

# THE IMPLICATIONS OF THE BREAKING THE LOGJAM PROJECT FOR SMART GROWTH AND URBAN LAND USE

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## INTRODUCTION

This paper's primary focus is explaining the relevance of the Breaking the Logjam Project to urban land use planning, in particular to the concept of smart growth. As background to this discussion we first define what we mean by smart growth and related concepts and outline some of the main policy instruments adopted to achieve smart growth objectives. Then, we examine the implications of the four principles of urban planning and attempt to draw some general conclusions.

### I. URBAN CONTAINMENT, GROWTH MANAGEMENT, AND SMART GROWTH COMPARED

There are at least three interrelated concepts relevant to containing sprawl familiar to all U.S. urban planners: urban containment, growth management, and smart growth. However, because different people attach different meanings to each of them, comparing them is complicated. Some planners interpret urban containment (UC) strategies broadly to include many of the growth management (GM) policy instruments, but the narrowest and possibly most precise definition would be a type of Urban Growth Boundary (UGB) to limit development inside that boundary, which is not usually confined to the urban core. This could be the intended result of a specific policy (as in the prototypical Portland, Oregon case) or the incidental consequence of natural constraints (usually mountains and/or the sea, e.g., Los Angeles, Juneau [Alaska], Medellin [Colombia]). Urban containment (UC)

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strategies have been in place in one form or another for several decades both in the United States and abroad.<sup>1</sup> The key idea is that imposing a defined boundary around a city or county (or part of a county) beyond which development will be prohibited (at least up to some distance, perhaps another jurisdiction) will simultaneously prevent sprawl outside the boundary and promote higher density inside it.

Policies to contain sprawl are much broader although they may include a UGB. There have been some interesting attempts to develop multidimensional measures of sprawl,<sup>2</sup> but most variables are highly correlated with density so it is reasonable to adopt the simplest definition: UC strategies are an attempt to influence densities at different distances from the urban core, and their success should be measured by how well they achieve this. Sometimes, they may be combined with a farmland preservation ordinance and/or perhaps the transfer or purchase of development rights on environmentally sensitive land.

Growth management (GM) policies encompass a wide array of policy instruments, aimed at slowing growth (especially population growth) within a specific jurisdiction and achieving economic development, ensuring quality of life and environmental quality, but also with the side objective of containing sprawl outside a defined boundary. GM strategies can be adopted in different levels of jurisdiction, but cities adopt most GM policies.

People have defined Smart Growth (SG) in many different ways.<sup>3</sup> Gerrit Knaap drew a very useful distinction, highly relevant to this Project's theme, when he pointed out that the Maryland Smart Growth legislative package (enacted in 1996) differed from previous growth management efforts by its emphasis on incentives/disincentives rather than on direct regulation. Another key feature of SG approaches is that they are more positive in focus than the negative connotations of GM and UC. They attempt

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<sup>1</sup> In fact, King James I, in seventeenth century England, instituted extensive housing controls. William C. Baer, *The Institution of Residential Investment in Seventeenth Century London*, 76(3) BUSINESS HISTORY REVIEW 515, 520 (2002).

<sup>2</sup> See generally George Galster et al., *Wrestling Sprawl to the Ground: Defining and Measuring an Elusive Concept*, 12(4) HOUSING DEBATES 681 (2000); Paul M. Torrens & Marina Alberti, *Measuring Sprawl*, (Ctr. for Advanced Spatial Analysis, Working Paper No. 27, 2000).

<sup>3</sup> GEOFFREY ANDERSON, SMART GROWTH: ACHIEVING ENVIRONMENTALLY-FRIENDLY DEVELOPMENT (Smart Growth America 2008).

to bring the different advocacy groups (e.g., environmentalists, developers, homeowners associations) together in reaching some consensus about the direction and scale of future development.<sup>4</sup> Many SG policy prescriptions also promote New Urbanist (NU) principles.

The proponents of UC are mostly concerned about predominant low-density single family home development. Their rationale is that a UC strategy will promote urban compactness. If this works, all the virtues of the “compact city”, e.g., reducing automobile trips, saving energy, improving the sense of a community, reducing inequalities, inner city revitalization, etc., can be ascribed to UC.

This UC approach has generated a polarized debate in the U.S. planning profession. While the majority embraces the UC and compact city approaches to contain sprawl, the major objection has come from urban economists: the majority of Americans prefer single family housing, UC impairs affordable housing provision, distorts property values inside and outside controlled areas, and UC policies have not so far produced more urban compactness. Based on the National Resources Inventory database for 1982–1997, all major metropolitan areas (with the surprising exceptions of Los Angeles, Phoenix, and Las Vegas), and including those with “strong” UC strategies in place, experienced declining densities.<sup>5</sup> As an example, densities in the Portland metropolitan region declined by 11.3 percent.<sup>6</sup>

## II. SELECTIVE POLICY INSTRUMENTS AND APPROACHES TO CONTAIN SPRAWL

There are many policy instruments and approaches that are relevant to containing sprawl and promoting smart growth. Some

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<sup>4</sup> Anthony Downs, *What Does ‘Smart Growth’ Really Mean?*, 67(4) *PLAN* 20, 25 (2001).

<sup>5</sup> WILLIAM FULTON ET AL., *WHO SPRAWLS MOST? HOW GROWTH PATTERNS DIFFER ACROSS THE U.S.* 4–5, 7 (BROOKINGS INSTITUTE 2001).

<sup>6</sup> *Id.* at app. B. A qualification is a modest increase in density in the core county [Multnomah] because the metropolitan area analyzed included Clark County, Washington, which was not included within the UGB because it is outside Oregon. See Chang-Hee Christine Bae, *Cross-Border Impacts of a Growth Management Regime: Portland, Oregon, and Clark County, Washington*, in *TOWARDS SUSTAINABLE CITIES: EAST ASIAN, NORTH AMERICAN AND EUROPEAN PERSPECTIVES ON MANAGING URBAN REGIONS* 95 (André Sorensen, Peter J. Marcotullio & Jill Grant, eds., Ashgate 2000).

(e.g., UGBs, farmland preservation ordinances) have a direct impact on containing sprawl, while others (e.g., developer impact fees, infrastructure development controls, New Urbanism) have a somewhat indirect influence.

#### A. *Urban Growth Boundaries*

By delimiting a boundary somewhere within the jurisdiction (or with cooperating jurisdictions), the goal is to confine development inside the boundary and thereby to achieve the parallel goals of increasing urban compactness and reducing sprawl. The UGB is usually combined with other policy measures with similar goals so that it is difficult to separate out the particular effect of the urban growth boundary. There are only two states in the U.S. (Oregon and Washington) with strong State-mandated UGBs, although there are a few local examples (Boulder, Colorado). The UGB established in Portland in 1979 has been a model for a sprawl containment policy, although it is much less restrictive than several adopted abroad (e.g., Greenbelt policies in the United Kingdom and South Korea, Greenheart in the Netherlands). Its requirement to keep a 20-year land supply reserve and its quinquennial reviews mean that it will never control sprawl effectively.<sup>7</sup>

#### B. *Farmland Preservation Ordinances*

A favored argument for urban containment strategies is to preserve prime agricultural land.<sup>8</sup> One issue is how much prime agricultural land is close to urban expansion areas. Another is the “highest and best use” question. For instance, there are concerns about the absorption of farmland in California’s Central Valley, but the problem is the high demand for land for housing throughout California because of the *relatively* very high house and land prices (this point is currently less relevant while the housing recession continues). One benefit of farmland preservation ordinances adopted by counties is that they may direct development to land that is unsuited to agriculture. It is also

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<sup>7</sup> Gerrit-Jan Knaap, *The Urban Growth Boundary in Metropolitan Portland, Oregon: Research, Rhetoric and Reality*, in KOREAN REGIONAL SCIENCE ASSOCIATION AND KOREA RESEARCH INSTITUTE FOR HUMAN SETTLEMENTS 205, 205–32 (Seoul National University 2000).

