



Chapter 5: Develop a Local Action Plan Long Term Initiatives Sustainable Urban Planning

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In the Ecology of Cities,¹ Lester R. Brown states that, “By 2007 more than half of us will live in cities—making us, for the first time, an urban species.” This means that urban planning decisions made now will have an enormous effect for a long time to come. The field of urban planning connects many topics discussed in this guide, such as, energy infrastructure; environmental and land management; construction and architecture; transportation infrastructure and much more.

The field of sustainable city planning is a rapidly growing one, with entire organizations dedicated to it, books written about it, conferences held and professional associations forming (a Google search returns over 11 million hits). It is impossible here to describe the extent to which this global movement intersects with community efforts to implement

carbon protection programs,² but it is important that efforts to reduce greenhouse gas emissions be conducted with an eye to the impacts they will have on the whole system of the city.³

Sustainable urban development includes planning that promotes mixed-use development (residential and commercial use in the same area), transportation alternatives, walkable/denser communities, compact building design, open/ green space and attractive/ distinctive communities. Such approaches can enable a community to fight climate change (and improve local quality of life) by reducing personal automobile dependence (See Chapter 5, Residential Transportation Section), increasing green space (See Chapter 5, Reducing the Impact of Continued Emissions Section) and providing incentives for green building (see Chapter 5, Buildings Section).

¹ Earth Policy Institute, Ecology of Cities, www.earth-policy.org/Books/Seg/PB2ch11_ss2.htm, 15 October 2006.
² An enormous amount of work on this topic is being done in Europe. The Scandinavians, in particular are leaders in this field. See www.emagazine.com/view/?2842, the European Commission adopted the Thematic Strategy on the Urban Environment on 11 January 2006, ec.europa.eu/environment/urban/home_en.htm. The Ministry for the environment in New Zealand also has some excellent material, www.mfe.govt.nz/issues/urban/sustainable-cities/, 5 December 2006.

Denser Communities

Several studies have linked denser communities with reduced driving and, in turn, reduced greenhouse gas (GHG) emissions. High-density urban areas utilizing mixed-use development make human powered and public transportation more practical,

while decreasing emissions and encouraging exercise. For example, the book *Sustainability and Cities: Overcoming Automobile Dependence* describes the strong correlation between urban density and driving related consumption. Cities considered to have low-density development (fewer than 50 persons per hectare) were found to have fossil fuel consumption rates triple that of

more densely developed cities. A study by Natural Resources Defense Council⁴ notes a similarly strong correlation between density and miles driven in San Francisco, Los Angeles and Chicago. The following graph from the study demonstrates how people living in denser areas in these three cities are traveling fewer miles per year.

