



LONG-TERM COMMUNITY RECOVERY PLAN

SUSTAINABLE RECOVERED FUTURE
CREATE RENEW SUSTAINABLE

CITY OF
GALVESTON
TEXAS

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GALVESTON, TEXAS



April 9, 2009

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EXECUTIVE SUMMARY

On September 13, 2008, Hurricane Ike made landfall on Galveston Island, Texas. More than 75 percent of the structures in the community had damage impacts as a result of the storm. Ten weeks later, the Galveston City Council initiated the recovery planning process with the first appointments to the Galveston Community Recovery Committee (GCRC). At the same time, the City entered into the Federal Emergency Management Agency's (FEMA) Long Term Community Recovery Program, which provides coordination of resources and planning services to support an area's recovery planning efforts. Guided by commitment to an inclusive process, over a six-week period, City Council made additional committee appointments until the GCRC numbered 330 members. The Committee was charged with developing a vision, goals and projects that would move Galveston along the road to full recovery from the devastation of Hurricane Ike.

Committee members quickly agreed on three guiding principles: a) build upon and retain the things that have made Galveston a good place to live, work, raise a family, visit, retire, and own a business; b) develop a Long-Term Community Recovery Plan (Recovery Plan) that leads Galveston to a better place than it was on September 12th; and c) the Recovery Plan must address every aspect of life in Galveston. Recovery is not only about building back infrastructure, or housing, but must include the breadth of what makes Galveston a livable community.

With administrative and technical support from the City of Galveston and the FEMA Long Term Community Recovery Team, the Committee began its work by listening to fellow Galvestonians. Hundreds of individuals turned out for ten community meetings to share ideas on how to rebuild Galveston and the kind of community they wanted their city to become. Clearly they envisioned a community that was greener and stronger economically, socially, culturally, and educationally. They saw a Galveston that was more resilient and more sustainable. They wanted a city that celebrated its diversity, valued its people as its greatest resource, and afforded opportunity for success to all of its citizens. They were looking for a Galveston that was clean, safe, and beautiful.

In addition to gathering input at community meetings, the committee established a Communications Committee that very quickly developed a website, www.recoverygalveston.org, to dispense information to and gather input from Galvestonians...both those who were living on the island and those displaced by the storm.

Listening to a diversity of voices, the Committee broke into five focus areas, 13 work groups, and 42 project teams. Members developed visions, goals, and eventually projects to move Galveston along the road to recovery. The goals and projects articulated in the Recovery Plan contribute to a Galveston that:

- Behaves in an environmentally responsible manner
- Protects its natural resources
- Better defends its people, its infrastructure, its buildings, and its natural resources against the perils of location on a barrier island
- Rebuilds its economy based on its strengths and diversifies its economic engines
- Reconstructs its existing neighborhoods, making the housing stock stronger, safer, more affordable, and more attractive
- Strengthens and makes more effective its public education system
- Ensures healthcare access and delivery for all its citizens
- Rebuilds and updates its infrastructure and transportation systems
- Cleans up and beautifies its neighborhoods, business districts, streets and public areas

In its planning, Galveston can never lose sight of the fact that we have chosen to make our home on a barrier island, two miles off the coast of Texas. Unlike a traditional planning document, this Recovery Plan is an action-oriented menu of projects and is intended to be used as a road map for funding and resource allocation decisions as Galveston recovers from Hurricane Ike.

ACKNOWLEDGEMENTS

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INTRODUCTION





INTRODUCTION

The City of Galveston, Texas, is located on a barrier island 32 miles long and 2 ½ miles wide, just off the upper Texas Coast in the Gulf of Mexico. The island city is approximately 50 miles southeast of Houston, the fourth largest metropolitan area in the country. Galveston is accessed by a causeway that links the Island to the mainland on the north end of the city, a toll bridge on the western end of the island and a ferry service at the east end of the city. A ten-mile long, 17-foot-high seawall protects a portion of the city from hurricane storm surge.

The economy of Galveston is based on the Port of Galveston and related maritime interests; tourism; financial and insurance institutions; and the Island's largest employer, The University of Texas Medical Branch at Galveston (UTMB), and its education, research, and healthcare delivery components.

In 2005, the National Hurricane Center compiled a list of the five places in the United States most vulnerable to hurricanes. Galveston, Texas, was one of the five areas named. Low elevation and limited evacuation routes off the island were the primary reasons for Galveston's inclusion on that list.

In September of 1900, Galveston was in the eye of a hurricane that is still the worst natural disaster in the United States when measured by loss of human life. In one night 8,000 people, almost 23 percent of the city's population, died.

Hurricane Ike made landfall at 2:10 a.m. September 13, 2008, with the eye coming ashore over the east end of Galveston Island. The storm had sustained winds of 110 mph, gusts of 125 mph, and an eye that was 46 miles wide.

The Galveston Seawall protected the City from storm wave attack. However, Galveston was flooded by a storm surge that entered Galveston Bay and came into the City from the north. The surge also passed over the west end of Galveston Island and Bolivar Peninsula to the east of the island. The highest storm surge has been estimated at 17 feet, possibly 20 feet in some areas. Hurricane Ike was the third costliest storm to ever make landfall in the United States.



HISTORICAL CONTEXT

As an island city, vulnerable to hurricanes, Galveston has a history that is both flamboyant and turbulent. During the early 1800s, the city had a rather notorious reputation as a base of operation for pirates and slave traders. Initially known as Campeche, the pirate settlement grew to become a respectable settlement and port of entry for the Republic of Texas. By 1839, the grid street pattern had been platted and the town incorporated as the City of Galveston.

Galveston boomed as a coastal port with vast expanding wholesale operations specializing in cotton and grain that gave the city an international influence. When the railroad connected Galveston to the mainland in the 1860s, it became “the” major trade center west of the Mississippi River, giving rise to its tawdry reputation as a smaller version of San Francisco or New Orleans.

While Galveston experienced its share of setbacks and struggles, including competition with the City of Houston, the Civil War, a major fire, and disease, the city continued to grow to a population of nearly 37,000. In addition to industry and commerce, Galveston became a cultural hub of education, science, arts, entertainment, and many Texas firsts. This rise to prominence and immense local fortunes made it known as the “Wall Street of the Southwest.” However, this was to be short-lived, and replaced with a new, unwelcome association.

In September 1900, as Galveston’s gilded era was in full swing, a strong hurricane caught Galveston’s residents by surprise. A massive storm surge inundated most of the island City, resulting in the loss of more than 4,000 structures (two-thirds of its built environment) and countless lives.

With a doggedness that is characteristic of Galvestonians, survivors of the storm took action. In a spectacular engineering feat, the City committed to constructing a 17-foot high seawall along the most vulnerable portion of its beachfront to prevent

future catastrophic flooding. Construction of the seawall included a plan to raise the ground elevation of the entire City. Beginning at the seawall height along the southern beach side, the ground was raised and gently sloped towards Galveston Bay on the north side. The seawall eventually extended to over 10 miles in length.

Even with construction of a protective seawall, the post 1900 city was unable to rekindle the momentum of more prosperous times. Development of the Houston Ship Channel brought the Port of Houston into direct competition with Galveston and contributed further to the city’s decline. But, the single most important reason for Galveston’s fall as a major commercial center was the vulnerability of the island to hurricanes.

In an effort to further recovery and rebuild its diminished population, the city actively solicited immigration. The “Galveston Movement” of 1907 was named for the roughly 10,000 Eastern European immigrants who passed through Galveston’s port. During the decades that followed, Galveston eased into becoming a coastal resort and a “hotbed” of illegal gambling that attracted affluent Americans and celebrities. Gambling was eventually shut down under Texas law, but the City retained its laidback resort feeling. Sun-seeking tourists flock to the seawall during the day and the historic downtown at night.

Galveston’s past history as a mercantile power house is visible today in the architecture of its commercial districts and residential neighborhoods. Many of the City’s avenues and boulevards are virtual timelines of architectural styles, representing multiple boom periods from the 1830s to post World War II. While the Seawall serves as a vivid reminder of the ominous tragedy of 1900 that helped shape Galveston’s destiny, the city’s rich architectural fabric endures as a source of local pride and national recognition.



COMMUNITY ENGAGEMENT PROCESS



On November 20, 2008, the Galveston City Council began the process of appointing a Long-Term Recovery Committee. That appointment process finished six weeks later and resulted in a committee that included 330 Galveston residents. The Galveston Community Recovery Committee was charged with developing a vision, goals, and projects that would move Galveston along the road to full recovery from the devastation of Hurricane Ike.

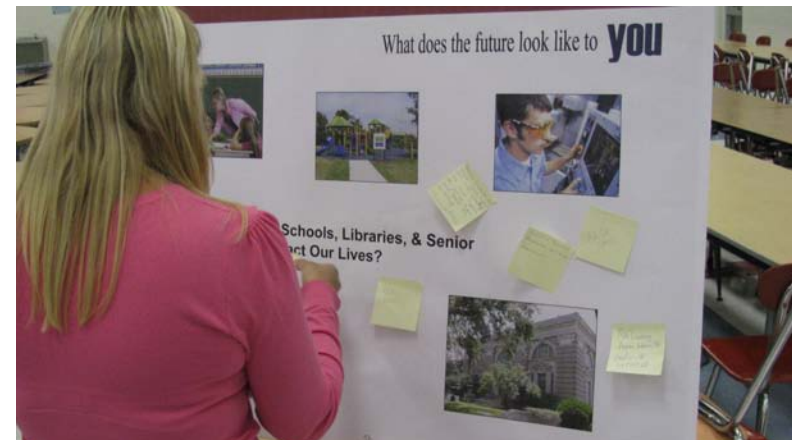
Galveston City Council wanted to be certain that diverse voices and new ideas were represented in this process. Committee meetings were subject to the requirements of the Texas Open Meetings Act and always included an opportunity for the public to address the committee formally and to participate in committee meetings informally.

