

AP HUMAN GEOGRAPHY REVIEW

MODELS AND THEORIES

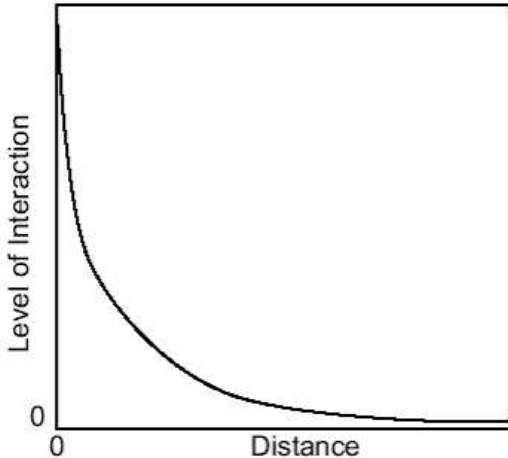


NAME _____

Distance Decay

- Sometimes called “friction of distance”

Main Idea: Interaction between two places decreases as distance increases



Example #1: The person is more likely to visit “Walmart B” because it is closer



Example #2: Utahans are more likely to go to Disneyland in California because it is closer than Disneyworld in Florida because it is closer

Other Examples:

- The number of walkers decrease as you move further from the Centre of the Central Business District(CBD),
- The street quality decreasing as distance from the center increases as well,
- The quality of shops decreasing as distance from the center also increases
- The height of buildings decreasing as distance from the center increases
- The price of land decreasing as distance from the center increases

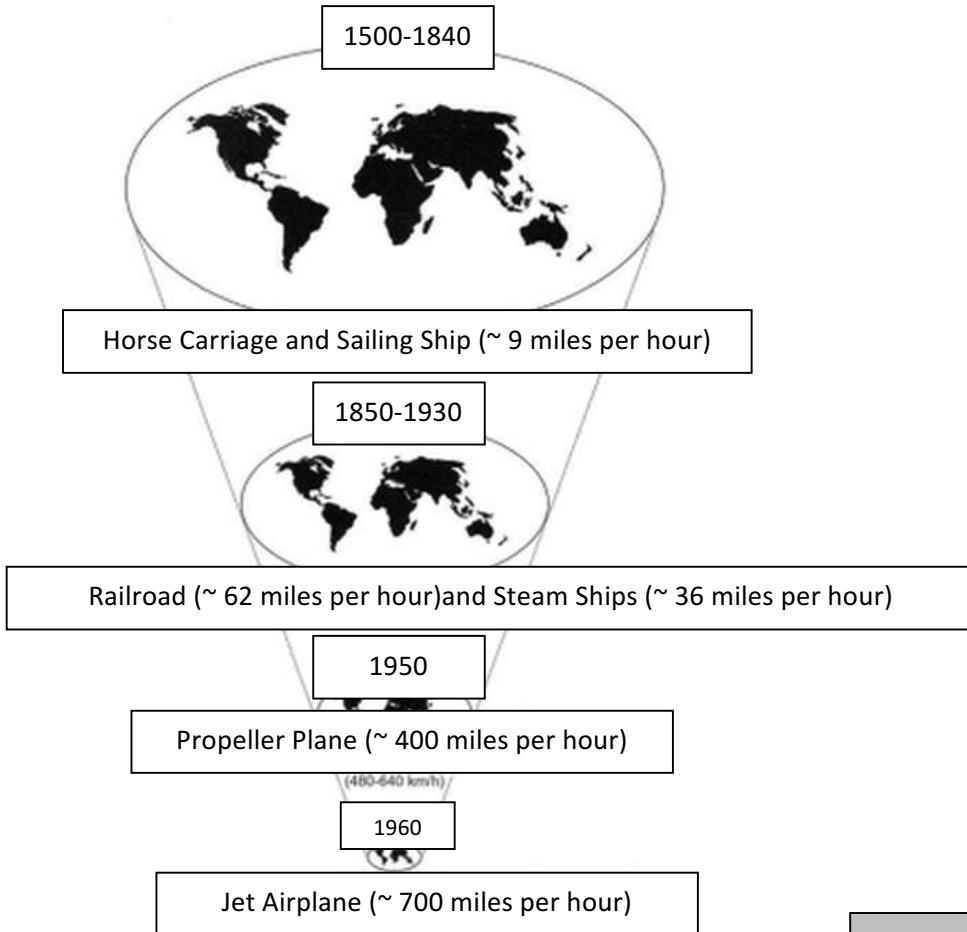
Critics: Faster transportation technology has made distance less of a big deal than in the past

- Other factors such as phones, radio, television, and internet also decreased the effects of distance

Time Space Compression

Main Idea: *Technology has decreased the “size” of the world*

- Communication: telegraph, telephones, fax machines, Internet
- Transportation: rail, cars, trains, jets
- Economics: New international division of labor, technology that speeds up production and shipping (Ex. I buy something on Amazon and can get it shipped to me within a few days)

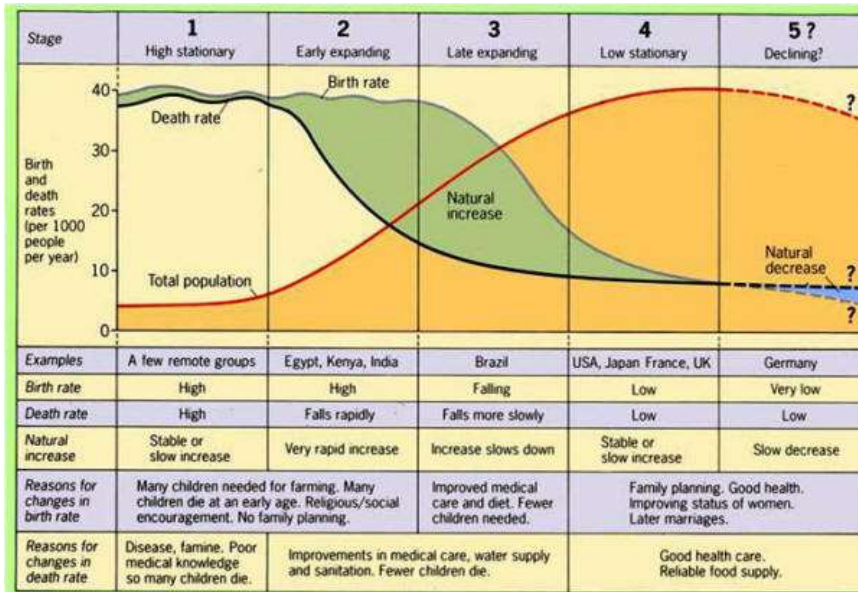


INTERNET???

