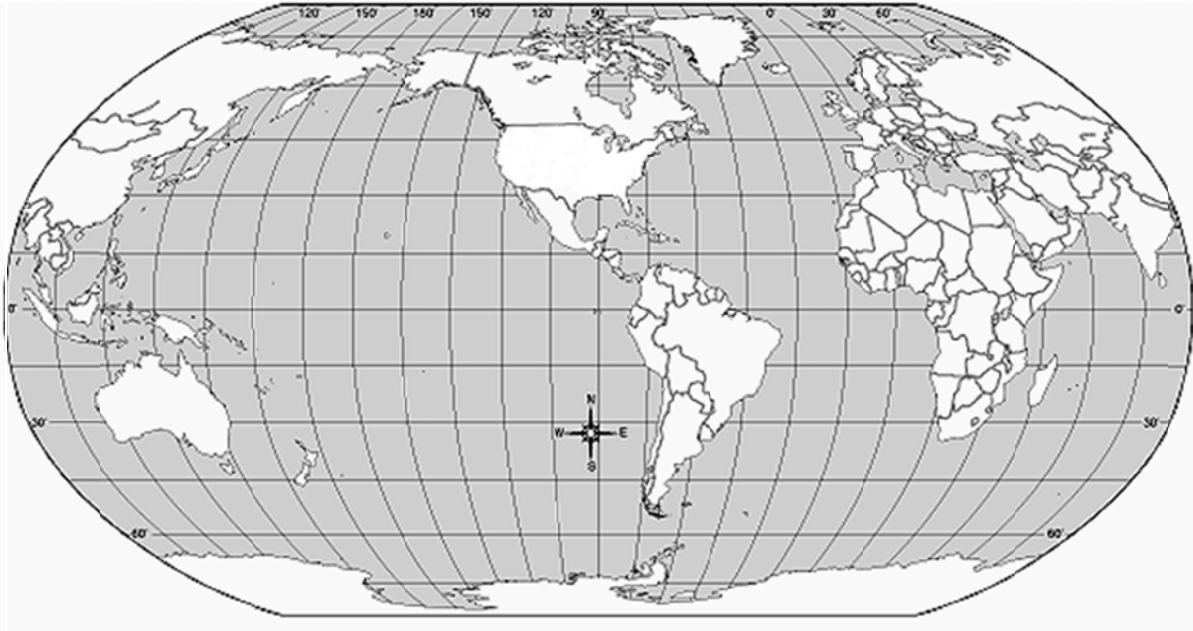


CGR4M0 Grade 12 Environmental and Resource Management
Human Impact on the Environment – Historical Impacts: Cities

The Top Ten Largest Cities

Use the internet or an atlas to identify the top 10 largest cities in the world and their populations. Draw a line from each number to the location of the city.



	1	2	3	4	5	6	7	8	9	10
1	_____					6	_____			
2	_____					7	_____			
3	_____					8	_____			
4	_____					9	_____			
5	_____					10	_____			

The Early Development and History of Cities

Villages were the earliest communal living developments by humans. What made villages possible was the domestication of animals and learning to plant crops. Most geographers agree that this occurred about 10,000 years ago. Over time, changes in human settlement patterns allowed early man to form larger and larger villages. These changes include the creation of religion and the need for worship, a predictable food surplus, trade over long distances, and a division of labor. Somewhere around 5,000 to 3,000 years ago, people started the move away from being a self-sufficient villager to a city dwelling specialist, this move has been continuing ever since. Many social and economic changes had to happen

for cities to get their start. These changes included religion, a need for a trade center, the need to band together for protection, and sometimes, the geographic location of these early cities was just excellent for human habitation. The first urban centers evolved in lower Mesopotamia and then in the Nile valley of Egypt. By about 2500 B.C., cities flourished in the Indus Valley on the Indian subcontinent. They developed along the Huang River in China by 1500 B.C. Cities did not arise in the Americas until about 500B.C. The first were in what is now Mexico. All early cities shared certain characteristics that made them different from smaller settlements. Each developed in a productive agricultural environment where not all people needed to be farmers. Much of the population was not involved in food production. People became specialists such as soldiers, priests, and craftsmen; some were skilled in the science of metal making. Only a few people were literate, able to read and write. They formed the elite, a small but powerful minority, who encouraged the arts and helped manage commerce and running of the city. Usually the city's ruler governed with absolute authority and was also the high priest of the communities' religion. Many cities were planned and laid out along a grid, a network of intersecting lines, much like a modern street grid. Temples and palaces, examples of the world's first urban architecture, usually occupied the center, and defensive walls surrounded the city. Unlike many of our modern cities, the rich lived near the religious "Citadel" at the center of the city and the poor lived on the edges of the city, just inside the wall. The reason for this arrangement was it gave the rich or governing class of the city more protection from danger. During these early times, all cities were centers of religion, government, and trade. Far reaching trade routes made them centers of wealth, and some, such as Babylon, became centers of empires. Few had populations of more than 20,000. These early cities were experiments in a new way of life. For one reason or another, every one of them failed. Wars, drought, or the breakdown of trade routes brought their collapse. Their economies were so fragile, that they could not survive major disasters. Gradually, technology improved and new cities emerged. Realize that the concept of city may be easily moved. Only an idea has to be moved, not any actual goods. New, larger empires developed around the Mediterranean Sea and in Asia. Great trade routes, such as those created by the Romans, spread civilization as well as goods and contributed to the rise of cities from China to North Africa and Spain.

