

**0731-121: Principles of Urban Planning**  
**Topic 7**

# Urban Spatial Structure

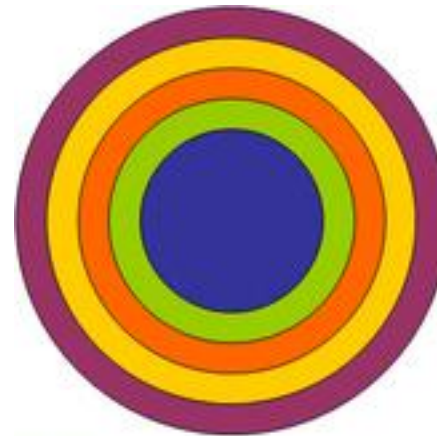
Nafisa Farid Moumi (BURP, BUET)  
Lecturer, Department of Real Estate  
Daffodil International University

# Urban Spatial Structure

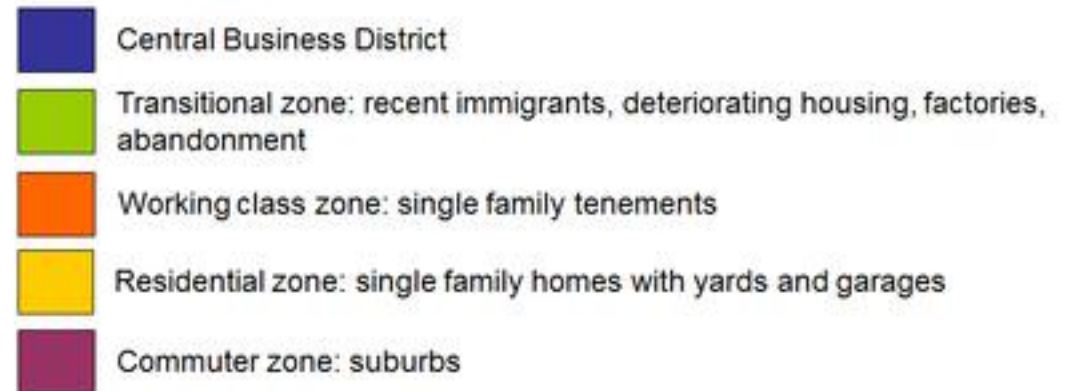
- Urban spatial structure means the arrangement of land use in urban areas and the degree of connectivity among them
- There are many theories explaining Urban Spatial Structure:
  - Concentric zone theory
  - Sector theory
  - Multiple nuclei theory

# Concentric Zone Theory

- This theory was introduced by **Ernest Burgess** in 1925.
- It explains the **distribution of social groups** within urban areas.