<sup>8</sup> See Tom Daniels, *WHEN CITY AND COUNTRY COLLIDE: MANAGING GROWTH IN THE METROPOLITAN FRINGE 2*. (Island Press 1999).

unclear how much agricultural land California needs. The quantity of cultivable land has declined over the past three-quarters of a century, yet agricultural productivity has soared. Also, in several agricultural sub-sectors farmers are paid not to plant, and in others the government buys output to throw it away. Thus, the macro argument is unconvincing, although at the micro (regional) level there may be instances where a plausible case for farmland preservation can be made.

### C. *Purchase and/or Transfer of Development Rights*

This is an excellent market-based approach because it can simultaneously prevent sprawl in outlying areas and promote densification at close-in locations. In exchange for the commitment to forgo development at a site (“sending area”, certainly open space, often environmentally sensitive land) a landowner (or land purchaser) will obtain additional development rights (e.g., density bonuses) at some alternative centrally located site (“receiving area”). A great many local and State jurisdictions have these programs with 134 Transfer of Development Rights (TDRs) in 32 States,<sup>9</sup> but unfortunately the market for them remains relatively “thin,” i.e., too few participants.<sup>10</sup> There are several technical problems, such as identification of “receiving areas” and determining the appropriate “exchange rate” (e.g., acres of undeveloped land for square feet of additional development). One recent success story, however, can be found in King County, Washington, which protected more than 90,000 acres of Snoqualmie Forest and is the largest TDR scheme in the country.<sup>11</sup> The Purchase/Transfer of Development Rights approach remains a policy instrument that merits more attention on how to expand its use.

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<sup>9</sup> RICK PRUETZ, *BEYOND TAKINGS AND GIVINGS* 49 (Arje Press 2003).

<sup>10</sup> Chang-Hee Christine Bae, *Transferable Development Rights in the United States and their Implications for Korea*, in *KOREAN REGIONAL SCIENCE ASSOCIATION AND KOREA RESEARCH INSTITUTE FOR HUMAN SETTLEMENTS* 59, 59–68 (Seoul National University 2000); *see also* Patricia L. MacHemer & Michael D. Kaplowitz, *A Framework for Evaluating Transferable Development Rights Programs*, 45(6) *J. ENVTL. PLAN. & MGMT.* 773, 775 (2002) (stating that functioning TDR market is necessary for a successful TDR program).

<sup>11</sup> RON SIMS, 2005 STATE OF KING COUNTY REPORT: MEETING THE CHALLENGES OF THE PAST DECADE, AND PREPARING FOR THE NEW CHALLENGES OF A NEW CENTURY (2005), *available at* <http://www.metrokc.gov/exec/stateOfCounty/05/>.

D. *Ballots Prior to the Approval of Large-Scale Development Projects*

Popular in the outlying districts of Southern California, a recent effort to slow down development is ballot initiatives that require voter approval for residential subdivisions above a certain size. This could be a major check on (especially peripheral) development because the “rational voter” hypothesis implies that opponents of development will be more likely to vote.

Oregon’s passage in November 2004 of the ballot initiative Measure 37, based on the principle that “[g]overnments must pay owners, or forgo enforcement, when certain land use restrictions reduce property value,” was an especially interesting development in voters affecting land use decisions and property rights. Passed by 61 percent of voters, this proposition applies retroactively as well as prospectively. Although lawsuits were filed on constitutional grounds, the parties eventually abandoned them. Whether it is a deathblow to Oregon’s efforts to contain sprawl is still unclear. There are more than two thousand landowners that have standing, and all but one of the jurisdictions involved have granted waivers to regulations because they cannot afford to compensate for the claims filed. The “takings” issue is more a question for the judiciary than for legislatures, but there may be implications for Federal (and State) laws.

E. *New Urbanist Principles*

The NU agenda is much broader than urban containment strategies because it also encompasses neotraditional house/street design elements and ambitious communitarian objectives. However, it overlaps because it focuses on higher dwelling densities and more compactness. New Urbanism, promoted by well known architects, offers design solutions that may be easily adaptable to a wider range of densification strategies, thereby increasing the competitiveness of high-density projects with the more traditional suburban subdivision housing. For example, NU communities in the Portland region are more compact with better street connectivity than traditional suburban communities.<sup>12</sup> As a direct contributor, however, its impact is minimal because most sizeable NU developments are located on suburban greenfield

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<sup>12</sup> Yan Song & Gerrit-Jan Knaap, *Measuring Urban Form: Is Portland Winning the War on Sprawl?*, 70(2) J. AM. PLAN. ASS’N 210, 223 (2004).

rather than on in-town sites. It is rare to find successful NU projects combined with transit-oriented development (TOD). One of the best known rail examples is Orenco Station in Hillsboro, Oregon.<sup>13</sup> The light rail system (MAX) connects the area (fifteen miles west of downtown) to downtown Portland.<sup>14</sup> However, only 20 percent of residents use MAX more than twice a week, and the majority of residential sites are almost a mile away from the station.<sup>15</sup>

#### F. *Priority Growth Areas*

The idea of directing development to often deprived, higher density locations is reflected in Maryland's Smart Growth programs, among others. The approach definitely falls under the SG heading because it emphasizes promoting development, but at specific locations where infrastructure exists. These areas have some affinity with the Enterprise Zone concept, except that they emphasize both residential *and* non-residential development. However, the criticism that Enterprise Zones merely diverted growth from elsewhere does not apply to Priority Growth Areas because that is what they are intended to do.

#### G. *Critical Area Protection Measures*

Many UC programs include measures to protect critical areas and environmentally sensitive lands (e.g., wetlands, species protection areas, and stream protection areas), even within UGBs. Few would disagree that growth should, and can, be directed away from these areas. The debate hinges on the definition of critical areas. A common remedy in marginal cases is to release some of the land for development in return for funds from the developer to restore the remainder (e.g., the Bolsa Chica and the Ballona wetlands in Southern California).

#### H. *Urban Core Revitalization Strategies*

Although urban revitalization is often promoted as an antidote to sprawl, a sympathetic study found no measurable relationship

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<sup>13</sup> See generally Chang-Hee Christine Bae, *Orenco Station, Portland Oregon: A Successful Transit Oriented Development Experiment?*, 56(3) TRANSP. Q. 9 (2002).

<sup>14</sup> *Id.* at 9.

<sup>15</sup> *Id.* at 13.

between sprawl and indicators of urban core decline.<sup>16</sup> Urban revitalization efforts, provided that they are primarily private sector financed with modest levels of public support, are worthy in their own right, regardless of their effects on sprawl. The problem is the use of this argument to justify public subsidies for rail transit, sports stadia, convention centers, and other costly projects. There has been some revival in a few downtowns (e.g., Seattle, Denver),<sup>17</sup> but that was probably the result of exceptional downtown amenities rather than specific policies.

### I. *Other Policy Instruments*

These are either less directly associated with containing sprawl or are primarily local government interventions. They include: relaxing traditional zoning restrictions (e.g., mixed use projects [combined office-residential buildings, live-and-work units], minimum density zoning, infill and accessory residential unit ordinances); developer impact fees (often as high as \$30,000 per unit); moratoria on residential and/or commercial development projects; concurrency agreements (first embodied in Florida legislation), urban service districts, and other schemes to limit development if infrastructure is absent; public transit and non-motorized modes investments and promotion measures; and controls on “big-box” retail outlets, such as Wal-Mart.<sup>18</sup> Also worth mentioning is the possibility of Federal action implementing tougher immigration controls as a means of slowing down population growth and land consumption.

Table 1 presents a long list of smart growth measures and the level of government at which they are most likely to be implemented. The table shows that most policy instruments are local, although a few involve multiple levels of intervention (this relates to the following discussion).

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<sup>16</sup> Anthony Downs, *Some Realities About Sprawl and Urban Decline*, 10(4) HOUSING POL’Y DEBATE 955, 961 (1999).

<sup>17</sup> Eugenie Ladner Birch, *Having a Longer View on Downtown Housing*, 68(1) J. AM. PLAN. ASS’N 5, 6 tbl.1 (2000).

<sup>18</sup> See Andrea M. Dean & Russel S. Sobel, *Has Wal-Mart Buried Mom-and-Pop?*, 31(1) REG. 39, 39 (2008).



