

**Evaluating Sustainable Development in US Cities and States:  
How Sustainable Is It?**

By

Mary M. Timney, PhD,

Professor of Public Administration

and

Neil Joshi, MPA

Pace University

White Plains, New York, USA

For Presentation at the 2012 Conference of the

International Society of Ecological Economists

Rio de Janeiro, Brazil

The Conundrum of Sustainability

The concept of sustainability incorporates three broad themes--economy, social equity, and environmental protection--that are also known as the “triple bottom line” that must all be incorporated and coordinated in the realm of policymaking in order to ensure the long-term viability of communities and the planet as a whole (Leiserowitz & Parris, 2005). Sustainable development refers to attempts to balance economic development and environmental stewardship of natural resources in the air, water, and land for the betterment of all, both present and future generations. The ultimate intent of sustainable development is to create more equitable communities that can consistently thrive over time.

Perhaps the best known and most cited definition of sustainable development is provided by the publication titled “Our Common Future” that was authored by the Brundtland Commission in 1987: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Dernbach, 2008). The commission concluded that sustainable development would provide a way for the world to address environmental degradation and poverty, as these two social problems are inextricably linked (Leiserowitz & Parris, 2005). The Brundtland Commission called for the recalibration of institutional mechanisms at the global, national and local levels to promote sustainable development as a means to remedy widespread and persistent problems, such as environmental degradation, climate change and poverty.

Five years later, the 1992 UN Conference on Environment and Development, also known as the Earth Summit in Rio de Janeiro, marked the first time the nations of the world had ever committed themselves to systematically pursuing sustainable development in all places and contexts (Dernbach, 2008). A set of common sustainable principles known as the Rio Declaration coupled with a plan of action called Agenda 21 helped give visibility to the idea of sustainable development (Dernbach, 2008). The Rio agreements affirmed that *the developed nations must lead the effort to achieve sustainability as they have the most resources, the most sophisticated technologies and know-how and the greatest responsibility for causing many environmental problems that sustainable development seeks to address* (Dernbach, 2008). It is for this reason, for better or worse, that the success or failure of the United States in moving towards sustainability will influence and perhaps determine whether the rest of the world succeeds in the project of sustainable development (Dernbach, 2008).

National policy toward sustainable development in the US is currently not a prominent feature of the political discourse. The Obama Administration and Congress have focused their attention on other policy issues, mostly related to the Federal budget and taxation. There is no national effort to develop a policy toward sustainability; indeed, there are still prominent political voices in the Republican Party that proclaim that climate change is a hoax and global warming is part of a natural weather cycle. Given the current divided political ideology of Congress, it is unlikely that anything resembling a national sustainable policy could be enacted. Mitt Romney, the presumptive Republican candidate for the Presidency, has indicated that he is a climate change skeptic and that full-scale development of fossil energy resources, among other economic initiatives, and weakening of environmental regulations would be top priorities of his administration if he is elected.

The states and cities in the US operate independently of the national government in many realms, however, and many of them have developed sustainable development plans over the last decade. Across the country, states and local governments, large cities and smaller jurisdictions, have announced plans for sustainable development, Smart Growth or green building initiatives which continue to move forward

despite the uncertain economy. Some of these efforts are spurred by private non-governmental organizations (NGOs) but most are sponsored by the governments themselves.

Some prominent examples include New York City, where the Mayor Michael Bloomberg has put forward PlaNYC, which aims to make the city a leader in environmental sustainability by 2030. The plan has hundreds of specific milestones for reducing waste, improving transportation, reducing greenhouse gases and making the city more livable for an estimated one million additional population. Other cities in the eastern US that have sustainability plans include Boston, Atlanta, Washington DC, Miami and Orlando in Florida, Philadelphia and Newark, New Jersey, along with the west coast cities Seattle, Washington and Portland, Oregon. These are only a sample of the cities that have a plan announced on their official Web sites.

This paper examines efforts toward sustainable development by a variety of sub-national governments in the US and considers the complexities of achieving sustainability given the political and economic realities in the nation. Questions that are examined by this research are: How do US cities define sustainability? What are the most common achievements of sustainable communities in the US? What are the weaknesses of US sustainable development plans? Will it be possible for US cities to achieve true sustainability without requiring significant changes in lifestyle? How far do these plans go in reaching the ideal? What would be required to make sustainability a reality in the US?