As evidence of the inclusion of the process, the first work group created by the GCRC was a Communications Committee. This group quickly identified a variety of methods by which to communicate information and solicit input from the public. The group developed a community based website, www.recoverygalveston.org, which has quickly become the central repository for general hurricane recovery information in addition to committee business. Print, broadcast, and electronic media are additional tools that have been used to communicate with the public throughout the recovery planning process.

From the beginning, the recovery planning process was on an extremely tight time frame. The plan itself was due to City Council on April 9th. Guided by the experience of the FEMA Long Term Recovery Team, the committee determined that despite the fast track, it needed to take the time to listen carefully to the

citizens of Galveston. GCRC put together a public outreach program that included a series of ten open houses to be during the last two weeks of January. These meetings were held in a variety of locations including two off the island and provided the public with the opportunity for face-to-face discussions with GCRC, City staff, and FEMA Long Term Recovery Team members. Over 800 people attended these open houses and more than 2,700 comments were collected through post-it-notes, surveys and comment cards.

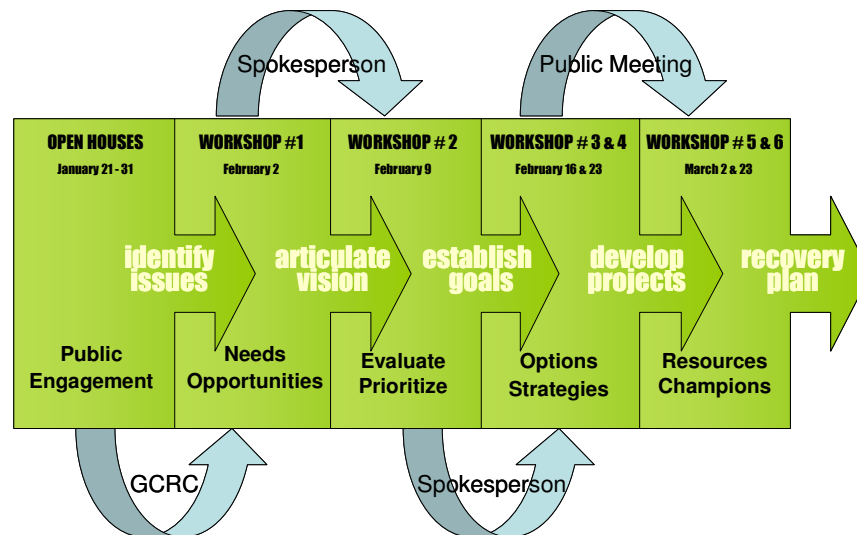
In addition to these open houses, committee members conducted surveys and focus group meetings on their own. Electronic communication was a key component with input coming via email, the website, and distributed at committee meetings. This public input was used by GCRC to identify recovery issues and concerns and formed the foundation for five recovery focus areas: the environment; economic development; housing and the character of the community; health and education; transportation and infrastructure, and disaster planning.



The three-hour Monday evening committee meetings, which were held from February 2 through March 23, 2009, were open to the public, and attendance ranged from 175 to 225 at these workshops. Committee members devoted more than 4,200 hours of work to crafting the Recovery Plan.



The committee divided itself into five focus areas and then into 13 work groups and, finally, into 42 project teams. The first two workshops addressed setting a recovery vision and identifying goals. At the third, fourth, and fifth meetings, committee members reviewed criteria for setting recovery value and identified recovery projects. The sixth Monday meeting was used to review the drafts of recovery projects that were presented at a final community open house held on March 28, 2009.



Galveston Community Recovery Process

COMMUNITY RECOVERY VISION

The numerous meetings and workshops held throughout the process provided ideas on what kind of future was envisioned for the City. The following visions capture the essence of what was expressed by the community. Galveston is ...

- a place with unique characteristics and history. Our vision is to recover Galveston to a less vulnerable, more resilient place; economically, socially, physically and environmentally.
- 1) clean, smart, sustainable promoting green living practices; 2) has scientifically based policies for environmentally sustainable development and infrastructure that is in harmony with nature; 3) dedicated to preservation and conservation of sustainable natural resources; 4) a welcoming, scenic and natural place with planned beautification standards.
- "As both home and destination, Galveston represents cultural vitality and quality of life. Clean, safe neighborhoods have a broad socio-economic spectrum of responsible citizens and affordable housing. A solid economic, educational, recreational and medical infrastructure supports households and visitors in an atmosphere of natural beauty, historic preservation and artistic significance."
- a community where education is the economic engine that leverages every other community investment such as health care, environment, transportation, and development.
- a community where quality health care in its fullest sense is an essential need and available to every member of our community. Our vision is to develop such a system in Galveston.
- a diverse island paradise where history and the future meet as a model for resilient sustainable coastal living.

NEXT STEPS

It is important to remember that recovery from a disaster is a process, not an event and will continue for several years. Now that the recovery plan has been completed, the challenge is to identify leadership and funding for these key projects.

Each project description outlines a series of Action Steps for moving the project towards implementation. Accompanying this plan is a Project Tracking table that can be used to visualize project progress at a glance. Not all the projects are City led. However, it is incumbent upon Galveston City Council to forward projects to

the appropriate organization or public entity. It is clear that all of these projects will not be implemented immediately or simultaneously. However, it is appropriate and imperative that each project moves forward to the identified "next step".

One of the first things discussed by the community was how disasters create opportunities. With the Recovery Plan in place, Galveston is well positioned to take full advantage of the chance to rebuild a more vibrant community. Unity is vital to your success. You cannot expect to be unanimous in your decisions, nor should you necessarily agree with everything that is proposed, but you should stay united as a community and do your best to maintain a common vision for the future of Galveston.

COMMUNITY RECOVERY MANAGER

The Recovery Plan provides a conceptual framework for identifying recovery projects and should be viewed as a dynamic document. As Galveston rebuilds and recovers, projects will continue to evolve requiring further planning, design and analysis. Project implementation often requires someone to lead the process, such as a full-time Community Recovery Manager. The Recovery Manager will assist the City and project champions to move projects forward by identifying sources of funding, and developing strategies to achieve the objectives of recovery plan.

Recommendation: City Council seeks funding through the EDA to create the position for a full-time Community Recovery Manager.

CONTINUED COMMUNITY INVOLVEMENT

Just as the development of the Recovery Plan was a collaborative process, implementation of the plan will rely on the continued involvement and active participation of the citizens of Galveston. Keeping the GCRC engaged as a vested partner with the City will ensure that the plan remains active and relevant. .

Recommendation: City Council retain in place the Galveston Community Recovery Committee

RECOVERY PLAN OVERVIEW



RECOVERY PLAN OVERVIEW

This Recovery Plan is a guide for Galveston to use in their recovery efforts following the September 13 hurricane. The Recovery Plan includes projects that are critical to community recovery and contains five sections that address key areas of the community, including:

- Economic
- Environment
- Housing and Community Character
- Human Services
- Infrastructure, Transportation, and Mitigation

HOW TO USE THIS PLAN

The Galveston Long-Term Community Recovery Plan serves as a framework for decisions related to community recovery. Once the document is accepted by the Galveston City Council, projects should be assigned to appropriate organizations, agencies, units of government, and private interests for implementation.

FEMA has assigned recovery values to each project. Those values need to be considered when assigning priorities and time frames for implementation. There are two general principles that need to be considered in assigning implementation priorities:

- Focus on projects that will have the most impact on recovery when completed
- High recovery value projects should have priority
- Move forward on projects that can be completed quickly, have significant public support
- Have available funding, or have prerequisites for future action

While some projects may not have a high recovery value, they are nevertheless key pieces of community recovery.

The Recovery Plan should be viewed as a guide, not specific instructions. Specifics of the projects in the plan may change and evolve as designs are undertaken or as more details become known. It is important to be flexible and assess changes based on the community recovery vision and the overall principles of the Recovery Plan. Evaluation and feedback are key components of the LTRC planning process. In addition to helping to improve the overall effort, progress that is evaluated and

tracked can be used to communicate success to stakeholders and the general public.

The City of Galveston has the primary responsibility for the implementation of this recovery plan. However, other local public and private entities have critical roles and in several cases are the driving force for many of the projects. State and Federal partners, as well as private commercial and charitable entities, are key funders of these projects.

What is a Recovery Value?

Within this Recovery Plan, you will find more than 40 projects that form the foundation of a revitalized Galveston. The recovery value is the designation assigned by FEMA to each project for its ability to help jump-start a community's recovery from a natural disaster. Projects that positively contribute to recovery typically address issues that promote a functioning and healthy economy, support infrastructure optimization, offer housing opportunities, and revitalization of downtowns. In some communities, Galveston being a prime example, it is important to consider natural resource protection and environmental issues when a Recovery Value is being assigned. Each project in this Recovery Plan has been assigned one of four Recovery Values:

- High
- Moderate
- Low
- Community Interest

Each project has undergone an assessment (FEMA Recovery Value Tool) and has been assigned a Recovery Value based on how well it meets the criteria:

- Meets a community need
- Is sustainable
- Is feasible
- Provides a positive overall community impact that:
 - Stimulates the economy
 - Provides linkages
 - Has high visibility
 - Contributes to the community's quality of life

In addition to FEMA's application of its Recovery Value Tool, input was gathered from the numerous public venues and GCRC meetings and incorporated into the determination of a project's Recovery Value. All project comments are included in the appendix. It should be noted that the size and complexity of some projects actually lowered their recovery value in this evaluation stage. There is the potential for some of these projects to evolve as alternate, more achievable projects during the implementation phases.

