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**An Examination of the Smart Growth Initiative in US DOT's Region VI**

**SWUTC/01/473700-00042-1**

**Combined Report for**

**SWUTC Study Number 473700-00042-1  
An Examination of the Smart Growth Initiative and its Application  
to Region VI Communities**

**and**

**SWUTC Study Number 467204-1  
Sustainable Transportation Initiative**

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## **ABSTRACT**

Over the last decade, renewed national emphasis has been directed to improving communities; planning officials added terms such as livable community and sustainable community to the vernacular of traditional coordinated land use planning. Smart Growth is one of the newer contemporary concepts for how communities are approaching anticipated expansion or renewal. Communities implementing Smart Growth strategies seek to efficiently use public and private resources to accommodate increases in population and employment, while positively addressing side-effects of growth, such as traffic congestion and air pollution and reduction in open space and farmland. Although ideas about how communities should grow encompass many disciplines and land use principles, discussions about wise, well-planned growth inevitably drift to transportation. Therefore, while transportation is not the only focus of Smart Growth, transportation components are at the core of the concept. Without the appropriate transportation background and infrastructure, Smart Growth principles could not be effective. This research examines Smart Growth initiatives in the US and compares experiences in selected Region VI communities. Included in the recommendation is focus on the appropriate role for transportation professionals in Smart Growth.



## EXECUTIVE SUMMARY

Over the last decade, renewed national emphasis has been directed to improving communities; planning officials added terms such as livable community and sustainable community to the vernacular of traditional coordinated land use planning. Smart Growth is one of the newer contemporary concepts for how communities are approaching anticipated expansion or renewal. Communities implementing Smart Growth strategies seek to efficiently use public and private resources to accommodate increases in population and employment, while positively addressing side-effects of growth, such as traffic congestion and air pollution and reduction in open space and farmland.

Although ideas about how communities should grow encompass many disciplines and land use principles, discussions about wise, well-planned growth inevitably drift to transportation. Therefore, while transportation is not the only focus of Smart Growth, transportation components are at the core of the concept. Without the appropriate transportation background and infrastructure, Smart Growth principles could not be effective. In essence, planning our transportation systems is an important element in growing wisely and defining the much sought after variable, *quality of life*.

Included in the Smart Growth initiative is the idea that each community can best assess its needs and should grow according to its own values. The key question for this research is how should “Smart Growth” be approached in communities that have vast open space not hindered by physical barriers and where the public has varying views about Smart Growth practices? This perspective may represent many communities in the rapidly growing Southwestern states.

This study will describe several “Smart Growth” initiatives around the US, identify their components and determine the common variables underlying the concept. Plans and growth directions of several key communities in Region VI will be reviewed and compared with elements of Smart Growth as viewed by prominent national figures. This research will focus on whether there is a valid role for Smart Growth in Region VI and other southwestern communities. If so, does Smart Growth vary between southwestern communities and other parts of the country? In what ways are the elements common across the country and how do they differ? Also, what is the appropriate role for transportation professionals in Smart Growth?

The research showed that there is a difference in perception of the need for Smart Growth and other sprawl management techniques given the comparison of laws enacted by state legislatures in Region VI and other fast growing southern and western states. Still, stakeholders in these communities tend to recognize there is a need to modify past practices. Four key Smart Growth elements were identified from the array of literature examined. Unquestionably, transportation plays an important role in each of the areas.

Three recommendations resulted from this analysis as follows:

- 1) Implement micro-scale Smart Growth projects initially. Recognize that a community-wide initiative may proceed more slowly in Southwest communities and in the meantime, a more neighborhood-oriented approach can begin to show the benefits of the Smart Growth concept
- 2) Communities should embrace a set of Smart Growth indicators to become baseline measures against which the success of their clusters and Smart Growth neighborhoods can be assessed.



3) Transportation professionals must recognize that decisions regarding roadways, transit and pedestrian movements are critical components and outcomes of Smart Growth projects. Thus, transportation decisions should be made in a holistic, integrated way which may give higher value to criterion beyond the traditional benefit-cost, traffic volume measures.



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## **DISCLAIMER**

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## INTRODUCTION

Over the last decade, renewed national emphasis has been directed to improving communities; planning officials added terms such as livable community and sustainable community to the vernacular of traditional coordinated land use planning. Smart Growth is one of the newer contemporary concepts for how communities are approaching anticipated expansion or renewal. Communities implementing Smart Growth strategies seek to efficiently use public and private resources to accommodate increases in population and employment, while positively addressing side-effects of growth, such as traffic congestion and air pollution and reduction in open space and farmland. Another key component is the more efficient utilization of land by encouraging infill, in contrast to leap-frog development patterns. The primary goals are livability, economic vitality, and environmental sensitivity.

In early 1999, Vice President Al Gore announced his “Smart Growth” initiative that encourages communities to grow in a manner that enhances quality of life and supports economic growth.<sup>1</sup> The concept includes protection of older neighborhoods, prudent development of new neighborhoods, protection of farmland and green space and attention to recreational and relaxation needs. An important component is attention to transportation resources, in terms of conservation of fuel, addressing congestion and better managing individual travel time and reducing emissions. Conferences are being held around the nation to enlighten residents about Smart Growth, examine successful

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<sup>1</sup>Vice President Al Gore’s Initiatives, <[http://www.whitehouse.gov/WH/EOP/OVP/initiatives\\_bottom.html](http://www.whitehouse.gov/WH/EOP/OVP/initiatives_bottom.html) 3/15/99>.

demonstrations of the concept, and facilitate the movement toward Smart Growth.

