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Coping With the Car: Reconciling Automobility and 'Smart Growth'

by

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ABSTRACT

In "smart growth" the anti-sprawl movement has found a successful slogan. It has been able to build a certain amount of political support among local elected officials by emphasizing the "carrots" on the anti-sprawl agenda. "Smart growth" and its cousins "sustainable cities" and "livable communities" legitimize the distribution of amenities which are essentially suburban pork barrel spending. These "soft" items (new light rail lines, bike paths, grants to community groups for participatory planning, etc) are not likely to advance very far toward the goal of reducing auto air pollution and energy consumption. Nor are they likely to stem the tide of suburbanization. Sterner measures will be required. But the "sticks" in smart growth (densification regulations, infill development, urban growth boundaries, parking surcharges, increased fuel taxes, etc.) remain in contradiction to the preferences of the majority of automobile drivers and home owners, i.e. the majority of the population. It is not impossible that changed circumstances (a new energy shock, a shift in public opinion on the urgency of global warming) could open a policy window leading to enactment of some of the "hard" items on the anti-sprawl agenda. The concepts of path dependence and increasing returns suggest that the costs of such programs in terms of economic growth would be extremely high. Investing political and economic capital in improving the environmental and energy performance of automobiles will yield greater and more sustainable results than attempting to change the preferences of Americans for automobility and low density, single-family homes.

SPRAWL AND SMART GROWTH: AMBITIOUS AND AMBIGUOUS GOALS

Many of the "public-regarding" policy claims made in arguments against urban sprawl come from the assumption that increased automobile travel is a public bad. More traffic means more auto emissions and lower air quality. It entails more petroleum consumption and increased U.S. dependence on oil imports. It produces more CO₂ and greater global warming. The claim is that 'smart growth,' by stopping or at least sprawl, can reduce automobile vehicle miles traveled (VMT) and thereby contribute to achieving the goals of cleaner air, less reliance on oil imports, and slower climate change. Thus an important part of the argument for smart growth is a claim that it will be an effective policy tool for achieving a cleaner, more sustainable relationship between transportation and land use.

There is a very strong case for the position that changes in auto technology are much more likely to produce long run and lasting improvement in auto emissions, including greenhouse gasses and petroleum consumption than efforts to induce massive changes in travel behavior.[1] Technical fixes are or shortly will be available to reduce many of the negative externalities of the automobile. Motor vehicles in 2020 will emit less pollutants, rely less on petroleum for propulsion, and be safer for passengers. Highways will be smarter, safer, and less congestion-prone, thanks to a variety of technical and organizational innovations. Therefore, much of the criticism leveled at the external costs and environmental impact of the automobile will have received an effective, if incremental, answer.

But as far as the critics of sprawl of concerned, cleaner cars are cold comfort. They do nothing to stop the dispersion of population. This set of perceived problems can be identified as the "costs of sprawl" argument. Sprawl's critics decry the loss of open space and agricultural land, the expense of new suburban infrastructure, the blight of central cities, and the decline of community. [2] They call for adopting policies to foster denser, more compact settlement patterns by locating as much new public and private investment as possible in existing communities. The anti-sprawl position promises that large savings can be achieved in the capital budgets for new infrastructure (sewers, roads, utilities, new schools, etc.) and the operating budgets for services such as fire, police, hospitals, etc. [3] In addition, stopping sprawl will preserve inner ring suburbs from blight and decline, promote greater city-suburb cooperation, and enhance regional competitiveness in a globalizing world. [4]

The assumptions and conclusions of the costs of sprawl argument are by no means uncontested. Altshuler published a serious critiques of the initial 1974 *Costs of Sprawl* study. [5] [6] Subsequently many other authors have questioned the costs and/or described the benefits of sprawl. [7] [8] A recent, extensive overview and analysis of some 500 contributions to the sprawl debate found that about two thirds of the studies were critical of sprawl, but one third saw it in a positive light. [9] This study (sponsored by the Federal Transit Administration and the Transit Development Corporation and conducted by researchers who were anything but apologists for sprawl) found that there were some serious limitations in the anti-sprawl literature. Most fundamental were the lack of an adequate definition of sprawl and persistent problems of measurement of the degree of sprawl. In addition, most of the critical studies did not take account of the

benefits of sprawl to numerous households. Most discussions of sprawl focus only on new growth areas and on only a short time frame, which might lead to overestimating the costs of leapfrog development. And, very important from the perspective of developing a policy response to the problem of sprawl, "Most opponents of sprawl fail to describe feasible alternative forms of metropolitan settlement to remedy sprawl's alleged negative conditions." [9]