Ancient Cities

The city is a mental concept that involves, more than anything else, an organization of society. The architecture, water control, capacity to create monumental structures, etc., are all somewhat secondary, compared to the need to secure a steady supply of food for a non-agricultural population. This requires long distance trade and scientific advances in agriculture. Athens, in Greece, became a powerful city-state. During its golden age in the fifth century B.C., it had a population of perhaps 150,000. Later cities of the Western world adopted its city plan, which included an *agora*- a gathering place for commerce and public meetings- surrounded by schools, libraries, and theaters. Every agora was the province of the citizens and served as the locale for public meetings, education, and general public interaction. Every Greek city also had an Acropolis in which ceremonial worship was located, as was the seat of power for the city government. Athens was the first ancient city to survive the collapse of its power. It endured as an artistic and intellectual center through the period of the Roman empire. Under Imperial Rome, urbanity, the city way of life, spread to northern Europe. The Romans built road systems and planned cities from the Middle East to the British Isles. The city of Rome itself was centered on the forum, a concentration of buildings used much as those of the Athenian agora were. This forum, was most often located at the intersection of the two major roads in the Roman City. Rome's population may have reached one million people around A.D. 100. The ruling class lived in palaces with plumbing

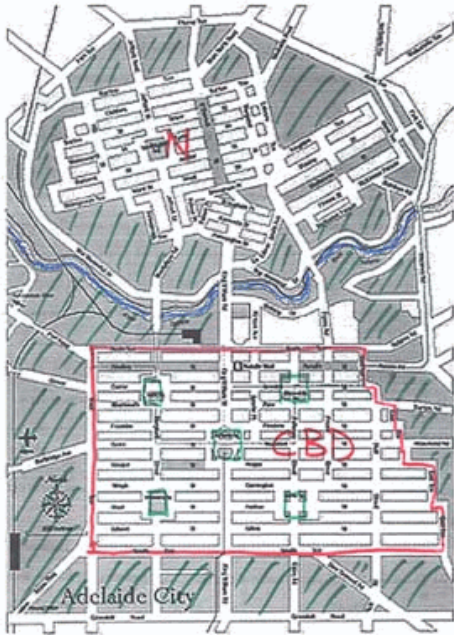
and central heating. The masses lived in shabby apartments, a Roman invention, that were the first high density dwellings in the Western world. These shabby apartment complexes, called *insula*, were often three or four stories high and poorly maintained. Two major advances developed by the Romans were the ability of Romans to transport water via *aqueducts* to city populations and the magnificent paved road structure that connected Rome to its empire. As the Roman Empire declined, so did city life in Europe. Some Mediterranean cities continued to prosper, among them Constantinople and Venice. Cities flourished in Asia and in the Americas.