Although ideas about how communities should grow encompass many disciplines and land use principles, discussions about wise, well-planned growth inevitably drift to transportation. Therefore, while transportation is not the only focus of Smart Growth, transportation components are at the core of the concept. Without the appropriate transportation background and infrastructure, Smart Growth principles could not be effective. In essence, planning our transportation systems is an important element in growing wisely and defining the much sought after variable, *quality of life*.

Included in the Smart Growth initiative is the notion that “communities know best and that each community should grow according to their own values”.<sup>2</sup> The key question for this research is how should “Smart Growth” be approached in communities that have vast open space not hindered by physical barriers and where the public has varying views about Smart Growth practices? This perspective may represent many communities in the rapidly growing Southwestern states.

### **Research Focus**

This study will describe several “Smart Growth” initiatives around the US, identify their components and determine the common variables underlying the concept. Plans and growth directions of several key communities in Region VI will be reviewed and compared with elements of Smart Growth as viewed by prominent national figures.<sup>3</sup> This research will focus on whether there is a valid role for Smart Growth in Region VI

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<sup>2</sup> Ibid

<sup>3</sup> Region VI includes Texas, Oklahoma, Louisiana, Arkansas and New Mexico.

and other southwestern communities. If so, does Smart Growth vary between southwestern communities and other parts of the country? In what ways are the elements common across the country and how do they differ? Also, what is the appropriate role for transportation professionals in Smart Growth?

## **Background**

Coordination of planning and land use with consideration for preservation of open space and farmland has its beginnings early in the 20<sup>th</sup> Century. From the beginnings of zoning in the 1920s, to initial attempts to work through non-profit development corporations in the next decades, planning proponents have worked to coordinate land use and transportation decisions. The goals were to integrate social and physical planning and to steer development in desirable ways<sup>4</sup>. By the 1970s, planning documents explored a “new mood” referring to communities interested in adopting various scenarios prohibiting or slowing growth.<sup>5</sup> From the transportation perspective, these volumes examined the link between transportation and mobility and available housing stock. More recently, professionals and communities embraced the concepts of sustainability, livability and Smart Growth to pursue goals designed to improve communities.

Recent support for development of more livable communities is seen through news coverage of Smart Growth and through initiatives sponsored by elected officials. For instance, during the week of February 28, 2000 major daily newspapers carried front page articles on Smart Growth in San Diego, California and Houston, Texas. During the

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<sup>4</sup>Goodman, William I. and Eric C. Freund., Principles and Practice of Urban Planning, 4<sup>th</sup> Edition, International City Managers’ Association, 1968.

<sup>5</sup> Scott, Randall, David J. Brower and Dallas D. Miner, editors. Management & Control of Growth. Issues, Techniques, Problems, Trends. The Urban Land Institute; 1975.

same week, newspapers made reference to changes in the education of law students at University of Missouri relative to addressing litigation with sustainable community sensitivities.

Some communities are touted as having phenomenal success implementing Smart Growth principles. Key among them is Portland, Oregon, but there are others, as well. Other communities struggle with describing Smart Growth and convincing community and business leaders that there may be a better way to focus future developments. One of the inherent difficulties with implementing Smart Growth is that the concept conjures different ideas for different individuals. Proponents maintain that our financial and physical resources could be utilized more efficiently. Opponents argue against government's intentionally swaying development counter to market forces. Many purport that the suburban home with the yard is exactly what the consumer wants. For instance, the Greater Houston Partnership, the principal business organization for the Houston community, is considering a resolution termed "sensible growth". It includes many of the elements of Smart Growth, but also reiterates the Partnership's commitment to market-driven responses. Within the five primary goals enumerated in the resolution are commitments to a low cost of living and housing at "market driven densities."<sup>6</sup>

On the other side, Smart Growth proponents argue that consumers should modify their desires. The editor of **Land Development**, a publication of the National Association of Homebuilders Land Development Committee, wrote "citizens and local governments must accept and encourage higher-density housing."<sup>7</sup> Despite the pursuit of the typical

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<sup>6</sup> Memorandum, Draft Resolution Regarding Principles for Sensible Growth, June 6, 2000. (To: Board of Directors, From: Charles McMahan), Chairman Business Issues Advisory Committee.

<sup>7</sup> Molinaro, Joseph R. "Can We Take Smart Growth All the Way?" Land Development Fall 1999; 3.

American dream for most families, people in cities across the country are moving to renovated and new high density developments within the traditional urban core. Often these properties are upscale and expensive. The follow-up question, then, is how large is the potential market for Smart Growth communities if the developments ultimately are affordable primarily for the well-to-do?

The conflicting views between those advocating generally lower cost, lower density suburban development and those proposing higher density housing for a variety of income scales shows one area for disagreement associated with Smart Growth. For Southwest communities with few physical barriers, there may seem little incentive to infill or increase densities.

Consensus does seem to exist among many elected officials and bureaucrats about the need to be more proactive in making decisions about better managing growth. Frederick Schneiders Research prepared a survey of state and local officials regarding livable communities for the American Institute of Architects. The national survey requested that local and national policy makers rate nine categories of concern for their area. Traffic congestion received the highest rating followed by urban sprawl. Viewing the responses by region shows the same ratings, traffic and sprawl received ratings of first and second priority for the South and West. Respondents from the Midwest rated sprawl their greatest concern and housing second. Northeasterners expressed greatest concern about increasing their levels of commercial development with sprawl rated second<sup>8</sup>.