High Recovery Value Project

Those projects assigned a High Recovery Value are catalyst projects that have multiple impacts on the community and its recovery. Typically, a High Recovery Value project will meet most or all of the following measures:

- Be directly related to damages
- Leverage and create linkages to other projects and funding resources
- Have community support and community-wide benefits
- Be achievable (within a 3-5 year timeline) and sustainable
- Have a Champion
- Have high visibility and build community capacity
- Incorporate identified best practices for reducing loss in the future
- Use resources wisely and enhance the quality of life for the community

Moderate Recovery Value Project

Those projects assigned a moderate recovery value are projects that can be expected to have clear and positive impact on recovery, but by their nature are limited in scope, span, impact or benefits to less than community-wide significance and/or support. A moderate recovery value project also will typically be related to the physical damage from the disaster.

Low Recovery Value Project

Low recovery value projects either do not have a direct link to the disaster and its damages, lack public support, and/or provide few, if any, identifiable benefits to the community related to disaster recovery. In many cases, a low recovery value project will fall far short of the resources needed to carry out the project, may generate questions regarding its achievability, and may only impact a small portion of the community. Community support for a project that has a low recovery value may have support from a portion of the community but lack general community support.

Community Interest Project

A community interest project may be extremely important to a community even though it does not have a significant recovery value. These projects would normally be classified as low recovery value except they have significant public support. Such projects may grow out of long-standing plans that have never been implemented and the implementation of which will not necessarily move the community on the road to recovery from a disaster.

ECONOMIC



ECONOMIC

Overview

Hurricane Ike's floodwaters washed away buildings and homes, businesses and jobs. The local economy may take years to restore to pre-Ike levels. As the GCRC discussed issues with the citizens of Galveston, the community expressed a clear vision of rebuilding its economy based on its pre-storm strengths—the Port of Galveston and maritime industries; UTMB, its educational, research and health care components and biotechnology outgrowth; and tourism.

The projects contained within this plan are designed to create a stronger and more diversified economic base to allow for development of new businesses and a skilled workforce. In many instances, this plan validates the economic development efforts already being pursued by the community. Several projects in this section interconnect with other recovery sectors and projects in the plan. For example, the need for a new high school stadium which would typically be listed under Human Services and Education is described within this section because of its economic development potential as a multifaceted sports and arts complex that will serve as a regional venue for major athletic and entertainment events.

Population

Unlike the state of Texas that has seen its population grow by some 14 percent between 2000 and 2007, Galveston has experienced a decline in its population for the past three decades. In 2007, the City of Galveston had an estimated population of 56,940 people; which is a 3.1 percent decline since 2000. Slowly but steadily, the number of permanent Island residents has decreased. At the same time, the number of second homeowners has been on the rise. It is not clear whether the loss of population is a result of out-migration, geographically limited area for expansion, or the shrinking cities syndrome.

The floodwaters from Hurricane Ike did damage to most of the housing on the island. More than 75 percent of the homes sustained damage. After the hurricane, 1,900 students were displaced and did not re-enroll at the Galveston Independent Schools. Based on utility usage, loss of student population, and available housing, it is estimated that Galveston, at six months after the storm, has lost 15 to 20 percent of its pre-storm population.

Similar to the recovery efforts after Hurricanes Katrina and Rita in Mississippi and Louisiana, population regeneration to its pre-storm level depends on how quickly the community restores its housing inventory and re-opens its businesses.

Employment

Hurricane Ike damaged many of the businesses in the downtown, Port, Harborside and beachfront areas of the Island. After six months, only 65 percent of the businesses on the Island have re-opened. The extent of the damage and loss of business activities, coupled with the damage to the housing stock, have resulted in lay-offs from UTMB (3,800 jobs lost), Galveston Independent School District (GISD) (163 jobs lost), and Shriner's Children Hospital (354 jobs lost). The unemployment rate jumped from 5.6 percent in September 2008 to 9.9 percent in October 2008. In January 2009, the unemployment rate was 9.5 percent.

Tourism

The Galveston hotel industry includes more than 5,300 rooms and, in 2007, 5.4 million people visited the island. The tourism industry employs more than 30 percent of Galveston's workforce. Since 1994, the economic impact from tourism has grown annually by 3.1 percent. In 2007, the total economic benefit to Galveston from the tourism industry was \$561.4 million.

The key component of Galveston's tourism industry is the Island's beaches. Immediately following the storm the Texas General Land Office and the Galveston Park Board of Trustees initiated a \$10-million beach renourishment project that helped to ensure the stability of the Galveston Seawall and brought much needed sand to the Seawall beaches. Businesses along the Seawall reopened within six months of the storm. However, the downtown, which was inundated with more than 12 feet of floodwater, did not reopen as quickly. Many of the businesses along the Strand have yet to re-open.

UTMB

Galveston's economic recovery efforts are dependent on UTMB returning to full operating capacity. UTMB is rehiring some of the 3,800 laid-off employees. The rehiring will have an immediate impact to the Galveston community since 44 percent of the 3,800 laid-off workers live in Galveston.

Port of Galveston

The Port of Galveston encompasses more than 850 acres and is the oldest commercial port in Texas. Major Port operations include cargo, rail-barge link, general dock operations, shipyard facilities, rental operations, retail and commercial areas, and is home to two Carnival Cruise ship vessels. In 2007, the Port of Galveston was ranked sixth in the nation in terms of cruise passenger embarkations.

Repairing the damage from Hurricane Ike presents an opportunity to revitalize and reposition the Port to be competitive with the Port of Houston and other Gulf ports.

Goals

- Expand and promote year-round revenue generating tourism; heritage, arts, cultural and nature tourism; a family friendly environment; increase beach/bay access and water activities; blend concepts of the 1983 Seawall Plan with the 2006 Goodman Plan for beautification and improvements to Seawall Boulevard.
- Restore and expand UTMB on Galveston Island to include a Level I trauma center; research, medical, teaching; expand bio-tech industry on Island; mental health; burn center and hospital
- Repair, expand, develop and modernize the Port of Galveston, including Pelican Island
- Formulate economic programs, incentives and infrastructure that encourage and support businesses downtown
- Increase the number of people who both live and work on the Island
- Design focused plans for Galveston's industrial, commercial, residential districts and downtown that take their unique characteristics and needs into consideration
- Develop mitigation strategies to protect the Island from future flooding
- Promote regionalization in business and Ports

Galveston Center for Technology and Workforce Development

Recovery Value: High

Project Champions: Galveston Economic Development Partnership (GEDP), UTMB, Galveston College, Texas A&M University at Galveston (TAMUG), GISD, City of Galveston

Background

Galveston is the only City in the country that is home to a medical/teaching institution that possesses an operational Bio Safety Level 4 Laboratory (BSL4 Lab); a Regional Center of Excellence (5 state - 27 member initiative); and a National Laboratory, the Galveston National Lab. As a result of UTMB's excellence and the National Institutes of Health (NIH) investment in Biodefense/Bioterrorism - over \$200 million has already been dedicated to this initiative. A goal of the NIH investment was the commercialization of diagnostics, therapeutics and vaccines for our nation's security.

TAMUG offers ocean-oriented, four-year courses with excellence in business, oceanographic and physical sciences, biological sciences, engineering, transportation and liberal arts. The Texas Maritime Academy provides an opportunity for students to learn how to operate and maintain an ocean-going vessel. The NROTC Program offers students an opportunity to qualify for a



commission in the Navy while attending TAMUG. TAMUG is recognized nationally for academic excellence.

Prior to Hurricane Ike, Galveston Island was home to 14 private bio-tech firms, two dozen companies in development for commercialization, and, an established Center for Technology Transfer within UTMB. Included within this Center was an incubator that was proactively providing office/lab space to emerging companies.

Galveston College, GISD, and UTMB have been collaborating for many years on cooperative training programs. In addition, the GEDP has facilitated the working group, Bio Galveston, for a number of years. This initiative focuses on the existing technology companies in Galveston networking with each other for the long term growth and development of their companies and the corporate culture of Galveston for technology development. Prior efforts of the consortium dedicated to technology development on Galveston Island included efforts that went beyond bio-tech and included process and other technologies.

Currently, most of the private companies in this industry have been displaced off of the island as a result of Ike. UTMB's Customs House, which was the home of the Technology Transfer Center and home to a number of emerging start-ups, has been closed and its' return is tenuous given the significant infrastructure damage incurred from Ike.

Goal: The Galveston Center for Technology and Workforce Development is envisioned as a state-of-the-art incubator/accelerator for new and emerging technologies. This Center will act as a catalyst for long-term commercialization, training and business development.

Project Description

The Galveston Center for Technology and Workforce Development is an incubator/accelerator that promotes the commercialization of new technologies on Galveston Island. Central to this initiative is a working collaboration between the identified champions to this project, the private sector of Galveston's technology business base, and the regional cooperation with allies focused on similar activities. This Center will accommodate emerging companies through affordable office and lab space, leveraged common space and services (printing, reception, meeting rooms), networking, business development services, and an environment in which entrepreneurial spirit is encouraged and fostered.

A steering committee will be formed by the stakeholders to this initiative. This committee will guide the future growth of the Center. There will also be a working

committee that is formed by the tenants of the facility and members of the private sector technology industry for input into the long term goals of this facility.

Action Steps

A preliminary plan was developed by the GEDP in coordination with UTMB. This plan needs to be vetted through this newly formed committee and revised as a result of the impacts of Hurricane Ike. Dissemination of the plan within the community must occur and the plan should continue to serve as a guiding document in the implementation of the Center. The technology working group of the GEDP, Bio Galveston, will be integral to the continued development of this initiative.

Simultaneously, funding must be obtained for revitalization of the Customs House and the creation of the Galveston Center for Technology and Workforce Development.

Sustainable Opportunities

Technology development is an industry that creates quality jobs and leverages existing resources already located on Galveston Island. Redevelopment of the Customs House enables Galveston to marry the historic past of Galveston Island to the future of new technologies. Redevelopment of the Customs House will follow already existing policies of UTMB for environmental and LEED certified building standards. Development of this Center will further regional initiatives between Galveston, the Bay Area and Houston for technology development.

