SMART GROWTH & SUSTAINABILITY

for the Mississippi Gulf Coast

A Guide to Sustainable and Resilient Living Along the Mississippi Gulf Coast

MISSISSIPPI DEPARTMENT OF MARINE RESOURCES

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It is the hope of the Mississippi Department of Marine Resources that this publication, which is part of the *Coastal Resilience, Sustainable Development and Smart Growth Initiative for the Six Coastal Counties of Mississippi,* will be widely utilized as a "toolbox" to assist government leaders, policy-makers, developers, planners, engineers, and other stakeholders in making informed decisions in regards to both public and private projects. This document is a collection of resources and tools provided to guide decisions in creating vibrant communities and planning for the future of Mississippi's coastal towns and cities.

> *"We do not want to discourage growth, but rather to foster 'smart growth' that preserves a community's sense of place, rural character, and environmental resources."*
>
> Excerpt from "Twice Green"
> Pearl River County Board of Supervisors & the Mississippi Department of Marine Resources

Based on the ten principals of Smart Growth—blended with sustainable and resilient design techniques—this documents outlines available resources within five main concepts:

These are designed to work together to enhance the livability, connectivity, beauty, health and economics of communities - resulting in places where people *want* to live, work, and play.

> *"Growth in Mississippi will arrive as a simple fact of demographics. The future will be in those communities that preserve quality of life."*
>
> Leland Speed, Executive Director
> Mississippi Development Authority

Each section of the toolbox covers a vital area of Smart Growth and Sustainable Development, providing information, images, examples and additional resources for the implementation of tools at virtually every level of planning. Each concept is defined and illustrated through the fictitious town of Oyster Bayou. Resource Guides translate the Smart Growth Principles into daily solutions for county and local government leaders, as well as developers pursuing more innovative projects. These guides provide techniques and tools to meet the challenges facing coastal communities. For those investigating in greater depth, tools and reference pages provide numerous resources for review. Adopting techniques from each of the concepts can help achieve smarter, more sustainable growth for Mississippi's coastal neighborhoods and communities.

This document is available on the Mississippi Department of Marine Resources website at:
www.dmr.ms.gov

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Community Character

Community character is the subtle mix of history, architecture, heritage and geography that guides residents' choices of where to live. Businesses make investment decisions based on the character of a place. A Smart Growth approach builds up the strengths of established communities by "Fixing It First" - preserving historic and existing neighborhoods and infrastructure before expanding into green spaces. A compact, mixed-use pattern of development fights sprawl and allows cities to save money for new infrastructure while conserving their environmental resources. In coastal areas, compact development is more resilient to natural hazards[1]. Ongoing investment in the character of today's communities and their renewal through new growth creates vibrant places where people want to be.

Oyster Bayou is a fictitious community surrounded by rich natural resources and fertile waterways emptying into the Gulf of Mexico. Aware of the delicate balance that preserves the land they love, city officials are exploring how Smart Growth can help protect their character and environment while encouraging opportunities for new growth.

Oyster Bayou Scenario: A young couple from Oyster Bayou is considering a job opportunity in a distant town. It offers a larger salary in a town well-known for its charming historic districts and its quality of life. While visiting, the couple tours a lovingly preserved Victorian house and marvel at the warm front-porch conversations between neighbors. The couple and their children are active and are drawn to the city's greenways, particularly the safe path to the nearby elementary school. They prefer to stay close to their family, however, and look into opportunities for a similar lifestyle closer to home. When they learn that Oyster Bayou is offering redevelopment incentives for homeowners in a historic district near downtown, they turn down the job offer, confident they can find what they need right there at home.

[1] Pawlukiewicz, Michael, Prema Katari Gupta, and Carl Koelbel. *Ten Principles for Coastal Development.* Washington, D.C.: ULI–the Urban Land Institute, 2007.

The Importance of Character

Jacksonville, Florida's Riverside Avondale neighborhood was named *A Great Place in America* by The American Planning Association. On the St. Johns River, it has a diverse mix of people, architecture, and attractions with a view of downtown.

A fire in 1901 made Avondale an architect's laboratory and a rare place outside the Midwest with a concentration of structures in Frank Lloyd Wright's Prairie style of architecture. By the late 1960s, housing was deteriorating and crime rising. Local activists worked with the City to preserve its character and create one of the nation's largest historic districts. The community protected its character by:

- Designating Riverside-Avondale as a Jacksonville Historic District;

- Construction & renovation of homes by the Riverside Avondale Development Organization;
- Investment under the City's Town Center Initiative in 2002;
- Creating Riverside Arts Market (pictured below) as an all-weather venue for entertainment, farmers markets, and events.

Four decades later, Riverside Avondale is a destination for thousands who attend its arts market, stroll along the riverbank, visit its commercial corridors, or attend one of its historic churches.

For additional information about Community Character, read these DMR Resource Guides:

- Fix It First
- Mixed-Use Districts
- Housing & Neighborhoods

Community Character: Fix It First

One of the main goals of Smart Growth is to reduce urban sprawl and create close-knit communities. This can be achieved by prioritizing growth and development in existing neighborhoods. Some of the most successful strategies to reach this goal incorporate "working with what you have," such as the ones listed below.

- Preservation of Historic Areas
- Fix-It-First Infrastructure Programs
- Reusing Vacant Lots and Brownfield

Preservation of Historic Areas

Preserving historic buildings and neighborhoods protects community character while reducing economic and environmental impacts associated with demolition and disposal. The National Trust for Historic Preservation found that repairing historic structures has a positive impact on investment and real estate values. Historic structures become desirable places to live and work largely because of their architectural uniqueness. Historic renovation projects also generate more jobs than the new construction of similar-sized projects.

Historic buildings, like this former bus station renovated by the Gulfport Main Street Program, offer architectural uniqueness. Photo provided by Gulfport Main Street.

A historic bank building in downtown Gulfport, MS, gets a facelift after suffering damage from Hurricane Katrina. Photo by Kimberly Miller, AICP.

Fix-It-First Infrastructure Programs

When cities repair and maintain existing infrastructure before extending new roads, water and sewer lines into undeveloped areas, they create incentives to invest in settled areas. In the EPA's book, Using Smart Growth Techniques as Stormwater Best Management Practices, authors explain how a public works department might reduce sprawl by implementing a 'Fix-It First' budgetary policy. This would place the first spending priorities on repair, operations and maintenance. A sample goal might be to fix 25% of existing water infrastructure over five years.

Infrastructure investment lays the foundation for development, redevelopment, or infill of land in existing neighborhoods and business districts. Redevelopment occurs in areas that have already been developed. It can take place site-by-site or as part of a larger effort to spur investment and development activity. Gulfport, Mississippi's Main Street Program attracted developers to reinvest in downtown after Hurricane Katrina with financial and regulatory incentives. It is currently restoring the exteriors of more than eighty buildings in Downtown Gulfport. Redevelopment also helps preserve open land in surrounding areas, thus lowering flood risks and stormwater management expenses.[1]

Community Character: Fix It First

Reusing Vacant Lots and Brownfields

Brownfields - sites that once contained soil and/or groundwater contamination - can be identified, cleaned up and redeveloped to provide opportunities for community development. The EPA offers grants to communities to help them assess and clean-up environmental contamination and return properties to productive use. The City of Hattiesburg received a brownfields grant in 2005 and is using those funds to conduct environmental assessment of identified properties in the city and articulate the local vision and goals for the eventual redevelopment of these parcels. Once the assessment and associated clean-up is complete, the redevelopment process will encourage re-use of property and return these once-contaminated lots to productive use.

This brownfield site in Tupelo, Mississippi was cleaned (above) and redeveloped to create a community park (right). Photos provided by Eco-Systems, Inc.

Tools

Actions	Policies • Tools • Techniques
Foster Distinctive, Attractive Communities with a Strong Sense of Place	Create a local historic preservation program Encourage the use of Federal Historic Tax Credits to receive a 20% income tax credit on the rehabilitation of income-producing historic properties Enact clear design guidelines so that streets, buildings, and public spaces work together to create a sense of place Revitalize aging downtowns with Smart Growth Tools for Main Street
Strengthen and Direct Development Towards Existing Communities	Adopt a "Fix-It-First" infrastructure policy Conduct an "infill checkup" to evaluate and prioritize infill and brownfield sites for redevelopment Create special improvement districts for focused investment Strengthen state and local brownfields programs Use stormwater best practices to encourage redevelopment of underused properties

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

[1] *Center for Watershed Protection. 1998. Better Site Design: A Handbook for Changing Development Rules in Your Community. Ellicott City, Maryland.*

Community Character: Mixed-Use Districts

Before automobiles, a community with a mixture of land uses provided all the goods and services their residents would need on a daily basis. When cities began adopting single use zoning, they created a new urban pattern with homes in one location and shopping and commercial districts in another. Smart Growth recognizes the benefit of a more traditional approach that mixes a variety of uses in a single location. Mixed-Use districts can accomplish the following goals.

- Creating Greater Land Value Through Modifying Development Regulations
- Reducing Vehicle Miles Traveled
- Encouraging More Activity at All Hours of the Day

Create Greater Land Value

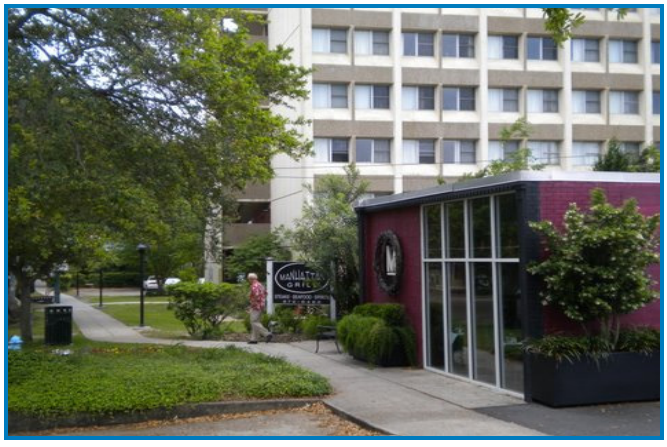
Communities can make mixing uses easier by limiting regulations and targeting areas for mixed-use development. Traditional zoning is based on the separation of uses to manage development.

To encourage a better mix of uses, an alternative zoning approach would be to limit the regulations of building types and allow building owners to decide the uses. Smart Codes are one technique to manage the look and layout of streets to reflect neighborhood scale, parking standards, and pedestrian corridors.

Train Station in Hattiesburg, MS. Photo by Jay C. Estes, AICP.

Reduce Vehicle Miles Traveled

Historic downtowns are good models for how mixed-use development works. The location of offices, residential and retail together leads to shorter and fewer trips per household in these central areas. While these districts are job centers, residents also live in apartments on upper floors, and the restaurants and shops serve residents, employees and customers drawn in from other neighborhoods. This reduces the traffic congestion and air quality impacts of automobile traffic and can lower household transportation expenses. Mixed-use areas can also incorporate "Community Level Schools" which share amenities, such as playgrounds and sports fields, with the surrounding neighborhood.



Downtown Ocean Springs, Mississippi. Photos by Kimberly Miller, AICP.

Community Character: Mixed-Use Districts

Encourage More Activity at All Hours of the Day

An environment that is occupied twenty-four hours a day benefits both businesses and residents. Investors have a broader range of options to match market demand to their property, while utilities generate revenue around the clock that offset their infrastructure costs. Finally, amenities and security frequently increase as more people inhabit the neighborhood. Mixed-use development of lofts, studios, or even commercial space in Starkville's Cotton District and New Orleans' Warehouse District, as well as others around the country, have been successful at revitalizing communities. A twenty-four-hour presence also makes for a safer climate for businesses that would otherwise remain unguarded during the night.

Glenwood Park in Atlanta, GA, offers retail, office, and residential space in one convenient neighborhood. Photo by Hollye Raines, RLA.

A 24-hour presence of activity creates a safer climate for businesses that would otherwise remain unguarded.

Mixed uses in Atlantic Station, Atlanta, GA. Photo by Hollye Raines, RLA.

Tools

Actions	Policies • Tools • Techniques
Provide for a Compatible Mixture of Land Uses	Encourage mixed-use communities and buildings through special zoning districts Rebuild neighborhood retail Provide examples of mixed-use development at scales appropriate to the community.
Strengthen and Direct Development Towards Existing Communities	Preserve centrally located historic schools Convert underused commercial or retail properties to mixed-use
Create Walkable Neighborhoods	Incorporate Live-Work units in higher-density and mixed-use districts Create incentives that encourage residents to live where they work Connect different land uses with an attractive pedestrian network

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

Community Character: Housing & Neighborhoods

Strong communities are built on the success of their neighborhoods. While the home is the basic building block, neighborhoods provide a larger structural framework by offering a wide range of housing choices and local services to meet the needs of residents at all stages of life. Successful housing and neighborhoods lead to greater economic opportunity and a healthier environment for all residents. Below are three neighborhood elements that are particularly important for strengthening the larger community.