Critics: Even though the world is getting smaller . . .

- Some countries still exist on the periphery
Example: Sub-Saharan Africa
- Conflict arises with the dominance of popular culture
Example: Taliban

Demographic Transition Model (DTM)



Stage 5 - UNKNOWN

Two possibilities

1. Decreased Fertility, Less children are born; Decreasing population (Ex. Japan)
2. Increased Fertility, Government supports pro-natalist policies to increase # of births

Main Idea: Population patterns follow a predictable pattern with birth rate and death rate

- Based on United Kingdom
 - Why? Had census data and first to industrialize

Connections with Other Areas

Migration:

- If a country is in stage two or three, they have high levels of emigration
- If a country is in stage four or five, they have high levels of immigration

Agriculture:

- 2nd Agricultural Revolutions (Farming with machines) and Green Revolution creates changes from stage 1 to stage 2 & 3.

Economics:

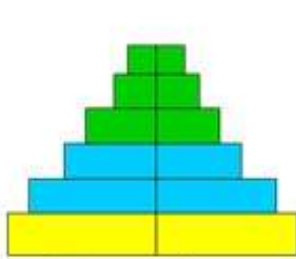
- Industrialization usually occurs in stage 2 & 3
- Post-Industrial usually occurs in stage 4 & 5

Critics:

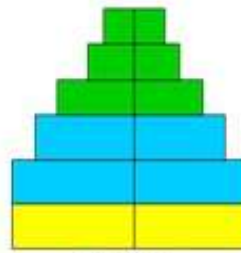
Model based on European countries. Developing countries may act differently

Population Pyramids

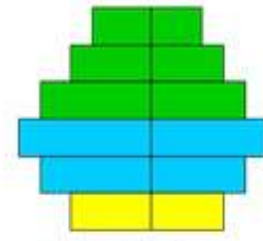
Main Idea: used to evaluate the distribution of ages and genders in a given population




Expanding



Stable



Declining

 → Pre reproductive

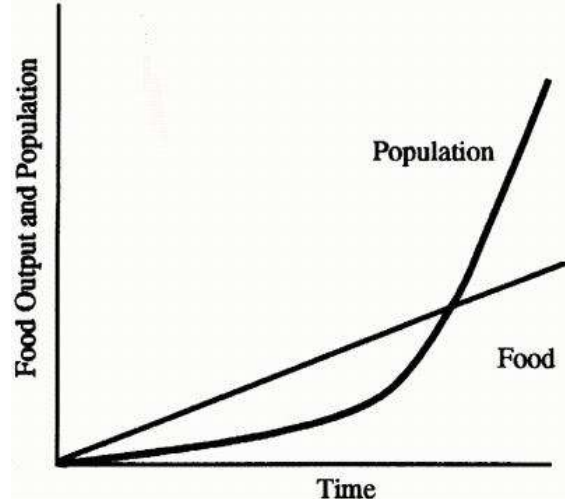
 → Reproductive

 → Post reproductive

Issues the Country May Face	
<p>Expanding</p> <ul style="list-style-type: none"> ▪ Need more schools ▪ More child care services ▪ enough jobs for younger population ▪ economic growth goes straight to sustaining population 	<p>Declining</p> <ul style="list-style-type: none"> ▪ Not enough young people to pay pensions, taxes ▪ Could use young immigrants to work. ▪ Need better elderly care and hospitals

Malthus Theory

Main Idea: Population grows exponentially; Food grows arithmetically; A point of crisis will occur



Is this model still relevant?

Yes!!! (Neo-Malthians)	No!!!!
<ul style="list-style-type: none"> • Most growth is occurring in poorer countries today <p><i>Before, population growth occurred when countries industrialized and became more developed. Today, such as in Sub-Sahara Africa, growth is occurring even though many haven't industrialized</i></p> <ul style="list-style-type: none"> • Other resources might be valuable <ul style="list-style-type: none"> ○ Ex. Oil, Water, Land <p><i>Food at least grows arithmetically. These resources are non-renewable and can easily be used up</i></p>	<ul style="list-style-type: none"> • Human resourcefulness has proved much greater than he imagined <ul style="list-style-type: none"> ○ Over the past 200 years we have increased people and production of food • Malthus was wrong to assume that women would always bear just about as many children as physically possible. <ul style="list-style-type: none"> ○ In the last 40 years, the total fertility rate, the number of children the average woman could be expected to bear, has declined from five to 2.5 • Increased transportation has allowed developed countries to ship excess food to developing

Von Thunen Model

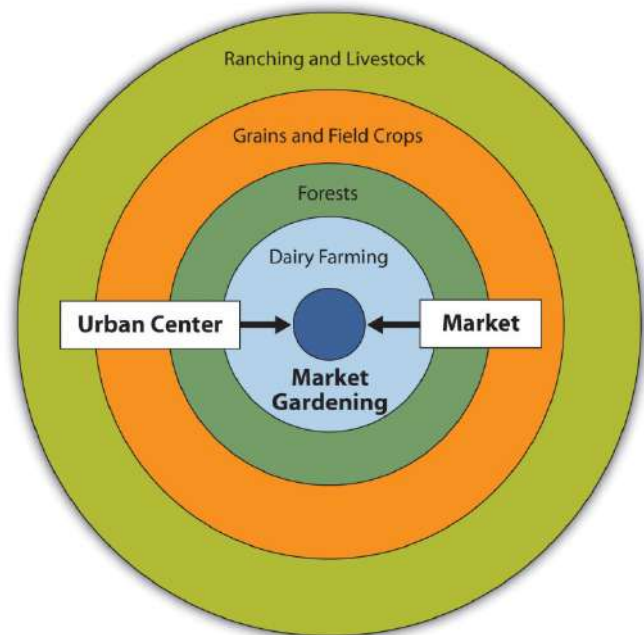
Main Idea: A person will locate their farming in the place where they can make a profit

Three Key Elements

1. Land Cost
2. Transportation Costs
3. Nature of Product

For this model to work, one must assume the following:

1. There is **only one market available** and it can survive and be self-sufficient without other influences (Everything can be made and used within the market's area of influence)
2. All **farmers are market oriented**, producing goods for sale. No subsistence farmers
3. The **physical environment is uniform**; there are no rivers or mountains to interrupt the circles.
4. **All points at equal distances** from the market have equal access to the market.
5. All farmers act to **maximize profits**.



