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Introduction

In November 2007, Fort Worth, Texas submitted a proposal to the American Institute of Architects (AIA) for a Sustainable Design Assessment Team (SDAT) to assist the city and its citizens in addressing key issues facing the community. The issues included planning and land use, green building and sustainable practice, neighborhood health, natural resources, education for sustainability, and transportation. The AIA accepted the proposal and, after a preliminary visit by a small group in August 2008, recruited a multi-disciplinary group of volunteers to serve on the SDAT Team. From November 3-5, 2008, the SDAT Team members worked closely with local officials, community leaders, technical experts, and citizens to study the community and its concerns. The team used its expertise to frame a wide range of recommendations, which were presented to the community in a public meeting on November 5, 2008. This report represents a more detailed version of the findings and recommendations that were presented to the community.

The Sustainable Design Assessment Team (SDAT)

The Sustainable Design Assessment Team (SDAT) program focuses on the importance of developing sustainable communities through design. The mission of the SDAT program is to provide technical assistance and process expertise to help communities develop a vision and framework for a sustainable future. The SDAT program brings together multidisciplinary teams of professionals to work with community stakeholders and decision-makers in an intensive planning process. Teams are composed of volunteer professionals representing a range of disciplines, including architects, urban design professionals, economic development experts, land use attorneys, and others.

Today, communities face a host of challenges to long-term planning for sustainability, including limited resources and technical capacity, ineffective public processes and poor participation. The SDAT approach is designed to address many of the common challenges communities face by producing long-term sustainability plans that are realistic and reflect each community's unique context. Key features of the SDAT approach include the following:

- Customized Design Assistance. The SDAT is designed as a customized approach to community assistance which incorporates local realities and the unique challenges and assets of each community.
- A Systems Approach to Sustainability. The SDAT applies a systems-based approach to community sustainability, examining cross-cutting issues and relationships between issues. In order to accomplish this task, the SDAT forms multi-disciplinary teams that combine a range of disciplines and professions in an integrated assessment and design process.

- Inclusive and Participatory Processes. Public participation is the foundation of good community design. The SDAT involves a wide range of stakeholder viewpoints and utilizes short feedback loops, resulting in sustainable decision-making that has broad public support and ownership.
- Objective Technical Expertise. The SDAT Team is assembled to include a range of technical experts (planners, architects, economists and others) from across the country. Team Members do not accept payment for services in an SDAT. They serve in a volunteer capacity on behalf of the AIA and the partner community. As a result, the SDAT Team has enhanced credibility with local stakeholders and can provide unencumbered technical advice.
- Cost Effectiveness. By employing the SDAT approach, communities are able to take advantage of leveraged resources for their planning efforts. The AIA contributes up to \$15,000 in financial assistance for each project. In 2008, each SDAT project is estimated to cost between \$20,000-\$30,000 total. The SDAT team members volunteer their labor and expertise, allowing communities to gain immediate access to the combined technical knowledge of top-notch professionals from varied fields. Finally, the SDAT process employs a compressed schedule and the application of innovative public participation techniques to leverage resources effectively and produce timely results.
- Results. Many communities want to become more sustainable but are immobilized by conflicting agendas, politics, personalities, or even the overabundance of opportunity. Further, many communities have not yet taken stock of their current practices and policies within a sustainability framework; others have identified issues of concern but desire assistance in laying out a plan of action to increase sustainability. The intense SDAT process and compressed schedule allows a community to capitalize on SDAT information quickly and build momentum for implementation of its plan. The SDAT includes the delivery of a formal report and recommendations as well as a follow up assessment.





What Is the SDAT Program?

Communities that have participated in the SDAT program include the following:

Alexandria Township, NJ	Syracuse, NY	Windsor, CA
Oklahoma City, OK	Northeast Michigan	Tampa, FL
Northampton, MA	Lawrence, KS	Detroit, MI
Pittsfield, MA	Hagerstown, MD	Fort Worth, TX
Forest City, NC	Tucson, AZ	Leon Valley, TX
Cache Valley, UT	Englishtown, NJ	Morristown, NJ
Reno-Tahoe-Carson Region, NV	Dubuque, IA	Parma, OH
New Orleans, LA	Culver City, CA	Kauai, Hawaii
Longview, WA	Central City, LA	Fellsmere, FL
Guemes Island, WA	Albany, NY	•

The SDAT program is modeled on the Regional and Urban Design Assistance Team (R/UDAT) program, one of AIA's longest-running success stories. While the R/UDAT program was developed to provide communities with specific design solutions, the SDAT program provides broad assessments to help frame future policies or design solutions in the context of sustainability and help communities plan the first steps of implementation. Through the Design Assistance Team (DAT) program, over 500 professionals from 30 disciplines have provided millions of dollars in professional pro bono services to more than 150 communities across the country. The SDAT program leverages the pivotal role of the architectural community in the creation and support of sustainable livable communities.

The following report includes a narrative account of the Fort Worth SDAT project recommendations, with detailed suggestions concerning several principle areas of investigation. The recommendations are made within the broad framework of sustainability, and are designed to form an integrated approach to future sustainability efforts in the city.





MAKING SUSTAINABILITY CENTRAL TO THE CITY'S FUTURE

Many definitions of sustainability exist, and the definitions are frequently conceptionally different. One that is in wide use has been adopted by several governments including the US EPA:

"meeting the needs of the present without compromising the ability of future generations to meet their own needs"

UN Brundtland Commission et. al.

This definition captures the common feel for future thinking in most definitions while recognizing current generation needs. Other definitions exist that capture other facets of modern connotations of the definition:

"of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged"

Merriam Webster Dictionary

While dry, this definition is important if only to focus on some of the historical significance of the idea. Indeed, if we imagine only using resources that are not diminished with our use, the available consumption is significantly narrowed.

"America's challenge is to create a life-sustaining Earth, a future in which prosperity and opportunity increase while life flourishes and pressures on the oceans, Earth and atmosphere diminish."

President's Council on Sustainable Development

Diminishing current levels of pressure certainly seems more attainable, but is it the definition we want to use for the word 'sustainable'?

"Sustainability is an economic state where the demands placed upon the environment by people and commerce can be met without reducing the capacity of the environment to provide for future generations. It can also be expressed in the simple terms of an economic golden rule for the restorative economy: leave the world better than you found it, take no more than you need, try not to harm the life of the environment, make amends if you do."

Paul Hawkins - The Ecology of Commerce

This definition puts sustainability through the lens of an economic state. This is highly useful when we are envisioning business models, government incentives or maybe city economies.

"Something that is good for everyone"

Some Child

"Making the World a Better Place for the Future"

Some Other Child

Sometimes children can break down complex issues into simple component parts. The first child has at least a basic intuitive understanding of Pareto-optimality, and the second understood the common theme of managing resources over time.

Vision for a Sustainable Fort Worth

While definitions give us a common meaning for the conversation on sustainability, it does not give us all that we may need to forge a path forward. A common vision, if agreed upon, could be an important next step in the furtherance of the city's newest initiative. An example of a proposed common vision follows:

"Fort Worth manages its natural environment, built environment and communities such that they are all mutually beneficial and thrive over time."



Why Have a Common Vision or Definition?

A common vision can frequently give a community some beneficial early tools enabling a common path. A common language is necessary for any conversation on sustainability to break down any real or perceived barriers to progress. The SDAT team noted, in several instances, that community and constituent members felt that 'other' groups and members were not on the same page as they were. The team noted a sense of common mission through sustainability, but a feeling of anxiety about the lack of shared communication about the mission.

If, through a process of communication and civic engagement, there emerges a common definition and a common vision of the desired sustainability, we believe that healthy tools will surface. Common language, common goals, common objectives and a common template for decision making will be created from the ashes of the anxiety.





Implications of the Vision

What changes once there is a sustainability vision? The team believes that if the city comes together with a common vision, several decision making patterns will also follow. The various ways that Fort Worth conducts business on a regular basis are likely to change.

At all levels of decision making, there will be a new template in place:

"How can I buy paper for our office that fits the Sustainability Vision?"

"Can my contractors manage the city land under my care in a way that fits the Sustainability Vision?"

Fort Worth may be branded in a way that looks back to its historical common-sense roots, of living off the land, and with the land.

Cities who have adopted visions of sustainability, and embraced the measures implied by the visions, have succeeded economically. Empirically, investments in green infrastructures have paid off well for municipalities. This comes in the form of resource efficiencies, tourism, and new business enterprises.

The idea of independence, on various levels, is generally associated with sustainability, which marries well with the identity of Fort Worth. Energy Independence, water independence, and self sufficiency are all bolstered by sustainability investment as well as entrenched in the personality of the city.



What Sustainability is NOT

Myth # 8: Sustainability = LEED

The team heard several times that the US Green Building Council's rating standards are used synonymously with either green building or sustainability in general. To be sure, there are numerous standards from which to choose for different applications, and sustainability should encompass more than building standards. Just to name a few, Green Globes, Zero Net Energy, Passivehaus, Energy Star, Earthship, and the 2030 Initiative are all viable standards in energy, green building or both.





Myth #7: Sustainability = Expensive

This is a common anxiety, and one the SDAT team heard several times in Fort Worth. Of course, any new initiative can prove expensive. However, when managed correctly, sustainability investments should pay for themselves and also include numerous positive externalities. Most likely, embracing a sustainability vision should affect decision making such that the overall budgets are constant, but the outcomes pay much better dividends.

Myth #6: Sustainability = Difficult

Like many decisions, following a path of sustainability will take commitment. The tasks involved mostly are about using a common template and the coordination of decisions around that template.

For example, Fort Worth's building codes require that new commercial construction have both landscaping and a permanently installed irrigation system.

Concurrently, due to the impending water shortage, separate agencies both prevent the use of the same systems between the hours of 10 and 6, and charge more to the businesses for using water for irrigation purposes.

This is not a difficult problem to overcome with some coordination of agencies, codes and a common vision. This type of common sense coordination should flow from a visioning process and a consensus on sustainability. It should also be noted that this is an example of a measure that is easy, and will incur less capital cost than leaving things as they exist now.

Myth #5: Sustainability = A Decision Between Mandates and Incentives

The SDAT Team heard numerous times that some constituents wanted to choose an "incentive based system instead of a LEED based system" or "instead of mandates." We also heard many times that residents of Fort Worth would not accept any mandates as it pertains to sustainability.

