

The book talks about the following models of thinking about how the way that we have “arranged and re-arranged” our urban spaces over time.

This series of slides details a little more using a case study of the City of Baltimore to show how “urban morphology” (the shape, structure and internal organization) has been changed from the early industrial city (1800-1900, roughly) to the manufacturing centers of the early 1900s to our “cities” (metropolitan area, which include the city and its surrounding suburbs) of today. The focus here is on US cities – cities and urban areas in other parts of the world differ from the American urban system, sometimes a little, sometimes a lot!

The three models shown on the next slide are:

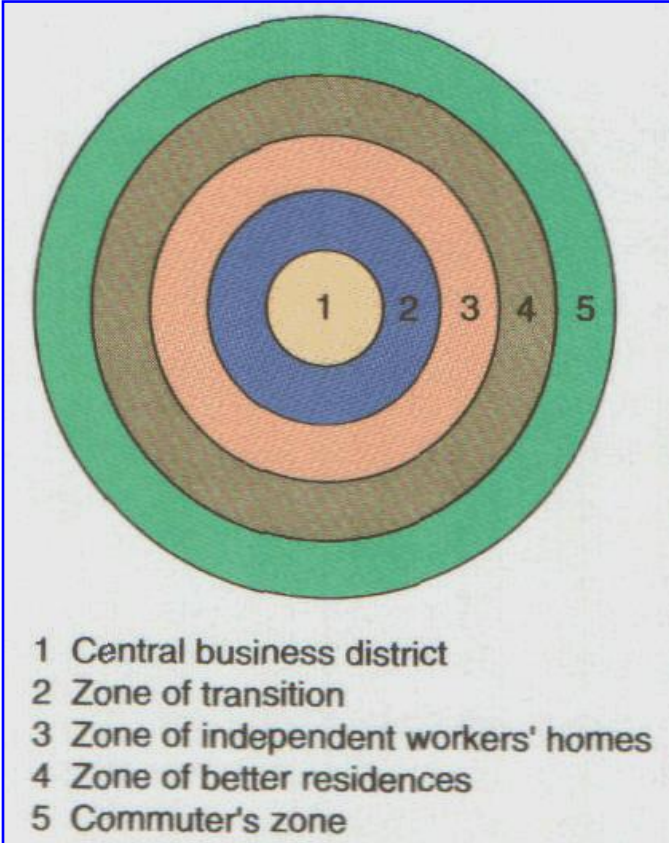
- 1) the Park-Burgess concentric ring model, which describes the American city during the 1800s, though I want to note that some change began to occur in the 1850s and that change accelerated in the 1890s.
  - 2) the Hoyt sector model, which describes the American city from about 1890 to WWII, though, again, there were some underlying changes starting to occur in the 1920s – but relatively little change happened in the 1930s and early 1940s due to the Great Depression and World War II. In the first case, there was little money available for new development in industry, commercial, retail or housing, and in the second case, most of our finances, energy and resources were being used to support the war effort.
  - 3) the Harris-Ullman multiple nuclei model, which begins to describe the changes that occurred in our cities after WW II – there have also been some later modifications to this, which we’ll look at too...
- In the 1980s, Joel Garreau (who is a geographically-minded journalist who used to work for the Washington Post), studied how our cities and suburbs were, in some ways, becoming more alike – and that the suburban areas were especially seeing the development of very ‘city-like’ characteristics.

Last... we will take a look at some of the urban problems that came about due to some of these changes.