#### The Scope of the Problem:

In the United States, planners and policy makers face tremendous obstacles in managing urban and economic growth while sufficiently protecting the environment in the 21st century for present and future generations (Bengston, Fletcher, & Nelson, 2004). A 2004 US General Accounting Office report offered a sobering view on growth issues stating that planners and policymakers are “faced with a projected 50-percent increase in the US population in the next 50 years. In addition, metropolitan areas nationwide are using significantly more land per person as they expand in size than was the case a few decades ago” (Bengston, Fletcher, & Nelson, 2004). Thus, there is a clear demand for innovative and effective policies and programs that will be required to stem the tide of such environmentally destructive development.

The American Planning Association identifies several dimensions to the sustainability issue:

- “We want to sustain communities as good places to live, and as places that offer economic and other opportunities to their inhabitants.
- We want to sustain the values of our society—such as individual liberty and democracy.
- We want to sustain the biodiversity of the natural environment, both for the contribution that it makes to the quality of human life and for its own inherent value.
- We want to sustain the ability of natural systems to provide the life-supporting ‘services’ that are rarely counted by economists but which have recently been estimated to be worth nearly as much as the total gross human economic product” (Feiden, 2011).

According to Feiden, “a sustainable community is one that is consistent with all of these dimensions of sustainability.”

The International City/County Management Association (ICMA), a leading organization of public managers, has stated in no uncertain terms that “sustainability is the issue of our age” and has been a strong advocate for this issue.” The ICMA explicitly states that regarding the promotion of sustainable development, “starting at the level that reflects the community’s interest and commitment, city and county managers must facilitate education and conversation about the most appropriate approach for the community to build consensus and momentum for action” (Svara, Read, & Moulder, 2011). The following list indicates nine of the most common strategies being used by local governments nationwide (Read & Shenot, 2010):

- Create more sustainable and resilient communities
- Greening the local economy
- Engage the community in the climate change planning process
- Approach climate change planning on a regional level
- Address transportation through transit-oriented development and complete streets
- Promote density through infill development and brown field redevelopment
- Adopt green building policies
- Preserve and create green space
- Plan for climate adaptation.

### Defining Sustainability:

Ever since the term “sustainable communities” was first brought into the lexicon of environmentalism, scholars and practitioners have seized on it to promote and facilitate various kinds of environmental change (Portney, 2005). Although the term obviously seems to convey great meaning to a wide array of people, it has come to mean so many different things to so many different people that it probably does as much to promote confusion and cynicism as positive environmental change (Portney, 2005).

There remains considerable debate and room for disagreement among scholars and practitioners about what natural resources are to be developed and what natural resources are to be preserved so that depending upon who is asked, sustainable development can mean anything between the extremes of "sustain only" to "develop mostly" (Leiserowitz & Parris, 2005). Similarly, for definitions of sustainability that seek to promote intergenerational equity into the future, the time period between what we perceive is now and in the future differs widely as the future can be defined as little as 10 years, one generation, or even forever (Leiserowitz & Parris, 2005).

Despite the differences between various definitions of sustainable development a common thread that has emerged from actual sustainable communities and literature about this field is that there is often deep concern for the elements of human interaction and relationships. In many cities, the concept of sustainable communities is not just about protecting the environment or controlling economic growth for the benefit of the environment (Portney, 2005). It is also about the relationship between the physical environment and the people who populate it, including a wide range of social issues that transcend the purely environmental. Such inclusive views of sustainable cities place great importance on changing the fabric of civic society as well as on the institutions and social processes that influence how residents interact with each other (Portney, 2005). This is based on the notion that explicit attention needs to be paid to the relationship between economic growth and environmental protection, on one hand, and what it

takes to make cities livable, on the other hand, to make the goal of creating sustainable societies possible (Portney, 2005).

In 1993, the President's Council on Sustainable Development, established under Bill Clinton to provide guidance on sustainability, developed the following definition:

Sustainable communities are cities and towns that prosper because people work together to produce a high quality of life that they want to sustain and constantly improve. They are communities that flourish because they build a mutually supportive, dynamic balance between social wellbeing, economic opportunity, and environmental quality. (Feiden, 2011)

The common characteristics of sustainable communities were defined as the following:

- Long-term focus that ensures options for future generations are maintained if not improved.
- Interdependence of economic, environmental and social well-being.
- Participatory processes that are inclusive and transparent.
- Promotes equity among generations and among different groups in society.
- Proactive prevention, preventing problems as the first course of action (Feiden).