There are numerous methods and tools for use in the genre, and it need not be a boolean choice. It is likely that every single decision will have its own most efficient course, and we believe that options should not be taken off the table until they are scrutinized.

In the example above pertaining to irrigation water – Fort Worth has employed both an incentive (tiered structure for water prices) and a mandate (no irrigation between 10 and 6), and we could find nothing but support for the measures. It is clear that the community does seem to have the desire to come together to solve the water issues.

Myth #3: Sustainability = new regulations on land use and behavior

There appeared to be a small fear that any commitment to sustainability will include a host of regulations on both property rights and individual rights. This is rarely a focus of sustainability initiatives.

Myth #2: Sustainability = persuading people to live differently

This is a fear that members of the team have heard in many parts of the country. Surprisingly, it was not common in our short time in Fort Worth. There seemed to be good understanding that initiatives in Fort Worth are unlikely to demand a cultural shift.

Myth #1: Sustainability /= Ft. Worth

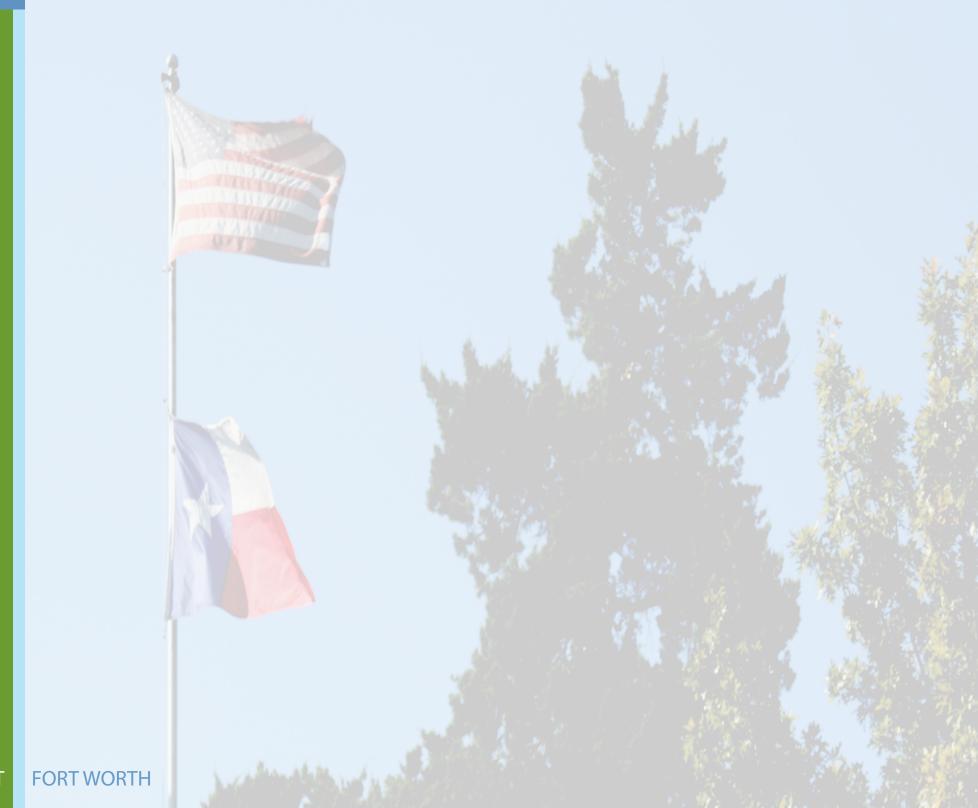
Fort Worth seems to have an identity that lends itself very well to common visions of sustainability.

Fort Worth has been recognized as having a very good quality of life ranking among comparable cities, and a sustainable city fits well in this identity. Indeed the city is proud of its independence, uniqueness and history as a frontier city. This could easily be folded into a new branding effort of a "sustainable frontier city."

Primary Recommendation - Office of Sustainability

The SDAT team found many positive programs and talent inside and outside city departments. It also found active and engaged constituents. Many of them had initiatives related to sustainability, but they lacked a central clearinghouse for leadership, information and coordination.

Therefore, the SDAT Team's primary recommendation is that Fort Worth immediately create an Office of Sustainability. The team recommends that it be housed in the Mayor's office to show leadership and support, and that its reach include coordination of sustainability efforts in every city department.



AN OFFICE OF SUSTAINABILITY

The SDAT team found Fort Worth to be positioned to address and tackle the most common elements of sustainability. The team found that Fort Worth has devoted considerable resources to the study and planning for a sustainable community, more so than most communities. Forthcoming challenges are clearly on the City's radar, and for this the City is to be commended. Remaining, however, is the next step; implementation; i.e., how can Fort Worth transition from sound ideas to practical applications? In all communities new ideas are often impeded by ancient city codes, and institutional memory, each of which collectively tends to favor the status quo. After all, as the thinking goes, most believe that systems that have worked in the past must certainly work in the future. This line of thinking is just human nature. It holds true in Fort Worth, just as is does elsewhere.

All of North Central Texas, including Fort Worth, is experiencing phenomenal population growth. Dallas-Fort Worth-Arlington was the fastest growing metropolitan area in the U.S in 2006-2007. That growth has been accompanied, and will continue to be accompanied, by stresses on the region's resources. The arrival of new residents brings predictable congestion, increased traffic, and associated environmental problems, principally vehicle related air emissions. The region is already designated by the U.S. Environmental Protection Agency as a non-attainment area for ozone. And, the rapidly increasing population can only be expected to further tap into a finite and diminishing resource, namely water. Consequently, past policies and methods probably do not offer a safe formula for accommodating future growth in the decades to come. While Forth Worth is at once in the forefront in preparing for the future, institutional obstacles may actually contradict that progress and impede the speed at which the City will be able to react to the changing times.



The Need

No issue looms more ominously in the future of North Central Texas than does the coming water shortage. "Sustainability" is often taken as a new age jargon, but the water problems that have been forecast for North Texas are not conjecture, they are very real. A Fort Worth Chamber of Commerce newsletter printed in the Fort Worth Star-Telegram (November 4, 2008) cited a report from the Texas Water Development Board that forecasts that the region will require 3.3 million acre-feet of water per year by the year 2060. The report further states that one third of that volume will have to come from conservation and reuse.

Tarrant County's present water needs, not including water used for gas development, are about 155,000 acre-feet per year. Of that volume, 62-percent originates as local surface water, 26-percent as imported surface water, and 12-percent as groundwater from the Trinity and Woodbine Aquifers. Municipal use accounts for 87-percent of the water use. But, Fort Worth's population is expected to more than double within the next fifty years, as will its water needs. Meanwhile, groundwater levels are already on the decline due to over-drafting. G. Brune, author of "Springs of Texas" reports that fresh water springs are also in decline; 34 free-flowing springs in the area have disappeared altogether.

Population growth follows employment and quality of life. But, with the growth comes stresses on infrastructure and natural systems. Tarrant County is currently listed by the United States Environmental Protection Agency as a non-attainment area for ozone, the air pollutant responsible for what is most often simply referred to as smog. This stems mostly from automobile and truck traffic. The projected population increase will bring with it even more traffic, additional air pollution, traffic congestion, increased energy use, and other stresses. Consequently, if the coming population growth is not well managed, the net result will be a reduction in the quality of life, one of the factors that created the growth.

To its credit, Fort Worth and many regional planners are well aware of the coming challenges and are taking steps to address the issues, one by one. The SDAT team was impressed with the City's many initiatives to be ahead of the game in this regard. At the time of the team's visit, Fort Worth had already convened a sustainability task group that had drafted a March 14, 2008 "Fort Worth Sustainability Plan". Likewise, the City's Planning and Development Department had produced a June 17, 2008 "Modern Streetcar Study". Virtually every group with which the Team met seemed poised to tackle the problems that lie ahead. Therefore, the team felt that a central point of coordination, intervention and education could serve as the final piece the City needs.





The Office of Sustainability is not proposed to grow government, but to help integrate it. It need not be larger than a single new position reporting to the Mayor. The underlying role of that individual would be to bring together existing staff in agencies across the administration to work together on issues of planning and sustainable leadership. The roles and duties of the office could be multiple as a hub for information, catalyst for collaborative work, mediator, and central point for education and promotion of sustainable practice and policy.

Some Roles for an Office of Sustainability:

- Conflict Resolution
- Reconciliation of Code Issues
- Promotion of Sustainable Practices
- Policy Development to Encourage Sustainability
- Creative Problem-Solving and Collaboration
- Information Hub on Sustainability

A few examples illustrate how the office might function:

Conflict Resolution and Reconciliation of Code Issues

New ideas, however inspired they might be, can sometimes hit a stone wall when faced with old city codes. An example is porous or permeable pavement. Rather than allowing rapid runoff of storm water, porous pavement permits the slow percolation of water into the subsurface. This in turn replenishes soil moisture and reduces the need for irrigation water. In light of predicted water needs this would seem to be a good idea. However, it has been embraced by some factions of city government and rejected by others due to perceived issues of pavement strength. An Office of Sustainability would arbitrate the debate. Another example of a good idea that conflicts with a City code is that of the use of grey water. The recycling of grey water for irrigation has been adopted in Dallas but is against code in Fort Worth. An office of sustainability might arbitrate this matter as well. The list of approved landscape plants in Fort Worth does not include some native vegetation that adapts without the need for irrigation. This too is a subject area where an Office of Sustainability might interpose to conserve irrigation water.

Lead Fort Worth in Promoting Sustainable Practices

Another duty of an Office of Sustainability is to keep Fort Worth on the leading edge. At the time of the SDAT's visit to Fort Worth gasoline prices hovered around \$ 4.00 per gallon. At the same time, Fort Worth was experiencing a boom in natural gas production as the result of the Barnett shale discovery. Ironically, Fort Worth was paying record amounts at the pump even while awash in natural gas. Elsewhere in the world many are converting automobiles to operate on compressed natural gas. During the second half of 2008 more than 40,000 cars and trucks in Thailand were converted to natural gas. Like the United States, Thailand imports large volumes of crude oil but has an ample supply of natural gas. Might this work in Fort Worth, and perhaps become a community hallmark?