The Rise of European Cities

European city life flourished again in the 11th century as a result of successes in long distance trade. Because of a new and powerful merchant class, more cities and towns were founded in the 12th and 13th centuries than at any other time between the end of the Roman Empire and the Industrial Revolution. Led by merchants, who became the middle class, many communities gained independence and self rule. Medieval European cities were characterized by four features; the fortress, the wall, the marketplace, and the cathedral. (Google "Carcassonne, France for an excellent example.) The fortress was the fortified seat of power and was often in the center of the city. The wall around the city provided some protection for the city. The marketplace was the zone of active economic, political, social, and religious activity. Lastly, the cathedral was located in the city. Many times the marketplace was the open plaza in front of the cathedral. The cathedral was often the most dramatic architecture in the city, being that religion was the center of medieval life. For most people, urban life meant crowded dwellings, narrow lanes, and unsanitary conditions. One reason why people flocked to the cities during this time was because if a person could exist in a city for a year without recapture, he or she would be freed of obligation to a feudal lord. "Town air makes a person free" was the guideline for the people attempting to free themselves of a serf role in the countryside. Because of plagues, wars, disruption of trade, and uprisings of craftsmen and laborers, the growth of European cities declined in the 14th and 15th centuries. During the Renaissance through about 1800, European cities grew and changed dramatically. There was an explosion of city size. In 1500, Paris, Naples, Venice, and Milan had a population between 100,000 and 200,000. By 1800, London had grown to more than 850,000 people and many other cities had entered this category. Cities developed interests during this time that brought major changes to how cities were planned and laid out. City dwellers looked to ancient Rome and Athens for basic ideas about planning and architecture. To accommodate all the government workers in these reconstructed cities, the first office buildings were constructed. Broad boulevards were laid out, at the expense of the middle class, for the enjoyment of wealthy citizens and the movement of troops. Paris is the best example of this development. Many Parisian streets were widened into broad boulevards and avenues during this time. Open squares, palaces, and splendid gardens were built for aristocrats. The new capital of the United States, Washington D.C., was laid out by a French engineer in the 1790s; his plan called for wide circles and broad avenues. This spirit of reorganization of city space can be seen in other American cities such as Philadelphia, Columbia, South Carolina; and Williamsburg, Virginia. Grand designs for cities reached its peak with the rebuilding of central Paris in the mid-1800s. In European cities, living space for the working classes was limited. They were crowded together in cramped medieval sections of cities or in congested suburbs. This problem of overcrowding survives into the present day. As you can guess by the reading, urban populations began to grow. In 1600, only 2 percent of the population of Germany, France, and England was urban. By 1800 these numbers had changed, England was 20 percent urbanized. By 1870, half of England's population was urbanized.

City Planning in the Past

Adelaide, Australia was planned and surveyed by Colonel William Light in the 1830's. The basic city plan that he laid out still remains today, as seen in the map to the left. Light's vision was much influenced by the *garden city principles* of England: he envisioned formal squares, wide streets, and a belt of parklands. Indeed, there are five squares within the CBD (outlined), a wide belt of parklands surrounding the city center, and the main streets in the city were built to be at least 66 feet wide, while the terraces (the streets on the edges of the CBD) were at least 100 feet wide.



You can also see the Torrens River which cuts through the city between the CBD and North Adelaide. Most of Adelaide's water supply came from local streams and cachelments in the Lofties until that source ran out around WWII. Now, the city has built a pipeline to bring water from the Murray River, but that is creating some conflicts with agricultural uses and causing salination problems.