Smart Growth: Political Opportunities

Smart growth is thus a policy response to an imperfectly defined and uncertainly measured phenomenon, which not every analyst even sees as a problem. And if sprawl is not well-defined, smart growth is even more fuzzy and amorphous. But that has not hindered its success as a slogan (Who wants "dumb" growth?). It has become a rallying point for a growing coalition of editorial writers, urban reformers, good government groups, planners, architects, environmentalists, and activists. In fact, smart growth's very fuzziness may be a political virtue. In politics it is usually easier to attract support for broad and glittering generalities (e.g. "Health care for all Americans") than for a detailed program which spells out who pays and who benefits.

Federal and state financial aid promised in the name of smart growth has helped it catch on with a surprising number of elected officials from suburbia. With smart growth becoming a rubric covering programs which appropriate money for "livable" and "sustainable" communities (preserving open space, building bike paths, refurbishing main street, etc.), it is a politically correct rationale for suburban pork barrel spending. By providing amenities to suburban constituents it helps to balance the billions in specifically urban pork barrel that has been distributed since the Great Society era. Former Vice President Al Gore and Governor Parris Glendening of Maryland certainly recognized the benefits of offering their suburban Democratic supporters the carrot of smart growth grants, not just the stick of no new highways and stricter land use controls. And when it comes to distributive politics, Republicans will not be left behind, as demonstrated by former New Jersey Governor Christie Whitman's billion dollar program to purchase farms to preserve open space in the Garden State.

As a slogan and as an increasingly useful intergovernmental distributive spending program, smart growth looks like it may have enough political "legs" to be around for a while. By creating partnerships with groups inside and outside the beltway, and spreading grants around for community planning and innovative forms of public participation, public bureaucracies committed to the concept, like the Environmental Protection Agency, can create a network of easily mobilizable supporters of smart growth. [10] It also has a measure of appeal to the general public for whom affluence creates higher expectations. People increasingly want better results from their transport and land use system. Homeowners want less traffic on their streets, and quieter, greener towns with walkable streets and shops, restaurants, coffee houses, schools, parks, playgrounds, and medical centers to be close by – but not too close. Certainly "Not In My Back Yard"

Smart Growth: Policy Dilemmas

Therein lies the contradiction and tensions between some of smart growth's stronger policy goals of densification, recentralization, mixed use and transit-oriented development, and the personal preferences of most suburbanites. It is true that people want less traffic on their streets, but they also want the continued ability to drive quickly to the convenience store or to their doctor across town. Most do not want a 7-11 store in the middle of their housing development, and few want to live in a high rise apartment with corporate and medical offices on the first floor. Above all, Americans do not really want to lose the convenience, security and empowerment of their cars. Ninety two percent of U.S. households own at least one automobile. Fifty nine percent of households own two or more cars. [11] With 46,334 miles of Interstate Highways and over 3.8 million miles of other roads, there are few places that can not be reached quickly and comfortably by automobile. Even in crowded cities the auto dominates. In urban areas the modal split between automobiles and all forms of public transit, measured in terms of passenger miles, was 98 percent for automobiles and 2 percent for transit in. [1] For almost all suburban trips and for a large portion of urban trips, then, there is no substitute for the automobile.

Smart growth is likely to require much more stringent measures than reformed zoning, better land use planning, and light rail lines to succeed in stopping sprawl. The next step is subsidies and tax breaks to businesses to locate in approved spots in existing communities, and subsidized mortgages to builders and homebuyers to cluster near transit stops. These are only the first cut of costly new programs. But its hard to see how any economically and politically feasible amount of subsidies could overcome the inherent advantage of the auto over transit or the suburban, single family home over urban apartments. Then anti-sprawl initiatives will have to move to direct restrictions on automobile travel and suburban home ownership. The anti-sprawl literature is full of calls for dollar a gallon increases in motor fuel taxes, parking surcharges, mandatory ridesharing, auto-free cities, urban growth boundaries, bans on utility extensions, restrictions on lot sizes, and required quotas for multi-family units.