Sustainable Landsacpes that incorporate native vegetation adapt well to the local climate

Fort Worth could be a leader in natural gas vehicles

The per vehicle cost of conversion from gasoline to compressed natural gas (CNG) is less than \$ 2000. But, natural gas fuel is less expensive than gasoline, more abundant, and burns cleaner. Noted Texas oil man, T. Boone Pickens, has emerged in the public airways calling for more natural gas vehicles. At present natural gas conversion is probably most easily accomplished with fleet vehicles owing to the absence of convenient fuel dispensers. This can be overcome but not without addressing public concerns for safety and perhaps even constructing a new set of building codes for natural gas fueling depots. Once again, this would call for leadership from the Office of Sustainability. Novel ideas and trends will continue to surface in the years to come. As an example, a recent article in the Wall Street Journal carried the heading; "You Know Gas Prices Are High When Texans Start Driving Golf Carts." The story line concerned a family in Houston that uses an electric golf cart to run errands and conduct local shopping missions. The golf cart's operating cost is two-cents per mile, as compared to twenty-cents per mile for an automobile. Although the story was about a family in Texas, the use of non-polluting electric golf carts is spreading throughout the U.S. Some communities assign carts to police officers to patrol urban areas; they are reportedly less intimidating to the public. Milwaukee, Madison, and Racine, Wisconsin all permit carts on their city streets. How will Fort Worth react to the use of golf carts in its neighborhoods? The examples contained herein are only to illustrate the dynamics at play in a world seeking to sustain itself. Not all of the innovations that are springing forth are likely to prove popular or workable but many will. This brings up the another responsibility of an Office of Sustainability, the SDAT Team believes Fort Worth could become a regional leader in sustainable practice.



Communication, Outreach and Education

Developing and implementing a sustainability education plan to ensure an informed and engaged public is a critical need in Fort Worth. The plan must resonate with stakeholders in order to get their full participation. The Office of Sustainability will be a source and portal of information on sustainability for both the residential and business communities. The natural and the built environment in Forth Worth must be enhanced and protected to ensure a thriving, vibrant and diverse community is in place for today and the future. Most importantly, the vision and plan for sustainability must be communicated in a clear, concise manner and reach all members of the community if it is to be successful.

Why Sustainability is Important

Education for sustainability is critically important for a number of reasons. An illustrative list of facts regarding the build environment and sustainability demonstrates some of the urgency and opportunity surrounding education:

- Improving the efficiency of buildings is a critical component of any effort to make cities more sustainable. Nationally, buildings account for about 40 percent of total energy consumption and 43 percent of carbon emissions 21 percent from residential buildings, 17 percent from commercial and 5 percent from industrial.
- Buildings are often responsible for more than 60 percent of a city's greenhouse gas emissions.
- The great inefficiency of existing building stock comes with a huge opportunity. Cost-effective improvements can decrease energy consumption by 20-30 percent.
- In addition to reducing greenhouse gas emissions, investing in building energy efficiency can save utility customers money, earn investors an attractive return, create jobs that have to be sourced locally, and improve the health, strength, and stability of city neighborhoods.

(Source - Energy Center of Wisconsin)

As communities reduce the energy use of their buildings, they can promote water-saving practices and adopt water-conservation policies. In addition, city water supply and waste treatment systems are great energy users, and may benefit from efficiency improvements.

Renewable energy strategies are an important priority in the transition to a low-carbon economy. Renewable energy and combined heat and power solutions are dependent upon local supply of renewable energy resources and proximity to loads, making community-scale projects attractive. Opportunities include directing local biomass to renewable energy projects, capturing landfill gas, and cooperative anaerobic digestion. Reduction of carbon emissions and use of nonrenewable resources are both essential to developing energy sustainability. This, in turn, is key to the broader concept of community sustainability. Sustainable community design generally addresses a wide spectrum of interrelated issues including clean air and water, species diversity and green spaces, population health, diverse and accessible modes of transportation, eco-friendly buildings, affordable housing, secure food systems, a healthy local economy, disaster mitigation strategies, and environmental justice. The best laid plans are only viable if the city and the community are both informed and educated on the implications of moving strategies forward. That is why communications and education are such critical components of any plan.

Components of an Outreach and Education Plan

In order to develop a plan that addresses the critical issues while educating the community, it is necessary to organize around some key elements.

Components of the Plan:

- Roles and Responsibilities
- Communication and Engagement
- Communicating with Urgency
- Partnership and Place
- Methods and Message

Who? Roles and Responsibilities

First, the team believes there needs to be a Sustainability Coordinator, someone who has the responsibility to communicate and educate citizens and members of the Fort Worth community. This person is vital to the success of the plan; he or she will play many roles including that of 'cheerleader', and will be the 'ears and eyes' for both the community and the city. The other part of the 'who' equation is the target market. This is two-fold, encompassing both the internal communication and education for the City of Fort Worth and the external communication and education of the general public and business community.

The city of Fort Worth employees must have a very clear and concise understanding of what the mission, goal and components of a sustainability plan are and how they are part of it. Key departments and personnel within the city include the Neighborhood Division of Community Relations, City Planners, the City Manager, and the Housing & Economic Development Department, and possibly other departments. These groups are the 'face' of the city to many people and businesses and can be key allies in spreading the message of sustainability. As the process unfolds, they will be able to identify any issues and needs as they arise.

The general public includes the people who live, work and play in Fort Worth; they are homeowners, workers, volunteers, business leaders and professionals, all of whom have a vested interest in the sustainability of their city. A key element in this group is the business and design professionals. They are in a position of influence, either by their financial position or by their technical expertise. The architects and engineers are the ones who design buildings and communities and ensure sustainability, energy efficiency and a future for Fort Worth. They are critical stakeholders in the process and must be aware of the goals and direction of the sustainability plan. The builders, developers and business owners have the influence and resources to ensure sustainable outcomes but they must be engaged and understand the business case for sustainability in order to be supportive and help lead the way in the community. The best way to ensure this happens is by communicating to them the business advantages and positive outcomes in the areas that resonate with them.

What? Communication and Engagment

The first question is always "What's in it for me?" The answer is "Fort Worth with a future!" Whether it's a young family, businesses trying to attract and keep the best employees, or a university trying to attract top students, having the best quality of life and providing a vibrant place to live, work and play is key. Sustainability will ensure Fort Worth has a future.

When? Communicating with Urgency

No time like the present! The beauty of Fort Worth is that the city has detailed plans already, including identifiable action items, and the city simply needs to catalyze the implementation process. The important thing is the city has a great start and can identify the key items to implement quickly and can begin communicating those to the target audiences. Not everything needs to be done at once. Action items can be addressed in phases but the city should be strategic about where to start and having the Office of Sustainability with the directive to communicate common goals and educate stakeholders and the public is a logical first step.

Where? Partnership and Place

Partnership opportunities abound. Sustainable Education and should happen in people's own backyards, the places they spend time with each other and seek out community relationships. The Urban Villages, schools, libraries, churches and civic and community groups are some of the normal places and groups where partnerships should be sought. Fort Worth has a very strong university system in place and has some enthused and informed educators on staff, people who care deeply about the community and their students. Mobilizing this group is important because the students represent the future of Fort Worth.



Working with local professional organizations can be an opportunity to convey the message of sustainability, and the city is blessed with several organizations to engage. For instance, local architects belong to the American Institute of Architects (AIA) and engineers belong to the American Society of Heating, Refrigerating, and Air-Conditioning (ASHRAE). AlA was pivotal in bringing the SDAT to Fort Worth and can also be a pivotal vehicle for the city to communicate with stakeholders to ensure sustainability is central to discussions about the future of Fort Worth. Together the business and design professionals of Fort Worth are the movers and shakers and the change agents in the community.

Many of the Neighborhood Associations are also strong, and a key target market for getting the message of sustainability to their members. They can also be a voice back to the Office of Sustainability on key issues from the community.

How? Methods and Message

There are numerous ways to educate and communicate about sustainability, which is critical when addressing a market as large and diverse as Fort Worth. The following are some ideas and vehicles to explore:

- Virtual portals of information, including websites and e-newsletters from the City, associations, companies, etc.;
- Grassroots efforts of concerned citizens volunteering their time;
- Demonstration sites at universities, museums and botanical gardens;
- Neighborhood Associations to which large numbers of people belong.

It is important to tap into the Fort Worth 'can-do' spirit and community pride. There is widespread capacity and will that needs to be harnessed to move the City forward.

Why? Education and Sustainability

The reason for education on sustainability is the most compelling aspect of the communication and education plan. The old adage of "Give a man a fish; you have fed him for today. Teach a man to fish; and you have fed him for a lifetime" applies well to the city. This is precisely why education is so important to the health, wellness and vitality of those living and working in Fort Worth. It represents an opportunity to be leaders in Texas and in the United States.



Connecting Neighborhoods Through Education

Providing civic education is a critical need for cities across the country. Local governments are taking a more hands-on approach to this issue. They are aware of the need and are finding creative and innovative ways to communicate with and educate citizens. By providing educational opportunities and developing civic capacity, a sense of social sustainability is created and can be maintained over time.

The Office of Sustainability will play a major role in educating the citizens of Fort Worth. The primary purpose for this is to cultivate a sense of capacity building throughout the neighborhoods and neighborhood-serving groups in Fort Worth. Through this forum, the office will be a catalyst and an advocate for increasing the knowledge of its citizens. Additionally, the office will provide mechanisms to facilitate civic engagement. It will also provide a forum where collaboration is highly valued. Citizen input will become a natural part of the decision-making process in the activities of local government in Fort Worth. The Office of Sustainability will serve as a bridge builder to close the gaps between government and the public through education. The gaps that are present are primarily regarding communication and education.

The neighborhoods that make up the City of Fort Worth are diverse in demographics, economics, and character. Creating opportunities to support a social connection across the varying neighborhoods is vital to the social sustainability of the city. Through education, connectivity will allow the neighborhoods to find common ground.

Social Connections

It is clear that the City of Fort Worth has an abundance of groups and organizations such as academic organizations and social networks. With the Office of Sustainability providing education, it will create social capital and a sense of belonging by citizens. By creating this culture, it can facilitate an information exchange across neighborhoods.

Consensus Building

Neighborhoods and people, in general, may not agree on specific ways to resolve issues. Furthermore, the neighborhoods may not necessarily agree on particular challenges. Therefore, consensus building is an ideal reason to provide educational opportunities for the public. With the tools and resources to build consensus, opportunities for collaboration will open the door to find alternative approaches to tackle issues and concerns of citizens.

