

An aerial photograph of a city skyline, likely New York City, showing a dense cluster of skyscrapers and buildings. The image is used as a background for the book cover. The text is overlaid on a light blue rectangular area in the upper left and bottom center.

Toward More Prosperous Cities

*A framing essay on urban areas, planning,
transport and the dimensions of sustainability*

by Wendell Cox

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Toward More Prosperous Cities

By Wendell Cox

I appreciate Eric Britton's gracious invitation to contribute my views on cities and urban transport to *World Streets*. Obviously, many readers will disagree with all or part the article. Nonetheless, the state of knowledge is never complete and progress [continues to depend on open minds and civil discussion of perspectives](#) among people of good will. There is extensive use of "hyperlinks," which provide direction to greater detail for any interested. The article begins with the public policy context, then follows with urban policy, urban transport and sustainability.

For background, I was appointed to three terms on the Los Angeles County Transportation Commission (LACTC) by Mayor Tom Bradley and was the only non-elected member. LACTC was the ultimate policy authority for both mass transit and highways in the nation's largest county (then 7.5 million). I had entered transport policy to advance urban rail in Los Angeles, because I believed would reduce traffic congestion. While on LACTC, I chaired two American Public Transit Association national committees (Governing Boards and Policy & Planning).

In an August 1980 special meeting, and on the "spur of the moment," I introduced a amendment to establish and fund the Los Angeles urban rail system. This became a part of "Proposition A," which was enacted by the electorate and provided much of the funding for the early rail lines. To my disappointment, it later became clear that urban rail's potential for reducing traffic congestion had been grossly oversold (See "The Limits of Mass Transit," below).

I also served as a visiting professor of transport at the Conservatoire National des Arts et Metiers in Paris, where I depended on the Metro and walking for local travel.

1. THE PUBLIC POLICY CONTEXT

Economics has been and must continue to be the foundation of human progress.

Means and Ends

The objective of urban policy should be to achieve wide-spread affluence and eradicate poverty around the world. Beyond the rule of law and security, these may be the most important public policy objectives. Greater affluence means maximizing real household discretionary incomes (incomes after deduction of taxes and the costs of basic necessities, especially housing, food, transportation and clothing).

Cities, urban policy and urban transport are means to facilitate these objectives. However, they are not ends themselves. I advocate neither "urban sprawl" nor travel by automobiles. My interest is the objectives of broadening affluence, not urban form or means of transport.

The Necessity of Economic Growth

Economics is a history of poverty. University of Rochester (NY) Economist Steven Landsburg [put it this way](#):

Modern humans first emerged about 100,000 years ago. For the next 99,800 years or so, nothing happened.... Almost everyone lived on the modern equivalent of \$400 to \$600 a year, just above the subsistence level.

Data compiled by the late OECD economist Angus Maddison estimates the world gross domestic product per capita (GDP) at approximately \$1100 in 1820 (2010\$ purchasing power adjusted). Netherlands was the most affluent, with less than \$3100 per capita, similar to the present levels of India and Nicaragua.

Since 1820, the world population has increased substantially (5.5 times), but the economic pie has expanded far more. The world [\(GDP\) product grew 70 times](#) (inflation and purchasing power adjusted), approximately 13 times population growth. Yet, much (too much) of the world continues to live in poverty.

The Importance of Public Stewardship

Public financial resources need to be spent efficiently, a sense indicated in the mission statement of my original website, "[publicpurpose.com](#)," (1995): *To facilitate the ideal of government as the servant of the people by identifying and implementing strategies to achieve public purposes at a cost that is no higher than necessary.* The need for government efficiency has become more imperative, as high income nations have obligated themselves beyond their capabilities. There is, at least as yet, no politically acceptable roadmap out of these difficulties. Yet, as I learned within my first 30 days on LACTC, governments tend to operate on the assumption that the answer to every question is more money. When too much is spent to produce an amount of any public service, such as mass transit, less service can be provided, and/or money that could be creating jobs is taken unnecessarily from people.

2. URBAN POLICY

The framework for this discussion is cities.