#### The Necessity of Local Communitarian Efforts:

As part of Agenda 21 of the Earth Summit resolution, significant attention was given to the relationship between national policies and the activities of local governments, explicitly "that the participation and cooperation of local authorities will be a determining factor in fulfilling its objectives" (Portney, 2005). Local authorities play a primary role in constructing, operating and maintaining economic, social, and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations and assist in implementing national and sub national environmental policies (Portney, 2005). Furthermore, as the level of governance closest to the people, they play a vital role in educating, mobilizing and responding to the public to promote sustainable development (Portney, 2005).

Portney argues that the starting point for understanding the communitarian foundations of sustainable communities must be a recognition of the "three deadly sins" that are thought to lie at the

heart of unsustainability: the tragedy of the commons, the not-in-my-backyard (NIMBY) syndrome and the expansion of cities' ecological footprints (Portney, 2005). Each of these phenomena contributes to the difficulty of making small geographic areas sustainable, in the sense that they represent system-level consequences of individual-level attitudes, values and behaviors. Sustainability scholars such as Kent Portney believe that these three deadly sins can be remedied by a community-based approach to sustainable development. In other words, "the virtue of stewardship toward the earth, the commitment to the environment as a common good, is profoundly communitarian, on the face of it" thus asserting a connection between communitarian values and sustainability (Portney, 2005). This is because all three of these problems are fed by "rampant individualism," in which individuals are free to act on what they believe to be their own immediate self-interest.

Portney notes that based upon an extensive review of the sustainability literature that for the most part, "building sustainable communities" includes intensive efforts aimed at promoting greater interpersonal interaction, greater participation in civic organizations, and, in short, fostering civil society. An example would be Seattle's Comprehensive Plan 2000, *Toward a Sustainable Seattle*, which lays out a broad array of community building goals and policies as part of the plan's human development element. These goals and policies include seeking to "make Seattle a place where people are involved in community and neighborhood life," "work toward achieving a sense of belonging among all Seattle residents," and "promote volunteerism and community service" (Portney, 2005). Among the 41 cities examined by Portney, at least 28 have sustainability initiatives that promote some level and type of community building through greater participation even though not all of these efforts are the same. To state it succinctly, the central focus of communitarian elements of sustainable cities initiatives is the nature of the participatory processes in cities. A recent example is the city of Portland, Oregon, which developed the Portland Plan, a 25-year citywide project with short-term actions as well as a long-range plan for the physical, economic, social, cultural and environmental development of the city using extensive citizen involvement ([www.pdxplan.com](http://www.pdxplan.com)). The Bureau of Planning and Sustainability, which oversees the plan, sponsors on-going civic engagement sessions to discuss strategies around what citizens

set as their most important priorities: equity, education, economic prosperity and affordability, and healthy connected neighborhoods ([www.portlandonline.com](http://www.portlandonline.com)).

Inclusive and comprehensive public participation or civic engagement appears to be a key factor in the development of meaningful sustainability plans. Early adopters of sustainable cities such as Seattle, Portland, Santa Monica, and Boulder tended to conceptualize their sustainable efforts as broad-based participatory processes. These cities provided a forum for residents to express their views on what it means for their communities to be sustainable and as a means to gradually raise the collective consciousness of the resident population to understand how consumer attitudes and behavior would need to change to achieve sustainability goals (Portney, 2005). Civic engagement is manifest both in the development of the sustainability program and as an explicit goal of the sustainability program. First, many advocates of local sustainability believe that participatory processes are necessary for a city to produce a durable and operational definition of sustainability. In other words, as the city decides which specific programs and policies need to be enacted or modified to promote sustainability, local residents are instrumental. Second, many advocates of sustainability seem to believe that greater civic engagement is itself an integral part of what it means for a city to be more sustainable and that cities need to adopt policies that will promote civic participation (Portney, 2005). The benefits of increased civic engagement can include a greater likelihood that such a highly participatory process can better convince local elected and agency officials that sustainability should be pursued. The results of any such effort would produce better outcomes and a better biophysical environment if residents participated in the process.

#### Efforts Toward Sustainability at the Local Level:

A growing number of communities have enacted sustainable cities programs to improve livability, manage urban growth, reduce their carbon footprints, and foster alternative modes of transportation among other goals (Portney, 2005). The ICMA states that building a sustainable community requires contributions from all levels of government, all sectors of the economy, and all of the citizenry (Svara, Read, & Moulder, 2011). Because local governments provide services that affect the allocation and use of resources—from transportation and solid waste collection to zoning and land use—they are uniquely

positioned to promote sustainability through policy and program initiatives. Indeed, a number of the most significant and compelling examples of sustainability have indeed been established at the local levels of government.