Table 1. *Smart Growth Measures and Levels of Government*

- Zoning Relaxations (e.g. Mixed Uses, Infill, Accessory Dwellings) – Local
- Residential and Commercial Development Moratoria – Local
- Infrastructure Requirements (Concurrency Agreements) – Local
- Developer Impact Fees – Local
- Urban Core Revitalization Strategies – Local
- Controls on “Big Box” Retailing – Local
- Ballot Approval for Development – Local
- Transit-Oriented Development – Local
- New Urbanist Principles – Local
- Purchase and/or Transfer of Development Rights – State or Local
- Farmland Preservation Ordinances – State or Local
- Urban Growth Boundaries – State or Local
- Priority Growth Areas – State
- Immigration Controls to Slow Population Growth – Federal
- CO<sub>2</sub> Reduction Measures – Federal, State, and Local
- Transportation Investments –Federal, State, and Local

### III. SMART GROWTH AND THE FOUR PRINCIPLES

What insights do the four principles (scale of authority, cross-cutting, trade-offs, and decentralized approaches) shed on the analysis of smart growth in particular and land use planning in general?

#### A. *Scale of Authority*

Local government is the most critical level of intervention in land use planning established via constitutional decision more than eighty years ago.<sup>19</sup> Hence, the Federal vs. State division of responsibility which dominates the other papers in this issue, while relevant, is of secondary significance in this case. In fact, increasingly, many of the battles relating to the environmental aspects of land use planning take place at the neighborhood and

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<sup>19</sup> *Euclid v. Ambler Realty Co.*, 272 U.S. 365 (1920).

community rather than at the city level. Although there is no authority at the sub-city level, community participation, activism, pressure, and even protest can and do affect outcomes, often dramatically.

In recent decades, States have become more involved in land use planning, and 12 States now mandate growth management or smart growth regimes, beginning with Oregon's 1973 legislation.<sup>20</sup> Other important State programs are Washington<sup>21</sup> and Florida<sup>22</sup> and the innovative, more market-oriented 1997 legislation on smart growth of Maryland.<sup>23</sup> These contrast with States such as California, New York, and Texas where the development of smart growth programs is voluntary, producing a patchwork quilt of cities with smart growth programs.

As an example California has successfully introduced stringent single goal-oriented state legislative actions, e.g., the California Environmental Quality Act (1970),<sup>24</sup> the California Coastal Zone Act (1972),<sup>25</sup> and the California Clean Air Act (1988).<sup>26</sup> However, California left land use and development regulations primarily in the hands of local governments. This resulted in more diffuse urban development because some peripheral communities wanted to grow.<sup>27</sup> Over the years, there

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<sup>20</sup> See S.B. 100 (Or. 1973) (codified as amended at OR. REV. STAT. §§ 197.005–860 (2007)), available at <http://www.orgov.org/landusetext.html>; Jerry Anthony, *Do State Growth Management Regulations Reduce Sprawl?*, 39 URB. AFF. REV. 376, 377–78 (2004).

<sup>21</sup> WASH. REV. CODE §§ 36.70A.010–.902 (1990), available at <http://search.leg.wa.gov/wslrcw/RCW%20%2036%20%20TITLE/RCW%20%2036%20%2070A%20CHAPTER/RCW%20%2036%20%2070A%20chapter.htm>.

<sup>22</sup> The Local Government Comprehensive Planning and Land Development Regulation Act or Florida Growth Management Act, FLA. STAT. §§ 163.2511–.3247 (1985), available at [http://www.leg.state.fl.us/statutes/index.cfm?App\\_mode=Display\\_Statute&URL=Ch0163/part02.htm&StatuteYear=2008&Title=%2D%3E2008%2D%3EChapter%20163%2D%3EPart%20II](http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&URL=Ch0163/part02.htm&StatuteYear=2008&Title=%2D%3E2008%2D%3EChapter%20163%2D%3EPart%20II).

<sup>23</sup> Smart Growth Priority Funding Areas Act of 1997, S.B. 389 (Or. 1973) (codified as amended in scattered sections of MD. CODE ANN., art. 23A, MD. CODE ANN., Transp., State Fin. & Proc.) available at <http://www.mdp.state.md.us/smartgrowth/pdf/sb0389.pdf>.

<sup>24</sup> California Environmental Quality Act, CAL. PUB. RES. §§ 21000–21105 (West 2007).

<sup>25</sup> California Coastal Act, CAL. PUB. RES. §§ 30001–30900 (West 2007).

<sup>26</sup> California Clean Air Act, CAL. HEALTH & SAFETY §§ 40910–40930 (West 2006).

<sup>27</sup> E.g., Moreno Valley in Riverside County, the fastest-growing city in the United States in the 1980s. U.S. CENSUS BUREAU, U.S. CENSUS OF POPULATION, 1990 (1990), available at <http://factfinder.census.gov/servlet/>

have been several abortive attempts to promote Statewide legislation to contain sprawl; none were successful. Thus, implementation has been dependent on actions at the local level, often as a result of ballot initiatives, sometimes because of activist community opposition against specific development projects. California's strongly decentralized local growth management approach contrasts with the state-regulated Pacific Northwest.

The Federal government has no direct involvement in *urban* land use planning<sup>28</sup> although it does play perhaps the major role *outside* urban areas through the U.S. Department of the Interior and other agencies. However, many important items of environmental legislation have significant indirect effects on urban land use and the built environment. These include the Endangered Species Act,<sup>29</sup> the Clean Air Act,<sup>30</sup> the Clean Water Act,<sup>31</sup> and the transportation acts.<sup>32</sup> In addition, some have argued that other federal policies promote sprawl, e.g., the Interstate Highway Act, the Federal Housing Administration, and the mortgage interest tax deduction. The strong role of local as opposed to central government in land use regulation is a major distinction between the United States and elsewhere (e.g., Canada, the United Kingdom, the Netherlands, Switzerland).

Although the Federal Acts are targeted at other issues and were not intended to affect the local built environment where the Federal government has no jurisdiction, they have important "implicit" spatial impacts. There might be some scope in future revisions of Federal environmental legislation to recognize the existence of these implicit spatial impacts and to make some provision to ensure compatibility with locally desired land use and related objectives, but that is a relatively weak policy prescription because of the limited Federal role in urban land use decisions.

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<sup>28</sup> *But see* Anderson, *supra* note 3 (holding a somewhat different view on this issue).

<sup>29</sup> Endangered Species Act, 16 U.S.C. §§ 1531–1544 (2000).

<sup>30</sup> Air Pollution Prevention and Control Act, 42 U.S.C. §§ 7401–7671 (2006).

<sup>31</sup> Water Pollution Prevention and Control Act, 33 U.S.C. §§ 1251–1387 (2001)

<sup>32</sup> Intermodal Surface Transportation Efficiency Act of 1991, 16 U.S.C. § 1261 (1994) (repealed 1998); Transportation Equity Act for the 21st Century, Pub. L. No. 105-178 (1998).

A much more dramatic policy development would be to design a National Land Use Policy that promoted, and to some degree mandated, smart growth principles nationwide. This would get around a major weakness of the current situation; because there are growth management locations and pro-development locations those firms and households that feel damaged by growth restrictions can always relocate to less restrictive jurisdictions. With a Federal policy in place this “exit” scenario would not be an option. There are some democratic countries (e.g., South Korea) that have national land use policies. However, Korea has a unitary not a Federal political system and, despite reforms in the last fifteen years, local governments remain relatively weak.

If the Federal government’s role in land use planning is indirect, that is not necessarily the State’s role. The twelve State growth management/smart growth programs (especially the strong ones such as Oregon, Washington, Florida, and Maryland) raise the question about whether it is desirable to supersede local jurisdictional sovereignty. The advantage is that it helps the State to have more of an influence on the geographical distribution of people and jobs and on other concerns such as the preservation of agriculture. However, State-level planning is not a priority in the United States. The disadvantage is that it implies a cookie-cutter approach to local land use problems, and undercuts Tiebout’s classic argument that a choice among heterogeneous cities enhances consumer welfare.<sup>33</sup> The State programs that have mandates might be subject to the same criticism of rigid centralization at the State level made about Federal centralization that applies mandates across States, especially the criticism of discouraging experimentation. However, there are usually many opportunities for individual cities to develop ordinances on environmental and land use issues outside the scope of the growth management laws, and these opportunities introduce variety and heterogeneity into city planning systems.

