

# Urban Sprawl

Jacques Cousteau National Estuarine Research Reserve

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# Background

## Introduction

Over the past several decades, land use practices have generated haphazard, inefficient and unsustainable urban sprawl. Urban Sprawl causes increase in traffic congestion and commute times, air pollution, inefficient energy usage and reliance on foreign oil, loss of open space and habitat, unequal distribution of economic resources and a loss in a sense of community.

### Facts

- New Jersey is the most densely populated state in the county.
- Between 1982 and 1997 there was a 34 percent increase in the amount of developed land in NJ (the 10th largest increase in the nation).
- Over 40.8 percent of New Jersey's and is already developed
- Residents of highest-sprawl areas drive 10 miles more per day than lowest-sprawl areas
- Ozone pollution levels are as much as 41 parts per billion higher in areas with the most amount of sprawl

## What is Urban Sprawl?

Urban Sprawl is often referenced as one of the most important issues facing New Jersey, but what is it exactly? Most people would be hard pressed to define the concept, but "at least they know it when they see it".

**Urban Sprawl is:**

1. Diffusion of housing and population
2. Segregation of homes and every day activities of daily life
3. Lack of strong economic or strong social centers
4. Disconnectedness of street networks

Changes to the landscape are occurring everyday with significant implications for taxation, quality of life, water quality, agricultural viability, wildlife habitat and social equity. Annually, New Jersey adds 16,600 acres of new development, while losing 9,600 acres of farmland, 4,200 acres of forest and 2,600 acres of wetlands. Impervious surfaces are being created at a rate of 4,200 acres per year. New Jersey is quickly becoming the 1st state to reach full “build-out”, which at current rates of development, could occur in the next 40 years.

**Urban Sprawl results in:**

1. Increased and insufficient land use and energy consumption
2. Increased traffic congestion
3. Negative environmental effects (reduces air and water quality and loss of open space)
4. Higher public costs for new facilities and services for the newly developed areas
5. Loss of community character
6. The decline of inner cities as people leave for sprawled areas

## Smart Growth

In New Jersey, “Smart Growth” principals are now being promoted. Smart Growth is a term that refers to well-managed growth that adds new homes and creates new jobs, while preserving open spaces, farmland and environmental resources. This type of growth supports livable neighborhoods with a variety of housing types, price ranges and multi-modal form of transportation. In New Jersey Smart Growth will target the State’s resources and funding in ways that will enhance the quality of life for it’s residents.

**Smart Growth Principals include:**

- mixed land uses
- compact, clustered community design
- a range of housing choice and opportunity
- walk able neighborhoods
- distinctive, attractive communities offering a sense of place
- open space, farmland, and scenic resource preservation
- future development strengthened and directed to existing communities using existing infrastructure
- transportation option variety
- predictable, fair and cost-effective development decisions
- community and stakeholder collaboration in development decision-making

Growth is a necessary part of the country's economy and it has both its positive and negative effects on quality of life. New Jersey is a "home rules" state henceforth the municipalities have the power to make the decisions about local development regulations, including subdivisions and zoning ordinances and comprehensive plans.

Growth management is a planning approach that will address the problems of rapid development, but it is as much as philosophy as it is a collection of tools and techniques.

**More Info**

Search our Toolkit for a collection of resources that will be valuable in learning more about techniques, best management practices, model ordinances and tools that can be employed to bring the problems of urban sprawl under control.

# Case Study: Hoboken's South Waterfront

The City of Hoboken, in partnership with the Port Authority transformed 50 acres of unused waterfront property into a unique commercial, residential and recreational area that will provide thousands of new jobs and significant economic growth while ensuring public access to the waterfront and much needed recreational space.

The voters of Hoboken scored a stunning victory in 1990, defeating a massive 3.2 million square foot development scheme for Hoboken's south waterfront in a public referendum. After a second referendum victory in 1992, the City of Hoboken agreed to work with representatives of community groups to create a plan for the Hoboken waterfront. In February of 1995, the City of Hoboken adopted an amended redevelopment plan for the south waterfront.