One notable example is the U.S. Mayor's Climate Protection Agreement, which was launched in March 2005 (Dierwechter, 2010). Signatures to this agreement dedicate new policy attention and municipal resources to the greenhouse gas goals called for in the Kyoto Protocols. This agreement actively encourages experimentation and coordinated reforms to land-use, transit, energy, housing, waste, and other urban developmental systems. Many of these cities also agree to lobby both state and federal governments to enact programs more supportive of local climate agendas, such as the institution of a national emission trading system (Dierwechter, 2010). As of 2010, about 900 self-stylized 'cool cities' had signed on to the agreement, including central cities, suburbs, counties and even a few census designated places (CDPs) (Dierwechter, 2010). Another related initiative is the ICLEI's Cities for Climate Protection Campaign (Dierwechter, 2010). Programs under this campaign include the Local Government Climate Roadmap, the Urban CO<sub>2</sub> Reduction Campaign, and the Local Renewables Project which have been implemented in cities across the US, Europe, and Canada (International Council for Local Environmental Initiatives, 2012).

#### Efforts Toward Sustainability at the Local Level:

The concept of incorporating sustainable development in local planning has gained traction as evidenced by a growing number of communities that have enacted sustainable cities programs to improve livability, manage urban growth, reducing their carbon footprints, and fostering alternative modes of transportation among other goals (Portney, 2005). The ICMA states that building a sustainable community requires contributions from all levels of government, all sectors of the economy, and all of the citizenry (Svara, Read, & Moulder, 2011). Because local governments provide services that affect the allocation and use of resources—from transportation and solid waste collection to zoning and land use—they are uniquely positioned to promote sustainability through policy and program initiatives. Indeed, a number of the most

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Another organization, the ICMA, in partnership with The U.S. Department of Energy (DOE) and ICLEI – Local Governments for Sustainability, has developed a program called the SunShot Solar Outreach Partnership targeted toward increasing the use and integration of solar energy technologies in communities across the nation through a variety of outreach, technical analysis, and technical assistance towards the adoption of these technologies (International City/County Management Association, 2012). As with other sustainability programs, this program operates under the belief that local cities and counties are uniquely positioned to reduce global climate change, strengthen America's energy independence, and

improve air quality by adopting solar energy technologies (International City/County Management Association, 2012).

Not all innovation in sustainable development has been spearheaded by local governments. In the U.S., with its long tradition of private sector and non-governmental organizations delivering services, working to improve society, and drive innovation, have also contributed to sustainable development efforts. For example, the Clinton Foundation --one such NGO-- recently began collaboration with C40 Cities, an organization of large global cities committed to combating climate change. Another non-government organization whose contributions to sustainability are substantial is the United States Green Building Council (USGBC) which draws together a large number of corporate members from the building industry. This organization is responsible for creating the Leadership in Energy and Environmental Design or LEED green building standards that have been recognized and adopted across the nation and globally.

In recent years, state and local jurisdictions have also begun seriously considering green building code adoption, and – with varying degrees of commitment and some communities have embraced and even adopted these new codes (USGBC, 2011). California adopted the nation's first green building code in 2010, titled the Green Building Standards Code based on LEED criteria, and the next version of LEED has begun public review. This trend of “greening” baseline regulatory minimums is the result of two key developments: a greater awareness of the need for change, and widespread practical experience with built projects that have been raising the bar at the leading edge of building design and construction (USGBC, 2011). In the view of the USGBC, these two key elements have enhanced green building conversation among a variety of stakeholders such as architects, engineers, designers and a handful of federal, state and local government authorities (USGBC, 2011).

An affiliate of USGBC, the Urban Green Council In New York City, has released arguably the most comprehensive analysis and set of recommendations for the incremental greening of any building code. Similar work is being undertaken by the NYC Green Codes Task force, which mirrors a national

trend of communities taking action to address today's pressing economic, environmental and community health issues. The USGBC reports that one year after its February 2010 release, 22 of the Task Force's 111 recommendations have been adopted or are being acted upon (USGBC, 2011). At the present time, some 167 local governments, 26 state governments and 12 federal agencies or departments have committed to better building practices and responsible stewardship of public dollars by benchmarking the performance of their public buildings with LEED (USGBC, 2011). Beyond the reduced impact on the environment, it is hoped that green public buildings will assist in educating communities of the potential of green buildings, create jobs, save energy, water and money, and build local expertise in green building-related practices and trades (US Green Building Council, 2011).