Throughout this process, the Office of Sustainability will be the connector among the City of Fort Worth and the neighborhoods. It is critical that the City facilitate this way of problem solving in various areas so that the stakeholders can work together to develop a mutual understanding and solutions to common issues.



Empowerment

There is a basic need for people to be heard. This can be done in various formats, one-on-one communication, forums or networks. These forms of communication can create a sense of empowerment. Embracing the idea of neighborhoods having a voice and a stake in the decision making process of their government is critical.

The Office of Sustainability will ensure that the input provided by neighborhoods and individual citizens is taken into consideration when significant decisions are being made. This will be advantageous to the city staff and to the neighborhood organizations. Allowing a two-way communication structure to be in place will open the door for more trust between neighborhoods and local government and set the table for greater collaborative work.





Community Involvement

Involvement in the community comes in different forms and characteristics. There are various groups and organizations that exist throughout the community that have common interests, causes and purposes. An assessment should be carried out to determine who should be educated through the Office of Sustainability. Neighborhoods and neighborhood serving organizations would be considered priorities, but other organizations and target audiences may exist.

Within the boundaries of Fort Worth there are an abundance of organizations that should be involved in the capacity building and education efforts of the City. This city is rich in educational institutions which produce alumni as assets to the community, such as Texas Christian University, Texas Wesleyan University and Tarrant County College. There are other organizations that have an interest in the business community such as the Fort Worth Chamber of Commerce and the Fort Worth Chapter of the Better Business Bureau. Additionally, the Fort Worth League of Neighborhoods provides a forum and network for neighborhood groups. It also provides a voice for advocating before local, state and federal government. The aforementioned organizations should be considered when offering and providing educational opportunities through the Office of Sustainability. They also generate possibilities for partnerships to increase the networking opportunities throughout the city. These facilitated partnerships will provide more leverage when educating the citizens.





Neighborhood Capacity

As a local government, participating in civic education should be pursued carefully. This is a relatively new concept that has been spreading in municipalities throughout the country. Some examples of localities that have taken on this challenge are the cities of Hampton, Virginia and Raleigh, North Carolina. The City of Hampton offers the Hampton Civic Community College which highlights the services and departments throughout the City. This program offers an opportunity for citizens to learn about their local government and discover ways the neighborhoods and the City can be partners in making neighborhoods desirable. The Raleigh Neighborhood College creates and offers resources and tools to increase citizen participation and involvement in their respective neighborhoods.

Both of these educational offerings are great assets to the community and begin to bridge the information gap between citizens and the respective localities. Education plays a critical role in the way we communicate and share information. The Office of Sustainability will create connections from neighborhood to neighborhood, as well as to the city government in Fort Worth.

Land Use, Transportation, Sustainability, and **Quality of Life**

Transportation and Land Use are central to any discussion of sustainability in a metropolitan area. Especially when considering sustainability broadly-defined – going beyond traditional "green" issues such as resource preservation and environmental quality to include the enhancement of overall quality of life and the preservation of a way of life in a metropolitan area. Within this construct, it is easy to see the importance of transportation and land use, both of which play such a central role in our everyday lives.

Quite simply, transportation is a means of conveyance – how we get where we want to go. When our transportation systems are not functioning optimally, they inhibit us from getting where we want to go, not only in terms of location, but where we want to go in life in fulfilling our goals and dreams.

Similarly, land use patterns also play a large role in shaping our lifestyles, determining the availability and affordability of various environments for living, working, and playing. This might seem melodramatic, but it is difficult to overestimate the extent to which the combined effects of land use and transportation influence our daily decision-making and quality of life.



Take for example a hypothetical household in a hypothetical metropolitan area that is similar to Fort Worth. Let's say that two people move to the city to go to college, they meet, and get married. They both find decent jobs located downtown, but now they face a decision: they want to buy a house, start a family – essentially create their own version of the "American Dream" – but what options are available to them? In many metropolitan areas around the country, including Fort Worth, about the only places where such a couple could afford to buy a home in an attractive, safe neighborhood with good schools and well-functioning public infrastructure are located well outside the downtown core and away from existing job centers.

So our hypothetical couple buys a house in a newly built subdivision, even though it takes just under a half hour for both of them to drive to their jobs downtown. But as more families and individuals make similar decisions, the roads and highways that lead to their places of employment as well as the destinations they must visit regularly, such as grocery stores, day care centers, and schools, get more and more congested. As a result, their commutes are now at least 45 minutes each way, and they spend a lot more time sitting at stoplights around their neighborhood as they run errands and shuttle their children to various activities. They have less time to spend together as a family, or to enjoy the amenities at their subdivision's community center. Even if one member of the household gets a job outside the downtown core, as more employers move to suburban locations, there is no guarantee that said job would be any closer to home or shorten the commute by much.





Let's assume, though, that this hypothetical metropolitan area enacts policies and provides incentives that shift the pattern. Existing residential neighborhoods downtown and in inner-suburban areas are revitalized through focused redevelopment of aging strip malls, redesign and reconstruction of streetscapes to encourage walking and bicycling, and improvements to transit service to provide easy circulation within and among communities. These "urban villages" feature a mixture of single-family homes along with higher-density living arrangements such as townhouses and apartments. And enough of these new livable centers pop up so that housing options are affordable, even for those who want a yard.

These new patterns of settlement and travel within the hypothetical metropolitan area don't come about because of large government subsidies of a small elite subset of people who want "urban living", or overly restrictive land-use controls that limit development in outer suburbs. They come about over time as the result of long-term cooperation among municipal agencies, between different local and regional jurisdictions, and through public-private partnerships that signify a commitment to safe, vibrant, affordable, and diverse communities throughout the metropolitan area. They come about by providing people the freedom to choose between different options rather than being forced into one type of community or lifestyle for reasons of safety or affordability.

And so our hypothetical family has more options. They could even choose to move to a townhouse or single-family home closer to downtown, where they could commute to one or more jobs by transit, bicycling, or walking, and even choose to have one car rather than two, freeing up more of their income and their time.

In the short amount of time that the SDAT team spent in Fort Worth, it was clear that Fort Worth planners and public officials have a similar vision for Fort Worth and are already taking steps to bring it to fruition. But there are persistent barriers to achieving this vision, some of which are similar to challenges faced by other metropolitan areas across the country and some of which are unique to Texas and to Fort Worth. As such, land-use and transportation strategies to achieve a sustainable Fort Worth must address universal challenges while acknowledging and capitalizing upon the unique character of Fort Worth.

While it is difficult for a group of outsiders to develop recommendations that reflect knowledge of local circumstances, this section will briefly summarize the land-use and transportation related challenges that Fort Worth faces as it plots out a more sustainable path, discuss ways in which the City is moving in the right direction, and make some suggestions about options to consider and other resources to consult.

Land Use and Transportation in Fort Worth

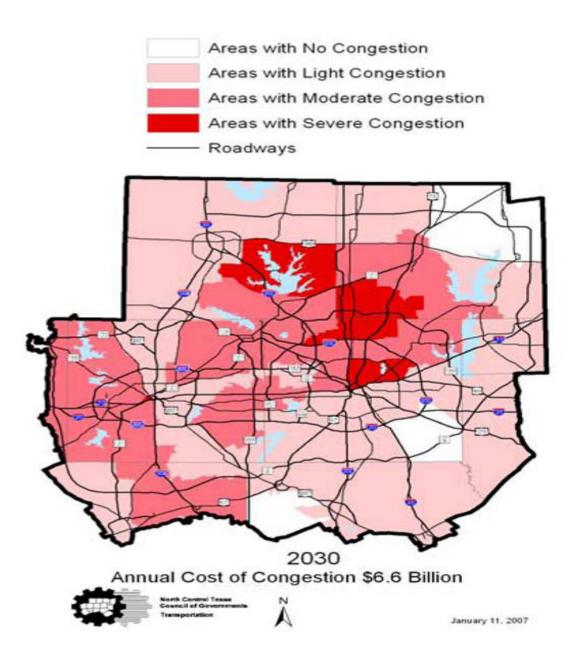
In many ways, Fort Worth resembles countless other cities in its land-use patterns and travel conditions, although traditional development patterns of low-density, spread-out growth are even more prevalent than in other metropolitan areas. Smart Growth America's Sprawl Index gives Fort Worth-Arlington a 77 rating (against a national average of 100), ranking it as the 10th most-sprawling metropolitan area in the country. [SGA 2002] And at less than 2000 people per square mile, Fort Worth is the least-dense major city in Texas. [NCTCOG]

There are many factors that contribute to sprawl in Fort Worth, including a healthy metropolitan economy fueled by the energy and aerospace industries, among others. Such economic vitality is certainly not a negative, but the nature of the city's economy and its location in the nation's south-southwest have meant that its times of fastest growth have been in eras characterized by sprawling, auto-centric development nationwide. But Fort Worth's continued vitality and its position as one of the nation's fastest-growing cities in the 21st Century present an opportunity for Fort Worth to take advantage of new trends in urban development, including the spread of New Urbanist design principles and mixed-use urban villages, to chart a more sustainable path.

There is little doubt that sprawling development patterns are unsustainable in the long-term; researchers have found that low-density development costs municipalities more to support with utility and transportation infrastructure. It is probably not necessary to detail such findings here, as people appreciate the consequences of sprawl development through casual observation. It takes only a drive around the outskirts of town to understand how sprawl development consumes natural resources and impacts the environment in a fashion that is both unsustainable and unnecessary.



Depending on the time of day, a drive in and around Fort Worth makes obvious another consequence of sprawl: congestion. NCTCOG projects that given predicted development patterns, traffic congestion on area roads and highways will increase substantially between now and 2030. Congestion already cost the Dallas – Fort Worth area an estimated \$4.2 billion in 2007, and that figure is expected to rise to \$6.6 billion in 2030. [NCTCOG].



While in theory a metropolitan area can continue to accommodate such development patterns by building new roads, widening existing thoroughfares, and otherwise expanding capacity, rising fuel costs nonetheless threaten the economic well-being of households and undermine the viability of development patterns that dictate long automobile trips to work and other destinations. As rising gas prices and a weakening national real estate market converged in the last two years, metropolitan areas around the country found that property values in less auto-dependent areas were much more stable than in outer suburbs far away from job centers that featured sprawling development patterns. For example Prince William County, Virginia, an outer suburb of the Washington, D.C. metropolitan area, saw median home prices fall in excess of 50% in many areas, while the core of the region and inner suburban jurisdictions experienced flat home prices or very minor declines.