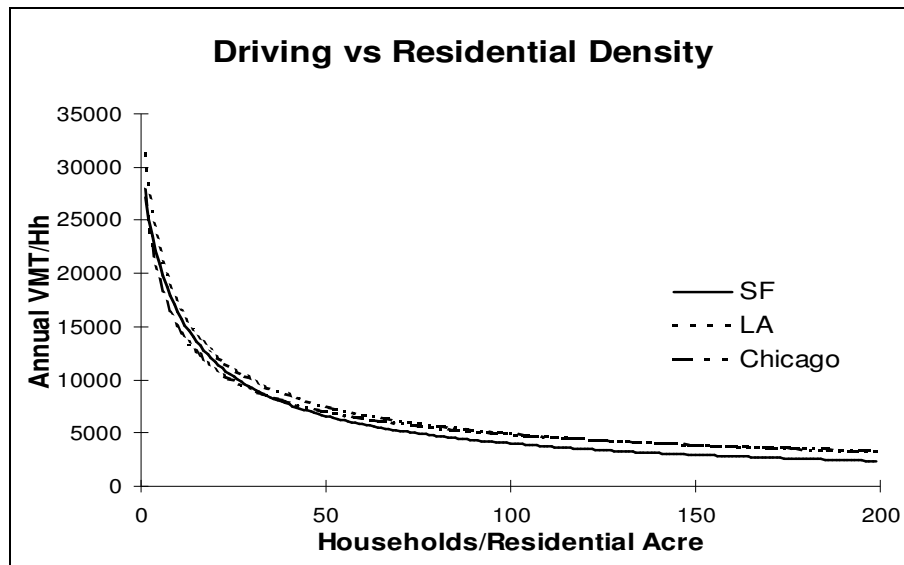


Table: Driving vs. Residential Density

The following case studies illustrate policies that different

communities have taken to begin, enhance and reach their sustainable planning goals.

Sustainable Urban Planning

CASE STUDY: Eugene, OR

“Each year, the Green Guide recognizes cities across the country that are providing the healthiest, most environmentally-conscious, energy efficient and

least-polluting places in which to live.”⁵ The Green Guide is an internationally recognized source for news and consumer information about environmental

living. In 2006, the Green Guide named Eugene, Oregon the #1 Green City in America.⁶

³ The UN Habitat Sustainable Cities Program, www.unhabitat.org/categories.asp?catid=369, 5 December 2006.

⁴ National Resources Defense Council, www.arb.ca.gov/ch/presentations/nrdc.pdf, 15 October 2006.

⁵ Eugene website: www.eugene-or.gov/portal/server.pt, 15 October 2006.

⁶ The Green Guide Top 10 Green Cities in 2006 www.thegreenguide.com/docprint.mhtml?i=113&s=top10cities, 15 October 2006.

Political Action and Policies:⁷

The city staff began a new community-wide pedestrian and bicycle strategic planning process in 2006. The program includes public education and input activities to help direct the planning process. The goal of the planning effort is to increase the use of non-motorized transportation in Eugene.

Mixed Use Development:⁸

In 2001, the concept of mixed-use development became the official growth management policy for the city of Eugene.

The city has identified dozens of potential "centers" that can eventually be developed to have greater density, yet become desirable, pedestrian-friendly, neighborhoods, featuring shops, residences, green space and quality transportation options. "When combined with improved transit, such centers will reduce reliance on automobile travel, offset the need for costly street improvements, slow sprawl onto nearby agricultural and forest lands and provide a greater variety of housing types inside the Urban Growth Boundary."⁹

To ease the financial burden of this process, the city has applied for grants from the State of Oregon

Transportation Growth Management (TGM) program every two years since 1997. "These grants funded a demonstration of transportation-efficient land use planning focusing on the preparation and adoption of a concept design, strategies and ordinances for several potential mixed-use development sites."¹⁰

Transportation:¹¹

By 2006, Eugene had developed 30 miles of off-street paths, 89 miles of on-street bicycle lanes and 5 bicycle/pedestrian bridges spanning the Willamette River.

Eugene holds an annual Walking and Biking Summit, providing input on ways to make the city a more "walkable and bikable" city.

Open/Green Space:¹²

Eugene has preserved over 16% of its land as green space, including athletic fields, city parks, public gardens, trails and waterfront.

The city has over 2,500 acres of publicly owned wetlands, and its West Eugene Wetlands Program has been nationally recognized as a model for resource protection and enhancement.¹³

Eugene offers 120 public parks, 45 playgrounds, 6 community gardens, 60 miles of trails and over 3,000 acres of natural areas.

Construction Techniques/Energy Efficiency:

In July 2006, the City Council unanimously adopted the city of Eugene's first formal "green building" policy, requiring city-owned and occupied buildings to be constructed and maintained in environmentally and economically sustainable ways.

Examples of the new policy include two new fire stations that incorporate day-lighting, solar hot water, highly reflective roofing, high efficiency heating and cooling systems, preference for local and renewable materials, low emission paints and laminates and 90% recycling of construction waste.

⁷ Sustainable Eugene: www.eugene-or.gov/portal/server.pt?space=Opener&control=OpenObject&cached=true&parentname=CommunityPage&parentid=0&in_hi_ClssID=514&in_hi_userid=2&in_hi_ObjectID=1553&in_hi_OpenerMode=2&, 15 October 2006.