Critics

The model was developed as an isolated area and did not take into consideration other influences

- Changes in transportation
- Locating a business by cheaper transportation (For example, boats are the cheapest type of transportation so a business might choose to be a river or ocean instead of the area outlined in the model)
- Soil Fertility: All land isn't great farmland
- Changes in demand or price of the commodity

Modernization Theory

Rostow's Stages of Development

Main Idea: A model of change from a pre-modern or traditional society to a modern society

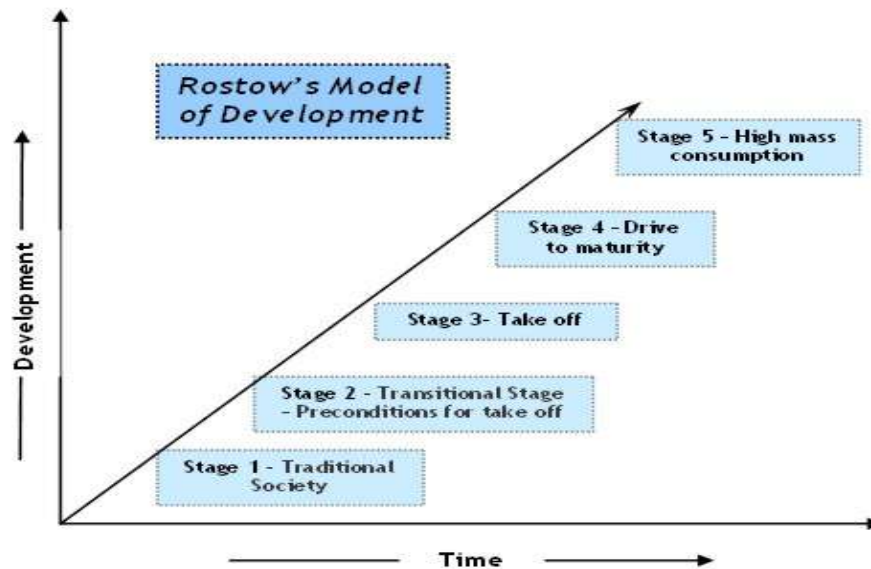


Figure 1: Rostow's Model of Development.

Traditional society

- Participates in subsistence agriculture or hunting & gathering (almost everyone works in the primary sector of the economy)
- limited technology;
- A static or 'rigid' society: very few poor people become wealthy people

Pre-conditions to "take-off"

- An outside country's demand for raw materials creates economic changes
- Development of more productive, commercial agriculture & cash crops to meet outside demands and exporting goods
- Investment in basic transportation infrastructure (i.e. irrigation, canals, ports)
- Increasing spread of technology & advances in existing technologies
- Changing social structure (Some poor people are becoming wealthy)
- Country starts unifying (centripetal forces)

Country	Take-off Period
Great Britain	1783-1802
Russia	1890-1914
United States	1843-1860
Germany	1850-1873
Canada	1896-1914
China	1952
India	1952

Take off

- Urbanization increases, Industrialization proceeds, Technological breakthrough occurs
- "Secondary" (goods-producing) sector expands and becomes greater than primary
- Textiles & apparel "take-off" first

Country	Maturity Year
Great Britain	1850
Russia	1950
United States	1900
Germany	1910
Canada	1950

Drive to maturity

- Diversification of the industrial base; multiple industries expand & new ones take root quickly
- Manufacturing shifts towards consumer goods & are sold inside the country (instead of being exported)
- Rapid development of transportation infrastructure (Railroads, Roads, Highways, Mass Transportation)
- Investment in **social** infrastructure (schools, universities, hospitals, etc.)

Age of mass consumption

- "Secondary" (goods-producing) becomes greater than primary
- Widespread consumption of high-value consumer goods (e.g. automobiles)
- Consumers typically have disposable income, beyond all basic needs, to buy additional goods

Criticism

1. Rostow is **historical** with a single end (Doesn't take into consideration post-industrial economies)
2. His model is based on American and European history and defines the American norm of high mass consumption as integral to the economic development process of all industrialized societies. But if everyone consumes as the U.S. the world cannot sustain itself
3. Outside forces affect some countries to industrialize
 1. Example: Effect of colonization in Africa
 2. No valuable resources other countries desire

Core-Periphery Model (Wallerstein's World System Model)

Criticism of Modernization Theory

- I. Modernization model only focuses on one country
 - What about how countries interact with each other
 - Some countries have prevented others to develop

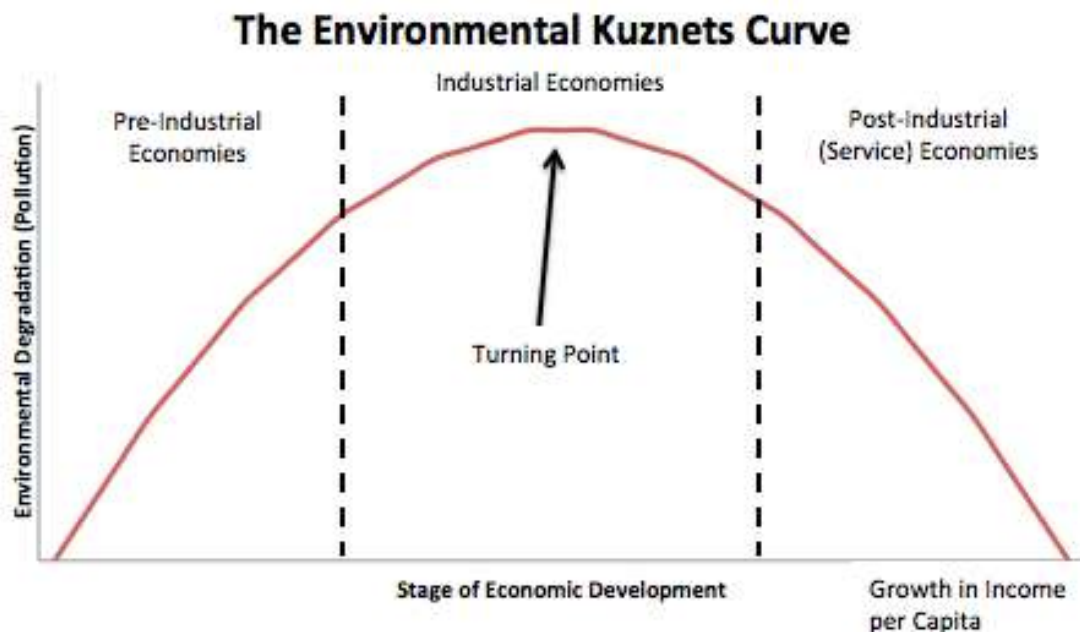


Main Idea: If you want to understand how some countries develop and others do not, you need to look at how they interact with each other