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<sup>8</sup> Frederick Schneiders Research, Survey of State and Local Officials on Livable Communities, Prepared for The American Institute of Architects, July 1999.

Upon reviewing the Smart Growth literature, the thought is raised that there is no generally accepted method proposed for the identification of when Smart Growth has been attained. Another way to view this is over the next decade, how will a community know if they are developing more wisely and how would communities that have been pursuing Smart Growth be compared to those who haven't? In most cases, the response will vary by community and communities may measure their progress against their own goals. However, recently some areas have developed "indicators" of key variables and set the stage to assess their future progress to their starting point; some cities have used the indicators already to compare themselves to other cities. Ratings and indicators are not a new idea for cities, but linking them with the goals and objectives associated with Smart Growth is a practice that perhaps should be more widely pursued. The practice could serve as the underpinning for broadly accepted variables constituting a way to measure outcomes of Smart Growth.

### **Methodology: Approach**

Several tasks will be conducted to meet the research objectives outlined in this report. Dominant principles that underlie Smart Growth concepts as described by leaders in the subject will be assembled and analyzed for similarities and differences. These will be synthesized to show common elements of Smart Growth. The status of Smart Growth initiatives in Southwest communities will be explored and compared with those in other regions. A second research component will suggest how the concept could be measured and offer insight into the role of the transportation community.

## ELEMENTS OF SMART GROWTH

A number of national and local coalitions and organizations have formed recently to promote the ideals of Smart Growth. The more visible of these organizations include the Urban Land Institute, American Planning Association, and the National Association of Homebuilders. These groups, along with other key individuals, represent the national perspective regarding this concept and served as the basis for delineating the common elements of Smart Growth. Table 1 shows the themes of Smart Growth as synthesized from publications of national advocates. The table shows the key anticipated components and the desired outcome for each. A review of the components and outcomes shows that four elements are consistent across the organizational literature. The overarching intent to improve individual lifestyles within communities and make wiser public and private development decisions is the basis for the key components according to each organization. The following are the four common Smart Growth elements culled from the components and outcomes across organizations.

1. ***Preserving farmland and open space*** – Protection of green space and rural lands is of principal importance. This goal is fueled by the fact that construction on vacant parcels has increased substantially over the past five years. Continued increases in population will place additional pressure on developers to plow virgin territory without a balance in the perspective to slow the rate of infringement upon previously undeveloped property.
2. ***Preserving the environment and improving air quality*** – One of the most discussed topics in communities across the country is improving the quality of ground and drinking water and reducing pollutants that lead to smog and other detrimental atmospheric conditions.

**Table 1. Components of Smart Growth/Potential Outcomes**

Source	Smart Growth Component	Potential Outcome
Land Development Fall 1999	Preserving farmland and open space*	Balance between development and protection of undeveloped land
	Preserving the environment*	Better air quality, Increase in efficiency of fuel utilization, improvements in water quality
	Revitalizing downtowns*	Economic prosperity and more stable tax base
	Concentrating infrastructure expenditures*	Utilizing existing infrastructure, avoiding leapfrog development
	Variety in housing choices*	Low and moderate income housing in close-in redevelopment; mix of single and multifamily
National Smart Growth Coalition	Prevent development pressures that threaten farmland/open space**	Balance between development and protection of undeveloped land
	Prevent development that threatens scenic and historic areas**	Avert undesirable intrusion into areas of significance
	Prevent development that undermines natural resources**	Cluster development; higher density; traditional neighborhoods; transit oriented development
	Promote housing affordability/stability**	Low and moderate income housing in close-in redevelopment; mix of single and multifamily
	Repair/reuse existing infrastructure and buildings**	Utilizing existing infrastructure, avoiding leapfrog development
	Promote racial, social equity access to housing, community investment**	Balanced communities with equal access to goods and services
Bruce Katz, Sr. Fellow, Brookings Institution	Restoring the urban core***	Economic prosperity and more stable tax base
	Curbing congestion***	Transportation choices beyond the single family
	Curbing air pollution***	Better air quality
	Improving economic development***	Economic prosperity and more stable tax base
	Preserving farmland***	Balance between development and protection of undeveloped land
	Improving cooperation across jurisdictional boundaries***	More efficient utilization of regional resources

\*Molinaro, Joseph R. "Can We Take Smart Growth All the Way?" Land Development Fall 1999; 3 (A publication of the National Association of Homebuilders)

\*\*Chen, Don "New Coalition Promotes Smart Growth" Enterprise Quarterly, Spring 2000; p. 18

\*\*\*Katz, Bruce, "What's at Stake in Smart Growth?" Enterprise Quarterly, Spring 2000; p. 11



3. ***Revitalizing core areas and downtowns by supporting infill development*** – Advocates suggest that developing inner areas before more remote locations reduces overall infrastructure costs and minimizes the amount of pavement required to meet travel needs. Less pavement results in lower levels of run-off and less interruption to natural water flow.
4. ***Providing housing choices that accommodate a range of household income levels*** – Inherent in the concept of Smart Growth is inclusion. Social and economic goals of equity are perceived to result in better quality of life for all within the community.