Some refreshing news in this report is that some of the most exemplary US cities--such as New York, Portland, and Seattle--are on par with or even slightly outperform their European counterparts (Economist Intelligence Unit, 2011). Further progress still needs to be made as the localities that were signatories to this agreement only account for a small fraction of all of the local governments in the United States. The U.S. contains around 20,000 general purpose municipalities and over 3000 counties, meaning that considerably less than 5% have enrolled so far in arguably one of the most noteworthy environmental policy programs (Dierwechter, 2010).

One of the chief methods used to make sustainable development a reality is altering existing planning and zoning codes to allow for more high-density, mixed use development. Miami, Florida has become a leader on this front in implementing what is known as a smart code in the planning realm. The Smart Code is a unified land development ordinance for planning and urban design that blends zoning, subdivision regulations, urban design, and optional architectural standards into one compact document (Benfield, 2010). These documents can be customized to produce specific planning outcomes desired in particular communities and localities by professional planners, architects, and attorneys (Benfield, 2010). It is important to note, however, that the Smart Code is not a building code as building codes address life/safety issues such as fire and storm protection (Benfield, 2010). The Smart Code supports the

following outcomes: community vision, local character, conservation of open lands, transit options, and walk able and mixed-use neighborhoods while preventing outcomes such as wasteful sprawl development, automobile-dominated streets, empty downtowns, and a hostile public realm (Benfield, 2010). The Smart Code is considered a “form-based code” because it strongly addresses the physical form of building and development while conventional zoning codes are based primarily on use and density (Benfield, 2010). The Smart Code addresses development patterns at three scales of planning: the sector or regional scale, the community scale and the block and building scale.

Another type of zoning is referred to as performance zoning because it offers a high degree of flexibility by dictating acceptable impact levels for new projects depending on their location in the community, but not necessarily dictating land use. For example, if a project can demonstrate that it will not have negative impacts in a number of categories identified by the jurisdiction such as noise, pollution or aesthetic qualities, then the actual land use can vary. This type of zoning allows the possibility of making use of LEED-ND requirements that may work well as the building blocks of a performance-based zoning system or even a form-based zoning code (US Green Building Council, 2011).

#### Measuring Sustainability:

As the field of sustainability has become more developed, the number of rubrics devised to measure goals and outcomes of national and local sustainability initiatives and policy has also increased. Hundreds of efforts to define appropriate indicators and to measure them (Leiserowitz & Parris, 2005). The development and emphasis on sustainability indicators has multiple motivations, which include decision making and management, advocacy, participation and consensus building, and research and analysis. However, there are no indicator sets or indices that currently exist which are universally accepted, backed by compelling theory, rigorous data collection and analysis, and influential in policy (Parris & Kates, 2003). This is due to the ambiguity of sustainable development, the plurality of purpose in characterizing and measuring sustainable development, and the confusion of terminology, data, and methods of

measurement (Parris & Kates, 2003). Some of the indicators and indices relevant to the local level of government are listed below:

- 1) The US and Canada Green City Index is a research project conducted by the Economist Intelligence Unit that seeks to measure and compare the performance of 27 major US and Canadian cities across nine categories: CO2, energy, land use, buildings, transport, water, waste, air, and environmental governance in 2011. (Economist Intelligence Unit, 2011). The report also includes leading best-practice ideas from across these two nations and in depth profiles of each city. The report indicates that there is a correlation between wealth and environmental performance, although this correlation is weaker in the US and Canada than in Europe and Asia. This is because wealthier cities can afford better projects – environmental or otherwise. They are also more able to deploy well-financed departments with relevant expertise to introduce and monitor appropriate environmental policies (Economist Intelligence Unit, 2011). It was also noted that in the US, environmental ambition is often wrapped up with other public policy goals such as economic development and poverty alleviation, especially in lower-income cities. For example, the city of Philadelphia, which despite its high poverty rate, does better than some more affluent cities in the Index in areas such as land use and environmental governance. In Philadelphia, “sustainability is about poverty reduction not carbon reduction.” Across the US, “there are high and low-income constituencies for sustainability.” In other words, this connection between sustainability and development means that lower income cities will address environmental issues as part of a larger strategy to tackle poverty (Economist Intelligence Unit, 2011). On the policy side, 26 of 27 US and Canada Index cities measure carbon dioxide emissions to some extent, and 21 out of 27 have a carbon reduction target separate to any national target.