Core	Semi-Peripheral	Periphery
<ul style="list-style-type: none"> • Wealthiest • Strong Governments • Able to manage both inside and outside their country • Strong tax base • Highly industrialized • Large Post-Industrial Economies • Creating the new technology • Large middle class • Influences noncore states • Relatively independent of outside control • U.S., Western Europe, Australia, New Zealand 	<ul style="list-style-type: none"> • Semiperipheral nations are those that are midway between the core and periphery. • Moving towards industrialization and more diversified economies. • Relatively developed and diversified economies, but are not dominant in international trade. • While sometimes influenced by some core states, they also exert their own control over some peripheries. • Can come into existence both from developing peripheries, and from declining cores.^[5] • Russia, China, India, Brazil and South Africa 	<ul style="list-style-type: none"> • Mostly primary economies • Weak governments • Little tax base and infrastructure • Tend to depend on one type of industry • Least industrialized • Are often targets of transnational corporations for their cheap unskilled labor • Large populations with high percentages of the poor and uneducated • High income gaps (very wealthy, very poor) • Tend to be influenced by core states or transnational corporations

Kuznet's Curve

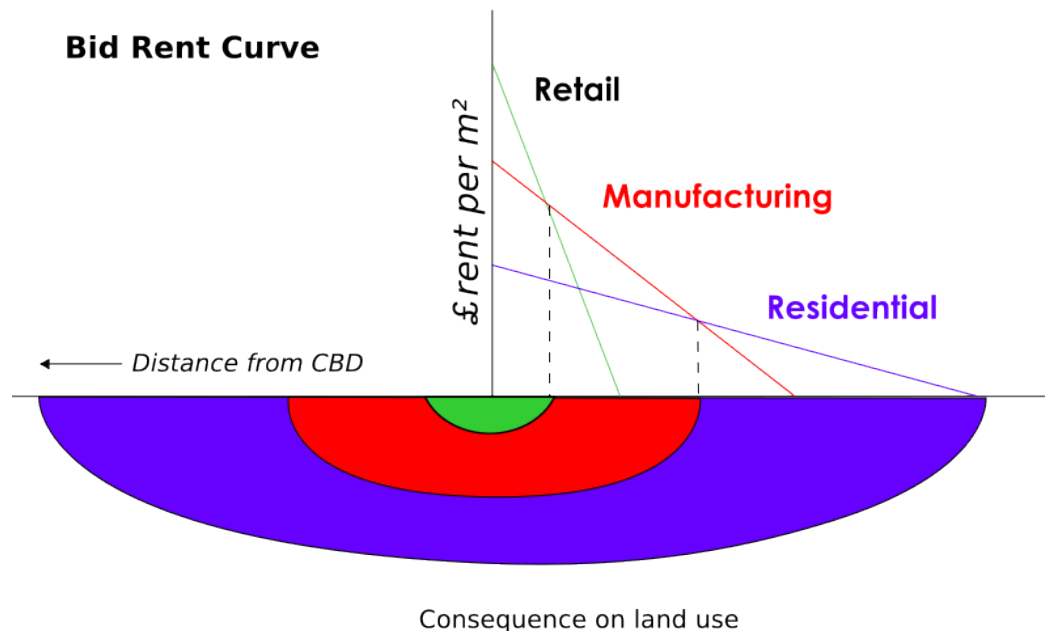
Main Idea: Measures the relationship of pollution and economic development. As a country industrializes, pollution increases. As the country enters post-industrial, more money is available and people become more concerned with the environment. Therefore, pollution levels decrease.



Criticism:

Doesn't take into consideration that transnational corporation own many industrial businesses in developing countries. The owners do not live in these areas and do not concern themselves with local pollution levels.

Bid Rent Theory



Main Idea: Focuses on how price and demand for land changes as the distance from the central business district increases. The most expensive land is in the central business district because it has the greatest access to people.

Because of this, the theory assumes...

1. Commerce (in particular large department stores and chain stores) is willing to pay the largest amount in “rent” (land price) in order to be located in the inner core. They build tall buildings in order to gain greater store space
 - Inner core is valuable because it has the greatest access to large populations
2. Industry is willing to be farther away. There is more land available for factories, but it is still near the inner core to access the marketplace and transportation hubs.
3. As one goes farther out, the land is less attractive to the industry because it doesn't have easy access to the marketplace and transportation. Because houses do not depend on these factors and land is cheaper, they can buy land out there.

Criticism:

- Physical geography can interfere with the model. For example, if a river is located on the outskirts of the town then transportation might be better outside the area.
- Edge cities have created new marketplaces and industrial areas
- Some areas have multiple nuclei instead of one central business district

Weber's Least Cost

Main Idea: A industry wants to make money. So, they will put their business in the location where profit will be high. So, they try to minimize the cost of three main types of costs.

1. **Transportation:** The site chosen must require the lowest possible cost of . . .

- a. Moving raw materials to the factory
- b. Moving finished products to the factory
- Weber stated this is the most important

Remember . . .