- A Range of Housing Types
- An Attractive Design Framework
- A Safe, Walkable Layout

Illustrations from the MS Urban Renewal Pattern Book

Range of Housing Types

When communities offer residents a variety of housing types, they make it easier to retain residents and keep families closer together. Quality housing units come in a variety of sizes, and different land uses can be designed to blend attractively within the same neighborhood. The town of Cary, North Carolina adopted an Accessory Dwelling Unit ordinance allowing homeowners to add an additional unit to their property to accommodate family or rent out to defray the costs of a mortgage. Additional advantages include the deconcentration of poverty and the creation of livelier markets for neighborhood businesses.

Attractive Design Framework

While it is desirable to maintain some level of visual consistency throughout a development, variation in architectural detail can reduce the "cookie-cutter" feel that often results from overuse of the same few elements. The Mississippi Urban Renewal Pattern Book is an excellent tool to provide local governments and developers with a reference point for appropriate architectural styles, features and options from which to choose, while maintaining unity throughout a development.

Above: The Cotton District houses students, faculty, and residents of Starkville, Mississippi in an intimate, high-density setting.

Left: The Charleston Cottages near Mississippi State University provide colorful, attractive housing for students.

Photos by Hollye Raines, RLA.

Community Character: Housing & Neighborhoods

A Safe, Walkable Layout

A safe and walkable network of streets connects homes and neighborhoods to each other and to surrounding areas. A mixture of uses throughout a community provides safer environments because of increased 24-hour activity and more "eyes on the street". Architectural elements like front porches and compact building design reduce areas for undesirable activities to occur and not be noticed. The Walkability Checklist encourages its users to take a walk with a child and then answer a series of questions about traffic safety in their neighborhood.

Sidewalks and front porches encourage more "eyes on the streets", providing for safer neighborhoods in Starkville, MS. Photo by Hollye Raines, RLA.

An illustration from the Mississippi Urban Renewal Pattern Book shows a walkable neighborhood with houses set close to the street.

Tools

Actions	Policies • Tools • Techniques
Create a Range of Housing Opportunities and Choices	Allow zoning flexibility for housing units of varied sizes and prices Adopt Inclusionary Zoning to incentivize or require affordable units Create Community Land Trusts that lower the cost of housing
Foster Distinctive, Attractive Communities with a Strong Sense of Place	Identify unique architectural characteristics of Mississippi neighborhoods Determine the characteristics that make a place special Preserve the community's history
Create Walkable Neighborhoods	Incorporate safe infrastructure for walking Create trails to promote fitness and reduce traffic Encourage walking to promote health in Mississippi Create sustainable places

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

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Transportation Choices

Transportation planning has traditionally focused on the needs of drivers, but the demand for public transportation and better pedestrian networks will increase as cities grow in size and baby boomers begin retiring. Rising gas costs also create a larger market for different forms of transportation. The growth in obesity among children and adults means many communities are looking to their streets as a way to get their population moving. Successful Smart Growth transportation strategies include the following.

- Incorporating "Complete Streets" in the Community
- Tackling Traffic with Transportation Choices
- Including Pathways for Pedestrians and Bicycles
- Offering Alternative Parking Methods

Communities that provide their citizens with a range of options to get where they need to go expand their opportunities for economic development for the future.

Oyster Bayou is a fictitious community surrounded by rich natural resources and fertile waterways emptying into the Gulf of Mexico. Aware of the delicate balance that preserves the land they love, city officials are exploring how Smart Growth can help protect their character and environment while encouraging opportunities for new growth.

Oyster Bayou Scenario: Parents in Oyster Bayou are upset about the long drop-off line at the local elementary school. Responding to complaints about the length of wait time and check-in procedures, the Board of Aldermen begins investigating opportunities to fix the problem. They learn about their state's Safe Routes to School Program, which helps communities manage traffic and plan local streets to include sidewalks and bike lanes so children can arrive to school safely. Working together, the Aldermen and local parents organize a Walk to School Day. It draws such a large crowd, they decide to seek state funding for the Safe Routes to School Program the following year.

Finding a Place

Pedestrians have a place in Pascagoula. In the comprehensive planning process, citizens and city leaders alike indicated the desire to adopt a Complete Streets Policy for all new transportation projects. Implementing a Complete Streets system means all new city transportation improvement projects will provide accommodations for pedestrians, bicyclists, motorists, and persons of all abilities, while promoting safe operation for all users.

The City's Comprehensive Plan envisions Downtown Pascagoula and its waterfront as a hub of bike and pedestrian activity. While home to several large industries like Ingalls Shipyard and Chevron, Pascagoula is reclaiming unused sections of the waterfront along the Pascagoula River, also known as the Singing River and the Mississippi Sound. Complete Streets will encourage commuters to save fuel by leaving their cars behind. Pedestrians and bikers will enjoy a closer connection to the area's rich natural resources.

For more resources about specific strategies to improve transportation, read these DMR Resource Guides:

- Complete Streets
- Tackling Traffic
- Bicycle and Pedestrian Paths
- Alternative Parking

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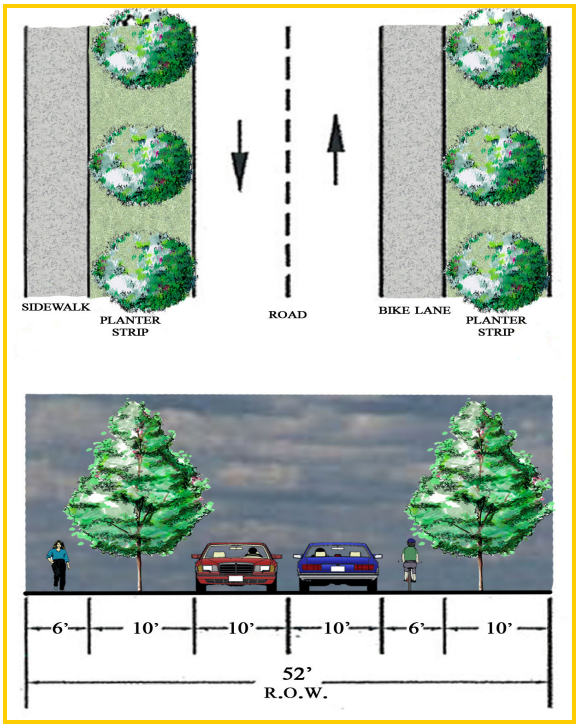
Transportation Choices: Complete Streets

Adopting a Complete Streets Program signals a change in the way a community will meet its citizens' transportation needs. Complete Streets Communities like Pascagoula, Mississippi direct their transportation planners and engineers to design and operate the entire right-of-way to enable safe access for users of all ages and abilities. Elements of a Complete Streets Policy include the following.

- Using the of Right of Way Efficiently
- Improving Travel Safety
- Promoting Better Health
- Strengthening Community Ties

Using the Right of Way Efficiently

A public street's right-of-way often spans a much wider area than the paved surface dedicated to automobile traffic. A complete streets design effectively employs all of the right-of-way to move people to their destinations and can be customized to a community's needs. Areas adjoining the street, or even the existing road bed, can be redesigned to accommodate pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Reserving part of the road for bus and other transit stops can move people more efficiently, thus speeding the pace of travel for transit riders and drivers alike. Features like curb ramps and medians in the public right-of-way improve the safety and desirability of a route for pedestrians and bicyclists.



A Complete Street perspective and section. Graphic provided by Eco-Systems, Inc.

Complete Streets utilize the entire right-of-way in order to efficiently move people to their destinations.

Bicycle Right-of-Way Signage. Photo by Dylan Passmore.

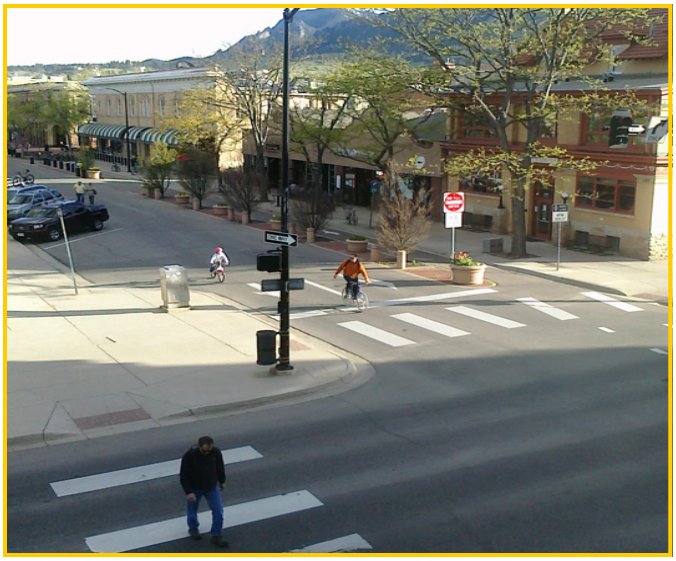
Incorporating Safety Measures

Complete Streets are designed to make drivers more aware of their surroundings and to provide individuals using the street a safer environment. Research by the Federal Highway Administration found that streets designed with sidewalks, raised medians, better bus stop placements, traffic-calming measures, and treatments for disabled travelers improve the safety of all pedestrians[1]. Medians, for example, enable pedestrians to cross busy roads in two stages, reduce left-turning motorist crashes to zero, and improve bicycle safety. A safer street is a livelier and more successful complete street.

Transportation Choices: Complete Streets

Promoting Better Health

Complete Streets promote better health by creating a safe and pleasant environment for increased physical activity. A report prepared by the National Conference of State Legislators found that incorporating sidewalks and bike lanes into community design is the most effective method to encourage bicycling and walking. As Mississippi struggles with the highest rate of obesity and obesity-related diseases in the nation, Let's Go Walking Mississippi encourages residents to use this simple program to get in shape. Studies show that people who live in walkable neighborhoods are less likely to be overweight or obese than people living in low-walkable neighborhoods and residents are 65% more likely to walk in a neighborhood that provides sidewalks[2].



Walking, bicycling, and driving in Boulder, Colorado. Photo from www.completestreets.org.

Strengthening Community Ties

Complete Streets benefit communities by increasing the social engagement of residents and improving economic development through convenient transportation. The addition of sidewalks for example, can help revitalize commercial areas by increasing foot traffic. Increased transportation options also provide all residents the opportunity to stay connected with the community. More activity on the street throughout the day and evening lead to more interaction between neighbors. This promotes trust and better security. Promoting livability of a community is one of the many benefits of the Complete Street Program. Complete Streets connect neighborhoods and attract new residents based on factors such as walkability, reduced transportation costs, a strong sense of community, and feelings of safety and security.

Tools

ACTIONS	POLICIES • TOOLS • TECHNIQUES
Create Walkable Neighborhoods	Adopt policies that promote Complete Streets Integrate green infrastructure in street design Set the stage for more active communities Promote economic development within pedestrian friendly areas
Provide a Variety of Transportation Choices	Provide for multiple users on public streets Design streets to meet long-term transportation goals Establish desired Level of Service (LOS) for multiple transportation options rather than automobiles alone

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

[1] *The Federal Highway Administration: http://safety.fhwa.dot.gov/ped_bike/ .*

[2] *National Complete Streets Coalition, Health Factsheet: http://www.completestreets.org/complete-streets-fundamentals/factsheets/health/ .*

Transportation Choices: Tackling Traffic

Integrated transportation systems that reduce the demand on local roadways and the environment lead to more sustainable cities. A good public transit network can accommodate more travelers in the same space and create more efficient techniques for getting between home, jobs and stores. Buses, trolleys, subways, light rail, street cars, and ferries can all be designed as appealing methods of traveling that reduce the aggravation associated with traffic and promote economic vitality. Three approaches to public transit improvements are discussed below.

- Transit Oriented Development
- Transportation Demand Management
- Sustainable Energy Use

Transit Oriented Development (TOD)

Concentrating residential developments in areas served by transit is one way to improve access and markets for public transit. TOD is a land use and zoning strategy that encourages compact residential or commercial areas within walking distance, which is defined as a quarter to one-half of a mile radius of transit stations[1]. A TOD district can be adopted into the local zoning ordinance as a mapped or overlay district for areas that are served by a reliable bus, trolley or light rail network.

The Lindbergh MARTA Station Area in Atlanta, GA. Photo by Jay C. Estes, AICP.

Some researchers estimate that six to eight households per acre around bus stops would support bus service, while fifteen to twenty households per acre would support rail transit[1]. The Lindbergh TOD was recently established for the Lindbergh MARTA Station Area in Atlanta, Georgia, and maintains standards for 38 rail stations and over 91 bus routes.