The Rise of Urbanization:

By 2010, the majority of the world's population was urban, rather than rural, for the first time. As late as 1800 the world's urban areas accounted for 10% or less of the population. [Only Beijing had a population of more than 1 million](#). Other cities had reached that figure before, but none retained it.

Large urban areas are a product of the 19th and 20th centuries. By 1900, there were at least 15 cities of more than 1 million population. Only London had more than 5 million residents. New York became the world's first megacity (more than 10 million) by 1930. Now there are approximately 450 urban areas with more than 1 million population, 70 above 5,000,000 and 26 megacities. Tokyo is the largest, with over 35 million. There has been an important association between urbanization and economic growth.

Defining the City

As research by the [Santa Fe Institute](#) suggests, cities are like elephants --- they are organisms. They tend to become more productive as they become larger ([the research finds no density relationship](#)). The urban organism takes two forms, the functional and the physical. The functional urban organism is the metropolitan area (the labor market or economic unit). The urban organism can also be defined as the physical urban form --- the extent of continuous urbanization. The urban area contains no rural land. The metropolitan area encompasses the urban area as well as surrounding rural areas. The extent of rural land in high income world metropolitan areas virtually always exceeds the urban land by a wide margin.

The urban core (usually defined as the [historic core municipality](#), such as the ville de Paris or the city of Chicago), often receives disproportionate policy attention, but is only part of the urban organism. The urban core is *part* of the elephant, *as are the suburbs and exurbs* (within the metropolitan area).

The distinctions are illustrated by Paris. The Paris metropolitan area ("aire urbaine") covers [17,200 square kilometers](#) with a population of 12.1 million (2008 census). More than 80% of the metropolitan land area is rural, rather than urban. The Paris urban area (unité urbaine) covers 2,850 square kilometers, with a population of 10.4 million. It contains the ville de Paris [411](#) additional municipalities (communes). The ville de Paris covers less than 1% of the metropolitan land area, less than 4% of the urban area, and comprises approximately 20% of the population.

Urban policy needs to be directed at the city as an urban organism, not skewed toward the urban core. Thus, the term "city," as used in article refers to the metropolitan area or the urban area.

The Purpose of Cities

Cities are economic entities. Cities have drawn rural residents principally because of economic aspiration, as people have abandoned rural poverty for the hope of a better life in the city. They did not flock to the city "for the fountains" or for "good" urban planning. Cities that facilitate achievement of aspirations are likely to attract residents, while those that do not tend to stagnate or shrink. Former World Bank principal planner Alain Bertaud (2004) characterized the [purpose of cities](#): *Large labor markets are the only raison d'être of large cities.*

The Evolving Urban Form

Throughout history, and especially during the past two centuries, the most successful cities have added population and they have naturally (organically) expanded their physical size. Both of these trends have been accelerated by greater affluence and faster transport.

Despite perceptions to the contrary, spatial urban expansion is not limited to the United States. It can be observed virtually everywhere where it is not blocked or densification policy (also called compact cities policy, urban containment, urban consolidation, smart growth, growth management, etc.). The most extreme examples of densification policy constraints may be London, Vancouver and Sydney. However, policy can also induce the opposite --- artificially greater urban area expansion. The mechanism has been maximum density regulations in urban areas like [Atlanta and Boston](#) ([each less than one third the population density of Los Angeles](#)).

One of my principal interests is the evolution of cities. For some years I have published [Demographia World Urban Areas](#), with estimates of population, urban land area and densities for all identified urban areas with 500,000 or more population. I also write the [Evolving Urban Form](#) column in [newgeography.com](#), now with more than 30 entries, such as [Tokyo](#), [London](#), [Jakarta](#), [Manila](#) and [Shanghai](#).

Generally, the greatest population growth has been in suburban and exurban areas, while urban cores have grown more slowly (or lost population), which illustrates the *tendency of cities to become less dense as they become larger*, especially those retaining above automobile-oriented densities. At the same time, many urban cores in the US, Western Europe, Japan and even the developing world have declined in density.

Cities and Densification Policy (Compact Cities Policy, etc.)