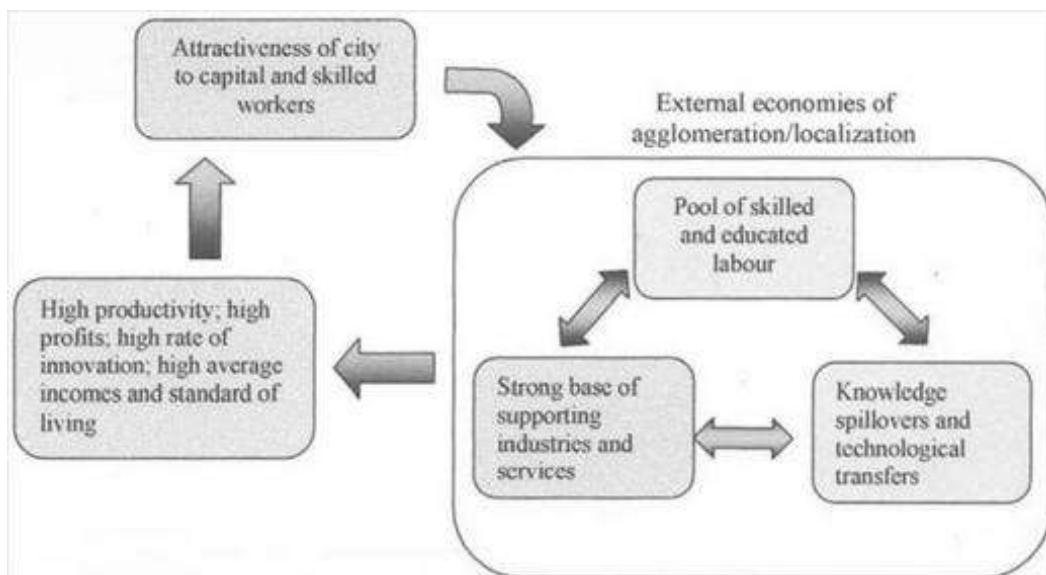
- Bulk-gaining industries (such as cars) would be closer to market
- Bulk-reducing industries (such as copper wiring) would be closer to raw sources

2. **Labor:** Higher labor costs reduce profits, so a factory might do better farther from raw materials and markets if cheap labor is available today

- Example: Labor force in China

Sometimes, a company will chose a location near a high-skilled labor force even though labor would be expensive (such as near a university). This occurs with industries that are high-tech
Ex. Silicon Valley and Research Triangle (Duke, UNC, NC State)

3. **Agglomeration:** When a large number of enterprises cluster (agglomerate) in the same area (city), they can provide assistance to each other through shared talents, services, and facilities

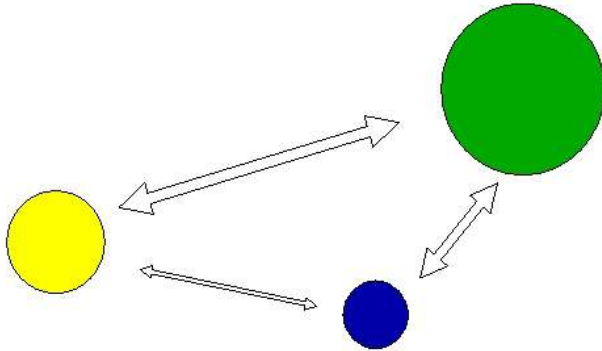


Gravity Model

Main Idea: Used to predict the level of interaction between two places. States the size and influence of a place increases or decreases the interaction.

- For example: If the city is large and close, you are likely to interact with the place. (Distance Decay Model)

Illustration of the Gravity Model



The shorter the distance between two objects, and the greater the mass of either (or both) objects, the greater the gravitational pull between the objects.

Used to . . .

- Analyze traffic flow
- Migration between two areas (Migrants go to nearby places or large cities)
- The number of people likely to use one central place (A large city will attract more people)

Criticism:

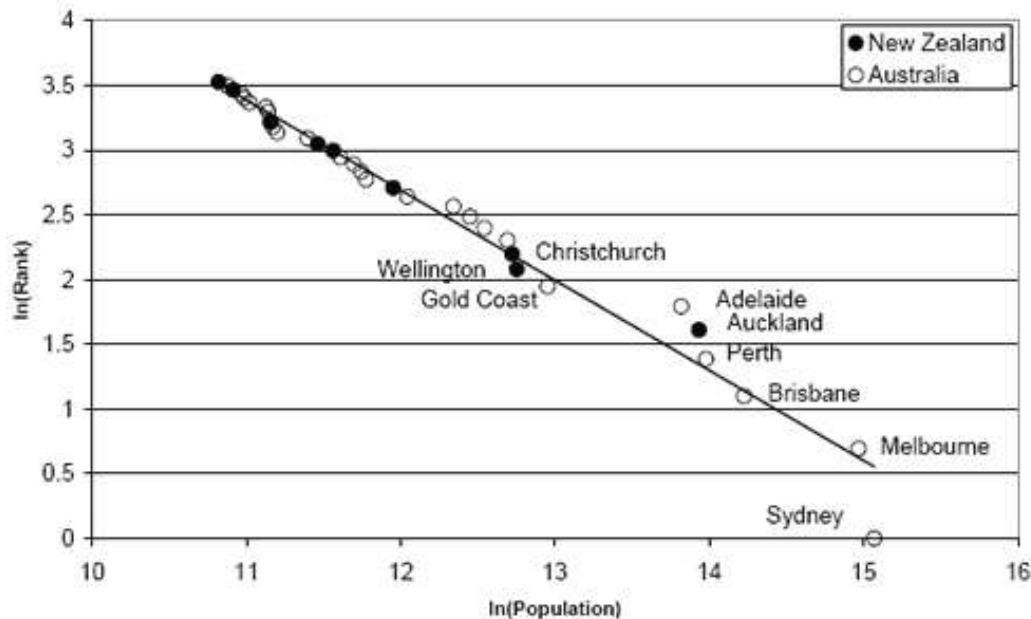
- Cannot be proved scientifically (only by observation)
- Biased toward historical ties and toward the largest population centers so it maintains the status quo

Rank-Size Model

Main Idea: Attempts to measure how dominant large cities are in a country. If all the cities in a country are placed in order from greatest to smallest, each one will have a population half the size of the preceding city

- Formula: nth ranking = $1/n$ of the largest city
 - 2nd largest city will be $1/2$ of the largest city
 - 4th largest city will be $1/4$ of the largest city

The pattern of cities should be a straight line



Advantages	Problems
Multiple cities with large infrastructure and services allows greater access for the people inside the country	How is the city being measured? Many people live on the edges of cities (Suburbs in U.S. and Poorer Settlements of cities outside the U.S.)

Ex. U.S. →

Largest city is New York with 8.3 million people; 2nd Largest is L.A. with 3.8 (almost half of New York)

Other countries: India, China, Canada, Australia, Brazil

Primate Cities

Main Idea: One major city that works as the financial, political, and population center of a country and doesn't have any city that compares with it; They don't have to be but are most often the capital of a city

Formula: Must be at least twice the size as the second largest city in the country

What creates primate cities?