Transportation Demand Management (TDM)

High Occupancy Vehicle (HOV) lanes decrease traffic and encourage carpooling.

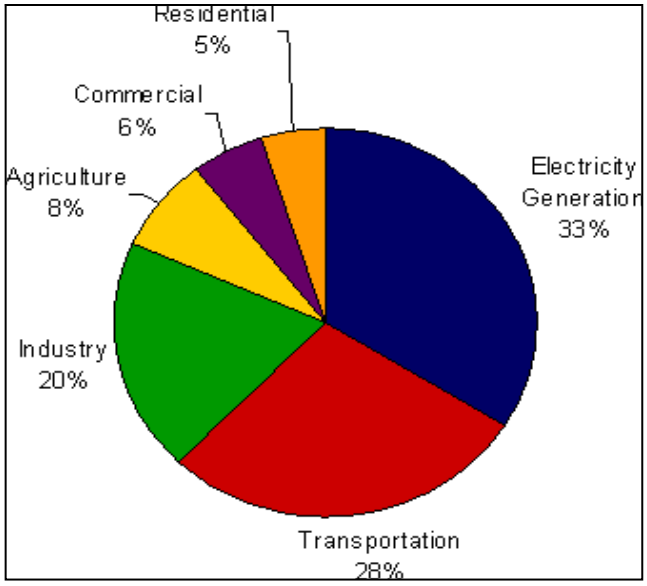
Transportation Demand Management is a strategy to reduce traffic at peak hours. Communities can employ a variety of methods to manage demand on the roadways. Options include promoting carpooling and the use of public transportation, encouraging employers to create flexible work schedules and the mixing of land uses. Transportation management programs are starting points for implementing TDM strategies, and are often funded through local, regional or state governments, and grants. These programs are generally found within transportation agencies or independent governmental agencies. They benefit from the cooperation of regional employers who share local concerns about the impact traffic has on their bottom line.

> Transportation systems that reduce the demand on local roadways and the environment lead to more sustainable cities.

Transportation Choices: Tackling Traffic

Sustainable Energy Use

Sustainable transport systems lead to more environmentally, socially and economically sustainable communities. In 2005, public transit use saved nearly 340 million gallons of gasoline[1]. Additionally, public transportation is far less greenhouse gas intensive, producing significantly less carbon dioxide and methane than a single occupant vehicle. Hybrid school buses are an excellent energy efficient example of public student transportation. The US Department of Energy is currently collaborating with Advanced Energy to pioneer 16 plug-in hybrid electric school buses around the nation.



Above: Percentage of US greenhouse gas emissions in 2006, the second largest being transportation. Source: climate.dot.gov/

Tools

ACTIONS	POLICIES • TOOLS • TECHNIQUES
Provide for a Compatible Mixture of Land Uses	Use innovative zoning tools like Transit Oriented Development to encourage mixed-use communities and buildings Incorporate census-based transportation planning Address specific transportation needs of rural and agricultural areas
Provide a Variety of Transportation Choices	Improve transportation options by utilizing Transportation Demand Management (TDM) strategies Connect with other commuters via the web to share transportation Provide commute options for employees of large companies
Strengthen and Direct Development Towards Existing Communities	A TOD Overlay District Model can help update zoning for existing communities Integrate land-use and transportation planning Reduce transportation-related emission Encourage sustainable transportation networks

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

[1] *Environmental Protection Agency: http://www.epa.gov/smartgrowth/pdf/Chicago%20SG%20Brownfields%20Project%20Final.pdf .*

Transportation Choices: Bicycle and Pedestrian Paths

Cars often consume most, if not all, of the right-of-way on public streets. Dedicating more space to sidewalks and bike lanes provides people with inexpensive and environmentally-friendly transportation alternatives. An active lifestyle that includes walking and biking can also lead to better health. To promote transportation alternatives, better health, and recreational opportunities associated with walking and biking networks, communities can take the following steps.

- Connect and Complete Streets
- Build a Bicycle Network
- Implement Americans with Disabilities Act (ADA) Standards for Accessible Design in Public Projects

Connect and Complete Streets

Street networks can accomplish more than just getting people from place to place. They can be designed to yield a safer, healthier and more attractive place to live. The old hierarchy of streets that begins with high speed arterial road and terminates in the subdivision cul-de-sac can present safety hazards for people travelling by foot or on two wheels. A connected grid of streets, by contrast, reduces traffic tie ups at intersections, disperses travel over a larger area and provides more routes to reach major destinations. Traffic engineers have developed guidelines and design standards to help communities improve the walkability of new and existing streets. One technique is using unused area in the right of way for sidewalks, bike lanes and even transit lanes. This strategy of building Complete Streets makes it more appealing for people to walk or ride for short trips. This reduces traffic and moves the greatest number of people efficiently in the same network.

Photo from neighborhoods.org, FLICKR.

The Waller Creek Master Plan promotes recreation and flood control. Graphic by McCann Adams Studio, Austin, TX.

Bicycle Networks

One of the most effective ways to find land for bicycle trails is to utilize flood zones near creeks, rivers and coastlines. Communities can bring this land back into productive use by creating a scenic public amenity close to the water, much like Waller Creek in Austin, Texas. By removing bikers from auto traffic, but connecting them back into the on-road network, the number of users a communities serves can be expanded.

Bicycle networks can be incorporated within the right of way or in an off road system. The bridges over Biloxi Bay and the Bay of St. Louis on the Mississippi Gulf Coast attract hundreds of locals and tourists daily because the bridge lanes (*pictured below*) are separated from traffic to accommodate pedestrians and bikers. However, roadway markings on the pavement can clearly delineate a six-foot or larger lane for bikes (*left*).

Bridge in Ocean Springs, MS. Photo by Courtney VanderSchaaf.

Intersections are the most dangerous place for bikers and the site of frequent collisions when it is not clear who has the right of way. Curb bump-outs, right-turn islands, and signage can all make intersections safer for bicyclists.

Transportation Choices: Bicycle and Pedestrian Paths

Above: Incorporating accessible design. Photo by Jan Moser, pedbikeimages.org.

Right: Complete streets provide for pedestrians of all ages and abilities. Photo by Elizabeth Table For Five, FLICKR.

Accessible Design

Seniors who are unable to drive often find themselves confined to their homes. People with disabilities also face mobility obstacles. By designing a network of sidewalks and bike paths for the needs of people of all ages and abilities, communities can promote increased independence. The Americans with Disabilities Act (ADA) outlines the design standards for accessibility. When implemented, these standards often benefit other users like parents with strollers and shoppers with multiple parcels. Features of accessible design include sidewalk widths appropriate for wheelchair users, gentle slopes and curb ramps that allow people in wheelchairs or using other assistive devices to cross streets safely. All new subdivisions should meet ADA standards, but communities can also modify existing streets to ease movement through neighborhoods and commercial districts. Building ADA compliant pedestrian networks also saves money in the long run by avoiding expensive retrofits as residents age.

Tools

ACTIONS	POLICIES • TOOLS • TECHNIQUES
Create Walkable Neighborhoods	Make walking safer in your community Promote walking to improve public health Implement ADA Standards for Accessible Design to create walkable communities for seniors and accessible communities for People with Disabilities Design New Urbanist Streets
Provide a Variety of Transportation Options	Adopt a Model Complete Streets Ordinance to incorporate Bicycle and Pedestrian Infrastructure with new construction and reconstruction Use flood plain for bicycle/pedestrian pathways Use the Federal Highway Administration's Shared-Use Path Design to accommodate walkers, bikers and people with disabilities Adopt Bicycle Facility Guidelines into Local Ordinances

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

Transportation Choices: Alternative Parking

The parking requirements found in zoning codes frequently result in an oversupply of parking spaces. This consumes land that could be put to more productive use and promotes a sprawling pattern of development. Paved parking surfaces also decrease the amount of permeable surface in a watershed which makes stormwater management more of a challenge. The following alternative parking strategies promote a balance between various forms of transportation and reduce the environmental impact of paved surfaces.

- Incorporate Green Parking
- Take Advantage of Shared Parking Opportunities
- Reduce Excessive Parking

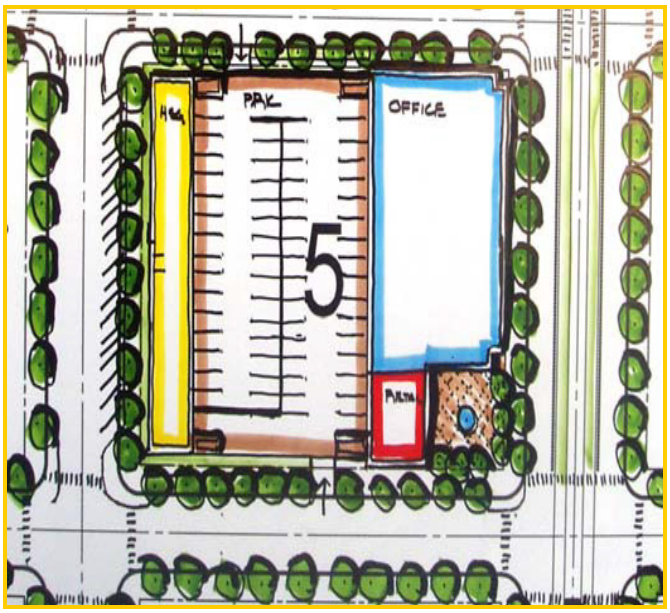
Incorporate Green Parking

Green parking can greatly mitigate many of the negative impacts of parking lots, including slower groundwater recharge, high rates of stormwater runoff and non-point source pollution. Green parking techniques can be applied to new projects and redevelopments. The Heifer International Green Parking Lot Case Study is an example of a successful green parking lot. Several smaller green parking lots were constructed and channeled water into a vegetated collection system for treatment and reuse.

Left: Specifically-sloped vegetated strips. Photo provided by EPA Green Parking Lot Resource Guide.

Take Advantage of Shared Parking Opportunities

In dense business and residential areas with a large supply of parking, property owners can reduce the number of parking spaces needed for new development by sharing their facilities with surrounding owners. This strategy can be implemented rather simply with written agreements between owners or can become part of a larger, more formal initiative adopted into local plans and ordinances. With the use of Shared Parking Agreements, neighboring businesses benefit from lowered initial development costs and reduced operation and maintenance costs. The most successful agreements meet the users' peak demand at different times of the day or week. For example, sports facilities that are primarily active at night and on weekends might share parking spaces with commercial buildings which are more active on week days.



Above: Schematic of shared parking concept. Below: Parking garages can accommodate different users at different times of day and week. Images provided by EPA Smart Growth Implementation Assistance.

Transportation Choices: Alternative Parking

Reduce Excessive Parking

Many formulas commonly used to calculate parking dramatically overestimate the number of spots needed, resulting in valuable land being consumed for a use that yields very little return. This can be resolved by implementing parking maximums or allowing developers to request a Parking Reduction Permit to lower the number of spaces required. In residential areas, narrower residential streets are a frequently used design solution to avoid an oversupply of parking. Reducing the width of residential streets also has environmental benefits. By lowering the percentage of paved area in the watershed, a community will ultimately reduce the volume of stormwater runoff.

Above: Two-lane residential street with dual parking. Photo provided by How We Drive.

Below: Vision of a two-land redesign in Denver, CO. Photo provided by EPA.

Narrow residential streets are one technique used to avoid an oversupply of parking.

Tools

ACTIONS	POLICIES • TOOLS • TECHNIQUES
Incorporate Green Parking	Green Parking Guide Techniques for green parking A tool for green parking site design, including minimum parking ratios
Take Advantage of Shared Parking Opportunities	Shared parking is relatively simple to implement Techniques for shared parking A shared parking tool with step-by-step manuals
Reduce Excessive Parking	Employ better site design for narrower residential streets Narrow residential streets provide stormwater management benefits City of Glendale CA Request for Parking Reduction Permit

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

SMART GROWTH & SUSTAINABILITY
for the Mississippi Gulf Coast

Resiliency & Natural Hazards

While coastal counties make up only 17% of America's land area, they are home to 53% of the population[1]. Residents are drawn to the natural beauty, recreation opportunities and lifestyle at the water's edge. This growth, while positive economically, also puts more people in the path of hurricanes, flooding and coastal storms. Also, as communities develop new land, pressure grows on wetlands and other natural protective systems. Studies indicate sea level rise and increasingly severe weather are likely to affect all U.S. Coastlines in the coming decades.

Coastal communities are planning for greater "resilience" - the ability to bend without breaking and bounce back from a natural disaster or environmental change. There are numerous measures communities can take to increase resiliency. One is understanding which homes, infrastructure and crucial public facilities are in harm's way, another is planning for the worst-case scenario to protect people and property. Implementing Smart Growth and Low Impact Design strategies for compact development increases resiliency by saving lives, preserving public investment, and streamlining the flow of people and information during a disaster.