Note that two visible organizations active in promoting improved growth management, the American Planning Association and the Urban Land Institute, do not define their perspective of what makes “Smart Growth”. Instead the American Planning Association’s “Growing Smart” project focuses on regulatory techniques and state planning and zoning legislation. Literature produced by the Urban Land Institute indicates they do “not espouse a specific universal definition.”<sup>9</sup> The organization notes that ideas and desires for growth vary; they describe their role as a “tent” for those interested in the process.

It was originally expected that economic vitality and congestion reduction would dominate Smart Growth literature. However, the material covers specific goals of economic vitality and congestion reduction at varying levels of prominence. While virtually all Smart Growth proponents would advocate these two objectives, it is likely these goals are not listed within key purposes because they may be viewed as outcomes of the four primary elements.

The most important aspect across all the Smart Growth literature and initiatives is that the plans and discussions must involve intensive levels of citizen input. The

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<sup>9</sup> Urban Land Institute, “Frequently Asked Questions About Smart Growth”  
<[http://www.uli.org/Pub/Pages/a\\_issues/A\\_SmL4\\_FAQ.htm](http://www.uli.org/Pub/Pages/a_issues/A_SmL4_FAQ.htm)>

citizen involvement may take a variety of forms including surveys in local newspapers, public meetings and on-going task forces.

### **Overview of Southwest States: Comparison of Legislative Initiatives**

Federal Region VI is composed of Texas, Oklahoma, Louisiana, Arkansas and New Mexico. The states are experiencing steady growth with Texas and New Mexico growing fastest. Most major urban areas in these states are unconstrained from a physical standpoint and non-urban industries have historically played an important role in each state's economy. Residents and state officials face the same critical questions associated with growth as their counterparts in other parts of the country. Most would include the four Smart Growth elements noted in the preceding section as items on their public agendas. So how are these states regarding Smart Growth in comparison to other states?

The American Planning Association's (APA) **Planning for the 21<sup>st</sup> Century** evaluates the activities of each state toward improving planning and the provision of statutory tools guiding growth. The document notes that states on the east and west coasts lead others in passing legislation that accommodates modern challenges faced in growing communities. Among Region VI states, Louisiana, Arkansas and Oklahoma made only minor reforms in prior year procedures. The study cites Texas as initiating several reforms and 12 new laws providing more avenues that will allow local officials greater influence in community development. This is of note because Texas has previously not actively pursued statewide initiatives with a planning focus. New Mexico legislators requested a study on growth and alternatives to managing growth. Based upon the

study’s recommendations, the New Mexico House and Senate authorized appropriations to conduct statewide planning, but the Governor vetoed the bill<sup>10</sup>.

Another assessment of planning tools by APA is titled **The Legislative Initiatives**<sup>11</sup>. The report categorizes the types of legislative techniques available to Smart Growth proponents. Table 2 shows that none of the Region VI states have the key methods available to planners, developers or other officials that are available to their

**Table 2**  
**Growth Management Techniques for Selected States**

State	Provisions re: density, rate of growth	Protects Natural Resources/Environment	State Level Planning & Growth Management	Regional Level Planning & Growth Management	Local Level Growth Management & Planning	Provision of Public Facilities & Infrastructure	Preservation of Community Character	Affordable Housing	Economic Development	Number of Pages*
Arkansas				N	O	N	E			
Louisiana				N	O	N	E			
New Mexico				N	O	N	E			
Oklahoma**			X	X						
Texas				N	O	N	E			
Arizona	X	X	X	X						1½
Florida			X	X						1½
Georgia	X	X	X	X	X	X	X	X	X	2
Oregon	X	X			X	X	X	X		1¼

Source: American Planning Association. APA Growing Smart Project, States with Smart Growth/Growth Management Legislation. <http://www.naiop.org/legislate/growth/initiatives.pdf> (23 June 2000)

\*Used as a surrogate to indicate the complexity and magnitude of the legislation

\*\* Pending legislation, including a state level task force

Shaded states are in Region VI

<sup>10</sup> Meck, Stuart. “Executive Summary: Status of State Planning Reform”. Planning Communities for the 21<sup>st</sup> Century <http://www.planning.org/plnginfo/growsmart/gindex.html> (23 June 2000).

<sup>11</sup> American Planning Association. APA Growing Smart Project, States with Smart Growth/Growth Management Legislation. <http://www.naiop.org/legislate/growth/initiatives.pdf> (23 June 2000).

counterparts in other parts of the country. Oklahoma's legislature is debating two of the methods. For comparison, the table also reflects the techniques available in states proximate to Region VI with similar reputations for rapid growth in relatively unconfined physical space. With the exception of the efforts by Oklahoma, clearly the Region VI states are not approaching Smart Growth as aggressively as some of their counterparts.

### **A Review of Smart Growth Activities in Selected Communities in Region VI**

Communities in Region VI are at varying stages of examining Smart Growth. For purposes of this analysis, Smart Growth activities in two Texas cities are described. Austin, Texas is known for its growth consciousness and assertive pursuit of growth management. In contrast, Houston, Texas, is recognized as one of the nation's best examples of sprawl and uncontrolled growth.

Austin, Texas: Austin is the home of the flagship University of Texas and the seat of Texas State government. The city began attracting high-tech companies during the 1980s and leads the state in housing these modern companies. The city has experienced very rapid growth over the past several decades and began discussing growth management strategies, including the option of a *slow growth policy* approximately 15 years ago. The Austin City Council, in conjunction with a larger focus group from the Austin community initiated a series of proposals to manage growth. The stated goals are to decrease sprawl and invest in existing developed areas. Specifically mentioned are the importance of the urban core, making efficient use of public investments, and ensuring the environment is developer friendly. Noted as areas of required attention and concern are establishing trust and consensus between the various stakeholders. Also

critical will be determining the financial feasibility of the Smart Growth activities. Although Austin has formalized its Smart Growth efforts, no formalized or adopted plan has gone forward<sup>12</sup>.