The Industrial Revolution and the American Experience

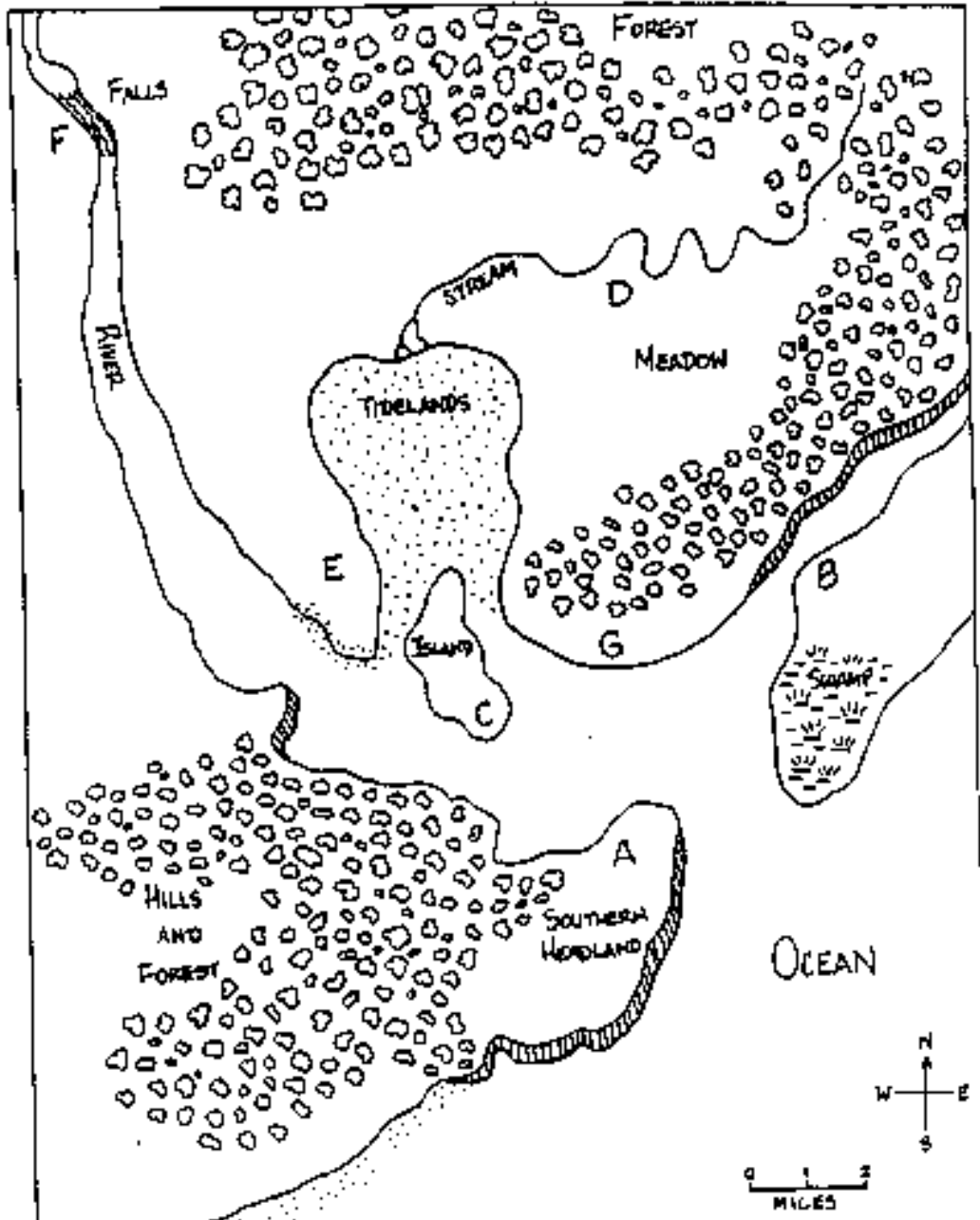
The Industrial Revolution involved radical changes in industry and technology. These changes began in Great Britain during the late 1700s and later spread to Europe and the United States. Old cities became new industrial cities as factories were built near their centers. They continued as hubs of commerce and finance. In contrast to earlier times, many wealthy people moved to the outskirts of cities, leaving the centers largely to the poor. The rich were about the only group to leave the cities. The influences of cities grew even stronger as wealth, political power, and changing thoughts about cities began to take hold. Centers of learning were increasingly located in the city. The industrial revolution removed the idea of the farmer and the countryside as the major form of human settlement. The city had become the center of decision making in the European world. The plight of the worker did not improve as fast as the city was growing. The major attraction to city life was that factory work provided steady income. Wages were low, hours were long and even ten year old children worked 14 hour days. Manufacturing centers of the time produced massive amounts of waste, air, and water pollution. Life expectancy in urban area was low. In 1893, male workers in Manchester, England lived an average of 28 years, nearby rural farmers lived an average of 52 years. Despite the plight of factory workers, increased amounts of manufactured goods, along with technology, improved the quality of life for the general population. In the Western world, largely farming societies became largely industrial societies. In America, the idea of the city got off to a slow start but, like the country as a whole, grew very quickly. In 1790, the five largest cities in the USA were; New York, Philadelphia, Boston, Charleston, and Baltimore. New York had the largest population with 33,131 people. In 1830, America's urban population was at 8 percent, by 1880, it was at 28 percent, and by 1930 it was at 56 percent. Early American cities grew for a variety of reasons. Most of the reasons had to do with the constant advancement in the transportation of goods and people. The earliest large American cities were cities that had a good, natural harbor. These port cities were located on the eastern seaboard of the USA and remained major cities for all of the American colonial period. By 1800, many settlers were moving into the interior of the USA. These settlers were

moving mostly along the great waterways of the eastern USA, the Ohio River, the Mississippi River, and the Great Lakes. Since these early settlers had goods to sell to the markets back east, many of the early 1800s' cities were along these waterways; Cincinnati, Louisville, St. Louis, Detroit, and New Orleans. Water transportation was so important to the early nation that the country went through a period of time called "canal madness", in which the entire interior of the eastern USA worked hard to connect itself by canal to the markets of the east coast. When the Erie Canal started up, the cost of shipping goods from the Great Lakes to New York fell from 100 dollars a ton to 25 dollars a ton. As long as water transportation was the major way goods and people were transported great distances, the cities connected to rivers and canals would remain America's largest cities. As America advanced west across the Mississippi to the California coast, technology brought America the railroad. The railroad changed the growth of cities from the dependence on rivers and good harbors to dependence on the location of a railroad running through its area. The new large cities of the west were railroad centers. These cities included Chicago, Denver, and Atlanta. Older cities that found themselves connected to a railroad and having a good harbor grew even faster, witness Chicago and New York. Technology even began to improve the way individual citizens could travel around, within, and between cities. The street car made its first appearance around the middle of the 1800s. These first street cars were driven by horses or mules and were very slow. Later, electricity would power the streetcar, as well as, the subway train. These advancements in personal transportation allowed people to live farther from their jobs in the central city and still get to work on time each day. These advancements also guaranteed that far greater numbers of people could live far from the city and still "commute" to work each day. As American cities grew larger, land in the City's *Central Business District* (CBD) became more valuable and costly for any person wanting to build in the Central Business District of a city. Land values forced American architects to develop methods of building taller and taller buildings on smaller and smaller pieces of land. Central Business Districts of American cities started to develop that "skyscraper skyline" by the later 1800s. As you read earlier, the cities of this time were not the best places to live. So, why did people continue to come to the city in such large numbers? By the late 1800s, the American city had everything the young person who wanted to get ahead needed; the possibility of an exciting job, good schools, theatre, libraries, music halls, art galleries, and the every present bright lights to attract people seeking adventure. As the 20th Century dawned, the invention and mass production of the automobile would further transform the American city. By the 1970s, 74 percent of the American population was living in an urban setting. The need for adequate roads, parking, and later highways for city workers to commute to work and back will keep urban planners busy far into the next century.