### B. *Cross-Cutting*

Urban land use planning is a cross-cutting activity. There are so many disciplines involved: architecture, urban design, transportation planning and traffic engineering, construction

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<sup>33</sup> See Charles M. Tiebout, *A Pure Theory of Local Expenditures*, 64(5) J. POL. ECON. 416, 416–24 (1956).

management, landscape architecture, hydrology, geology, soil mechanics, environmental science, economics, public administration, business, sociology, environmental and public health, to name just a few. It is the quintessential interdisciplinary activity. But it is not merely the mix of disciplines and skills that renders it a cross-cutting activity; it is also the nature of the overlapping problems.

There are many examples of cross-cutting. Let us mention a few. Bae in this issue discusses the impact of stormwater runoff on wildlife (especially salmon) habitat in Washington State as a result of the paving associated with urban development.<sup>34</sup> There is a different stormwater issue in Southern California where the runoff leads to ocean degradation. The transportation-land use connection is the basis of a major cross-cutting issue, and is discussed later. Air pollution and land use are often closely related, especially the location of transportation facilities relative to human-oriented land uses.

Yet another cross-cutting issue is that between residential development and social impacts as reflected in residential segregation. This occurs especially in elite NU communities. The policy implication is how to promote affordable housing, a very difficult task. Traditionally, this has been a rental housing issue, but the recent mortgage and foreclosure crisis has spread the problem to moderate income homeowners. Policies to deal with affordable housing might be formulated at the Federal, State, and/or the local levels. If sprawl has widened the gaps between the central cities and the suburbs, controlling sprawl might narrow income and other inequities. Certainly, promoting regional equity was one of the main principles of the Charter of the Congress for New Urbanism. Yet UC interventions appear to have had little positive influence on equity. By restricting land supply at core locations they have made the affordable housing problem more difficult. New higher density housing, such as in NU communities or new condominium towers in certain cities, commands a price premium.<sup>35</sup> Regional governance efforts that would offer tax revenue sharing opportunities have gotten nowhere. The impacts on the supply of rental housing have been minimal. From an equity

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<sup>34</sup> Chang-Hee Christine Bae, *Salmon Protection in the Pacific Northwest: Can it Succeed?*, 17 N.Y.U. ENVTL. L.J. 559 (2008).

<sup>35</sup> MARK J. EPPLI & CHARLES C. TU, *VALUING THE NEW URBANISM* ix-x (2000).

perspective, the main beneficiaries from UC have been existing homeowners, often the wealthier ones. There may be an indirect argument that if sprawl control leads to urban revitalization, and this in turn encourages more better off households to return to the central city, then the regeneration of core tax revenues will permit a more flexible supply of services to the urban poor. However, this has neither been well articulated nor documented.

Another cross-cutting link is between urban land use and agriculture and environmentally sensitive lands. If there is prime agricultural land contiguous to metropolitan areas, smart growth measures especially those with farmland preservation components may have a beneficial impact by directing development to low fertility land. Ordinances to direct development away from critical areas, implementation of TDR programs, and negotiations with developers to finance mitigation measures<sup>36</sup> can result in substantial returns. Thus, efforts on the fringe may be very successful. What is more problematic is what happens as a result of densification in more central areas. Unfortunately, more density means more congestion and (unless projects are designed with extreme care) more infringement of increasingly scarce open space in or near the metropolitan core. There is a risk that the direct human costs in cities may outweigh the natural environmental benefits in fringe areas. For example, investment in infill spaces may infringe on scarce open space, despite the benefits of reducing sprawl. This is a major environmental challenge to efforts to contain sprawl.

A recent development is attention to the relationship between public health and land use planning. There are many aspects to this. One example is the exposure of populations, especially vulnerable populations, to particulate matter from freeways and major highways, typically related to diesel trucks.<sup>37</sup> Another is the exposure to hazardous waste sites. These problems have been addressed by legislation, especially in California. For instance, it is prohibited to build schools within a quarter mile of freeways.<sup>38</sup> Similarly, California law requires public notification via

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<sup>36</sup> E.g., developers could provide money for wetlands restoration in return for allowing an often smaller than originally planned project to go forward.

<sup>37</sup> See generally Chang-Hee Christine Bae, Alon Bassok & Sungyop Kim, *The Exposure of Disadvantaged Populations in Freeway Air Pollution Sheds: A Case Study of Seattle and Portland Regions*, 34 ENV'T & PLAN. B 154 (2007).

<sup>38</sup> CAL. EDUC. CODE § 17213(b)–(c) (2008).

newspaper advertisements of toxic emissions from industrial and other sites.<sup>39</sup> The national initiative to control diesel emissions from trucks is another example; a federal appeals court in 2002 upheld EPA rules to limit such emissions beginning in 2007.<sup>40</sup>

Another public health issue that has generated substantial research funded primarily by the Center for Disease Control and the Robert Wood Johnson Foundation is the relationship between obesity and sprawl. This is the cross-cutting example that is closest to the smart growth topic. Theories posit that the spatial reorganization of land uses can create more walkable neighborhoods and bicycling opportunities and that this will help to address America's critical obesity problem.<sup>41</sup> There is a rapidly growing literature on this subject.<sup>42</sup> However, the hypothesis that changes in land use can remedy the obesity problem is stunning but improbable. The problems include: changes in land use are very slow and transforming the settlement pattern from its decentralized to a compact structure is a glacier-like process; it is unclear that compactness will induce the obese to walk or cycle; leisure walking is more common in suburban and especially exurban areas than in central cities; because of air pollution levels walking in compact and congested neighborhoods may be unhealthy; and it is difficult to lose much weight by exercise alone. Of course, exercise is good for you, but the combination of diet and exercise is much more effective. The best way to lose weight is simple: eat less (all the major commercial diet programs are based on small portions to minimize calorie consumption). The land use prescription is based on the fallacy that social engineering is superior to individual responsibility.

Nevertheless, in spite of these reservations, public health and

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<sup>39</sup> Safe Drinking Water and Toxicity Enforcement Act of 1986, CAL. HEALTH & SAFETY §§ 25,249.3–25,259 (West 2008).

<sup>40</sup> Nat'l Petrochem. & Refiners Ass'n v. EPA, 287 F.3d 1130 (D.C. Cir. 2002).

<sup>41</sup> CENTERS FOR DISEASE CONTROL AND PREVENTION, OVERWEIGHT AND OBESITY, <http://www.cdc.gov/nccdphp/dnpa/obesity/index.htm> (last visited Sept. 24, 2008) (an estimated 64.5 percent of the adult population are overweight, while an estimated 34 percent are obese).

<sup>42</sup> See, e.g., Andrew J. Plantinga & Stephanie Bernell, *The Association Between Urban Sprawl and Obesity: Is It a Two-Way Street?*, 47(5) J. REGIONAL SCI. 857 (2007); Reid Ewing et al., *Relationship Between Urban Sprawl and Physical Activity, Obesity, and Morbidity*, 18(1) SCI. HEALTH PROMOTION 47 (2003).

land use policies intersect in several ways. Federally, though by Executive Order rather than by legislation, agencies have to consider environmental justice issues, usually related to the health impacts on minority and low-income populations of proximity to noxious land uses.<sup>43</sup> State and local restrictions on development close to freeways are another intersection between public health and land use.

### C. *Trade-Offs*

The key to trade-offs between different issues is cost-benefit analysis. However, at the local level it is not necessarily the technical versions that apply because whereas the benefits of development can be quantified in dollar amounts the costs are frequently intangible. For example, quantifying changes to neighborhood character from a large development is difficult. A proxy measure might be the degree of community opposition as measured by the turnout at public hearings and town hall meetings.

Another possible trade-off is between protecting the environment and promoting economic development. There are some jurisdictions that are so focused on job creation that they shy away from environmental restrictions and growth controls that might scare away prospective investors. In their view, the environmental costs are more than offset by the economic benefits. Usually, this decision is based on intuitive reasoning rather than on hard cost-benefit analysis. However, there are circumstances in which cities can mitigate or even avoid the trade-off by attracting the type of economic activities that minimize environmental damage or by choosing locations where adverse environmental spillovers are minor.