Houston, Texas: The 4<sup>th</sup> largest city in America and largest among the cities in the Southwest states, is in the early stages of determining the appropriate role for Smart Growth in this community. Long known for its sprawl development, where the city limits cover 617 square miles, and lack of land use, a core of the community takes pride in its laissez-faire approach to development. In 1999, led by a newly formed organization, the Gulf Coast Institute, a grass root effort to introduce Smart Growth to Houston began. Participants include numerous individuals and organizations whose traditional roles are geared to urban design and environmental advancements. As one of its first initiatives, the group sponsored a conference entitled, **Building Choices: A Smart Growth Conference**; more than 200 attendees gathered to dialog about choice and building the greater Houston area in a wiser, more sustainable manner. Subsequent to the conference an ad hoc coalition began meeting monthly to chart a course for implementation. Six task forces were spawned that are currently formulating an agenda for broader community consideration.

Simultaneous to initiation of the efforts by Gulf Coast Institute, a member of the Houston City Council sponsored a one-time session to discuss Smart Growth for Houston. He encouraged the activities sponsored by Gulf Coast Institute and challenged

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<sup>12</sup> Austin City Connection. Smart Growth Initiative, <[http://www.ci.austin.tx/smartgrowth/smart\\_q&a.htm](http://www.ci.austin.tx/smartgrowth/smart_q&a.htm)>  
growth/smart\_q&a.htm>

the attendees to identify appropriate city policy that would improve planning and management of growth in Houston<sup>13</sup>.

Key business leaders expressed early concern about the Smart Growth initiative and worried that Houston's "can do" developer freedoms might be compromised through adoption of the principles. In June of 2000, the Greater Houston Partnership, the community's premier leadership organization, circulated a draft of its *Sensible Growth* principles. The draft document espouses the spirit of most of the four Smart Growth elements described previously in this report. However, it stresses "the market" as the driver for decision making and a commitment to a low cost of living. There is no reference to infill development. The document notes, "...the marketplace is the best forum for development ideas to ferment and grow. Sensible growth policies should.....ensure that both the community and developers maintain profitability"<sup>14</sup>. While perhaps subtle, the Partnership's memorandum reflects the acceptance of Houston's sprawl development pattern as acceptable and underlies a community that may have problems agreeing on the type of Smart Growth plan that has been adopted in other communities.

### **Summary Characteristics of Successful Smart Growth Initiatives in US Communities**

Several communities lead the nation in implementing Smart Growth; the state of Maryland and the city of Portland are noted for forging consensus and instituting policies that are reversing some of the undesirable characteristics of unmanaged development.

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<sup>13</sup> Meeting sponsored by Councilmember Carroll Robinson, November 21, 1999.

<sup>14</sup>ibid. Memorandum, Charles McMahan.

The outcomes of policies enacted in these communities are consistent with those elements desired from better planning and decision-making concerning growth and development. For instance, Portland's land area has grown by roughly 2% over the last ten years. This is in contrast to the US average where land utilization over the last 5 years doubled when compared to the previous 10 years. In Portland, pricing strategies made single occupant drivers bear a higher portion of their costs, while transit incentives and transit-oriented developments were encouraged. A potential negative outcome of Smart Growth efforts, particularly in Portland, is that the infill housing and transit-oriented development tend to be in the higher income ranges, unachievable by lower and moderate income families. These groups are thus driven to the fringes where higher transportation costs and less available public transportation create additional problems.





# SMART GROWTH IMPLEMENTATION AND ASSESSMENT

## Implementing Smart Growth Policy

An obvious aspect of current Smart Growth development in the US is the varying rates at which the concept is being implemented across the states. This work referenced the aggressive implementation in Maryland and Oregon, as well as the statewide actions being instituted in states similar to those in the South such as Georgia, Florida, Arizona. The specific reasons for differing speeds of implementation could be numerous and lead to fundamental concepts about policy-making. Theorists have debated how public policy changes occur; the arguments are numerous, but an important line of debate has been incremental vis-a-vis rationale or strategic policy implementation. In a seminal work, Lindblom (1957)<sup>15</sup> began the dialog by arguing that government decisions cannot occur strategically for a number of reasons. Among them are that the public sector cannot adequately evaluate rationally because it has neither the financial or knowledge wherewithal to do so. Also, he argues that the populace is uncomfortable with making sweeping changes. In contrast, Lindblom advances that government makes incremental changes. In this way, the public is better able to adapt and modify previous behavior and procedures. Arguing against Lindblom are those advocating strategic processes that allow holistic viewpoints and a hearing of the pros and cons for the options (eg., Dror, 1964<sup>16</sup> and 1983<sup>17</sup>). Later theorists argued that the specific policy or locale might require

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<sup>15</sup> Lindblom, Charles (1957). "The Science of Muddling Through" Public Administration Review. Vol. XIX, pp. 79-89.

<sup>16</sup> Dror, Yehezkel (1964) "Muddling Through: Science or Inertia". Public Administration Review. Vol 24, pp 153-165.

