

TRANSPORTATION AND LAND USE

By

**Peter Gordon and Harry W. Richardson
University of Southern California
Los Angeles, CA 90089-0626**

Forthcoming in

**R. Holcombe and S. Staley (eds.)
Smarter Growth: Market-Based Strategies for Land Use Planning in
the 21st Century
Westport, Connecticut: Greenwood Press**

1. Introduction

While several reports (e.g. Lebergott, 1993; Moore and Simon, 1999; Cox and Alm, 1999) document stunning advances in health, longevity and material well being and while it is no longer disreputable to credit the market economy, most current discussions of cities and land use see only market failures. A representative example is a recent magazine article by Katz and Bradley (1999), ominously named "Divided We Sprawl." It blames most U.S. social ills on how cities are growing (especially suburbanization) and supports draconian interventions by politicians and planners to set the world right. Indeed, a flurry of growth management measures either passed by or being presented to voters across the land are unabashedly replacing markets with planning interventions. It is difficult to understand how acknowledged market successes and renascent statism can coexist side-by-side.

Urban sprawl is now widely used to explain increasing income inequality, job insecurity, central city decline, receding housing affordability, long commutes, environmental problems (especially dire global warming and ozone depletion), species extinction, farmland losses, a sense of isolation, elevated blood pressure, muscle tension, intolerance, psychological disorientation, obesity (Wall Street Journal, 1999), even murder and mayhem, and for good measure, " racial and income segregation, oppression of women, and ecological rape" (Thomas, 1994). Some have blamed the Littleton, Colorado shootings on the "anomie and ennui that's being produced in these environments" (James Kunstler, quoted by Neil Peirce, 1999). One critic noted that "the American people are coming to the conclusion that sprawl is to blame for a good deal of the discontent that attaches to end-of-century middle-class life. And this change of mind will shake up politics in many places in the first decade of the 21st century" (Ehrenhalt, 1999). It is worth noting that Anthony Downs, by no means a defender of sprawl, ran hundreds of regressions of a sprawl index against two measures of urban decline (central city population change, 1980-90) and a nine variable decline index (poverty, crime, per capita income, age composition of the housing stock, etc.). To his surprise, he found no meaningful and significant statistical relationship (Downs, 1999, p. 961).

According to the critics, sprawl is the problem and smart growth is the solution. Smart growth advocates see "... a growing sense that the suburban paradigm, which has dominated since the 1940s and 1950s, cannot sustain

another generation of growth" (Katz, 1994, p. ix). Calthorpe (in Katz, 1994, p. xiii) is fairly specific when he suggests a "New Urbanism" where, "there should be defined edges (i.e., Urban Growth Boundaries), the circulation system should function for the pedestrian (i.e, supported by regional transit systems), public space should be formative rather than residual (i.e., preservation of major open-space networks), civic and private domains should form a complementary hierarchy (i.e, related cultural centers, commercial districts and residential neighborhoods) and population and use should be diverse (i.e., created by adequate affordable housing and a jobs/housing balance)." There is little analysis or discussion of the costs, the implied trade-offs, the consistency or even the consumer's desire for such forms. There is certainly no anxiety over the loss of property rights nor over their politicization. Even the New Urbanist fall-back position that, "... building walkable neighborhoods may not get people out of their cars and building front porches may not create an integrated convivial communities, ... but people should be given a choice" (Calthorpe, 1993, p. 10) never acknowledges the fact that markets regularly generate most feasible choices while discarding the infeasible ones, based on how opportunity costs compare to consumers' willingness to pay.

Nevertheless, there is a widespread presumption that planning should strive for more mixed-use and more compact (including "infill", but only on any vacant lands and parking lots) land development with plenty of transit, walkways and bikeways (Schmidt, 1998). This evokes Hall's discussion of the 1952 General Plan for Stockholm which reads like a plan for a high-density transit metropolis: "It proposed establishing new suburban districts, each for 10,000 to 15,000 inhabitants, strung like beads along the lines of a new subway system. Within them, apartment blocks were to be built within 500 yards of subway stops; single-family houses, constituting no more than 10-15 percent of housing units in each district, were to be built within 1000 yards of the stops but no further ... the city's policy was that each station on the subway should generate enough traffic to make it self-supporting" (pp. 862,3). Plans often fail to materialize. Hall notes that "surveys in the late 1970s reaffirmed the fact that 90 percent of people preferred single-family homes" (p. 876). Not surprisingly, a more recent Swedish development is described as "a vast linear edge City of business parks and hotels and out-of-town shopping centers, stretching along the E4 highway, for twelve miles and more towards the Arlanda Airport. It is almost indistinguishable from its counterparts in California and Texas" (p. 878).

Critics of U.S. suburban development cite Europe and Canada as favorite models but have avoided taking a hard look at Europe and other developed countries. If they had, they would have found increasing suburbanization and growing auto use under (and in spite of) a policy milieu carefully designed to prevent precisely these outcomes. Planners in the U.S. point to a wide array of U.S. policies (favorable federal tax treatment of home ownership, comparatively low gasoline taxes, extensive highway systems, large-lot residential zoning, local tax incentives to mobile firms, etc.) that could account for observed U.S. dispersed settlement patterns. Clearly, these have had some effect. The question is how much? The critics have paid far less attention to the many policies that favor central cities such as downtown renewal, subsidized stadia placed in central cities, and heavily subsidized downtown-focused rail transit systems. It may be that U.S. policies that bear on land development do not point in a single direction of spatial development. A recent GAO report reaches similar conclusions (US General Accounting Office, 1999).

Elsewhere, we have noted (Gordon and Richardson, 1999) that widespread auto ownership with suburban land use patterns are evolving in Western Europe and Canada where policies are very different, most of them strongly favoring compact development (Gerondeau, 1997; Giuliano, 1999; Morrill, 1991). A recent compilation from the U.S. Department of Transportation (1999) shows that among the G-7 countries, Japan not the U.S. is the outlier when it comes to the share of total domestic passenger-kilometers traveled by personal vehicles. These events and facts have gone almost unnoticed in the U.S. sprawl debate. In asserting that peculiar U.S. policies are the explanation for sprawl, the critics accomplish two things: i. they divert attention from their objections to universally preferred lifestyle choices; and ii. they point to a simple "fix"; move U.S. policies closer to those found elsewhere.

The fact that some U.S. policies have a suburbanizing impact is indisputable. The hard question is: How much? This is seldom asked or answered. An exception is Voith (1999) who estimates that the federal tax treatment of housing is responsible for a 15 percent decrease in residential densities. Most of the evidence suggests that land use and transportation trends abroad, though difficult to measure and compare, are very similar to those in U.S. cities, with the differences largely explained by a moderate lag.

In sharp contrast, Nivola (1999) sees the decentralization of U.S. cities as "path dependent: technological innovations helped chart an early course that has determined, and been amplified by, subsequent events" (p. 11). The trouble with this view of technology is that it leaves no room for people's preferences as a driver of technological change. The view that technological change is an exogenous juggernaut has been challenged by Romer (1996) and others. Nivola also calls attention to America's interstate highway program, begun in 1956. This is too large an investment to have had no impact. Yet there was significant suburbanization before 1956 and there is much of it in countries without infrastructure programs of this type. The relative sparseness of highway networks in other countries helps to explain their high levels of traffic congestion, especially in cities or along major interurban corridors. In this way, the lack of highways can be seen as a decentralizing force.

The futility of the transit/high-density model in the modern world can be seen in the miserable traffic and commuting conditions in places like Seoul, Athens, Rome, Tokyo, Jakarta and Paris. Newly affluent households are increasingly opting for the automobile in spite of widely available transit, the absence of freeways and U.S.-style highway networks. The long run income elasticities are greater than one, and price elasticities are much lower. As a result, income matters more than gasoline prices, but people have fewer suburb-to-suburb commuting opportunities. The result is congestion levels and traffic conditions that would appall Americans.

Many of the smart growth gurus are architects and urban designers not easily reconciled to a world of order without the benefit of human design. They fail to appreciate the idea that the uncountable number of trial-and-error processes that occur in a free society best manage complex trade-offs, leading to discovery and progress. Instead, they are likely to see the need for grand strategies to implement their visions. Consumer choice is not high on their list. Yet the grand strategies are extreme, even dangerous. The idea that cities and neighborhoods can be adequately represented via the pretty mock-ups and models found in university architecture studios is disturbing. Scott (1998) refers to all this as "high modernism", noting that "the carriers of high modernism tended to see rational order in remarkably visual aesthetic terms. For them, an efficient rationally organized village, city or farm was a city that looked regimented and orderly in a geometrical sense." And, *a propos* the apparent oddity that "smart" growth rhetoric follows so close after the collapse of central economic planning "the carriers of high

modernism, once their plans miscarried or were thwarted, tended to retreat to ... miniaturization: the creation of a more easily controlled micro-order in model cities, model villages, and model farms" (p. 4).