This raises the issue of urban spatial expansion --- pejoratively called urban sprawl --- which urban planning has virtually defined as inherent evil. Densification policy is offered as the antidote. More recently densification policy has been proposed as a principal strategy for reducing greenhouse gas (GHG) emissions. There are also concerns that urbanization crowds out agricultural land. However, [Angel](#) (New York University) replies that there are *adequate reserves of cultivatable land sufficient to feed the planet in perpetuity*.

Densification policy attempts to stop urban spatial expansion through urban growth boundaries and other measures that prohibit building on land on or beyond the urban periphery. Densification policy also seeks to reduce personal vehicle use, substituting mass transit, walking and cycling. Indeed, there is a view among densification policy advocates that the city should be designed for mass transit. This places the "cart before the horse" to the second degree. Urban transport should serve the city and the city should serve its residents by facilitating higher incomes and less poverty.

There is an assumption that increasing densities will increase transit use. However, as [Statistics Canada](#) research indicates, people in higher density housing use cars at a rate similar to those in nearby lower density housing in areas more than 10 kilometers from the central business district (CBD). [McCloskey, Birrell and Yip](#) further indicate that higher rail corridor densities in Melbourne have failed to increase mass transit commuting materially, because most jobs are not within walking distance of rail stations. It is hard to find a US urban area with a lower mass transit market share than San Jose (California), [yet its density exceeds that](#) of the New York urban area, which accounts for 40 percent of US mass transit use.

There is also a view that travel demand can be reduced by establishing a "jobs-housing balance" within parts of the urban organism. Bertaud, however, says that the economic efficiency of the city requires [avoiding any spatial fragmentation of labor markets](#). Attempts to establish sub-city jobs – housing balances are likely to fail, since the location preferences of people and businesses are beyond the knowledge of planners. Understanding the city as an economic entity means a job-housing balance at the metropolitan area level (labor market), but not below.

There is also an assumption that more dense housing is associated with reduced GHG emissions. Much of the research, however, excludes common GHG emissions (from lifts, common area lighting, space heating and air conditioning, etc.) in large multi-unit buildings, usually because data is not available. Research in Sydney found [that town houses and detached housing](#) produced

less GHG emissions per capita than higher density housing when common GHG emissions are included. Moreover, sustainability research is often based on static, rather than dynamic analysis, ignoring future improvements (some of which are required by law).

Densification Policy: Fundamental Flaws

There are substantial difficulties with densification policy. For example:

1. Higher densities mean greater traffic congestion

Higher population densities are associated with [higher traffic volumes](#). The only way to avoid this is, in effect for no new residents to use cars. A density calculator developed using [Sierra Club](#) data associates a doubling of population density with a 60% increase in driving. A meta-analysis by [Ewing and Cervero](#) associates a doubling of density with only a modest (approximately 5%) decline in per capita personal vehicle use. In other words, traffic densities rise almost as fast as population densities.

Higher traffic densities also mean greater traffic congestion. As traffic slows and operates in "stop and go" conditions fuel efficiency is reduced. [Transport Canada research](#) indicates that fuel consumption per kilometer (and thus GHG emissions) rise nearly 50% as arterial street traffic conditions deteriorate from stable to unstable. Strategies to reduce vehicle travel miss the point, because GHG emissions are a function of fuel combustion, not distance traveled. Gains from less driving can be lost in reduced fuel efficiency. Further, greater traffic congestion increases local air pollution in the immediate area, [with negative health impacts](#).

All of this is in addition to the costs imposed by greater traffic congestion, which interfere with broadening affluence and eradicating poverty.

2. Densification policy is associated with materially higher house prices,

The urban containment strategies (such as urban growth boundaries) of densification lead to higher house prices higher relative to incomes. Because housing is the largest element of household expenditure, this increases the cost of living, which reduces affluence and increases poverty.

Former Governor of the Reserve Bank of New Zealand, Donald Brash wrote: *The affordability of housing is overwhelmingly a function of just one thing, the extent to which governments place artificial restrictions on the supply of residential land* in the [introduction](#) to our *4th Annual Demographia International Housing Affordability Survey* (2008). Former Monetary Policy Committee of the Bank of England [Kate Barker](#) also found a strong relationship between unaffordable housing prices and densification policy in reports commissioned by the Blair government.