⁸ Mixed-use Development: www.eugene-or.gov/portal/server.pt?space=CommunityPage&cached=true&parentname=CommunityPage&parentid=5&in_hi_userid=2&control=SetCommunity&CommunityID=334&PageID=0, 15 October 2006.

⁹ The Green Guide, www.greenguide.com, 15 October 2006.

¹⁰ Eugene website, www.Eugene-or.gov, 15 October 2006.

¹¹ Eugene Transportation: www.eugene-or.gov/portal/server.pt?space=CommunityPage&cached=true&parentname=CommunityPage&parentid=2&in_hi_userid=2&control=SetCommunity&CommunityID=435&PageID=0, 15 October 2006.

¹² Parks and Open Space Planning: www.eugene-or.gov/portal/server.pt?space=CommunityPage&cached=true&parentname=CommunityPage&parentid=2&in_hi_userid=2&control=SetCommunity&CommunityID=668&PageID=0, 18 October 2006.

¹³ Greener Buildings, www.greenerbuildings.com, 15 October 2006.

<p>CONTACT</p> <p>Facilities Division Manager Glen Svendsen Eugene's sustainable building policies (541) 682-5008 glen.l.svendsen@ci.eugene.or.us</p>	<p>Senior Planner Allen Lowe Eugene's planning division (541) 682-5113</p>	<p>Parks and Open Space Manager Carolyn Weiss Eugene's Parks and Open Space Planning (541) 682-4800</p>
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Sustainable Urban Planning

CASE STUDY: Saint Paul, MN¹⁴

<p>Under the Urban CO₂ Reduction Project, St. Paul has already surpassed its 1997 goals for CO₂ emissions reduction and is currently planning to reach a 20% reduction of 1988 CO₂ levels by 2020. The plan includes a wide variety of activities including:</p> <p>Open/Green Space:</p> <p>In addition to providing great options for alternative and public transportation, St. Paul also offers commuters and pedestrians pollution-free transportation and recreation via an extensive trail system.</p> <p>The city operates 101 parks, maintains 101 miles of paved</p>	<p>off-street trails, 24 miles of dirt trails and 160 garden sites.</p> <p>The city promotes “green roofs,” which reduce heating and cooling costs and reduce storm water runoff.</p> <p>Construction Techniques/Energy Efficiency:</p> <p>The city requires every developer that uses public dollars to meet with energy design consultants to make buildings more energy-efficient and cost-effective.¹⁵</p> <p>St. Paul also supports energy-efficient households by assisting residents to install renewable energy. The Minnesota State Department of city's grid.</p>	<p>Commerce even encourages businesses and residents to hook up solar systems to the</p> <p>CONTACT</p> <p>The general number for the city of St. Paul government (651) 266-8989</p> <p>Planning and Development (651) 266-6700</p> <p>Parks and Recreation (651) 266-6400</p> <p>District Energy (651) 297-8955</p> <p>St. Paul Neighborhood Energy Consortium (651) 221-4462</p>
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¹⁴ Unless otherwise cited information on sustainable programs in the city of St. Paul can be found on the “Sustainable St. Paul: Initiatives and Programs” page of the city’s website. This page includes links to transit and transportation; planning and development; natural resources and parks and recreation; energy conservation; and clean air: stpaul.gov/initiatives/sustainable/programs/initiatives.html, 15 October 2006.

¹⁵ Greener Buildings, www.greenerbuildings.com, 15 October 2006.

CASE STUDY: Glenwood Park, Atlanta, GA¹⁶

Glenwood Park has utilized “infill” planning¹⁷ on a former industrial site, two miles from downtown Atlanta. The 28-acre brownfield¹⁸ redevelopment offers 350 residences in a mix of condominiums, townhouses, houses and 70,000 square feet of retail and office space.