The technocratic view of cities as places that will benefit from intelligent design is shared by many outside architecture studios. Two prominent operations researchers, George Dantzig and Thomas Saaty, published *Compact City: A Plan for a Livable Urban Environment* in 1973. The authors employed what they called "total-system models" to refigure many aspects of city life. The last line in their book is the fully capitalized sentence: "THE ULTIMATE GOAL IS A RICHER QUALITY OF LIFE" (p 224). While this is a refreshing alternative to Le Corbusier's unabashed authoritarianism, it is inadequate because nowhere do the authors pay any attention to the choices that people have been making in the real world, inconsistent with compact cities. This is the well-known fatal flaw of the technocratic approach.

Wholly planned New Cities such as Brasilia and Chandigarh that are more monumental than inviting have been built by architectural visionaries. They have been spectacular failures, rejected by most of the people for whom they were designed. No matter. Today's interventionists promise that the specifics of smart growth plans will be conjured up and wisely implemented by the powers that be. They will specify minimum and maximum allowable densities for various locations plus a raft of other specifications, asserting repeatedly that any departures from these standards would be (by definition) "wasteful".

2. Suburbanization

2.1 Historical Trends

The suburbanization of population and employment is not a new phenomenon. Most societies have been urbanizing while their cities have been expanding outward for many years. In the process, most urban population densities have been falling. There are many reasons why economic activity becomes more efficient when other activities are located nearby. This is why cities evolved. Yet the definition of "nearby" continues to change. The association of urban expansion with improved ease of movement is clear. As the "friction of distance" subsides, people and firms access more sites and more opportunities without incurring substantially greater costs. They can also forego the huge capital costs of high-rise development as well as many of the costs of crowding and congestion. Geographers (e.g., Mueller, 1986) have linked city expansion with the dominant transportation technology of the time, calling attention to the "Walking-Horsecar Era" (1800-1890), the "Electric Streetcar Era" (1890-1920), the "Recreational Automobile Era" (1920-1945) and the "Freeway Era" (1945 - the present). The current era of Moore's Law, expanding bandwidth, electronic commerce and extraordinarily cheap (and rapidly declining) communications costs, continues (and probably accelerates) a longstanding trend. The forces that induce firms to cluster, agglomeration economies, now exert an influence over a more extensive geographical space.

This is why official metropolitan boundaries are regularly adjusted outward to keep up with suburbanization. Yet in the U.S., change outpaces the mapmakers and substantial employment growth in recent years has occurred far beyond the officially recognized boundaries of metropolitan areas (Gordon, Richardson, Yu, 1998; Beyers, 1998). Many of the more dynamic sites are far more peripheral than Garreau's "Edge Cities". It is not surprising that the U.S. Census reported that in 1995-96 a quarter million more people left U.S. metropolitan areas than moved into them (www.bls.census.gov/cps/pub/1997/mobility.htm).

One approach that has been used to minimize the boundary problem is the U.S. Census Bureau's effort to define "urbanized areas" (UAs) for each census year. This avoids the use of counties as the building blocks (as with

the MSAs and CMSAs) by delineating functional boundaries ("where the lights start when you fly in at night", according to one observer). Unfortunately most of the important data, notably employment, are not compiled using these areas. Population data for the Census years going back to the 1950s (Table 1) show that, in general, the larger UAs' population densities have been declining throughout the 1950-1990 period. As might be expected, the exceptions have been the fast-growing sunbelt cities. Places that absorb large numbers of immigrant populations, such as Los Angeles and Miami were the two highest-density places in 1990, surpassing even New York, where in spite of an immigrant influx, population densities continue their long-term decline. Many people choose to relocate to lower-density settlements as soon as it becomes feasible (the non-core counties of large MSAs, counties in small MSAs, and non-metropolitan counties adjacent to MSAs being the major beneficiaries; Table 2).

Most firms, especially manufacturers, were once primarily attracted to raw material sites, transshipment points, major highway intersections or harbors. Once established, many experienced economies of scale in production, both internal and external (both localization and urbanization economies). Workers had to settle in the vicinity of these clusters of factories and facilities to keep commuting costs in check. Much of this has now been reversed. A variety of technological advances in transport and communications now make it possible for increasing numbers of firms to become "footloose." These footloose firms tend to follow the labor force into the suburbs and exurban areas. Most households, all things considered, prefer to live and work in suburban environments where single-family homes (the average size of which increases every year) dominate the housing stock. They can do this without paying for the privilege with long commutes. This is because most jobs are now in the suburbs and most commutes are on faster suburb-to-suburb routes. Measures to enforce compact development are more likely to make matters worse. Yet the conventional wisdom takes a different line (from a recent newspaper editorial): "here's hoping that planners, communities and government officials make a serious effort to fight a key cause of traffic congestion: sprawl. It's sprawl that creates housing that's far removed from jobs, schools, shopping and the like. What's better? Sensibly planned communities where jobs and housing are close, where essential trips can be measured in terms of a few blocks instead of miles and where people are able to leave their cars at home in some instances" (LA Times, January 2, 2000, p. M4). This approach errs on three counts: i) most suburbanites do

not have long commutes (see below); ii) they make complex and personal trade-offs when choosing a place to live; and iii) it is naive to think that better spatial arrangements would result from a politicized, "sensible" approach.

Manufacturing industries began leaving large cities many years ago when trucks and highways made deliveries far away from rail yards economic. Of all the spatial groupings, the core counties in the million-plus metropolitan areas experienced the most rapid manufacturing decline, 1969-97, while the most rural counties exhibited the most rapid metropolitan employment growth (Table 3). But the trends for total private employment growth are not too dissimilar, with the core counties in large MSAs growing more slowly, except that the non-core counties in these MSAs were the best performers between 1969 and 1997 (although 1989-95 was a notable exception; Table 4).

2.2 Downtowns, Centers and Subcenters

Most traditional central city functions, including the "incubation" of new industries, can now function efficiently in the large metro areas' suburbs and subcenters. This is why within declining central cities, the biggest losers have been the traditional downtowns. Spatial delineations vary among the few data sources but it is clear, despite city boosterism, that there is no discernible link between metropolitan area success and downtown vitality. In 1996, the 25 largest central business districts (CBDs) employed only five percent of the surrounding metropolitan areas' jobs (Table 5). Without New York City's 1.4 million downtown jobs (40 percent of the Top 25), the number would be lower. Between 1994 and 1996, a period of substantial economic prosperity, nine of the major downtowns (including Los Angeles, Washington, Boston and Houston) lost employment. Retail and services job growth in the CBDs between the 1987 and 1992 Economic Census was negative and zero respectively (Gordon and Richardson, 1997). Very similar results are found from another data source; the Wharton Urban Decentralization Project reports zero employment growth for the top ten CBDs between 1976 and 1980 and slightly more than 1 percent average annual job growth for the same areas between 1980 and 1986. Thus, downtown stagnation is no new phenomenon.

All of this coexists with expensive downtown renewal programs, many of them augmented by equally costly convention centers, sports stadia and other baubles often placed in declining downtowns at huge taxpayer expense with the stated purpose of "revitalizing the downtown". Downtown-focused rail transit (see below) is merely one of many costly policy mistakes. Downtown boosterism and porkbarrel politics have been assisted by a widespread failure to understand that the era of strong downtowns dominating the major cities is, with very few exceptions (city quarters with historic districts and some small tourist downtowns), long gone and will never return. Many Americans happily seek out such places when they do the Grand Tour of Europe, treating them as large-scale museums to be visited and enjoyed. They may pay lip service to having one closer to home but their actual lifestyle choices tell the opposite story.

Current events in Los Angeles suggest that the highest and best use of the downtown's regional centrality is for high-tech switching equipment, not for residents or office workers. A recent L.A. Times front-page article (Nov. 2, 1999) ran under the headline, "Telecom Invasion rattles Downtown L.A. Boosters" and continued "with more high-tech firms filling space with machines, visions of a revitalized central city are clouded ... The telecommunications companies are clustered downtown because nearly all of the major local, national and international fiber-optic trunk lines carrying voice and data run underneath downtown streets. The firms want to be close to one another so that they can easily and cheaply hand off calls and other information between their networks" (p. A1). The story noted that very few people work in these new facilities. Meanwhile, approximately sixty miles to the south, California's Irvine Ranch Properties includes in its promotional brochures an aerial view of the Southern California coastline, stretching all the way from Santa Barbara to San Diego wherein the Ranch is highlighted and the accompanying text notes that "the Irvine Ranch is strategically located in the heart of Southern California's Technology Coast." The idea of centrality has changed. It is very different from the days before ubiquitous access and communications links.

Conventional public transit, especially rail, best serves traditional dense employment clusters found in the now declining central business districts. Yet high levels of investment in transit systems continue with little attention to the fact that these places are fading fast. The universal justification is that these investments will reverse the decline of downtowns. There is no evidence to justify this conclusion.

It is also not clear that the demise of downtowns means that strong subcenters (metropolitan polycentricity) represent the new prototypical urban form. A serious problem is that the employment data are reported in terms of small spatial units such as census tracts only every ten years. We used these data to study metropolitan dispersion in the Los Angeles metropolitan area. Using 1970, 1980 and 1990 employment data to identify and define activity centers in each year, we found increasingly generalized job dispersion. We identified the number and the proportion of the region's jobs in each of the three years that show up in each year's centers (12-18, depending on the year). We found generalized jobs dispersion; the proportion of jobs in each year's centers fell consistently and dramatically, from 19 percent in 1970 to 12 percent in 1990. In the period 1980-1990, jobs in centers even fell absolutely.