After this reading, you should be able to answer these questions.

- 1) What made the earliest villages possible?
- 2) What were the social and economic changes that allowed early cities to start?
- 3) How were these early cities laid out? What was found in the city center? What surrounded these early cities?
- 4) Why did the rich live in the center of these early cities?
- 5) In terms of population, how large were these early cities?
- 6) What important social or economic need had to be satisfied before early cities could be developed?
- 7) What happened that allowed some European cities to develop during the 11th century?
- 8) What were the four features of the Medieval European city and why did people go to them?
- 9) What was the major attraction of the European city?
- 10) What was one of the major reasons why American cities grew?
- 11) Where were the American cities of the early 1800s located near?
- 12) What forced American architects to develop skyscrapers?
- 13) What drew American young people to the cities of the late 1800s?

The Site Selection Game



You are the city planner for a new urban centre. Given what you know about historical city sites, where on the map would you put your city and why? Try to give your reasoning in a paragraph or two on a Word document. Please note the scale.

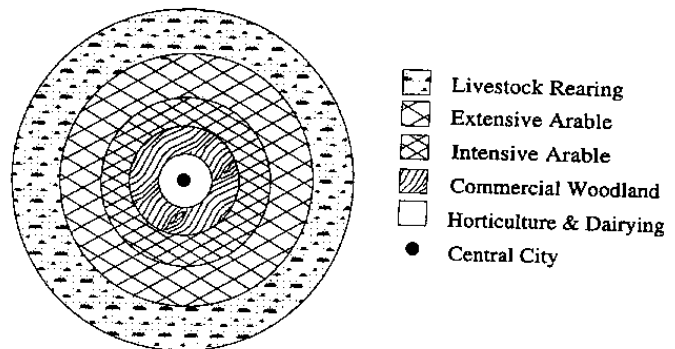
Theories On How Cities Develop and Grow

In this reading you will learn about a number of ideas that geographers used to help explain why cities grow. There are almost as many theories as why cities develop and grow as there are geographers. However, we will concentrate on a few of the older and more established theories as to why cities grow. First, we must explain some things about cities that will help prepare you for our discussion of city growth. *The basic function of a city is to assemble, process, store, and redistribute goods, peoples, and ideas.* This function attempts to overcome the problem of resource distribution. The distribution of resources over the landscape is not even. Resources (food, gas, labour) are never located *where* you want them, *when* you want them. Cities attempt to bring together all of the resources for production or living that a person would need. The more able a city is to solve the problem of resource distribution, the more attractive a city will be to live in, work in, and play in. Definitions of the term "city" vary, but generally a city is a large settlement whose inhabitants carry on a variety of activities that are not related to agriculture. In some parts of the world, the term has more specific meaning as well. In the United States, localities with populations of 2,500 or more are defined as urban, which means "characteristic of a city". In Japan, a settlement must have a population of at least 30,000 to be considered a city; in Sweden, a densely settled population of 200 is enough. In the United Kingdom, "city" is a title given to towns that historically served as religious centers or were honored by a special act of the Crown. For most purposes, though, the term "city" can be used to describe almost any urban center in the world. All cities share certain characteristics. They are densely populated, and their inhabitants hold a wide variety of jobs requiring specialized skills. City dwellers depend upon one another for services and for survival in a complex way of life. Communication and cooperation among residents are essential if a city is to function smoothly.

The Von Thuen Model

One theory used to explain how cities develop is called the *Von Thuen Model*. This model was set up in an imaginary world. This world had only one state with one city located at the center of this state. Von Thuen then said that there were rings, like rings around a bullseye on a target, that spread out away from this central city. *Van Thuen said that as you moved out into each ring, farther and farther away from the central city, the cost of transportation of goods would go up and the cost of land would go down.* Von Thuen broke the rings up into 6 zones of land use and he believed that the cost of land and transportation would break the zones up along these lines. **In the center was the city or marketplace (the CBD).** This is where the areas commerce and trade took place. **Intensive farming was in the second zone** because items like fresh vegetables and dairy products, products that perish easily, had to be grown near their market. Also, any product that could bring a large profit, was grown in this second zone. Because the land in this zone was so accessible to the central city, the cost of land in this zone was very high.