In addition to the residential development, the overall plan calls for a minimum of 1.5 million square feet of commercial office space, a 300-room hotel, a total of 125,000 square feet of retail and more than seven acres of recreational open space. The Port Authority has provided funds for land purchases, open space and public infrastructure improvements. The newly designed Pier A Park alone, has increased Hoboken's open space inventory by 40%.

The plan combines all the elements of smart growth – mixed-use development, new green spaces, public transportation and community involvement. Residents will be able to live and work within the project, or use the nearby light rail or PATH train to commute to jobs in Hoboken's center, other parts of New Jersey or New York City. In addition, the project offers easy access to bus and ferry service.

The project is also well located. Adjacent to a college and with access to libraries, government buildings and a community center, residents can stay involved without driving all around town. The streets inside Hoboken South Waterfront are also designed to be pedestrian- and bicycle-friendly. Crosswalks, lights and wide sidewalks make travel on foot enjoyable, while amenities for bikes – including bike lanes and bike racks – will make cycling easier and safer.

The redevelopment plan for Hoboken's waterfront provides a model to emulate both in terms of its design principles and the importance of citizen participation. The plan strikes a balance between new development and new public open space along the waterfront and adheres to traditional scale and character, extending Hoboken's signature 200 by 400 foot grid, carefully controlling building mass and requiring articulated building facades. The redevelopment of idle industrial waterfronts such as Hoboken's offers significant opportunities to redress some of the limitations of

older industrial areas, which were developed in ways that typically precluded public access to the waterfront and provided little public open space.

**More Info**

Visit the official City of Hoboken Web site ([www.hobokennj.org](http://www.hobokennj.org)) where you can learn more about this waterfront development, including viewing a [movievirtualtour](#).

# Toolkit

## Books

- Association Of New Jersey Environmental Commissions. 1989.** *Keeping Our Garden State Green: A Local Government Guide For Greenway And Open Space Planning.* ANJEC, Mendham, New Jersey. 57 pages.
- Association Of New Jersey Environmental Commissions. 1998.** *The Environmental Manual for Municipal Officials.* ANJEC, Mendham, New Jersey. 176 pages.
- Association Of New Jersey Environmental Commissions. 1998.** *Sample Ordinances for Protecting Significant Coastal Habitats.* ANJEC, Mendham, New Jersey. 28 pages
- Arendt, R. 1996.** *Conservation for Better Subdivisions: A Practical Guide To Creating Open Space Networks.* The Natural Lands Trust (NLT), Media Pennsylvania. 184 pages.
- Arendt, Randall. 1999.** *Growing Greener: Putting Conservation Into Local Plans And Ordinances.* Natural Lands Trust (NLT), Media, Pennsylvania. 236 pages.
- Arendt, Randall. 2001.** *Growing Greener Ordinance Language: Valley Enhanced Zoning And Subdivision Models.* Natural Lands Trust (NLT), Media, Pennsylvania. (CD-ROM)
- Beatley, T. 1997.** *The Ecology of Place: Planning For Environment, Economy And Community.* The Center For Resource Economics (Island Press), Washington, DC. 265 pages.
- Brown, W. 1998.** *Better Site Design: A Handbook For Changing Development Rules In Your Community.* Center For Watershed Protection, Ellicot City, Maryland, USA. 210 pages.
- Chadbourne, Joseph. 2000.** *Common Groundwork: A Practical Guide To Protecting Rural And Urban Land—A Handbook For Making Land-Use Decisions.* Chadbourne & Chadbourne, Inc., Chagrin Falls, Ohio. 394 pages
- Cicin-Sain, Biliana. 1998.** *Integrated Coastal and Ocean Management: Concepts And Practices.* UNESCO/University Of Delaware. 517 pages.
- Corbett, J. 2000.** *Designing Sustainable Communities: Learning From Village Homes.* Local Government Commission, Sacramento, California. 225 pages.
- Department Of Environmental Resources. 2000.** *Low Impact Development Design Strategies: An Integrated Design Approach.* Prince George's County, Dept. Of Environmental Re-

sources, Largo, Maryland. 23 pages.

