

DEMOGRAPHIA

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METROPOLITAN DENVER AT RISK: How Densification Will Intensify Traffic Congestion, Air Pollution and the Housing Affordability Crisis

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By
Wendell Cox,
Principal, Wendell Cox Consultancy

Wendell Cox Consultancy
PO Box 841 . Belleville, IL 62222
+1.618.632.8507 Fax: +1.810.821.8134
Email: policy@publicpurpose.com
www.demographia.com . www.publicpurpose.com

It is a pleasure to share the podium today with my longstanding friend, Governor Bill Owens. I have the greatest respect for Governor Owens and know that you are lucky to have him leading Colorado.

Today I intend to say a number of things that might be considered politically incorrect. The subject is growth and what to do about it. I will talk about the densification, preservation of open space, the local housing affordability crisis and traffic. I will bring perceptions that you may not have heard before.

Let's start by discussing the currently in vogue strategies of smart growth. There is a feeling among planners that our urban areas have sprawled too much, and that we must change strategies. This means that there is a good deal of support in the planning community for strategies that would force density development, force development along corridors in hopes of encouraging transit ridership and discouraging auto use and imposing urban growth boundaries, or as they were called in failed Amendment 24, growth areas. No development would be permitted outside these urban growth boundaries. The radical strategies of Amendment 24 were soundly rejected by the voters, and we need to set the record straight on matters of growth and development.

Urban Development in the Post-War Era: There is a perception that much has gone wrong with urban development in the United States. Before World War II our urban areas were much more dense. Downtowns and central areas accounted for much more employment --- sometimes 40 percent or more. People commuted by transit in much larger numbers to jobs in the downtown areas and to factories close to downtown.

But things changed radically after the war. Increasing affluence made it possible for people to buy cars and move to the suburbs, which they did. As suburbanization increased, so did traffic congestion and air pollution. The strategies of smart growth are an attempt to reign in this development and solve the problems of the early 21st century urban area. Portland led the charge, and its missionaries have circled the globe spreading the gospel of smart growth. The problem is, however, that it is false doctrine --- both with respect to its impact on urban areas and with respect to what has occurred in Portland. Delegations go to Portland and marvel at its cute downtown. But don't let the Portland folks tell you that it has to do with light rail. Downtown Portland is a historic downtown. It was cute in 1910. It was cute when I went to high school there in 1960, and it is cute today. Respected new urbanist architect Andres Duany found out the same thing on his fourth visit to Portland. In an *Oregonian* op-ed, he noted that in his three previous visits he had not ventured outside downtown, that one or two square mile enclave in 400 square mile Portland. When he did venture out he found that Portland looks like any other sprawling US urban area. If you account for differences in climate and vegetation, suburban Portland looks no different than suburban Denver.

The fact is that suburbanization is not a new phenomenon and it is not American. Ever since transportation technologies have improved suburbanization has occurred. In the 19th century, streetcars drove suburbanization. Now it is driven by the ready and nearly total

access to cars. As a result, virtually all urban growth in the last 30 to 50 years has been suburban. I have been able to find only three developed world urban areas where substantial growth has occurred in the inner cities --- all other growth has been suburban. The exceptions are Los Angeles, with a large flow of Latino immigrants, Miami with Cuban and Haitian immigration and Vancouver with its Chinese immigration, especially from Hong Kong. But elsewhere the pattern has been the same. From Detroit to Tokyo to Copenhagen, central cities have lost population. Paris has lost one quarter of its population, just like Chicago. The "American dream" of home ownership has become the universal dream. I recall a year or so ago driving along the Route 16 Beltway around Tokyo and coming upon an area of familiar looking signs and flags. I could not read the signs, but it was clear that I had come upon an area of single family model homes. I went in and saw the Japanese equivalent of the two-story tract house that could have as easily been in Highlands Ranch, but for superficial modifications that made these houses Japanese instead of American.

Denver and Density: There is a perception that Denver is a particularly sprawling area. Local planners and officials trek up to Portland from time to time and come home wondering why it is that Denver cannot be like Portland, with its purported high density and transit oriented development.

- **Denver and Los Angeles:** I have often heard the fear expressed that Denver is on the way to becoming another sprawling metropolis like Los Angeles. But the fact is that Denver already sprawls much more than Los Angeles. Figure #1 shows the density gradient of urbanization in Los Angeles, and whatever percentile of land area is examined, Los Angeles is more dense. If Denver were as dense as Los Angeles it would cover a bit more than one half the area. Los Angeles is the nation's most dense urbanized area (developed area) --- with a higher developed area population density than even New York. It is no wonder that traffic is so bad in Los Angeles. Imagine how bad traffic would be in Denver if nearly twice as many people were on the roads as today. And, of course Los Angeles sprawls. It is pretty hard not to sprawl and accomodate 16 million people. Indeed, Osaka-Kobe-Kyoto, with its 16 million people seems to sprawl forever, yet covers only one-third the land area of Los Angeles.
- **Denver and New York:** As one would expect, the density gradient of New York is much steeper than that of Denver. Figure #2 shows that central New York is much more dense than central Denver. But if the 20 percent of land area that is most dense is excluded (Figure #3), Denver is more dense than New York. This may be surprising, but on balance, the suburbs of Denver are among the nation's most dense.
- **Denver and Portland:** Despite the deference paid by Denver planners at the presence of Portland, Denver is more dense than Portland, as is indicated by Figure #4. The most dense portions of Denver are more dense than the most dense portions of Portland. And, overall densities are higher. US Census Bureau 1990

data shows the Denver urbanized area to be approximately 10 percent more dense than Portland (Figure #5), though as noted above considerably less dense than Los Angeles. Of course, Portland's efforts at densification began in earnest after 1990, so one would expect the densification trend to favor Portland since that time. Not so. The US Department of Agriculture National Resources Inventory indicates that new development in the Denver area from 1992 to 1997 was 20 percent greater than that of Portland (Figure #6).

Open Space: One of the greatest concern people have with respect to urbanization is open space preservation. There is the fear that the entire front range, from Pueblo to Fort Collins, will become an endless train of urbanization. But open space preservation efforts in the Denver area have been very significant. Just four jurisdictions, Boulder County, the city of Boulder, Douglas County and Jefferson County have preserved open space at a rate greater than that of urbanization over the past 20 years (Figure #7). Each year, these four jurisdictions along with Adams County with its comparatively new program, spend more than \$70 million preserving open space. This is a large amount of money. For example, this is approximately one-third the total sales tax levied by the Regional Transportation District (RTD). Within the past year, Douglas County has preserved Greenland Ranch, a 21,000 acre plot that extends 12 miles along Interstate 25 between Denver and Colorado Springs. Thus, it will never be that there will be endless urbanization from Pueblo to Fort Collins as a result of Douglas County's action. The Denver area has led the nation in the preservation of open space.

The Housing Affordability Crisis: The strategies of smart growth raise the price of housing. Urban growth boundaries ration the amount of land available for development and they reduce competition in development. Other provisions, such as the city of Aurora's brick facing requirement increase housing prices. Any time something that is in demand is rationed, prices rise. Look at what has happened over the past two years to gasoline prices as a result of OPEC's production rationing. The price of land rationing is higher prices for our children and for up and coming low income families, especially Hispanics and African Americans.

The effect of land rationing is clear in Portland, where there is little land left to develop within the urban growth boundary. From 1991 to 2000, the Housing Opportunity Index, which measures the percentage of houses that can be afforded by the median income family, has fallen from 68.9 to 27.6, the largest drop by far of any major metropolitan area. At the same time, housing affordability has inched up slowly nationally. But you have a crisis in the Denver area, where the housing affordability index has declined from 72.4 to 50.0 over the same period (Figure #8). I am not sure why this has happened. I have my suspicions, however. The local metropolitan planning organization, DRCOG, has worked with local jurisdictions to establish urban growth boundaries, a principal strategy in rejected Amendment 24. DRCOG's urban growth boundary effort started in 1997. Other regulations have raised the price of housing, such as the Aurora brick facing requirement. Boulder's restrictions are well known. If our parents had faced the same regulations of the housing market, most of us would have grown up in rental units. But the experience for most of us

has been better than that. Denver's housing affordability crisis is of rather recent vintage, with virtually all of the deterioration occurring in the last three years (Figure #9). These types of regulations raise prices. Adams County, for example, plans to accommodate all of the next 20 year's growth in five square miles --- forcing all new residents to live in an area barely one-tenth the size of the new Denver International Airport.