Financial Considerations

Cost Estimate/Preliminary Cost

Renovation Costs	\$10,000,000
Operating Costs (2-year operating budget)	<u>\$ 1,000,000</u>
Total Costs	\$11,000,000
Funding Gap	(\$ 11,000,000)

Potential Resources

- U.S. Department of Commerce - EDA
- City of Galveston 4B - 1/2 Cent Sales Tax For Economic Development
- City of Galveston - CDBG Disaster Funding
- Private sector tenants of the Center
- GEDP
- UTMB
- Galveston College
- TAMUG
- 2009 Stimulus Bill - focus: science & technology and Workforce development initiatives



Galveston Business Incubator

Recovery Value: High

Project Champions: Galveston Chamber of Commerce, City of Galveston, TAMUG, UTMB, Galveston College, Port of Galveston, Galveston County

Background: Before Hurricane Ike, UTMB proved a business incubator could bring new biotechnology and biomedical companies to the Galveston Island. The community wants to maximize the opportunities for federal, business and philanthropic funding by establishing a new business incubator to create new jobs in a storm damaged and economically challenged environment. In addition, the community wants to take advantage of a business opportunity by acquiring a building(s) in storm-damaged areas which would act as a catalyst for redevelopment. The newly formed organization would collaborate with Galveston's diverse institutions and industries.

Goal: The Galveston Business Incubator (GBI) will be a leading force in establishing the City as a destination for business expansion and location. GBI will leverage the community's higher education, economic, geographic, and natural resources to attract new maritime, energy, renewable energy, and other desired businesses.



Project Description

GBI is a regional partnership of government, public organizations, and private companies that will foster, develop, and attract small businesses. GBI will assist individuals in developing their plans and operations by providing:

- Below market rent for office space and shared business services
- Education and technical assistance
- Rapid start-up assistance with permitting, certification and similar issues
- Access to financing and other professional services
- Networking opportunities

The project will benefit from a Board of Directors drawn from the Project Champions, including leaders from Galveston's higher education, business, government, and entrepreneurial sectors.

Action Steps

The project champions will form a GBI organization committee to draft a business plan stating what desired clients would look like and do, and obtain the community-wide support for the creation of a business incubator.

Year One – Finalize partnerships and agreements with stakeholders. Seek funding from the EDA Disaster Relief Opportunity Appropriation, private sector, and City of Galveston Community Development Block Grant (CDBG) to establish the new organization. Begin offering services, utilizing existing Galveston Chamber of Commerce facilities and services.

Year Two Forward Through EDA funding or private donation, locate and acquire a building (5,000-10,000 sq. ft.) to house the business Incubator.

Sustainable Opportunities: GBI will be a catalyst for redevelopment of hurricane-damaged property, which will be a model for efficient, durable, and sustainable building practices – with the goal of Leadership in Energy and Environmental Design (LEED) gold certification. GBI will attract new businesses by promoting the Galveston's unique educational, economic and natural resources, and location. Leaders of successful clients will serve on the Incubator Board.

Financial Considerations

Cost Estimate/Preliminary Cost

Start-up costs –	\$500,000
Marketing and operation costs (2-year operating budget)	\$1,000,000
Organization/acquisition/redevelopment costs	<u>\$2,500,000</u>
Total Costs	\$4,000,000
Funding Gap	(\$ 4,000,000)

Potential Resources

- EDA
- Economic Stimulus Act
- State of Texas
- City of Galveston 4B Sales Tax for Economic Development
- City of Galveston CDBG Disaster Funding
- Galveston Chamber of Commerce
- UTMB
- TAMUG
- Galveston College
- Port of Galveston
- Foundations
- Clean Energy Fund



Tourism Master Plan

Recovery Value: High

Project Champion: GCRC, Galveston Park Board of Trustees, Galveston Attractions, Galveston Hotel / Motel Lodging Association, Galveston Restaurant Association

Background: Galveston's vibrant community spans three centuries of history, culture, and economic development. Our past and present provide visitors with beaches, attractions such as Moody Gardens and Schlitterbahn as well as unique opportunities to enjoy heritage and eco tourism. A report prepared last year by Angelou Economics named tourism as one of Galveston's most important economic engines. More than 5 million tourists visited Galveston in 2007. They spent \$561 million on the Island. This figure does not include the \$14.9 million in revenue for the city or \$191 million dollars in wages paid to employees of the tourist industry, which provides 30% of the jobs on Galveston Island.

Goal: To develop a tourism master plan to increase tourism revenue for Galveston Island.

Project Description

The Tourism Master Plan has four major components:

- Public relations and marketing
- Gateway Visitors Center
- Cultural, heritage, and eco-tourism
- Increased beach access on the West End

Public Relations and Marketing

Tourism does not just happen. It takes promotion. In order to get Galveston's hospitality industry on the road to recovery, there must be sufficient funding to re-brand the city for economic survival and expansion.

Gateway Visitors Center

The Gateway Visitors Center must be located near the east end of the Causeway on the south side of the street before the 61st Street exit. Ideally, it should include all of the following:

- Nature trails to water's edge
- Photo displays of key sights in Galveston
- Video in a multi-media viewing room
- Computer access to attractions, hotels as well as WiFi availability

- Restrooms
- Bus parking
- Rubber tire trolley stop to allow day parking for visitors. Rubber tire trolley would become an Island Wide attractions transportation system
- Ferry to Moody Gardens
- A complimentary "sand dollar" to spend at various shops, attractions
- Coupon book
- Calendar of events, including a booklet of same, updated frequently
- Cruise stop for people on the way to the ship
- Brochures of all kinds, including attractions, walking tours, biking tours, bus tours

Cultural, Heritage, and Eco-tourism Promotion / Expansion

Galveston is well positioned to take advantage of the largest growing segments of tourism with its unique combination of cultural venues, heritage sites, and a thriving ecosystem.

All of this can be showcased with an Island-wide annual or semi-annual open house event "Galveston's Up All Night" modeled after Miami Beach's "Sleepless Night"



program <http://sleeplessnight.org.p2.hostingprod.com/2007/about.html>. This event lasts from early evening to early the next morning and is a partnership between all attractions, cultural, and historic venues and would offer a free open house at these events/attractions. Retail, hotel, and restaurants stay open in connection with this open house event. Transportation would be provided (free) island-wide to shuttle folks from one area to another.

Increased Beach Access

The West End is a sustainable and growing source of income for the Island. Adjusting or rescinding current ordinances to allow golf-course-compatible golf carts on West End beaches would dramatically increase beach access on the West End for West End homeowners and renters, East End residents, and visitors. This change to the appropriate city ordinances would:

- Stimulate current rental properties as well as renewing interest in developing additional dry lots for rental properties and new businesses
- Encourage and promote new small businesses of cart rental and repair and other beach concessions (umbrella rental, refreshment stands, etc.)
- Stimulate surf-fishing industry

Action Steps

- Hire an international public relations firm with strong media contacts to create a strategic campaign
- Hire an advertising firm to re-brand our marketing & advertising efforts using celebrity endorsements
- Develop an aggressive regional advertising campaign to include TV, print, radio, billboards and internet presence to saturate the market for leisure travel, especially in the Houston metropolitan area
- Develop an aggressive national campaign for convention business
- Develop new collateral, b-roll, photography and tourism video
- Schedule and fund familiarization tours for media including funding for airfare and amenities that are scheduled Sunday-Thursday during shoulder months
- Create and produce Island-wide calendar of events, including a booklet of same, updated frequently
- Create and produce Island-wide dining guide
- Apply to host a Society of American Travel Writers chapter meeting
- Support Island-wide "Galveston's Up All Night" Open House

- Secure property near the base of the causeway (either before crossing at Tiki, or at base on the Island) to build, staff and maintain a Gateway Galveston Visitor's Center
- Create and distribute monthly calendar/publication in partnership with all attractions for placement in area hotels as well as distributed to Texas Information Visitor Centers within a day's drive of Galveston
- Foster partnerships between cultural, heritage and eco-tourism venues and events for larger media impact
- Work with City and State governments as needed to increase West end beach access through adjustment of ordinances



Sustainable Opportunities

Construct all improvements at the Gateway Visitors Center using sustainable design and implementation techniques to reduce the negative impacts on the environment, and the health and comfort of building occupants. Renewable energy sources, water conservation, storm water management, and site lighting will be used in the project implementation.

Use of recycled and environmentally sensitive materials for the production of brochures, stationery and other supplies will add to the sustainable opportunities available for the project.

Financial Considerations

Cost Estimate/Preliminary Cost:

Gateway Visitors Center: Land	\$1,280,000
Improvements	1,961,900
Furnishings/Fixtures	<u>350,000</u>
	\$3,591,922
Marketing and Promotions	<u>2,000,000</u>
Total Cost	\$5,591,900
Funding Gap	(\$ 5,591,900)



Potential Resources

- Texas Commission on the Arts - www.arts.state.tx.us
- Texas Historical Commission - www.thc.state.tx.us
- Texas Parks and Wildlife Department - <http://www.tpwd.state.tx.us>
- Texas Association of Convention and Visitors Bureaus (TACVB) www.tacvb.org
- Brinker International Charitable Committee
www.brinker.com/company/givingback.asp
- EPA – Green Building grants - epa.gov/greenbuilding/tools/funding
- Kresge Foundation Green Building Initiative
- CenterPoint Energy – www.centerpointenergy.com
- Deutsche Bank Americas Foundation – www.community.db.com
- Wells Fargo Foundation – www.wellsfargo.com/about/charitable
- The Charles M & Mary D. Grant Foundation –
foundationcenter.org/grantmaker/grant
- Community Development Financial Institutions (CDFI) Fund 222.cdfifund.gov
- EDA - US Department of Commerce – www.eda.gov

Seawall Boulevard Enhancement Strategy

Recovery Value: High

Project Champions: City of Galveston, Galveston County, Galveston Park Board of Trustees

Background

The Galveston Seawall was designed and constructed by the US Army Corps of Engineers (USACE) following the Great Galveston Hurricane of 1900, which resulted in the loss of 6,000 lives. From 1904 to 1963, the seawall was extended from 3.3 miles to over 10 miles long. It is approximately 17 feet high and 16 feet thick at its base. The unique design feature of the seawall, a curved concrete slab to dissipate wave energy upward, was accompanied by the raising of the City's grade 18 feet above mean low water.