# Historical development of urban areas...

time... →

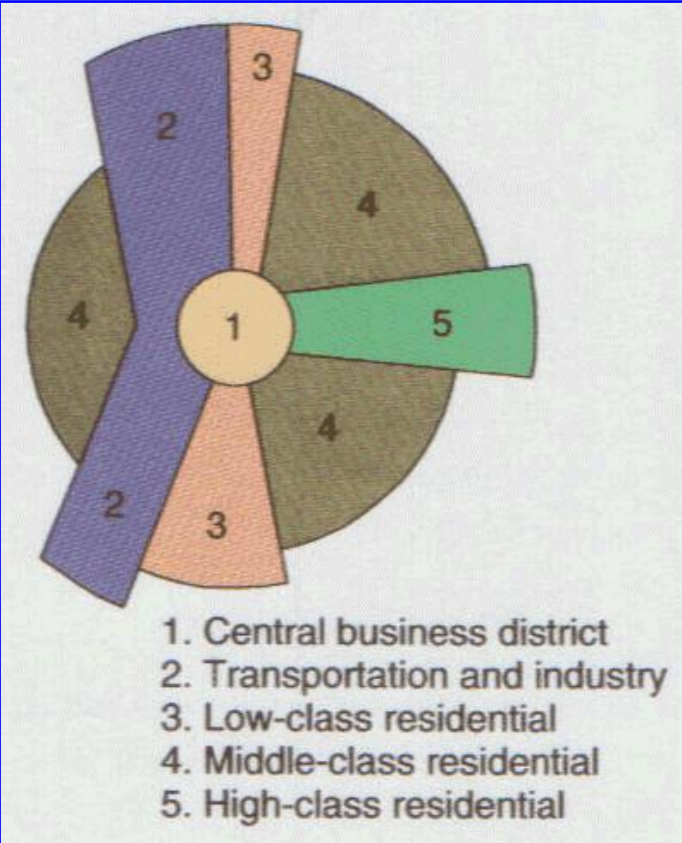
1800 – 1890s



Concentric Ring

(Burgess & Park)