Denver's housing affordability crisis should be of great concern. It does not bode well for people seeking to enter the housing market and it does not bode well for the apartment industry. It could stunt economic growth and will make renters out of people who would otherwise be buyers. As houses become less affordable, so will rents, which could cause additional problems. Renters could well seek rent control ordinances or state authorizing legislation. Like urban growth boundaries, rent control is a form of rationing. What is rationed is new development, as entrants to the rental market are forced to take housing that is further removed from activity centers. Surely rent control was one of the most destabilizing factors in the New York City area and drove more people to the suburbs than would have otherwise been the case.

Traffic and Transportation: Smart growth advocates like to imply that transportation will be better in the more dense community. They expect transit to play a much greater role.

Let me just say in summary that transit will make little or no difference. You can spend all the billions you like on light rail and other transit improvements. The fact is, however, that even if all of the new rail lines in DRGOGs plan could be built over the next 25 years, transit's market share would rise from approximately two percent to three percent. For this one percentage point gain, DRCOG plans to spend 55 percent of transportation resources on transit over the same period of time. Transit has a higher market share to downtown, at 16 percent --- even if all transit riders would otherwise drive themselves in automobiles (which they would not), this does not account for a single freeway lane. Outside of downtown the impact is even less. There is not a single major non-downtown employment (such as Tech Center) in the nation where transit carries a significant market share. You need more than one percent solutions.

The automobile is here to stay and even DRCOG's transit favoring plans recognize that virtually all new travel demand in the Denver area will be automobile travel demand. Forcing more people and cars into the same area is not the answer. As density rises, there are more people in the same area, there are more cars in the same area and there is more traffic. Figure #10 shows average population densities of urban areas around the world. Note that Asian and European urban areas have far higher population densities than US areas. They also have much better transit systems with much higher levels of service. Yet, Figure #11 shows that traffic intensity is greater in nations with higher population densities. European traffic intensities are twice that of American urban areas. The same is true in the United States, where higher levels of traffic congestion occur where population densities are higher (Figure #12). Research conducted for the US Department of Transportation indicates that, at Denver densities, each one percent increase in density results in a 0.8 percent increase in auto use. This means that if density is doubled --- if it is

increased by 100 percent, then traffic will increase 80 percent. This is not less traffic, it is more. Indeed, Portland is experiencing strong growth in traffic congestion and is now nearly as congested as Atlanta, at 122 percent of roadway capacity. Denver is doing much better, at 108 percent of capacity, according to the Federal Highway Administration.

Traffic congestion means that traffic operates at slower speeds and with more stops. US EPA data shows that air pollution from cars is minimized in free flow conditions of from 35 to 55 miles per hour (Figure #13). Such high average speeds are attained nowhere in US urban areas, because of frequent stop and go traffic. The international data shows the same thing --- higher densities mean higher pollution levels from automobiles (Figure #14). In Denver you have made great progress in improving air pollution, as has also been the case around the nation, even in Los Angeles. If air pollution from cars is to be minimized, then traffic needs to be speeded up.

Rationing the Future: The advocates of smart growth have not identified a problem in Denver that requires their radical solutions. Denver is more dense than Portland, it is developing at higher densities and its traffic is better. Denver has virtually nothing to learn from Portland, though Portland could learn a “thing or two” from Denver.

What is in vogue is not always correct. The doctors attending to George Washington in his final days were in agreement with the wisdom of the day that bleeding was the cure. It wasn't.

Planners and architects in the 1950s thought that 20 story public housing projects were the answer --- the same projects that are being imploded around the country today. Those professionals believed in their solutions just as much as George Washington's doctors and today's planners.

We need, however, to look beyond wishful thinking and ideology to the facts. They are indisputable. Higher densities mean more traffic and more air pollution. Land rationing means less housing affordability and threatens the efforts we have made over the last 50 years to bring low income African Americans into the mainstream of the economy.

It is population growth that is driving development. The best way to handle the inevitable growth in both population and automobiles is to disperse it. Open space should be preserved, though we need to understand that open space is not a densification strategy, it means that the urban area will spread over a wider expanse. We must not deny our children and aspiring young and low income families the quality of life that we have enjoyed.

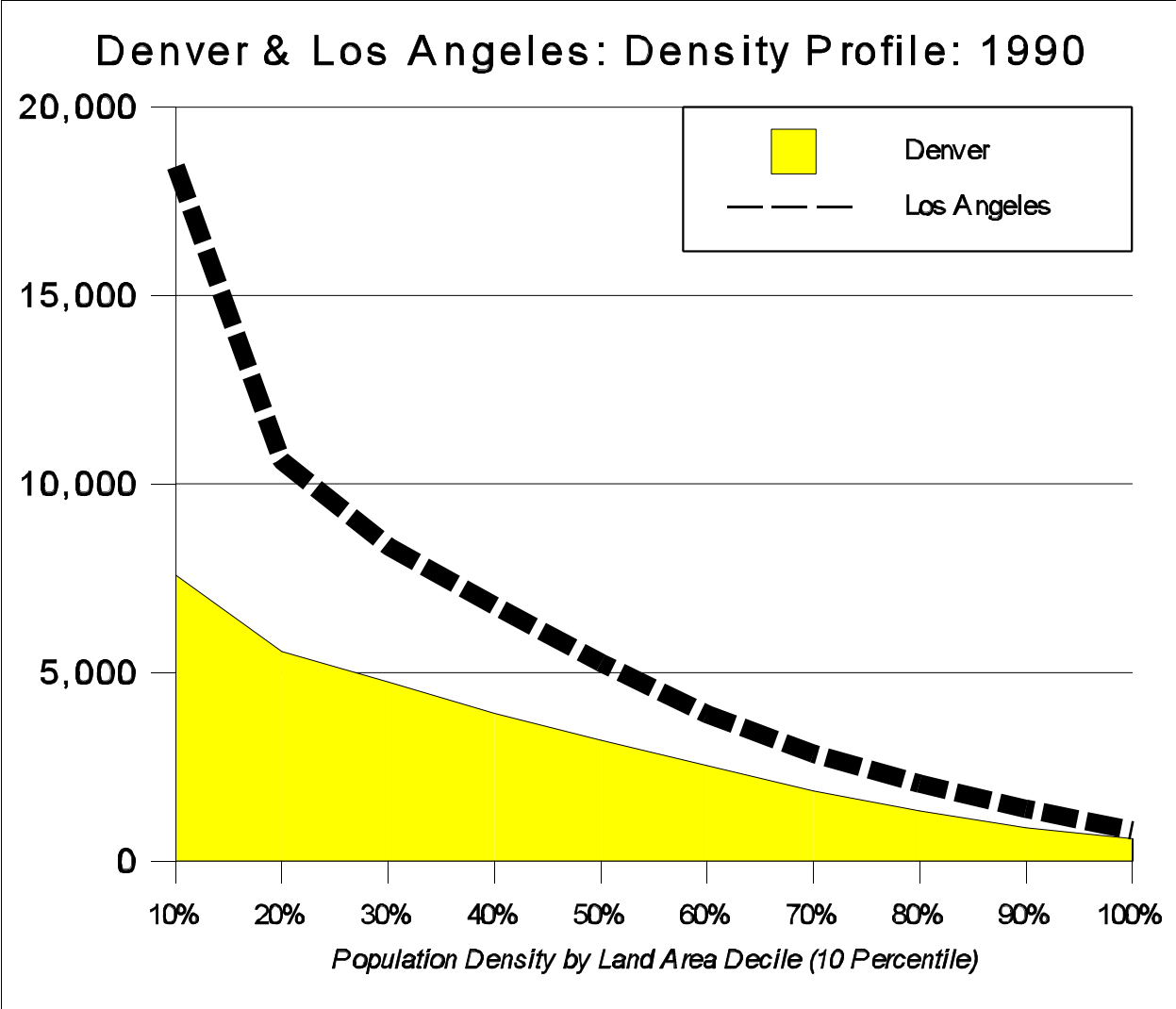


Figure 1
 Calculated from US Census Bureau Data: Metropolitan Census Tracts over 500 Density