The Seawall was listed in the National Register of Historic Places in 1977 and designated a National Civil Engineering Landmark by the American Society of Civil Engineers (ASCE) in 2001.

For many years, the City of Galveston has recognized the need to enhance and beautify Seawall Boulevard. In 1983, the Galveston Seawall Development Plan was prepared. The City's Comprehensive Plan (2001) recognized the need to



strengthen tourism as an important part of its economy. Enhancement of the Seawall Corridor's image would create an environment for Galveston to "compete for quality family tourism and greater business visitation". In addition to corridor enhancement, identification of desired land use mix and promotion of suitable redevelopment was adopted in the plan. The draft update to the comprehensive plan cited streetscape and pedestrian improvements as important for the corridor.

In a resident's survey conducted in 2003, 82 percent of residents favored improvements to Seawall Boulevard, and in 2006, the Galveston Seawall Boulevard Transit/Pedestrian Access and Beautification Plan was completed. The plan concepts were similar. The concepts in the 1983 plan called for changes to the roadway that would include a bike lane and a center median, while the concepts of the 2006 plan were transit oriented. The GCRC looked at each of the previous plans and suggested that the concepts be incorporated into an implementation strategy. The perception in Galveston that this project is long overdue elevates its need for action with not only an appointed project overseer, but also commitment for engineering and construction of an initial pilot project phase.

Goals

- Create "complete streets" design to provide for roadway users, including bicyclists, pedestrians, transit riders and motorists, and enhance the visual appeal and quality-of life to the Seawall area
- Create streetscape enhancements including landscaping, street furniture, lighting, signage, and artwork to beautify the area and enhance environmental sustainability utilizing "green technology" design elements for construction and native landscaping materials for low maintenance
- Create public facilities and amenities, including restrooms, vendor kiosks, and markets
- Improve the level of public transit service along the seawall connecting residents and visitors to the existing trolley system and to aid in the movement of people to downtown, Moody Gardens, and attractions at the airport
- Formulate economic programs and infrastructure which encourage and support businesses and tourism

Project Description

Implementing streetscape enhancements to Seawall Boulevard following the "complete streets" design concepts will create an environment that will improve the quality of life for residents and attract families and business travelers to the

area. Blending concepts of the 1983 Galveston Seawall Development Plan and the 2006 Seawall Boulevard Transit/Pedestrian Access and Beautification Plan will require the services of a professional engineering firm specializing in urban design and roadway construction projects.

Improvements should consider traffic calming design techniques, a bicycle lane, safe ADA compliant pedestrian crossings and beach access, streetscape beautification with landscaping, lighting, street furnishings, bike racks, and signage. According to the City Zoning Code, the area is designated as Seawall Beach Urban Park, a recreational beach urban park with beach-related services and amenities. The boundaries of the Seawall Beach Urban Park boundaries are defined by 1st Street (east), 103rd Street (west), the northerly right-of-way line of Seawall Boulevard (north) and the Gulf of Mexico (south). Any improvements proposed for the park are under the jurisdiction of the City's Department of Planning and Community Development. Galveston County has maintenance responsibility of the Seawall. Because the seawall is a flood control works, the proposed improvements can not compromise its structural integrity. Therefore, the County's engineer must review and approve any proposed improvements.

Amenities are needed to serve residents and tourist when visiting the Seawall. The addition of public restrooms, visitor's and transit stations, vendor kiosks, and public markets will add vitality to the area. A themed transit system, dedicated to support the ease of movement of visitors and beach goers along the Seawall and downtown, connecting with the existing trolley, will relieve traffic congestion while assisting people moving between various attractions, including downtown and Moody Gardens.

Improvements to Stewart Beach were envisioned by the Park Board of Trustees as an entertainment core to providing world class amenities at the beach. A new and festive environment with bath houses, restaurants, shops, amusements, an outdoor amphitheater for concerts and plays, all connected by a boardwalk will make Stewart Beach a top tourist attraction.

At present, many vacant and underutilized properties exist along the Seawall, creating opportunities for new private developments. As development pressures grow, effective growth management will be critical. This GCRC project anticipates and encourages commercial redevelopment nodes to occur along the Seawall in order to create desirable destinations for residents and tourists. Approximately 2,000 cars can park along the Seawall and no public off street parking is offered. Careful consideration of Seawall parking and pedestrian/bicycle circulation will be needed to coordinate and coincide with redevelopment.

An analysis of parking needs should be completed for the City to capitalize on opportunities to create a unique destination location. The analysis would consider

vacant and underutilized land available for development, density, and required parking. Consideration for public/private ventures to accommodate the parking demand should be investigated.

The community wants to encourage the City to create ordinances for public and private projects to be implemented using sustainable and environmentally sensitive methods and materials. Of particular concern along the Seawall is protection of the night sky. Lighting to minimize light pollution while creating a safe environment for pedestrians and vehicles should be used.

Action Plan

- Identify legal or other issues that may impact the project's ability to move forward
- Identify development nodes where the planned improvements may increase private sector investment
- Identify funding sources
- Define scope of work with detailed construction drawings and develop cost estimates
- Retain design/engineering firm to complete plans
- Analyze development of potential, parking needs, and development incentives

Financial Considerations

Beautification and Transit to Seawall Blvd	\$5,985,594
Design Fees: (20%)	\$1,197,119
Total	\$7,182,713
Vacant Land and Parking Analysis	\$ 65,000

Disclaimer: The estimated costs were developed using cost data from the 2006 plan prepared by The Goodman Corporation, except for the addition of paved crosswalks. The cost of the paved crosswalks was estimated using RSMeans Costworks, a nationally recognized estimating program.

Stakeholders

- City of Galveston
- Galveston County
- Galveston Park Board of Trustees
- Island Transit
- TxDOT
- USACE
- UTMB
- CenterPoint Energy
- Representatives from businesses along Seawall Boulevard
- Galveston Residents and neighborhood associations

Potential Resources:

- FTA Sections 5307 and 5309
- Federal Livable Communities Initiative (LCI)
- TxDOT Statewide Transportation Enhancement Program (STEP)
- Federal Surface Transportation Program (STP)
- Federal Congestion Mitigation and Air Quality (CMAQ) Improvement Program
- Federal Transportation and Community and System Preservation (TCSP) Pilot Program
- Federal Coastal Zone Management Funding
- EDA, Department of Commerce



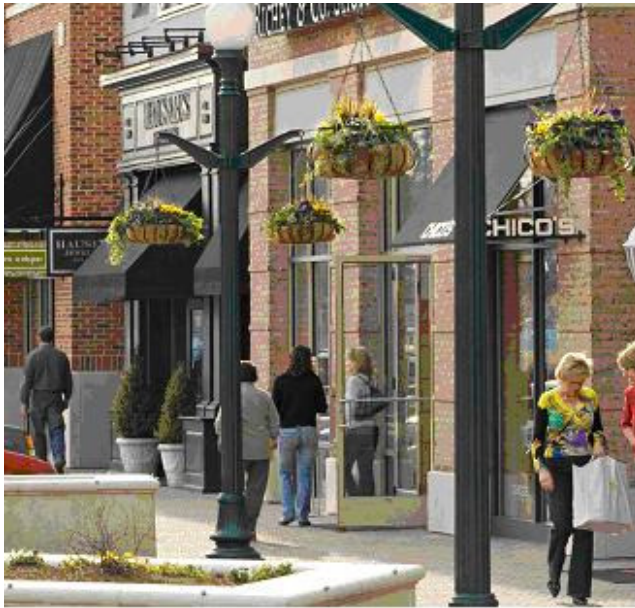
Sustainable Opportunities: The adaptive reuse of existing buildings, development of vacant and underutilized areas, and connection of downtown to the waterfront will revitalize the community and provide economic stability.

Action Steps

- Identify funding sources
- Prepare grant applications for funding
- Retain consultant
- Prepare plan with appropriate public participation
- Adoption of plan by City Council for inclusion in the updated Comprehensive Plan
- Implement plan by attracting private funding for development
- Implement plan by attracting public funding for infrastructure

Financial Considerations

Cost Estimate/Preliminary Cost	\$ 500,000
Total Cost	\$500,000
Funding Gap	(\$ 500,000)



Potential Resources

- U.S. Economic Development Administration (EDA) – Department of Commerce – Supplemental Funding for Disaster Recovery
- CBDG Disaster Recovery Funding
- Livable Cities Initiative
- National Trust for Historic Preservation
- Texas Department of Housing & Community Affairs
- Texas Department of Transportation (TxDOT)
- Urban Land Institute Community Action Grants
- National Endowment for the Humanities
- City of Galveston
- Public/Private Partnerships

Stakeholders

- City of Galveston - Planning Commission, Landmarks Commission, Redevelopment Authority
- Port of Galveston
- GHF
- Property owners, merchants and residents
- UTMB
- Houston-Galveston Area Council (H-GAC)
- TxDOT

HGXGP

East End Lagoon Nature Park and Preserve

Recovery Value: Moderate

Project Champions: East End Lagoon Committee representing Galveston Island Nature Tourism Council Inc., Park Board, TAMUG, and past City Council member.

Background

The City of Galveston owns approximately 685 acres of land and lagoon water at the east end of Galveston Island. Referred to as The East End Lagoon site, it is bounded on its southwest side by private property where there is growth of upscale homes and condos. It is also directly south of 550 (approx) acres owned by the United States Army Corps of Engineers (USACE). That land, called the East End Flats, is presently used for dredged natural placement as USACE maintains the Houston Ship Channel. The City has identified, in its Comprehensive plan and updates, that the Flats site is the potentially significant growth direction for Galveston with the opportunity to create middle income housing and mixed use development within reach of beaches and the historic city center.