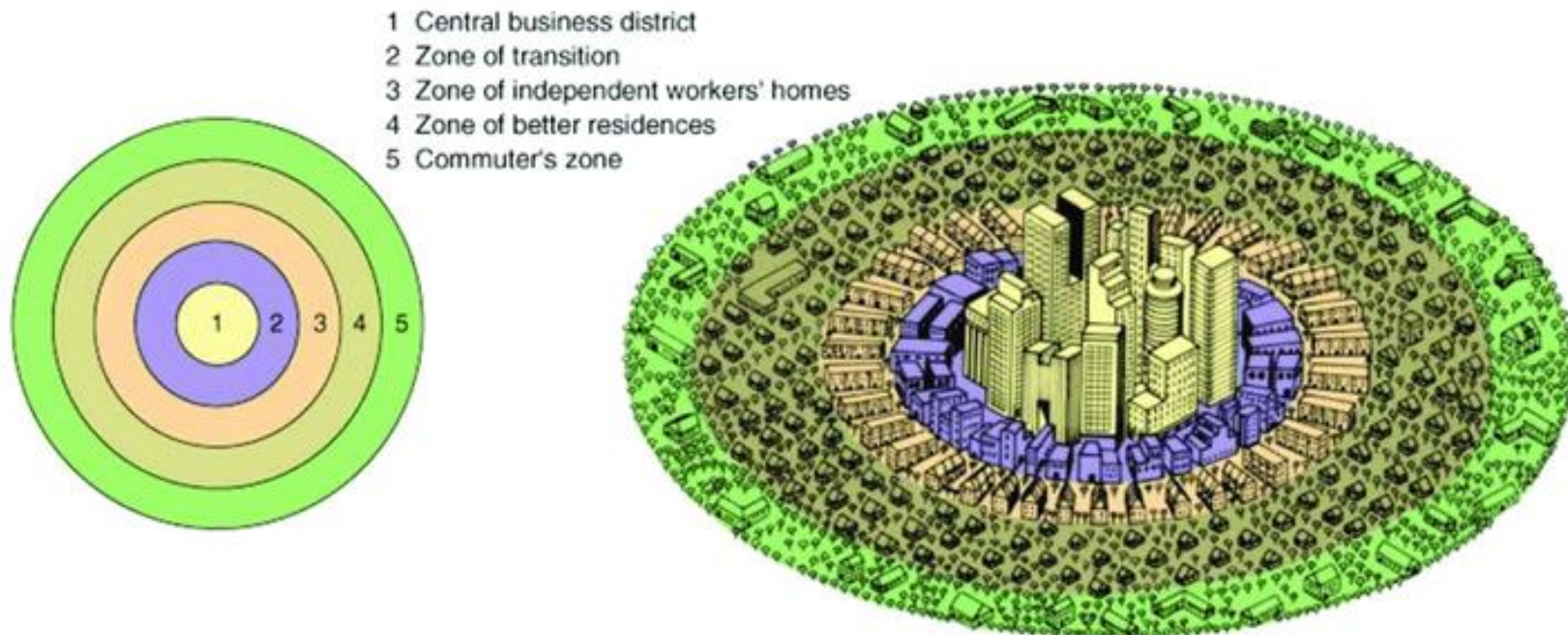


Burgess Model



# Concentric Zone Theory

- According to Burgess Theory, the growth of any town or city occurs through a **radial expansion from the centre**, to form a series of concentric zones of circles. In case of Chicago, Burgess observed five zones:

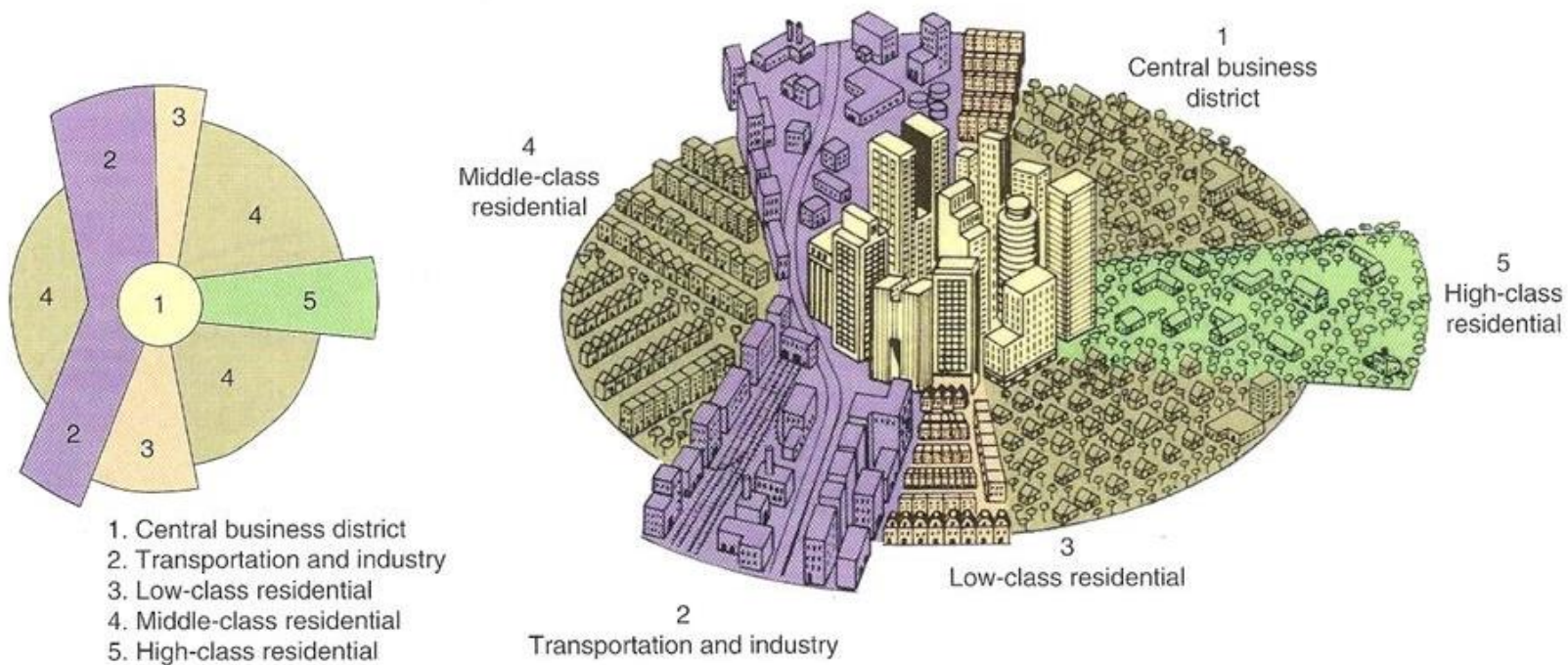


# Concentric Zone Theory

Zone	Zone Name	Activities
1	Central Business District (CBD)	Business activities
2	Zone of Transition	Factories, Wholesale and light manufacturing, Light commercial, Deteriorated housing
3	Working Class Zone	Housing for working class, Tenement housing
4	Residential Zone	Newer and larger houses are usually occupied by middle-class
5	Commuters Zone	Extended beyond the city limits and consists of suburban areas. Resided by people who choose to live in residential suburbs, usually high income groups.

# Sector Theory

- Economist Homer Hoyt proposed an alternative theory of urban structure and growth pattern in 1939, known as the Sector Theory



# Sector Theory

- Hoyt tried to overcome the weakness of the concentric zone theory by Burgess. He argued that cities do not develop in the form of **simple rings**, instead, they have '**sectors**'.
- Sector theory is based on **residential rent patterns** and the **impacts of transportation development**.
- This theory shows that cities tend to grow in **wedge-shaped patterns of sectors**, originating from the CBD, and following major transportation routes

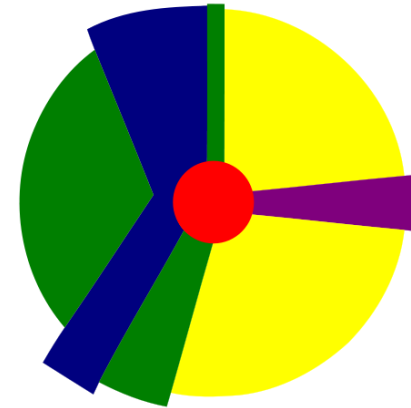
# Sector Theory

## Central Business District:

- It is placed at centre
- usually have high rise buildings

## Industry:

- This sector radiates out from the centre
- The activities grow based on transport linkage
- The presence of railway line, river or road would attract these activities
- Apart from industries, this area also serves as residential area for low class workers (the living condition is bad because of proximity to industry)



Hoyt Sector Model Key





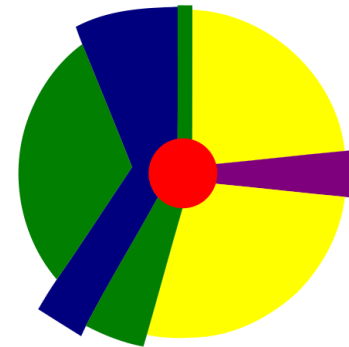
# Sector Theory

## Low Class Residential:

- Narrow roads, high population density
- Small houses with poor ventilation
- Closeness to industries reduces the travel cost and thus attracts industrial worker

## Middle-class Residential:

- This area has middle-income groups who can afford more substantial travel costs and want better living conditions.
- The activities of people residing in this area consist of different activities and not just industrial work
- It has more linkages with CBD along with some linkages to industries.



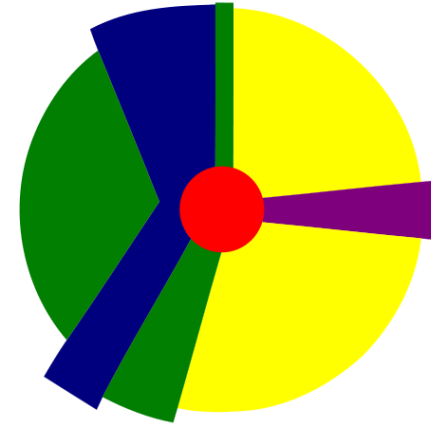
Hoyt Sector Model Key



# Sector Theory

## High Class Residential:

- This is the outermost and farthest area from downtown
- Corridor or spine extending from CBD to the edge
- Wealthy and affluent people live in this area
- This area is clean, has less traffic, is quiet and has large houses

