Appendix 1: AP Human Geography Topic VII.C.3. Harris and Ullman Multiple Nuclei Model, C.4. Galactic City Model, and D.6. Characteristics and Types of Edge Cities: Boomburgs, Greenfields, Uptowns

The urban models developed by Ernest Burgess and Homer Hoyt both assumed a single urban center or nucleus. While this may have been a reasonable assumption for much of urban history, transportation developments rendered it less realistic by the mid-twentieth century. In order to account for new urban trends, Chauncy Harris and Edward Ullman developed a model which included more than one nucleus. They realized that cities were more likely to have many different nodes or *nuclei* and so described what became known as the *multiple nuclei model*. In

MULTIPLE NUCLEI MODEL

- 🟨 Central business district
- 🟦 Wholesale, light manufacturing
- 🟩 Low-class residential
- 🟪 Middle-class residential
- 🟥 High-class residential
- 🟧 Heavy manufacturing
- 🟨 Outlying business district
- 🟦 Residential suburb
- 🟩 Industrial suburb

this model, each node had separate functions. There was still the downtown or central business district. Other centers – many of these in the urban outskirts – were based around shopping centers, business parks, or institutions. This model of a more dispersed city presaged the even more diffuse metropolitan areas of the late twentieth, early twenty-first century.

The *galactic city model* takes the multiple nuclei model one step further by accounting for the fact that, in the modern suburbanized city, the classic downtown no longer has a dominant role but instead is upstaged by several alternative centers, many of these in the suburbs. These new centers have been described by journalist Joel Garreau as *edge cities*; places that are primarily business oriented, found along major transportation arteries, and which have a distinct identity. Edge cities have resulted from a few distinct trends. One trend is the development of new shopping complexes in suburban areas, beginning with postwar shopping plazas, enclosed shopping malls, and now the dominance of big-box power centers. These varieties of retail are fully discussed in module 17G. The second trend lies in the development of office facilities in the suburbs and the emergence of suburban corporate campuses.

Beginning in the 1980s, more office space was created in the suburbs than in the city and the iconic high tech corporations of today – Microsoft, Apple, Google, and Facebook – all have suburban headquarters. The third trend has been the movement of industrial plants out to suburban locations. Factories now require considerable space, and they are reluctant to locate in a place that has several environmental problems. The best choice is often what is termed a *greenfield* site with plenty of land, room for parking, access to highways, and with no contamination problems from previous industry.

This combination of edge cities (often specialized in regard to commercial, industrial, office and institutional function); residential suburbs ranging from closer in street car suburbs to low density suburbs on the periphery; the traditional downtown; and the inner city together create a *galactic city* which is dispersed, mostly dependent on automobile transportation, and made up of several centers. This is the dominant urban form in most American cities today and increasingly around the world, though to a lesser extent. The diagram and map below illustrate this phenomenon.
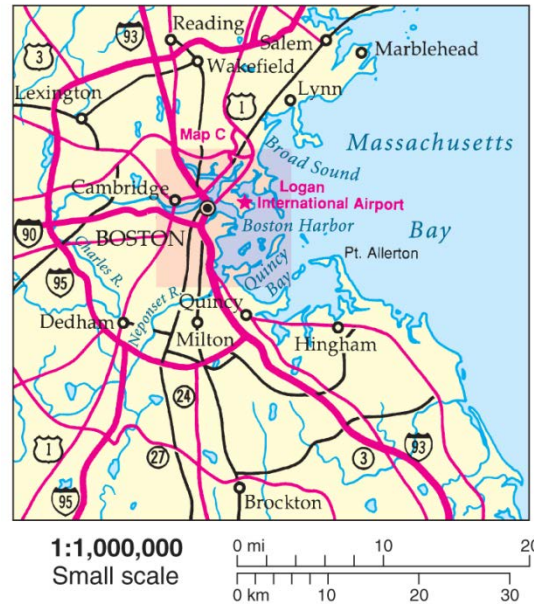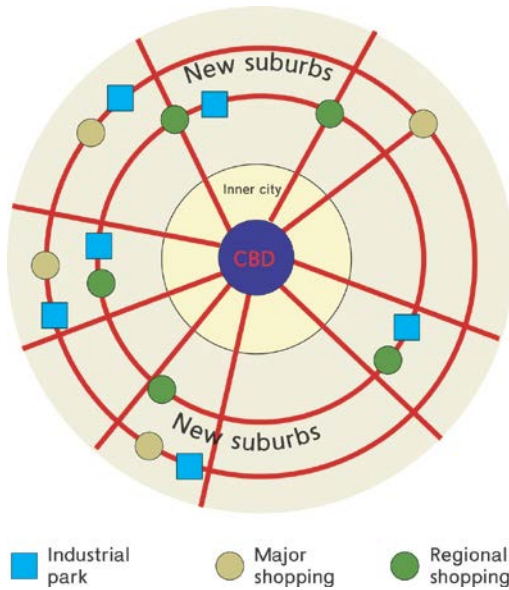
When this development has been very rapid, it has gone beyond simple edge city formation into the creation of whole new urban forms out in the suburbs. Formally, Robert Lang has defined a *boomburb* in the following way: an incorporated city with more than 100,000 people; one found in a metropolitan area but distinct from the core city; is suburban in character; and is subject to rapid double-digit growth. Boomburbs are extremely fast-growing suburbs and generally develop around edge cities. The attraction of the site prompts tremendous residential development which transforms a simple suburb into a suburban city of its own.