<sup>17</sup> ——— Public Policymaking Reexamined. Transaction Books, New Brunswick and London.

a combination of incrementalism, strategic decision-making and other processes to achieve consensus<sup>18</sup>.

Several communities in this research have been able to obtain regional, and even statewide concurrence, resulting in “model” cases for Smart Growth, exhibiting the ability to gain consensus without making incremental steps. Their processes have included elements of strategic and rational decision-making. Some Smart Growth proponents suggest that this is the only way Smart Growth should be approached, that is, in a regional manner. They argue to proceed otherwise will open communities to imbalances, thus thwarting potential regional benefits. However, a few states, like those in the Southwest may find that gaining broad-spread concurrence comes more slowly and requires extensive dialog, especially in the absence of state ordinances that facilitate or require comprehensive planning. For instance, one only of the Region VI states has a statewide initiative underway, and that has not yet been implemented. Those working on Smart Growth in Region VI communities may have another option while seeking far-reaching consensus. That is to accept elements of the Lindblom position that public policy, and indeed Smart Growth, may proceed incrementally. As later theorists proposed, to proceed incrementally does not eliminate the option of continuing the rational, and in this case regional process, simultaneously. Under this scenario, small areas within Southwestern communities could implement Smart Growth concepts. This would allow benefits to be viewed by the larger region as the discourse continued and details of the region-wide Smart Growth initiatives are completed and consensus

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<sup>18</sup>Keen P. and M. Morton (1978). **Decision Support Systems, An Organizational Perspective**. Addison-Wesley, Reading, Mass.

obtained. In the meantime, micro-scale Smart Growth projects could be implemented and evaluated.

### **Measuring or Assessing Success**

In order for the incremental approach to assist with system wide decision-making, it will be necessary for outcomes of small-scale projects to be measured. The opportunity exists to link selected measures from indicators studies, currently underway in several communities, with the Smart Growth projects. For example, in Austin, Texas, an ad hoc group with an advisory board representing almost 50 organizations prepared such a study for their metropolitan area<sup>19</sup>. The indicators covered 42 separate measures including education, health, open space and transportation. Compiling the indicators is an extensive process requiring its own consensus building plan. Communities will need to individually determine how to measure the desired outcomes of their Smart Growth initiatives, recognizing that inclusion of indicators and measurable results is a critical aspect of implementing this concept.

### **Importance of Transportation as an Element of Smart Growth**

Review of the four Smart Growth elements presented earlier in this research shows that transportation can play an important role in each of the areas. *Preservation of farmland and open space* will be better accomplished if major roadways are designed so as to not stimulate development in areas the community has indicated their desire to protect. Transportation also contributes significantly to *protecting the environment and*

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<sup>19</sup> Central Texas Indicators 2000, A Report on the Economic, Environmental, and Social Health of the Central Texas Region. Sustainability Indicators Project of Hays, Travis and Williamson Counties.

*air quality.* Air quality assessments are standard in the criteria that identify new transportation projects. However, some criteria are structured to minimize the influence of air quality issues when compared to other criteria, such as travel time improvements.

*Revitalizing core areas and downtowns by supporting infill development* occurs most efficiently when the transportation of potential residents is a key element in the planning. Travel must be considered for trips both internal and external to the neighborhood. Multiple modes should be a component of the comprehensive plan. The last element, *providing housing choices that accommodate a range of household income levels*, will be best accomplished if transportation is a consideration, particularly for those who may be dependent on public transportation for some trips. Across all elements of Smart Growth, it is important that transportation professionals are active in program development. In this way, the community needs and desires are considered within transportation realities, increasing the opportunity for achieving desired goals and outcomes.

## **SUMMARY AND RECOMMENDATIONS**

### **Summary of Research Findings**

There is a difference in perception of the need for Smart Growth and other sprawl management techniques given the comparison of laws enacted by state legislatures in Region VI and other fast growing southern and western states. Still, stakeholders in these communities tend to recognize there is a need to modify past practices. This is evidenced by the pending legislation in Oklahoma, the Smart Growth project in Austin, Texas and the Sensitive Growth and Smart Growth activities of the Greater Houston Partnership and Gulf Coast Institute in Houston. However, the responses and implementation of tools and methods to slow down continued sprawl are proceeding slowly in these communities. This may, in part, be a reflection of the varying views of how the communities would look after implementing Smart Growth. It may also result from the seeming abundance of available land to continue expansion. But increased infrastructure needs in the face of constrained infrastructure funds, air quality issues and other environmental issues are likely to pressure officials in these communities to initiate more aggressive planning and institute more growth management initiatives. The best manner in which to proceed should be the next point of focus for Region VI.

### **Recommendations and Implications for Transportation Professionals**

Based on the assessment of the successful Smart Growth projects across the US and given the status of similar initiatives underway in the Southwest, the following recommendations are made for Smart Growth advocates in Region VI.

- 1) Implement micro-scale Smart Growth projects initially. Recognize that a community-wide initiative may proceed more slowly in Southwest communities and in the meantime, a more neighborhood-oriented approach can begin to show the benefits of the Smart Growth concept. This approach will allow consensus building from smaller areas to culminate in a project, while still allowing discourse and consensus building on a regional scale to continue. Region VI communities should, then, deliberately focus clusters and enclaves of Smart Growth and transit-oriented development in the short-term. A longer-term initiative can focus on increasing the number of enclaves, leading to an ultimate region-wide plan.
- 2) Communities should embrace a set of Smart Growth indicators to become baseline measures against which the success of their clusters and Smart Growth neighborhoods can be assessed.
- 3) Transportation professionals must recognize that decisions regarding roadways, transit and pedestrian movements are critical components and outcomes of Smart Growth projects. Thus, transportation decisions should be made in a holistic, integrated way which may give higher value to criterion beyond the traditional benefit-cost, traffic volume measures. Transportation professionals should be active participants in Smart Growth initiatives in their communities.