**Department Of Environmental Resources. 2000.** *Low-impact Development Hydrologic Analysis: Companion Document To The Low-Impact Development Design Strategies.* Prince George's County, Dept. Of Environmental Resources, Largo, Maryland. 43 pages.

**EPA/625/R-94/009. 1994.** *Environmental Planning For Small Communities: A Guide For Local Decision-Makers.* Center For Environment Research Information. 154 pages.

**Honachefsky, W. 2000.** *Ecologically Based Municipal Land Use Planning.* William B. Honachefsky (Lewis Publishers), Washington DC. 256 pages.

**Jacques Cousteau NERR, 2000.** *Environmental Planning Strategies for Coastal Decision-makers.* Rutgers University Marine Field Station, Little Egg Harbor, NJ (3-ring Binder).

**Jacques Cousteau National Estuarine Research Reserve. 2000.** *Environmental Planning Strategies for Coastal Decision-Makers. Jacques Cousteau National Estuarine Research Reserve. Tuckerton, NJ.*

**Jacques Cousteau NERR. 2003.** *Technology For Land Use Planning—A Case Study: The Mullica River Watershed Build Out Analysis.* Rutgers, New Brunswick, New Jersey. (3-ring binder).

**Lemire, R. 1979.** *Creative Land Development: Bridge To The Future.* Robert A. Lemire, Lincoln, Massachusetts. 176 pages.

**Lerner, S. 1999.** *The Economic Benefits of Parks And Open Space: How Land Conservation Helps Communities Grow Smart And Protect The Bottom Line.* The Trust For Public Land, San Francisco, California 48 pages.

**The Local Initiatives Support Corporation (LISC). 2002.** *Mapping For Change: Using Geographic Information Systems For Community Development.* The Local Initiatives Support Corporation. 22 pages.

**Meffe, G. 2002.** *Ecosystem Management: Adaptive, Community-Based Conservation.* The Center For Resource Economics (Island Press), Washington, DC. 313 pages.

**Morain, S. 1999.** *GIS Solutions in Natural Resource Management: Balancing The Technical-Political Equation.* OnWord Press, Santa Fe, New Mexico 364 pages.

**NOAA. 2001.** *Using Remote Sensing to Address Coastal Management Issues: The Maine Project.* National Oceanic And Atmospheric Administration, Charleston, SC. (CD-ROM)

**O'Looney, J. 2000.** *Beyond Maps: GIS And Decision Making In Local Government.* International City/County Management, Washington, DC. 225 pages.

**Smart Growth Network. 2002.** *Getting to Smart Growth: 100 Policies For Implementation.* International City/County Management Association, Washington, DC. 97 pages.

**Simpson, P.E. (ANJEC). 1999.** *Remediating And Redeveloping Brownsfields in New Jersey: A Guide For Community Organizations.* The Coalition For Affordable Housing And The

Environment, Trenton, New Jersey. 11 pages.

**Smith, K. 1991.** *The Land Use Forum.* The Association Of New Jersey Environmental Commissions (ANJEC), Medham, New Jersey. 22 pages.

**The Trust For Public Land. 1997.** *Beyond The Century Plan: Biological Studies And Land Conservation Of The Barnegat Bay Watershed.* By K. Able. The Trust For Public Land, New York, New York. 16 pages.