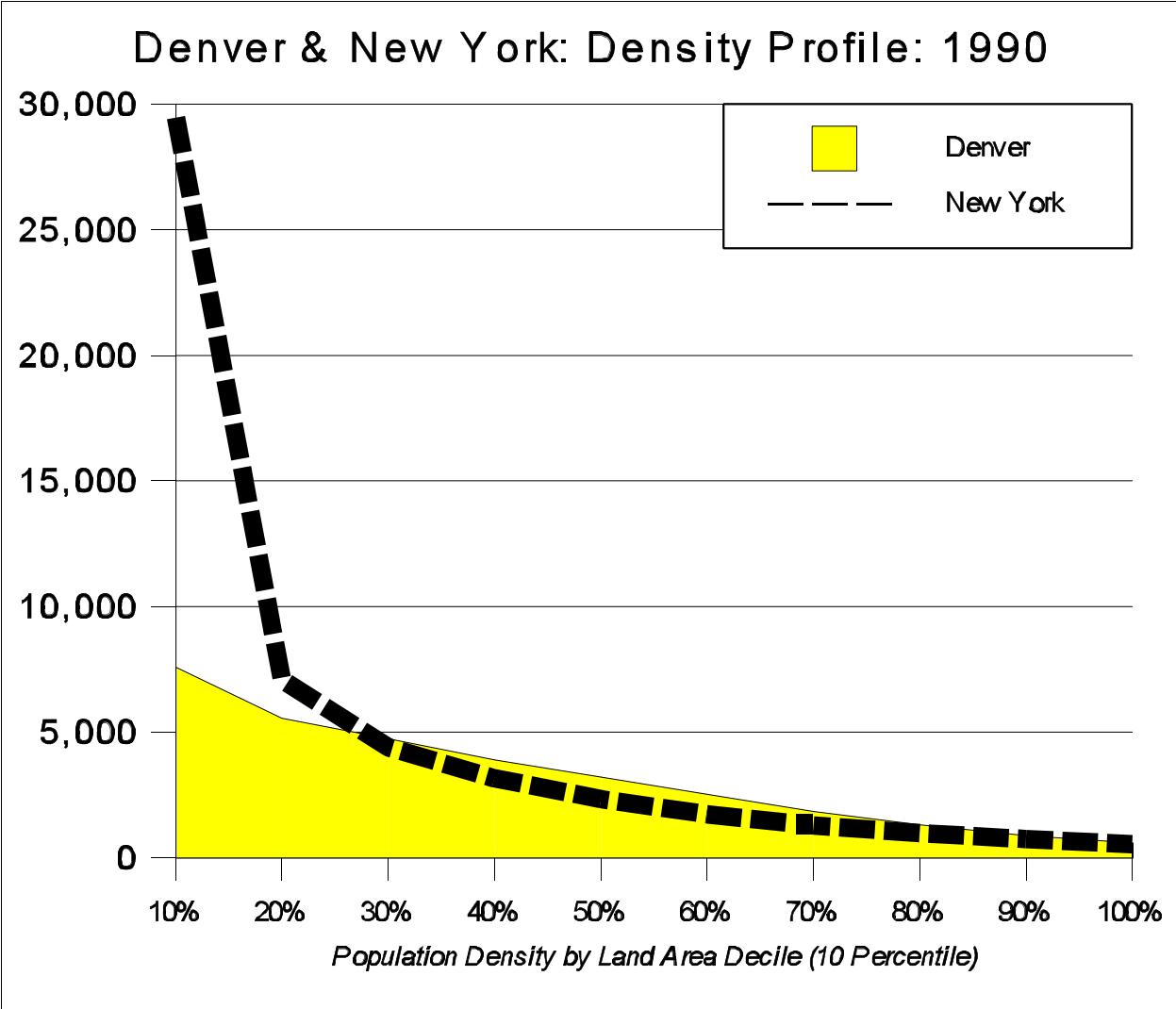


Figure 2
 Calculated from US Census Bureau Data: Metropolitan Census Tracts over 500 Density

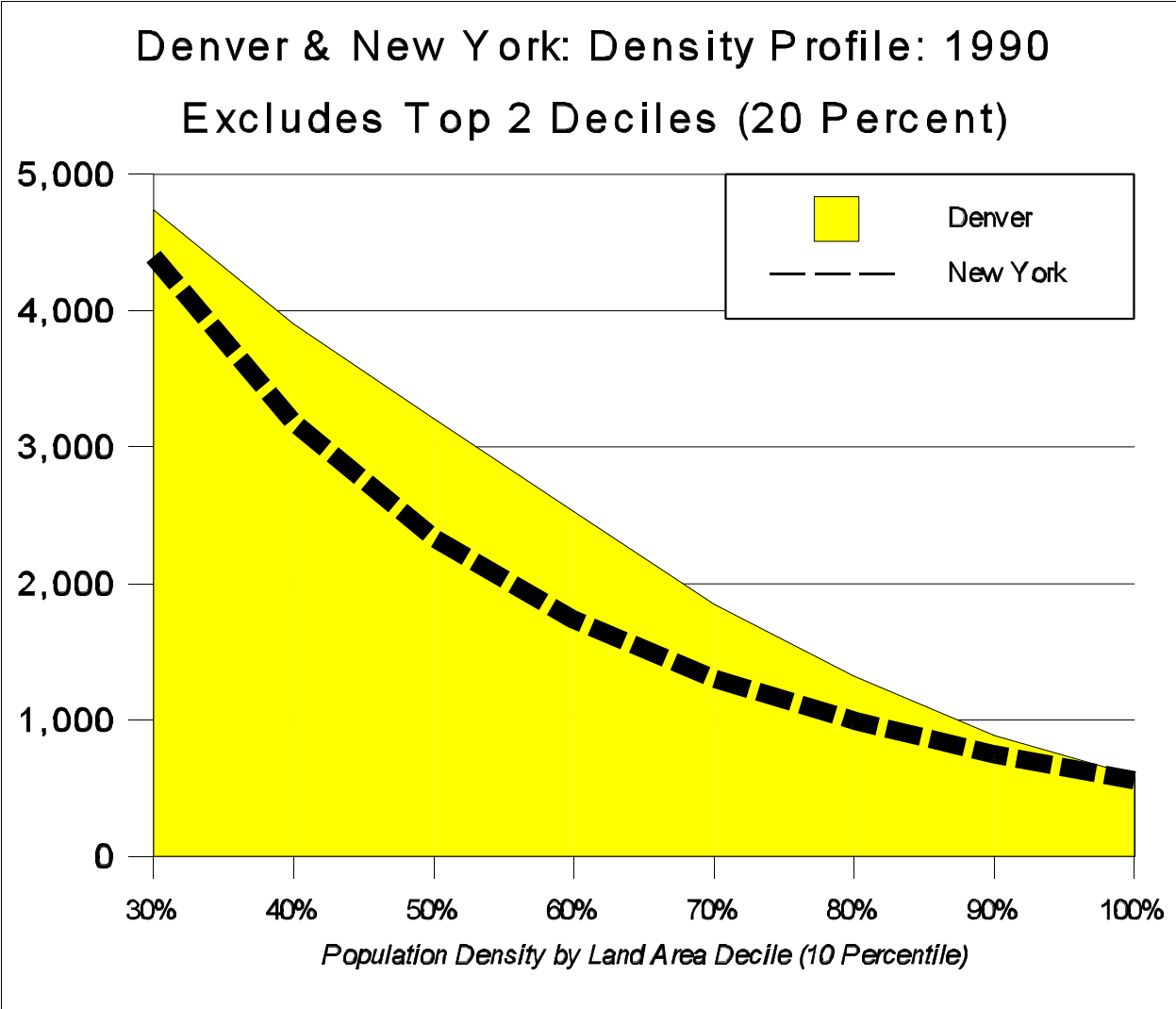


Figure 3
Calculated from US Census Bureau Data: Metropolitan Census Tracts over 500 Density