Oyster Bayou is a fictitious community surrounded by rich natural resources and fertile waterways emptying into the Gulf of Mexico. Aware of the delicate balance that preserves the land they love, city officials are exploring how Smart Growth can help protect their character and environment while encouraging opportunities for new growth.

Oyster Bayou Scenario: Hurricanes and coastal storms demolished Oyster Bayou twice over the last fifty years and both times residents began rebuilding soon after the storms. Local officials decided reconstruction should make their community more resilient than before and embarked on a fact-finding mission to discover tools to protect their residents and property. To move people and buildings out of harm's way, they began acquiring several low-lying properties with a history of flood and wind damage for open space. Water and sewer infrastructure were moved out of the flood zone. With the county's help, they planted native vegetation in the dunes along the shoreline to form a protective barrier against flooding and storm surge. When hurricane season arrived the next year, two neighborhoods that had persistently flooded in previous years experienced no flooding.

Planning for Resiliency

The hurricanes of 2005 caused unprecedented destruction to the Gulf Region, dealing a life-changing blow to the region's people, homes, businesses, and environmental resources.

The Mobile District of the Corps of Engineers initiated the Mississippi Coastal Improvements Program (MsCIP) with seven state and nine federal agency partners. MsCIP conducts analysis and designs comprehensive improvements for hurricane and storm damage reduction, prevention of saltwater intrusion, preservation of fish and wildlife, erosion prevention, and other water resource related purposes. Projects are designed to improve the coast's resiliency. The restoration of Deer Island off the coast of Biloxi (*pictured below*) is one program endeavor that helps achieve goals such as:

- Reducing loss of life caused by hurricane and storm surge by 100%;
- Restoring 10,000 acres of fish and wildlife habitat by the year 2040; and
- Reducing erosion to barrier islands, mainland and bay shorelines by 50%.

For more information on strategies to improve resiliency, read these DMR Resource Guides:

- Evaluating Your Assets
- Protecting People & Property
- Structural Solutions

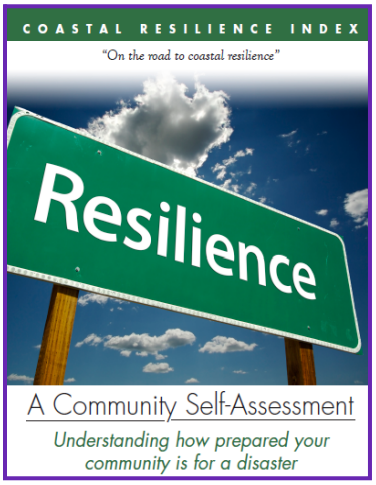
MISSISSIPPI DEPARTMENT OF MARINE RESOURCES

Resiliency & Natural Hazards: Evaluating Your Assets

Natural hazards affect large geographic areas, but their impacts on people, structures and the environment differ across the landscape. Resilient communities strengthen their social, economic, institutional, and ecological assets *before* disaster strikes. The first step towards creating a safer environment is learning what must be protected by characterizing the following community assets.

- Population
- Critical Buildings & Infrastructure
- Natural Assets

Population



The Gulf of Mexico region has more than doubled its population in the past forty years. With more people living on or near the coast, there are more people to protect from hazards. Because certain social characteristics are proven to correlate with increased vulnerability to natural hazards, mitigation can be designed to take into account demographic characteristics such as age, income level, insurance status, and ethnicity, resulting in better post-disaster outcomes[1]. The Coastal Resilience Index Community Self-Assessment (prepared by NOAA, the MS/AL Sea Grant and the Gulf of Mexico Alliance) offers tools to evaluate how equipped a community is to protect its people and economy.

Changes in the economy and job market also come with population growth. Jobs dependent on natural resources may take a long time to recover. Employees may be without wages for an extended period. Hurricane Katrina and the 2010 Deepwater Horizon Oil Spill illustrated these potential impacts on local livelihoods. Thousands of coastal jobs, like tourism, commercial fishing, shipping, and domestic crude production, are dependent on natural resources.

Critical Buildings & Infrastructure

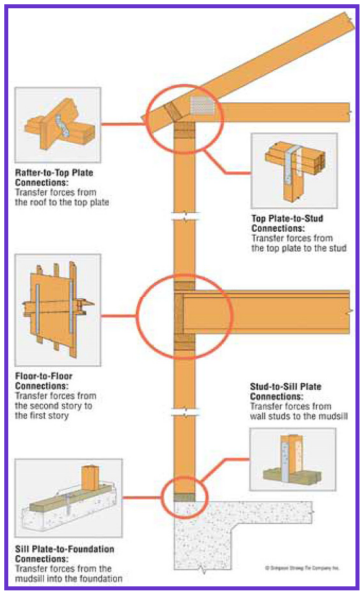


Diagram of reinforced structure from MS Homeowners Handbook to Prepare for Natural Hazards.

Evaluating the age and structural strength of buildings is essential in making them more resilient to natural hazards. Strengths and vulnerabilities can be determined through flood plain maps and local records on age, construction type and improvements. Gulfport, Mississippi set priorities to improve the future resiliency of its housing stock through the city's participation in the Community and Regional Resilience Initiative (CARRI). Even homes that currently fail to meet standards for wind and high water can be retrofitted for protection. It is important to know the replacement value of public buildings and their content so they are properly insured and funds are available to cover replacement and repair. Infrastructure that meets the demands of the natural environment is also key. After Hurricane Katrina, MDOT replaced bridges over the Biloxi Bay and Bay of St. Louis with larger structures built to withstand future storms. However, small bridges are still prone to flooding and other hazards. In addition, it is important to know the location and condition of power and water networks, since they maintain a community's health, safety and economy. Evaluating the replacement value of infrastructure and potential opportunities for mitigation can better prepare a community to resume operations quickly after a disaster.

Photo by Kimberly Miller, AICP.

Resiliency & Natural Hazards: Evaluating Your Assets

Natural Assets

Natural assets are the foundation for the Gulf Coast's culture and economy. The Mississippi Coastal Improvements Program (MsCIP)'s Comprehensive Plan evaluates and promotes the protection and resiliency of coastal resources. In addition, The Gulf of Mexico Alliance (GOMA) is a partnership of the Gulf States of Mississippi, Alabama, Florida, Louisiana and Texas working to increase regional collaboration to strengthen the Gulf's ecological and economic health. One of its top priorities is to ensure that conservation and restoration projects improve fish and wildlife habitats while maximizing flood and storm surge protection benefits. GOMA and its partners in the MsCIP are protecting the Gulf's environmental and economic resources, like the 1.2 billion pounds of fresh seafood the Gulf produces each year. From the 1950s to the 1990s, the Mississippi Gulf Coast lost over 8,000 acres of marshes and wetlands that provide critical fish and wildlife habitat and a natural buffer against storm surge[2]. The MsCIP website provides information about specific studies and projects that promote a strong environment and economy by reducing hurricane and storm damage, slowing shoreline erosion, and preserving fish and wildlife.

Shrimping is a natural coastal asset. Photo by Paul Wallace, NRCS.

Biloxi's Ethnic Shrimping Communities, Biloxi, MS. Photo by Francis Lam, Southern Foodways Alliance.

Tools

Actions	Policies • Tools • Techniques
Encourage Community and Stakeholder Collaboration in Development Decisions	Consult with the Mississippi Department of Marine Resources to identify your community's natural assets Involve your community in developing greater resilience to natural disasters and other changes in climate Examine data indicators to evaluate your community's disaster resilience Anticipate the effects of Sea Level Rise Conduct a community self-assessment to determine your level of disaster preparedness
Preserve Open Space, Farmland, Natural Beauty, and Critical Environmental Areas	Evaluate the habitats in your coastal ecosystem Improve the quantity and quality of Coastal habitats Identify and protect critical coastal resources through the Coastal Impact Assistance Program (CIAP) Use Best Management Practices to promote on-site stormwater infiltration, native species, and living shorelines

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

[1] *Burton, Christopher G. Social Vulnerability and Hurricane Impact Modeling Natural Hazards Rev. 11, 58 (2010).*

[2] *Schmid, Keil. Mississippi Department of Environmental Quality; Office of Geology. Coastal Change in Mississippi: A Review of 1850-1999 Data. March 15, 2001.*

Resiliency & Natural Hazards: Protecting People & Places

Once a community understands the value of its assets, it can begin to protect them. The Gulf Coast region responded to Hurricane Katrina with the adoption of strategies to promote resilience - the adaptability to change. People and places of coastal communities may inevitably face increased risk of natural hazards due to their location, but effective strategies like the ones below can increase their resilience.

- Planning for Protection
- Strengthening the Resilience of Households and Social Networks
- Concentrating Development in Low Risk Areas

Planning for Protection

Preparedness, response, recovery, and mitigation are four types of planning that increase community resilience to natural disaster. Storm Smart Coastal Strategies provides a comprehensive resource on preparedness and mitigation for Mississippi's coastal residents. FEMA requires communities to maintain an active Hazard Mitigation Plan (HMP). The plan outlines flood zones, essential operations and critical facilities to protect in an emergency. Demographic information outlines who may be most vulnerable to a natural catastrophe. Developing a logistical plan to coordinate emergency response in a crisis is another essential step in preparedness.

Left: Image from Mississippi Homeowners Handbook to Prepare for Natural Hazards.

Below: Photo from FEMA.

Hurricane damage, FEMA.

Comprehensive Emergency Management Plans (CEMP) outline how emergency personnel will maintain essential operations during a disaster[1]. Disaster Response Plans address the effects immediately after a natural hazard, including evacuation, sheltering, rescue and medical services. Long-term Recovery Plans deal with the effects of a disaster that linger long after emergency responders have gone home. These plans identify ways to meet people's specialized needs in the months and years after a natural disaster.

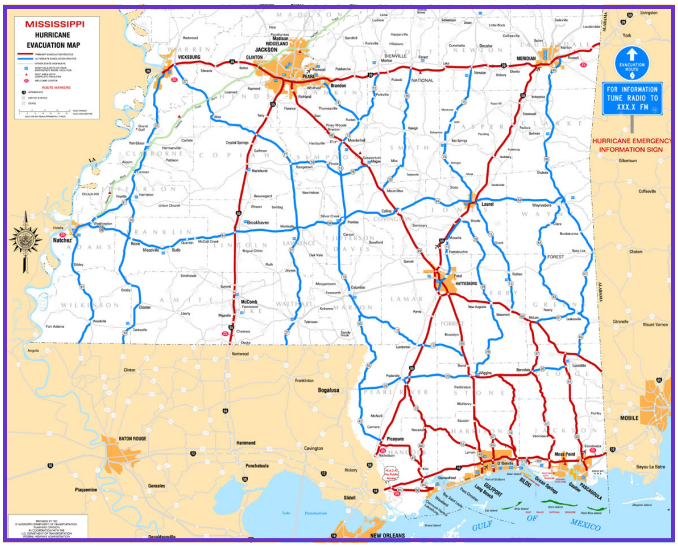
Concentrating Development in Low Risk Areas

Local land use policies can help keep new development out of harm's way. FEMA maps flood zones to indicate where risks are greatest. If possible, the best strategy for a community is to prevent new development in the highest impact flood zone, and to elevate it above flood levels in lower-risk areas. Federal funds from FEMA can assist with the increased cost of elevating a home above the flood plain. FEMA grants can also help communities acquire property in the floodplain. Compact community design is another strategy to accommodate development near the waterfront through higher densities and narrower streets. Smaller building footprints, reuse of existing buildings, and the reductions in street width and paved land mean more undeveloped land to absorb rainwater and reduce flood impacts[2].

Resiliency & Natural Hazards: Protecting People & Places

Strengthening Resilience of Households and Social Networks

Understanding a community's social networks, and the varying level of disaster's impact on each, helps governments prepare to meet their needs. Communication networks, like the cell-phone call back systems in Harrison and Jackson Counties, can get warnings out to a large population quickly. Targeting education efforts toward kids can help improve disaster preparedness for families as a whole. The Mississippi's Governor's Commission on Recovery, Rebuilding, and Renewal produced After Katrina: Building Back Better Than Ever to examine the lessons of the hurricane and goals for rebuilding. A more resilient community has advance knowledge of who lives in flood and other hazard-prone areas and makes plans to protect them. Specific provisions should be established for evacuation, sheltering, and recovery of elderly, disabled and single parent and other special needs households.



Hurricane Evacuation Map, Mississippi Department of Transportation. Find your evacuation route.