## Model Ordinances

*Jacques Cosuteau National Estuarine Research Reserve: Coastal Resource Repository—Model Ordinances*

The Coastal Resource Repository provides Coastal Decisions Makers with a range of resources, including: scientific and technical reports and books, model management plans, static maps, and dynamic maps using Geographical Information Systems (GIS) technology. The JC NERR has compiled a number of model ordinances that may be used to guide development and protect sensitive natural resources including Shoreline/Waterfront protection, Landscaping /Tree protection, Stormwater Management, Water Supply Protection, Open Space, Environmental Impact. [http://www.jcnerr.org/coastal\\_management/ordinances.htm](http://www.jcnerr.org/coastal_management/ordinances.htm)

*Model Open Space Ordinance—US EPA*

These model ordinances can be found in the Coastal Resource Repository at the Jacques Cousteau Coastal Education Center, Tuckerton, NJ. (609) 812-0649 [http://www.jcnerr.org/coastal\\_management/resources/ordinances/EPA%20Open%20Space%20Model%20Ord.pdf](http://www.jcnerr.org/coastal_management/resources/ordinances/EPA%20Open%20Space%20Model%20Ord.pdf)

*Open Space Zoning Ordinance—Hamburg Township, MI*

These model ordinances can be found in the Coastal Resource Repository at the Jacques Cousteau Coastal Education Center, Tuckerton, NJ. (609) 812-0649 [http://www.jcnerr.org/coastal\\_management/resources/ordinances/Hamburg%20MI%20open%20space.pdf](http://www.jcnerr.org/coastal_management/resources/ordinances/Hamburg%20MI%20open%20space.pdf)

*Smart Growth Online: Land Development Regulations*

This web page helps communities adopt and implement changes to their land development regulations that facilitate Smart Growth. The ordinances, reports, and tools collected for this effort will assist communities to assess their existing land development regulations as well as provide templates that can be tailored to address local needs and unique legal frameworks. <http://www.smartgrowth.org/library/ldrlist.asp>

## Potential Providers

*Association of New Jersey Environmental Commissions: Resource Center*

Help for environmental commissioners, citizens and local officials with information, guidance and referrals to experts via phone or email; Help in developing local GIS (Geographic Information Systems) maps for environmental resource inventories, open space plans; Sample municipal ordinances. <http://www.anjec.org/html/resource.htm>

*Community Viz: GIS Software Products and Services for Today's Planner*

Software products that provide the capabilities for Alternative Comparisons, including quantitative impact analysis capabilities, with a "spatial spreadsheet" that can perform numerical computations on geographic data in real time; Policy Simulator to simulate future impacts of community planning proposals, to provide planners with a view of likely economic and demographic outcomes into the future; Site Builder enables users to build photo-realistic, 3-D, interactive models of their land use proposals, and allows models to allow virtual "fly-throughs" to visualize land-use proposals. <http://www.communityviz.com/>

*New Jersey's Department of Community Affairs- Office of Smart Growth: Resources*

What are the resources to benefit municipalities and counties? The Office of Smart Growth provides the following resources to promote Smart Growth visions: oMaps and GIS Data; Rules; Grants; Publications; Design; Schools and Smart Growth; Traffic and Transportation; Highlands. <http://www.nj.gov/dca/osg/resources/index.shtml>

*New Jersey Department of Environmental Protection's: Information Resource Center*

The Information Resource Center (IRC) has been the New Jersey Department of Environmental Protection's (NJDEP) library and information center for environmental science and technology. Two professional librarians manage a collection of books, journals, government documents and regulatory information related to environmental health, site remediation, toxicology, water resources, waste management, and more. It is the mission of the IRC to provide timely and high-quality environmental information research and services to NJDEP staff and to the general public. Our vision for the IRC is to be environmental information center whose work and resources are aligned with and critical to the priorities of the Department. <http://www.state.nj.us/dep/dsr/irc/HomePage.htm>

*GOZ (TM) : Goal Oriented Zoning—Build-Out Analysis Model*

GOZ (TM) is a computer program that calculates the "build out" impacts of existing zoning ordinances and enables a user to construct and test alternative zoning scenarios. GOZ (TM) allows the user to calculate the impacts of build-out under the following scenarios: (1) Existing municipal zoning, (2) Alternative zoning scenario based upon minor revisions to existing zoning, (3) The Regional Planning Partnership's VISION 2050 "smart growth" scenario (central New Jersey only), (4) Alternative zoning scenario based upon user-defined mixed-use centers. <http://www.planningpartners.org/projects/goz/index.shtml>