Home prices in Fort Worth have remained fairly stable in comparison with other parts of the country, partly because the preceding housing boom was not as pronounced. But even in Fort Worth, the real estate market is communicating unmistakable signs that property values in sprawl-style developments are on less-sure footing than in denser, mixed-use areas close to job centers. The high prices of houses and condominiums in the vital downtown area reflect pent-up market demand for different lifestyles than are provided by a majority of neighborhoods in and around Fort Worth.

Why, then, are more builders not rushing to start mixed-use redevelopments and infill projects rather than outskirt subdivisions of tract housing? There are several reasons why land-use patterns may be slow to follow demographic and market trends. One is of course the fact that there remain many people who prefer for a range of reasons to live in suburban or quasi-rural environments with large-lot, single-family homes. But it is important to understand that present land-use patterns are not purely natural manifestations of market preferences, they are the result of past and current public policies that have segregated land uses, subsidized automobile travel, neglected aging urban infrastructure, and created regulatory barriers to redevelopment and infill, leading to an artificial scarcity of attractive housing options close to job centers.

Reversing the trends, then, is not necessarily an act of interventionist government, aggressively seeking to dictate how people are to live; it can be a comprehensive effort to level the playing field for various types of development along with various modes of transport. It can be an array of incentives rather than mandates, encouraging more sustainable patterns of land use through focused infrastructure investment and public-private partnerships.



Achieving a Sustainable Fort Worth through Land Use and Transportation

It is clear that planners, officials, and citizens are aware of existing barriers present at various levels of government and caused by a variety of forces. These include state property laws that inhibit control of development in unincorporated areas, federal and state parameters for transportation spending that limit implementation of local priorities, and other factors over which Fort Worth has little or no control.

But there are many ways in which the City of Fort Worth can work to achieve a more sustainable future. The hypothetical metropolitan area described in the introduction of this section, where families have more affordable choices of where to live and how to get around, is not so farfetched. City planners and officials are already engaged in many different initiatives that move in that direction. Acknowledging that, the SDAT team makes the following general recommendations to supplement and enhance the City's ongoing efforts:

- Communicate with the public a comprehensive vision for a future Fort Worth with sustainable land-use patterns and transportation options.
- Define and work to achieve livability thresholds in the communities identified in the "urban villages" initiative.
- Work through existing regional structures toward greater inter-jurisdictional collaboration on land-use and transportation issues.

Taking each of these in turn, we present some more specific recommendations under each.

Communicate with the public a comprehensive vision for a future Fort Worth with sustainable land-use patterns and transportation options.

The SDAT Team believes establishing and communicating a consensus vision for land-use and transportation in Fort Worth is a crucial step to achieving sustainability, if only because there seems to be so much going on in Fort Worth that no one knows about. Although the City has an extensive public participation process supporting its annual revision of the Comprehensive Plan, the frequency of these updates and the lack of an overarching long-term vision encourage a focus on the short-term and the minute, and may in effect depress public engagement in planning issues writ large.

Efforts to change land-use patterns and shift priorities for transportation investment may indeed be the most difficult initiatives under the sustainability umbrella for which to achieve public consensus and get "buy-in". Precisely because of this, there is potential benefit to presenting ideas for change related to land use and transportation as elements of a comprehensive vision for a sustainable Fort Worth. The Comprehensive Plan is more "comprehensive" than many, but do the citizens of Fort Worth see that Comprehensive Plan as a coherent vision for a sustainable Fort Worth, or do they see it as a hodgepodge and a moving target?

A City Office of Sustainability, as suggested by this report, could initiate a public communications campaign to build support for sustainability efforts. Even if the land-use and transportation elements of the overall sustainability plan are the most controversial, they may gain momentum from the broad effort and ride the coattails of other, more obvious, initiatives. The citizens of Fort Worth need to associate the Comprehensive Plan, and the land-use and transportation goals it sets out to achieve, with the word "sustainability."



As of now, however, there does not seem to be a clear idea of what "The Fort Worth Way" means in terms of land use and transportation. There is a sense that Fort Worth wants to be able to define itself as a different kind of Texas city, one with a bright future built on sustainable growth. But this identity has yet to take hold among Fort Worth residents, let alone being something that the rest of the country associates with the city.

Although achieving sustainability is about smart policies at various levels of government, it is also about communications and branding. Members of the team who were not familiar with Fort Worth were quite surprised to find that what they may have previously thought of as a sleepy backwater is actually a vibrant metropolis in itself, home to innovative private and public sectors and a number of initiatives that already move in the direction of sustainability. When the rest of the world comes to understand that about Fort Worth, it becomes easier for local residents to take pride in a city that defines itself in part by sustainable practices and policies.

Fort Worth planners and policymakers need to help citizens understand that Fort Worth does not seek to be a sustainable city so that it can become another Austin, or to attract people and businesses who will fundamentally change the character of Fort Worth. Rather, Fort Worth seeks to be a sustainable city to preserve and enhance the character of the city and the qualities that residents have come to appreciate - things like affordability, independence, and economic vitality.

There are always perceptions that people have of smart growth, density, and transit. Part of the role of an Office of Sustainability could be to produce and promote materials that alleviate misconceptions. Density does not have to mean high-rise buildings, no yards, and traffic congestion. Public transit can be clean, safe, and cost-effective. Livable urban villages can be created without bilking taxpayers and without pushing out low-income residents.

[An example of a public presentation about density issues that is used by the Metropolitan Washington Council of Governments can be found here: http://www.mwcoq.org/transportation/activities/tlc/program/projects.asp#pres]





Define and work to achieve livability thresholds in the communities identified in the "urban villages" initiative.

In many instances, a local government or other public agency will make an investment in a particular neighborhood or community in the hope of catalyzing positive change. Perhaps a city makes streetscape improvements along a commercial corridor in order to encourage pedestrian activity, but even with nice sidewalks and safe crossings, there are still few pedestrians.

In trying to create livable communities, it is important to understand that there are certain thresholds that must be reached before desired change takes place, whether it's getting a substantial shift of people choosing to walk or take a bus as opposed to driving, or making a community appealing enough to attract young families to live there. These thresholds of change are the aggregates of thousands of decision-making processes by individual people.

For instance, a person whose budget has been impacted by rising gas prices may consider switching to using the bus to get to work, but several factors have to reach a certain threshold before he makes that decision: How often does the bus come, and how reliable is the service? How clean is the bus and how safe would he feel using it? How close is the bus stop and is there a safe path for him to walk there, or a convenient lot for him to drive to and catch the bus? Is there a bus shelter that would provide protection from the elements?

If this person decides to start taking the bus, his use of it may in turn influence others who are going through similar decision-making processes. But certain factors have to be in place to reach a threshold at which this virtuous cycle can take off. A beautiful streetscape can be put into place, but if there is not a mixture of land uses present that provide walking destinations, the threshold for encouraging significantly more pedestrian activity may not be reached. The virtuous cycle of pedestrian activity encouraging more storefront business and slower driving speeds thus will not be set in motion.

There are locations in Fort Worth where this virtuous cycle clearly has worked, such as the downtown area where walkable streetscapes, a mixture of uses, and a sense of security due at least in part to the special public safety force, have combined to create a vibrant environment that is a source of civic pride, along with tax revenue. Other locations seem to fall short, however. One example might be the Berry Road corridor, where streetscape improvements have yet to spur much redevelopment activity and revitalization. How can Fort Worth ensure that the 16 designated urban villages thrive rather than serve as examples of wasted public investment?

Accordingly, the SDAT team recommends that the City commit to achieving a minimum threshold of livability for each designated urban village. This could include standards for walkability, mobility, safety, and quality of other public services such as parks and schools, along with zoning codes in place that facilitate mixed-use redevelopment within the desired neighborhood context. Only when these standards are met can the public sector's role in facilitating livability in each center be considered to be complete.

Such a commitment to comprehensive investment and stewardship of a particular community then makes it easier to make the case for major investments, such as rail transit service, because it is then clear that all the supporting public infrastructure like sidewalks and mixed-use, transitoriented development will be in place. It also signals to the private sector, including land developers and businesses looking for employment locations, that their investments in this location will not suffer due to lack of public commitment to placemaking.

This approach of working to achieve a minimum threshold of the conditions to support livability in each urban village may necessitate a phased timeline in which some villages are moved down the list until others are dealt with comprehensively. But the idea would be to avoid spending public money in an area on improvements that are helpful but are not enough to set off the virtuous cycle of revitalization, or in some cases, preservation. This would leave the entire urban villages concept open to criticism that it is not achieving results and is wasting public money. Getting a handful of urban villages up to a desired level should create positive examples and convey to the general public the results the City hopes to achieve.

The prospect of gentrification and forced migration of lower-income residents is always present in discussions about community revitalization and redevelopment. Provisions should be made as redevelopment occurs to ensure that a substantial percentage of new residential units are affordable or "workforce" units. [Jurisdictions in the Washington, DC Region may offer some helpful guidance, see the Toolkit for Affordable Housing Development at www.mwcog.org/store/item.asp?PUBLICATION_ID=254]

Ultimately, however, the key to affordability is replication of the urban villages concept to the point when there are enough such desirable locations within the metropolitan area that there is no longer such a premium to live there or to locate a business there. And there is little doubt that revitalized, denser urban villages within Fort Worth will make the city more sustainable into the future, if nothing else through the preservation of the tax base. When mixed-use and walkable, concentrated development makes many more destinations accessible by bicycle or on foot, it makes transit investments cost-effective. In addition, when well-designed it minimizes development impacts and the use of precious resources like water and energy.



It is important to note, as well, that revitalization of a community does not always have to mean densification. It is a market reality that in most cases it does not make economic sense to tear down an existing structure unless the structure to replace it can accommodate a "higher use", either by virtue of more square footage or more residents. But Fort Worth's aging commercial corridors provide plenty of redevelopment opportunity without threatening existing residential neighborhoods. And there are several good examples from around the country of how densification can occur in select locations and taper down to fit the context of surrounding neighborhoods, without placing peoples' homes in shadows or causing a sharp increase in traffic congestion.