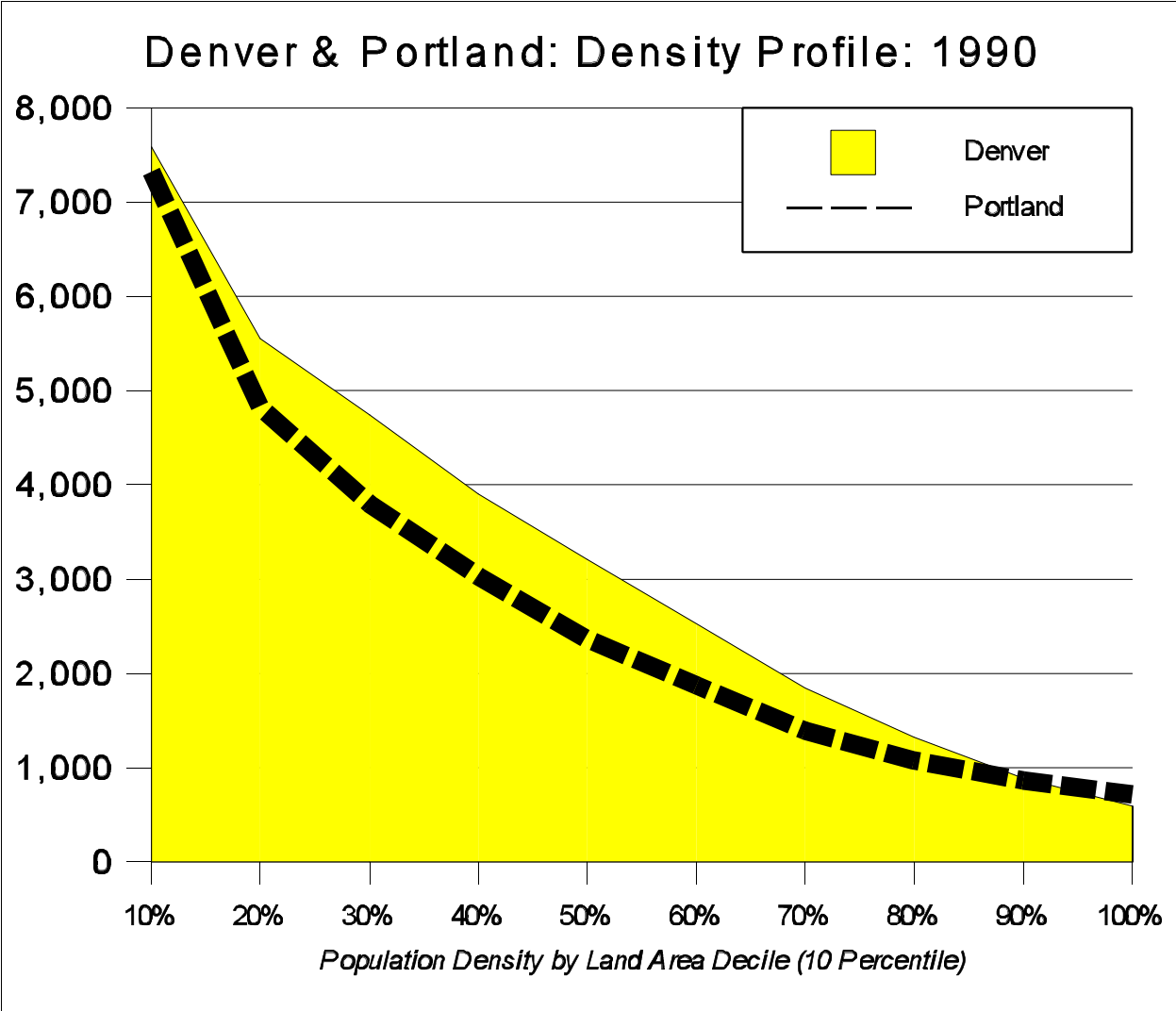


Figure 4
 Calculated from US Census Bureau Data: Metropolitan Census Tracts over 500 Density