Appendix 2: AP Human Geography Topic VII.D.3. Political Organization of Urban Areas

The political organization of urban areas depends very much on national context. Some societies are likely to invest their cities with considerable authority over themselves and their hinterland. Other societies limit a city's power, particularly over its suburbs. This is significant because cities around the world demonstrate considerable urban development on the periphery. This development may be handled in a few distinct ways. One way is through the growth of *independent suburbs*. This has been most common within the United States, where urban expansion mostly took place well beyond official urban boundaries. Each suburban community governs itself, levies its own taxes, and provides most of its own services resulting in considerable *metropolitan fragmentation*. The average metropolitan area in the United States contains anywhere from a dozen to a thousand independent suburbs over which the central city has very little control.

One way to counter this fragmentation is through *annexation*, a process in which a city expands its boundaries to incorporate suburban areas. In the United States, many cities have annexed territory so that they can capture the peripheral population and it is for this reason that most major cities are also larger in area than neighboring towns and cities. Annexation is still practiced in many southwestern cities like Houston, Albuquerque and Phoenix. However, annexation is now quite difficult in northern cities such as Cleveland, Detroit, or Boston whose suburbs have incorporated to exempt themselves from the city's taxes, infrastructure, and potential problems. Cities may also directly *consolidate* with their county, combining services, tax bases, and creating a unified government over a larger area.

Finally, there have been some attempts at *metropolitan government*. Most cities work with suburbs in a number of venues. For example, transportation decisions are often made by a consortium of cities and suburbs. However, true coordination means a government with authority over all of the constituent members, including taxing authority, tax base sharing, and regional planning. While this is quite difficult in the United States, it is common in other countries including Canada where metropolitan governments are found in all of its largest cities.

As cities grow and expand, urban planners, architects, and journalists have become involved in an effort to control the process. Legislation in the 1920s helped develop the profession of urban planning, introducing such tools as the comprehensive plan, building ordinances, and zoning. Much of modern urban planning has continued to ensure that growth is regulated, but planning has also forced the division of urban functions, keeping apart residences, stores, and workplaces. Transportation planning, often conducted by different agencies, promotes new highway developments that can have a tremendous impact on the city. Urban renewal and public housing planning have leveled some neighborhoods which were often considered blighted and replaced these with new developments that have sometimes been less successful. In the 1960s, journalist Jane Jacobs vehemently complained that modern planning in all of its forms was not making the city more vibrant but was actually deadening it by eliminating its diversity and street life.

While Jacobs' strong voice was well received by many urbanists, his ideas initially changed little in the nature of planning especially in the suburbs. Most planners were involved in simply regulating subdivisions that were already being developed. More and more suburban sprawl seemed a foregone conclusion for which planning was meant to accommodate. The biggest innovation in the 1980s was the so-called *gated community* which was often privately developed and allowed residents to feel secure in their neighborhood. Such gated enclaves are common in many parts of the world and generally appear in areas that are less safe due to high racial or ethnic tensions and income disparities.

One of the few innovations beginning in the 1990s was a suite of *smart growth* policies. Distinct from no-growth policies, which attempted to stop development altogether, smart growth looked at how zoning could be modified to minimize the negative impacts of development and to create a more pleasing community. One idea was to employ *cluster zoning* that develops only part of a lot and leaves the rest as open space. *Mixed-use zoning* veered away from the traditional notion that urban functions should be separated by mingling different land uses in much the way towns had operated in the past. The idea of re-creating past towns led to the growth of the *new urbanist* movement spearheaded by architects who design whole communities that promote walkability, smaller houses close to the lot line, narrower and well-connected streets, corner stores and accessible services, and a greater sense of place.

Appendix 4: AP Human Geography Topic VII.E.3. Uneven Development, Zones of Abandonment, Disamenity, and Gentrification

While urban decline hastened the deterioration of some inner city neighborhoods, it has also resulted in a surprising renaissance among others. Urban land markets, institutions, local, regional, and global economies, and social and ethnic divisions create a patchwork of unevenness across the metropolitan landscape. Geographers speak of *zones of abandonment* which result when an area no longer has value to investors. Most such zones are found in the inner city, in neighborhoods that have experienced significant out-migration, particularly by working and middle class residents, and where declining property values do not support continued maintenance. With little available income within the neighborhood, only the most downtrodden retail remains, often liquor stores, pawn shops, expensive convenience stores, and check cashing outlets. Abandonment creates a *disamenity sector*, which is a poverty stricken part of the city with low property values, few stores or services, and often a number of social problems resulting from poverty.

On the other hand, some neighborhoods of the inner city undergo significant development, turning them from blight to renewal. This process has been termed *gentrification* which occurs when developers invest money in certain neighborhoods, taking advantage of the difference between the relatively low value of the land and the much higher potential value. This new investment entices wealthier, urban-oriented individuals to move into the new neighborhood and also brings a flood of new, hip retail in its wake. Gentrification is not a process that occurs in already wealthy neighborhoods but in districts which were once poor. Once forlorn places in Brooklyn, Oakland, Chicago's south side were ripe for gentrification as housing demand made these neighborhoods attractive and new investment continued the upwards cycle of neighborhood renewal. The term *uptown* – contrasting with the existing downtown – describes some of these neighborhoods: new urban centers which are developing outside of the traditional central business district.