Most of the interventions necessary to bring areas up to a certain standard of livability are relatively small-scale, but have the potential to add up to great impact. A little investment can go a long way in causing shifts between transportation modes and influencing peoples' choices about where to live and work. There are also several funding strategies that can be used to finance these improvements, including federal dollars through the Transportation Enhancements program and other sources. The City can also make use of innovative funding strategies that help capture some of the land value created when improvements to public infrastructure are made. These include Tax Increment Financing, and Development Impact Fees, both of which the City is already using in some instances.*

The City can also coordinate with privately-operated Business Improvement Districts to provide small-scale streetscape improvements and the like as part of a larger effort. A City Office of Sustainability should include staff that can be responsible for coordinating public and private investments in targeted areas so that the whole can be greater than the sum of the parts. These professionals can also assist private entities in navigating permitting processes and other administrative challenges, and help identify ways in which City policies and regulations can better facilitate desired outcomes consistent with sustainability principles.

At the same time small steps are being taken, opportunities sometimes present themselves to take large leaps. The proposed SW/NE Rail Corridor, for instance, could help jump-start revitalization in many neighborhoods while helping to alleviate traffic congestion and improve air quality in the region. But Fort Worth must take pains to discuss such big-ticket items in the context of an overall vision for a livable, sustainable city. Just as important, the city needs to commit to integrate the 'little things' about sustainable design into these big projects.

* The City of Fort Worth is among a handful of jurisdictions nationwide that already use Development Impact Fees to incentivize certain development patterns, in particular to encourage development that can be shown to generate fewer vehicle miles of travel. The City has to be careful to firmly ground any impact fee discounts in firm relationships between impacts and costs, and to develop a consistent way of measuring VMT generation or evaluate developers' projections.

One possibility of using impact fees to encourage other sustainable practices would be to discount water impact fees (or other future fee categories) based on LEED certification. Again, care has to be taken to show that there is a direct linkage between the certification and reduced cost to the city. Another alternative is to reward developers in some way, either through impact fee discounts or some other means, for LEED-ND certification. LEED for Neighborhood Development scores developments based on several characteristics, including locational factors, that have relevance to traffic generation and other impacts. The guidelines are still relatively new, but have arisen from extensive research and discussion among planning professionals from across the country, and may provide the City with ideas about other practices to incentivize. More information can be found here: www.usgbc.org/DisplayPage.aspx?CMSPageID=148.

Another resource that may be useful is the following research paper on incorporating locational factors in development-level interventions: www.nvc.vt.edu/uap/docs/Student%20Projects/Smith_Major_Paper.pdf.

Work through existing regional structures toward greater inter-jurisdictional collaboration on land-use and transportation issues.

More and more, the problems faced by local jurisdictions, especially those related to transportation and land use, are regional or metropolitan in nature. Traffic is not confined to one municipality, nor is air or water pollution. And land development trends continue with relative inattention to political boundaries.

Consequently, much of the effort to address land use and transportation challenges is increasingly taking place at the regional level, with bodies such as regional councils and federally designated Metropolitan Planning Organizations. NCTCOG plays this role for the Dallas-Fort Worth Region, and is playing a more active role in prioritizing the region's transportation needs and highlighting the need for greater funding from state and federal sources. Such regional entities can also be valuable forums for information sharing between local planners on issues such as how to facilitate Transit-Oriented Development or how to manage public-private partnerships.

The current authorization of the federal Surface Transportation Program, which is the source of a large majority of funding for transportation projects at all levels, expires in Fall 2009, and the next authorization may very well give more of a role in transportation planning prioritization to regional bodies such as NCTCOG as opposed to state transportation departments. As such, the City of Fort Worth should continue to be involved at the regional level, in particular with efforts to develop and communicate a regional vision for future growth and development.

A City Office of Sustainability can be a liaison with NCTCOG staff pertaining to long-range land use and transportation planning, as well as shortterm projects that involve the urban villages or other areas of focus.







IMPLEMENTATION: STRUCTURE & PROCESS

Making dramatic progress toward sustainability will require changes in how the city operates. Fort Worth has a lot of assets at its disposal, but the key to success will lie in the degree to which it achieves successful cross-agency and cross-system integration of the many impressive initiatives underway in the city. The team was impressed by the city's efforts to engage residents in an ongoing dialogue about the community's future. However, some of those efforts should be better integrated into planning and implementation initiatives as the city moves forward. The city's ability to engage in coordinated planning efforts has been affected in the short-term by several restructuring initiatives in municipal government. The team found that cross-agency communications were mixed and clear lines of responsibility were not always present.

Moving forward, the SDAT Team believes that implementation of Fort Worth's Sustainability goals will require integration among a variety of agency initiatives and civic activities in the community. It will require broad participation from the community in a collective process, robust coordination, strategic planning and decision-making that reflects community values and aspirations, and a take-no-prisoners approach to achieving results by incorporating clear accountability into its sustainability plans.

Three core elements will be central to the level of success the city achieves toward its sustainability goals in the future:

- Structure. Structure applies to both government administration and partnerships between government and the community on key initiatives
 across the city. Clear structures, with accompanying roles and responsibilities that are well-defined, ensure collaboration and accountability.
 The city's complex municipal framework and diverse stakeholder base will require multi-layered collaborations that identify desired results
 and a plan for measuring progress and applying accountability.
- Process. Process is a key ingredient for community success. Any community process must be inclusive and representative of all the diverse
 views in the city, providing tangible opportunities for public participation. It must also ensure a meaningful participation by providing for
 robust dialogue between different viewpoints that promotes understanding and the identification of common and agreed upon directions
 for policy and practice.
- Capacity. Capacity refers to a community's ability to accomplish its goals by applying the full range of its assets human and financial to problem-solving and implementation efforts.

Team Observations about Implementation

The SDAT Team found several challenges the city should address as it begins to work on implementation efforts. The first issue concerns the ongoing restructuring process within the municipal administration. Much of the municipal staff is still in transition, and the administration is realigning its structure. The office of sustainability should be a core function in a restructured municipal administration, involving agency leadership from across the administration to integrate efforts and facilitate cross-agency partnership. While the restructuring effort presents a short-term challenge, it is also an opportunity to realign the administration around its sustainability goals.

The SDAT Team also found that the city experiences conflict around its decision-making processes, particularly regarding some of its relationships with neighborhood groups who have expressed frustration about their level of influence and involvement in the city's formal decision-making process. Fort Worth encompasses a large geographic area, and a large and diverse population, so it is not uncommon to experience some level of conflict about decisions. However, the SDAT Team feels that the city can take steps to improve the process for everyone, thus building trust and civic partnerships to achieve progress across the city. The city's Office of Sustainability can play an important role in addressing issues of neighborhood equity, differing capacities, and perceptions about partnership by coordinating neighborhood training and capacity building programs through the appropriate city agencies.

It is also important to acknowledge that there are legitimate differences in the community about a host of issues, and therefore an acute need to have mechanisms outside of the political and formal governance process to address and resolve differences before issues come to the city council. In any city, the formal public hearing process highlights policy differences rather than promoting dialogue and understanding across them. Therefore, the public hearing process can exacerbate conflict around controversial issues. It is also typical for public hearing processes to turn out the more extreme voices on either side of an issue, and thereby reduce the influence of moderate positions that lead to compromise, putting pressure on public officials to 'solve' issues and accommodate narrow constituencies. Therefore, it is important for Fort Worth to also utilize informal, large-scale public processes that help set broad direction for the city by bringing everyone into the dialogue. In this manner, citizens across many diverse neighborhoods can partner to identify common issues of interest and set the table for good decision-making later, once an agreed upon vision and set of priorities have been identified. By applying the proper mix of structure and process to the city's normal modes of formal business, Fort Worth can position itself for greater success and outcomes that share wider support among its citizens.



City Process: The 'Fort Worth Way'

The city of Fort Worth employs a lot of process currently. The SDAT Team was impressed by the amount of investment and labor the city applies to involve citizens in conversations about the community's future. The team found the following initiatives of particular importance, both in what they already accomplish and in how they could be leveraged for future collaborative work:

The Trinity River Vision

The city of Fort Worth exhibits incredible capacity. The Trinity Uptown Plan is a prime example of the city's ability to not only envision bold projects, but to also successfully build the necessary partnerships to achieve them. As Mayor Moncrief remarked about Trinity Uptown, "this is city redevelopment at its finest. It's the kind of thing that makes Fort Worth rank among the highest in the nation for quality of life." The SDAT Team believes the Trinity Uptown plan is one of the boldest initiatives occurring anywhere in the country, and will be a dramatic expression of the 21st century city that Fort Worth aspires to become. It is also a model initiative in terms of the partnerships, collaboration, and community participation that were necessary to make it a reality. Fort Worth can leverage its experience with the Trinity River Vision to inform other efforts across the city, building continuing civic momentum to accomplish other community goals.

By any measure, the Trinity River Vision represents a significant achievement for the city. It also encompassed a tremendous amount of public engagement and input during the visioning process, and it continues to work with the city's many stakeholders through a variety of related implementation efforts.



Annual Comprehensive Plan Update

Fort Worth is unusual among other cities its size in implementing an annual update to its comprehensive plan. As a part of this process, the Department of Planning and Development organizes community meetings in the fall of every year to solicit citizen feedback and input on the draft plan updates. While the SDAT Team did not necessarily agree with the need to update a long-range plan continuously, the team was impressed by the capacity displayed by city staff in organizing and implementing a community-wide process on a regular basis. The team felt that this kind of regular organizing on a community-wide scale could be applied in a more systemic way to empower and organize neighborhoods across the city in building the necessary preconditions for collaborative work.



Let's Talk Fort Worth

The SDAT Team felt that the "Let's Talk Fort Worth" process represented an opportunity for the city to engage in community-wide collective discussions about its future in a more structured way. The process was billed as "a series of planning and discussion meetings, culminating Sept. 25 in a citywide conversation that will generate ideas, suggestions and dreams to help shape the city's future for the next 20 years." The team felt that the history of Let's Talk Fort Worth was itself an interesting case. It began in 1963, with a citywide conversation involving nearly 2,000 participants and hundreds more turning in written ideas. The process in 1963 brought forth ideas that generated projects such as the Fort Worth Convention Center, the Stadium project, Tarrant County Junior College; and the purchase of the land destined to become Dallas/Fort Worth International Airport. Let's Talk Fort Worth was reprised again in 1992, generating suggestions that included a curbside recycling program, the reintroduction of minor league baseball and a neighborhood policing initiative. The current edition of "Let's Talk Fort Worth" was described by its citizen leadership as "an opportunity for each of our more than 700,000 residents to tell the mayor and City Council how we can all work together to make Fort Worth even better. It's our town, our time, our talk." The process included 9 neighborhood meetings leading up to the citywide event, giving citizens an opportunity to speak out on a number of key issues in the city.