The third layer was a zone of forest called "intensive arable" land which effectively separating the rings. **The forth layer out was the extensive farming zone.** This zone was where crops like corn and wheat were grown. In order for the farming of these crops to be profitable, they must be grown on large tracts of land, therefore farmers that



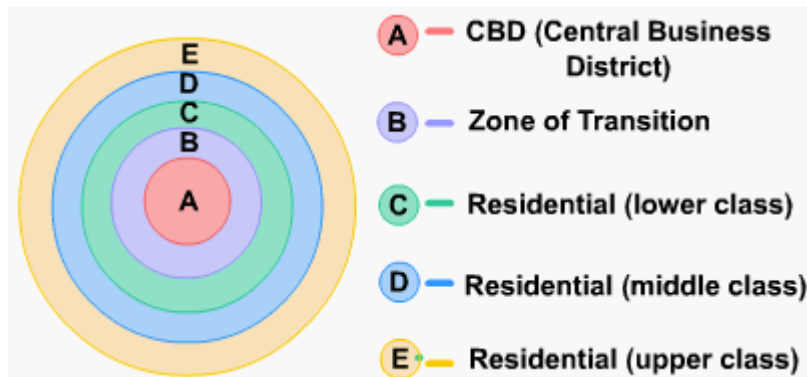
grow these crops are using sections of land much larger than those found in the Intensive farming zone. Transportation costs are higher in this region, but the quantity of the product helps spread out the overall cost of transportation. Eventually, the cost of transportation cannot be spread out enough over the quantity of the product grown and farming of this type will cease to be profitable. **Ranching is the fifth ring** in Von Thuen's model. Ranching requires an enormous amount of land for all the cattle needed to make a ranch profitable. Because of the enormous amount of land required, ranching is the farthest out in Von Thuen's model. Beyond the ranching ring in the model, there is nothing but wilderness, it is not profitable for any economic activity to go on this far away from the central city or marketplace and still overcome the cost of transporting goods to market.

We can learn two geographic principles from Von Thuen's model;

- 1) The more land required to make an operation profitable, the farther away from the city center it will be located.
- 2) The size of the operation must be balanced with the cost of transportation.

The Concentric Ring Theory

The Concentric Ring Theory expanded on the idea of zones of economic activity. This theory was put forth during the 1920s. Since that time, other theories have come forth to try to explain in greater detail the pattern that cities follow when they grow. The Concentric Ring Theory used the ideas of zones to explain how cities grew. This theory, like the Von Thuen Model, believed that *the cost of land went down the farther away from the Central City or market place that you were located*. This theory also believed that the cost of transportation went up the farther away from where you were located from the Central City. The Concentric Ring Theory called the central market place **the Central Business District (CBD)**. Inside this CBD, land was incredibly expensive and only businesses that could afford to



build tall skyscrapers to overcome the cost of land, could afford to locate in this zone. The next zone was **light manufacturing zone**. This zone featured factories and assembly warehouses couple with low rent neighbourhoods. These low rent buildings were built very close together and built many stories high so they could house many renters. The people who

lived in these apartment buildings could not afford the cost of transportation to the outer zones to live. The people who lived in this district walked to work in the CBD or worked in labour intensive jobs inside their zone. The next zone out was called **the low-class residential zone**. For the most part this zone was filled with apartments of higher cost filled with people who worked in the CBD and could afford the cost of mass transportation to the CBD and housing farther away from the CBD. In some instances, workers in the zone owned their own homes. One of the ideas that pops up at this time is the notion of *neighborhood*. A neighborhood is a residential area where people live near, and interact with, one another. Usually neighborhoods are in cities, although they may be found in rural areas as well. Their geographic boundaries are often loosely defined. Residents of urban neighborhoods often share the same concerns and values. They generally have similar incomes as well as similar social characteristics

such as education level and housing preference, and a similar sense of public order. The most familiar type of neighborhood is the ethnic neighborhood, an area where people with the same cultural background choose to cluster together to live. This strengthens their sense of community and preserves cultural traditions. Residents benefit from nearby relatives, common language, stores and services geared to their needs, and institutions important to them, such as churches and clubs. Unlike neighborhoods, ghettos historically have been areas where ethnic groups have been forced to live. The fourth layer in the Concentric Ring Theory is the better homes called **medium class residential** district. The people of this zone are the higher level managers of the CBD. They *commute* to work in their own vehicles. Often the homes in this zone are large, with equally large amounts of land surrounding them. It would be right to describe this as the wealthy part of town. The fifth layer in the Concentric Ring Theory is the **high class residential** or “commuter” zone. People in this zone own their own homes and commute by car great distances to work. The people of this zone, can afford the cost of transportation into the CBD, but not the cost of land in the Better Homes zone. The people in this zone are the middle level management people of the CBD. If the Concentric Ring Theory was correct, every city in the world would look like a big target. Being that this is not true, there are other factors that go into determining the size of cities.