**Appendix A**  
**Sustainable Communities**

## SUSTAINABLE COMMUNITIES

### **Introduction**

Global sustainability is an important goal which will allow individuals and societies to access their basic needs safely and in a manner consistent with good health principles and with respect for the environment. Ruckelshaus (1989) defines sustainability as “the doctrine that economic growth and development must take place, and be maintained over time, within the limits set by ecology in the broadest sense by the interrelations of human beings and their works, the biosphere, and the physical and chemical laws that govern it.” Sustainability, then, refers to utilization of resources in an environmentally responsible manner that will enable resources to be available for future generations.

Much is being written about the prevailing development trend in the US and in many other countries that is encouraging sprawl-type development and dependence on the automobile for almost all trip-making. Congestion and air pollution are but two negative outcomes of this development trend. Inherent in the concept of sustainability is that system users and beneficiaries of goods should pay their full social and other costs. According to basic economic principles, appropriate distribution of pricing in the market will lead to equilibrium and eliminate negative externalities like congestion and air pollution (Brueckner, 2000). The congestion and pollution by-products of the urban form, prevalent in much of the US, indicate that costs are not being born appropriately because demand far exceeds supply. The reasons for this are numerous and can include policies that allow development where infrastructure is inadequate, improper pricing of auto-associated costs (eg., such as fuel and parking costs) or inadequate and non-



competitive public mass transit service. Whatever the cause, the trends lead to an unsustainable circumstance.

Sustainable transportation is designed to encourage total system efficiency and to discourage excess and misuse of finite resources. Key within this principal purpose, from the transportation perspective, is that travelers will have viable choices regarding modes. Further, transport sustainability will be sensitive to the emissions level of gases, reducing the consumption of non-renewable resources to include land, and to be sensitive to a range of abuses like noise intrusion. For the purpose of this report, sustainable transportation will focus on three principal components: economic sustainability, societal sustainability, and environment sustainability.

### **Economic Sustainability**

There is a strong interaction effect between transportation and economic sustainability. Sustainable transportation enhances economic development by stimulating available resources to meet human needs and goals. Though sustainable transportation stimulates economic growth, some economic attributes, such as financial costs of new technologies tend to suppress potential positive economic outcomes. Due to the interaction effect, any increase, modification or reduction in transportation activities will affect economic growth.

While sometimes, not readily viewed as such, there is an economic cost to congestion and pollution. Texas Transportation Institute has set the cost of congestion in excess of five billion dollars annually ([www.tti.tamu.edu](http://www.tti.tamu.edu)., November 2000) A portion of these costs are borne by the individual driver, the remainder may be borne by government

and to some extent by other drivers (Brueckner, 2000). Other costs make their way into the economic stream as dollars are spent to make cleaner burning fuels, to reduce pollutants and to clean what has already been emitted.

High population density, increased development and road construction are reducing sustainability. Congestion in central business districts and the desire for more space is influencing the sustainability of urban and suburban areas. It is generally accepted that almost all cities are experiencing decentralization of population, whether they are growing or not (OECD, 1995). The farther people live from the city, the more they travel by car, rather than by walking or transit. The economic sector is further effected by this dispersion.

In 1997, 57% of Metro-Area Jobs were located in the suburbs. This figure has increased from 55% in 1992. (NCBN-News and Views, November 2000, p.2). Employees traveling to these jobs are almost required to have a car or travel to work with someone who does. The purchase of the automobile and ancillary requirements contribute to an economic pattern experienced by many suburban residents. Not only does the worker need a car for job accessibility, but every member of the household of driving age desires and often has a car because walking and public transportation are generally incompatible with the design of these suburbs. In addition to transportation, the low density, edge city development increases the demand and the resulting supply of services; in many instances, new services duplicate those already available in the urban core, but that are inconvenient for those living in the suburbs. Therefore, additional public and private infrastructure is constructed resulting in lost opportunity costs for already scarce resources. Consequently, an outcome of suburbanization, is that scarce

financial resources are spent in the outlying areas, leaving less for infrastructure improvements and services in the core areas. Those living in these suburban areas become more isolated, as social and economic costs continue increasing.

Despite current conditions, experts in transportation and planning circles still hold the view that sustainable transportation is attainable, and in fact will improve the economic growth. The opportunity exists to successfully integrate sustainable decision-making concepts into public and private sector determinations of how to most efficiently allocate resources.

### **Societal Sustainability**

The interaction and organization in human society is very complex, human beings are interdependent with their societies for good living and in turn contribute to the functioning of society. A complaint of the chain includes transport as a link to societal needs. Meeting societal needs is important because how well these needs are met determines the quality of life. Transportation is key because it enhances education, healthcare, job accessibility, and human interactions. However, transportation activities can become less sustainable if they contribute to social polarization and spatial discontinuity.