If climate change has local impacts and potentially local policy implications, this issue raises some interesting cost-benefit implications, most controversially raised by Lomborg.<sup>44</sup> He is an environmentalist; as a minor indicator he cycles to work rather than drives. He believes in global warming and that humans

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<sup>43</sup> Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, Exec. Order No. 12,898, 3 C.F.R. 859 (1995), *reprinted as amended in* 42 U.S.C. § 4321 (1994 & Supp. VI 1998).

<sup>44</sup> See generally BJORN LOMBORG, *COOL IT: A SKEPTICAL ENVIRONMENTALIST'S GUIDE TO GLOBAL WARMING* (2007); BJORN LOMBORG, *THE SKEPTICAL ENVIRONMENTALIST: MEASURING THE REAL STATE OF THE WORLD* (Hugh Matthews trans., Cambridge University Press 2001).



contribute to it.<sup>45</sup> However, he argues that the benefits from alleviating the problem are uncertain whereas the costs of implementing the Kyoto Agreement are about \$180 billion per year.<sup>46</sup> He compares these with the costs and benefits of other (altogether ten) global problems where both the costs and benefits are reasonably reliable.<sup>47</sup> All the other programs combined could be implemented at one-third the cost of that of addressing climate change.<sup>48</sup> The most cost-effective programs are dealing with HIV/AIDs, malnutrition, and control of malaria.<sup>49</sup>

There is an interesting intergenerational equity point here. In the future, people—even in developing countries—would be much richer than today. Spending resources on their needs would be regressive given the more cost-effective programs for the poor now. This explains why Lomborg calls climate change projects “bad” projects. However, it does not imply doing nothing but rather focusing on picking the low-hanging fruit, i.e., the low-cost measures, such as changes in lifestyle behavior.

#### D. *Decentralization Strategies*

What do we know? First, economists’ well known response to cases of “market failure” is to suggest that the scope of the market economy be expanded; policy makers are encouraged to “get the prices right” wherever existing prices inadequately signal opportunity costs. Second, assertions of market failure are associated with almost every prescribed government intervention.<sup>50</sup> Third, the latter must be placed in context; the market economy has evolved progressively over time. Entrepreneurs can find profitable opportunities even in an adverse property rights environment.

For a variety of reasons, the get-the-prices-right approach has been less popular with policy makers than the setting of standards and the regulation of quantities. Many politicians prefer to be seen as controlling the market rather than as taking advantage of it. Pricing is a complex process that includes fine-tuning and

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<sup>45</sup> See COOL IT, *supra* note 44, at ix.

<sup>46</sup> *Id.* at 162 tbl.2.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> PUBLIC GOODS AND MARKET FAILURES: A CRITICAL EXAMINATION 1, (Tyler Cowen ed., Transaction Publishers 1999) (1988).

successive approximation via learning and feedback. Command-and-control, on the other hand, emphasizes clarity and resistance to (and control over) markets.

The trouble is that many second-best policies have been very costly. There are two well known reasons for this. First, there is no way that planners have enough information to supplant (or augment) the market.<sup>51</sup> Second, politicization is inevitable and often undermines efficient outcomes.

With increasing affluence comes extra sensitivity to environmental concerns. Thus, the themes and difficulties that we have pointed to are now more pronounced than ever. A popular sentiment regarding land markets is that there must be more top-down control. “Unplanned” growth is the problem and “smart growth” (or some variant) is the solution.

In our view, planners should do only a few things but do them well. Deregulation invites entrepreneurs to do what they do best, discover better mousetraps. Where and when there are remaining egregious misallocations, planners should consider the pricing option. Consider the case of urban transportation and land use. Here, privatization has been going ahead at a faster pace. Two consequences of the regulatory logjam are that too little attention has been paid to privatization opportunities and that market-based incentives have been used too infrequently.

People have increasingly recognized the privatization of local government and planning in the U.S.; Nelson has labeled it the “quiet revolution,” reflecting the spontaneous ascendancy of bottom-up planning.<sup>52</sup> However, it is a type of bottom-up planning that few had anticipated; most reserve that label to actions by conventional local government. However, governance is a larger topic than government.

The Community Associations Institute reports that there were 300,800 private association-governed communities in the U.S. in 2008.<sup>53</sup> These included 24.1 million housing units and were home

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<sup>51</sup> See generally LUDWIG VON MISES, HUMAN ACTION: A TREATISE ON ECONOMICS (1949); FRIEDRICH HAYEK, THE ROAD TO SERFDOM (1944).

<sup>52</sup> ROBERT H. NELSON, PRIVATE NEIGHBORHOODS AND THE TRANSFORMATION OF LOCAL GOVERNMENT 287 (2005) (citing article by FRED BOSSELMAN & DAVID CALLIES, THE QUIET REVOLUTION IN LAND USE CONTROL (Government Printing Office 1971)).

<sup>53</sup> COMMUNITY ASSOCIATIONS INSTITUTE, <http://www.caionline.org/about/facts.cfm> (last visited Sept. 24, 2008).

to 59.5 million people.<sup>54</sup> Over half of the associations involved planned communities. The phenomenon involves about one-fifth of the value of all U.S. residential real estate. These associations are essentially *private* local governments. They deliver a variety of common services and provide common facilities and common areas that are essentially privately governed with the contractual power to assess fees that amount to private taxation. The developer designs Covenants, Conditions, and Restrictions, essentially constitutions, to govern the associations. Competing developers trade-off rights surrendered for protections gained that are consistent with market demand. Homeowners want to protect the major asset in their portfolio. Neighborhood quality and neighborhood transition are collective goods. The popularity of this institutional solution reflects more flexibility and responsiveness than conventional municipal government.<sup>55</sup> Nelson has suggested giving established neighborhoods the option of privatizing.<sup>56</sup>

Developers of planned communities fund local infrastructure construction mostly within these communities and, in return, have achieved land design flexibility and savings. Local governments, in return, benefit from cost savings whenever infrastructure is privatized.<sup>57</sup> However, developers are also subject to exactions and impact fees to the extent that local governments also provide new infrastructure services.<sup>58</sup> The involved governments can be the city, county, special district, or the State. Nelson sees such

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<sup>54</sup> *Id.*

<sup>55</sup> William Fischel has argued that “homevoter” cities, typically small suburban cities, are unique in that their *raison d’être* is also the protection of home values. *See generally* WILLIAM A. FISCHEL, *THE HOMEVOTER HYPOTHESIS: HOW HOME VALUES INFLUENCE LOCAL GOVERNMENT TAXATION, SCHOOL FINANCE AND LAND USE POLICIES* (2001). He also claims that most homeowners want the protections offered by the homevoter city as well as the homeowners’ association; they are complements. William A. Fischel, *Revolution or Evolution?*, REGULATION 48 (2004), available at <http://www.cato.org/pubs/regulation/regv27n2/v27n2-6.pdf>. Nelson replied that private governments are less constrained; they do not, for example, have to abide by one-man-one-vote. Nelson, *supra* note 52, at 403–04. All systems of governance involve politics and the problems of politics. The move to small cities and private communities suggests that politics at the more local level is more widely accepted.

<sup>56</sup> Nelson, *supra* note 52, at 304–05.

<sup>57</sup> Eran Ben-Joseph, *Land Use and Design Innovations in Private Communities*, LAND LINES, Oct. 2004, at 9.

<sup>58</sup> ALAN A. ALTSHULER & JOSE A. GOMEZ-IBANEZ, *REGULATION FOR REVENUE: THE POLITICAL ECONOMY OF LAND USE EXACTIONS* 41–46 (1993).

arrangements as thinly veiled transactions, the sale of development rights, sanctioned via odd legalese like a required “nexus of development.”

Beyond private communities, there are major arterial roads that can be managed in many ways. Highways outside private communities can involve private owners (who will price efficiently). Private participation can take alternative forms, including private management of government-owned roads, franchising, outright private ownership, or joint development via public-private partnerships.<sup>59</sup> Where none of these options are feasible, highway planners can implement pricing schemes to achieve efficient traffic flows. The 8-mile stretch of Interstate-15 north of San Diego is one of an increasing number of examples.<sup>60</sup> A special feature is “dynamic” time-of-day pricing that responds to levels of use.