Factors That Affect City Size

There are many factors that affect city size, two of the most important are *site* and *situation*. *Site* is the actual physical geography of the setting, and this includes the topography, water, climate, and pathways that line the site to other places. *Situation* is the relationship of the site and its population to other locations. As we look at other factors that affect city size don't forget, site and situation are the two most important and overriding factors that affect city size. The next level of importance when determining factors that affect city size are as follows;

- age of the city
- location of the city on an ocean or river
- whether or not the city is a transportation center
- the level of mass communication that occurs in the city
- technological improvements that make living in the city easier than it would be without the improvements.

The age of a city can affect its size more than anything else. Being first is sometimes all it takes to be the largest. Think back to our reading about the history of the city, many of the cities mentioned in that reading are cities that are still very important in the world today. Being a good, natural harbor on a river or ocean is a second factor in determining the size of a city. Of the 37 largest U.S. cities, only 7 are not located on a river or large body of water. Thirdly, being a transportation center can greatly help a city become large in size. Some cities like Denver, Chicago, and Atlanta were very small towns until they became railroad centers. Later, the people who ran these cities were smart enough to make sure that they also became major centers for air transportation. Today, Denver is making a new airport. This airport will be one of the largest in the world. This airport will be the first in the nation to be able to handle the next generation of airliner, the hypersonic jet. What kind of advantage do you think this gives Denver in the 21st century? Mass communications plays a major role in allowing the city sending out information to better advertise itself to the world. Think how well Los Angeles has been able to advertise itself during most of this century because of its connection with Hollywood. Where are the three major TV networks located? New York, think how that helps New York broadcast its message to the world. The last major factor to mention is technological improvements. This factor is very subtle but, very important when determining factors that affect city size. The first example of a technological

improvement is the elevator. How tall do you think buildings would be if it was not for the invention of the elevator? Another technological improvement is the air conditioner. How many people do you think would want to live in Phoenix in July when it hits 120 degrees, if there were no such thing as an air conditioner?

The Stages Of Intraurban Growth

John Adams said there were four stages of intraurban growth;

1) The walking/horsecar era was the period of time up until the invention of the electric traction motor in 1888. Most people got around on foot. After about 1850, horsedrawn carriages could take people around but the speed of these carriages was only about 10 km/h. Most urban dwellers got around on foot, and most of them travelled less than 30 minutes to get what they needed. Cities were crowded into a small space and there was very little specialization of land uses.

2) After the electric motor was invented in 1888, electric horse cars or streetcars could carry people around at top speeds of up to 35km/h. This allowed people to expand their 30 minute travel distance. Urban areas expanded out from the CBD along these electric trolley routes. In some cities, land use differences were beginning to show up.

3) The electric motor era lasted until about 1920, when the mass produced automobile started to change the way Americans got around. The ability of people to travel beyond the outer edge of the previous city limits allowed for the "suburbanization" of American cities.

4) The half hour travel distance increased again. Shortly after World War Two, American urban life entered the **freeway era**. Freeways allowed commuters to live 30 miles or more away from the CBD as urban development followed the freeways out into the suburbs. Old Central Business District businesses and services moved out to the suburbs with the people. Suburbs began to develop their own ways of attracting business and customers to what formerly was "out in the country".

By the mid-1950s, shopping centers and malls were starting to replace some of the services customers went into the CBD to buy. You have now read about some of the factors within the city that help it grow and develop. With the next reading, you will learn about some of the factors that affect patterns between cities. You will also learn about the network that connects cities to one another.

After this reading, you should be able to answer these questions.

- 1) What is the basic function of a city?
- 2) What problem does the function of a city overcome?
- 3) Give the general definition of a city.
- 4) What did Von Thuen believe would break the zones up the way they did in his model?
- 5) What two geographic principles did Von Thuen's model suggest?
- 6) The Concentric Ring Theory and the Von Thuen model both believed what two concepts to be true?
- 7) Why did the people who lived in the low rent housing live where they did?
- 8) What is a neighborhood? What do the residents of a neighborhood share?
- 9) Define Site.
- 10) Define Situation.
- 11) What other factors determine the size of a city?
- 12) Why did Denver, Chicago, and Atlanta grow so rapidly?
- 13) When the automobile came around, what changes did this bring to the city?
- 14) By the 1950s, what services of the CBD were suburbs replacing? What do we call these new services?