Tools

ACTIONS	POLICIES • TOOLS • TECHNIQUES
Strengthen and Direct Development Towards Existing Communities	Tap into the Coastal Zone Management Program to protect your coastline Develop zoning and land use policies to concentrate coastal growth in safer areas Investigate alternatives to create more resilient cities Rebuild Mississippi communities for greater resilience after a disaster Implement Mitigation Best Practices prior to a natural disaster Prepare homeowners for natural hazards
Encourage Community and Stakeholder Collaboration in Development Decisions	Increase Community Preparedness for natural climate hazards Develop disaster preparedness education programs that target the family Provide enhancements for coastal communities, ecosystems, and economies to become more resilient to coastal hazards

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

[1] *FEMA: Preparedness Resources www.fema.gov/plan-prepare-mitigate*

[2] *NOAA, ICMA, EPA, Sea Grant Rhode Island. Coastal Smart Growth http://coastalsmartgrowth.noaa.gov/elements/design.html*

Resiliency & Natural Hazards: Structural Solutions

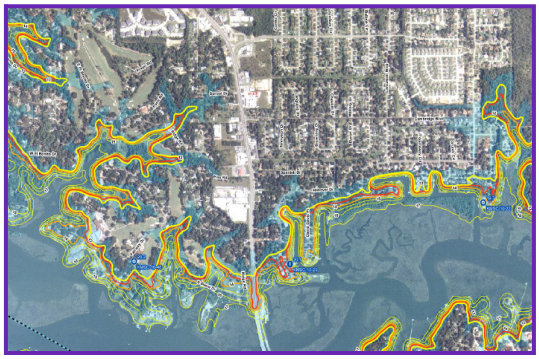
Structures along the Gulf Coast are exposed to multiple natural hazards, but their risk can be lowered with the adoption of policies to promote higher construction standards. Older structures can also be retrofitted to withstand catastrophic flooding and hurricane winds. The three key strategies below can help structures hold up to the elements.

- Location
- Wind Resistance
- Floodproofing

Policies to mitigate structural damage must begin with knowledge of the risks of different hazards and the level of risk that jurisdictions and property owners are willing to tolerate.

Location of Structures

Local development regulations are key tools communities can use to protect their population from a disaster. Whereas FEMA's flood maps delineate the areas of highest risk and establish the cost and availability of flood insurance for property in each zone, a local zoning or subdivision ordinance regulates the location, type and intensity of land use. The National Flood Insurance Policies' Community Rating System (CRS) provides guidance on measures to take and rewards communities that adopt stricter standards for construction with lower flood insurance rates. When a community is rebuilding after a disaster, setbacks and other zoning tools can help guide the property owner to place their structure in the safest part of the lot. Floodplain ordinances can also establish special protective requirements in designated flood zone areas. Where communities have experienced severe repetitive losses, targeted property acquisition can permanently remove at-risk parcels from the development pool. On the vertical plane, FEMA's Base Flood Elevations (BFE) provide guidelines for elevation by projecting the highest level that floodwater might reach.



Aerial photo of FEMA Base Flood Elevations for a coastal community.

Wind Resistance

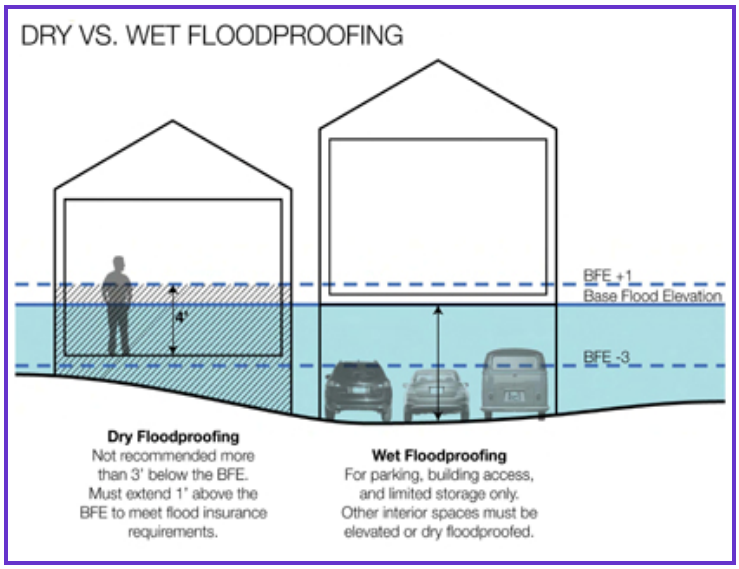
Preparing a structure for wind resistance should occur at the time of construction or as a retrofit to existing buildings. Several protective measures can increase resistance to heavy winds. The International Building Code (IBC) outlines wind engineering standards that can be adopted by resolution into local building codes and provide guidelines for how a building's roofs, walls, foundations, and framework should be built to resist winds of up to 150 mph. The Gulf Coast Community Design Studio in Biloxi, Mississippi designed and built a number of wind and water resistant homes (*such as the one pictured above*) based on their research of the risks on Mississippi's coast. Owners of existing buildings may need to consider wind retrofits to strengthen their structures. For a retrofit, it is important to first evaluate the condition of the home, including points of structural weakness, and recommend a path of action based upon the characteristics of the building. Some of the most effective strategies for improving a current home include upgrading the roof system, strengthening vents, and protecting doors and windows by installing shutters or replacing glass with impact-resistant covering that stands up to flying debris.

Resiliency & Natural Hazards: Structural Solutions

Floodproofing

Elevation above FEMA's Base Flood Elevation (BFE) is the best method to ensure structures stay dry during heavy rains or storm surge. Communities may adopt BFEs to govern new construction and even require another foot or more of additional clearance space above it. When elevating a structure to the recommended height isn't enough, wet or dry floodproofing is an acceptable mitigation option for non-residential structures. Wet flood-proofing allows floodwaters to flow in and back out, equalizing pressure on the building. This technique is appropriate for warehouses and other structures without extensive IT systems or special finishes. Dry flood-proofing keeps the water out, but results in greater pressure on the building. This technique requires extra reinforcement of the building's foundation, framework, and roof as well as special attention to the connections that hold each component together.

Images provided by Gulf Coast Community Design Studio.



Tools

Actions	Policies • Tools • Techniques
Build More Resilient Communities with Smart Land Use Policies	Minimize risks in land use planning Reduce social and economic effects of natural disasters Adopt land use guidelines to minimize flood damage Research mitigation strategies for specific natural hazards
Create a Range of Housing Opportunities and Choices	Create resilient communities by building stronger homes Build back better by applying architectural and engineering standards during the rebuilding process Build new homes to withstand floods Retrofit existing homes to withstand high winds by choosing the proper materials and techniques for coastal construction

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

SMART GROWTH & SUSTAINABILITY
for the Mississippi Gulf Coast

Policy in Practice

Growing a sustainable community requires more than just good ideas and initiatives; it requires changes in the way things are done, from implementation of land use regulations to citizen participation in the development process. An effective smart growth program establishes the foundation by including policies and laws that encourage compact, mixed-use development. It ensures tools are available to implement policies and encourage public participation in shaping the community's growth. A sustainable community plans for the type of growth desired and creates a more supportive regulatory environment. It reaches out to residents across the socioeconomic spectrum through media, meetings and word of mouth to develop a shared vision for future growth.

Oyster Bayou is a fictitious community surrounded by rich natural resources and fertile waterways emptying into the Gulf of Mexico. Aware of the delicate balance that preserves the land they love, city officials are exploring how Smart Growth can help protect their character and environment while encouraging opportunities for new growth.

Oyster Bayou Scenario: No one was happy with the type of growth that was coming to Oyster Bayou. Cherished streams and forests were disappearing under parking lots that remained empty most of the time. The school district struggled to meet the needs of new, dispersed population centers and many essential services - like grocery stores, pharmacies and dry cleaners - were a 20-minute drive away. Through a Smart Growth audit of its zoning code, Oyster Bayou officials discovered numerous provisions that were keeping them from building the type of development residents wanted. They made lot sizes and parking requirements more flexible, provided incentives to people who wanted to preserve trees and other natural resources on their site, and began to attract more of the desired development and incidentally began raising their tax base.

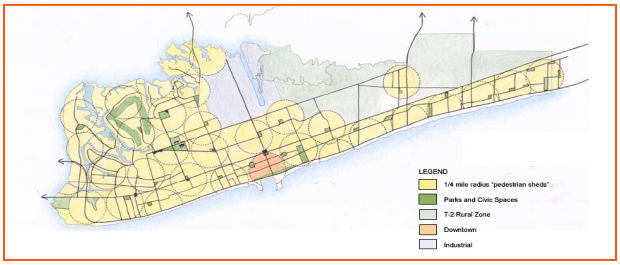
Practicing Good Policy

After Hurricane Katrina, the Governor's Commission on Recovery, Rebuilding and Renewal hosted design forums in 11 communities. In the community of Pass Christian, the process included walking tours through the devastated area and a charrette involving community residents and officials. The result was the development of a plan with four goals:

1. Recover economic sustainability;
2. Support and unite the community by restoring the civic realm;
3. Support and unite the diverse interests of the community; and
4. Rebuild city-wide.

The Rebuilding Plan incorporates several smart growth approaches including mixed-use, walkability and the restoration of the waterfront. To preserve its distinct community character and traditional town center, Pass Christian adopted a master plan and land use ordinance that allow compatible uses like homes and retail to exist side by side, or even in the same structure. By laying out a community-driven vision and following through by adopting the policies to implement it, Pass Christian is rebuilding as a smarter, more resilient city.

Graphic from the MS Renewal Forum



For more resources about specific strategies to implement public policy, read these DMR Resource Guides:

- Development Review
- Public Participation
- Quality Control

Policy in Practice: Development Review

Citizens and developers alike often feel that the development review process fails to serve their interests. Reasons for this dissatisfaction include complex and confusing regulations, a lack of information, and contentious steps toward project approval. Communities who have clearly defined their planning goals and regulations and share information with the public about their expectations find that development review becomes a more positive process for everyone involved. The following steps can help.

- Achieving a Consensus Vision for Future Growth
- Providing Centralized, Easily-Accessible Information
- Making Development Processes Transparent, Fair, and Inclusive

Community members meet with stakeholders to discuss development decisions. Photo by Dylan Passmore.

Achieving a Consensus Vision for Future Growth

Sustainable cities establish a clearly defined vision for the future of their community as the framework in which development occurs. There are a number of ways to build community consensus regarding the direction of future growth. Techniques like design charrettes and other types of workshops help citizens identify common visions and goals for growth. Once goals are established, communities can offer special incentives for strategies during the review process to ensure goals are met. The Mississippi Renewal Forum established visions for each of the communities along the Mississippi Gulf Coast in the wake of Hurricane Katrina. In many cases, these visions formed the basis of new comprehensive plans which lay the foundation for zoning changes or the creation of new ordinances.

The Town of Cary, North Carolina provides a Virtual Interactive Planner (VIP) System for potential developers.

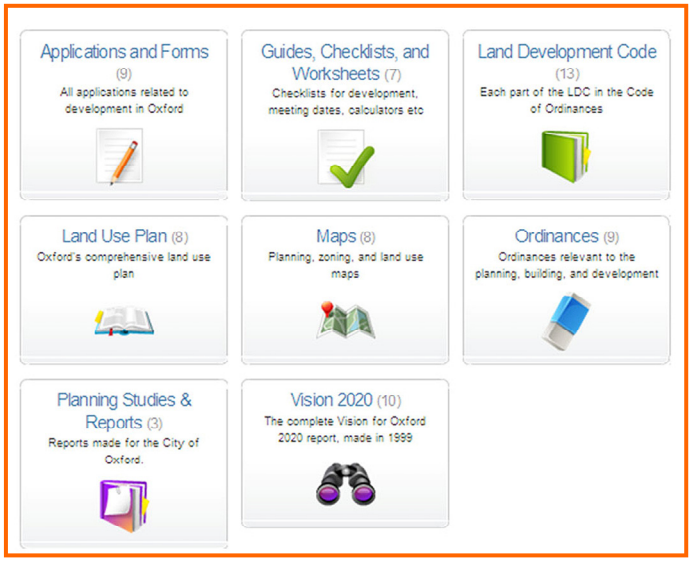
Providing Centralized, Easily-Accessible Information

Centralized, easily-accessible information regarding the community's vision for its future - as well as the ordinances, permitting processes, and other planning documents - helps encourage smart development by making information on common objectives available and understandable. People are often deterred from investing in a community or upgrading their properties when the development process is complex and controlled by multiple departments. Forms and requirements should be easy to access and not require applicants to duplicate the information they submit. The planning departments of Oxford, Mississippi and Cary, North Carolina use websites to share their planning process with the public. The websites provide documents necessary to understand development review and are one-stop resources for information on the permitting process.