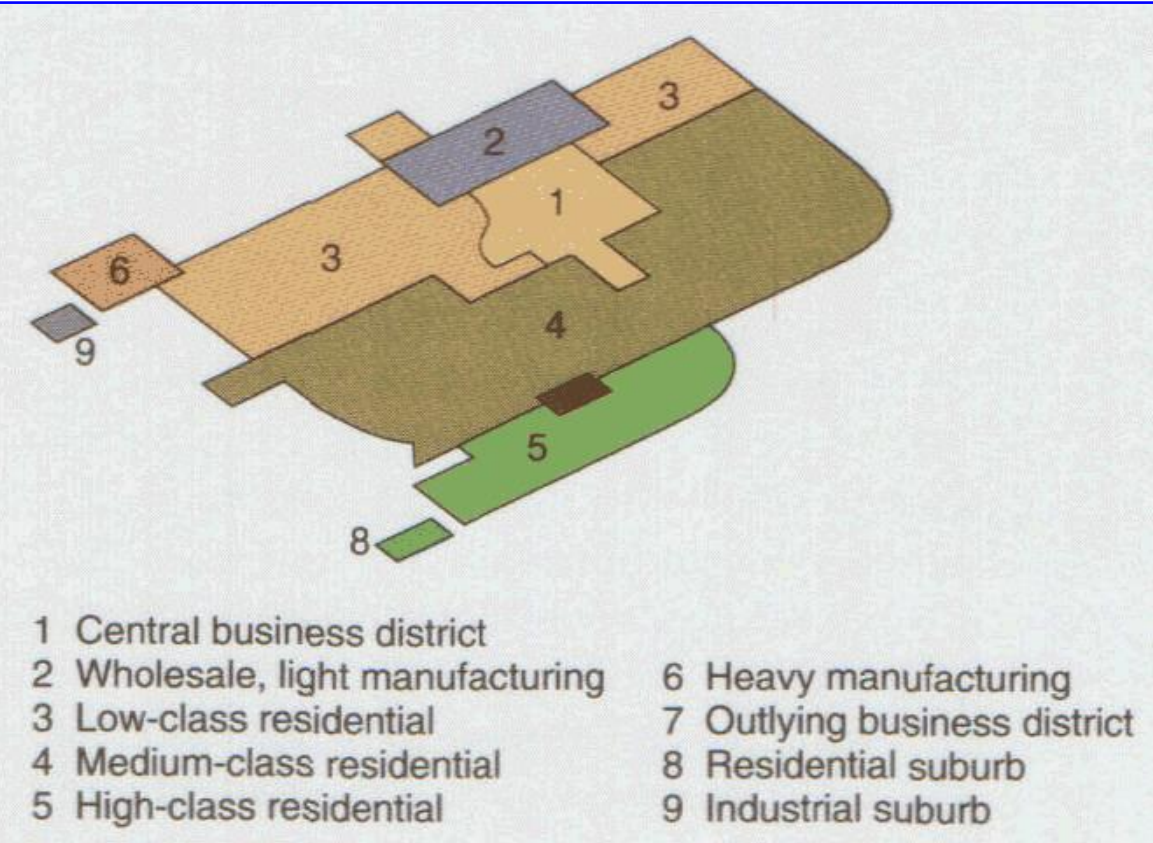
1890s – WWII



Sector

(Hoyt)

after WWII



Multiple Nuclei

(Harris & Ullman)

In the next slide, we use the “age of housing units” to look at how the US city of the 1800s is still imprinted on the city today... one notable thing about building is that once we building something, it tends to stay there for a very long time. Yes, sometimes we tear things down and build new buildings in their place – and sometimes we change what that space was being used for. For example, in the “Zone of Transition” it is common for older structures that often residential to be replaced with manufacturing plants and train stations (in the period from about 1830 to about 1880), and then see some of those buildings torn down and replaced with retail and office space (from the early 1900s on, and especially after WW II).

If you look carefully at the map, you’ll note that inside the “old city boundary” (marked by the red line on the map; shows the city boundary before 1917), we can still see – in the white areas – some of the oldest parts of the city. We don’t have the most accurate information available, as the US census bureau did not start collecting this data until the 1940 census, unfortunately... but, if we know something about the city, we can make some very educated guesses about what used to be there!

NOTES: The main map shows the areas that we can infer by observation the imprint of history – sort of the “left-overs” from early industrial Baltimore.