Generalized dispersion does not imply an even spread of jobs. The pattern is rather a few "spikes" and many low-rise "hills" on a three-dimensional job density map. Again, agglomeration economies remain, but they are spread over larger geographical spaces. Using sales price data on office space for L.A. county locations, Sivitanidou reached similar conclusions (1996). Whereas these economies had once been limited to the small radius of pedestrian access, and later over a much wider radius of auto access, their reach will now probably expand considerably with the use of electronic "highways."

The analysis also included a twenty-year look at the Los Angeles downtown (approximated by a slightly larger L.A. core) that had been the recipient of billions approximately \$2.5 billion in urban renewal funds (in constant 1992 dollars) over the last twenty-five years. This does not include more than \$500 million for the new convention center plus more billions on a downtown-focussed rail transit plan. What is there to show in terms of the core's development? Visitors to L.A.'s downtown already know that (with the exception of a vibrant Latino Broadway) it is mostly barren. Nightlife is almost nonexistent, certainly in comparison with the Sunset Strip on the borders of Beverly Hills and West Hollywood some nine miles way. The office and hotel vacancy rates in downtown were recently among the highest in the U.S. Employment in the Mid-Wilshire corridor to the west of downtown is declining. Between 1980 and 1990, absolute job growth in downtown was only 8,800 (2.5 percent), while regional jobs grew by 35 percent.

2.3 Spatial Mismatch

Perhaps the most important market failure claim involving cities is the allegation that the suburbanization of jobs has left large numbers of the poor "isolated" from many jobs and, therefore, more likely to be unemployed. If so, inner city unemployment has a spatial explanation as well as a seemingly simple spatial policy antidote: "balance" jobs with housing in various zones of the region, usually by implementing the "managed" growth agenda. Balancing can mean many things: influence the location of low-skill jobs, manage the location of affordable housing, and improve access. Some proponents want to draw jobs back to the central cities while others want to pull them to "job-poor" parts of the suburbs to create shorter commuting opportunities. In any event, spatial mismatch reasoning is seen as a way to expand local government's already substantial role in income redistribution. This is a role that U.S. big-city governments have already embraced even though economists have argued that the cities are ill equipped to perform them. Local governments have minimal policy instruments to make a difference, and they are open economies subject to selective migration (the poor move in while the highly taxed move out; Oates, 1999).

Even if we overlook the impossible scale of a regional land use matching task ("smart" growth advocates are not shy about fatal conceits), the premise is false. Involuntary unemployment and poor job prospects are human capital (including social networks) problems, rather than the result of inaccessibility. Moreover, the decentralization of jobs is not skewed in ways that remove only the best jobs from traditional centers. Rather decentralization is across-the-board, affecting all major economic sectors (Gordon, Richardson and Yu, 1998)

The problem of poverty is complex but the good news about U.S. labor markets is that there are relatively few working poor; once in the labor force, a person is unlikely to be in poverty. There is only one sure way to create jobs: improved education and training. The most promising way to achieve better schooling is via competition and parental choice, facilitated by school vouchers (Hoxby, 1994). Better central city schools would slow suburbanization. Yet the voucher movement has had only moderate success because of vigorous opposition from the politically connected education establishment. On-the-job training in the form of apprenticeships and on-the-job preparation has almost been wiped out by minimum wage

(increasingly misnamed "livable wage") legislation. The substitution of government training programs for the lost apprenticeships has not worked.

Education is mostly a state-level issue that has important local land use effects insofar as most parents compete for the better schools by bidding up suburban home values in their vicinity (Crone, 1998).

The empirical case for a "spatial mismatch" explanation of inner city unemployment is unconvincing. To make the connection, O'Regan and Quigley (1998) rely on much more general measures of "social isolation and social access," moving the discussion beyond the conventional focus on geographical urban space and commuting costs. Their findings for four New Jersey MSAs, however, add perspective to the spatial mismatch discussion; the employment rate differential between white and minority youth is explained more by human capital differences by differences in geographic access. A similar ranking of the effects of space vs human capital is reported by Immergluck (1998).

Critics ignore the fact that minorities are suburbanizing faster than the population as a whole. In the 1980s, while the white suburban resident population grew by 9.2 percent, the black suburban population grew by 34.4 percent and the Hispanic suburban population grew by 69.3 percent. These trends accelerated between 1990 and 1996 when the white suburban resident population grew by 10.8 percent while blacks and Hispanics grew by 35 and 70.6 percent respectively.

Used cars are the favored transportation mode of the poor. Even among the poorest (those with incomes below \$15,000) 80 percent of travel is by auto, less than 10 percent is by public transit. The fact that many elderly continue to operate private autos after they have lost some of the necessary skills shows the strength of preferences for personal transportation. In real world tests of the spatial mismatch hypothesis, some cities have added transit lines to connect inner city areas with job centers. None of these have had a measurable impact on unemployment.

Of course, non-auto accessibility is most favorable in the nation's transit capital, New York, where transit use per capita is seven times that of the U.S. as a whole; 37 percent of all 1997 U.S. transit boardings were in the New York metropolitan area. Yet among the ten largest U.S. central cities, unemployment in New York City was highest in every month of that year

except one (it was surpassed by Detroit in July). Mismatch-based arguments for transit investments are also undermined by the fact that the addition of new rail transit has reduced accessibility because bus service has so often been cut to pay for the high costs of rail. In Los Angeles, there has been a lawsuit by a coalition of minority and poor to stop rail transit construction on these grounds. They argued successfully that the lion's share of transit costs pay for commuter rail lines that predominantly serve non-poor suburbanites. This suggests inefficient "targeting": many highly subsidized rail systems, such as that of Washington D.C., serve large numbers of the middle and upper-middle class. User subsidies and expanded jitney-type services serve the poor and the elderly, but are strongly opposed by the transit lobby.

To explain inner city unemployment in terms of the spatial mismatch story is flawed. Analysts overlook that prior to 1970, hundreds of thousands of poor blacks migrated long distances from southern farms to northern cities in search of better lives. Despite limited employment opportunities and blatant discrimination in destination cities, their lives improved. That dramatic historical trend makes "the hypothesized deterrent effect of a ten-mile bus trip to the suburbs in search of a job appear a little thin" (Mills and Leubuele, 1997, pp 733-4). Most long distance migrations are by the very poor. Currently, many immigrant domestic workers put up with the longest commutes in order to work.

A major problem that flows from smart growth plans and the manipulation of the supply of buildable sites is rising housing costs, contributing to the widely lamented housing affordability problem. Twenty years ago, Frieden warned that "(e)nvironmental and growth controls have laid heavy cost burdens on California homebuyers" (Frieden, 1979). Residential densities in California are now rising, as a result of high land values. Surprisingly to many, the Los Angeles urbanized area is the nation's most densely populated metropolis (Miami is second, while New York is third).

Sprawl's critics might applaud California's "progress". Yet, Portland's growth boundary, in place since 1979, demonstrates the downside. It is credited with a 400 percent increase in the price of land, and an 80 percent increase in the price of housing, making that area among the lowest in affordability in the U.S. (NAHB, 1998). Landowners inside the boundary were spectacularly rewarded while renters and first-time home buyers, generally among the less well off, were hurt. Similarly, as with the U.K.

green-belt experience, leapfrogging into areas beyond the no-build zone generated very long commutes for those who continued to work inside the boundary and incurred significantly higher infrastructure costs.

The balancing strategy is complex and underscores the difficulty of social engineering. Businesses are "beginning in some cases to recognize the opportunity to expand in central cities and to employ central city residents to meet their labor needs" but "improving residential mobility is another way to increase the access of urban residents to better housing, jobs and educational opportunities. For inner city residents who desire this mobility, a combination of barriers exist, which must be overcome, these include a lack of affordable housing in the suburbs and social barriers related to race and ethnicity" (Final Report of the 95th American Assembly, 1999, p. 14). Housing regulations crimp supply and create opportunities for politicized antidotes, in this case more subsidized housing programs. The low end of the housing market is no longer served by an unassisted private sector and the long-established filtering process. Rather, it is the almost exclusive province of tax credits, bonds and public-private partnerships. Paradoxically, "affordable" housing units are brought to market only at a very high cost (Cummings and DiPasquale, 1999).

People are more likely to get the shelter they want at prices they can afford in freely functioning housing markets. Moreover, suburban lifestyles are chosen because they offer job, shopping and social arrangements that seem to work best for many people. Net migration out of the higher-density 19th-century central cities continues unabated even in metro areas that show little or no growth. Critics who assert that "sprawl systematically deprives inner-city residents of opportunities and adequate services" (Freilich and Peshoff, 1997) have the cause and effect backwards. In any migration, there are push and pull forces. People are making moves that are in their best interests; they are choosing to leave less attractive environments.