*Center for Remote Sensing and Spatial Analysis—Landscape Change Research*

Rutgers Center for Remote Sensing and Spatial Analysis' (CRSSA) research on utilizing remote sensing and digital geo-spatial technologies to map and monitor New Jersey's Urban Growth. This is research done by Dr. John Hasse (Rowan University) and Dr. Rick Lathrop (Rutgers University) <http://crssa.rutgers.edu/projects/lc/>

## Internet Tools

*Association of New Jersey Environmental Commissions: Smart Growth Survival Kit*

ANJEC's Smart Growth Survival Kit brings together information and references to help environmental commissions and citizens incorporate natural resource protection and State Plan consistency into their

local plans. A wide range of tools and techniques can all work together to manage growth. Each topic has information about the benefits, approaches and content of each tool. <http://www.anjec.org/html/smartgrowth.htm>

*Association of New Jersey Environmental Commissions: Online Resource Center*

Information, tools and contacts on land use, open space, water resources, the urban environment and more. <http://www.anjec.org/html/onlineresource.htm>

*Smart Communities Network—United States Department of Energy: Land use Planning*

This website provides an introduction to key planning principles as well as resources for strategies, tools, and civic participation to help communities with sustainable land use planning. This resource-based website that includes tools such as strategies, tools, success stories, code/ordinances, articles and publications, educational materials and other resources. <http://www.sustainable.doe.gov/landuse/luintro.shtml>

*New Tools for Community Design and Decision Making: An Overview—United States Department of Energy*

This presentation is about the planning tools of the next century. Smart Growth concepts have been widely embraced for redevelopment and new growth areas, yet the problems in by proponents are many. They include community opposition to density and the mixing of uses, outdated regulatory practices, and difficulties related to financing. As the tools you see in this presentation move from the testing phase to everyday use, these barriers to building better communities will diminish. <http://www.sustainable.doe.gov/toolkit/TCDDM/>

*U.S. Environmental Protection Agency: Green Communities*

Socio-economic, environmental, sustainability, indicators and financial tools to help your community predict, based on current trends and activities, the direction you are headed. It allows community members to visualize their future if nothing is done to intervene. What can you expect if current patterns of land development, population change, natural resource consumption, and commercial and industrial activities continue? Are these trends sustainable? <http://www.epa.gov/greenkit/2tools.htm>

*Jacques Cousteau National Estuarine Research Reserve: Coastal Resource Repository—Library Resources*

The JC NERR Coastal Repository Library has compiled a number of resources available for your reference. Please visit the Coastal Education Center in Tuckerton, NJ to view these resources, or Contact the JC NERR staff. You may also download the Coastal Repository Library Resources list as an Adobe PDF file. Sample Contents include Local Ecology, Geographical Information Systems, Habitat Restoration, Redevelopment , Environmental Resource Management, Watershed Management, and Planning Issues / Smart Growth. [http://www.jcnerr.org/coastal\\_management/library.htm](http://www.jcnerr.org/coastal_management/library.htm)

*Local Government Environmental Assistance Network: LGEAN -Toolbox*

The Local Government Environmental Assistance Network has provided this toolbox as a resource to assist local government officials in their efforts to protect the environment and public health. Opening each drawer provides users with access to a variety of tools in a particular area of concern to local governments. The tools (interactive software or documents that require user input) are designed to help users perform operations and calculations necessary to fulfill environmental reporting requirements or guide the development of a helpful environmental program including topics such as Air, Drinking

water, Energy, Financing, General, Hazardous waste, Pesticides, Small communities, Smart growth, Solid waste, Stormwater, Urban forestry, Wastewater and Watersheds. <http://www.lgean.org/html/toolbox.cfm>