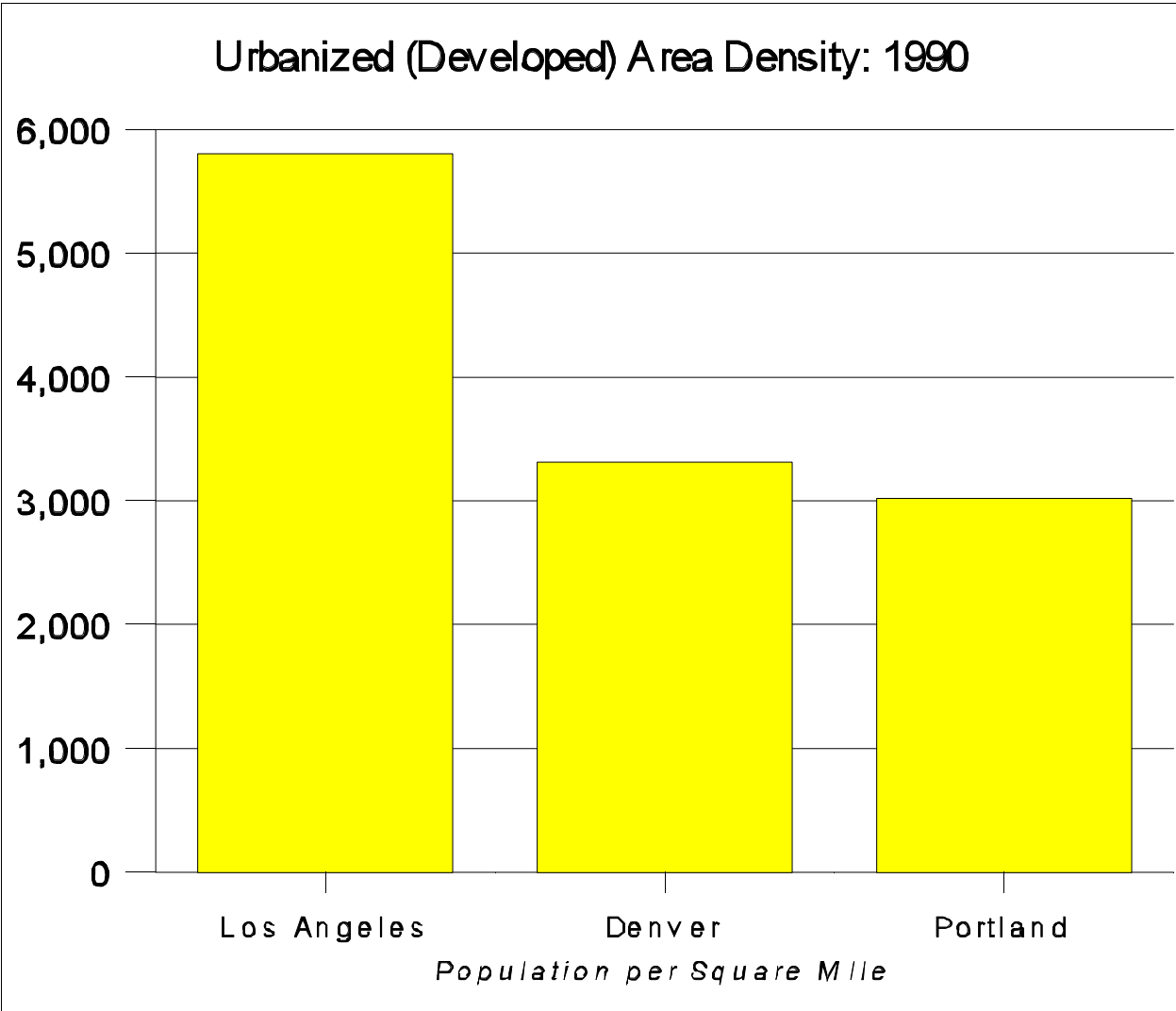


Figure 5
Source: US Census Bureau

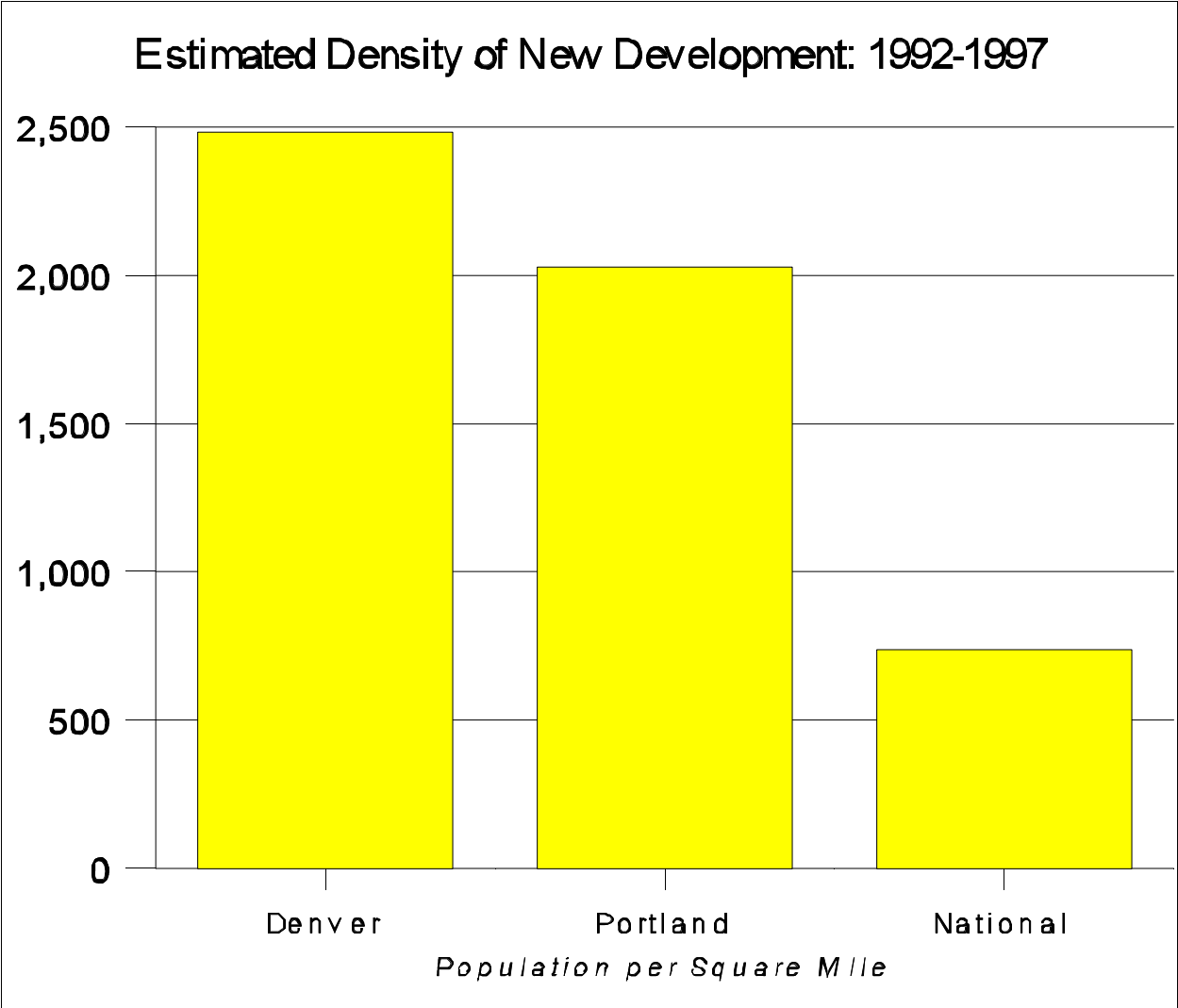


Figure 6
 Source: Calculated from US Census Bureau & National Resources Inventory data. Denver: Adams, Arapahoe, Boulder, Denver, Douglas & Jefferson Counties; Portland: Clackamas, Multnomah & Washington Counties (all in Oregon).

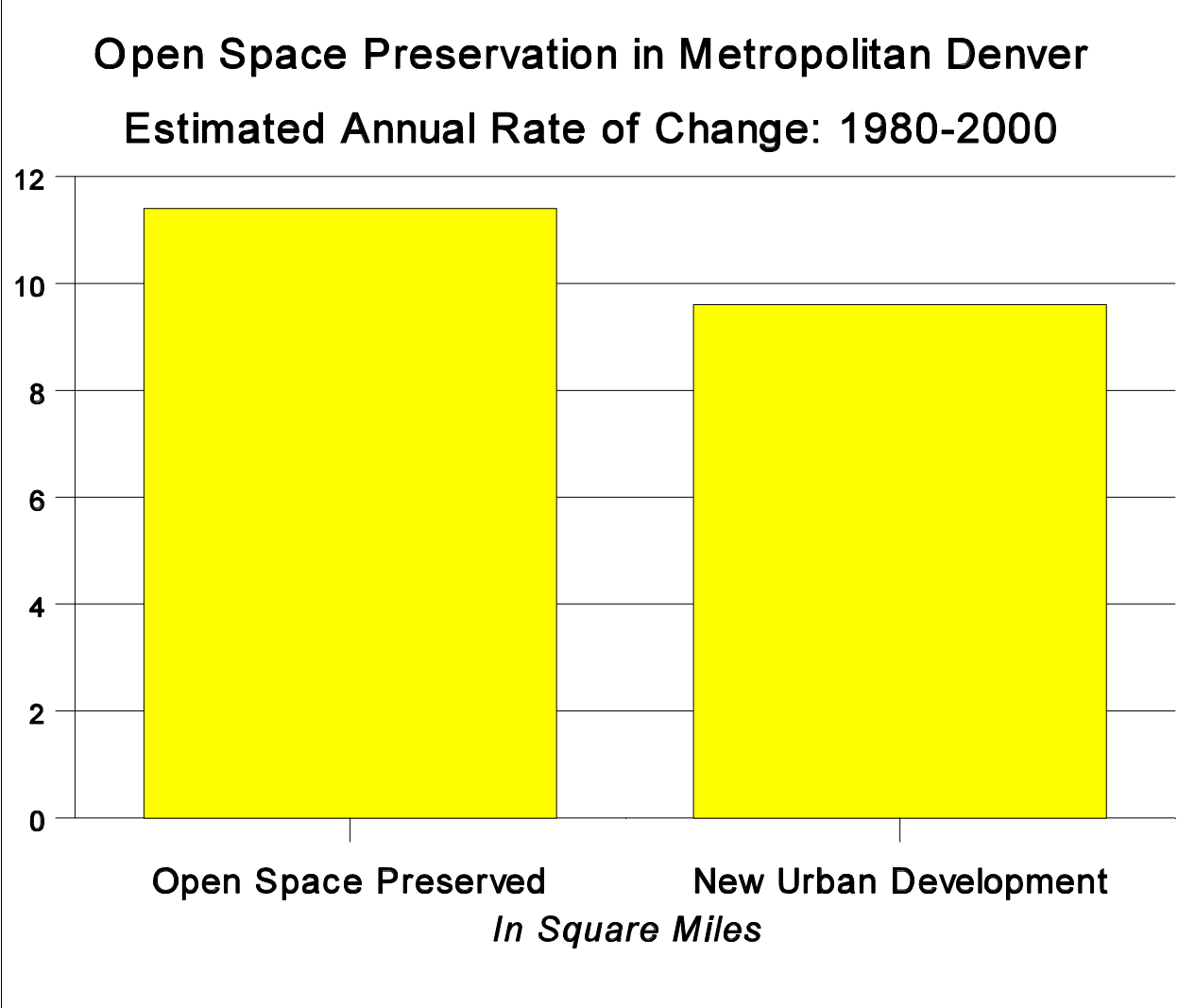


Figure 7
Source: Estimated from US Department of Agriculture National Resources Inventory, US Census Bureau, Douglas County, Boulder, Boulder County and Jefferson County data.