- Often they are colonial cities (Colonial powers established and invested in one city only)
- Strong centralized government (For example, France is a unitary state and has Paris as a primate city)
- Industrial agglomeration (Almost all industries go to this city)
- Rural-Urban migration (People are moving to this city)

Advantages	Disadvantages
<ul style="list-style-type: none">• Economic development can occur in the city as they attract overseas businesses and the city development can help the country as a whole• Attractive places of migration• Resources, services, and infrastructure are available on a large scale	<ul style="list-style-type: none">• Housing shortages• Traffic congestion• Crime and pollution• Urban is much richer than rural areas• Imbalance in development (Usually the primate city is highly developed and the outside cities and rural areas are lacking in development)

Examples:

- Paris (9.6 million) with its second largest city, Marseilles, with only 1.3 million
- London (U.K) has 7 million with its second largest city, Birmingham, with only 1 million
- Mexico City has 8.6 million with its second largest city, Guadalajara, with only 1.6 million

Burgess Concentric Zone Model

Main Idea: Explains how land is used in cities (Similar to Von Thunen model but focuses on types of buildings and groups of people living in the different areas).

Assumes: Land is more expensive closer to the CBD

- Because of this, poorer groups live closer to the CBD because they must rent land. Wealthier groups with access to transportation live farther away.
- Because land is so expensive, most buildings near the CBD are apartment buildings; Larger houses and lots are located farther away from the CBD

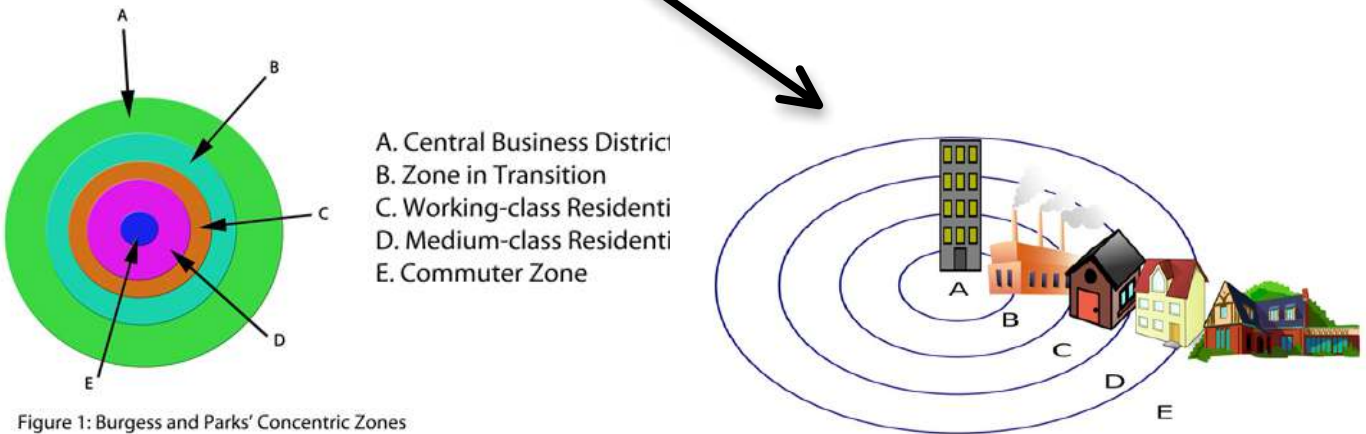
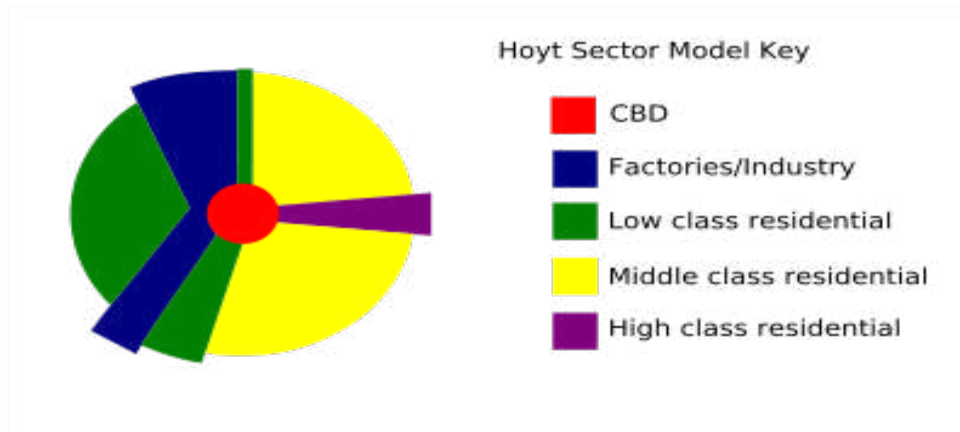


Figure 1: Burgess and Parks' Concentric Zones

Criticisms:

- This only describes cities in U.S. (Cities outside U.S. look different)
- Assumes the land is flat (Physical features such as rivers or mountains could interfere with the model)
- Bedroom communities and commuter villages defy this model (People will live even farther away from the CBD)
- Edge cities also defy this model as the center moves to different areas
- Gentrification defies this model as expensive property can be found in "low class" housing areas

Sector Model



Main Idea: Assumes the CBD is in the center (similar to Burgess Concentric Model) but states transportation also interacts with where people live.