The East End Lagoon site is an area of multifaceted richness. Remains of military installations are reminder of the location's historic strategic position in defense of the straits and port. In the 1930s it was a place enjoyed by local prominent families who have memories of swimming and boating and enjoying their clubs and cabins. The Coast Guard's Long Range Navigation facility was a feature for many years. Today big tonnage ships pass along its northeastern shoreline enroute to and from inland ports. But beyond all, it is an area of incredible natural richness. A transect reveals a wide variety of macro and micro habitats which support an incredible variety of plant and animal life. Traversing from the Gulf there are beaches and dunes, coastal prairie (one of the last remaining on the island), salt marshes and wetlands and mangrove-lined salt water lagoons.

The East End Lagoon natural environment is an asset that requires protection. In addition it is an asset that has great nature (ecological) tourism, education and public health, potential. Protection and sensitive development can both be achieved through planning and purposeful management. The site provides a unique opportunity to create an exciting, natural experiential, non invasive natural recreation park and nature preserve with trails and a manned interpretive center, which will rival those anywhere in the world, draw visitors to Galveston and enhance the quality of life for Galveston citizens. Local environmentalists, members of Houston Audubon and the Galveston Island Nature Tourism Council have been championing the importance of this unique natural site to Galveston's "green" future.

The City recognized the importance of the project and issued a request for proposals to solicit a consultant to create a master plan for the area. Reviews of consultants' proposals had been started and interviews planned, when progress was disrupted by Hurricane Ike. Increased "post Ike" demands for funds from private foundations and government agencies have negatively impacted full funding of the East End Lagoon master plan.

Goal: Promote economic development and healthy living alternatives through the development of a Galveston Nature (Ecological) Center, consistent with a vision of Galveston as a model for sustainable, green, healthy coastal living, and an economy in harmony with nature and the environment.



Project Description

Create a world class and sustainable, purposefully managed, nature tourism and natural recreational island feature, which will become a destination for non resident and conventioner outdoor enthusiasts, enhance the health and quality of life of Galvestonians of all ages, and be an integrating hub for promoting nature tourism sites on the island.

The project will provide economic, social and environmental benefits:

- Provide a positive project to be proud of, using City assets
- Expand year round tourism, improve Galveston economy
- Provide healthy outdoor, educational and recreational opportunities
- Provide opportunities for wellness research
- Partnership with universities to research coastal living issues
- Highlight Galveston's outdoor assets, respect the area's history
- Enhance City's reputation for environmental conservation

Action Steps Summary

- Raise funds for the conceptual phase of a Master plan (Done)
- City issue an RFP for a Master Plan (Done)
- City review RFP's and preliminarily rank. (Done)
- Negotiate terms, choose and engage consulting services to create a sustainable "Master" plan for the subject area, in two distinct phases, Conceptual and Implementation
- Contract for conceptual phase of Master Planning
- Raise funds for the Implementation phase of the Master Plan
- Contract for Implementation phase of Master Planning
- Raise funds for implementation of the Master Plan and creation of the Galveston's East End Lagoon Nature Park and Preserve
- Implement Master Plan and creation of the East End Lagoon Nature Park and Preserve (Nature Preserve and Recreation Area and Interpretive facility) in phases as feasible

Master Planning Action Step Detail

Develop a master plan for the East End Lagoon Nature Park and Preserve for the entire 685.6 acres of property, bounded by the Seawall to its northwest, the ship channel to its northeast, the Gulf of Mexico to its southeast, and non-owned property to its southwest. The planning will be completed in two phases. The first Master Planning phase will be a conceptual plan focused on creative design that will engage the community's excitement for the project. The following Master Planning phase will be an Implementation plan complete with final design and engineering incorporating sustainable development practices, cost estimates and long term financial management guidance.

The conceptualization phase, at minimum, should examine, determine and make recommendations concerning the following:

- How the open space should be used considering the highest priority needs of the Galveston and Greater H-G area population and visitors
- Which areas and habitats should be preserved for only the lightest of human footprint
- What will excite tourists and cause them to stay
- What is indicated to best handle various types of traffic and the need for parking
- What public transportation services will be needed
- How large an interpretive center ought to be and what type of activities to allow for
- What the theme or themes of the center should be and where it ought to be located
- What commercial facilities would be compatible, provide revenue and be practical
- What's the best strategy for feasibly achieving the most impact the soonest
- What "hardening", protection, sustainability and resilience features are needed



- What infrastructure (roads, utilities, bollards etc) updates will be required
- What potential physical synergy could there be between subject area and surrounding privately held property and can it help address financial sustainability
- Whether and how the western half of the lagoon owned by National Marine Fisheries Service and TxDOT easements etc...can be integrated
- How plans can invoke the latest in “green” technology

Some features that may be included in the project scope include:

Nature preserve and viewing areas, hiking, biking, exercise trails of various lengths, fishing and crabbing stations, boardwalks, kayak/canoe entry points, and interpretive signage and tours.

- A manned interpretive, educational and research building, themed appropriately for the area with twin focus on adult’s and children’s interests. Its own goal will be to “reveal meanings and relationships through the use of original objects, by firsthand experience, and by creative illustrative media rather than simply to communicate factual information.”
- Compatible commercial facilities such as hotel, restaurant, bait and fishing supplies, and other concessions will be considered. A beach patrol station for quick channel access to deliver the public safety may also be indicated.

- Public transportation integrated with the City core, other nature tourism sites along the island and other attractions such as Moody Gardens etc. with the goal of enhancing the synergy between, and attendance at, the proposed Nature Center and at all other attractions.

Financial Considerations

Anticipated Cost for Master Plan

Phase 1	Conceptual plan with first pass economics	\$200k
Phase 2	Implementation plan with final economics	\$ 75k
Funding committed (Private funds)		\$190k

Master planning Funding gaps

Phase 1	\$10k
Phase 2	\$ 75k

Project capital costs (including removal of relic concrete, new infrastructure etc)

Actual: To be based on Master Plan	
Estimate: For world class Nature themed Preserve and Recreational area with a manned Interpretive Center	\$ 7.0Mil
Project Funding gap	\$ 7.0Mil

Potential Funding Sources

Private

- Conservation Fund

Federal

- Department of Interior, National Park Service
- National Oceanic and Atmospheric Administration (NOAA)
- National Marine Fisheries Services
- National Science Foundation
- US Department of Education
- US Weather Service
- US Environmental Protection Agency (EPA)
- US Economic Development Agency
- US Dept of Health and Human Services

State

- Texas Commission on Environmental Quality (TCEQ), GBEP
- Texas Parks and Wildlife

Galveston Master Sports, Arts, and Recreation Complex

Recovery Value: Moderate

Project Champion: Johnny Smecca, Ken Jencks, and Damien Patrick

Background

Galveston Island has multiple baseball and softball fields scattered throughout the community, with the majority concentrated at Schreiber Park. Most of these fields were substantially damaged during Hurricane Ike in the range of \$30K to \$100K per field. The facilities at Schreiber Park incurred more than \$600,000 in damages alone. The only football stadium in the community, Lasker Park, was also damaged during the storm. The stadium is obsolete and does not meet modern building, ADA, and other codes for sports facilities.

In 2003, the City of Galveston adopted the Galveston Island Parks Plan that included an inventory of the facilities, an identification of current and projected deficiencies, and recommendations for new or improved park facilities. One of the key recommendations was the need for a Master Sports Complex that would provide additional facilities for baseball, football, drill teams, tennis, swimming, and soccer.

Goal: Provide state-of-the-art athletic facilities for local athletes that will enhance their on-field training and competition, as well as creating opportunities for attracting regional, state, and national athletic events.

Project Description

In light of the damages to Galveston's multi-use athletic facilities, coupled with the pre-existing need for improved facilities; the community should reconfigure and replace the facilities into a Master Sports Complex. The complex will reduce duplication of facilities (e.g. practice fields, parking, and concessions) and maintenance costs. The complex would attract lucrative sporting tournaments for baseball, softball, track, and tennis that will increase tourism dollars. Designed with sustainability in mind, the complex would include the following:

- Football stadium to replace the existing stadium used by Ball High School
- Competition-quality track
- Multiple baseball and softball fields to host tournaments
- Tennis complex with locker room to host tournaments
- Multi-purpose practice fields
- Community swimming pool

- Concession stands to generate funds for athletic programs
- Adequate parking facilities and connections to public transit
- Hall of Fame of Galvestonians that have had distinguished athletic accomplishments

The Master Sports Complex would be operated under a joint agreement between the City of Galveston and the GISD to ensure the efforts are not duplicated and to maximize use. Coordination between organizations that use the fields, such as Little League organizations, would be necessary.

A Hall of Fame of Galveston, to honor past and present athletic standouts would be constructed at the Master Sports Complex. The Hall of Fame will be an educational tool to learn about their past and to instill pride in the community.