TDR programs are an excellent example of a market-oriented means of impacting urban land use. Unfortunately, in spite of a proliferation of programs throughout the United States, the concept has not fulfilled its promise in most cases, primarily because of the difficulties of implementation.

Most of these examples are real world events not academic abstractions. The privatization of land use planning goes on despite pleas in some quarters for more top-down planning. The privatization of infrastructure has also “come out of the closet” but is proceeding much more slowly. The rise of infrastructure “earmarks” in Congress illustrates that there are powerful incentives that favor the status quo. No one can predict what works best in the very different situations that occur in hundreds of cities and thousands of communities. Certainly, less top-down control would allow local officials and local investors to experiment and innovate.

The Maryland approach was one of the first to point in a different direction towards more market-oriented remedies, although with mixed success.<sup>61</sup> The “Live Near Work” program,<sup>62</sup>

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<sup>59</sup> STREET SMART: COMPETITION, ENTREPRENEURSHIP AND THE FUTURE OF ROADS 8 (Gabriel Roth ed., 2006).

<sup>60</sup> *Id.* at 200–07.

<sup>61</sup> See James R. Cohen, *Maryland’s “Smart Growth”: Using Incentives to Combat Sprawl*, in URBAN SPRAWL: CAUSES, CONSEQUENCES AND POLICY RESPONSES 293–321 (Gregory D. Squires ed., 2002).

<sup>62</sup> See *id.* at 314–16.

perhaps the most innovative of Maryland's initiatives, could have a better design. The aim is laudable, but a subsidy based on properties and their location would make more sense than a non-means tested income tax credit. Also, the very broad consensus in favor of SG principles frequently breaks down when the focus turns to specific sites: examples in Maryland include Charles County and Columbia where proposed developments were defeated by local public and political opposition and the sites were retained as green space. Another not surprising feature is that the Maryland smart growth prototype, perhaps more in terms of its goals than its policy instruments, has been widely adopted locally in other jurisdictions in States as disparate as Massachusetts, Texas, and Kentucky.<sup>63</sup> Even more surprising, however, is that a detailed review of the website of the Smart Growth Leadership Institute established by Governor Glendenning after he left office appears to place much more emphasis on regulatory changes (e.g., revisions of ordinances and design standards) than on the market-based initiatives that characterized the original Maryland programs.<sup>64</sup>

To sum up, most anti-sprawl strategies rely heavily on regulation. However, incentives/disincentives are not wholly neglected. Developer impact fees are an excellent example, although their scope is much wider than UC. They offer developers the option of making the profit-and-loss calculations to decide whether to proceed with their projects, far preferable to blanket prohibition. Transferable development rights also have significant market-oriented characteristics with the dual potential of preserving peripheral land from development and promoting higher densities within built-up areas. Road pricing might be able

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<sup>63</sup> See generally SMART GROWTH/SMART ENERGY TOOL KIT—STATE POLICIES AND INITIATIVES, [http://www.mass.gov/envir/smart\\_growth\\_toolkit/pages/state\\_policy.html](http://www.mass.gov/envir/smart_growth_toolkit/pages/state_policy.html) (last visited Oct. 5, 2008) (describing Massachusetts smart growth initiative); CITY OF AUSTIN—SMART GROWTH HOME PAGE, <http://www.ci.austin.tx.us/smartgrowth/> (last visited Oct. 5, 2008) (describing Austin citywide smart growth initiatives); CITY OF DALLAS, TEXAS—MANAGEMENT DEVELOPMENT ASSOCIATE PROGRAM, [http://www.dallascityhall.com/mda/citywide\\_ventures.html](http://www.dallascityhall.com/mda/citywide_ventures.html) (last visited Oct. 5, 2008) (describing Dallas smart growth plans); EAST RUSSELL PARTNERSHIP, LOUISVILLE, KENTUCKY: SMART GROWTH ILLUSTRATED, <http://www.epa.gov/dced/case/russell.htm> (last visited Oct. 5, 2008) (describing a local smart growth project in Kentucky).

<sup>64</sup> See SMART GROWTH LEADERSHIP INSTITUTE, ABOUT US, <http://www.sgli.org/about.htm> (last visited Sept. 24, 2008).

to influence travel mode decisions, although there are too few examples in place to answer this question. In fact, the market itself, with no explicit policy measures, may have more dramatic effects. Land prices are a good example. Those metropolitan areas with secularly high land prices (such as Los Angeles) have higher densities while those with cheap land (like many in the Northeast and the Midwest) suffer from chronic sprawl. Another example is that the strongest boost to public transit ridership in recent decades in 2008 resulted not from transportation planning but from soaring gasoline prices.

As we point out in the next section, the Federal government can influence the pace of change by financing pilot schemes for road congestion pricing and by promoting private participation in road construction and maintenance. There may be similar opportunities in other sectors.

#### IV. TRANSPORTATION

Transportation and land use are highly interdependent. Transportation investments generate land use impacts, especially changes in property values.<sup>65</sup> On the other hand, physical development, particularly in the form of spatial extensions to metropolitan areas, induces the need for transportation investments.

Transportation is one area where the Federal government has had a major influence on urban planning. For decades, the U.S. Department of Transportation (USDOT) subsidized new rail projects and the scale of matching funds was a strong incentive for cities to accept them. Under the Intermodal Surface Transportation Efficiency Act<sup>66</sup> and its successor the Transportation Equity Act,<sup>67</sup> the federal government supported a variety of transportation projects, many of them with land use implications. More recently, USDOT has shifted direction with its support of congestion pricing programs in five cities (now that New York has dropped out) and its promotion of public-private or even private financing of highway construction. However, most of the latter has focused on

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<sup>65</sup> QISHENG PAN, THE IMPACTS OF LIGHT RAIL ON RESIDENTIAL PROPERTY VALUES: A CASE STUDY OF THE HOUSTON METRORAIL TRANSIT LINE (2008).

<sup>66</sup> 16 U.S.C. § 1261 (1994) (repealed 1998).

<sup>67</sup> Transportation Equity Act for the 21st Century, Pub. L. No. 105-178 (1998).

interurban highways, and the extension of the concept to intraurban roads has been limited. Also, if a Democratic administration and Congress is elected, it remains to be seen whether this more decentralized and market-driven approach by USDOT under Secretary Peters's influence will continue.

The goal of smart growth protagonists is to reduce automobile dependence. The 2001 National Household Travel Survey (NHTS), which deals with all types of trips, indicate any reduction in auto use anywhere in the United States, and carpooling continues to decline.<sup>68</sup> However, there has been a minor uptick in public transit use (especially in the rail cities) especially since the late 1990s, and a very significant increase in 2007–2008 in response to soaring oil prices. Walking appears to account for a higher share of trips,<sup>69</sup> but this is largely explained by changes in the survey, such as counting walking to transit as a separate commute in 2001. There has also been some evidence for higher rates in the use of non-motorized modes in newer higher-density communities (e.g., NU settlements), but these are usually “on-site” trips; people overwhelmingly use autos for “off-site” trips. However, any minor changes have made little difference, if any, to the reliance on automobiles. Even in Europe where many governments have adopted much more aggressive pro-transit policies and stronger local land use controls,<sup>70</sup> the trends in automobile use are all upwards.<sup>71</sup> Reversing these trends will be difficult.<sup>72</sup> Atlanta has 4.5 percent of trips by transit; Barcelona has 30 percent.<sup>73</sup> To attain the transit ridership of Barcelona, Atlanta would need an additional 3,400 kilometers of rail and 2,800 new

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<sup>68</sup> 2001 NATIONAL HOUSEHOLD TRAVEL SURVEY, <http://nhts.ornl.gov/> (last visited Sept. 24, 2008).

<sup>69</sup> Comparing the 2001 National Household Travel Survey with the 1995 National Personal Transportation Study.