Policy in Practice: Development Review

Making Development Processes Fair and Inclusive

Good information and predictable steps in development review set the stage for new investment in a community. To encourage growth, regulations must accomplish local goals without being overly complex. Employees and developers must be able to understand and apply them easily. To ensure new projects meet local goals, community members should have the opportunity to learn about new projects and give their input. Published project review timelines and on-line databases showing project status are useful tools. For example, applicants using Louisiana's on-line Coastal Use Permit system can file an application, track its progress through the entire permit process, and receive expedited authorizations. When information on the status of pending applications is readily available, it makes the process more fair and predictable for citizens and developers alike.



The City of Oxford, Mississippi makes the planning process open to the public via the web.

Tools

ACTIONS	POLICIES • TOOLS • TECHNIQUES
Make Development Decisions Predictable, Fair and Cost Effective	Produce publications and websites that outline processes Create development policies and regulations that are easy to understand and apply Use one-stop shops for interagency review Publish project review timelines and show project status through on-line databases
Encourage Community and Stakeholder Collaboration in Development Decisions	Involve stakeholders in a variety of ways, including community meetings, design charrettes, and other forms of stakeholder involvement Work with the media to get information about planning and development out to the public Target educational events about community growth and development toward youth and children Develop pattern books and design guidelines to illustrate the required form of development

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

Policy in Practice: Public Participation

Growth depends on a network of resources to succeed. Even for privately-owned projects, additional demands on infrastructure like roads and schools, and stormwater sewers give the public a stake in the end product. State and federal projects often require the public to be involved. Planning for public involvement makes communities more sustainable by integrating local knowledge and needs into the final plan. In coastal areas, where many residents depend on natural resources for their livelihood and recreation, citizens can make plans more sustainable by providing a valuable source of information on the interaction of the built and natural environment. The three approaches to public participation discussed below work best in combination with each other.

- Public Hearings
- Visioning Exercises
- Advisory Boards and Focus Groups

Public Hearings

Public hearings and briefings are often required for community development, environmental, and transportation projects. Although they are useful for participants who want to learn more, they offer limited opportunities for dialog and participation. To make a public hearing more effective, officials must widely distribute the meeting notice and provide clear information to the public concerning their role. When public hearings are the only means of interaction between officials and citizens, they are more likely to be contentious.

Attendees at a public hearing. Photo by Todd Storch.

Above: A visioning exercise. Photo by Evelina Schmukler, Gazebo Gazette.

Right: Charrette Images. Photo by Hollye Raines, RLA.

Visioning Exercises

Visioning exercises, including charrettes, interactive technology and brainstorming techniques, help set goals for planning efforts. Charrettes gained popularity with the new urbanism movement and are generally intensive public workshops that ask citizens to translate a high level of graphic, demographic and geographic data into a series of project goals. Because of the intense nature of these events, they often require extra staff, time, or consultants.

More traditional workshop settings where participants are asked to build consensus around their goals through brainstorming and collaborative exercises are also a good way to determine the community's primary goals and interests. This technique can be accomplished with existing city staff or the assistance of consultants. Citizens often benefit from images that help them visualize their options. Whether they share their own photos, or are presented with examples that illustrate different smart growth concepts, the use of images generates enthusiasm from citizens and creates greater confidence in outcomes.

Policy in Practice: Public Participation

Advisory Boards and Focus Groups

Public officials use a range of techniques to consult with the public. One common strategy is utilizing special advisors to help build a smarter plan. Advisory committees are composed of stakeholders appointed by elected officials to serve the public's interest in a project. They meet regularly throughout the planning process to provide input and advice. Maintaining an advisory board can open a channel of communication with other stakeholders and build trust that a project is being developed with the public's larger interests at heart. Advisory boards can also be granted the express purpose of improving the public's participation in research and other outreach activities.

Focus groups are another effective strategy to draw information from citizens with particular interests and expertise. Because they can be convened as needed, and have a defined contribution to the project, focus groups can result in valuable information and are often less expensive to manage.

Both advisory boards and focus groups are helpful for conducting additional research into public preference and opinion. They can help define the questions to be asked in polls, surveys or interviews.

An advisory committee meets to provide input and advice. Photo provided by the International City/County Management Association.

Maintaining an advisory group can open a channel of communication with other stakeholders.

Tools

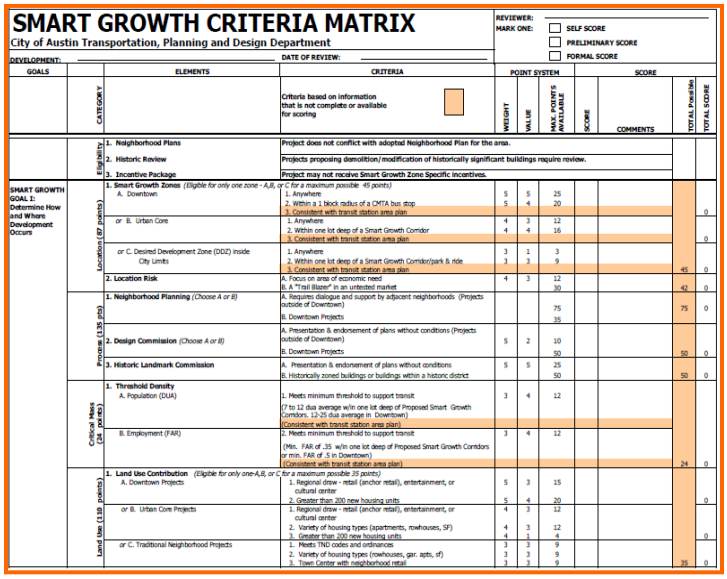
ACTIONS	POLICIES • TOOLS • TECHNIQUES
Encourage Community and Stakeholder Collaboration in Development Decisions	Involve stakeholders in project outcome Choose the right participation strategy for your project Consider a broad range of options to engage community members in a project Set a vision for your community's future Use photos and images to illustrate desirable planning projects for citizens Convene citizens and leaders in the aftermath of a major natural disaster Involve stakeholders through churches and other community organizations Develop innovative public service announcements for the Web

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

Policy in Practice: Quality Control

Adopting the right policies and procedures can promote smart growth and sustainability. But how do you know if the policies are working? Communities can ensure better Quality Control by examining barriers to smart development within their policies and procedures, giving government and developers a joint avenue to negotiate sustainable project design, and involving citizens in the success of projects in their own jurisdictions. The following strategies help public officials ensure they are moving in a sustainable direction.

- Evaluate Local Policy
- Create Incentives for Better Development
- Involve the Community in Evaluation



SMART GROWTH CRITERIA MATRIX

City of Austin Transportation, Planning and Design Department

REVIEWER:
MARK ONE: ☐ SELF SCORE ☐ PRELIMINARY SCORE ☐ FORMAL SCORE

DEVELOPMENT: DATE OF REVIEW:

GOALS	CATEGORY	ELEMENTS	CRITERIA	POINT SYSTEM: WEIGHT	VALUE	MAX. POINTS AVAILABLE	SCORE	COMMENTS	TOTAL Possible	TOTAL SCORE
	Eligibility	1. Neighborhood Plans	Project does not conflict with adoptal Neighborhood Plan for the area.							
	Eligibility	2. Historic Review	Projects proposing demolition/modification of historically significant buildings require review.							
	Eligibility	3. Incentive Package	Project may not receive Smart Growth Zone Specific incentives.							
SMART GROWTH GOAL 1: Determine How and Where Development Occurs	Location (87 points)	1. Smart Growth Zones (Eligible for only one zone - A,B, or C for a maximum possible 45 points) A. Downtown	1. Anywhere	5	5	25				
			2. Within a 1 block radius of a CMTA bus stop	5	4	20				
			3. Consistent with transit station area plan							0
		or B. Urban Core	1. Anywhere	4	3	12				
			2. Within one lot deep of a Smart Growth Corridor	4	4	16				
			3. Consistent with transit station area plan							0
		or C. Desired Development Zone (DDZ) inside City Limits	1. Anywhere	3	1	3				
			2. Within one lot deep of a Smart Growth Corridor/park & ride	3	3	9				
			3. Consistent with transit station area plan						45	0
		2. Location Risk	A. Focus on area of economic need	4	3	12				
			B. A "Trail Blazer" in an untested market			30			42	0
	Process (130 pts)	1. Neighborhood Planning (Choose A or B)	A. Requires dialogue and support by adjacent neighborhoods (Projects outside of Downtown)			75				
			B. Downtown Projects			35			75	0
		2. Design Commission (Choose A or B)	A. Presentation & endorsement of plans without conditions (Projects outside of Downtown)	5	2	10				
			B. Downtown Projects			50			50	0
		3. Historic Landmark Commission	A. Presentation & endorsement of plans without conditions	5	5	25				
			B. Historically zoned buildings or buildings within a historic district			50			50	0
	Critical Mass (24 points)	1. Threshold Density A. Population (DUA)	1. Meets minimum threshold to support transit (7 to 12 dua average w/in one lot deep of Proposed Smart Growth Corridors, 12-25 dua average in Downtown) (Consistent with transit station area plan)	3	4	12				
		B. Employment (FAR)	2. Meets minimum threshold to support transit (Min. FAR of .35 w/in one lot deep of Proposed Smart Growth Corridors or min. FAR of .5 in Downtown) (Consistent with transit station area plan)	3	4	12			24	0
	Land Use (130 points)	1. Land Use Contribution (Eligible for only one-A,B, or C for a maximum possible 35 points) A. Downtown Projects	1. Regional draw - retail (anchor retail), entertainment, or cultural center	5	3	15				
			2. Greater than 200 new housing units	5	4	20				0
		or B. Urban Core Projects	1. Regional draw - retail (anchor retail), entertainment, or cultural center	4	3	12				
			2. Variety of housing types (apartments, rowhouses, SF)	4	3	12				
			3. Greater than 200 new housing units	4	1	4				0
		or C. Traditional Neighborhood Projects	1. Meets TND codes and ordinances	3	3	9				
			2. Variety of housing types (rowhouses, gar. apts, sf)	3	3	9				
			3. Town Center with neighborhood retail	3	3	9			35	0

Smart Growth Matrix by the City of Austin, TX. Explore the matrix.

Evaluate Local Policy

Over the course of years, the accumulation of rules and regulations governing development can build up like sediment on a stream bed. Water may still flow through the channel, but the stream fails to perform as desired. The development process often breaks down in a similar way. Conducting a Smart Growth Audit can reveal which practices are currently hindering a community from attracting growth that contributes to its economic and environmental health and can pave the way for reform. It is also important to evaluate policies by comparing the costs and benefits of different alternatives. A change in policy direction, such as adopting a new land use ordinance, at the beginning of the policy development process can lead to the adoption of more effective policies to better address needs.

Create Incentives for Better Development

Communities can also encourage more sustainable development by offering greater flexibility. Whereas zoning traditionally mandates site design characteristics and amenities, a point-based performance evaluation system focuses on the smart growth criteria a jurisdiction wants the developer to meet. For example, the City of Austin's Smart Growth Matrix (pictured above) developed a series of design and environmental performance criteria and assigned points to determine how well the project matched community goals. High-scoring projects were offered a menu of incentives, including reduction of development fees. Austin's Planning Department worked with developments that failed to meet the standards in order to improve, rather than deny, proposed projects.

Communities can ensure better Quality Control by examining barriers to smart development within their policies and procedures.

Policy in Practice: Quality Control

Involve the Community in Evaluation

A project's quality can be improved through a deliberate program that builds in community evaluation from the beginning. There are a number of different alternatives to incorporate the goals of the public in local projects. Public workshops, visioning sessions, charrettes, surveys, and open discussions are all helpful at evaluating the direction of projects. By getting citizens involved in the early stages of a Comprehensive Plan for example, a jurisdiction accounts for local needs and begins building consensus around the end product. Some of the same mechanisms can be used to gage how the community feels a project is performing at the mid-point of implementation.

Public workshops, visioning sessions, charrettes, surveys, and open discussions are all helpful at evaluating the direction of a project.

Evaluation methods are most effective when participants understand their purpose and the intended result. From the beginning of policy implementation, an informed and involved public can present a unified front and help keep a project on track. Ultimately, the community as the end-user can provide excellent information about their own needs and problems to be solved both before and during the project. By following through at the project's conclusion, officials can correct any missteps that occurred during implementation and gain valuable insights to improve the success of future projects.

Above: Community evaluation. Photo provided by the International City/County Management Association.