The Model Blocks Program

The SDAT Team was impressed with the city's strategic use of Community Development Block Grant resources to fund its "Model Blocks" Program. Through this revitalization program, the city is leveraging resources to build "strong neighborhoods, a safe community and sound economy". The Model Blocks emphasis on making a "visible impact" and concentrating its resources in a targeted area through partnerships with neighborhood stakeholders can be modeled for other initiatives the SDAT Team has suggested, such as a neighborhood capacity building program. Similarly, its focus on assisting neighborhoods in developing their own vision statements, goals and objectives, as well as undergoing a SWOT analysis process, can serve them well in preparing citizens for participation and leadership in larger initiatives. It can also form the basis for a communitywide planning initiative that helps organize neighborhoods and provide structure to the governance process outside of the formal city council proceedings.





SDAT Recommendations

The SDAT Team believes that the city has already put forth significant investment into public engagement and participation through a number of initiatives. However, in order to take full advantage of its existing civic assets, the team believes the city should set a clear goal to **establish mechanisms that bring the community into the governance process formally and integrate current city efforts across agencies.**

Integrate Staff under an Office of Sustainability

The SDAT Team's recommendations for the city's implementation plan principally revolve around issues of structure and process. Regarding structure, the team believes the city administration should leverage its Office of Sustainability to formalize interagency collaboration. Staff from several key departments can be integrated under the Office of Sustainability to work on coordinated strategies for a host of key planning and development issues.

Create a Neighborhood Council System

Secondly, the SDAT team recommends that the city work with neighborhoods to establish a city-wide neighborhood council system. Neighborhood council systems currently exist in many large cities in the United States, and play an important role in empowering neighborhood voices in the governance process. Some of the cities with existing neighborhood council systems include Birmingham, Atlanta, Houston, Minneapolis, Los Angeles, Portland, and Washington, D.C. Typically, neighborhood councils are governmental or non-governmental bodies composed of local people who work on neighborhood issues and represent the area before city commissions, agencies, and development interests. Their formal role is often in an advisory capacity before city officials, although in some cities developers are required to work with neighborhood councils on any planned developments that may affect them. Through a council system, city government gains the ability to seek input from an advisory board made up of residents of neighborhoods directly affected by government action or development plans. The SDAT team believes that the combination of a central Office of Sustainability in the city administration and a citywide neighborhood council system will provide clear structure and access to facilitate a coordinated management process with designated roles for every stakeholder.

Establish a Citywide Strategic Planning Process

With a clear structure in place, the city can pursue a community-wide effort to engage citizens formally in public problem-solving and visioning efforts, as well as establish a management process for city goals that involves the public at every stage. A good example of this combination occurred in Washington, D.C. under Mayor Anthony Williams. The city created 37 Advisory Neighborhood Commissions (ANCs) under a new council system, and combined it with a unique strategic planning process involving neighborhood planning efforts and citywide summits. Under this process, the city established a two-year management cycle that integrated strategic planning, budgeting, performance contracts and a public score card on city progress. The annual citizen summits drew thousands of residents and became the basis for the city's budget. Over a six year period, the city successfully engaged over 12,000 residents in public work.



Create a 'Stat' Program on Sustainability

The SDAT Team also recommends that Fort Worth pursue a 'Stat' data and measurement system that is paired with its sustainability goals. There are currently Stat programs in many cities across the country, including Baltimore, Miami, Pittsburgh, Providence, Syracuse, and St. Louis. Fort Worth already has most of the needed resources in place to begin a Stat program. The earliest and most notable program began with Baltimore's award-winning Citistat initiative. In that case, Baltimore's city staff were able to combine their public 311 reporting system with a robust data collection and measurement protocol that utilized GIS within an integrated management process. The results were more strategic decisions that were timely and saved the city millions of dollars. The initial start up effort of the Citistat initiative included a couple thousand dollars for software (ESRI ArcView GIS and Microsoft Desktop Software), and a small staff to coordinate the CitiStat process with the 311 system. The startup costs were approximately \$285,000, and annual operating costs in the first years of the initiative were \$400,000. However, the results were dramatic. The city was able to eliminate budget deficits while improving service delivery to citizens. They saved over \$13 million in the first year of operations, and over \$350 million during the first 7 years of the program. Most importantly, the city was able to facilitate increased collaboration with citizens and minimize conflict over decision-making by making the information public about key issues such as potholes, crime, personnel, housing, and public facilities. The team believes that Fort Worth could apply a similar system to its management of sustainability and long-term planning goals.

Establish a Community Indicators Partnership

Many communities have created Indicators partnerships to involve the community, track key measurements on strategic goals, implement data-driven government, and benchmark performance. There are several different models that the city could use to inform its own efforts. Fort Worth has strong local universities that it can partner with to implement an indicators project, and resources in the private sector that can help inform its development. A Community Indicators Partnership can be partnered well with a city Stat system to incorporate both local government data and information collected by neighborhoods and residents in a robust integrated management system. In Baltimore, the city's Citistat program aligned with the work of the Baltimore Neighborhood Indicators Alliance (BNIA). BNIA served as a collaborative community data collection initiative made up of local universities, neighborhoods, and others in the private sector. In Jacksonville, the Jacksonville Community Council (JCCI – www.jcci.org) has led indicator projects through a grassroots process for over 20 years. Fort Worth can inform its community indicators efforts by learning from these and other projects throughout the country. The Urban Institute hosts the National Neighborhood Indicators Partnership, which is an effective national resource on comparative methods and organizational approaches to indicator initiatives (http://www2.urban.org/nnip/index.htm). Fort Worth can leverage the experience of some of these efforts to inform its own program around sustainability, and thereby become a leader as the field develops.







Do it the 'Fort Worth Way'

The SDAT Team believes that Fort Worth exhibits its own civic culture, and the city should apply structure and process in a way that leverages the unique assets of that culture and reflects the values of the community. The city has many unique assets that can be leveraged to reinforce local identity and culture while expanding opportunities for participation and community engagement.

All-America City...1965...1992...2009?

The city of Fort Worth has a proud history of achieving public goals and being recognized for its collaboration and civic pride. Multiple times in the city's past, it has come together, and put forth a collective effort to take control of its future. This experience is exemplified by its achievement of an All-America City Award in 1965, and again in 1992. In both cases, the city's award was a reflection of an enormous civic effort to work together. In both cases, Let's Talk Fort Worth was occurring, bringing citizens directly into the governing process and offering ideas for the community's future. The city has now ushered in the third Let's Talk process, and the SDAT team believes the city should once again leverage its collaborative work together on healthy neighborhoods to achieve All-America City status.

CONCLUSION

Fort Worth clearly has a high quality of life that continues to attract growth to the region. However, this asset should not be taken for granted. As the SDAT process has shown, the city has had difficulty in keeping up with growth, managing traffic, and maintaining a sustainable potable water supply. All of these problems have the potential to undo the progress that has been made up to now. Some of the team's recommendations will seem bold, but many of them are simple, and, hopefully, some of them will even be familiar. Over time, these policies and programs can feed on one another and the results will be greater than the sum of the parts. In most cases, the SDAT Team's recommendations do not represent experimental policies. In fact, they exist in cities all over the world and there is strong evidence that they work.

Imagine a City.....

- That recognizes development patterns generally follow transportation infrastructure.
- Where transportation impact fees incorporate credits to reward compact, centralized development
- With a network of buses and/or trains that provide user-friendly alternatives to a car-dependent lifestyle, reducing congestion and improving air-quality
- That is embarks on transit projects by identifying multiple, specific sources of funding
- That has miles of urban bike and pedestrian trails to provide a safe haven from streets and provides a connection to nature
- That cultivates world class museums to educate citizens and foster a common culture
- Where agencies and public utilities apply technology to capture and find productive uses for materials, such as methane, that are currently considered waste
- With a Water Conservation Master Plan that meets over ¼ of future water demand through conservation and reclamation alone
- That actively plans, promotes, and links mixed use, walkable districts near the city center
- That incorporates ecological sustainability into large-scale development projects, especially near rivers and other vulnerable environmental sites

"By the year 2020, Fort Worth will be commonly recognized as the most livable city in Texas. Residents will be able to enjoy Fort Worth's friendly atmosphere and the opportunities that are associated with a growing economy and diverse community. Fort Worth's public schools will produce well-rounded citizens and a skilled workforce to fill high-paying jobs in local businesses. Fort Worth's environmental quality will also be superior, meeting the highest national standards."



The SDAT Team believes Ft. Worth should implement specific programs and pass legislation to pursue these policy goals. But what time frame is appropriate? Putting this all together might sound like a job for a city that is far ahead of Ft. Worth in terms of planning and implementing sustainability policy. Many people would read this list and wonder whether it is even desirable to pursue these ideas – it seems to some as though they would never fit in with the culture of Ft. Worth, Texas.

In fact, each policy listed above and described in such lofty, "deep green" language already exists in Ft. Worth. They are imperfect and uncoordinated, but they are in place. When properly applied, these policies quietly and subtly shape the development of a city over years, if not decades. Mountains were not moved, nor were lives disrupted by the intrusive hand of big government. Ft. Worth remains a "big city with a small town feel." However, as we have said, these programs and the ideals that undergird them are not coordinated and are not reaching their full potential.

- The mayor of Fort Worth has already signed on to the Mayors' Climate Protection Agreement with the Conference of Mayors. Someone must ask how the city is utilizing the resources this agreement provides to update energy codes without mandating LEED. Why isn't the city making every capitol improvement project a demonstration of cost-effective, practical and sustainable design features?
- The city has already begun investing in buses. Why not quantitatively assess this service and make key routes run more frequently? Why not effectively connect urban villages to move? Why don't they have clear signage to induce demand and improve ridership?
- Fort Worth already has a natural gas fleet. Could the city support investment in natural gas fueling stations to spread this technology to the public?
- The city already has a wonderful trail system for recreation. Some of these run right through downtown. Why not link the trail to bike-friendly roads with clear signage at trailheads, transforming the trail into a viable transportation alternative?
- The city already has a Water Conservation plan that explains how 28% of water demand will be provided by reclamation and conservation. Could the city modify the irrigation and industrial tiers of water utility fees and use the revenue to pay for some of these programs?
- Fort Worth already has a small business incubator. Why shouldn't the city use this to favor businesses that adhere to a triple bottom line or demonstrate a public benefit?
- The Trinity Uptown project is going to create a dense, walkable and centralized neighborhood with consideration given to ecosystem redevelopment along the river. Why not reclaim a portion of the street space handed over to on-street parking and use it for sidewalk cafés, outdoor plazas and bike lanes? This space will be difficult to get back from car traffic later.