When the supply of any good is artificially constrained, such as land for development, costs will tend to rise excessively. Brookings Institution economist Anthony Downs stressed that land regulation should be sufficiently flexible to preserve a "[competitive land supply](#)." Without a competitive land supply, land prices tend to rise, just as artificial constraints on the world oil supply (such as by OPEC) are associated with higher prices. The land supply constraints lead to [greater speculation](#), which drives house prices even higher.

Densification policy has destroyed the competitive land supply in many cities, and house prices have escalated well beyond historic norms. In the six nations covered by the [Demographia International Housing Affordability Survey](#), the Median Multiple, the median house price divided by the median household income, has risen from 50% to more than 200% in the metropolitan areas with the most extreme densification policy. Examples are all major markets in the United Kingdom, Australia and New Zealand, some in the United States (especially coastal California, Portland and Seattle), Toronto and Vancouver (which had the most unaffordable housing outside Hong Kong in last year's *Survey*).

California experienced the greatest house price escalation during the US housing bubble and set off the worldwide Great Financial Crisis. Yet, during the period, California experienced *weak* underlying demand. More than a net 1.5 million Californians moved to other states in the 2000s. In Dallas-Fort Worth, Houston and Atlanta, house prices remained at or near historical norms in spite of extraordinary demand (net domestic in-migration exceeding 1.0 million. Housing affordability was also retained in virtually all markets that have avoided densification policy.

In California, [where land prices had been similar to the rest of the nation](#), experienced an up to 13 times increase (inflation adjusted) as densification policy was implemented. Land prices in markets without densification policy stayed virtually the same in relation to construction costs (see [Demographia Residential Land and Regulation Cost Index](#)). Raw land prices per hectare with planning permission have escalated to 10 times across the street prices (across the urban growth boundary) in [Portland](#) and [Auckland](#). [Cheshire \(London School of Economics\) found an up to 700 times increase](#) in prices for land rezoned from agricultural to residential in the United Kingdom

[Angel](#) cautioned that the lack of sufficient land for urban expansion can extinguish "any hope that housing will remain affordable, especially for the urban poor." He decries the notion that "cities should simply be contained and enclosed by greenbelts or impenetrable urban growth boundaries" as "uninformed and utopian" because it makes sustainability "an absolute end that

justifies all means to attain it." He says that other strategies should be used to achieve environmental sustainability.

Econometric research also identifies [an association between slower economic growth and densification policy](#). For example, Saks (US Federal Reserve Board) found that where housing supply is more constrained by regulations, employment growth is generally lower than expected. Nandwa (University of Dubai) and Ogura (Grand Valley State University) found that US that metropolitan areas with strict land-use regulation tend to have slower than expected productivity growth. Vermeulen (Netherlands Bureau of Economic Analysis) and Van Ommeren (VU University) associated slower employment growth in the Randstad, with its more stringent housing supply limitations.

Densification policy's fatal flaw is that it reduces affluence and expands poverty by pushing up house prices relative to incomes.

The Way Forward: Urban Policy

Urban policy should be directed toward broadening affluence and eradicating poverty. Policies that interfere with these objectives (such as densification policy) should be rejected.

3. URBAN TRANSPORT

The transport system is the arteries of the urban organism, both for people and for goods.

Mobility and Economic Growth

[Greater mobility improves](#) the economic performance of cities and thus broadens affluence and reduces poverty. This is illustrated in research by Prud'homme and Lee (University of Paris), Hartgen and Fields (University of North Carolina-Charlotte), Cervero (University of California) and others, who have shown that economic growth is greater where more jobs in the metropolitan area can be reached in a particular period of time (such as 30 minutes).

In all major cities of Western Europe, the United States, Canada and Australasia the overwhelming majority of passenger travel (in passenger kilometers) is by personal vehicles (cars, personal trucks, sport utility vehicles and motorized 2-wheelers). Even in a number of developing world cities, more personalized motorized transport, sometimes 2-wheeler and sometimes more flexible, less formal minibus and shared-ride taxi systems also carry the majority of motorized travel. At the same time, world's larger cities have become too spatially expansive for walking and cycling to compete with the automobile and its associated economic growth. Virtually all of the [nearly 850](#)

[world urban areas](#) with 500,000 or more population exceed the 20 square kilometer walkable urban area defined by [Ausubel and Marchetti](#).