Action Steps

- Establish a Master Sports Complex Task Force
- Create a plan for the facilities and general cost estimates that would include public input
- Complete an alternate site analysis
- Create a Memorandum of Understanding (MOU) between the City and GISD for the creation and operation of a Master Sports Complex
- Solicit funding and grants
- Develop agreement for facility management and operations

Sustainable Opportunities

- Incorporate LEED building standards for the structures
- Use impervious pavement for the parking lot and sidewalks or paths
- Use energy efficient lighting and/or renewable power
- Use native landscaping and vegetation where feasible
- Provide recycling receptacles

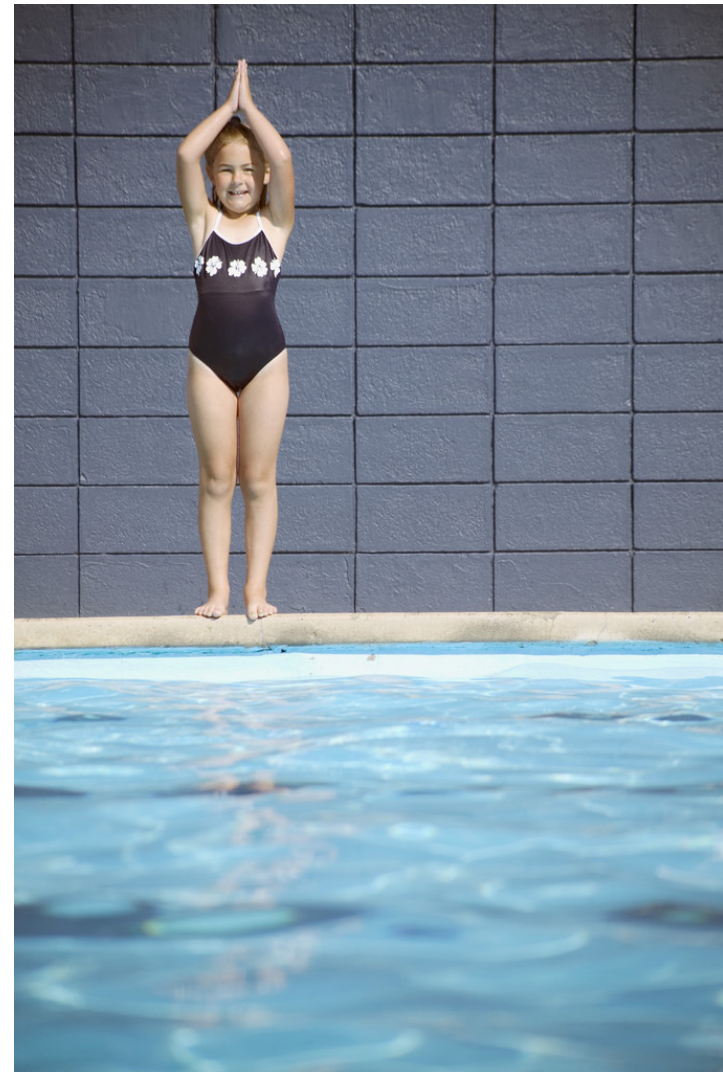
Financial Considerations

Cost Estimate/Preliminary Cost

Feasibility Study	\$200,000
Construction Costs:	TBD
Total Cost:	TBD
Funding Gap:	TBD

Potential Resources

- FEMA, Public Assistance
- Texas Parks and Wildlife, <http://www.tpwd.state.tx.us/>
- Land and Water Conservation Fund, <http://www.nps.gov/ncrc/programs/lwcf/history.html>
- Urban Park and Recreation Recovery Program, <http://www.nps.gov/uprr/>
- NFL Charities, <https://www.jointheteam.com/programs/programs.asp?c=6>
- MLB Charities, http://mlb.mlb.com/mlb/official_info/charity/index.jsp
- Galveston College, <http://www.gc.edu/gc/Default.asp>
- GISD, <http://www.gisd.org/gisd/site/default.asp>
- TAMUG, <http://www.tamug.edu/>
- US Green Building Council, <http://www.usgbc.org/>



Galveston Port Improvement Project

Recovery Value: Moderate

Project Champion/Chairman: To be named by the Galveston City Council and will provide regular status reports to the Galveston City Council in order to assure a consolidated and viable plan will be presented.

Background

In 1721, Benard de La Harpe sailed into Galveston's port under the French flag and attempted to establish a fort and trading post. Unfriendly Native Americans prevented the original establishment, but it provides the first case of proving Galveston's propensity for being an ideal natural port and location for trade.

The Port of Galveston was officially established in 1825 by the Mexican Congress and Port activities provided the main thrust for Galveston serving as one of the busiest and most prosperous cities in Texas through the end of the nineteenth century. It was the number one cotton port in the nation and was considered to be the second busiest port in the country, next to New York City. The "Wall Street of the Southwest" enjoyed grand levels of national importance and prosperity until the devastating 1900 Hurricane tore her apart.

After the 1900 Galveston Hurricane, Galveston's Port never returned to its earlier prominence; development was hindered and non-port related industries were pursued for recovery and repopulation. In 1954, a \$6 million rail and vehicular bridge was built connecting Galveston Island to Pelican Island and the expansion of Pelican Island continued to play a large part in the future growth of Galveston's Port. By 1962, the need for improvements in the Port of Galveston was recognized and Galveston's residents approved the issuance of a \$12 million bond issue. Since that time, however, improvements focused on Galveston's Port have been few and far between and businesses continue to fight the challenge of remaining competitive with antiquated infrastructure.

Goal: Construct a consolidated task force representing Galveston's Port expansion stakeholders to gain a coordinated consensus for a capital improvement plan to improve the Port (including Pelican Island and Harborside Drive developments) in order to enhance associated activities.

Project Description

While Galveston's Port has continued to provide some diversity to the economic stability and well-being of the Island, we believe improvements in infrastructure will present additional viable economic stimulus to the City of Galveston and the surrounding region. The impact of Port revitalization, improvement and expansion

will create direct and indirect jobs, grow employee earnings and business revenue, and generate additional state and local taxes. Galveston's call of establishing more families, industry jobs and a middle income base can largely be assisted by investing in Galveston's Port.

For the purposes of this project, Galveston's Port consists of the Port of Galveston, the Galveston Ship Channel, Pelican Island and Harborside Drive. These entities include a number of stakeholders that must be included in presenting a consolidated and viable plan for future revitalization, improvement and expansion of Galveston's Port.



Action Steps

- Galveston City Council designates a Chair/Project Champion within 45 days of approving Port Capital Project.
- Stakeholders designate representatives and the first meeting should be scheduled within 30 days of the Chair appointment.
- The task force is to deliver a consistent, implementable and coordinated capital improvement plan to the Galveston City Council within six months after first meeting. It is expected the plan will address all "elements of port capital

planning” to improve Galveston’s Port in order to enhance associated activities.

Elements of Port Capital Planning:

- Harborside Drive (State Highway 275)
 - Infrastructure improvement, including stormwater management, flood protection, sewer, water, gas and electrical
 - Access to UTMB and Ferry Rd.
 - Rail access
- Pelican Island
 - Infrastructure improvement, including sewer, water, gas and electrical
 - Improvements to road and rail access between Galveston Island and Pelican Island, including review of land bridge between Galveston Island and Pelican Island
 - Consider Port of Galveston’s 100-acre parcel available for lease and development
 - On deepwater – 45’ channel
 - 2,600 linear feet of frontage
 - Designated as part of Foreign Trade Zone # 36
 - 30 minutes from open sea
 - Six miles from Interstate 45
 - Review joint project with Port of Houston to construct a container-handling facility
- Needs assessments and pre-engineered infrastructure projects such as bulkheads, subsidence repairs and other existing facilities
- Review undeveloped and underdeveloped properties, waterfront and landlocked, for development

- Review improvements necessary for railroad
- Review cruise terminal plans, especially traffic and parking elements needed to handle increased passenger loadings and continuing major updates
- Review transit connections such as Island Transit and specialty shuttles serving the cruise terminal

Stakeholders

- | | |
|--------------------------------------|---|
| • Port of Galveston | • Downtown Revitalization District |
| • City of Galveston | • GEDP |
| • Galveston County | • Pelican Island District |
| • TAMUG | • Galveston Navigation District |
| • UTMB | • Harborside Management District |
| • State of Texas / TxDOT | • Industry Representatives |
| • USACE | • Railroads – The Burlington Northern and Santa Fe Railway Company, Union Pacific and Galveston Railroad L.P. |
| • U.S. Coast Guard | |
| • U.S. Customs and Border Protection | |



Casino Gambling Feasibility Study

Recovery Value: Community Interest

Project Sponsor: Galveston Chamber of Commerce/ Advocacy Committee

Key Facts

Background: Casinos have been discussed in Galveston for decades. In the wake of Hurricane Ike, some citizens see them as being potentially advantageous in a struggling economy, and some see them as being detrimental to the city's future. Regardless of what position one takes, it is important to gather information and to seek to understand the issue.

Project Description

This project will be to study the broad issue of casino gambling and how casinos may impact Galveston. In addition, it will seek to evaluate pending state laws and constitutional amendments bearing on this issue, and how they may affect Galveston.

Project type: This project will be one that involves study, perhaps some travel, and discussion. Most costs will be borne by the Chamber, by individuals and by private business.

Project Impact: This project will potentially impact all demographic segments of the community. It will affect the entire geographic area of Galveston. There are no MOUs between multiple organizations.

Importance for Recovery: This project was repeatedly identified by members of the GCRC as one of significance for all segments of the Galveston Island economy. In as much as outside gaming interests, lobbyists, legislators and other regions seek to expand gaming in Texas, it is important for Galveston to remain abreast of those efforts and to develop local policy for city government and interested business groups such as the Galveston Chamber of Commerce.

Feasibility: This project is feasible. It can be accomplished with existing volunteer assistance, staff support from the Galveston Chamber of Commerce and academic support from colleges, universities and other public institutions. This project will not require ongoing funding or staff support, and it has a high likelihood of producing the desired result (information).

Cost Estimate/Financial Considerations: This project would benefit by a budget of \$25,000 for travel, speaker remuneration, research, and polling. However, if no funds are available, we believe a sizeable amount of valid information still may be obtained and compiled free by volunteers, with no budgeted expenditures.

Next Steps: Our plan is for the next step in this process to be a meeting of the Chamber Advocacy Committee to discuss the logical steps and to plan development of the project. Because legislation has been introduced that would lead to a statewide vote on a gaming amendment to the Texas Constitution, we would intend to ask Craig Eiland to speak to us quickly about that because studying that subject is pressing.



