### Notable Geographers

**John Borchert**

1. Sail-Wagon Epoch 1790-1830
2. Iron Horse Epoch 1830-70
3. Steel Rail Epoch 1870-1920
4. Auto-Air-Amenity Epoch 1920-70
5. High Technology Epoch 1970-current

**4 stages of urban transportation development**

1. Walking horse
2. Streetcar
3. Automobile
4. Highway

**Ernest Burgess**

Concentric Zone – grows out from CBD 5 zones

1. CBD
2. Transition – industry/poor housing
3. Stable working class
4. Middle class
5. Commuter zone
6. Suburbs and wealthy residents

Based on the bid-rent model, the idea that land values are highest in the center of a town or city. This is because competition is high in the central parts of the settlement. This leads to high rise, high density buildings being found near the CBD, with low density, sparse developments on the edge of the city.

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Uses transportation and technology advances as key to development of urban areas
<table>
<thead>
<tr>
<th>Harm deBlij</th>
<th>Model of Subsaharan African city</th>
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</table>

![Diagram of Subsaharan African city](image-url)
Peter Mann

UK City Model

Mann’s Model

- A British Urban Land Use Model.
- A combination of the ideas of Burgess and Hoyt with both concentric rings and sectors.
- Based on Sheffield, Nottingham and Huddersfield.
- The role of the prevailing wind is important.

Chauncey Harris/ E L Ullman

Multiple Nuclei Model – modern cities develop with many nodes. Cities within cities.

Harris and Ullman’s Multiple Nuclei Model
1. **Threshold** – the minimum market needed to bring a firm or city selling goods and services into existence and to keep it in business
2. **Range** – the average maximum distance people will travel to purchase goods and services

Spatial distribution of Hamlets, villages, towns and cities

http://www.ebah.com.br/content/ABAAAABUCMA/human-geography-leonardo
Bid Rent Theory
How the price and demand on real estate changes as the distance towards the CBD increases.
Farther distances require greater transportation cost and thus reduce the amount of rent that can be paid.
The land use that creates the highest return can offer the most for the location. Because a seller sells land to the highest bidder, the land use that produces the highest rent is the one that gets to occupy the site.
Net returns are the difference between the amount a business receives in revenue minus their costs or expenses. Economic geographers call this difference, or net return, location rent.
This theory is based upon the reasoning that the more accessible an area, the more profitable it is going to be and the higher is its land value. When the cost gets too high certain land uses drop out.
Griffin-Ford

Model of a Latin American City

- Spine
- Market in the center of town with a mall
- Squatter settlement on periphery

CD Harris

Peripheral Model

1. Central City
2. Suburban Residential Area
3. Shopping Mall
4. Industrial District
5. Office Park
6. Service Center
7. Airport Complex
8. Combined Employment & Shopping Center

A NEW AND IMPROVED MODEL OF LATIN AMERICAN CITY STRUCTURE
<table>
<thead>
<tr>
<th>Garreau</th>
<th>Edge Cities</th>
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<tbody>
<tr>
<td>1.</td>
<td>The area must have more than five million square feet of office space</td>
</tr>
<tr>
<td>2.</td>
<td>The place must include over 600,000 square feet of retail space (the size of a large regional shopping mall)</td>
</tr>
<tr>
<td>3.</td>
<td>The population must rise every morning and drop every afternoon</td>
</tr>
<tr>
<td>4.</td>
<td>The place is known as a single end destination (the place “has it all”, entertainment, shopping, recreation, etc)</td>
</tr>
<tr>
<td>5.</td>
<td>The area must not have been anything like a “city” 30 years ago (cow pastures)</td>
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<table>
<thead>
<tr>
<th>Homer Hoyt</th>
<th>Sector Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secotrs, not rings, certain areas more attractive – as city grows expands outward – Transportation routes important</td>
<td></td>
</tr>
<tr>
<td>Factories/industry zone radiate out from CBD</td>
<td></td>
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<tr>
<td>This is probably following the line of a main railway.</td>
<td></td>
</tr>
<tr>
<td>High income areas along fashionable boulevards or rail lines, water, high ground and far from industry</td>
<td></td>
</tr>
<tr>
<td>Industry radiates along river or rail lines</td>
<td></td>
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<tr>
<td>Low income radiates near industry</td>
<td></td>
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<tr>
<td>Middle income radiates between low and high income sectors</td>
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</tbody>
</table>

Hoyt Sector Model Key
- **CBD**
- **Factories/Industry**
- **Low class residential**
- **Middle class residential**
- **High class residential**
James Vance
Urban Realms model fo a city
Parts of giant conurbations; self-sufficient suburban sectors
9focused on their own independent CBD)
edge cities
| T.G. Mcgee | Land Use in Southeast Asian cities.  
Old colonial port cities surrounded by a new commercial district with no formal CBD |

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A GENERALIZED MODEL OF LAND USE AREAS IN THE LARGE SOUTHEAST ASIAN CITY

- New industrial estate
- Market gardening zone
- Zone of new suburbs and squatter areas
- Middle-density residential zone
- High-class zone
- Mixed land use zone
- Port zone

Legend:
- A: Squatter areas
- B: Suburbs
- AC: Alien commercial zone
- WC: Western commercial zone