The Strengths of Mass Transit

Nonetheless, mass transit plays a crucial role in the inner areas of some cities. From 50% to more than 75% of commute trips to the CBDs in Paris, London, Tokyo, Toronto, Montréal, Sydney, Melbourne and Vancouver are by mass transit. [Even in the United States](#), transit provides a similar share to the CBDs of New York, Brooklyn, Chicago, San Francisco, Boston and Philadelphia. This high level of mass transit use challenges the notion of an American "love affair with the automobile."

In Western Europe, the United States, Canada and Australasia mass transit tends to be automobile competitive for travel to the largest and most dense CBDs. Mass transit is also automobile competitive in some broader urban cores, especially in Western Europe. Where mass transit is competitive with the automobile, people use it, even those with automobiles, whether in Europe, the United States or elsewhere.

The Limits of Mass Transit

However, transit is not and cannot be competitive with the automobile for most trips in western metropolitan areas. The modern metropolitan area has decentralized well beyond the CBD and the urban core. As population and spatial growth has occurred, jobs have followed residences. CBDs have become less dominant. In the United States, [the average CBD has approximately 10% of metropolitan employment](#). In Canada, CBD employment [averages 14% of metropolitan employment](#), while in Western Europe CBD employment is less than 20%. Mass transit's strength is in providing rapid service to the most concentrated employment centers. It cannot compete effectively to most other areas because of time-consuming transfers (rapid radial service to everywhere would be prohibitively costly) and the longer walks required to reach destinations (the last kilometer problem). As a result, mass transit takes much longer to non-core destinations than travel by car and many trips cannot even be made.

The great advantage of personal vehicles is their ability to provide the most rapid travel between the overwhelming share of addresses in metropolitan areas.

This is illustrated in the United States by [Brookings Institution research](#). Among the six metropolitan areas with the highest overall and CBD mass transit market shares (New York, Chicago, Boston, San Francisco, Philadelphia and Washington), more than 80% of workers live within walking distance of the mass transit system.

Yet, proximity to transit does not equal access. The average worker can reach only 10 percent of the metropolitan area jobs within 45 minutes by mass transit. In these six metropolitan areas --- among the most congested in the nation --- an average of 56% of drivers reach work in 30 minute or less, compared to 18% for mass transit.

[Even Paris](#), with arguably the most comprehensive mass transit system in the West, exhibits a similar problem. Cars can reach 84% of the jobs in the Ile-de-France (roughly comparable to the Paris metropolitan area) within one hour from the suburban new towns served by RER regional metro service. Only 41% of the jobs can be accessed in an hour by mass transit.

The Impossibility of Automobile Competitive Mass Transit

Automobile competitive mass transit would be unaffordable throughout the urban organism. Indeed, virtually no regional planning agency in the West has ever tabled a plan for an automobile competitive mass transit system to serve an entire large urban area.

[Professor Jean-Claude Ziv Conservatoire National des Arts et Metiers\) and I](#) estimated that from nearly 20% to nearly 80% of metropolitan GDPs would be required annually for operating, capital and financing costs for automobile competitive mass transit systems that would fully serve large urban areas.

We also estimated the average urban population density that would be required to support an automobile competitive mass transit system at the highest GDP percentage in the world spent on mass transit (Berlin). This ranged from 45,000 per square kilometer in the lowest developed world city to 640,000 in the highest developing world city. The lowest densities are similar to Dhaka (the world's most dense largest area), while the highest density is achieved only in the most dense shantytowns. Both are beyond achievement.

In a previous examination of a smaller US urban area (modeled on Portland), I estimated that it [would take more than 100% of the annual GDP](#) to build, finance and operate an automobile competitive mass transit system.

The Improving Automobile

At the same time, personal vehicles are becoming less GHG intensive. The US 54.5 mile per gallon new car standard (4.3 liters per 100 kilometers) is likely [to reduce personal vehicle GHG emissions](#) at least 35% by 2035 despite a strong increase in driving. Already, cars are well on their way to equaling mass transit GHG emission efficiency in the United States. This is even before considering the fact that the overwhelming majority of trips cannot be practically replicated by mass transit.