Tools

ACTIONS	POLICIES • TOOLS • TECHNIQUES
Make Development Decisions Predictable, Fair and Cost Effective	Conduct a Smart Growth audit to determine where local policies can be improved Evaluate the effectiveness of public participation strategies Implement strategic zoning code reforms to promote smarter growth Overcome obstacles to smart growth
Encourage Community and Stakeholder Collaboration in Development Decisions	Evaluate the best public participation methods for your project Establish a process to ask the public their opinion about development in their community

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

SMART GROWTH & SUSTAINABILITY
for the Mississippi Gulf Coast

Growing Green

In a green community, citizens and public officials protect the environment by directing growth. Regulations take into account both the economic and environmental effects of development, while public works employees are trained in environmentally friendly practices. Green growth makes a city more attractive to its residents in the ways below.

- Green Streets with Tree Canopies and Attractive Plants
- Conservation and Preservation of Natural Green Space
- Attractive Stormwater Management Solutions
- Utilization of Waterfront Property (when available)

Taken together, green growth strategies provide financial and environmental benefits by making a community more attractive, reclaiming its natural heritage, and reducing the impacts of growth on the natural environment.

Oyster Bayou is a fictitious community surrounded by rich natural resources and fertile waterways emptying into the Gulf of Mexico. Aware of the delicate balance that preserves the land they love, city officials are exploring how Smart Growth can help protect their character and environment while encouraging opportunities for new growth.

Oyster Bayou Scenario: The Mayor's favorite fishing spot is a small bayou draining into a marshy area forested with cypress trees. A few people know his secret, but there are not many residents in the area, and he rarely sees other boaters, so he is shocked when the state puts the bayou on a list of impaired waters. As Oyster Bayou updates its stormwater management plan, he looks into what might have caused the contamination. The area is largely rural, but the county recently built a road nearby to encourage economic growth. A large shopping center with an asphalt parking lot was built a few miles away. The jobs and sales tax have been good for the city, but he discovers that the pollutants that wash off the streets and parking lots are the most likely source of pollution in the bayou. Given the likelihood of more growth, the Mayor starts to target areas for habitat conservation and joins with his Public Works Department to incorporate green infrastructure into new roadway design throughout Oyster Bayou.

It IS Easy Being Green

Green infrastructure improves the environment and enhances community value. In the 1960s, federal officials declared that Chattanooga, Tennessee had the worst air pollution in the country. The smoky factories began closing in the 1970s, and the citizens started reclaiming their waterfront. Chattanooga Vision 2000's Greenways Plan has produced over 20 miles of walking trails and parks to date. The primary goals are maintaining access to the Tennessee River and promoting economic development. The character of the community shines through in the results. Pedestrians have reclaimed the historic Walnut Street truss bridge, accessible pathways connect people with disabilities to favorite lookouts, and a blueway links boaters to the Tennessee River Gorge. Hotels, restaurants and homes now line Chattanooga's greenways. Revenues from hotel/motel taxes combine with other public and private sources for maintenance and upkeep. The greenway (*pictured below*) has achieved its original goals, and Chattanooga is now considered one of the nation's leading stewards of its environmental heritage.

For additional information about Growing Green, read these DMR Resource Guides:

- Green Streets
- Conserve & Preserve
- Stormwater Management
- Waterfront Development

Growing Green: Green Streets

Downtown Gulfport, MS. Photo by Courtney VanderSchaaf.

Smart Growth Street Designs are based on a network of well-connected streets that minimize the impact of roadways on the environment, while providing multiple ways to move through a community. Streets designed for more green space have substantial benefits for stormwater management. However, the underlying pattern of streets is just as influential. "Green street" design includes the following.

- Increasing Connections
- Narrowing Street Widths
- Promoting Stormwater Absorption Through Low-Impact Development

Increasing Connections

Conventional street layouts follow a hierarchical system based on commonly accepted engineering guidelines. Smaller roads serve residential areas and feed into connector roads know as arterials. Arterials funnel traffic to regional roads and highways. This funneling process often creates chokepoints and limits alternative routes. Local governments and states are moving away from a strict separation of land uses and demanding connected, multi-modal street networks. Model solutions are contained in the Institute for Transportation Engineers (ITE) guidebook "Traditional Neighborhood Development Street Design Guidelines".

Green Streets encourage the use of landscape elements to absorb rainwater and reduce runoff.

Narrowing Street Widths

Reducing street width lowers the level of impervious cover, stormwater runoff and pollutants associated with new development. Many communities require residential street widths as wide as 40 feet to accommodate two parking and two moving lanes. In areas with fewer than 500 daily trips, however, streets can be as narrow as 22 feet without sacrificing emergency access, on-street parking, or vehicular and pedestrian safety. Revisions to current standards are often needed to promote narrower residential streets. The benefits can be substantial, however. Narrower streets in residential areas slow traffic, reducing the rate of accidents and injuries. Families appreciate the safer environment for their children. Fire officials in many communities affirm that narrower, connected street networks still provide emergency vehicles adequate access to households in need.

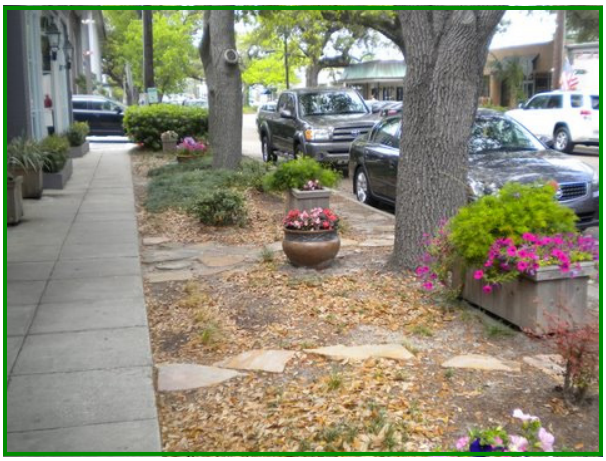
Parking on one side of the Street. Mueller Austin neighborhood, Austin, TX. McCann Adams Studio.

Gulfport, MS. Photo by Kimberly Miller, AICP.

Growing Green: Green Streets

Promoting Low Impact Development

Greener streets offer a low-impact development approach to improving stormwater management. Narrow street widths leave room for landscape elements like sidewalk planters and tree boxes to catch and store rainwater. Replacing a curb and gutter system with grassy swales slows the passage of rainwater over land and improves its quality before it reaches local waterways. Bioretention features, like curb extensions and sidewalk planters, can add roadside appeal while promoting important biological processes. Permeable pavement increases a street's green factor further, providing runoff storage and pollutant removal. The Better Site Design Handbook provides officials with a valuable way to review their own codes and ordinances to determine if the codes allow for greener alternatives to conventional street layout.[2]



An attractive "green street" in Ocean Springs, MS. Photo by Kimberly Miller, AICP

Tools

ACTIONS	POLICIES • TOOLS • LINKS
Preserve Open Space, Farmland, Natural Beauty, and Critical Environmental Areas	Encourage Low Impact Development Create Livable Streets with street trees Promote Open Space Design to manage stormwater Reduce paved areas by eliminating cul-de-sacs Replace curbs and gutters with green infrastructure Get involved in the Campaign for Green Infrastructure
Create Walkable Neighborhoods	Check out Better Site Design Publications Neighborhood Street Design Guidelines: An Oregon Guide for Reducing Street Widths. Use a Walkability Checklist to rate your community Nannie Helen Burroughs Avenue Great Street: Proposed Low Impact Development Practices

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

[1] *Schueler, Thomas, R. 1995. Site Planning for Urban Stream Protection. Center for Watershed Protection, Ellicott City, MD. Prepared for the Metropolitan Washington Council of Governments, Washington, DC.*

[2] *Better Site Design: A Handbook for Changing Development Rules in Your Community. Center for Watershed Protection. August 1998.*

Growing Green: Conserve & Preserve

Conserving ecological areas and preserving historic and culturally significant areas is important for creating distinctive communities and fostering a strong sense of place. Conservation easements, open space design, and historic preservation districts can be used to promote infill and redevelopment projects while protecting areas with cultural and natural resources from future development. Principles that define conservation and protection measures are discussed below.

- Foster Distinctive, Attractive Communities with a Strong Sense of Place
- Preserve Open Space, Farmland, Natural Beauty, and Critical Environmental Areas
- Strengthen and Direct Development Toward Existing Communities
- Protect Watersheds

Foster Distinctive, Attractive Communities with a Strong Sense of Place

Conservation easements are voluntary agreements that allow individuals or groups to limit the type or amount of development on their property. Land set aside in a permanent conservation easement has a prescribed set of uses or activities that generally restrict future development. Conservation easements are often secured to protect significant environmental features and tracts of open space. Some areas have created strategic plans for identifying areas for future conservation. The Conservation Fund provides such strategies, referencing examples like America's Longleaf Initiative to protect longleaf pine habitat and the Open Space Plan for Davidson, Tennessee.

Photo provided by EPA.

Photo of Graveline Bay provided by the Mississippi Department of Marine Resources.

Preserve Open Space, Farmland & Natural Beauty

The use of zoning and other policy can help discourage the development of undisturbed, natural areas. When land use codes provide clear delineation of lands for preservation and lands for development, natural resources can be protected. Riparian buffer zones preserve natural vegetation along waterways that aids in filtering pollutants, providing critical habitat, and protecting against streamside erosion. The Mississippi Scenic Streams Stewardship Program was designed to encourage riparian buffers by promoting voluntary private conservation efforts along Mississippi's unique rivers and streams, in addition to offering tax incentives for streamside tree planting.

Strengthen and Direct Development Toward Existing Communities

Through strategic planning that discourages greenfield development, local jurisdictions can promote infill and redevelopment projects. The American Planning Association has a policy guide to help communities create redevelopment plans. To combat suburban sprawl, some cities use financial incentives to direct development toward existing communities where infrastructure is already present.

Growing Green: Conserve & Preserve

Watershed Protection

Watershed plans are another way for communities to protect natural resources. A watershed is an area of land where runoff flows into a common stream or river. The goal of watershed plans generally relates to water quality improvements and/or protection. To accomplish this goal, watershed plans have educational and technical best management practices (BMPs) to promote better water quality. The watershed planning process identifies significant assets within the watershed including riparian areas, recreational areas, historically significant locations, and areas for future conservation efforts. Watershed plans look at activities in upstream areas and how those impact areas downstream. Considering land development's impact on hydrology at a watershed level is important for regional planning as it can prevent problems like street flooding and other drainage concerns. Regional planning and zoning should take into account watershed boundaries, impervious surface cover, and natural hydrologic processes to promote growth in the most ideal places. Examples of the practices that could be implemented in a suburban area watershed plan include structural practices such as "green" stormwater practices (i.e. bioretention cells, sediment basins, green roofs, etc.) and non structural strategies like ordinances, pet waste programs, setbacks and zoning overlay districts.

Photo provided by Eco-Systems, Inc.

Tools

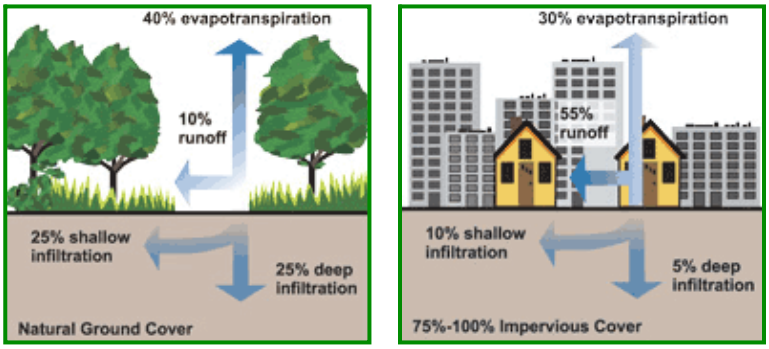
PRINCIPLES	POLICIES • TOOLS • TECHNIQUES
Foster Distinctive, Attractive Places with a Strong Sense of Place	Create sustainable open spaces for residents to enjoy Design zoning ordinances around preserving open spaces
Preserve Open Space, Farmland, Natural Beauty, and Critical Environmental Areas	Encourage Better Site Design using the Handbook for Changing Development Rules in your Community Protect natural resources through conservation easement
Strengthen and Direct Development Toward Existing Communities	The Trust for Public Land has put together the Local Government Guide to Greenprinting which discusses land conservation to guide growth and Preserve the Character of our Communities Land trusts, such as those developed in Maryland provide support for the protection of natural resources through conservation easements, thus limiting development of critical environmental habitats

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

Growing Green: Stormwater Management

Smart Growth principles, sustainable development techniques, and stormwater management work together to promote better water quality. Stormwater management programs have been developed in an effort to reduce pollution found in stormwater runoff. Land development concerns when considering stormwater management include: preserving natural hydrology and open spaces, preserving ecologically sensitive areas, and minimizing land disturbances and impervious cover. Below are Smart Growth techniques that can be used as best management practices for stormwater management.

- Infill & Redevelopment
- Road & Parking Restrictions
- Regional Planning



Compare stormwater runoff in natural & urban settings. Graphic provided by EPA.