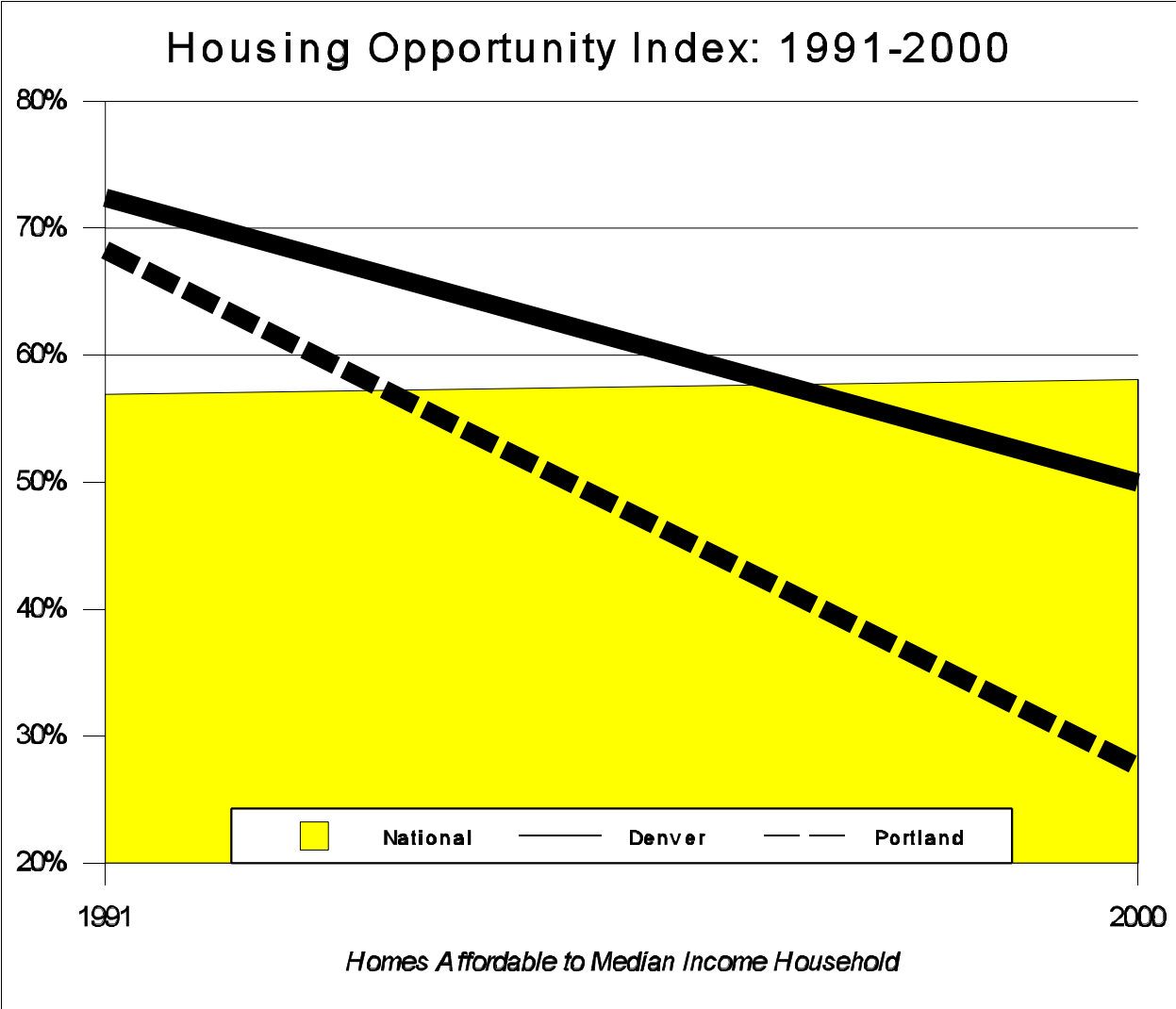


Figure 8
 Source: Calculated from National Association of Home Builders Data

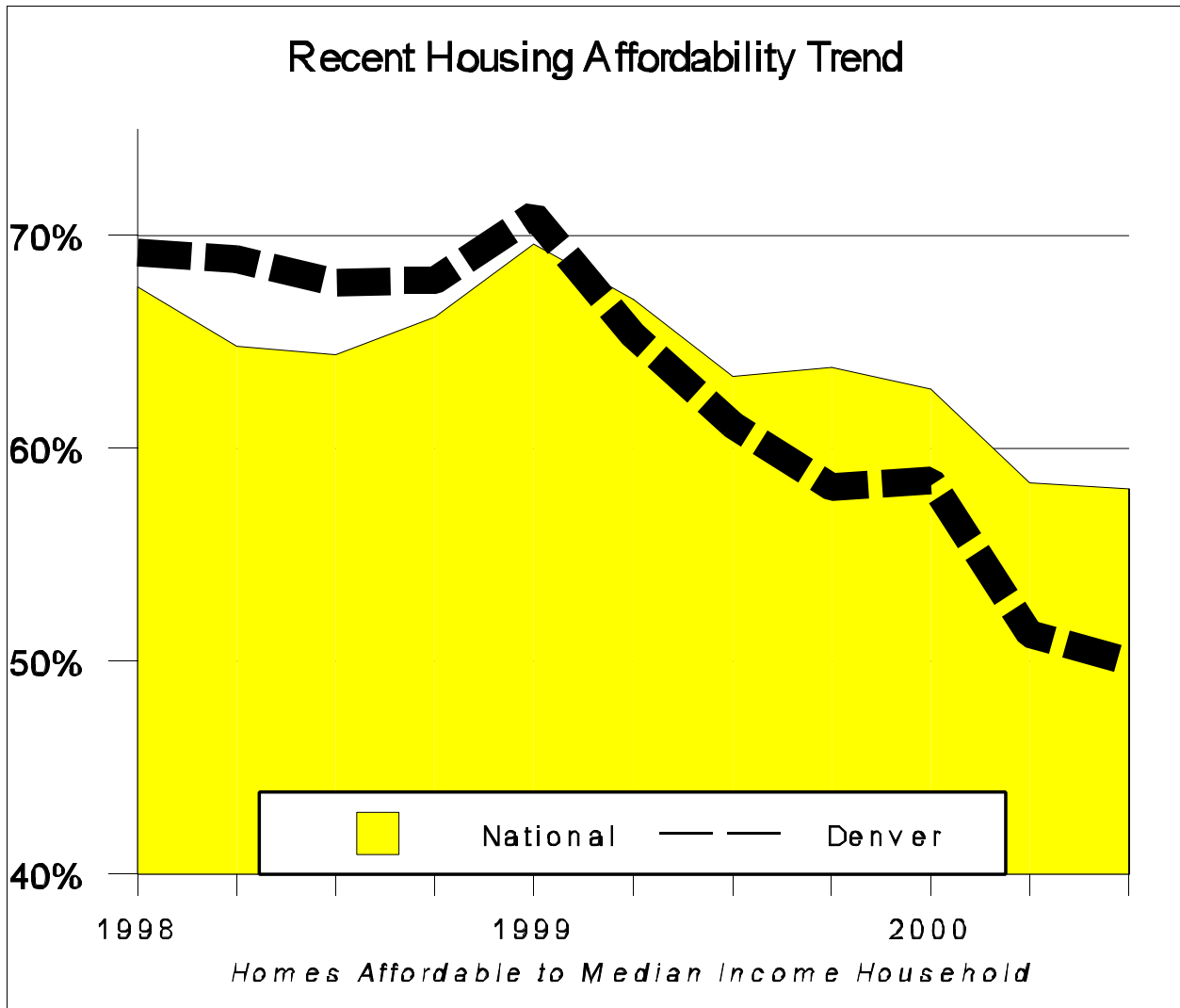


Figure 9
 Source: Calculated from National Association of Home Builders data.