All that is required is a governmental mechanism that is designed to put these pieces together. We believe the Office of Sustainability can be that mechanism. The office does not need to be an overbearing crusader for all things green, but it has to connect the dots and ask the right questions to make policy more effective. It must recognize the incentives behind unsustainable growth and change the factors that cause it.

We know that sprawling, car-centric development patterns were not mandated. We also know they were not simply the expression of natural, free-market preferences. Development patterns are the result of years of mundane public policy. For the past several decades that policy has implicitly favored sprawl and skewed the calculus through incentives and tax breaks. The Office of Sustainability can change this calculus in ways that are just as mundane. It is the team's collective hope that the city will take control of its future by investing in the mechanisms and policies that will enhance collaboration and help shape the city in intentional and positive ways that reflect citizen's long-held values and aspirations.



THE SDAT TEAM



Jane Jenkins, SDAT Team Leader

Jane Jenkins is an expert in historic resources, preservation and downtown management. She is now the Executive Director, Downtown Business Improvement District in Boulder, Colorado—a 49-block neighborhood where property owners tax themselves to provide safety, maintenance and programming that promotes the area. The agency's oversight includes Downtown Boulder Inc. She previously served as the Director of the Southwest Office for the National Trust for Historic Preservation. Other experience included positions as the Development Administrator and Main Street Manager for the City of Denton, Texas; Executive Director of the Pawhuska (Oklahoma) Downtown Redevelopment and Preservation Association; and Executive Director of Wagoner's Switch (Oklahoma) Main Street Project. She holds a Bachelor of Arts in Communication Arts Education from Oral Roberts University and a Master of Public Administration from the University of North Texas.

Prescott Gaylord

Prescott Gaylord is the president and co-founder of Baltimore Green Construction, a full service green contractor and builder in Baltimore, MD. He has overseen commercial and residential green construction of many flavors, including Zero New Energy and LEED. He is on the board of directors for the US Green Building Council's Baltimore Chapter, and is a member of the Built Environment committee of Baltimore's Sustainability Commission. He has helped to found several socially responsible companies in the Baltimore sustainability world, including City Life Realty – a ECO-Broker and neighborhood based real estate brokerage – and Baltimore Landmark Homes – a green development company.

Prescott has done environmental systems consulting for large companies, including Wrigley's, Polaroid, International Specialty Products, Exxon Mobil, BASF, and Whirlpool. He designed the emergency response tracking system for the American Chemistry Council's CHEMTREC and was a contributing author to the Primer for the Global Environmental Management Initiative entitled "Environment – Value to Business."



Kathryn Schiedermayer

Kathryn Schiedermayer is Senior Project Manager for the Energy Center of Wisconsin. Kathryn manages the Energy Center's portfolio of professional education programs and outreach events for the commercial, industrial and residential market sectors. She develops and implements training programs and outreach activities designed to move practitioners to adopt high performance building techniques that improve the energy, environmental and human performance of commercial buildings. Kathryn's responsibilities include both curriculum development and training and outreach event delivery. She manages over 70 educational programs and outreach events held throughout Wisconsin and nationally every year. Additionally, Kathryn works on research and evaluation projects, conducting interviews, coordinating surveys and managing various aspects of the projects.

Kathryn is the Energy Center's liaison to four of its energy utility members. In this capacity she is responsible for customer relations, managing budgets and serving as the Energy Center's main contact to the respective utility. Kathryn also serves on the United States Green Building Council's (USGBC) Greenbuild Program Committee.

James Sherrell

James Sherrell is an architect from Chattanooga, Tennessee. He is the principal partner and founding member of Polis Studio, LLC. James apprenticed under Kevin Roche, a world renowned, internationally practicing architect in New Haven, Connecticut. Sherrell studied at Savannah College of Art and Design in Savannah, GA, where he gained experience with urbanism and urban architecture.

James has served in numerous capacities with the AIA's Sustainable Design Assessment Team. In 2006, he served on the Tucson, Arizona SDAT. In 2007, James served as Team Leader for the New Orleans, Louisiana SDAT. In October 2008, James served as Team Leader for the Leon Valley, Texas SDAT Team.



Sabrina Carr

Sabrina currently works for the City of Hampton as a Neighborhood Development Associate for the Neighborhood Office. She provides coaching and consulting assistance to neighborhoods and community organizations in the areas of outreach, organizing, and capacity building. In this role she also facilitates groups to identify neighborhood issues and resolutions. This position has allowed her to educate the citizens of Hampton by coordinating the Hampton Civic Community College.

Previously, Sabrina was a Legislative Assistant for the Virginia General Assembly. This position allowed her to realize her passion for educating citizens and demonstrating ways to get involved in the various levels of government. Having constant contact with the legislators and the constituents allowed her to plan, establish and maintain a communication network to receive and provide information.

She received her Bachelor's of Science in Government Administration from Christopher Newport University and is currently pursuing her Master's in Public Administration from Troy University. Sabrina is a member of the American Society for Public Administration and a recently elected board member of the Hampton Roads Chapter of the Conference of Minority Public Administrators. Sabrina lives in Chesapeake, VA with her husband, Quincy Carr.



Darren Smith

Darren Smith is a transportation planner for the Metropolitan Washington Council of Governments (MWCOG). Darren is involved with public outreach efforts, scenario planning, and management of MWCOG's new technical assistance program for local jurisdictions, the Transportation/Land-Use Connections (TLC) Program.

Darren previously worked at the national headquarters of Rails-to-Trails Conservancy (RTC), a non-profit organization that promotes the preservation and conversion of unused rail corridors as multi-use trails. While at RTC, Darren managed the Trails and Greenways Clearinghouse. He has presented at several conferences related to transportation and livable communities, including the 2008 American Planning Association conference, and also served on the 2006 selection panel for the Federal Highway Administration's National Scenic Byways Program.

Darren completed a master's degree in urban and regional planning at Virginia Tech University's Urban Affairs and Planning program in Old Town Alexandria. Darren graduated with honors from American University in Washington, D.C., and is a native of Lawrence, Kansas. He resides with his wife Jennie in the Alexandria section of Fairfax County, Virginia.

Mike Rapps

Mr. Rapps is a licensed Professional Engineer with a B.S. in General Engineering from the University of Illinois, in Champaign-Urbana. He has performed Post-graduate study with the University of Illinois -Springfield in operations Research / Systems Analysis. Mr. Rapps is the President and CEO of Rapps Engineering & Applied Science, Inc. a mid-sized consulting firm with several offices throughout the State of Illinois.

The Rapps firm offers professional services in Civil and Environmental Engineering with sub-specialties in Solid Waste Management, Environmental Remediation, Hydrogeology, and Coal Development. Mr. Rapps has experience in each of these subject areas and has been active in the development of pertinent legislation and regulations.

In his professional career Mr. Rapps has worked for the Illinois Environmental Protection Agency and Waste Management, Inc., where he served as the Technical Director of the Chemical Waste Division. His work with Rapps Engineering began with its founding thirty years ago. In his professional capacity Mr. Rapps has worked in approximately twenty states, in Canada, and in South America. He served on consulting missions for the States of Sao Paulo (1977) and Rio de Janeiro (1980) in Brazil. He also served as a consultant on loan for the USEPA concerning the development of hazardous waste regulations.

On a local level, Mr. Rapps has been active in civic affairs pertaining to development and infrastructure in Springfield and Sangamon County Illinois. He served on the City of Springfield host committee for the 2002 AIA Regional/Urban Design Assistance Team (R/UDAT). He continues to serve on the local R/UDAT Follow-up Committee. Mr. Rapps has also served as a voting member of the Illinois-Kentucky Central Midwest Low-level Nuclear Waste Commission. He continues as a member of the Illinois Low-Level Nuclear Waste Task-Group and the Illinois Regulatory Review Commission. In each of those positions he was nominated by the Governor of Illinois and confirmed by the State Senate.



AIA Center for Communities By Design Staff

Joel Mills, Director, Center for Communities by Design

Joel Mills provides process expertise, facilitation and support for the Center's Sustainable Design Assistance Team (SDAT) and Regional and Urban Design Assistance Team (R/UDAT) programs. In this capacity, he works with AIA components, members and partner organizations to provide technical assistance to communities across the country on sustainability and urban design.

His experience includes community-based technical assistance, process design, facilitation and training across a number of fields including juvenile justice reform, local government, education, family strengthening, civic media and emergency management. During the 1990s, Mr. Mills spent several years supporting international democratization initiatives by providing technical assistance to parliaments, political parties, local governments, civic and international organizations. His scope of work included constitutional design and governing systems, voter and civic education, election monitoring and administration, political party training and campaign strategy, collaborative governance, human rights and civil society capacity building. He maintains active memberships in the International Association of Facilitators (IAF), the International Association for Public Participation (IAP2), and the Mid-Atlantic Facilitators Network. He also serves on several public and private boards.



Cooper Martin, Center for Communities by Design

Cooper Martin has been a project manager at Center for Communities by Design with the American Institute of Architects since 2008. He is responsible for overseeing the Disaster Assistance network and lends his assistance to the Sustainable Design Assistance Team (SDAT) program. Although he is the newest member of the Communities by Design team, his work for AIA began in May of 2007 as a research assistant in the Government Advocacy department. His areas of interest include local sustainability programs and the policy process.

Cooper holds a masters degree in Public Policy from American University and earned his BA in political science at the University of Kansas. Prior to moving to Washington, Cooper worked in the Kansas State House of Representatives and regularly participated in voter registration drives and other campaigns with the Kansas Democratic Party. When he's not thinking about urban policy, Cooper enjoys cooking, brewing his own beer, playing ultimate frisbee and rooting for the Kansas Jayhawks.

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