These may seem extreme at the moment. But the literature on policy making tells us that the policy process is episodic and crisis driven. When a crisis such an oil shock opens a policy window, policy makers tend to turn to ideas and proposals that have been floating around for years. John Kingdon has studied how policies get put on the agenda for action. He notes that "solutions float around in and near government, searching for problems to which to become attached." The same solution, such as federal aid to mass transit, was attached successively to the problems of congestion, air pollution, and energy without making a major dent in any of them. He quotes one policy analyst doing the repackaging of solutions as saying: "There is nothing new. We are resurrecting old dead dogs, sprucing them up, and floating them, to the top." [12]

PROBLEMS IN THE ANTI-SPRAWL AGENDA

If the anti-sprawl movement is going to linger on the policy agenda for the foreseeable future, we need to examine its implications, its assumptions, and its policy prescriptions for transportation very carefully. Behind the public relations of federal grants for

amenities, there lurks a streak of zealous anti-auto fervor in many (not all) of its policy proposals that could, if implemented, have a significant negative impact on mobility and economic growth. Below are brief summaries of some very problematic and contestable assumptions in the anti-sprawl, anti-automobile arguments. Prudence requires that we hold the smart growth movement's policy recommendations to the same standard that physicians are required to meet in treating their patients: First, do no harm.

Overestimating Social Costs of Autos and Highways

The most vociferous critics see themselves as consciousness raisers pointing out problems that have been minimized in our suburban car culture. This has left them with a strong tendency to overestimate the collective social costs of the automobile/highway system. If estimates of premature deaths caused by auto emissions over several decades range from 70,000 to 700,000, the vanguard will come down strongly behind the higher number. They will add in \$25 billions from the defense budget as the cost assuring access to Middle Eastern oil – as if the world's only remaining superpower would have no use for its air groups and naval units if it were self sufficient in petroleum. [13] When they add into their equations their "guess-timates" of the very poorly understood costs of future global warming, the result is enormously one-sided and misleading.

Underestimating Social Benefits

The critics systematically underestimate the benefits of automobility. Since many of the most obvious benefits are enjoyed by private individuals, the auto's enemies ignore or denigrate this type of benefit. Mass transit will enable people to travel from point A to point B. Individuals who prefer to make the A to B trip by car because it is more comfortable and convenient are, at bottom, seen as selfish and irresponsible. In addition to downplaying individual benefits, the critics underestimate the social benefits of the auto/highway system. If there are studies that show investments in highways contribute to overall economic growth, the critics will tout studies that purport to show that investments in mass transport contribute to a higher rate of growth. If transport statistics show that the vast majority of trips and passenger miles in U.S. urban areas are made on the auto highway system, they will assert this is a weakness, not a strength. American cities have become "auto-dependent." [14] They need to be cured, rather like drug addicts need to be freed from their dependence on heroine or cocaine.

Overselling Ineffective Policy Remedies

Increased spending on mass transit, particularly rail transit is a policy option that has had great political success. Since the passage of the federal Urban Mass Transportation Act in 1964, it has been estimated that federal, state, and local governments have spent some \$300 billion in inflation-adjusted 1999 dollars on mass transit. These subsidies eventually stopped the long post-war decline in transit ridership. By the end of the 1990s the total number of transit passenger trips stood at 9 billion, roughly the same level as in 1960 (although the U.S. had 100 million more inhabitants). But transit's market share of total surface passenger miles in urban areas, which had been 7.3 percent in 1960, had fallen to about 2 percent by 1999.

Despite the subsidies, despite the shrinking market share, and despite the dramatic decentralization of American metropolitan areas, anti-sprawl advocates continue to maintain that transit can be made into a viable substitute for the automobile. They continue to oppose spending for new highways and call for dramatically increased "investments" in rail and light rail transit. But this is perverse. Trying to provide adequate mobility in the modern polycentric metropolis of 2001 by means of 1900 style rail transit is like trying to provide adequate communication capability by means of a manual typewriter in an environment that has become adapted to networked personal computers.