*New Jersey's Department of Community Affairs- Office of Smart Growth: Smart Future Planning Resources*

Smart Growth begins with Smart Planning and the popular and highly competitive smart future planning grants are one item in the tool kit. This website will give you information and resources about New Jersey's Smart Growth Planning Grants. <http://www.nj.gov/dca/osg/resources/grants/index.shtml>

*New Jersey Department of Environmental Protection: i-MapNJ*

i-MapNJ is an environmental mapping tool that can provide you with information about your neighborhood, county, or state (NJ). With this unique application, homeowners can find out what's in their backyard; and environmental organizations, planners, and builders can identify open space, various regulatory boundaries, sensitive lands, watersheds, and much more. <http://www.state.nj.us/dep/gis/imapnj/imapnj.htm>

*New Jersey Department of Environmental Protection's: Environmental Digital Library*

The NJEDL is an online library of environmental literature and multimedia related to New Jersey. The collection includes documents and reports, scientific studies, photographs, videos, maps, and more. Most of the items in this collection are considered "grey literature"—unavailable through common research tools like library catalogs and indexes. <http://www.njedl.rutgers.edu/njdlib/>

*NOAA Coastal Services Center: Coastal Management Techniques*

The NOAA Coastal Services Center serves the nation's coastal resource managers. Search Coastal Management Techniques to find methods, strategies, and policies for addressing various coastal issues. The database is organized to allow a search by technique type and/or by coastal issue. <http://www.csc.noaa.gov/techniques/htm/techniques.html>

*NOAA Coastal Services Center—VATA (Vulnerability Assessment techniques and Applications*

Background on organization, stating goals of risk assessment and outreach for education of individuals and providing information to communities on hazard mitigation/risk assessment. Specific interest to <http://www.csc.noaa.gov/vata/shoreline.pdf> which shows shoreline change in relation to coastal hazards. <http://www.csc.noaa.gov/vata/>

*NOAA Coastal Services Center Hazard Information*

An archive (in list form) covering topics including Natural Disasters, Weather, and Environmental topics, among others. [http://www.csc.noaa.gov/products/nchaz/htm/dinfo\\_2.htm](http://www.csc.noaa.gov/products/nchaz/htm/dinfo_2.htm)

*NOAA Coastal Services Center—Living on the Coast: Smart Growth Tools on the Internet*

Living on the Coast links natural resource managers, community planners, and developers to tools, information, and inspiration about smart growth. On this site you will find: guidelines for balancing coastal communities' needs for economic growth, environmental protection, and social health and well-being; a database with links to techniques that can be used to implement smart growth; resources on smart growth, sustainable development, and coastal management . <http://www.csc.noaa.gov/techniques/smartgrowth.html>

*Jacques Cousteau National Estuarine Research Reserve: Internet Mapping Server*

This dynamic Internet Map Server (IMS) incorporating a variety of New Jersey related GIS layers generated at the federal, state and local levels. This IMS site was created to help distribute data to Coastal Decision Makers in support of the Coastal Resource Repository by empowering users to browse and query GIS data via the internet. <http://crssa.rutgers.edu/projects/jcgis/intitleap.html>

*Smart Growth Online: Smart Growth Resource Library*

This section of Smart Growth Online is a searchable catalogue of reports, websites, tools and case studies dating from 1997 until today. Most of the resources contained in this catalogue are available on-line. To search, click on any of the links under "resources" in the left hand sidebar. <http://www.smartgrowth.org/library/default.asp>

*The U.S. Conference of Mayors: Best Practices Search*

This tool will allow you to search the USCM Best Practices area exclusively. The goal is to help you find the Best Practices information you need quickly and accurately. Note that this will not search any other portion of the USCM Website. You may find other USCM searches in the USCM Site Search area. [http://www.usmayors.org/uscm/best\\_practices/](http://www.usmayors.org/uscm/best_practices/)