Traffic congestion will remain, but it can be made less intense by allowing cities to expand, dispersing commercial activities, and providing sufficient roadway capacity where the expansion occurs. Greater employment dispersion is associated with shorter commute times ([Gordon and Lee](#)) and [lower densities are associated with less traffic congestion](#). Beyond that, self – drive cars, such as are being developed by Google, could substantially increase the capacity of existing roadway systems further easing traffic congestion.

Mass Transit's Perennial Fiscal Crisis

Mass transit suffers from pervasive cost escalation, both capital and operations.

There are has been a policy [bias](#) toward expensive urban rail systems. Rail systems have been plagued by optimism bias both in cost and ridership projections, as found by [Flyvbjerg, Bruzelius and Rottengatter](#) (and others). Metros are certainly justified in the densest urban cores, such as in Paris, London, Tokyo, New York and elsewhere. On the other hand, the market too small for high capacity rail in most other urban areas. Light rail systems, especially in the United States, are extravagantly expensive and transit service can generally be maximized by relying on busways instead.

The dynamics of urban politics (especially the incentive structure in which management and trade unions operate) have driven costs up substantially. Some cost relief has been achieved by [successful conversions](#) to market based, yet publicly sponsored services, through competitive tendering. Some of the best examples are [London Buses](#), Stockholm, Adelaide, San Diego, [Denver](#) (where I drafted the initial state legislation) and elsewhere. In each of the cases, there have been substantial savings, which have facilitated service expansion. However, mass transit interests have strongly resisted such reforms, not only in the United States and Canada, but also in Europe, where the largest systems have been largely exempted from competition requirements.

Higher than necessary costs have severely limited mass transit's ability to serve people in the cities of Western Europe, the United States, Canada and Australia. This failure has provided incentives for increased automobile use. Japan, Hong Kong and Singapore have been more successful. There, systems rely more on commercial revenues for capital and operations and much larger market shares have been retained.

Prioritizing Urban Transport Projects

Urban transport investments need to be focused on minimizing travel delay, to improve mobility, which facilitates greater economic growth. Alan Pisarski and I recommended the

distribution of public funding for urban transport on a *least cost per reduced hour of travel delay* in our [Atlanta Blueprint 2030](#).

At the same time, funding decisions should not be distorted by theoretical "social costs." Great caution is required, both because costs cannot be reliably determined outside the market (per Nobel Laureate Frederick Hayek), and because the costs of intervention can exceed the cost of the externality (per Nobel Laureate Ronald Coase).

The Way Forward: Urban Transport

Today's urban areas are far larger in population and geographical expanse and more affluent than ever before. Addressing the objectives of broadening affluence and poverty eradication requires transport that maximizes mobility and minimizes travel times. This is accomplished principally by car travel, with an important contribution by mass transit to the most dense core areas (in urban areas where they exist).

4. DIMENSIONS OF SUSTAINABILITY (Pre-requisites to Environmental Sustainability)

The dominant one-dimensional emphasis on environmental sustainability could work to prevent sustainability, because it ignores *prerequisites* (dimensions of sustainability).

Cost Effective Sustainability

Cost effective sustainability is required. The Intergovernmental Panel on Climate Change (IPCC) estimated that sufficient GHG emission reductions can be achieved at \$20 to \$50 per metric ton. Yet, most urban plans do not even make the calculation. Worse, some suggest "across-the-board" reductions by sector, ignoring costs. This would be economically distortive, destroy jobs, reduce affluence and increase poverty

Economic Sustainability

Economic sustainability is also necessary. GHG emissions reductions must be achieved without material harm to the economy. Harvard University economist Benjamin Friedman concluded that continued economic growth is required to sustain social stability ([The Moral Consequences of Economic Growth](#)).

Political Sustainability

Political sustainability (political acceptability) may be the most important pre-requisite. The widespread demonstrations against austerity measures throughout the West indicate the limited appetite for sacrifice.