Opposing Effective Policy Solutions

The great majority of people in most American communities do almost all their travel by auto. The biggest problem they complain about is congestion. One obvious response to congestion is to construct new highway capacity at strategic bottlenecks in heavily congested corridors. The anti-sprawl forces oppose virtually every new highway project that promises to relieve congestion. Their constantly repeated slogan is "We can't build our way out of congestion." They assert that adding new highway capacity simply "induces" more auto travel, which leads to the return of congestion very quickly. This is, at best, a half-truth. We can not guarantee that any particular addition to highway capacity will permanently eliminate congestion. But we can guarantee that doing nothing, i.e., adding no new capacity, will not eliminate congestion. Following their counsel to slash highway funding and give first priority to expensive transit projects is bound to worsen congestion, not relieve it.

The Missing Vision of Transition: The Problem of Path Dependence

Like all social reformers the opponents of auto-dependent sprawl are impatient to immediately launch as many components of their brave new world as is politically possible. Their claim is that each component will be both a vital long-term investment and also begin to yield a richer stream of public and private benefits than business as usual strip malls, subdivisions, and new highway lanes. Both parts of this claim are dubious. Let us focus just on the latter part, the short run claim, however, since in the long run, as Lord Keynes said, we are all dead. One only has to refer to the disappointing results of many new transit lines to see the point that the relative short run benefits are minimal, relative to other foregone opportunities. Expensive urban rail systems have not been shown to have made any cities or regions less auto dependent than they were previously.

The related concepts of path dependence and increasing returns help explain why the transition issue is a key problem for the anti-sprawl policy agenda. Policy analysts have noted that, in many policy areas, once a country starts down a particular policy path, the costs of reversal or switching to a different path get higher the farther down the path one proceeds. [15] Economists have added additional dimensions to the notion of path dependence by developing the concept of increasing returns. Unlike older equilibrium models which assume a context of decreasing marginal returns (negative feedback), increasing returns models can be described as positive feedback or self-reinforcing processes. In such models the relative returns or benefits of continuing on the same path increase faster than those of other options or paths.

Increasing returns processes are especially useful in understanding technological development in its social context. W. Brian Arthur [16] identified four features of a technology that tend to produce increasing returns and path dependence: (1) High initial fixed costs, e.g. for alternating v. direct current for the national electric grid; (2) learning effects - experience results in more efficient operation and facilitates continuous improvements in the existing system; (3) coordination effects, particularly when a technology has to be coordinated with an infrastructure, e.g. cars require a network of roads, gas stations, repair shops etc. (4) adaptive expectations- when people believe that one type of technology will become standard, they will want to "pick a winner," e.g. VHS v. Betamax video recorders.

The path dependence perspective reinforces the common sense judgment that America can not go "Back to the Future" and recreate the centralized city, compact neighborhood, streetcar-based system of transport and land use of the pre-automobile era. But beyond that it should remind policy makers that many of the public investments, subsidies, and costly regulations that the anti-sprawl movement is calling for will flounder like fish out of water if they are not very carefully adapted to the automobile-dominated environment of virtually all U.S. suburbs and all but the largest U.S. cities as well. Even in the most optimistic scenario for ending sprawl and auto dependence, it is recognized that the process will take decades. That is a long time to wait for a meaningful return on the public investment. Meanwhile, for many of the expensive new light rail lines not only does ridership fall disappointingly short of projections, but even if it had reached the promised level it would have "borrowed" many of its riders from buses and removed few from automobiles. Truly smart growth policies need to be able to provide real public benefits in the short term and in the context of the existing system of mobility and land use.

SMART GROWTH STARTS WITH THE AUOMOBILE

Smart growth, if it is to live up to its name, must be a realistic and positive framework for evaluating the major public policies that affect surface transportation and land use. Because all new policies start from the status quo, smart growth must be based on preserving the enormous benefits of automobiles, highways, and existing suburbs. At the same time it should support practical, incremental changes that improve the auto's performance and further reduce its negative impacts on urban and suburban communities. The framework should clearly not be based on an ideological anti-auto stance whose universal response to any perceived problem is to call for reductions in auto travel. The framework can find room for many useful amenities such as bike paths, more walkable suburbs, and carefully selected investments in improved public transit, as long as it is clear that these must be *in addition to* the option of auto travel, not instead of it. Smart Growth must also include carefully selected investments in improved highways, support for technological and organizational innovations that can improve the productivity of existing highway capacity, and discovery of better incentives and regulations to improve auto technology and design.