One key aspect of social sustainability for many communities is auto availability. Because the car has become the focus of mobility for so many residents maintaining linkages with jobs, educational institutions, and social affiliates is dependent on having an auto available. In the US, 58% of households own two at least two cars and at least a fifth of households have 3 cars. There was a period where these figures were anticipated

to slow, but instead auto ownership rates are continuing to climb (OECD, 1995, p. 35). Despite these statistics, it is important to note the variations across households; 15% of households have no vehicle (Aizcorbe and Starr-McCluer, 1996). In still others, there are more people than cars, while some homes have more cars than people. There is therefore tremendous pressure on society to respond, on the one hand to those with no car, and on the other hand, to those with so many cars that they desire more roadway capacity.

Many teenagers desire their own vehicle, in some measure because development patterns and lack of public transit inhibit their mobility. Accessibility to extracurricular activities and part-time jobs leave many families no option, but to add vehicles to their household. Once the vehicle has been added, the household tends to make more trips than before having the vehicle. The costs of the vehicle, insurance, maintenance and operation have an impact on the household budget, altering the way finances are expended. Further, time spent traveling erodes family time or time that could be spent on a meaningful activity. The point is that there is a societal opportunity cost and question of sustainability with regard to how money and time are spent given current development trends.

Some areas related to societal sustainability overlap with some of the environmental elements. For instance, the continued expansion of urban area boundaries intrudes upon green space and farmland. The impact is an excessive encroaching on agricultural land. This may lead to a loss of aesthetic benefits from the presence of open space, as well as depletion of an allegedly scarce resource-farmland (Brueckner, 2000, p.13). The ultimate impact will be to alter the manner and locations in which members of

society recreate. Also, loss of farmland ultimately affects prices for the consumer and lifestyle for the farmer.

### **Environmental Sustainability**

The dominant lifestyle in most western cultures, as described in the previous sections of this paper, lend themselves to diminishing various elements of the environment. For instance, the increases in auto utilization are not only a US phenomenon. In other major cities around the world, such as Singapore and Hong Kong, the share of workers driving their cars to work has also increased despite available, effective and reliable transit. Thus, adjustments that would encourage residents to re-think some of their trip-making resulting in more environmentally-friendly lifestyle decisions could have far-reaching implications.

Two important areas are linked, energy utilization and air pollution. Energy is consumed depleting limited available fuel. Of those who urge caution, their arguments are fossil fuels are being utilized at a rate higher than at any point in history. From the US perspective, imports from the Persian Gulf and OPEC increased 62% between 1973 and 1997 (US Department of Energy, 2000). To further make the point, the US transportation sector burned almost 20 percent more fuel in 1989 than in 1973 (Texas Sustainable Energy Development Council, 1995). Increasing production in the US would require financing levels considered too expensive or intrusion into protected areas like underdeveloped areas, such as in Alaska. Reducing the level of energy utilization is an important goal to the group concerned about the increasing rates of utilization. There are two methods to reduce fuel utilization. First, is through changes in individual

lifestyles. Such a change would require decisions to leave a vehicle at home for some trips and walk or ride public transit. Because many residential and employment site locations are not currently conducive to lower automobile use, some variation in development patterns may be required for some communities. A concept, called Smart Growth, is designed to meet satisfactory goals, and is gaining widespread attention among many US residents.

Another way to improve energy use is through technology. A number of advocates offer that cleaner burning engines, alternative fuels that pollute less or not at all, and other technological advances are the appropriate way to reduce emissions (Chu and Matthey, 1999). Further, other proponents suggest greater attention to reducing pollutants from construction equipment and other industrial and field-related power sources.

Intensive government mandates could hasten the quest for sustainability. Methods such as raising taxes, imposing strict fuel efficiency standards, improving public transportation and providing financial incentives for those voluntarily utilizing alternative fuels would influence travel behavior, thereby diminishing vehicle miles and the resulting fuel usage and ensuing pollution.

In many instances the energy utilized results in pollutants which contribute to harmful emissions. Vehicle emissions contribute carbon monoxide and carbon dioxide, nitrous oxide, sulfur dioxide, and volatile organic compounds. Numerous surveys show that pollutants cause cancer and other diseases. Also, general health is sometimes affected with increased cases of sore throats, asthma attacks, and itching, burning or

watery eyes. Agricultural conditions can be aggravated with plants and vegetation responding negatively to poor air quality.

The US Congress passed Clean Air Act Amendments (CAAA) in 1990 that set standards for US states and communities relative to minimum acceptable air quality. National "primary" and "secondary" ambient air quality standards are those which, in the judgment of the Administrator of the Environmental Protection Agency (EPA), will protect the public health and welfare (Clean Air Act Amendment, 2000). In 1991, roughly 50% of Americans lived in areas EPA classified as non-attainment (Texas Sustainable Energy Development Council, 1995). Opinions vary as to whether, how much, and who should bear the responsibility to reduce environmental pollutants. One component of the CAAA, Employer Trip Reduction, places increased responsibility on the individual to modify home-to-work travel behavior. Regardless of one's perspective of the appropriate response to air quality problems, it is clear is that environmental impacts from the typical lifestyles of most Americans is unlikely to be sustainable over the long term.

## **Summary**

A strategic plan for sustainability would encompass many elements. One might be the Smart Growth Model. This model offers a community many advantages and covers many areas sensitive from a sustainability perspective. For instance, Smart Growth goals include preservation of green space, efficient utilization of fuel, wise use of land and minimizing negative impacts on the ecosystem. Also, the use of renewable energy sources and other resources that are inexhaustible is encouraged. These environmental

factors affect societal well being and determine future living conditions of human for some time to come.



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