Mixed Use Development:

Rezoned for mixed use the site was designed with narrower streets and tighter corners for qualifying “traditional neighborhood developments.” This type of zoning is crucial to making Glenwood Park a pedestrian friendly, healthier and environmentally sound neighborhood.

By mixing useful retail, shops and restaurants with residences, the development has brought vitality to the streets, provided residents with walkable destinations, reducing the number of local daily driving trips. “By one estimate, Glenwood Park will save 1.6 million miles of driving per year over what residents would have driven if they instead lived in a “typical” new Atlanta development.”¹⁹

Transportation:

Glenwood Park offers residents many public transportation and commuting options. The development is: One mile from two different Metropolitan Atlanta Rapid Transit Authority rail stops and Directly on an active bus route that leads to downtown.

On the proposed route for a trail and transit line that will loop around in-town Atlanta using old rail lines.

Open/Green Space:

The neighborhood contains three parks of varying sizes and atmosphere. The largest of the three acts as an area for community gathering and recreation. The second is a classic urban square in the heart of the commercial area. The third and smallest acts as a more intimate meeting area, featuring views of the Atlanta skyline and access to the largest park.

Construction Techniques/Energy Efficiency:

All homes and condos built in Glenwood Park meet Atlanta’s

EarthCraft House program standards. EarthCraft House is a voluntary green building program of the Greater Atlanta Home Builders Association, which helps educate consumers on the economic and health benefits of “green” building techniques, provides rigorous testing and inspection of homes and offers access to discounted energy mortgage programs.

CONTACT

Green Street Properties, LLC - the developers
(404) 879- 2230

Dover, Kohl & Partners—Planning Firm
(305) 666-0446
www.doverkohl.com

Tunnell-Spangler-Walsh & Associates—Planning Firm
(404) 873-6730
www.tunspan.com/

EarthCraft Homes, a division of Southface Energy Institute
(404) 817-3549
www.southface.org/web/earthcraft_house/earthcraft_overview.htm

Greater Atlanta Home Builders Association:
(770) 938-9900

¹⁶ For more information on Glenwood Park visit:

Terrain.org Unsprawl Case Study, www.terrain.org/unsprawl/17, 15 October 2006.

Glenwood Park homepage: www.glenwoodpark.com/glenwood/default.aspx, 15 October 2006.

¹⁷ Developing on empty lots of land within an urban area rather than on new undeveloped land outside the city or town.

¹⁸ Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. More Information on Brownfields: EPA Brownfields Cleanup and Redevelopment, www.epa.gov/brownfields/, 18 October 2006.

¹⁹ Terrain.org Unsprawl Case Study, www.terrain.org/unsprawl/17/, 15 October 2006.

CASE STUDY: Civano, AZ

In 1998 President Bill Clinton named Civano Arizona one of five national pilot developments under the Partnership for Advancing Technology in Housing (PATH). These PATH pilots, selected for their highly innovative technologies, as well as for new approaches for land planning and design, were created to be models for the U.S. residential construction industry.²⁰

Located in Southeast Tucson, Civano encompasses 1,145 acres. The community is planned to comprise 4 neighborhoods housing over 2,600 families, and 110 acres of commercial, industrial and retail uses. Its planners refer to it as, "an antidote to urban sprawl's five banes: loss of community, loss of open space, traffic congestion, air pollution and poor use of resources."²¹

Political Action/Policies:

Civano has adopted three tenets to guide its land use and overall physical, social and economic development:
(1) Create a sense of place that fosters community and connects people to one another and their natural environments, (2) tread lighter on the land through innovative design, (3) introduce sustainable construction

materials and new technologies to advance the quality of life.

Mixed Use Development:

Developers of Civano designed the neighborhoods to be pedestrian friendly, attracting foot traffic by mixing uses and activities, such as corporate offices, a café, art gallery, retail stores and a meeting hall together in the town center.