By way of conclusion, I would suggest the following points be given very careful consideration by planners, policy makers, and local officials as they develop their own agenda for smart growth in their own communities:

First, the car should not be blamed for problems it did not cause. Automobiles are certainly not the main cause of the poverty, crime, poor schools, blighted neighborhoods, and welfare dependency that plague our inner cities. These are deep-seated multi-causal social pathologies. Attacking them by attacking automobiles is ludicrous. The way to promote "sustainable" cities is not to ban automobiles, but to make the streets safe, the schools effective, the jobs plentiful, and the housing affordable.

Second, in dealing with problems for which the automobile is one factor among many, (e.g. air pollution, energy consumption), proposed policy "solutions" that assume it will be possible to shift a significant share of travel to non-automotive modes deserve strict scrutiny, because they are based on an extremely doubtful premise. Transit's market share has been steadily declining for fifty years, despite an estimated \$300 billion (adjusted for inflation) in federal, state and local subsidies. [17] Thus a program to reduce air pollution by increasing ridership on buses and subways will fail to reduce air pollution. Most likely it will not even increase transit ridership. But if it did, car travel will likely increase more.

Third, even with problems that are unambiguously and directly auto-related, such as highway congestion, the solution will rarely be to take people out of their cars and turn them into transit passengers. Transit, especially rail transit, is poorly suited to serving the kinds of suburb-to-suburb and off-peak personal travel that are the fastest growing part of our metro areas' travel demand. For the peak hour commute downtown, transit still has a useful role to play, especially where traffic has to be funneled through bottlenecks like bridges or tunnels. But shifting a major portion of rush hour highway traffic onto commuter trains and subways would simply overwhelm these facilities and require very costly capacity expansions.

Fourth, If the goal is to avoid gridlock and reduce the costs of highway congestion, most communities will find it both more efficient and more popular to eliminate bottlenecks and make strategic improvements in the capacity of the highway system than to try to induce drivers to leave their cars and travel by transit or carpool. As Christian Gerondeau noted in *Transport in Europe*, "Only the road can relieve the road." [18] The challenge is to find the political, financial, and organizational means to build enough of the right kind of new capacity to keep traffic flowing at reasonable speeds into downtowns and within suburbs. Building new highway capacity in the 21st century will almost never involve bulldozing a brand new expressway through a string of existing neighborhoods. But it may often entail an innovative public - private partnership such as the one between the California Department of Transportation and the private consortium that built the SR 91 Express Lanes toll road project in the median strip of an existing freeway in Orange County California. If private management, variable pricing and electronic toll collection technology are combined in a positive way to enable drivers to get to their destinations without delay ("value pricing"), rather than in a punitive way to try to push traffic off the road during peak hours, they can be a powerful new tool for combating highway congestion.

Fifth, if the goals are to reduce automotive energy consumption and lower emissions levels, finding ways to induce auto makers to design and market cleaner, more fuel efficient vehicles promises the biggest bang for the buck. It is easier to take the pollution out of auto exhaust than to take the people out of their cars. Initiatives like the Partnership for a New Generation of Vehicles hold the promise that we may be able to design a "post-petroleum propulsion regime" for automobiles. With a creative mixture of incentives and regulations, technological innovations such as electric vehicles, hybrids, fuel cells, even hydrogen powered engines may either supplant the internal combustion engine in many vehicles or force dramatic improvements in the environmental performance of conventional petroleum-powered cars.

Finally, smart growth's proponents should keep in mind that for the foreseeable future, no transport technology has enough advantages vis-a-vis the car to displace the automobile - highway system for most trips most of the time. There are many modest ways that we can improve the design and layout of the new communities that we build each year. Bike paths, pedestrian pockets, creative clustering of homes and shops, preservation of open spaces and the like can all give our towns a more comfortable feel and enhance our choices for making local trips. But for access to the full range of opportunities in our metropolitan areas, the automobile will remain the essential vehicle, and the highway the mode of choice for the great majority of Americans.

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