Overall, the Green City Index report found that the east coast cities have done a better job in the past decade of successfully integrating environmental programs into broader development strategies to simultaneously revitalize their economies and make urban areas more livable

(Economist Intelligence Unit, 2011). In fact, it is noted that west coast cities used to have significantly better environmental records than those in the north-east because cities like San Francisco, Seattle and Portland helped form the roots of the American conservation movement. Many of these eastern cities, particularly in the Rust Belt,<sup>1</sup> have been confronted with long-term decline in the manufacturing economy, so there has been an increased incentive for these cities to have introduced sustainability efforts in an attempt to increase their competitive advantage, thereby attracting jobs and stimulating economic growth. In particular, many older U.S. cities have worked to revitalize urban infrastructure dating back well over a century, such as narrow streets, compact lots and vertical commercial and residential buildings regarded as the building blocks of a more sustainable urban environment (Economist Intelligence Unit, 2011). In addition, the Green City Index found that active CO2 emissions reduction policies have helped cities in the US and Canada fall below national emissions levels based on emission figures from 2002 in the US and 2008 in Canada, though there is still significant room for improvement in the criteria being studied (Economist Intelligence Unit, 2011). For instance, energy remains an enormous challenge for many U.S. and Canadian index cities. Electricity use remains high even after taking into account the underlying level of economic activity because most cities that were studied have only partial or even no policies at all to promote the use of green energy in homes and businesses through subsidies or tax breaks. In addition, locally produced energy is typically underdeveloped, as only three cities-- Denver, Orlando, and Toronto--score full marks in these areas (Economist Intelligence Unit, 2011). In the area of green space, the U.S. and Canadian cities tend to score well, but this is attributed more to the low population density of these cities compared to other cities globally. The index cities as a whole tend to have good policies on open spaces that include parklands but are far less active in countering urban sprawl as only 11 cities get full marks for measures to prevent urban sprawl (Economist Intelligence Unit, 2011).

- 2) A recent study surveyed 2,176 local governments across the United States in order to examine actions taken by elected officials and administrators to address sustainability and to better understand how these localities work with citizens as partners to advance shared goals and change behavior (Svara, Read, & Moulder, 2011). These local governments were scored accordingly through the use of a sustainable "activity index." The study found that a mere 240 local governments out of the 2,176 studied earned an activity score of 35 or higher. Eight of these localities were selected as exemplary case studies based upon population size and geographic location to ensure broad representation. The survey found that a large majority of the localities responding to the survey were at an "early stage" of adopting sustainability initiatives (Svara, Read, & Moulder, 2011). While over 80% of localities reported initiatives in the area of recycling, transportation, and building energy use, adoption rates were much lower for other sustainability initiatives such as alternative energy generation and workplace alternatives (Svara, Read, & Moulder, 2011).
- 3) National Geographic has partnered with GlobeScan for the last three years to develop an international research approach called Greendex to measure and monitor consumer progress towards environmentally sustainable consumption (National Geographic; Globescan, 2010). The key objectives of this consumer tracking survey are to create an index to gain an unprecedented examination of quantitative measures of consumer behavior and to promote sustainable consumption.

This study consists of a survey of 17,000 consumers in a total of 17 countries (14 in 2008) who were asked about their behaviors regarding energy use and conservation, transportation choices, food sources, the relative use of green products versus traditional products, attitudes towards the environment and sustainability, and knowledge of environmental issues (National Geographic; Globescan, 2010). The index that was created as a result of this report featured 65 sustainable criteria which were further divided into sub-indices that were centered around food, housing,

transportation, and goods (National Geographic; Globescan, 2010). The scores from these sub-indices were totaled to provide a more reliable international comparison of sustainability.

The Greendex 2010 report found that environmentally friendly behavior among consumers in 10 out of 17 countries increased over the previous year and in all but one of the 14 countries polled in both 2008 and 2010 (National Geographic; Globescan, 2010). Greendex also found that in 2010, as in 2008, the top-scoring consumers are in the developing economies of India, Brazil, China, in that order. American consumers' behavior still ranks as the least sustainable of all countries surveyed since the inception of the survey three years ago, followed by Canadian, French and British consumers (National Geographic; Globescan, 2010). However, consumers registering the largest 2010 v. 2008 increase in environmentally sustainable consumer behavior were the Indians, Russians and Americans which affirms that in a majority of countries, three year trends of improvement have occurred due to improved education and awareness for environmental sustainability. Furthermore, the Greendex survey results indicated that the top two reasons that inhibit further action towards sustainability are that respondents claimed that companies make false claims about the environmental impacts of their products and that further individual actions weren't worth it if governments and industries do not also take action (National Geographic; Globescan, 2010).