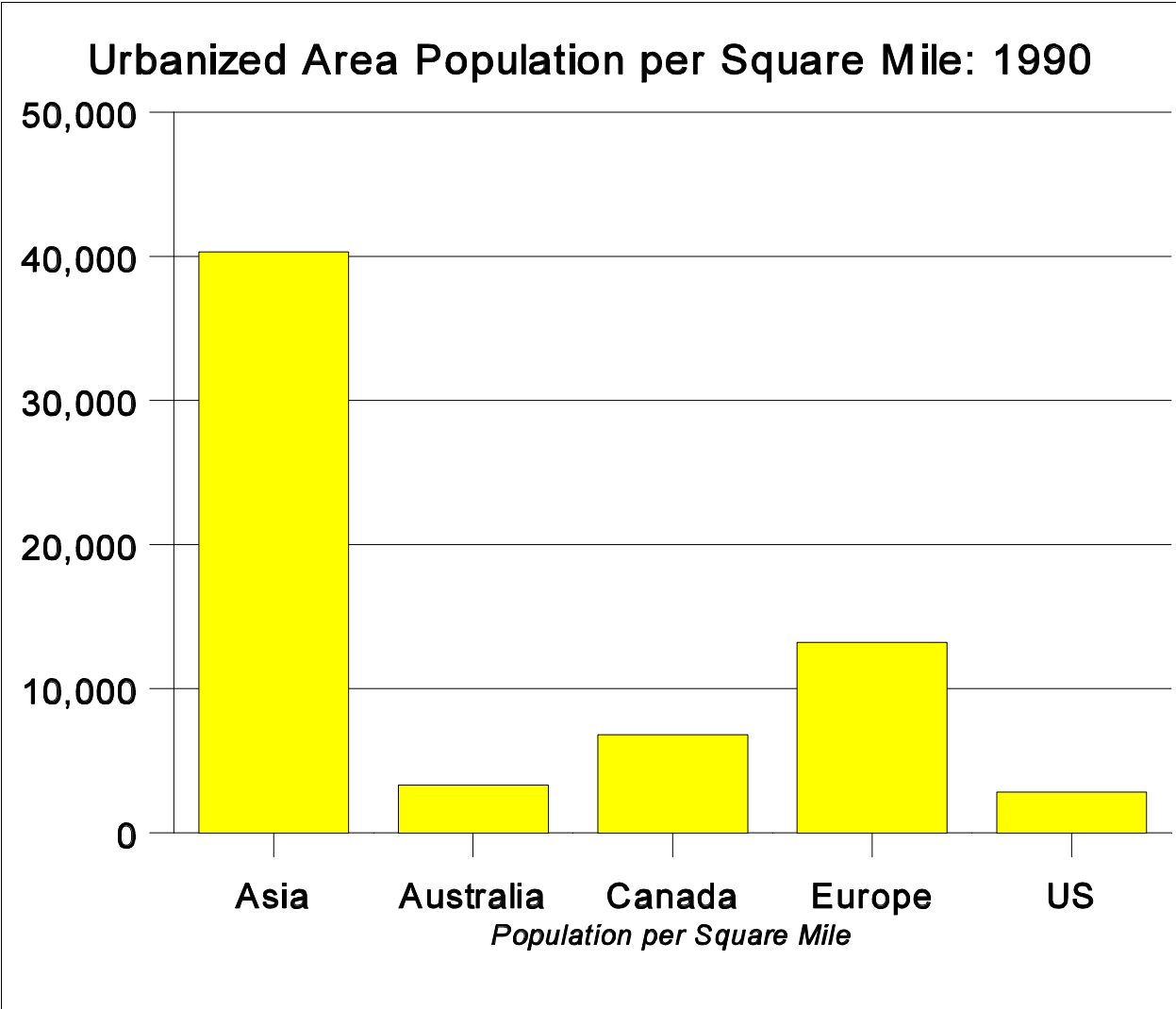


Figure 10
Source: Calculated from Kenworthy & Laube & US Census Bureau data.

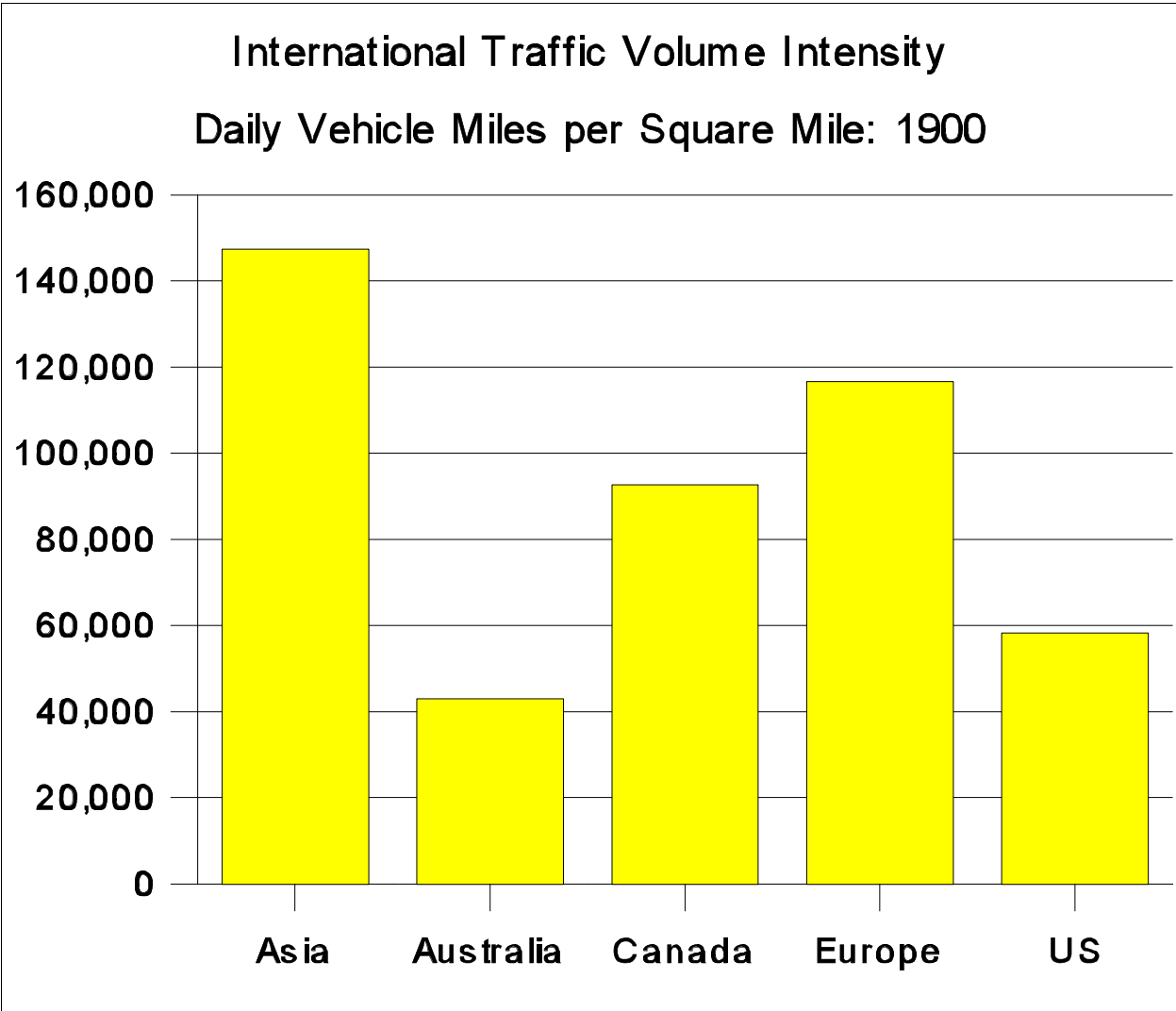


Figure 11
Source: Calculated from Kenworthy & Laube & Federal Highway Administration data.

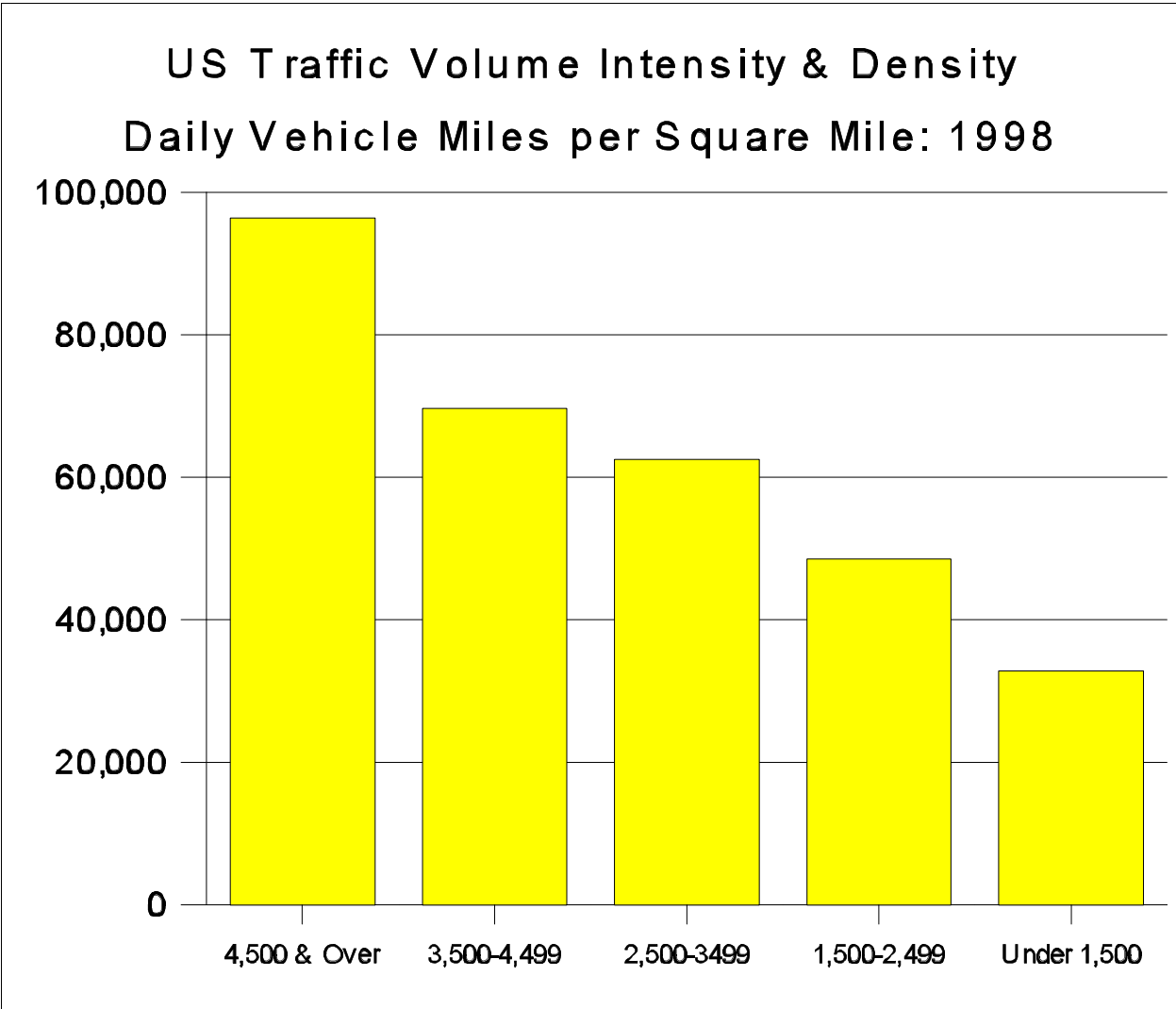


Figure 12
Source: Calculated from Federal Highway Administration data for 64 urban areas over 500,000 population.