Transportation:

Developers plan to reduce automobile pollution by 40%. To reach this goal homes are designed to be within walking distance of neighborhood centers, and developers are striving to create one job onsite for every two residences.

Open/Green Space:

35% of the land is set aside specifically for natural or enhanced open space.

Community orchards, linear parks, pedestrian trails, bike paths, environmentally-friendly recreational facilities and preserved desert wild lands are all integral to the community's design.

Civano Nursery's salvage program has been replanting approximately 65% of the major trees moved during construction with a 97% success rate. The program has so far saved over 2,400 plants and nearly 500 mature trees.

Construction Techniques/Energy Efficiency:

Civano's building plan requires adherence to a strict energy and building code that will result in enough energy savings to prevent 1 billion pounds of carbon emissions over the next two decades.

Homes in Civano are being designed using passive solar siting and active solar energy through photovoltaic panels and/or hot water systems on the roofs.

Buildings employ the use of super-efficient windows, "cool tower" water cooling and thermal mass of walls to help regulate indoor temperatures while relying less on heating and cooling systems.

Developers are using these resource efficient building techniques to reach their goal of a reduction in home energy consumption by 50% over 1995 levels.

²⁰ The Partnership for Advancing Technology in Housing (PATH) article, April 1999, www.pathnet.org/sp.asp?id=1628, 15 October 2006.

²¹ Terrain.org Unsprawl Case Study, www.terrain.org/unsprawl/5/, 15 October 2006.

<p>Water harvesting, in which water from the structure's roof is collected and stored in underground cisterns for cooling will help designers meet their goal of reducing the community's potable water consumption by 65%.²² The community will feature xeriscaping.</p>	<p>Developed by Civano Development Company, city of Tucson, Fannie Mae American Communities Fund, Arizona Department of Commerce Energy Office, Congress for New Urbanism and other partners.</p>	<p>CONTACT</p> <p>Fannie Mae Colleen Haggerty (626) 396-5225</p> <p>Civano Development Company Lynn Hudson (520) 889-8888</p> <p>City of Tucson, Department of Architecture and Engineering (520) 791-3101</p> <p>Congress for New Urbanism, a Chicago based non-profit that works with planners, developers, builders and architects to teach them how to implement the principles of New Urbanism. (312) 551-7300 cnuinfo@cnu.org.</p>
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²² For more information on the Community of Civano, visit:
City of Tucson Featured Project www.tucsonaz.gov/lv-goal11.html, 15 October 2006.

Additional Resources

LASER: Local Action for sustainable Economic Development. This free manual guides a community in sustainable economic development.
www.global-laser.org

The Key to Sustainable Cities: Meeting Human Needs, Transforming Community Systems by Gwendolyn Hallsmith. Nov 30, 2006 – Written to help cities implement Agenda 21, the UN’s approach to sustainable development, this manual is the predecessor to LASER. Both are linked to a massive data base of solutions for cities

Sustainable Cities, Best Practices for Renewable Energy and Energy Efficiency. Ken Regelson, 2005. This report documents innovative and successful programs U.S. cities are using to become more sustainable
rmc.sierraclub.org/energy/library/sustainablecities.pdf

The U.S. Environmental Protection Agency has a variety of Smart Growth publications:
www.smartgrowth.org/pdf/this_is_smart_growth.pdf

GreenBiz.com, Resource Center for Environmentally Responsible Building Development offers Greener Buildings
www.greenbiz.com/sites/greenerbuildings/index.cfm

The USC Center for Sustainable Cities offers a multidisciplinary research program that prepares doctoral students to confront, analyze and resolve the challenges posed by cities.
www.usc.edu/dept/geography/ESPE/.

Sustainable City is a non-profit organization dedicated to achieving a sustainable future for San Francisco.
www.sustainable-city.org/,
www.sustainable-city.org/Plan/Energy/intro.htm

In September 2005 the city of London adopted a Sustainability Policy which outlines the principles of sustainability,
www.cityoflondon.gov.uk/Corporation/living_environment/sustainability/



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