Klaassen

Should have a homogenous economic structure

**Minimum size:**
200,000 to 600,000 inhabitants

City should have limit on population size:

Maximum would be equilibrium point where costs/benefits meets population size.
Elements of urban structure

- Often seen as the physical elements of an urban area:
  - **Networks**
    - flow of goods and services/ streets, transport
  - **Buildings**
    - The prominent/ solid aspect of the urban area
  - **Open Spaces**
    - Hard spaces- Plaza, malls etc
    - Soft spaces- parks, gardens, lawn/ Public spaces and Landscape
- Evolution of Urban Form (Organic vs Planned)
PRINCIPLES OF CITY DESIGN
What is Urban Design?

1. Urban design is an urban development tool for the transformation of the public realm into a livable place with a unique identity.

2. Urban design is a multi-disciplinary process (architecture; planning; infrastructure; development economics; landscaping and engineering)

3. Urban design implementation makes use of a) policy instruments (building regulations, zoning ordinance and policies, etc.) and b) modeling initiatives (catalytic physical projects)
What is Urban Design?

4. Urban design is essentially about:

- **Urban form**
  - Buildings and structures
  - People centers
  - Infrastructure

- **Urban shape**
  - Skyline
  - Boundaries
  - Topography
  - Functional fit

- **Urban character**
  - Parks, plazas and greenbelts
  - Accessibility
  - Public art & street furniture
  - Cultural centers
URBAN DESIGN

- Is concerned with the arrangement, appearance, and functionality of whole towns and cities

  - shape and form of city blocks
  - uses of urban public space
  - articulation of physical features in four dimensions

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URBAN DESIGN

- Creates places for people while respecting/enhancing natural environment and use of resources efficiently
- In between planning and architecture; a disciplinary subset of landscape architecture and urban ecology
- Articulation of urban plans in 4 dimensions
What is Urban Design? (CONT’D)

Kevin Lynch is an American urban planner who is the author of the “Image of the City” (1960). His book defines the key elements of modern urban design.

“

The legibility of the cityscape concerns itself with the ease with which its parts can be recognized and organized in a coherent pattern; a legible city is one whose districts or landmarks or pathways are easily identifiable and are easily grouped into an overall pattern.

”

- Kevin Lynch (1960)
A collective image map of a city, a collective picture of what people extract from the physical reality of a city.

Five (5) basic elements which people use to construct their mental image of a city:

1. **Paths**: connectors; channels along which the observer moves

2. **Edges**: elements that delineate; linear elements not considered as paths
**IMAGE OF THE CITY**

by: Kevin Lynch

3 **Districts**: medium to large sections of a city; recognizable as having some common, identifying character; areas which have uniformity

4 **Nodes**: points, strategic spots which an observer can enter; junctions and concentrations; highlighted points of space (e.g. pocketparks, intersections)

5 **Landmarks**: point references considered to be external to the observer; physical elements that may vary widely in scale; e.g. monuments & gateways
Urban Design and Image of the City

Creating a clearly defined urban edge

Skylines are sensitive to being obscured by high buildings in front of existing buildings or having their silhouette spoiled by high buildings behind them.
SENSE OF PLACE

• Place has distinctive and distinguishing physical and human characteristics of locale

• Place is characterized by unique site and situational endowments (a material setting that is located somewhere)

• The key elements of Sense of place are
  — Distinct identity
  — Recognition of Subjective Meaning
  — Connection or Emotional Attachment to the Area
SENSE OF PLACE

• Place is imbued with subjective meanings and attachments, it is the context of IDENTITY. Place is a social and symbolic setting that has meaning and value for individuals.

• Place is a node within the web of flows.

• Places are interdependent, tied into wider regional and global processes.

• Places exhibit variability - evolve over time as people create and modify them.
# TYPES/FORMS OF URBAN DESIGN