Air Pollution and Average Vehicle Speed

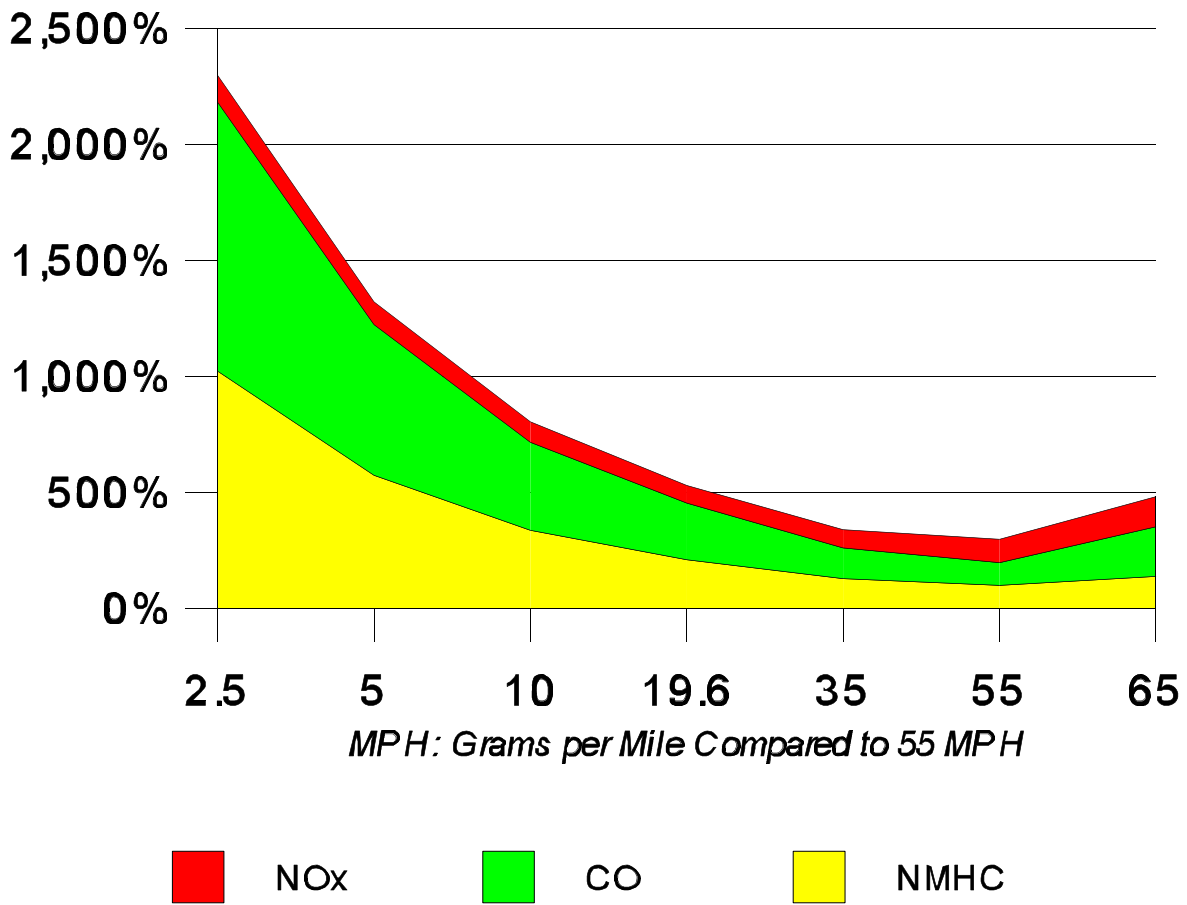


Figure 13
Calculated from EPA data.

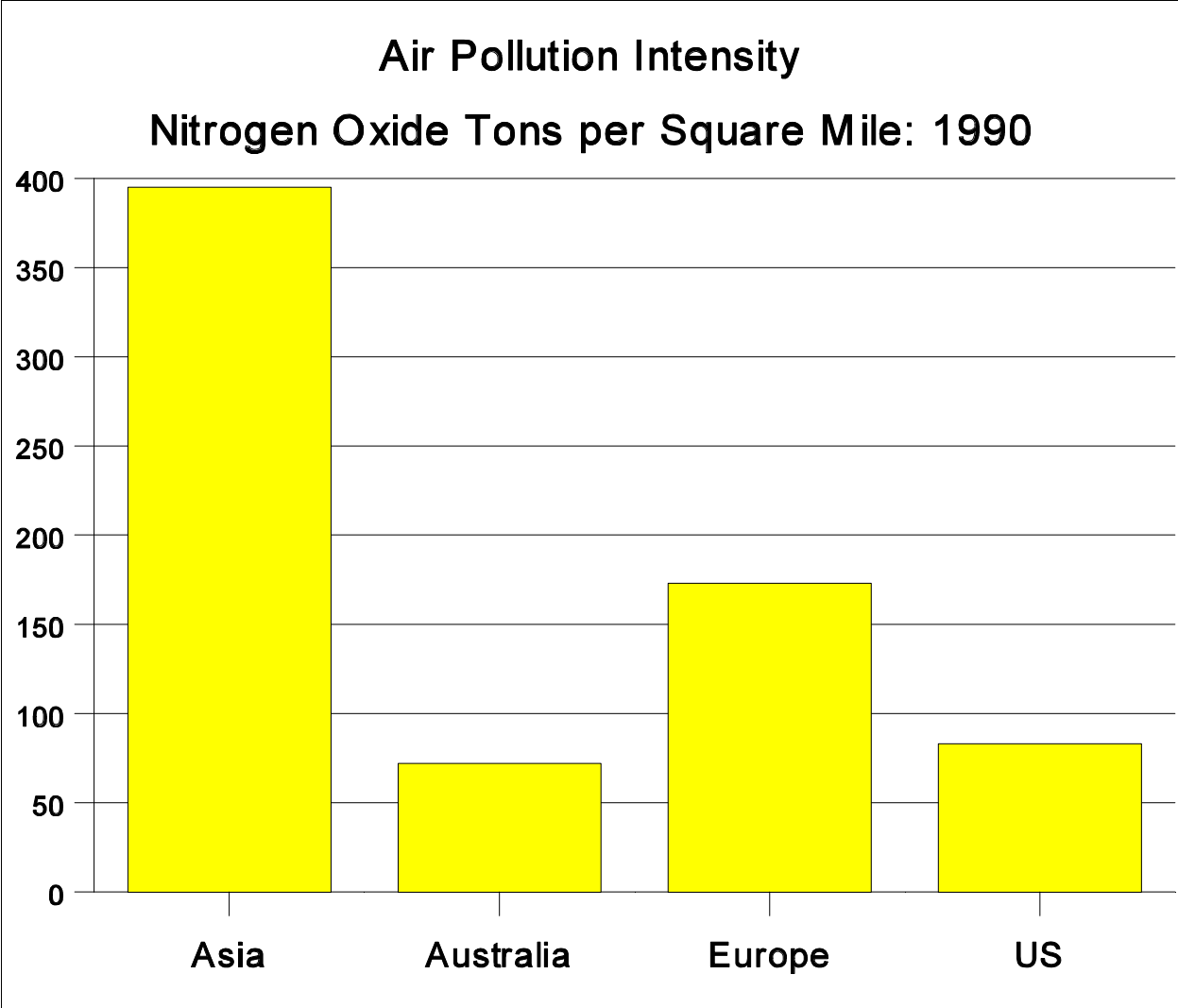


Figure 14
Source: Calculated from Kenworthy & Laube data.
Data for other pollutants show similar relationships.