U.S. inner cities include greater concentrations of poor people than the central cities of other developed countries. This has resulted in the problem of poverty being identified in many people's minds with the problems of the inner cities. It is not unusual for critics of sprawl to talk about decaying inner cities and central cities losing jobs, people and capital. All these commentators are describing places not people. They focus on the inanimate rather than on the actors. They embrace a "place-prosperity" argument, losing sight of what should count most, the welfare of people

("people prosperity"). The idea of "saving" places is political because all politics is, indeed, local. This is the politically preferred way to fight poverty. The trouble is that the place prosperity approach invites politicization and waste and ignores the more important human capital discussions (Jacoby and Siegel, 1999). This is similar to protectionist concerns about job losses rather than focusing on the highest and best use of human capital that generates more and better-paid jobs in the long run. In the fast-paced modern economy, the key to prosperity lies in flexible markets where participants are able to exploit new opportunities quickly. Augmenting the role of regulators, especially growth managers, is more costly than ever. The recent example of a stipulated \$1,000 per employee annual exaction to be levied by a Portland suburban county on Intel if they hire beyond a negotiated employment ceiling evokes comparisons to European-style anti-job policies. Of course, in attractive locations in periods of prosperity, such constraints are considered less bothersome and hence are widely tolerated.

3. Transportation Issues

3.1 The Auto-Highway System

Unpriced highway access falls within the textbook market failure category. Yet, in spite of this, average highway speeds keep rising as more commuting occurs on less congested suburb-to-suburb roads. In a recent letter to the editor (Wall Street Journal, June 7, 1999, p. A23), the President of the American Society of Landscape Architects wrote that "sprawl is the kind of unchecked and unplanned growth that creates appalling lifestyles marked by two-hour commutes between decaying cities and traffic-choked suburbs." The writer does not reveal how many two-hour commutes there are. In fact, average (one-way) commuting time in 1990 (Pisarski, 1996) was 22.4 minutes (all modes, even lower if transit was excluded). Suburb-to-suburb commutes (within the same metro areas) were even shorter, averaging 20.8 minutes. Suburb-to-suburb commuting accounted for 44 percent of all metropolitan commuting in 1990 and is the fastest growing commuting flow. In 1990, just 12.5 percent commuted more than 45 minutes and less than 6 percent commuted longer than 60 minutes (the longer trips included disproportionately greater numbers of transit users). By way of contrast, almost one-half of Greater Tokyo commuters, with more dependence on transit, travel more than 60 minutes one-way (Sato and Spinks, 1996).

Trip time changes from 1980 had been minor, averaging 40 seconds for the U.S. as a whole, in spite of significant population growth and much faster VMT growth (data are from Pisarski, 1996). However, the Census data make no allowances for the documented increase in multi-stop, multi-purpose trips ("trip-chaining"; Gordon, Richardson and Liao, 1998), stimulated by more two-worker households. This suggests that the 40-second intercensal increase is an overstatement.

The Nationwide Personal Transportation Survey (NPTS) data highlight good news over a longer time span: average commuting durations fell from 22.0 minutes in 1969 to 20.7 minutes in 1995. Yet in the 65 largest U.S. urbanized areas VMT grew much faster than lane-miles resulting in a substantial increase in average traffic densities; nationwide, in the last ten years, urban VMT grew at almost 2.5 times the rate of urban lane-miles (Hartgen and Curley, 1999). The combination of more people in more autos traveling more miles at faster speeds without concomitant highway capacity growth is an amazing example of beneficial market adjustments. It also exposes the erroneous interpretations routinely attached to "congestion indices," i.e. comparisons of available metropolitan lane-miles to recorded area VMT (Schrank and Lomax, 1999).

"*Impending* gridlock" is forever. Those subscribing to "gridlock" stories typically assume that all new metropolitan growth will be in established centers. In the 1980s, for example, the Greater Los Angeles area added more than 3 million people, growing from slightly more than 12-million population to almost 15.5 million. In spite of this growth, average commuting times and speeds were ranked No. 5 in the top ten U.S. metro areas. Traffic doomsday scenarios are, of course, helpful to the promoters of expensive subway projects. In Los Angeles, the metropolitan planning agencies predicted crawling highway speeds without building rail transit.

Despite the predictions of standard urban economic theory, most households do not choose where to live by focussing only on the journey to work. Instead, they consider trade-offs among a wide variety of possible destinations and other locational considerations. Most notably, families with children rank access to good schools and other family services at the top. Some urban economists have, unfortunately, concluded that these households indulge in "excess commuting". This conclusion is further undermined by Pisarski's calculation for 1990 that if 70 percent of all

workers live in multi-worker households then it is unclear that there are relocations that could substantially reduce aggregate commuting distances (Pisarski, 1996). The rapid rise in home-based businesses also complicates this picture.

Furthermore, in the absence of efficient pricing, there must be some congestion. It is the default roadway capacity rationing device. The real news is how little highway congestion there is. Dynamic market adjustments, e.g. the suburbanization of jobs, is the explanation. “Rational relocation” by both firms and households is the solution not the problem. Given these market responses, it is puzzling why Downs (1999) subscribes to the opinion that the “single most aggravating problem associated with sprawl is rising traffic congestion – particularly in suburban communities” (Downs, 1999, p. 968). His subsequent discussion suggests a confusion between peak-hour congestion on *some* routes and systemic worsening congestion throughout a metropolitan region; the former is inevitable, the latter is not.

Although historical commuting data are rare, the few available examples show long-term stability. A 1967 Los Angeles Regional Transportation Study survey found that average commuting times were 24 minutes each way (Gordon and Richardson, 1993), whereas the 1995 NPTS entry for Los Angeles (Table 6) is also 24 minutes. Long period comparisons of entire travel time distributions are even harder to find. Yet, one author (Lowry, 1988) has travel time distributions for Pittsburgh that go back to 1934. The shape of the entire distribution appears not to have changed at all in a half century. Beneficial land use adjustments are the only convincing explanation.

The data from self-reported travel time surveys not only are more reliable and more plausible than modeled travel time results (such as those from the Texas Transportation Institute and the FHWA) but also tell a diametrically opposite story. Area-wide averages of vehicle-miles per lane-mile mask the important spatial redistributions that explain the good news. The “commuting paradox” (stable regional travel times coexisting with substantial, but not ubiquitous, increases in route congestion) explains how and why flexible land markets allow people to adjust to road and highway bottlenecks. All of the doomsday forecasts of traffic gridlock are wrong because they build on a static model that assumes away such adjustments.

In fact, there would be less spatial decentralization if road and highway pricing were efficient.

Efforts to reduce external costs and charge travelers the full marginal costs of each trip are the economists' favorite urban transportation policy prescription. Supporting this view is the fact that most peak-hour traffic in U.S. cities is for non-work purposes. Many of these trips could efficiently be diverted to off-peak periods. Without pricing, there are likely to be severe inefficiencies. Mobility is a "good," but newly generated traffic provides a perpetual justification to oppose new proposed developments, unless it pays its way. DeLucchi (1996) has estimated that full-cost pricing would add between 17 and 26 percent to the annual costs of auto use. Even without political obstacles, there are transactions costs involved in getting the prices right. Economists are as skeptical about achieving a congestion-free as a pollution-free world.

There is the additional question raised by public choice analysis whether public officials can be expected to behave like profit-maximizing private owners. This suggests road privatization as the best way to achieve efficient use. Yet extensive highway privatization in the U.S. is unlikely. The states would have to take the lead. Yet they are holding on to a huge and politically popular highway trust fund that they are unlikely to let go (Roth, 1995).

There are several significant congestion pricing projects now underway, one of which (Southern California's SR-91) was privately financed and built. Numerous lessons are being learned, including the difficulties and pitfalls that emerge when private owner-operators manage very small pieces of a state-run network. Many commuters, on the other hand, are learning first-hand that they have an opportunity to exchange money for time whenever they want.

Nevertheless, there is the widespread impression that road pricing is inequitable (for an opposite view, see Richardson and Bae, 1998). The lengths to which transportation planners and others will go to avoid the pricing option is illustrated by the willingness to build or try almost any alternative to avoid "gridlock." There will always be pockets of congestion without pricing. New urbanists now propose traffic calming, e.g. impediments to the flow of traffic, such as roadway narrowing, "neckdowns and chokers", closures, traffic circles, forced turns, speed humps, etc. These

are capacity reductions designed to change the behavior of motorists (Dittmar and Poticha, 1999, p 5), making driving less attractive so that people will walk, bike, or use transit instead.

Of course, any pricing scheme is likely to create both winners as well and losers. The real problem is that most people enjoy the personal mobility provided by the auto-highway system and the suburban lifestyles, while simultaneously bemoaning pockets of congestion and resisting their logical antidote -- peak-load pricing. Free access continues to be widely regarded as an entitlement even though congestion might be avoided by restraining consumption by charging the full opportunity costs. Many solutions are offered as an escape from this dilemma. These include strict, and usually counterproductive, land use controls and hugely expensive transit investments, especially "high-capacity" rail transit systems. A recent San Francisco Bay Area Council opinion survey showed that 40 percent of respondents ranked transportation as "the most important problem facing the Bay Area today" (education was second at 14 percent); the same poll found that "expand public transit" was the first choice (favored by 82 percent) for "effective ways to improve quality of life" (Wall Street Journal, Dec. 9, 1998). But is the diagnosis and prescription in line with individual behavior?