4.) The environmental organization, the Natural Resources Defense Council (NRDC) has regularly produced a list of environmental friendly cities in the U.S. for the last several years. These cities are classified under the NRDC Smarter Cities criteria. In 2010, 22 localities were cited for their exemplary investment in green power, energy efficiency measures, and conservation across the nine criteria listed below (Gordon, 2010):

- Air Quality
- Energy Production and Consumption
- Environmental Standards and Participation
- Green Building
- Green Space
- Recycling

- Transportation
- Standard of Living
- Water Quality and Conservation

The list of Smarter Cities in 2010 includes, among others, Austin, Texas, Chicago, New York City, San Francisco, and Columbus, Ohio, along with Reno, Nevada, Springfield, Illinois, Dubuque, Iowa and Santa Cruz, California.

Data for the Smarter Cities initiative were derived from a wide variety of sources including the EPA Green Power Communities, Project Vulcan conducted by Purdue University to measure carbon dioxide emissions, the Rappaport Institute Report for the "Greenness of Cities," and the Brookings Institute. To supplement this data, the NRDC sent online survey invitations to the mayor's offices or the environmental officers in every U.S. city with a population of 50,000 or more, a total of 655 cities. Of those cities, the NRDC received 160 responses to the survey, a response rate of 24.3%. Cities that did not complete the survey were assessed based on the information available from governmental and nonprofit databases alone. NRDC states that the data and survey responses helped provide an overview of city performance across the range of the nine sustainability criteria (Natural Resources Defense Council, 2010). Within each criterion, performance was judged according to several factors, awarding up to a maximum of ten points per criterion. Green Building, for example, was judged based on the numbers of Energy Star-rated buildings (2 points possible), number of LEED-certified buildings (up to 4 points, with a bonus point for LEED-platinum), use of an alternative green building system (1 point) and the deployment of a sprawl reduction strategy (2 points). Also included was a section on Innovation for cities to tell more about their unique sustainability initiatives and programs in which they could receive up to 5 points for their response. Including all the criteria, the maximum possible score was 95 points. NRDC also took into account that cities of various sizes face different problems and have vastly different resources to draw upon so to reflect these differences, cities were sorted into three population categories, small, medium, and large. From each group, the top 15 cities were selected to highlight accomplishments among cities of all sizes (Natural Resources Defense Council, 2010).

The purpose of this guide is to explore one tool in particular—the LEED for Neighborhood Development (LEED-ND) rating system—focusing specifically on the ways it can be best used by local governments to achieve sustainability goals (US Green Building Council, 2011). Four key approaches are highlighted in this guide:

1. Lead By Example
2. Remove Barriers and Pave the Way
3. The Case for Incentives
4. Technical Assistance and Education

While vehicle use nearly tripled between 1970 and 2006, raising vehicular emissions to more than 20% of U.S. greenhouse gas emissions, buildings account for 39.7% of energy consumption and 10.1% of water use. Development projects that incorporate smart growth strategies, green building techniques and efficient neighborhood design have an opportunity to reduce these negative impacts of the built environment, and many more (US Green Building Council, 2011).

Thousands of projects in the United States have already achieved LEED certification. As of March 2011, more than 440 localities across the U.S. had recognized LEED as an effective tool for benchmarking the performance of buildings in their community, and more than 3,000 local government projects were pursuing LEED certification (US Green Building Council, 2011).

5.) The STAR Community Index is an “off-the-shelf instrument for assessing and certifying the sustainability of US communities” (Feiden, p.46). It is a program developed by ICLEI-Local Governments for Sustainability in partnership with the U.S. Green Building Council, the Center for American Progress, and the National League of Cities in order to create an improved national, consensus-based framework for evaluating and benchmarking the sustainability of U.S. at the jurisdictional scale (US Green Building Council, 2011). The Index is intended to be used to identify the key components of sustainability at the city or county level, provides tools for managing and presenting related data, and offers a national rating system that allows communities to benchmark their progress (US Green Building Council, 2011). The Index will consist of credits in the following goal areas: Natural Systems, Planning &

Design, Energy & Climate, Economic Development, Employment & Workforce Training, Education, Arts & Community, Children, Health & Safety, and Affordability & Social Equity which are accompanied by ICLEI sustainability goals and guiding principles for the nine goal areas.