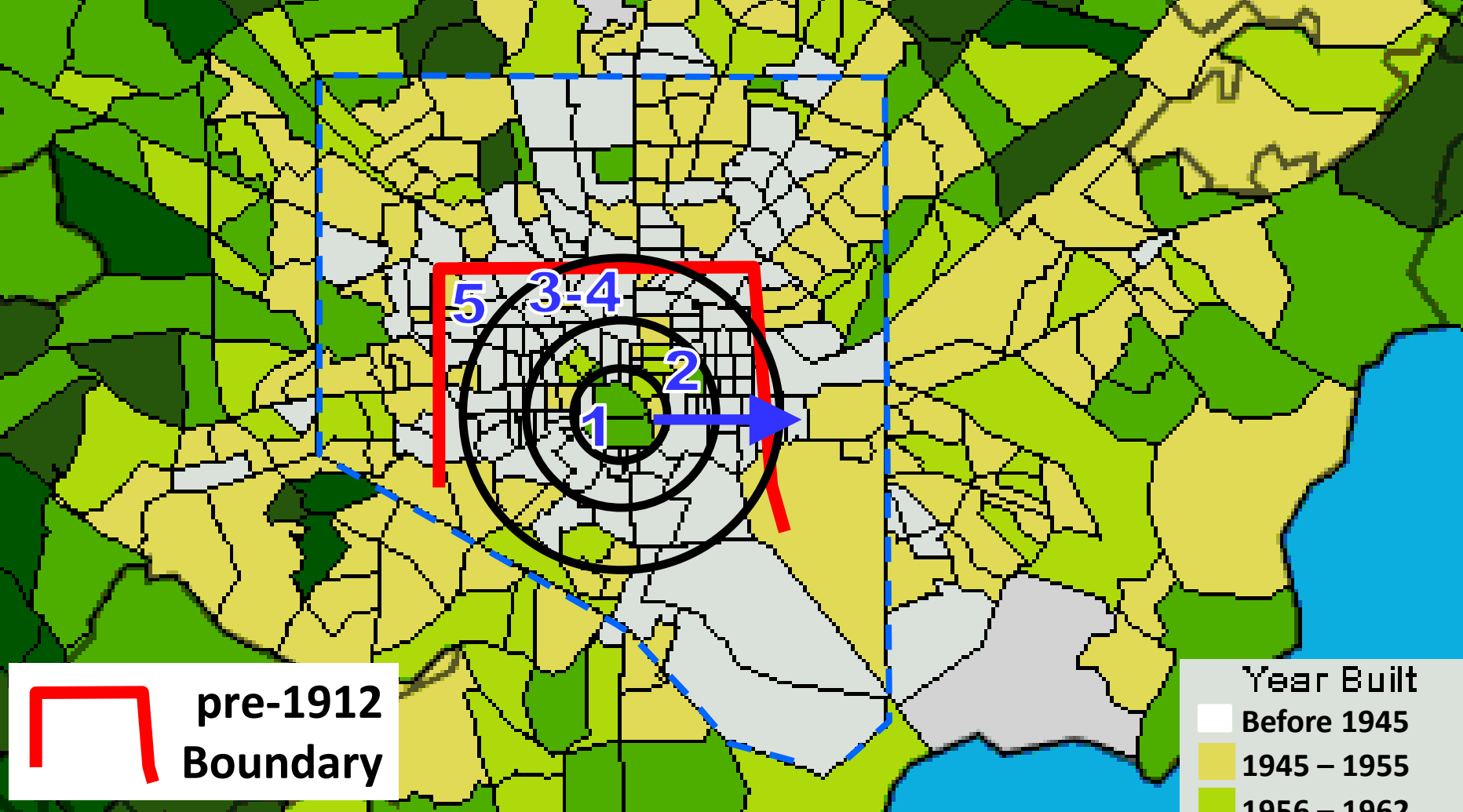
The inset map at the top is the same map, without all the doodling on it. Note – the smaller geographic boundaries are census tracts. These are created by the census bureau to count the population (and other things) every ten years. Each tract has approximately 4,000 people in it. So, one thing we can see on the map is that if each of those tracts has about 4,000 people in it... the smaller the size (area) of the census tract, the higher the population density, and, the larger the area of the tract, the lower the population density is.

The graph at the bottom shows us what the population density would be as we move outward from the edge of the central business district, and the numbering on both the graph and on the map correspond to the numbering in the “idealized” version of the concentric ring model (middle right).

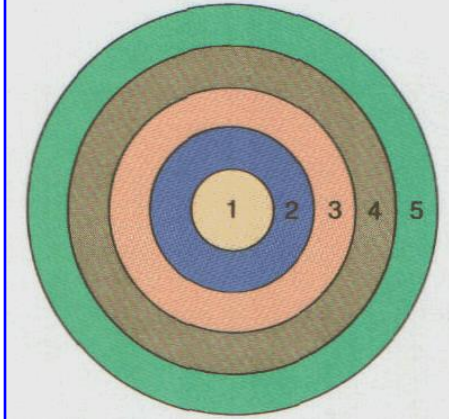
Also... the key to the map is based on events that have a significant impact on housing demand (and, thus, when housing is built). We have no data before 1939, but we can interpret the patterns within the boundaries of the older part of the city.

# Median Year Structure Built, Baltimore, MD by Census Tract

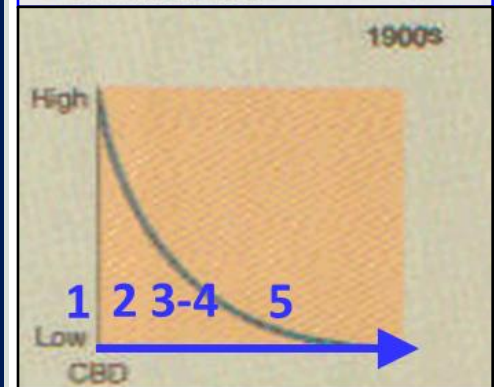
Source: 1990 Decennial Census



- Census Tract:** An areal unit defined and used by the Bureau of the Census for presentation of data. Census tracts incorporate roughly 4,000 people, but considerable variation occurs.