3.2 Urban Transit

Many politicians, planners, environmentalists and smart growth advocates continue to stress the importance of expanding public transit, especially the much more expensive rail transit. Yet conventional transit continues its long-run history as a declining industry; after more than \$360 billion of public subsidies since the mid-1960s, transit use per capita is at a historic low (www.publicpurpose.com). Falling ridership in the face of rising subsidies has become the industry norm. There are only slightly more transit users in the whole of the U.S. than in the city of Shanghai. Only 1.8 percent of all person-trips (2.1 percent of all person-miles) are via transit. This is substantially less than walking (5.4 percent of person-trips) but slightly more than school bus use (1.7 percent of person-trips; U.S. Department of Transportation, 1997, Figure 15). Transit worktrips are 3.5 percent of person-trips (U.S. Department of Transportation, 1997, Figure 21). Yet public transit received more than 15 percent of all public expenditures on transportation between 1977 and 1995.

Per capita transit use in almost all of the nation's largest metro areas fell by double-digit rates in the period 1980-97 (Table 7; the data measure boardings or unlinked trips, avoiding the misleading mixing of trips involving transfers with those that do not). Houston and Phoenix started from a low ridership base and grew in the 1980s but suffered reversals between 1990 and 1997. Only four of the 30 largest metro areas show a sustained 17-year growth in per capita use. Yet all four (Denver, Orlando, San Diego and Sacramento) also started the period with very low levels of ridership and still have minuscule transit use.

Increasingly dispersed origins and destinations, rising auto affordability, and the widespread appeal of auto use have been widely cited as the explanations for transit's decline. One important dimension of the convenience and flexibility of auto travel is the increasing propensity to make incidental stops to and from work. The 1995 NPTS data show that 20 percent of all trips to work between 6 and 9 am involve at least intermediate stop. In the afternoons, between 4 and 7 pm, 30 percent of commuters do not go directly home but make a stop somewhere (e.g. shop, school, etc.). Contemporary lifestyles cannot easily be accommodated by conventional transit or by carpools. This is also why extensive systems of HOV lanes and even more expensive exclusive freeway-to-freeway carpool lane ramps have had negligible impacts and why they will never redeem their high costs. Further increases in the female labor force participation rate will expand the demand for trip-chaining, hence even more auto use.

Nevertheless, vast sums have been spent on the wrong projects (mostly rail transit) administered by unresponsive yet politicized (and unionized) agencies. Pickrell (1990) examined eight new rail systems and found that i. four new heavy-rail systems experienced ridership shortfalls averaging 35 percent; ii. four new light-rail systems had patronage shortfalls that averaged 65 percent; iii. full costs per boarding were \$8.66 (average) for the subways and \$7.99 (average) for the trolleys; and iv. three of the eight cities experienced lower systemwide patronage after rail opened. Each new transit trip cost almost \$20. The annual cost of one new transit commuter was more than \$10,000 (it was almost cheaper to pay low-wage workers to stay home). Pickrell's findings (based on full-cost calculations) are notable because the transit industry rarely elaborates full costs, focusing on operating costs while most capital cost data remain obscure and hard to get.

Updating the Pickrell findings, the 1985-95 systemwide performance in these eight cities reveals net transit ridership losses in four of the eight. Taken as a group, their ridership grew by only 3 percent over the ten-year period. Roughly speaking, it cost society \$15 billion in capital costs plus operating expenses to effect this increase. Assuming that capital costs per year are annualized at 10 percent and using Pickrell's average operating cost for rail service, the 25 million net new transit trips cost \$1.85 billion per year. This is almost \$75 per new boarding! These fares are not even competitive with limousines. Approximately seventy-five percent of transit costs are subsidized by taxpayers, some of it from the highway trust fund. In contrast, FHWA's most recent cost-allocation study puts auto subsidies at 10-30 percent, although Poole (1990) argued that auto use more than pays for itself. Yet transit advocates say that they want "balance". A preferred option is to phase out any auto subsidies (perhaps via an "optimum" fuel tax, as suggested by Mills, 1999) and, at the same time, end the new rail programs.

In the face of the bad news, rail boosters have retreated to an emphasis on light rail. Yet these systems tend to be even less cost-effective (Rubin, et al, 1999). The ten U.S. cities that added light rail in the years 1980-95 experienced a collective system-wide ridership loss of 2 percent. Even the few systems that show modest gains are not close to being cost-effective (Richmond, 1999, Table 2-15). Fifteen light-rail systems that opened their books to the U.S. FTA show an overall taxpayer subsidy of 87 percent; Portland's is the most heavily subsidized at 97 percent. In return, these systems serve 0.27 percent of their metropolitan areas' travel (Richmond, Table 5). Rail transit cannot pay its way because no one values its service by nearly enough to cover its huge costs. This is, of course, why the promotion of transit is expressed in terms of other goals, saving energy, cleaning the air, decongesting the roads, and promoting new (and "better") land use patterns. None of this is possible while transit's ridership gains are negligible.

Even though the failure of rail transit has been widely documented, expensive proposals for new rail projects are still being sold as a way to "get people out of their cars". The transit industry's trade magazine recently noted: "At first glance, the largesse of the Transportation Equity Act for the 21st Century (TEA-21) seems to have turned the U.S. rail projects pipeline into a gusher. Indeed, the law enacted last summer, the nation's largest public transport bill in history, authorized funding for more than 200

specifically identified projects over the six-year life of the law" (Henke, 1999, p 32). At the height of the Cold War, it was said that there was at least one military base in every Congressional District; analogously, there may soon be a light-rail transit system in each U.S. metropolitan area.

Responding to the poor record of recently installed rail transit facilities, advocates now promote "transit oriented development" (TOD) or Transit Villages, a key element of smart growth, as a way to create development densities around train stations to assure adequate patronage. Homes, stores and social services would be clustered around transit stations. Residential densities would be in the range of 12-20 dwelling units per acre. In support, some studies have found slightly higher transit use by people living near stations (Cervero, 1993). From this, it is inferred that somehow forcing more such densities will generate greater transit use. Yet the obvious logical fallacy is ignored. Even if there are some people willing to trade off density for transit access (perhaps because they like transit or have used it in the past), it does not follow that others compelled to live at higher densities would choose the same trade-off (Brindle, 1995).

A widespread and powerful preference for personal mobility cannot be easily dismissed. A survey showed that 88 percent of French car owners look on their car as "an important part of their person freedom" (Gerondeau, p. 229). Back in the U.S., in 1995 there were 1.78 vehicles per household but only 0.68 children per household. Even scholars have recognized the empowerment that accompanies the release from fixed routes and schedules. Carpooling in the U.S. is negligible for precisely this reason. It declined by 19 percent in the 1980s. Average commuting vehicle occupancy in metro areas in 1990 was only 1.09. Even these statistics do not purge the data of spontaneous intra-household carpooling, thereby overstating induced ridesharing . Dunn (1999, p. 2) adds that "the auto provides a sort of individualist equality that is particularly well suited to American values." The international allure of American popular culture suggests that American freedoms appeal to people everywhere. Hence, a universal fondness of autos is no surprise.

All this fuels the fire. For many, the private auto is too democratic while public transit is properly collective and politically correct. The leaders of the former east-bloc nations understood quite well that "a mobile population is a population essentially out of control of centralized government" (Yates,

quoted by Smith, 1990). The complementarity of auto use with privacy and individual single-family housing incites the critics.

Compact development and growth management advocates hate to admit that while there are just negligible differences in auto trips per capita in TOD-type areas (Cervero, 1993), their higher densities result in more traffic congestion. Evidence across the largest U.S. urbanized areas points to positive, if moderate, correlations between population density and commuting trip times. The 1995 NPTS data for the thirty largest metropolitan areas can be disaggregated by trip purpose and travel mode (Table 6). At this level, sample sizes are large (greater than 100) for four major trip types (working, shopping, family and personal purposes, social and recreational purposes) for trips by autos and by all privately operated vehicles (autos, vans, trucks, SUVs, etc.). Inspection of the table shows modest variations in all trip times across areas. Population density data are available for urbanized areas (the settled parts of metropolitan areas) for Census years since 1950. The simple correlation between auto commute times and 1990 densities is 0.55; between all privately operated vehicle commute times and 1990 densities, it is 0.32. Correlations between the other three trip types and urbanized area population density are near zero.

In addition, Pickrell and Schmieck (1999) demonstrate that, after controlling for income and other household characteristics, the elasticity of household VMT with respect to residential density is approximately -0.1; a doubling of densities would decrease VMT per household by 10 percent. However, with twice as many households, there would be many more trips. Other cross-sectional studies corroborate the intuitively obvious thought that high development densities are associated with high congestion (Hartgen and Curley, 1999). Orski (1999) reports that: "The Ballston rail transit station in Northern Virginia, often cited as a national model of a compact transit-oriented village that is supposed to encourage walking and reduce car use, is a case in point. With density five times higher than its neighboring spread-out Fairfax City/Oakton area, Ballston creates more than four times as many daily vehicle trips than its low-density neighbor." When and where everything is within walking distance and everyone rides bicycles, people will continue to use their autos. Household trip frequencies are often the wild card. It is by no means clear that they remain unaffected when access is improved. In most cases, we consume more when the price drops (Crane, 1996). This contributes to one more of many Smart Growth ironies. The EPA through its Clean Air Act mandates, and hundreds of other federal,

state and local planning agencies do whatever they can to promote, compact land use arrangements in the belief that these will contribute to less auto use and cleaner air. The theory behind this multi-billion dollar effort is unsound.