Infill & Redevelopment

Promoting infill projects and redevelopment reduces the amount of impervious surfaces, reduces sprawl, and protects open spaces. Infill and redevelopment projects can be promoted on a local level by zoning (setbacks, mixed-use, smaller minimum lot sizes) and incentives such as density bonuses, and financial perks. The EPA provides a resource for Protecting Water Quality with Higher Density Development. Advantages to water quality include decreased imperviousness within the watershed. Protection of open spaces provides areas for natural infiltration processes, while reduced sprawl creates less vehicular traffic and associated pollution.

Parking policies and Smart Growth street design are implemented to help minimize land disturbances and reduce stormwater runoff. Photos by K. Miller, AICP.

> Promoting the natural hydrological process of infiltration improves water quality by reducing polluted runoff.

Road & Parking Restrictions

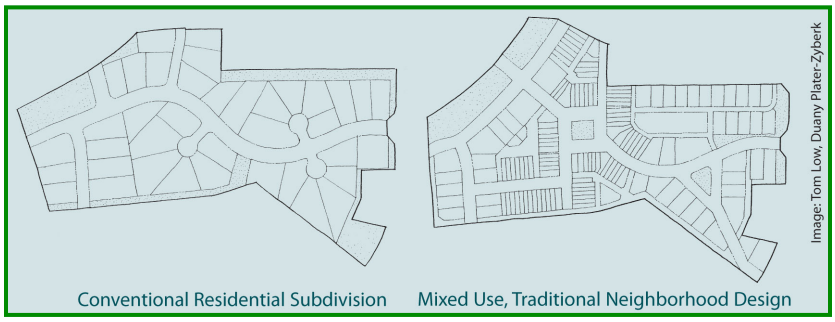
Land disturbances and impervious surfaces can be minimized through redevelopment, parking policies, and Smart Growth street designs. Promoting the natural hydrological process of infiltration improves water quality by reducing polluted runoff. The City of Portland is working through a Grey to Green Initiative to address stormwater management.

Growing Green: Stormwater Management

Regional Planning

Regional planning with an emphasis on stormwater management uses the watershed as the region of planning. This planning technique identifies critical ecological areas for conservation within the watershed and outlines development and redevelopment districts. Directing development away from ecologically sensitive areas protects those areas from stormwater runoff pollution and ultimately reduces stormwater costs. The U.S. EPA provides more information on Regional Planning from a Watershed approach in its Plan Builder and other tools.

Open Space Design with protection of natural features. Photo by Jim Morris, MDEQ.



Compact growth helps achieve conservation by reducing the amount of pavement needed, thus producing new opportunities for stormwater retention and detention. Graphic by DPZ.

Tools

Actions	Policies • Tools • Techniques
Mix Land Uses	Identify construction and post-construction Best Management Practices (BMP) with Mississippi Department of Marine Resource Stormwater Toolbox. The EPA provides an educational module on Smart Growth and Water Resource Protection at the Watershed Academy Web The St. Louis Storm Water Group has put together guidance for Planning and Zoning Strategies for Water Quality Protection which outlines in-fill projects
Preserve Open Space, Farmland, Natural Beauty, and Critical Environmental Areas	Identify your watershed with EPA's Surf Your Watershed tool Identify coastal zone management areas at NOAA's Coastal Management website Consider a watershed approach to Stormwater Management
Strengthen and Direct Development Toward Existing Communities	Design zoning ordinances around preserving open spaces Reduce impervious surfaces by promoting Smart Growth for Stormwater Management including infill and redevelopment Connect Smart Growth and Brownfields Redevelopment

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

Growing Green: Waterfront Development

Development pressures in waterfront communities often threaten the natural resources that originally attracted people to the community. Community leaders can utilize several Smart Growth and sustainable development strategies when considering options for waterfront development, including those listed below.

- Mix Land Use
- Take Advantage of Compact Design
- Foster Distinctive, Attractive Communities

> Through Smart Growth, natural resources should be protected through open space design and conservation.

Mix Land Use

Mixing land use is a common theme for waterfront developments; maritime industries often share space with recreational boaters and fishermen. Diversifying the uses of waterfront areas to include office, retail, and residential space can attract wide variety of people. Vacant waterfront sites can be reclaimed and opened for contemporary uses. It's even possible to build green infrastructure by integrating trees and vegetation into the street network and the city's water and energy management.

Back Bay Biloxi, MS. Photo by Walter Parenteau, FLICKR.

Harrison County, Mississippi understands the dual function of its beach as both a tourist attraction and as protection from natural disasters. It maintains an attractive and resilient coastline through the Sand Beach Master Plan. This same type of planning can be applied to new development districts or redevelopment of coastal areas in order to create enticing waterfronts. Harbors are an excellent opportunity to integrate recreational and commercial uses. In Pass Christian, Mississippi, for example, recreational boaters share space with shrimpers and oystermen who can dock and sell their catch in the harbor. Gulfport, Mississippi is home to an industrial port, a recreational harbor, and a beachfront park with long-range plans to incorporate commercial development.

Take Advantage of Compact Design

Through Smart Growth development, natural resources should be protected through open space design and conservation. Strategic planning of waterfront development will clearly outline the boundaries of development space and conservation space. Because of the limited amount of waterfront, compact design is recommended. Protection of the waterfront viewshed will be important in sustaining the attractiveness of the community to future generations. NOAA provides a tool to illustrate how new development might alter the viewshed of a waterbody. This technology can be used to visualize

Growing Green: Waterfront Development

Providing a walkable, mixed-use, compactly-designed waterfront development will attract residents and foster a strong sense of place.

An attractive waterfront community. Photo by Gappa.

Foster Distinctive, Attractive Communities

The integrity of the development district can be protected through the use of codes and ordinances. EPA provides examples of codes supporting Smart Growth development which can be applied to waterfront developments, as well. Because of the natural beauty of waterfront settings, it is imperative to make developments and surrounding areas pedestrian-friendly. There should be ample opportunities for people to see and access the water. A waterfront that maximizes views becomes more desirable and valuable. Landscaping the pedestrian connections can enhance the unique qualities of a place. Providing a walkable, mixed-use, compactly-designed waterfront development will attract residents and foster a strong sense of place.

Tools

Actions	Policies • Tools • Techniques
Mix Land Uses	Include a wide variety of amenities along the waterfront A Waterfront Vision Plan serves as a framework for future redevelopment Create great waterfront areas
Take Advantage of Compact Design	New development may alter the viewshed of a waterbody Develop a framework for channeling development and configuring urban public open space
Foster Distinct and Attractive Communities	The National Oceanic and Atmospheric Administration provides tools and resources for Coastal and Waterfront Smart Growth Take advantage of the benefits of waterfront design Codes that support Smart Growth foster attractive communities
Protect the Waterfront	Prepare a Watershed Plan to restore and protect waterfront property Form an organization to plan, coordinate and implement revitalization strategies, like the Waterfront Development Corporation in Kentucky Incorporate Flood Control into management plans

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*

SMART GROWTH
& SUSTAINABILITY
for the Mississippi Gulf Coast

Tools & Resources Index

Resources Index:
Community Character

PRINCIPLES	TOOLS and LINKS
Fix It First	**Create Historic Preservation Programs:** Mississippi Department of Archives and History, (n.d.). *Historic Preservation.* Accessed on 7/15/11 from http://mdah.state.ms.us/hpres/clgprogram.php National Trust for Historic Preservation, (2011). *PreservationNation*. Accessed on 7/15/11 from http://www.preservationnation.org/ National Parks Service. *Tax Incentives for Preserving Historic Properties*. Accessed on 10/18/12 from http://www.nps.gov/tps/tax-incentives.htm City of Naples, Community Development/Planning Division, (2004). *The Design Review Handbook*. Retrieved on 7/15/11 from . Accessed on 10/18/12 from http://www.naplesgov.com/DocumentCenter/View/9459 National Trust for Historic Preservation, (2002). *Smart Codes: Smart Growth Tools for Main Street.* Retrieved on 10/18/12 from http://www.preservationnation.org/information-center/sustainable-communities/smart-growth/additional-resources/toolkit_codes.pdf **Implement Fix-it-First Infrastructure Programs:** Smart Growth America, (2010). *Adopt a "Fix-it-First" Policy*. Accessed on 7/15/11 from http://www.smartgrowthamerica.org/policy-work/smart-growth-at-the-state-and-local-level/comprehensive-approaches/adopt-a-fix-it-first-policy/ U.S. Environmental Protection Agency, (2010). *Using Smart Growth Techniques as Stormwater Best Management Practices* Accessed on 7/14/11 from http://www.epa.gov/smartgrowth/stormwater.htm Smart Growth Network, (n.d.). *Getting to Smart Growth: 100 Policies for Implementation*. Retrieved on 7/15/11 from http://www.smartgrowth.org/pdf/gettosg.pdf U.S. Environmental Protection Agency, National Pollutant Discharge Elimination System. (2009). *Infrastructure Planning*. Accessed on 7/14/11 from http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=86&minmeasure=5 Smart Growth Online, (n.d.). *Resources*. Accessed on 7/14/11 from http://smartgrowth.org/library/articles.asp?art=1655&res=1280 U.S. Environmental Protection Agency, (2010). *Sustainable Design and Green Building Toolkit for Local Governments*. Retrieved on 7/15/11 from http://www.epa.gov/region4/recycle/green-building-toolkit.pdf U.S. Environmental Protection Agency, (2010). *Smart Growth Guidelines for Sustainable Design and Development.* Accessed on 7/15/11 from http://www.epa.gov/dced/sg_guidelines.htm

PRINCIPLES	TOOLS and LINKS
Fix It First	**Reusing Vacant Lots or Brownfields:** Mississippi Department of Environmental Quality, (n.d.). *Brownfields*. Accessed on 7/15/11 from http://www.deq.state.ms.us/MDEQ.nsf/page/GARD_brownfields?OpenDocument Center for Community Progress, (n.d.). *Turning Vacant Spaces into Vibrant Places*. Accessed on 7/15/11 from http://www.communityprogress.net/ Florida Planning Toolbox, (n.d.). *Infill and Redevelopment Tools*. Accessed on 7/15/11 from http://www.cues.fau.edu/toolbox/chapter.asp?chapterid=10 U.S. Environmental Protection Agency, (2011). *Brownfields and Land Revitalization*. Accessed on 7/14/11 from http://www.epa.gov/brownfields/ U.S. Environmental Protection Agency, National Pollutant Discharge Elimination System. (2006). *Redevelopment*. Accessed on 7/14/11 from http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=127&minmeasure=5
Mixed-Use Districts	**Create Special Improvement Districts for Focused Investment:** Mississippi Renewal Forum, (2005). *Redevelopment Master Plan Charrette Book – Gulfport, MS.* Retrieved on 7/20/11 from http://www.mississippirenewal.com/documents/Rep_Gulfport.pdf City of Pass Christian, Mississippi, (2009). *Pass Christian: SmartCode*. Retrieved on 7/15/11 from http://www.ci.pass-christian.ms.us/Smartcode.pdf American Planning Association, (2006). *Section 4.1 Model Mixed-Use Zoning District.* Retrieved on 7/15/11 from http://www.planning.org/research/smartgrowth/pdf/section41.pdf Beyard, M.D., Pawlukiewicz, M, and Bond, A, (2003). *Ten Principles for Rebuilding Neighborhood Retail*. Retrieved on 7/15/11 from http://www.uli.org/ResearchAndPublications/Reports/~/media/Documents/ResearchAndPublications/Reports/TenPrinciples/TP_NeighborhoodRetail.ashx Atlanta Housing, (2011, May 31). Report: Atlanta Sees $1.7 Billion in Economic Impact [Web log]. Accessed on 7/21/11 from http://atlantahousingauthority.blogspot.com/2011/05/report-atlanta-sees-17-billion-in.html **Strengthen and Direct Development Towards Existing Communities:** National Trust for Historic Preservation, (2002). *Why Johnny Can't Walk to School – Historic Neighborhood Schools in the Age of Sprawl.* Retrieved on 7/20/11 from http://www.preservationnation.org/information-center/saving-a-place/historic-schools/helping-johnny-walk-to-school/helping-johnny-walk-to-school.pdf U.S. Environmental Protection Agency, (2010). *Smart Growth Guidelines for Sustainable Design & Development.* Accessed on 7/21/11 from http://www.epa.gov/smartgrowth/sg_guidelines.htm Andrew, J & Long, C., (2010). *Keys to Successful Mix-Use and Infill Development.* Western City. Accessed on 7/21/11 from http://www.westerncity.com/Western-

PRINCIPLES	TOOLS and LINKS
	City/March-2010/Keys-to-Successful-Mixed-Use-and-Infill-Development/
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