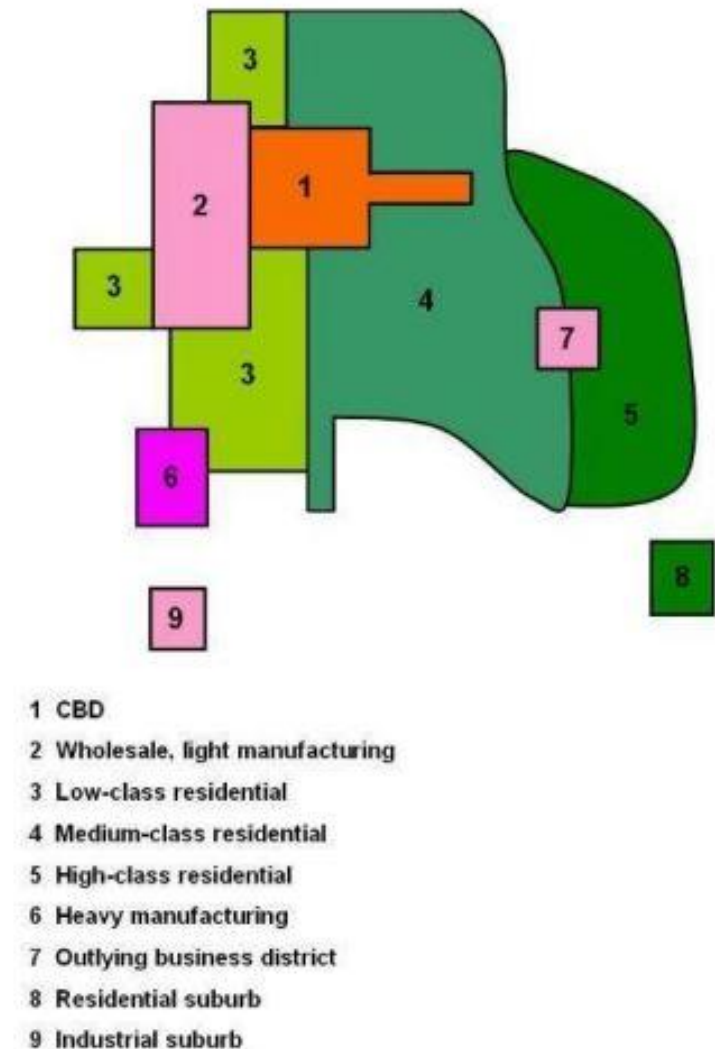


Hoyt Sector Model Key



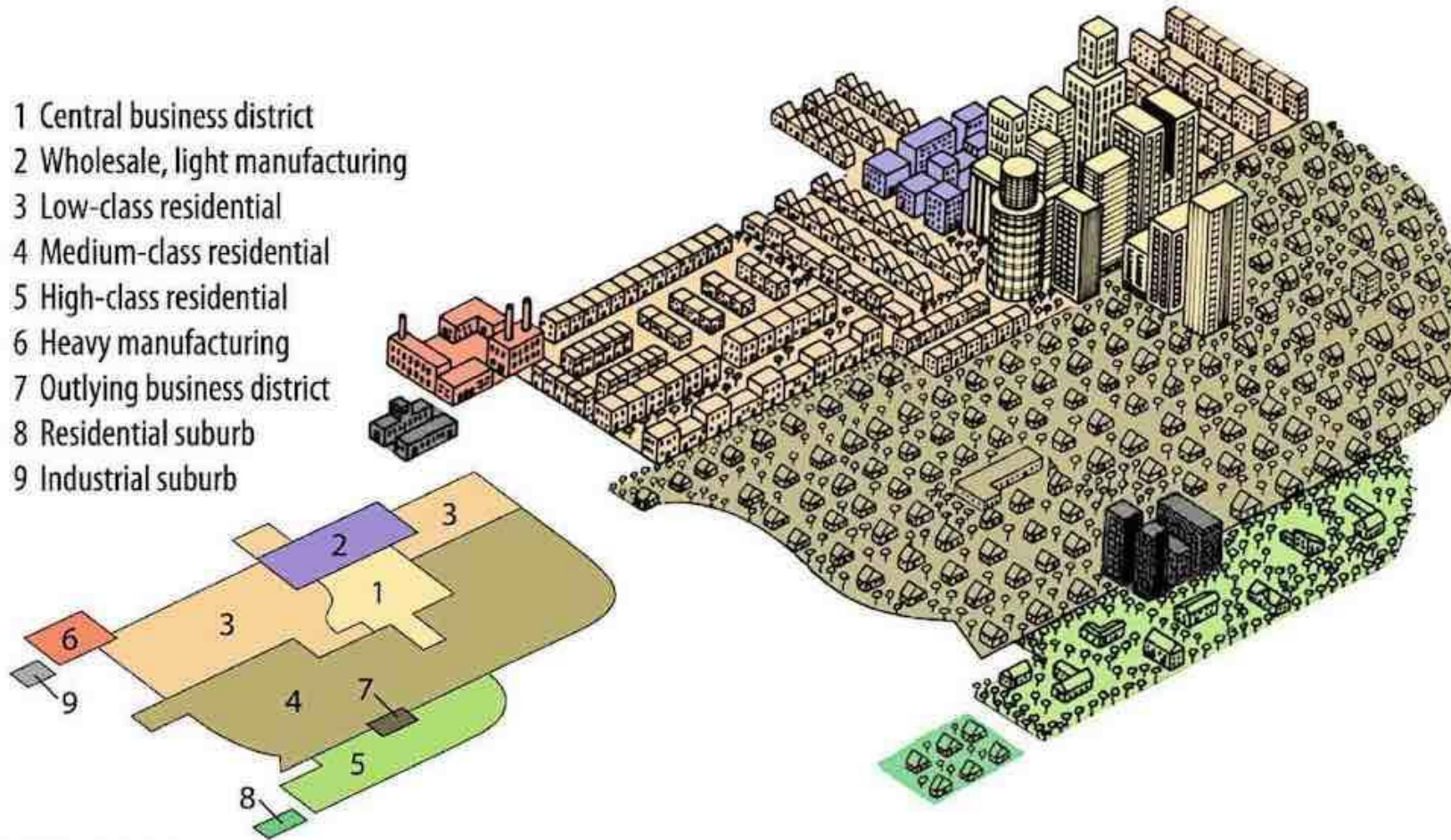
# Multiple Nuclei Theory

- The multiple nuclei model is developed by Chauncy Harris and Edward Ullman in 1945.
- This model illustrates that cities have **multiple growth points** or “nuclei”, around which growth takes place.
- Harris and Ullman argued that a city might start with a single central business district (CBD), but over the time the activities scatter and gets modified. The scattered activities attract people from surrounding areas and act as smaller nuclei in itself.



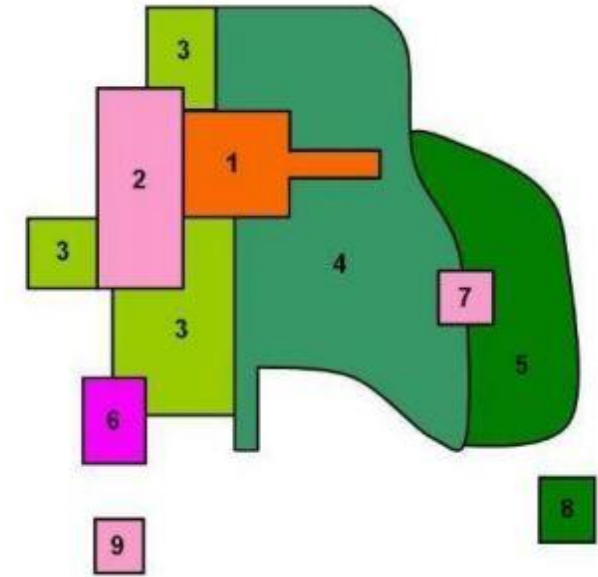
# Multiple Nuclei Theory

- 1 Central business district
- 2 Wholesale, light manufacturing
- 3 Low-class residential
- 4 Medium-class residential
- 5 High-class residential
- 6 Heavy manufacturing
- 7 Outlying business district
- 8 Residential suburb
- 9 Industrial suburb



# Multiple Nuclei Theory

- Certain activities are **limited to particular sites** because of their highly specialized needs. E.g. CBD requires central location, while manufacturing needs transport facilities.
- Certain activities **repel each other**. E.g. high class residential area is usually located far from manufacturing district and CBD
- Certain groups are unable to pay high rent of certain sites, thus move to a more **inaccessible/ less desired location**



- 1 CBD
- 2 Wholesale, light manufacturing
- 3 Low-class residential
- 4 Medium-class residential
- 5 High-class residential
- 6 Heavy manufacturing
- 7 Outlying business district
- 8 Residential suburb
- 9 Industrial suburb

# Multiple Nuclei Theory

- The need for this model was to provide a more **realistic explanation** of the cities.
- The **influence of cars** on personal travel and movement of goods offers **opportunity in different places** instead of concentrating all economic activities in one place.



**THANK YOU!!**

Email: [nafisa.bre@diu.edu.bd](mailto:nafisa.bre@diu.edu.bd)

Contact: 01943685750