There are no plausible policies that "get people out of their cars" in significant numbers. The steepest transit ridership losses in recent years were in transit's strongest markets where conditions are most favorable, the ten U.S. cities with considerable rail transit capacity and high density employment centers, including New York, Chicago, Boston, Philadelphia, Washington, D.C. and Baltimore (Taylor and McCullough, 1998). It is for this reason that the last refuge of true believers, those who disregard all news of discomfiting trends, is faith in some imminent U-turn. What if it happened? Going back to the 1990 census data and excluding those who work at home (and are least likely to switch modes), commuting mode shares across the U.S. were 91.4 percent private auto, 5.5 percent public transit and 3.1 percent for other modes. Assume that an ambitious transit program were to succeed and increased transit's share by 25 percent (unprecedented, even after \$360 billion in subsidies), assume also that all new transit riders come from automobiles (historically, at most one-third shift), auto use would still account for more than 90 percent of all commuting. Would the needed expenditures be justified in terms of external economies or other benefits?

A variant of the TOD argument holds that sprawl can be avoided and land use can be shaped by the introduction of transit service, especially rail. Low and declining preferences for transit and powerful suburbanization trends are the Achilles Heels of this argument. A recent study by Cervero and Landis (1999) that examines twenty years of development trends around stations of the oldest of the post-WW II subways, San Francisco's BART, finds that "population has grown faster away from BART than near it" (Landis and Cervero, 1999, p.4). The authors report the same for employment growth in the Bay Area. A system that in 1999 had not yet reached its 1975 ridership forecasts, even with the aid of 30 percent population growth, cannot be expected to have any significant secondary impacts. This is the real problem, rather than the regulatory barriers to land use changes cited in an accompanying article (Levine, 1999).

Unconventional transit (including private transit) and transportation management approaches, including deregulation and proper pricing, have received only moderate attention in U.S. cities. Being low-cost items

(sometimes unsubsidized), they lack the built-in pork-barrel constituencies attached to rail projects and are unable to compete politically. Transit systems configured in ways to take advantage of commuters' preferences, such as express buses running on separate rights-of-way (busways or transitways), could achieve high operating speeds but are not political favorites. Because they typically do not require feeders, they can reduce the need for transfers and generate more demand than rail, at a cost per passenger trip that is between 10 and 20 percent of that of light-rail (Kain, 1999). Light rail is often not grade separated and, therefore, slower than buses on grade-separated busways. The political preference for rail is explained by the fact that it is primarily a jobs program, reinforced by an opportunity for politicians to harness massive public funds with the support of environmentalists. Rail transit evaluations have consistently overestimated expected ridership (and other benefits) and underestimated capital and operating costs (Pickrell, 1990, Kain, 1992, Wachs, 1985).

The preference for driving is so powerful that transit will always be a marginal alternative in the U.S. But it should be easy to improve on recent performance. The trouble is that the politics of pork ensure the neglect of common sense, low-cost transportation programs. Policy recommendations might proceed on four complementary lines: i. getting the prices right, including the privatization of some highways; ii. deregulation to ease entry, allowing more private transit provision while bringing the various "informal" and "gypsy" suppliers out of the shadows and offering shuttle services beyond the typical fixed-routes or airport origins and destinations; iii. user-side subsidies to replace (and scale down) the much abused supplier-side subsidies; and iv. busways to accommodate transit and HOV vehicles.

The specifics of all of these would vary from place to place. For example, user-side subsidies have received some recent attention in the form of "eco-pass" experiments, whereby employers buy inexpensive bulk access rights in much the way that they secure group health insurance. They then award passes to employees or sell them at low rates. Local governments could partner with such employers, using available transit funds to make the passes even more attractive. Shoup (1999) reports that the Santa Clara Valley (California) Transportation Authority charges from \$10 to \$80 per employee per year, depending on the employer's location and the number of passes purchased. The price is much lower than for conventional transit passes because the frequency of use by each employee is lower than that of the

conventional transit pass user. Transit vouchers of this type could be redeemable when using conventional or private transit (if significant deregulation occurred). After passing the normal safety and insurance requirements, any and all providers should be permitted to operate. The clandestine jitney-type services operating in the immigrant and low-income communities of New York, Miami, Los Angeles, Detroit, and other cities strongly suggest that the established transit and taxi monopolies serve the poor badly. Legalization would impose significant costs on “underground” operators, and user-side subsidies might be needed persuade them to become legal; they might even induce new suppliers. Another important benefit is that competition would force public transit to become more efficient if it wishes to survive.

The "HOT" -lane (high-occupancy-toll) proposal also embraces all four parts of common sense urban transportation and may be the most promising way to reintroduce market mechanisms to the auto-highway system (Fielding and Klein, 1993). Existing high-occupancy lanes would be made accessible to solo drivers if they paid tolls that varied by time-of-day demand conditions; new electronic toll collection, scanning and feedback technologies make this approach quite feasible. HOT lanes in large metropolitan areas would be open to the usual ride-sharers of underutilized HOV lanes, solo drivers paying peak-hour tolls, buses, and private and other kinds of transit (Poole and Orski, 1999; Poole, 2000). There would be more transit users if deregulation were jointly implemented with eco-passes, both on HOT/HOV lanes and exclusive busways. Finally, tolls could be a new source of highway funding. The sum of these policy approaches, if implemented simultaneously, is greater than their individual parts.

4. Conclusions

Are modern cities a market failure? Or will the statist interventions widely prescribed for cities do more harm than good? Do we need more than the urban equivalent of minimal Night Watchman governance (Nozick, 1977)? Do urban land and housing markets fail, requiring the intelligent arbitration of the state? The entitlement process has become an intricate and very costly obstacle course in the way of development. In the case of Los Angeles' massive Playa Vista development, the site remained empty during a decade of permitting and lawsuits. Spontaneous privately agreed controls, such as covenants or developer planned communities, have emerged to reduce the

risk of externalities. Levittown, with its community swimming pools, schools and recreation areas, and its many successors and imitators are now staples of modern American history, documented and celebrated in a large literature (Hise, 1993). Developers have always been planners. They are now becoming more involved, packaging governance procedures with residential and mixed-use developments (Foldvary, 1995, Nelson, 1999, Beaudreaux and Holcombe, 2000). In Hayekian fashion, homebuilders see a demand for transparent property rules and procedures and are prompted to design and offer them in ways that appeal to prospective buyers. This is often criticized as "private governments" outside the accepted federal, state and municipal system. However, this is merely a response to the fact that Exit (suburbanization and exurbanization) has trumped Voice; alternative arrangements have developed because conventional governments offer unacceptable property rights arrangements.

"Perfect" markets exist only in textbooks. "The market works precisely because it is not perfect. The great strength of the private property market economy is not the optimality properties of a state of affairs where all the gains from exchange have been exhausted, but the fact that the market is in constant state of flux where existing errors provide the incentives for future corrections and this lead individuals to be less erroneous than before. It is this constant activity that is the source of the adaptability to changing circumstances and the spur for innovation" (Boettke, 2000, p. 39-40).

The profits of developers depend on giving people what they want. The competitive nature of the U.S. construction industry is apparent. There are many producers competing for the consumers' dollars: 168,400 general building contractors in the U.S. in 1992 (Table 1190, 1998 Statistical Abstract of the U.S.). Moreover, Dun & Bradstreet data reveal that construction industry business starts are more frequent than in other industries, an indicator of above-average ease of entry. Wide real estate price swings imply competition and numerous surveys show consistency between people's overwhelming stated preferences for low density living and revealed preferences (Morrill, 1991). The new houses entering the market are, on average, bigger and better than ever. The preferences for size and space are most likely to be met in outlying locations where land and access costs combined are lower. Between 1970 and 1997, the typical new home increased substantially in size and the list of amenities became longer (Cox and Alm, 1999, Table 1.1). Moreover, home ownership in the U.S. (including minority home ownership) has reached an all-time high. Clearing

the market of more than 1 million new units per year could only be accomplished by a competitive industry keenly attentive to the wishes of consumers. If consumer tastes change, the product line will change. There are several, often expensive, developments already on the ground that include New Urbanist features. Research published by the Urban Land Institute suggests a "new urbanism premium" of 4 - 25 percent of the value (\$5,000 - \$30,000) of new single-family residential units (Eppli and Tu, 1999). If valid, this is a clear signal to developers to incorporate New Urbanist features in their projects. The good news is that market tests of alternative development types are available and are much preferred to the 240 Smart Growth initiatives on state and local ballots in 1998 (72 percent of which passed). The bad news for the Congress for New Urbanism platform is that these developments do not have the desired traffic impacts. Trip frequencies are not fixed, and auto VMTs are unlikely to fall (Crane, 1996).

The answer to questions about market failure has two parts. First, there is considerable competition with predictable positive results. Second, inefficiencies can best be mitigated via market-based incentive schemes. But these clash with political priorities, such as the emphasis on Smart Growth.