- Zones expand outward from CBD along the railroads, highways, and other transportation routes
- Low-income would be by the railroad and industrial regions (traffic, noise, and pollution make these areas undesirable)
- Middle and high-income households were located the farthest from these functions

Criticism:

- Applies best to U.K. cities
- Doesn't take into consideration private cars that allow cheaper land outside the boundaries
- Physical features would interfere with the model

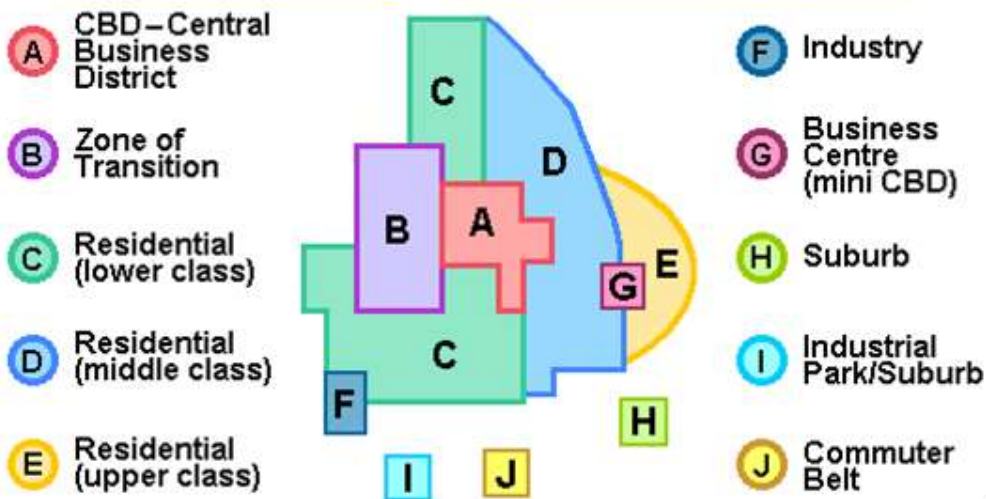
Multi-Nuclei Model

Main Idea: A city might have begun with a CBD, but other smaller CBDs have developed on the outskirts of the city. Cities have different areas in the city that are the “center”. Each area grows the specialty of the area.

Why does this happen?

- Some industries need to be by transportation hubs
- Some activities naturally repel each other (For example, houses do not want to be near an airport)
- Other activities attract each other (For example, housing and retail areas)
- Sometimes industries are moved outside the city because land is too expensive

Harris & Lillman Multiple Nuclei Model



Edge Cities (Galactic City Model)

How “edge cities” were created:

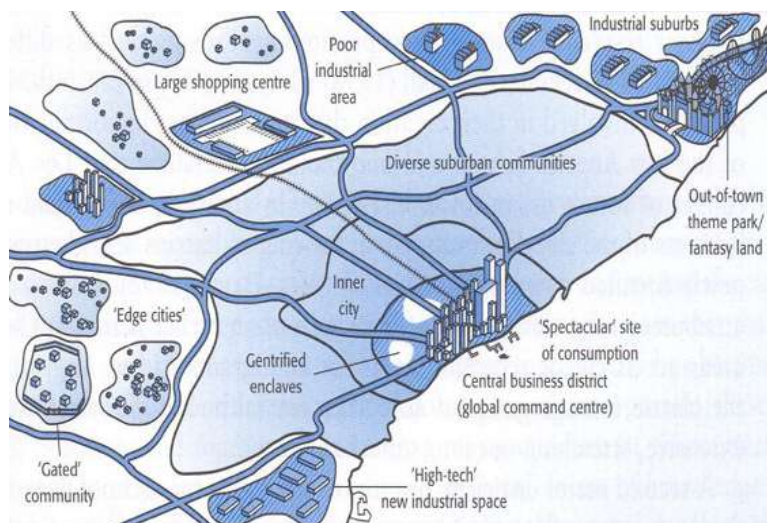
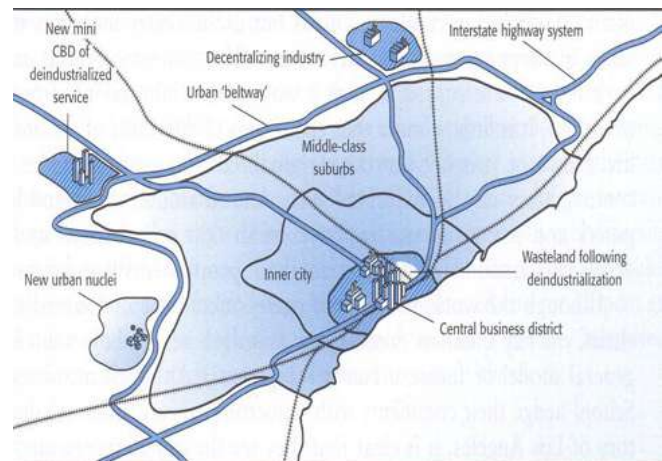
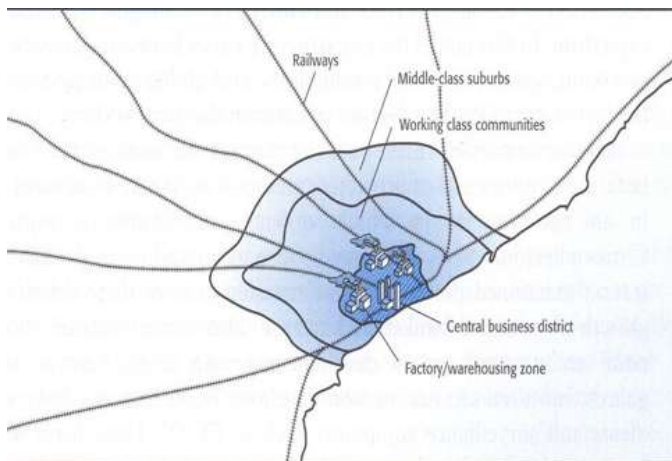
1. People moved into the suburbs (Still worked in the CBD) – Bedroom Communities
2. Got tired of going into downtown so markets moved to the suburbs
3. Jobs followed into these areas