- 1 Central business district
- 2 Zone of transition
- 3 Zone of independent workers' homes
- 4 Zone of better residences
- 5 Commuter's zone





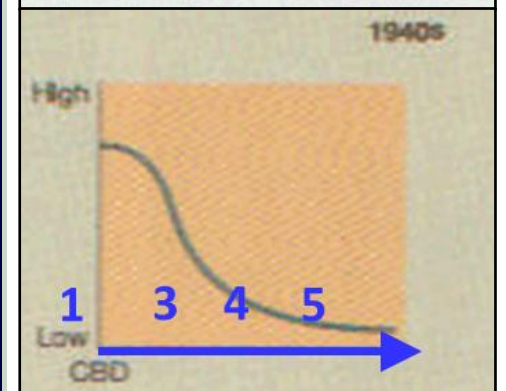
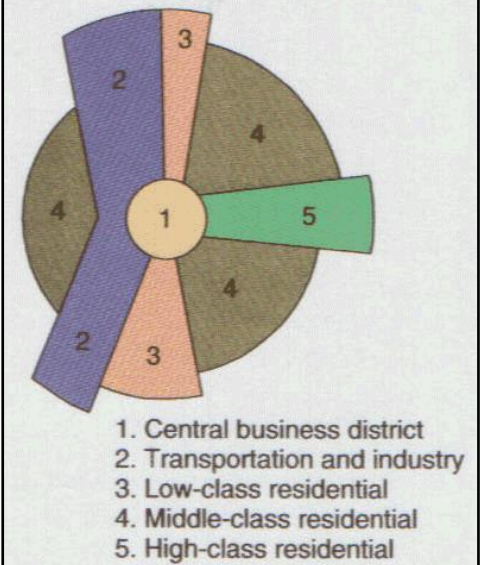
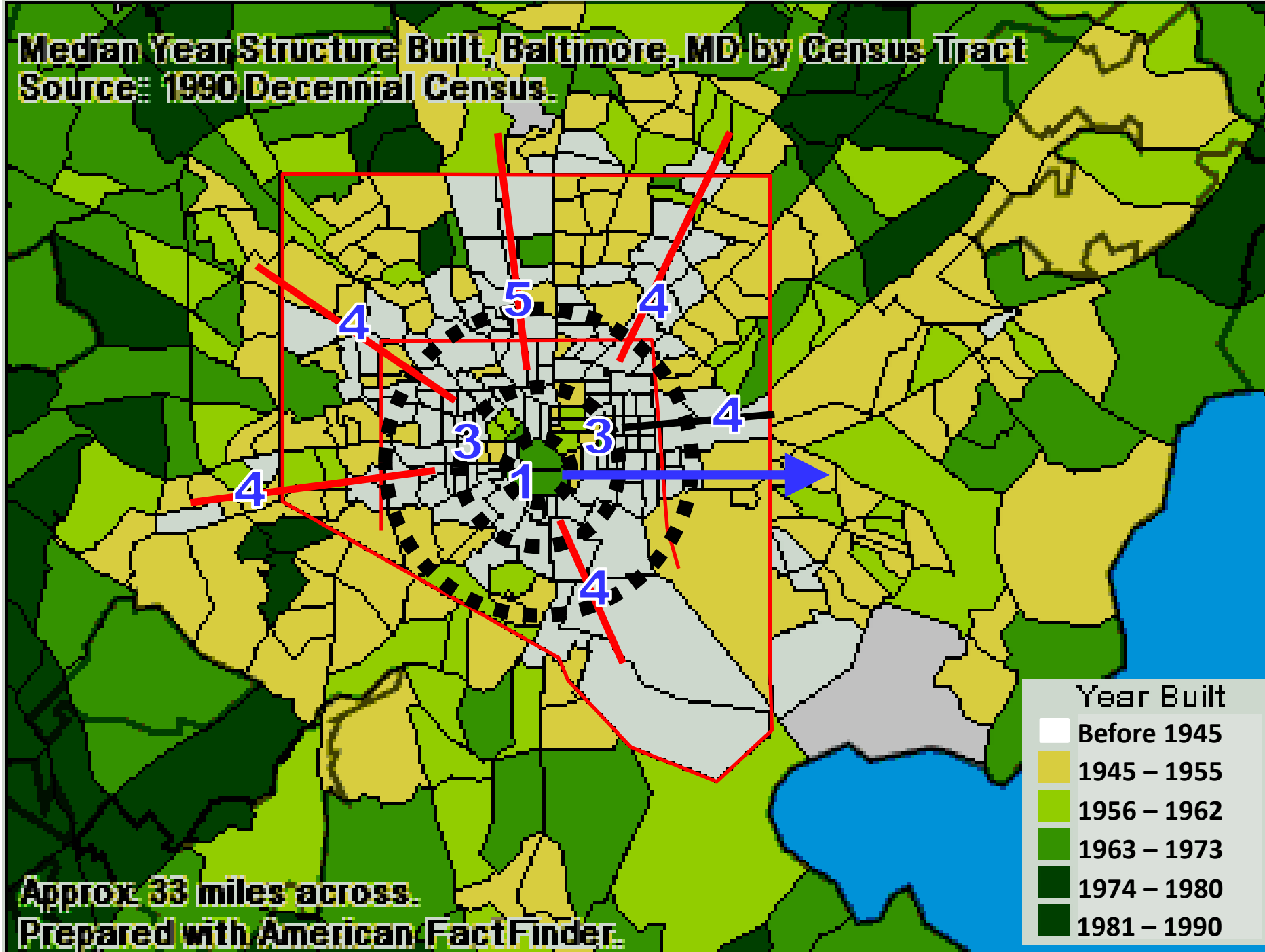
The early industrial city was very compact (small in area, with most of the population close to the center). This is “obvious” only once you consider that for most – almost all, in fact – of the people living in the city, their primary form of transportation was their feet. The period from the early 1800s to the late 1800s was before the car, before the streetcar, and even before the bicycle. Most working class folks could not afford to own or keep a horse or horse and carriage in the city – as cities began to industrialize, the competition for land in the city was intense, and having a place to keep your horse and park your carriage during working hours (or when going shopping) was something only the wealthy could afford. This is why the outermost zone in this model is referred to as the “commuter’s zone”... this is not how we think about commuting today. Only the wealthy could afford to commute to work, so the outermost zone was where the wealthy (big land owners, owners and uppermost management of industry, major bankers...) lived.