At the same time, it is naive to presume that the developing world will accept continued poverty to achieve environmental sustainability. All governments ultimately require the consent of the governed, who are unlikely to accept economic monasticism. More to the point, [mass transit plans that focus on the single dimension of environmental sustainability](#), rather than on broader affluence and poverty eradication are themselves likely to be unsustainable.

A similar political reality was illustrated by [IPCC Chair Rajendra Pachauri](#), who noted that India "has no choice but to use coal." It is immoral to expect the developing world to live at poverty levels not shared by the developed world. Poverty eradication is at the very heart of sustainability, as indicated by the 2012 Rio +20 conference declaration: [Eradicating poverty is the greatest global challenge facing the world today and an indispensable requirement for sustainable development](#).

Finally, a growing body of research indicates that densification policy is ineffective in reducing GHG emissions. Nearly all of the projected GHG emission reductions projected for 2050 from a baseline "business as usual" case in the Transportation Research Board report, [Driving and the Built Environment](#) are from improved vehicle technology, not densification policy. United Kingdom researchers Echenique, Hargreaves, Mitchell and Namdeo [concluded that](#) densification policy *should not automatically be associated with the preferred spatial growth strategy*.

In the United States, the [McKinsey Company and the Conference Board](#) found that sufficient GHG emission reductions can be achieved without reducing driving or living in denser housing. Two automobile manufacturers ([Volkswagen](#) and [Audi](#)) could soon be making cars (two separate designs) achieving a 10 times improvement in fuel economy and GHG emissions. Technological strategies [hold the greatest potential](#) for reducing GHG emissions. *There is no need to sacrifice broadened affluence and poverty eradication to achieve environmental sustainability*.

5. CONCLUSION

There is no going back. No amount of wishing, hoping or planning will bring back the compact urban areas of the 19th or early 20th century. Nor can mass transit, cycling or walking ever materially reduce the demand for automobile travel in a modern world of economic aspiration. Telecommuting and online shopping are substituting for some travel, though the extent of ultimate contribution is unclear.

Densification policy is inappropriate because it retards household affluence and increases poverty by increasing traffic congestion and raising the cost of living (by raising housing costs).

Public policy should facilitate the objectives of broadening affluence and eradicating poverty, without which environmental sustainability cannot be achieved.

ABOUT THE AUTHOR

Wendell Cox is principal of [Demographia](#), a St. Louis (Missouri-Illinois) based public policy consultancy. He was appointed to three terms on the Los Angeles County Transportation Commission by Mayor Tom Bradley, where he was the only member who was not an elected official. He chaired the Service Coordination Committee and served on the Finance Review and Rail Transit Committees. He also chaired the Governing Board Members Committee and the Policy and Planning Committee of the American Public Transit Association.

He was appointed by Speaker of the US House of Representatives Newt Gingrich to the Amtrak Reform Council, to complete the unexpired term of New Jersey Governor Christine Todd Whitman.

He served nine years as a visiting professor at the Conservatoire National des Arts et Metiers (a national university), at its campus in the core of Paris (3rd Arrondissement). He is Vice President of CODATU, an international organization dedicated to the improvement of mobility in developing world cities (headquartered in Lyon).

He has completed consulting projects around the world. He is co-author of the [Demographia International Housing Affordability Survey](#) (9th annual edition published in 2013), which rates housing affordability in more than 300 metropolitan areas in the United States, the United Kingdom, Canada, Australia, Ireland, New Zealand as well as Hong Kong. He is author of [Demographia World Urban Areas](#) (8th annual edition published in 2012), the only regularly published compendium of coordinated population, land area and density data for world urban areas with 500,000 and over population. He was also an author (with lead author Joel Kotkin) of [The Rise of Post-Familialism: Humanity's Future?](#) (published by the Civil Service College of Singapore). He is a frequent commentary contributor to such publications as *The Wall Street Journal*, *The Daily Telegraph* (London), *The Los Angeles Times*, *The Orange County Register*, *The National Post* (Toronto), *The Montreal Gazette*, *Apple Daily* (Hong Kong), *The Atlanta Journal-Constitution*, *The San Diego Union* and the *San Francisco Chronicle*.

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