Central Place Theory

Geographers use certain patterns of geographic thought to bring order to the urban landscape. These concepts are; *range*, *threshold*, *hinterlands*, *function*, and *Urban Hierarchy*. These concepts were developed based on the theories of a German geographer named Walter Christaller. His ideas were called *Central Place Theory*. Mr. Christaller wanted to learn more about why cities were placed on the landscape where they were. So, he set up a theoretical model of the landscape (like Von Thuen) but he made some assumptions of the landscape that are not very realistic:

- 1) The landscape was perfectly flat.
- 2) Products and people were evenly placed across the landscape.
- 3) Everybody had the same income.
- 4) Everybody could travel in a straight line in any direction they wanted, so distances to places became important.
- 5) Every person would travel to the closest place that would supply the product that they wanted.

Under his theories, Christaller believed that every town's business activities would draw on the surrounding population that lived closest to those activities. If a person lived closer to another city, they would shop in that other city. If there was no city to help that person, a city would "pop up" to service the people living in that area. Each and every single Central Place is created to serve the land around it. These theories lead to a couple of new concepts:

- 1) *Range* is the how far a person will go to obtain a good or service. There are two types of Range; *Low Range* and *High Range*. Low range goods are goods you will not travel very far to purchase, for example, a carton of milk. High range goods are goods you will travel great distances to purchase, like going to a concert or attending a pro sports event.
- 2) *Threshold* is the number of people that live in a region in order for a business to have enough customers to show a profit. This is another way of saying "market". There are two types of threshold; high threshold and low threshold. Grocery stores are used almost daily by most people. These businesses are called low threshold businesses. Pro sports events are not used very often by most people and therefore are considered to be high threshold business. Low threshold businesses, like grocery stores, can be located in communities with very low populations because they are used more often. High threshold businesses, like pro sports teams, need to be located in large, urban centers because they are used so infrequently by most people.
- 3) *Hinterland* is the region or area that is serviced by a community or business. The way threshold explains the number of people in a market region, hinterlands explains it in geographic terms. Some geographers say that the hinterland is the region that a good or service draws people from. Either way you look at it, hinterland explains markets in geographic terms (land size).
- 4) *Function* is the good or service that a business or community provides its hinterland.

From the terms range, threshold, hinterland, and function, urban geographers were able to develop a way of grouping cities by how they provided goods or services to their hinterlands. This system of grouping is called *urban hierarchy*. Urban hierarchy assumes that cities can be grouped by the functions (services) they provide. Geographers divided these groupings into the following categories:

- 1) A *hamlet* is any place with less than 500 people and a good or service is provided for them. Many times a hamlet is nothing more than a crossroads store and one or two homes near the store.
- 2) A *village* is a small settlement usually found in a rural setting. Some geographers define villages as having between 500 and 2,500 people. In most parts of the world, a village is not considered to be large enough to be called an urban area. Villages provide basic goods and services for the inhabitants of the village and for people in a small hinterland around the village. Villages are often centers of local government.
- 3) A *town* is an urban settlement generally larger, and with greater variety of functions and services, than a village, but smaller, and with fewer services than a city. Some geographers further define a town as having 2,500 to 20,000 residents. Towns usually have local self-government, and they may grow around specialized economic activities, such as mining, railroading or a specific, specialized industry.
- 4) A *city* offers more services than a town. Cities have more than 20,000 people and can have upwards of a million people. Cities are often the regional center of government and trade. The previous readings in this series have covered some of the other characteristics of cities. A *primate city* is a city that is at least twice as large as any other city in the country that it serves. This city often is the place that people from other countries think about when they think of the primate city's country. For example, when many Americans think of France, they think of Paris. Many foreigners think of New York when they think of the United States. By definition, most countries have only one primate city.

You should have guessed by now that every higher order Central Place has all of the functions and services of the lower Central Place plus a few more. However, Central Place Theory has its problems:

- 1) Towns are not evenly distributed over the landscape, because resources are not evenly distributed.
- 2) Many people do not behave in such a way that they will minimize their costs.

However, Central Place Theory does explain why there are fewer and larger communities spread out far apart. Specialized services are not often found in smaller communities unless that community is wealthy. Central Place Theory does help businesses decide the best location to expand or decide whether a business can exist in a region or not.

After this reading, you should be able to answer these questions.

- 1) Under Christaller's theories, where would businesses draw their customers from?
- 2) What is each central place created for?
- 3) What is range? What is low range? What is high range?
- 4) What is threshold? What is low threshold? What is high threshold?
- 5) What is hinterland?
- 6) What is function?
- 7) What is the population of a hamlet? Often a hamlet is nothing more than
- 8) What is the population of a village? How many economic activities are found in village?
- 9) What is the population of a town? What do towns usually have? What do towns grow up around?
- 10) What more can a city offer than a town? What is the population of a city?
- 11) What is the definition of a Primate City? How many primate cities do most countries have?

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