Urban economists argue that minimum-lot-size residential zoning is exclusionary. Where property taxes are used to fund local public goods, notably public schools, a poor family may "free ride" by sending its children to the local school while avoiding much of the tax burden by consuming small amounts of residential space. Communities cannot enforce income requirements on new arrivals, but they can enforce minimum-lot-size zoning. Despite some corroboration for this idea, the suburbs are much more heterogeneous than often assumed. The 1995 American Housing Survey, for example, shows that of 30.7 million "attached and multiple" housing units, one-half were in the suburbs. Also, the distribution of income in the suburbs is much more equal than the literature suggests, an important point missed by the constant references to increasing income segregation between inner cities and the suburbs. Two tidy spatial units, the central cities and the suburbs, are too few for convincing analysis.

Critics of sprawl focus on policies that they believe are peculiar to the U.S. They note, for example, that minimum-lot-size zoning stands in the way of "more efficient" uses of land. Yet replacing this type of zoning with other

planning instruments such as urban growth boundaries may similarly exclude low-income families. When these become binding constraints, housing prices rise, giving windfall gains to existing homeowners but shutting out new entrants of modest means.

Faith in the potential for upward mobility is a core societal value in the U.S. In prosperous times, people (of all races) move up and out, both socially and spatially. They leave behind old jobs, lifestyles and neighborhoods. They make their own trade-offs. Siegel (1999) reminds us that the lifestyles of history's first mass upper-middle class are an expression of explicit preferences. Yet sprawl's critics argue that people are consistently making the "wrong" choices and/or that they have only very poor choices available. Neither argument is plausible.

Suburbanization in response to residential preferences and technological change is efficient. The Smart Growth movement rests on "the romantic image of the benevolent and capable state. ... The romance of socialism, which is dependent on both an idealized politics and a set of impossible behavioral propositions, has not yet disappeared" (Buchanan, 1994). The romance of activist environmentalism coupled with the visions of urban designers conspire to seal the irrelevancy of facts. As an example, in his September 1998 talk at the Brookings Institution, Vice-President Gore praised Portland and its light-rail system, saying that "it has attracted 40 percent of all commuters." In fact, all transit in Portland services slightly more than 5 percent of the workforce, and light rail carries 15 percent of the transit total. Although off by a factor of more than fifty, Gore's statement has been routinely repeated without challenge.

The favored political model of smart growth and slow-growth advocates is regional government. According to Downs (1994), the "socioeconomic isolation" of the poor results from a "regionwide hierarchy of neighborhoods caused by deliberately exclusionary policies of the suburbs. ... Thus the responsibility for creating impoverished inner-city neighborhoods is to some extent regional" (Downs, 1994, p. 28). Of course, even in a world without racism and without exclusionary zoning, income constraints would keep many of us out of wealthy neighborhoods. As pointed out above, however, the suburbs are more heterogeneous than assumed, with an overall income distribution only moderately different from that of the central cities.

Many planners believe that many economic, social and environmental problems cut across municipal boundaries leading to the prescription of regional government. A related argument holds that central cities provide critical regional functions that benefit outlying areas and provide services for suburban commuters, justifying the idea that suburban areas have “exploited” the central city, and ought to do more to support it. This argument was much stronger when suburbs were bedroom communities and jobs were more centralized; it has much less appeal in a world of Edge Cities and exurban development. However, the problem with regional government is that it seriously limits the people’s choice of governance. The goal of forcing higher residential densities in the suburbs would be facilitated by cartelizing local government and land use. Competition would suffer, because more households and firms relocate within than between metropolitan areas. Operating efficiencies and tax constraints would be under less pressure. Structural reforms in government typically occur when governments compete. More homogeneity in the supply of public goods and services means more mismatches with local demand (Oates, 1999). Regional power-sharing agreements among local governments (e.g. via special districts) for addressing such problems as air quality and transportation exist and can easily be expanded. But these should be the exceptions, not a substitute for local sovereignty.

Siegel reminds us that there are no success stories among recently formed metro governments that have been formed in recent years. "What's striking about Metro-Dade [Florida] is that it has delivered neither efficiency nor equity nor effective planning while squelching local self-determination" (Siegel, 1999, pp 88-89). His other examples are no better. New York City's consolidation has been good for Manhattan but ruined Brooklyn. The removal of local jurisdictional competition is not benign. The spatial wealth redistribution mandate of regionalism is a poor substitute for wealth expansion.

REFERENCES

Beyers, William B. (1998) “Trends in Producer Service Employment in the U.S.: The 1985-1995 Experience” Presented at the North American Regional Science Association Meetings, Santa Fe, New Mexico.

Boettke, Peter (2000) "Towards a History of the Theory of Socialist Planning" in Peter Boettke (ed.) *Socialism vs. the Market: The Socialist Calculation Debate*. New York and London, Routledge.

Boudreaux, Donald J. and Randall G. Holcombe (2000) "Contractual Governments in Theory and Practice" in David Beito and Peter Gordon (eds.) *The Voluntary City* (forthcoming).

Brindle, Ray (1995) "Four titles touching on 'sustainable transport'" *Road and Transport Research*, 4:1, 126-131.

Buchanan, James (1994) "Notes on the Liberal Constitution" *The Cato Journal* 14:1, 2-

Calthorpe, Peter (1993) "The Next American Metropolis: Ecology, Community, and the American Dream." New York: The Princeton Architectural Press.

Cervero, Robert (1993) "Surviving in the Suburbs: Transit's Untapped Frontier" *Access*, (Spring), 29-34.

Cox, W. Michael and Richard Alm (1999) *Myths of Rich and Poor: Why We're Better Off Than We Think*. New York: Basic Books.

Crane, Randall (1996) "Access and Travel: An Application of Trip Frequency and Mode Split in the New Suburbs"

Crone, Thomas M. (1998) "House Prices and the Quality of Public Schools: What Are We Buying?" *Business Review: Federal Reserve Bank of Philadelphia*, September/October, 3-14.

Cummings, Jean L. and Denise DiPasquale (1999) "The Low-Income Housing Tax Credit: An Analysis of the First Ten Years" *Housing Policy Debate* 10:2, 251-308.

Dantzig, George B. and Thomas L. Saaty (1973) *Compact City: A Plan for a Liveable Urban Environment*. San Francisco: W.H. Freeman and Co.

De Lucchi, Mark (1996) "Total Costs of Motor-Vehicle Use" *Access* No. 8 (Spring), 7-13.

Dittmar, Hank and Shelley Poticha (1999) "Transportation and the New Urbanism" *Progress*, 9:3.

Downs, Anthony (1999) "Some Realities about Sprawl and Urban Decline" *Housing Policy Debate* 10:4, 955-974.

Downs, Anthony (1994) *New Visions for Metropolitan America*. Washington, DC: The Brookings Institution; and Cambridge, Mass: The Lincoln Institute of Land Policy.

Dunn, James A. Jr. (1999) *Driving Forces: The Automobile, Its Enemies and the Politics of Mobility*. Washington, D.C.: Brookings Institution Press.

Ehrenhalt, Alan (1999) "New Recruits in the War on Sprawl" *New York Times* (April 13).

Eppli, Mark J. and Charles C. Tu (1999) *Valuing The New Urbanism: The Impact of the New Urbanism On Prices of Single-Family Homes*. Washington, DC: The Urban Land Institute.

Fielding, Gordon J. and Daniel B. Klein (1993) "High-occupancy/Toll Lanes: Phasing in Congestion Pricing a Lane at a Time" Reason Policy Study #170.

Foldvary, Fred (1995) *Public Goods and Private Communities: The Market Provision of Social Services*. London: Edward Elgar.

Freilich Robert H and Bruce G. Peschoff (1997) "The Social Costs of Sprawl" *The Urban Lawyer* 29:2, 183-198.

Frieden, Bernard J. (1979) "The New Regulation Comes to Suburbia" *The Public Interest*, 55, 15-27.

Gerondeau, Christian (1997) *Transport in Europe*. Norwood, MA: Artech House, Inc.

Giuliano, Genevieve (1999) "Land Use Policy and Transportation: Why We Won't Get There From Here" *Transportation Research Board Circular* (forthcoming).

Gordon, Peter and Harry W. Richardson (1993) "The Facts About 'Gridlock' in Southern California" Los Angeles: Reason Policy Study No. 165.

Gordon, Peter and Harry W. Richardson (1997) "The Destiny of Downtowns: Doom or Dazzle?" *Lusk Review*, 3:2, 63-76.

Gordon, Peter and Harry W. Richardson and Yu-chun Liao (1998) "Household Commuting" in D.F. Batten et al(eds.) *Network Infrastructure and the Urban Environment: Recent Advances in Land Use/Transportation Modeling*. New York: Springer.

Gordon, Peter and Harry W. Richardson and Gang Yu (1998) "Metropolitan and Non-metropolitan Employment Trends in the U.S.: Recent Evidence and Implications" *Urban Studies*, 35:7, 1037-1057.

Hall, Peter (1993) "Forces Shaping Urban Europe" *Urban Studies* 30:6, 883-898.

Hartgen, David T. and Daniel O. Curley (1999) "Beltways: Boon, Bane or Blip? Factors Influencing Changes in Urbanized Area Traffic, 1990-1997" University of North Carolina, Charlotte: Center for Interdisciplinary Transportation Studies: WP 190.