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<thead>
<tr>
<th>Formal</th>
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<tbody>
<tr>
<td>‣ Emphasizes “form” over “function”</td>
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<td>‣ Baroque urban design</td>
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<td>‣ Beaux Arts Tradition or City Beautiful Movement</td>
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<td>‣ Aesthetics/beauty</td>
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<tr>
<th>Civic-Centered</th>
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<td>‣ Deals with the management of public space and the way public spaces are experienced and used</td>
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<tr>
<td>‣ Public spaces and public assembly areas as “anchors”; some aspects of privately-owned spaces (building facades or domestic gardens) are considered in urban design</td>
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<tr>
<td>‣ Form has to meet function</td>
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<td>‣ Open air environments</td>
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<td>‣ New Urbanism</td>
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<td>‣ Smart Growth USA</td>
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<table>
<thead>
<tr>
<th>Customer-Centered</th>
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<tbody>
<tr>
<td>‣ Post-industrial urban design</td>
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<tr>
<td>‣ Focuses on the convenience and comfort of the end-users</td>
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<td>‣ Emphasizes on direct access by costumers</td>
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<td>‣ Mixed-used environments</td>
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<td>‣ Transit-Oriented Development (TOD)</td>
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<tr>
<th>Eco-Centric</th>
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<td>‣ Centers on the experience of Nature and the experience of humankind as part of Nature; co-existence</td>
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<td>‣ The natural environment is the basis of all human activities</td>
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<tr>
<td>‣ Urban design safeguards natural systems and uses resources efficiently</td>
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<tr>
<td>‣ Environmentally-responsive developments or Green Buildings</td>
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<tr>
<td>‣ Plantation Bay Cebu, Marikina River Park</td>
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FORMAL URBAN DESIGN

BAROQUE URBAN DESIGN
- 1600-1800
- symmetry, cohesiveness, grandeur, monumentality, exuberance
- began during the Renaissance
- energetic, theatrical, flowing lines
- beauty, form & function combined

CITY BEAUTIFUL MOVEMENT
- 1890-1930
- Golden Age of urban design
CIVIC-CENTERED URBAN DESIGN

NEW URBANISM

★ Principles
1. Walkability
2. Connectivity
3. Mixed-Use and Diversity
4. Mixed Housing
5. Quality Architecture and Urban Design
6. Traditional Neighborhood Structure
7. Increased Density

8. Smart Transportation
9. Sustainability
10. Quality of Life

★ Or Neo-Traditionalism
★ Andres Duany & Elizabeth Plater-Zyberk

Short Course on Environmental Planning
DCERP & HUMEIN Phils. Inc.
CIVIC-CENTERED URBAN DESIGN

SMART GROWTH USA

***Principles***

1. Mix land uses
2. Take advantage of compact building design
3. Create a range of housing opportunities and choices
4. Create walkable neighborhoods
5. Foster distinctive, attractive communities with a strong sense of place
6. Preserve open space, farmland, natural beauty, and critical environmental areas
7. Strengthen and direct development towards existing communities
8. Provide a variety of transportation choices
9. Make development decisions predictable, fair, & cost effective
10. Encourage community and stakeholder collaboration in development decisions
CUSTOMER-CENTERED URBAN DESIGN

TRANSIT-ORIENTED DEVELOPMENT (TOD)

- A mixed-use residential or commercial area designed to maximize access to public transport, incorporates features to encourage transit ridership

- Typically has a center with a transit station or stop (train station, metro station, tram stop, or bus stop)

- In Metro Manila, examples include Trinoma North EDSA and Gateway Mall Cubao
SUSTAINABLE DEVELOPMENTS OR GREEN BUILDINGS

A green building is an environmentally sustainable building, designed, constructed and operated to minimize the total environmental impacts.

In the Philippines, examples include Marikina River Park and Plantation Bay in Cebu.
ECO-CENTRIC URBAN DESIGN

SUSTAINABLE DEVELOPMENTS OR GREEN BUILDINGS

Plantation Bay “green” features

- Locally-sourced/indigenous materials (e.g. bamboo, banig, Mactan marble, plants, etc.)
- avoiding use of plastics
- asphalt and gravel for roads to allow water absorption and generate groundwater
- instead of extracting sand, readily available limestone was used
- seaweeds are placed on top of plants to reduce re-watering
- used tea bags/coffee are scattered on ground to drive away ants/pests
NEW URBANISM
NEW URBANISM (1993)

• A city design approach aimed at changing the haphazard, poorly planned growth of American communities; it advocates public policies and development practices that support more livable communities.

• It has a set of principles that apply to the design and development of all levels of community – the region, the city, and the block.
NEW URBANISM (1993)

• “New urbanism involves communities that are diverse and integrated, in terms of who and what is there. It takes in a full range of people of all colors and backgrounds. It includes shops, schools, housing, parks, businesses, all the uses, all mixed together, all walkable.” (Peter Calthorpe)
NEW URBANISM PRINCIPLES

• Neighborhoods should be diverse in use and population.
• Communities should be designed for the pedestrian and for public transit as well as the car.
• Cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions.
• Urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.
NEW URBANISM: APPLICATIONS

- Inner-city infill development
- Affordable housing
- Transit-oriented development (TOD)
- Mixed-use developments
- New towns
HERITAGE
CONSERVATION
HERITAGE CONSERVATION

- **Cultural heritage** - the beliefs, values, practices and objects that give a place its own specific character and identity.