<sup>70</sup> PIETRO S. NIVOLA, *LAWS OF THE LANDSCAPE: HOW POLITICS SHAPE CITIES IN EUROPE AND AMERICA* 23 (1999); Genevieve Giuliano & Dhiraj Narayan, *Another Look at Travel Patterns and Urban Form: The U.S. and Great Britain*, 40 *URBAN STUDIES* 2295, 2296 (2003); Harry W. Richardson & Chang-Hee Christine Bae, *Introduction*, in *URBAN SPRAWL IN WESTERN EUROPE AND THE UNITED STATES* 1 (Harry W. Richardson & Chang-Hee Christine Bae eds., 2004).

<sup>71</sup> See generally Alain Bertaud & Harry W. Richardson, *Transit and Density: Atlanta, the United States and Western Europe*, in *URBAN SPRAWL*, *supra* note 70.

<sup>72</sup> *Id.*

<sup>73</sup> *Id.* at 307.

stations (Barcelona has 99 kilometers of track and 136 stations)!<sup>74</sup>

#### V. THE IMPACT OF OIL PRICES

A recent wrinkle in the smart growth discussion is the impact of rising oil prices on housing and urban sprawl. There is anecdotal evidence that in the recent housing slump house prices and sales fell more in exurban and suburban areas far away from employment centers. If oil and house price trends are more than transitory, one theory is that many developers will shift their attention to infill locations in or near central cities. This might be reinforced by demographic trends, i.e., the graying of the population that changes residential preferences in favor of townhomes and condominiums (or at least smaller houses).<sup>75</sup> However, there is an alternative theory, based largely on European experience, that high gasoline (or diesel) prices will not lead to any slowing down in decentralization and suburban trends, although the impact of high prices is mitigated in Europe by driving much more fuel-efficient cars. If the former hypothesis (i.e., the impact of demography) is valid, the most interesting point is that this transformation towards the precepts of smart growth would again be spontaneous rather than the result of planners' decisions or other means of command-and-control. As mentioned above, a similar argument can be made about the recent surge in mass transit ridership and a possible reduction in automobile dependence. It has not been the result of conversions to smart growth principles but rather the natural market response to gasoline prices.

#### VI. CAP-AND-TRADE VS. CARBON TAXES

Several of the papers in this issue have, not unexpectedly, paid attention to climate change and the policy measures that addressing it might require. This is relevant to the analysis of smart growth because some of its key principles (e.g., higher residential densities and smaller more energy-efficient houses, reduction in automobile dependence and more public transit) are associated with smaller carbon footprints.

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<sup>74</sup> *Id.*

<sup>75</sup> Arthur C. Nelson, Brookings Institution, *Toward a New Metropolis: The Opportunity to Rebuild America* 1–2 (Brookings Institution Center on Urban and Metropolitan Policy, Discussion Paper, 2004).



Considerable discussion has been given to the cap-and-trade approach, favored by several bills in Congress such as the McCain-Lieberman bill<sup>76</sup> that languished for five years and its successor, the Lieberman-Warner bill.<sup>77</sup> The basic idea is that emitters receive a “cap,” or allowance, and then are allowed to sell surpluses or buy to make up for deficits in an emissions trading market. In an active market this could be a zero sum game in terms of carbon emission reductions so for the strategy to work regulators must tighten the caps over time. This is a superior approach to inflexible command-and-control mandated reductions because at least it adopts some kind of market mechanism. However, there is an alternative policy that is completely a market instrument, i.e., the carbon tax where the tax rate approximates the marginal social costs of carbon emissions. Many of the papers in this issue favor cap-and-trade whereas many economists and environmental policy analysts prefer the carbon tax.<sup>78</sup>

We are not fully convinced about: the global warming aspects of climate change at least, given for instance that in the United States, the average temperature in April 2008 was a full 1.0F degree colder than the annual average for 1901–2000;<sup>79</sup> whether it is a secular trend or cyclical; the extent to which human actions influence it;<sup>80</sup> and that the goals of carbon emission reductions can be achieved at a reasonable economic cost.<sup>81</sup> However, for the purposes of evaluation of comparative policy instruments, let us assume that all of the global warming hypothesis and its implications are true.

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<sup>76</sup> Climate Stewardship Act of 2003, S. 139, 108th Cong. (2003).

<sup>77</sup> Lieberman-Warner Climate Change Security Act, S. 2191, 110th Cong. (2007).

<sup>78</sup> See generally MICHAEL E. CANES, MARSHALL INST., *WHY CAP & TRADE IS THE WRONG POLICY TO CURB GREENHOUSE GASES FOR THE UNITED STATES* (2007); Kenneth P. Green, et al., *Climate Change: Caps vs. Taxes*, AM. ENTERPRISE INST. FOR PUB. POL’Y RES. (2007); Gilbert E. Metcalf, *A Proposal for a U.S. Carbon Tax Swap: An Equitable Tax Reform to Address Global Climate Change* (Brookings Institution, Discussion Paper No. 12, 2007); Ian W. H. Parry & William A. Pizer, *Emissions Trading Versus CO<sub>2</sub> Taxes* (Resources for the Future, 2007).

<sup>79</sup> “Climate fluctuations” may be a better descriptor than “global warming.”

<sup>80</sup> But see INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *CLIMATE CHANGE 2007* (2007), available at [http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\\_syr.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf).

<sup>81</sup> See THE SKEPTICAL ENVIRONMENTALIST, *supra* note 44, at 300–05; COOL IT, *supra* note 44, at 162 tbl.2 (comparing the cost and efficiency of enacting Kyoto with a collection of smart policies discussed in the book).

It is difficult to understand the preference for cap-and-trade. The main arguments appear to be that it is more politically acceptable and is the easiest to expand internationally, and certainly it is the only approach that Congress has considered. In addition, cap-and-trade is the European Union policy choice so there has been some experience with it. Furthermore, the United States already has in place both at the national and regional levels several cap-and-trade schemes that apply to other pollutants.<sup>82</sup>

However, practice has demonstrated several problems with cap-and-trade. Caps are negotiated. This sets an elaborate rent-seeking mechanism under which emitters seek out special deals with bureaucrats and politicians to obtain high caps. An example is the United Nations Clean Development Mechanism (CDM) which allows firms and public utilities in developed countries to avoid emissions reductions if they finance “green” projects in developing countries (not a strict cap-and-trade scheme, but with some similarities).<sup>83</sup> There is evidence that participants have manipulated this program in the sense that some funds have been distributed for projects that have already been built or that would be built without the subsidy.<sup>84</sup> If that is true, emission reductions have been much less than promised.

Another related problem is that the U.S. would have to establish a new national bureaucracy to operate a system that would have high administrative costs. Moreover, experience in some of the European Union countries indicates that political pressures can lead to pull-backs and concessions in cap targets. Cap-and-trade is also a quantity-based approach rather than a price-based approach (apart from the trading), and the incentives to reduce emissions are much weaker. Cap-and-trade can also result, when the number of buyers and sellers are not closely matched, in substantial price volatility in the emissions market. This can lead to uncertainty, leaving firms reluctant to invest in carbon-reducing technology. Similarly, in some circumstances trades can be so

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<sup>82</sup> See CAL. HEALTH & SAFETY CODE § 40440.2 (Deering 2007); Sulfur Dioxide Allowance System, 40 C.F.R. § 73.1 (2008).

<sup>83</sup> See generally Michael W. Wara & David G. Victor, *A Realistic Policy on International Carbon Offsets* (Stan. U. Program on Energy & Sustainable Dev., Working Paper No. 74, 2008); Patrick McCully, *Discredited Strategy*, GUARDIAN (London), May 21, 2008, Society news & features section, at 9, available at <http://www.guardian.co.uk/environment/2008/may/21/environment.carbontrading>.

<sup>84</sup> Wara & Victor, *supra* note 83, at 14.

“thin”<sup>85</sup> that the desired efficiency arrangements from trade cannot be achieved. Price volatility could be mitigated via a “banking” mechanism permitting limited transfers of both surpluses and deficits over time. Another mitigation is that auctioning off permits rather than giving them out as free gifts can be a source of government revenue.