Henke, Cliff (1999) "More Cities Prepare to Join Rail Club" *Metro*, July, 32-36.

Hise, Greg (1993) "Home Building and Industrial Decentralization in Los Angeles: The Roots of the Postwar Urban Region" *Journal of Urban History* 19:2, 95-125.

Hoxby, Caroline M. (1994) "Does Competition Among Public Schools Benefit Students and Taxpayers?" National Bureau of Economic Research WP 4979.

Immergluck, Daniel (1998) "Job Proximity and the Urban Unemployment Problem: Do Suitable Nearby Jobs Improve Neighborhood Employment Rates?" *Urban Studies* 35:1, 15-27.

Jacoby, Tamar and Fred Siegel (1999) "Growing the Inner City?" *The New Republic* (August 23, 22-27).

Kain, John F. (1992) "The Use of Straw Men in the Economic Evaluation of Rail Transport Projects" *American Economics Association Papers and Proceedings* 82:2, 487-493.

Kain, John F. (1999) "The Urban Transportation Problem: A Reexamination and Update" in Jose Gomez-Ibanez, William B. Tye and Clifford Winston (eds.) *Essays in Transportation Economics and Policy*. Washington, DC: The Brookings Institution.

Katz, Bruce and Jennifer Bradley (1999) "Divided We Sprawl" *The Atlantic Monthly* (December) 26, 28, 30, 38-40.

Katz, Peter (1994) *The New Urbanism: Toward an Architecture of Community*. New York: McGraw-Hill.

Landis, John and Robert Cervero (1999) "Middle Age Sprawl: BART and Urban Development" *Access*, no. 14, 2-15.

Lebergott, Stanley (1993) *Pursuing Happiness: American Consumers in the Twentieth Century* Princeton: Princeton University Press.

Levine, Jonathan (1999) "Access to Choice" *Access*, no. 14, 16-19.

The Los Angeles Times (2000) "Our Hopes for 2000" (January 2, p M4).

The Los Angeles Times (1999) "Telecom Invasion Rattles Downtown L.A. Boosters" Nov 2, p A1 (by Jesus Sanchez).

Mills, Edwin S. (1999) "Truly Smart Growth" *The Illinois Real Estate Letter*, 13:3 (Summer).

Mills, Edwin S. and Luan Sendé Lubuele (1997) "Inner Cities" *Journal of Economic Literature*, 35.

Moore, Stephen and Julian L. Simon (1999) "The Greatest Century That Ever Was: 25 Miraculous Trends of the Past 100 Years" *Policy Analysis* No. 364, Cato Institute.

Morrill, Richard L. (1991) "Myths about Metropolis" in John Fraser Hart (ed.) *Our Changing Cities*. Baltimore: Johns Hopkins University Press.

Mueller, Peter O. (1986) "Transportation and Urban Form: Stages in the Spatial Evolution of the American Metropolis" in Susan Hanson (ed.) *The Geography of Urban Transportation*. New York: The Guilford Press, 24-48.

National Association of Homebuilders (1998) "Housing Opportunity Index: Third Quarter 1998."

Nelson, Robert H. (1999) "Privatizing the Neighborhood: A Proposal to Replace Zoning with Private Collective Property Rights to Existing Neighborhoods" *George Mason Law Review* 7:4, 827-880.

Nivola, Pietro S. (1999) *Laws of the Landscape: How Policies Shape Cities in Europe and America*. Washington DC: The Brookings Institution.

Nozick, Robert (1977) *Anarchy, State and Utopia*. New York: Basic Books.

O'Regan, Katherine and John M. Quigley (1998) "Where Youths Live: Economic Effects of Urban Space and Employment Prospects" *Urban Studies* 35:7, 1187-1205.

Oates, Wallace E. (1999) "An Essay on Fiscal Federalism" *Journal of Economic Literature*, 37:3, 1120-1149.

Orski, C. Kenneth (1999) "In Search of Livability" *Innovation Briefs* 10(5) p. 1 (Sep/Oct).

Peirce, Neal R. (1999) "Littleton's Legacy: Our Suburban Dream Shattered" *Washington Post* (June 6).

Pickrell, Don (1990) *Urban Rail Transit Projects: Forecasts Versus Actual Ridership and Cost*. Office of Grants Management, Urban Mass Transit Administration, U.S. Department of Transportation.

Pickrell, Don and Paul Schimek (1999) "Trends in Motor Vehicle Ownership and use: Evidence from the Nationwide Personal Transportation Survey" *Journal of Transportation and Statistics*, 2:1, 1-17.

Pisarski, Alan E. (1996) *Commuting in America II: The Second National Report on Commuting Patterns and Trends*. Washington, DC: Eno Transportation Foundation.

Poole, Robert W., Jr. (2000) "Congestion and Traffic Management" in xxxx

Poole, Robert W., Jr. and C. Kenneth Orski (1999) "Building a Case for HOT Lanes: A New Approach to Reducing Urban Highway Congestion" Reason Public Policy Institute Policy Study #257.

Richardson, Harry W. and Chang-Hee Bae (1998) "The Equity Impacts of Road Congestion Pricing," in K.J. Button and E.T. Verhoef, eds. *Road pricing, Traffic Congestion and the Environment: Issues of Efficiency and Social Feasibility*. Aldershot: Edward Elgar, 247-262.

Richardson, Harry W. and Peter Gordon (1999) "Is Sprawl Inevitable? Lessons from Abroad" Presented at the Meetings of the Association of Collegiate Schools of Planning, Chicago.

Richmond, Jonathan (1999) *New Rail Transit Investments – A Review*. Harvard University: John F. Kennedy School of Government.

Romer, Paul M. (1996) "Why Indeed in America? Theory, History, and the Origins of Modern Economic Growth" *American Economic Review* 86, 202-206.

Roth, Gabriel (1995) "Should the Federal Highway Trust Fund be Reauthorized?" *Transportation Quarterly* 49:4, 5-13.

Rubin, Thomas A and James E. Moore II and Shine Lee (1999) "Ten Myths about U.S. Urban Rail Systems" *Transport Policy* 6: 57-73

Sato, Koji and Wendy A. Spinks (1996) "Commuter and Work Pattern Changes After the Great Hanshin Earthquake: Policy Implications for Greater Tokyo" presented at the workshop "New International Perspectives

on Telework: Telecommuting to the Virtual Organization” Brunel University, U.K.

Schmidt, Charles (1998) “The Specter of Sprawl” *Environmental Health Perspective* 106(6) A274-279.

Schrank, David and Timothy Lomax (1999) *The 1999 Annual Mobility Report, Information for Urban America*. College Station, TX: Texas Transportation Institute.

Scott, James C. (1998) *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven: Yale University Press.

Shoup, Donald (1999) “Instead of Free Parking” *Access*, 15, 8-13.

Siegel, Fred (1999) “Is Regional Government the Answer?” *The Public Interest*. No. 137, 85-98.

Sivitanidou, Rena (1996) "Are Service Agglomerations Weakening? Evidence from Metropolitan Los Angeles" presented at the Western Regional Science Association, Napa, California, February.

Smith, Fred L. (1990) “Auto: The Liberating Benefits of a Safer, Cleaner, and More Mobile Society” *Reason*, pp 22-26.

Taylor, Brian and William McCullough (1998) “Lost Riders” *Access* 13, 19-26.

Thomas, June Manning (1994) “The Forces of Urban Heterogeneity Can Triumph” *American Quarterly*, 46:1, 49-54.

United States Bureau of the Census (1998) *Statistical Abstract of the United States: 1998* (118th ed.). Washington DC.

United States Department of Transportation, Bureau of Transportation Statistics (1999) *G-7 Countries: Transportation Highlights* BTS99-01 Washington, DC.

United States Department of Transportation (1997) *Our Nation's Travel: 1995 NPTS Early Results Report*. Washington DC: Office of Highway Management, Federal Highway Administration.

United States General Accounting Office (1999) *Extent of Federal Influence on "Urban Sprawl" is Unclear* GAO/RCED-99-97.

Voith, Richard (1999) "Does the Federal Tax Treatment of Housing Affect the Pattern of Metropolitan Development?" *Business Review of the Federal Reserve Bank of Philadelphia* (March/April), 3-16.

Wachs, Martin (1985) *Ethics in Planning*. New Brunswick, N.J.: Center for Urban Policy Research.

The Wall Street Journal (1999) "On a Rainy Night In Georgia, What Can You Do But Eat? – There Are More Obese People All Over, but Peach State Really Takes the Cake" (Oct 29), by Ann Carrns and James R. Hagerty (p. A1).

TABLES

Table 1: Urbanized Area Population Densities, 1950-1990

Table 2: Average Annual Population Growth Rate

Table 3: Average Annual Manufacturing Employment Growth Rate

Table 4: U.S. Private Employment Growth Rates

Table 5: CBD Employment, 1994-1997

Table 6: Average Trip Times, 1995

Table 7a: Per Capita Transit Use, 1980-97

Table 7b: Shares of Transit Use, 1998

Table 8: Household Income Distribution in U.S. Urbanized Areas