- **Practices** refer to customary traditions, rituals and ceremonies.

- **Objects** can be either intangible, such as historical events, or tangible such as furniture, native delicacies, handicrafts.
HERITAGE CONSERVATION

• **Man-made tangible objects**, such as buildings

• **Natural tangible objects**, such a revered landscape like the Chocolate Hills of Bohol and the Mayon Volcano

• **Movable tangible objects** can also be either movable, such as paintings, or non-movable such as buildings, streets and town plazas. Aside from these, immovable objects also include certain districts such as Binondo and San Nicolas in Manila, and even entire cities such as Vigan in Ilocos Sur.
HERITAGE CONSERVATION: BENEFITS

• **Social**
  – ensures that heritage assets continuously provide the community its unique character and identity, and promote pride of place among its residents.

• **Economic**
  – contributes significantly to tourism and, in the process, generates more revenue for local governments and helps create jobs and livelihood.
HERITAGE CONSERVATION: BENEFITS

• **Political**
  – An attractive and well-ordered city or municipality projects the authority of the local government and ultimately its officials. Well preserved historic landmarks project respectability and good taste.

• **Environmental**
  – Well preserved heritage structures have less carbon footprint than new construction.
HERITAGE CONSERVATION: ADAPTIVE REUSE

• A process that adapts buildings for new uses while retaining their historic features.

• The most successful built heritage adaptive reuse projects are those that best respect and retain the building’s heritage significance and add a contemporary layer that provides value for the future.
HERITAGE CONSERVATION: ADAPTIVE REUSE

• Sometimes, adaptive reuse is the only way that the building’s fabric will be properly cared for, revealed or interpreted, while making better use of the building itself.

• Where a building can no longer function with its original use, a new use through adaptation may be the only way to preserve its heritage significance.
Adaptive Reuse

• A process that postures existing buildings for new uses while retaining their historic features.

• The ideal adaptive reuse project is that which respects and retains a building’s heritage significance and spirit despite changing its functional use.

• Oftentimes, adaptive reuse for commercial purposes is the most practical way to induce the preservation of a heritage building.
Relevant Law

“The state shall foster the preservation, enrichment and evolution of a Filipino culture; The state shall conserve, develop, promote and popularize the nation’s historical and cultural heritage and resources, as well as artistic creations.”

  MANDATE
Relevant Law

R.A. 10066 National Cultural Heritage Act of 2009

Important Cultural Property Items* (Section 5)

a) Works by a Manlilikha ng Bayan;
b) Works by a National Artist;
c) Archeological and traditional ethnographic materials;
d) Works of national heroes;
e) Marked structures;
f) Structures dating at least fifty (50) years old;
g) Archival material/document dating at least fifty (50) years old.

* Subject to recourse if required by the owner.
GREEN DEVELOPMENT
Green Development: Core Objectives

- To ensure that development takes place in areas that are safe from natural calamities and disasters
- To reduce the carbon footprint (greenhouse gas emission) of urban growth and the contribution of cities to global warming and climate change
Green Development: Core Objectives

- To protect and enhance natural ecosystems in order to ensure their continuing provision of ecological “services” (e.g., purification of air and water, decomposition and detoxification wastes, pollination of crops and natural vegetation, generation and renewal of soil fertility, protection from ultraviolet rays, etc.)
Green Development: Approach

• Views the city, suburbs, and countryside as a single, evolving system within nature.

• Cultivates and nurtures nature in the city just like a garden, rather than ignored or subdued.

• Evaluates and incorporates natural factors, such as topography, hydrology, geology, natural hazards and micro-climate into cities, rather than overcoming them through technology which is often expensive and do not necessarily work.
Green Development: Examples

- Endangered species’ habitat conservation plans
- Urban gardening / farming / agriculture
- Switching to renewable and non-polluting energy sources (e.g., hydro-electric, wind, solar, geothermal, waste-to-energy, etc)
- “Green design” of houses, buildings and schools
Green Development: Examples

- Rehabilitation and adaptation of urban green spaces
- Restoration and protection of urban wetlands and other sensitive habitats
- Preservation of old growth trees and forest areas
- Urban watershed management
- River basin and coastal floodplain conservation plans
REFERENCES:


THANK YOU!