ICLEI foresees that STAR will become the dominant sustainability assessment tool for local governments and will have the potential impact of LEED to help local governments set priorities and implement policies and practices to improve their sustainability performance (Feiden, p. 47).

#### Shortcomings of Measurements:

While each system or measurement technique enables advances toward more sustainability and communities in the US are arguably becoming greener, the basic infrastructure of the nation remains difficult to overcome. Most of these same communities are built on the models of urban sprawl that spread throughout the country following World War II, where low population densities are the rule and public transportation remains sporadic, at best. A suburban town may be reconfigured as a LEED-ND area and still require the residents to have long commutes by automobile to get to their jobs. Size and wealth matter so that large cities are able to invest in sustainable projects and the technology to measure their projects more easily than smaller ones. At some point, perhaps measuring isn't as important as simply doing whatever can be done—intentions matter too—and learning how to be “green” can lead to becoming sustainable over time in ways that can't be planned may produce innovations that prove to be more valuable in the long run. Sustainability is a destination as well as a process and static measurement tools may stifle the creativity needed to advance further along the way.

#### Can the US Achieve Sustainability?

This is the real conundrum. If the US, with five percent of the world's population continues to consume 35% of its resources to maintain its economy, then the answer is clearly no. And if the rest of the world's developing economies aim to achieve a US lifestyle, then we will need to find several additional planets

to exploit the resources necessary to achieve this. There is no evidence in the US that most people and certainly most policymakers have any concern about this lop-sided ratio of unsustainability. So it is worth asking, what would a sustainable US look like? How much of our comforts would we have to give up? How would we decide what those would be?

It isn't likely that the discussion in the US will get to this level any time in the near future, but these are the fears, I think, of many decision-makers in the US when confronted with the results of conferences like Rio UN meeting. They only see losses and no gains. How do we make moving toward sustainability more positive than negative?

A major part of the problem in the US, as the participants in this conference are well aware, is free market capitalism that champions the individual decision maker over the needs of the community. Land use in the US is largely determined by the wants of the landowner, so development is driven by the profit-motive rather than what is most environmentally or culturally important. Suburban sprawl is the direct result of large developers buying up tracts of land far away from center cities and transportation lines, building subdivisions where residents had to have one car for commuting to work and another for shopping and other uses during the day. Land was cheap, oil was cheap and the government subsidized highway construction, not public transportation. From an economics standpoint, everyone gained: the developers, the oil companies, the automobile industry and its subsidiary businesses, the local merchants, and so forth. Several generations of Americans have grown up knowing only a lifestyle of what we now consider to be unsustainable energy use.

So over the past sixty years, Americans have become lulled into a false sense of privilege that we are entitled to continue this lifestyle that enables us to use the resources without thinking. It's possible that gasoline priced at \$10 a gallon might slow some of us down for a while--make us stop and think before jumping in the car to go to the store for one item—but gradually we would get used to the higher cost and incorporate it into our daily lives. That's the problem with the market—if you can afford it, you can have it no matter how destructive it may be to the common good. Sustainability requires thinking for

the common good and making decisions that go beyond individual self-interest. What is needed is an economic model that enables consideration of the common good over the self-interest of the individual, what I have called Supra-rationality in an earlier publication (Timney Bailey, 1992).

The examples provided in this paper show promise that US cities are making strides to be more sustainable and that gradually the movement is spreading across the country. It seems to be inevitable that it will eventually reach the highest levels of government and even to all political parties. The private sector is investing in the movement, as well, certainly for their own benefit, but this lends force to the momentum that is missing when only a few cities known to be environmentally oriented are involved. In the US, as elsewhere, money talks and business has credibility with the political elite.

It is easy to be pessimistic about the potential for the US to become sustainable—it may be hopeless even, if we put a deadline on climate change; but we don't really know what that deadline is or what technological advances are possible before we get there. While we are mindful of protecting the interests of future generations, we must also give them credit for imagination and technological innovation that we can't currently envision.

This is not to excuse the US for its profligacy or greed, past and present, but to recognize that making significant changes toward sustainability, even for those of us who are true believers is extremely difficult. What we have is a beginning. Sustainable development is a journey that may, we hope, lead to a lower-carbon lifestyle and a healthier one, for both the people and the planet.

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<sup>i</sup> The Rust Belt refers to cities in the northern tier of the US that were primarily manufacturing areas of such products as steel and automobiles prior to globalization. When the factories were abandoned, they were left to rust and the region became known as the Rust Belt.

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