A carbon tax, on the other hand, has none of these problems. The only issue is how to fix the appropriate tax rate that approximates the marginal social costs (MSC) of carbon emissions (whatever they may be) and achieves the “desired” degree of carbon emission reductions. These rates may not be the same because equating price with MSC is technical whereas the desired carbon reduction is political. Also, if implementing the tax does not achieve its objectives, regulators can easily adjust the rate. However, once the tax is in place, the system is then decentralized and self-regulating. It also provides a long-term more or less certain environment under which firms can make decisions about whether or not to invest in best-practice technology. Another effect is that a carbon tax would be a major source of government revenue, probably more reliable than the auction process that is one option under “cap-and-trade.” Whether more government revenue is a benefit or not would depend substantially on whether the revenues were used to reduce other taxes or to fund environmentally beneficial programs. A tax level frequently mentioned is \$15 per ton of CO<sub>2</sub>; this would raise the price of coal by \$29 per ton and the price of gasoline by 14 cents per gallon.<sup>86</sup>

#### VII. RECLAIM (REGIONAL CLEAN AIR INCENTIVES MARKET)

Much of the discussion about cap-and-trade has focused on the national and international levels. However, there is a reasonably long-established program (since 1994) in Southern California called RECLAIM which applies to NO<sub>x</sub> and SO<sub>x</sub> stationary sources administered by the South Coast Air Quality Management District (AQMD). It is a partial replacement of a heavily regulated command-and-control system with a quasi-market scheme applying to a relatively small number of large firms

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<sup>85</sup> “Thin” markets are when there are few buyers and sellers.

<sup>86</sup> Note that at the prevailing Euro-dollar exchange rate, the current price in the European Union permit scheme is \$41 per ton. See COOL IT, *supra* note 44, at 27–32 (discussing how to determine an effective carbon tax price).

(about 350), especially electricity providers and oil refineries. It is a potential element in a smart growth strategy, but limited to very large metropolitan areas that have a sufficient number of participants.

Although there have been a few technical academic papers and substantial media articles, the two most detailed sources are a very defensive report by AQMD itself<sup>87</sup> and a moderately critical report by the U.S. Environmental Protection Agency.<sup>88</sup> Because AQMD has no authority to impose such a tax, the comparisons are with the preceding command-and-control approach not a carbon tax. If AQMD would like to go that route (there is no evidence that it does), it would have to ask the California Air Resources Board to lobby the State Legislature for State legislation.

At best, RECLAIM has had mixed success; many media commentators have argued that it has been an outright failure, and far inferior to the earlier command-and-control regime. We would not go that far. The weaknesses of RECLAIM are related to bad design, poor decisions, and inadequate implementation. The concept is reasonably sound, if not quite as effective as a carbon tax. The biggest mistake was over-allocation at the beginning, giving firms allocations 40 percent higher than their actual emissions.<sup>89</sup> The prices were very low (even as late as 1999, the traded price of NO<sub>x</sub> was only 75 cents a pound),<sup>90</sup> and provided no incentive for firms to introduce new emissions-reduction equipment. It was so much more profitable to buy the ridiculously cheap credits from the glut. However, a few years later in the California electricity crisis of 2000<sup>91</sup> (the power plants purchased 67 percent of the credits although they received only 14 percent of

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<sup>87</sup> See generally SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, OVER A DOZEN YEARS OF RECLAIM IMPLEMENTATION: KEY LESSONS LEARNED IN CALIFORNIA'S FIRST AIR POLLUTION CAP-AND-TRADE PROGRAM (2007), available at [http://www.aqmd.gov/RECLAIM/reclaim\\_annurpt.htm](http://www.aqmd.gov/RECLAIM/reclaim_annurpt.htm) (follow "Part 1," "Part 2," and "Part 3" hyperlinks).

<sup>88</sup> See generally U.S. ENVTL. PROT. AGENCY, REGION IX, AN EVALUATION OF THE SOUTH COAST'S AIR QUALITY MANAGEMENT DISTRICT'S REGIONAL CLEAN AIR INCENTIVES MARKET – LESSONS IN ENVIRONMENTAL MARKETS AND INNOVATION (Nov. 2002), available at <http://www.epa.gov/region09/air/reclaim/reclaim-report.pdf>.

<sup>89</sup> *Id.* at 44.

<sup>90</sup> *Id.* at 12.

<sup>91</sup> SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, *supra* note 87, at II-3-1.

the allocations), the traded price soared to \$23 per pound<sup>92</sup> (now NO<sub>x</sub> is in the \$10,000 range while SO<sub>x</sub> is traded around \$4,500 per pound). This illustrates the extreme price volatility that inhibits capital investment and technological change.

RECLAIM never achieved the emissions reductions anticipated. By 2001, emissions had fallen only by 16 percent. A 2004 target of eliminating 13,000 tons per year of NO<sub>x</sub> was never achieved by a wide margin, and the rate of emissions reduction slowed to a crawl (e.g., 3 percent per annum in 1999–2001, compared to 13 percent per annum in 1996–1998). There are plans in place to tighten up the program, with a 20 percent planned reduction in NO<sub>x</sub> allocations between 2007 and 2011.<sup>93</sup> Even over the period of RECLAIM's troubled past, AQMD claims a 50-plus percent in NO<sub>x</sub> and SO<sub>x</sub> emissions between 1994 and 2005 during a time when employment grew by 26 percent;<sup>94</sup> whether this would have been greater under an alternative system is open to dispute.

Another problem with cap-and-trade at the local level, much less so at higher spatial aggregations, is that it can fail to solve the “hot spots” problem, i.e., the high levels of air pollution around major polluting facilities such as power stations, oil refineries, or ports (e.g., the Los Angeles-Long Beach ports account for 14 percent of all the air pollution in the Los Angeles region). If the firms in “hot spots” purchase credits, there may no emissions reductions with serious, perhaps devastating, effects on the health of surrounding residents.

There are problems with RECLAIM that we have no space to discuss here: cases of fraud and corruption, lack of transparency and information deficiencies, endless tinkering with the program by mandating new controls when expected emissions reductions were not achieved, imperfect tracking of performance parameters, and poor auditing and inspections.<sup>95</sup> The upshot of this analysis is that even the national discussion might learn something from these fifteen years of a local application.

## CONCLUSIONS

Despite the focus of Breaking the Logjam on legislation, the

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<sup>92</sup> U.S. ENVTL. PROT. AGENCY, REGION IX, *supra* note 88, at 15.

<sup>93</sup> South Coast Air Quality Management District, *supra* note 87, at I-2–5.

<sup>94</sup> *Id.* at III-1–2.

<sup>95</sup> U.S. ENVTL. PROT. AGENCY, Region IX, *supra* note 88, at 65.

political obstacles to change, especially in a world of pork, earmarking, and extreme lobbying should not be underestimated. A simple illustration is the fate of the McCain-Lieberman “cap-and-trade” bill and the doubtful future of the Lieberman-Warner bill, in spite of the fact that there are emission trading precedents in the sulfur oxides scheme of 1990 and the RECLAIM scheme of 1994. Another example is recent events with respect to road congestion pricing which seemed to be on a roll a few months ago. Federal aid for New York’s plan was undermined by the failure of the State Assembly to support it, while the defeat of former London Mayor Ken Livingstone has almost certainly ended proposals to tighten the program there.

Although there are significant indirect impacts on smart growth and, more generally, on urban land use planning from Federal legislation and the executive actions by Federal agencies, the fact remains that the Federal government is not the main player in this area. The States are somewhat more involved, especially in the twelve States with growth management/smart growth, but even they have at best only a moderate influence on local urban planning and land use decisions. Hence, land use planning is one environmental area where the main focus of change is below the State level either in local governments or in the private sector. Spatial decentralization is embedded in the process, and decentralization facilitates experimentation and learning from experience.

Nevertheless, there may remain a modest role for Federal legislation. As pointed out, many Federal legislative acts have *implicit* spatial impacts on urban land use. As Federal legislation is revised, it would be wise in appropriate cases to take account of these impacts and make allowance for them, not necessarily by mandates but perhaps by guidelines. As an example, suppose the Endangered Species Act were to be revised. Without departing from its principles, it might be possible for urban development to take place, for instance by facilitating TDRs. However, it is difficult to envisage a Federal Act dealing solely with urban land use issues, if only because of constitutional jeopardy. The role of the Federal government will inevitably remain limited in the urban planning and Smart Growth areas, at least in comparison with other environmental fields. In addition, the history of urban planning has been dominated by regulatory actions much more than market-oriented interventions.