Edge Cities Characteristics

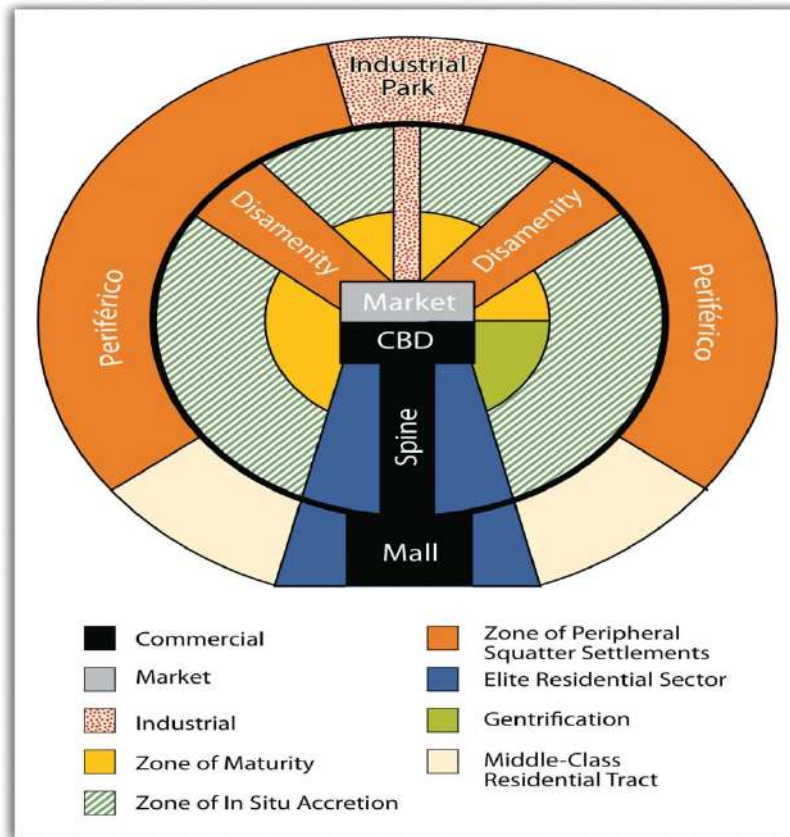
1. Area has a lot of office space
2. Area has a lot of retail stores
3. People go to the city for work
4. This place “has it all”
5. Wasn’t a city 30 years ago

This model is post-Suburban growth

Examples: Draper, Utah; Anaheim, CA, West Valley City, UT; Henderson, NV

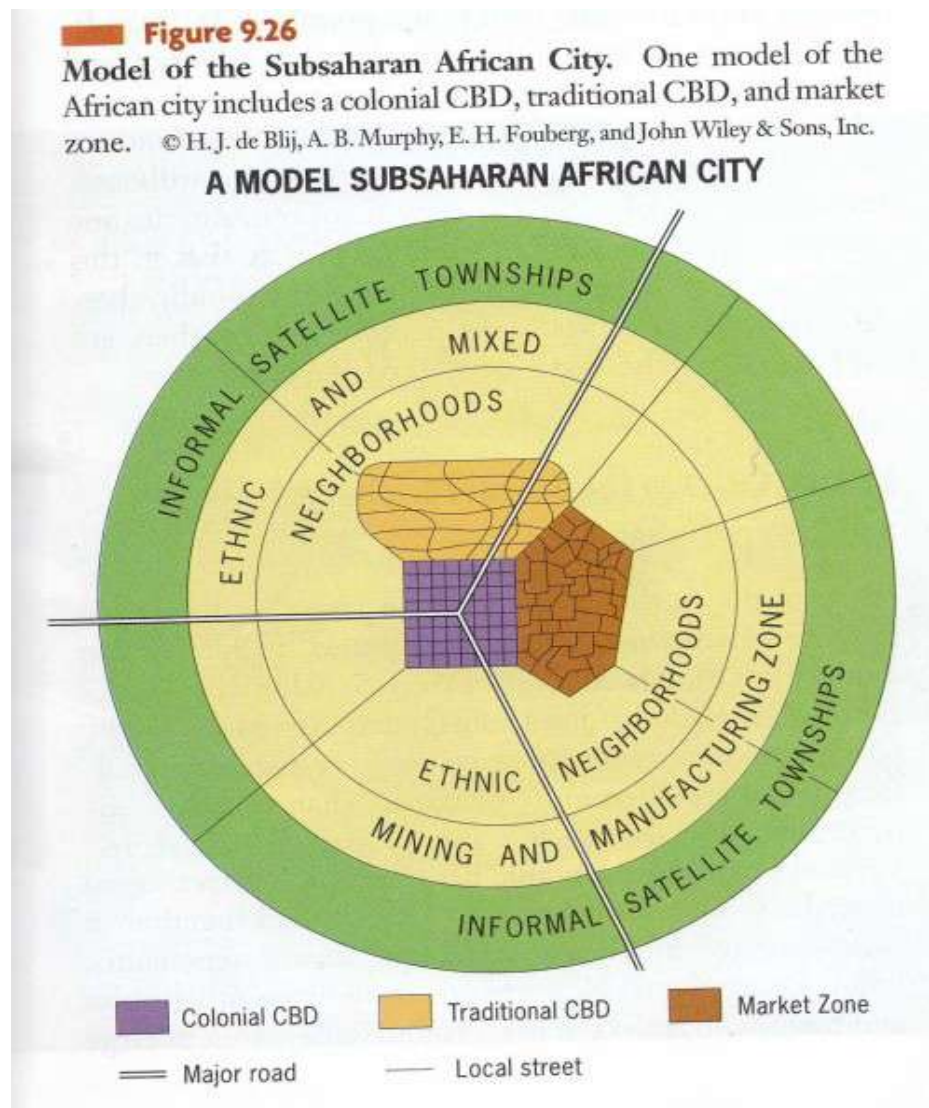


Latin American Cities



- Outermost ring is squatter settlements
- CBD is divided into a market sector and a high rise sector (Apartments)
- Commercial spine runs from the CBD
- Elite residential sector surrounds the spine
- Around the elite are the middle class homes
- Around the middle-class homes is a ring of modest homes that transitions to poverty
- Disamentiy – stable “slum” that radiates from the CBD

Sub-Saharan Africa Cities



- Huge cities characterized by squatter settlements on the outskirts of cities
- Cities in North Africa influenced by Islamic tradition (Mosque in center with a bazaar)
- Residential homes based on ethnicity (tribalism)
- Three CBDs: Colonial, open-air market, traditional CBD

Borchert's Epochs of Urban Transportation Development

Main Idea: Analyzes how transportation and communication changes movement to cities?

Sail and Wagon	Steamboat / Iron horse (Railroad)	Steel Rail or Long Haul	Auto/Air Amenity	High Technology / Telecommunications
1790-1830	1830-1870	1870-1920	1920 - 1970	Today
<ul style="list-style-type: none"> Movement of people was limited and slow because of the difficulty of overland transportation 	<ul style="list-style-type: none"> Movement of goods and people farther distances 	<ul style="list-style-type: none"> Occurred with Industrial Revolution Cities expand their hinterland (frontier) Goods could be moved long distance making it possible to develop intensively industrialized areas 	<ul style="list-style-type: none"> Automobiles opened up new locations for development (Suburbs) 	<ul style="list-style-type: none"> Goods and People flow even faster

Transportation and urban growth

Pattern: As transportation moved us farther away from the center, population density decreased as well