At a glance, we can note that the city center (#1; also called “downtown” or the “central business district”) appears to be “too new” – the average age of construction is fairly recent. This is because during the 1960s, we started the “urban revitalization” programs, especially targeted at many older US industrial centers. Considerable parts of city centers in the Northeast and Midwest were torn down and replaced with new office towers, civic centers, and, in many cases, urban freeways. Many city centers today are still seeing a great deal of new construction replacing the old, or older buildings being renovated and sometimes “re-purposed” (for example, old factories being converted into loft apartments, artist spaces or offices).

Note the zone of transition (#2) has a mix of new and old. Starting in the 1950s, a lot of inner city housing was considered to be substandard, and in many cases, entire neighborhoods were bulldozed and the “bad housing” replaced with new public housing through the urban renewal programs. Much of that new public housing was tall towers that frequently were poorly maintained, had few if any amenities either in the buildings or in the “new neighborhood” (all the old businesses were torn down)... it could be difficult to find a laundromat, grocery store or much of anything else nearby. By the 1970s, we were already starting to tear down some of these (most infamously, Pruitt-Igoe in Saint Louis, Missouri), and the late 1990s we began razing most of the rest. Last note: the “working class” homes zone was the early “middle class” part of town.

# Median Year Structure Built, Baltimore, MD by Census Tract

Source: 1990 Decennial Census



The sector model represents the first major reorganization of our cities during the industrial era. Three transportation changes had the greatest impact. The areas marked “3” were the first areas of change. As railroads were being built, a linear corridor formed running into and out of the city, typically running along an edge of the central business district (CBD). The early railroads were not used for travel in the city – they moved people between cities (or other places, such as out west eventually), but moving people was really a secondary business. Trains moved resources and goods. Factories in the cities were supplied with what they needed to make their products by rail, and rail moved the surplus production out of the city to other markets. New factories, and some older ones located (or relocated) along the rail in order to have access to this all-important delivery system.

Picture in your mind the city of the mid-1800s. Coal was the main source for the railroads, industry, and for heating many homes and business. Areas adjacent to the transportation and industry corridor tended to be congested, polluted, and noisy. Anyone who could afford to moved away from this part of the city, and the low class residential areas became an extension of the “zone of transition.”

Note the linear nature of the upper class residential area. This was the second transportation innovation, and is found in many older cities where the first horse-drawn trolley lines were laid down. Horse-drawn trolleys were slow, could only hold a limited number of people, and were expensive to ride. Most people could not afford them, and like the prior time period’s horse & carriages, only the wealthy could afford to ride the trolley system. This changed with the electric streetcar. We figured out two critical things... building electric traction motors (which were faster and could pull much more weight than a horse team), and, perhaps more importantly, how to stop. With these, often with large subsidies from cities and/or businessmen with large land holdings at the edge of the city, the electric streetcar become the choice of moving from home to work and from home or work to other activities for the growing middle class. “Streetcar suburbs” were often built on land just outside the city, but were the annexed into the city quickly... and our industrial cities began to grow rapidly both in area and in population.

Note also the population density graph (lower right). Some land was converted to other use, and the density goes down near the CBD... and the city stretches outward, but at lower densities along the streetcar lines.

The city largely stayed like this until after WW II. There were some changes during the time that the automobile first appeared, but even with the Model T, driving to work was still a luxury in many ways. Think how congested many downtown areas of our cities are today (Boston, New York City, Washington, DC, Chicago, Los Angeles...), and now think how congested they had to have been in the late “19-teens” and into the 1920s. Pedestrians, streetcars, horses, bicycles, trucks, horses and carriages, horses and wagons, cars... all competing for use of streets that might have been laid out 50 or 100 years prior, and with no parking. To help better service some areas of the city, some streetcar systems built elevated rails (a la the Chicago “El,” the only significant remaining elevated system left from that era). Cars helped with “infill” development, giving better access to previously undeveloped areas between the streetcar lines (too far to walk).

The post-War era, however, saw the city restructured in a way few imagined. There were several underlying factors driving this change: the US came out of WWII with the most intact economy in the world, that victory created an era of optimism, and the two of those combined created a desire in people to start families (the depression and war had put a lot of that on hold for many people). A middle class with more money and a new need for housing and easy access to affordable cars meant that a lot of new housing was needed, and it was needed immediately. This was helped also by depression-era programs that made it easier to get home loans along with veteran’s benefits.

Two more “new” things and an entirely new urban world is created. The Levitt brothers gamble on the idea that people would be willing to live on old potato farms “far” outside the city and drive to work, and later, owing to the fact that the Levitt brothers turned out to be right, we began building a whole new highway system so that travel for both cars and trucks – who were quickly taking over the business of moving resources and good from the railroads – could move much more easily quickly between places.

The interstate highway and urban freeway systems were critical elements that opened up huge amounts of land outside the city to development. Rather than having all of the traffic move through the city center, the interstate system included “ring roads” so that traffic not destined for that place could pass on by. With cars, money, loan help, available land and easy access to it... Americans moved to “the suburbs” by the millions. Well... some of them did.