ENVIRONMENT



ENVIRONMENT

Overview

Galveston's past planning initiatives have recognized sustainability. The Galveston Comprehensive Plan (2001) recognized the importance of protecting natural resources and becoming a more sustainable community. Identified in the Comprehensive Plan is the goal to "preserve and protect the sensitive natural resources of Galveston Island, the Galveston Bay Estuary, and the Gulf of Mexico." In 2005, Galveston embarked on an intense analysis of its natural resources during the creation of the West Galveston Island Greenprint for Growth. The Greenprint identified the need to mitigate coastal hazards and incorporate landscaping practices to conserve water and protect water quality. In the storm's aftermath, the environmental concerns and issues of the community have become all the more relevant. During the recovery planning process, the community has reiterated its desire to protect natural resources. As Galveston rebuilds, it is important that the community takes this opportunity to implement the goals it has outlined in previous planning and visioning.

Aldo Leopold, a renowned environmentalist, stated that, "Conservation is the state of harmony between men and land." Communities that realize this harmony will be more sustainable and resilient in natural disasters. As Galveston rebuilds, it is challenged with critical policy issues related to sustainability. Disaster victims have an inherent desire to rebuild rapidly and return to normal – to live way they lived before the disaster. However, communities must balance this perceived immediate need against the long-term objective of a sustainable community. The goal of sustainability will affect community decision-making so that economic prosperity, social equity, and environmental quality are each considered equally. Addressing environmental issues and rebuilding in a sustainable manner will serve the people of Galveston today, and future generations.

The environmental section of the plan includes initiatives that will promote Galveston as a welcoming, clean, and healthy community.

- Create an Office of Sustainability that will incorporate sustainable practices in all aspects of government
- Develop eco-system restoration
- Create buffer ordinance protection for wetlands, waters, beaches and dunes
- Develop a preserve in the West End
- Restore, replace, and create a more enhanced urban forestry program
- Clean up the Island and enact programs and policies that ensure that Galveston stays clean and recycled

- Strengthen enforceable land use ordinances for environmental protection
- Active conservation and restoration of natural resources
- Galveston as a center for environmental education, an example for new concepts of coastal conservation, and as an icon for progressive and sustainable coastal communities
- Throughout the community workshops, the GCRC members heard from fellow citizens that they wanted Galveston to become a center for environmentally responsible natural resource management and civic and community living

Goals

- Galveston as a center for environmental education and an example for new concepts of coastal conservation by becoming the icon for what is a progressive, sustainable coastal community
- Insist on enforcement of land use ordinances
- Active conservation and restoration of natural resources through all possible tools
- Institutionalize sustainability at the city staff level and a Non Governmental Organization (NGO)
- Clean up and enact policies and programs to keep Galveston clean and recycled

Galveston Island Ecosystem Restoration from the Gulf to the Bay

Recovery Value: Moderate

Project Champion: Artist Boat, Executive Director Karla Klay

Organizational Capacity: Artist Boat is a 501(c)(3) organization dedicated to promoting conservation and preservation of coastal margins and the marine environment through the disciplines of the sciences, arts and education.

Background

Large-scale ecosystem restoration is vital to the ability of the Galveston community to mitigate hazards from future storms, as living shorelines provide very cost effective storm surge abatement, flood water retention, and retention of sediments. The concern of the Galveston residents on this matter following Hurricane Ike was revealed in a series of open houses conducted by the GCRC, where two of the four top priorities were restoring coastal areas and protecting the environment.



Galveston Island is a barrier island system created and sustained primarily through sedimentary inputs from the Galveston Bay watershed and from other riverine inputs across the northern Gulf of Mexico. However, sediments are blocked by the Texas City dike. Wave action and currents in the Gulf of Mexico tend to remove sediments from the barrier system. The island currently suffers from a sediment deficit, erosion and subsidence, which is the predominant factor in wetland loss.

These impacts are especially notable following tropical storms and hurricanes such as Ike. The combined result over the last 50 years has been the loss of more than 50,000 acres of various wetland types. Preservation of existing open space combined with the restoration of habitats can provide effective hazard mitigation through flood water retention and storm surge buffering. The re-establishment of seagrass beds and oyster reefs also provides structure that encourages sediment retention and absorbing wave energy. Dune restoration offers a “soft”, dynamic, yet stable shoreline that is resistant to erosion due to the vegetation that entraps and retains sediments.

Goals

- Habitat restoration comprising of dunes restoration using native dune plants; up to 5,000 acres of saltwater marshes; up to 1,000 acres of seagrass beds; and up to 1,000 acres of oyster reef, at every feasible location from the East End’s Big Reef to San Luis Pass
- Job creation and training through the establishment, implementation and maintenance of nurseries to train the workforce of full-time and part-time employees to design, implement and build restored habitat types, maintain nurseries and plant dunes on Galveston Island

Project Description: This project will design, implement and deliver restored habitats for the Galveston Island barrier ecosystem from the Gulf of Mexico to West Galveston Bay. This project will restore up to 10,000 acres of marsh, wetlands, dune, oyster, and seagrass beds habitat through partnerships, job training/creation, and service learning. Creation of jobs is a high priority of the recovery committee, and this project offers an opportunity to provide jobs on Galveston Island. The habitat types described above are fisheries habitats that are vital to the recreational and commercial fisheries of the Gulf of Mexico and Galveston Bay, contributing to a multi-billion dollar industry gulf-wide. Coastal habitat restoration and the creation of “green-collar jobs” are goals of the federal economic stimulus package and numerous federal and state agencies.

Action Steps

- Work with stakeholders to identify locations, methods, and resources that are site specific to the varying challenges posed by the changing situations of Galveston’s shoreline to assure the best practices for habitat restoration.
- Design, implement, and deliver Habitat Restoration Training Program to nursery staff members and habitat restoration specialists that will include various training components to meet the nurseries’ duties and the building of

restored habitats. This program will open opportunities for TAMUG students and for unemployed residents registered with the Texas Workforce Commission in Galveston. This relationship will provide employment that would also contribute to the community.

- Establish and Maintain nurseries to grow wetland and dune vegetation and seeded oyster balls.
- Engineer and design components of the project to allow Galveston businesses and resources a first consideration in providing project materials.
- Plant, seed, or broadcast plants into their locations.
- Rake up Sargassum seaweed that collects on the beaches and have it placed in front of the sand dunes as an added natural shoreline defense. This will be a benefit to city services and keep heavy machinery off the beaches.



Sustainable Opportunities: The field of habitat restoration is fast-growing nationwide, as evidenced by its inclusion as an element in the American Recovery and Reinvestment Act of 2009. Galveston Island has the resources to provide leadership in the field for the Gulf Coast, developing and exporting restoration technologies, tools and expertise.

Financial Considerations: Mitigating hazards through natural processes is the most cost effective way to prepare for future flooding events and is considered an extremely valuable method by the federal government and state mandates. These programs can be implemented immediately.

Preliminary Cost

5,000 acres for marsh restoration	~\$60M
1,000 acres for sea grass beds	~\$13.5M
33 linear miles of dune restoration	~\$2.5M
1,000 to 5,000 acres for oyster beds	~\$24M

Economic Impact

This project will create jobs and protect the environment to preserve and increase the annual income for Galveston's Eco-Tourism, which relies heavily on recreational fishing, bird watching and the beaches. Commercial fisheries are estuarine dependent. This means that estuaries are essential for survival and perpetuation of the species for 90% of all fish, shrimps and crabs harvested in the Gulf and Bay. It is estimated that \$115 million in revenue is generated annually through eco-tourism and fisheries industries. Living shorelines provide the most cost effective natural environmentally-safe means for storm surge abatement, flood water protection, sediment retention and ecological sustainability. One mile of wetlands provides a decrease of a foot during flooding events, and one acre of wetlands decreases property losses by \$30,000.

Potential Stakeholders and Resources

- NOAA / National Marine Fisheries Service
- US Fish and Wildlife Service
- General Land Office
- Gulf of Mexico Foundation
- Galveston Bay Estuary Program
- Texas Parks and Wildlife Department
- Gulf of Mexico Alliance
- EPA
- State of Texas Legislature
- FEMA
- HUD
- Private Foundations

Protecting Island Resources

The project aims to timely enact ordinances that will protect economically valuable resources as a precondition to approval of construction projects.

Recovery Value: Moderate

Background

Rebuilding after Ike is proceeding without adequate protection for the City's economic and marketing advantages derived from the Island's natural environment. It is of utmost importance to have local buffer ordinance protection in place for wetlands, waters, beaches and dunes.

The articulation of the community vision for Galveston through the comprehensive plan emphasizes the need to protect aspects of the natural environment. Other community visioning processes, such as those used in the development of the West Galveston Island Greenprint for Growth and the GCRC, have also shared this emphasis.

Goal: To draft and enact, within 90 days, a package of ordinances that protects certain valuable aspects of the natural environment. First, it establishes community based legislation. Second, it is directed toward consistency of interpretation and expeditious decisionmaking in matters concerning certain public resources.

Project Description

The project is a three pronged legislative program with a goal of establishing local guidelines and protection. It is directed toward consistency of interpretation and expeditious decision making in matters concerning certain public resources.

This project aims to insure that the protection of natural resources is real and effective by (a) establishing buffers and rules to codify and articulate the legislative program, (b) eliminating the use of Special Use Permits and other devices that shrink the protection of the law, and (c) insisting on a complete comprehensive cumulative environmental impact study as a basis for future Land Use decisions.

Sustainable Opportunities

- This is a long-term recovery project. Specifically, it is the cornerstone of a long-term series of natural flood mitigation policies.
- The legislation in the project helps achieve the community's post-disaster vision by providing direction to rebuilding and development for protecting resources the community wants to sustain.

- The project supports community sustainability by establishing a framework of sustainable uses based on preservation of land and (a) economic resources derived from natural resources, as well as (b) the natural resources themselves.
- The project leverages long-term and general recovery by providing direction to environmental protection and land use. The effect is not only to protect the environment, but to provide consistency and clarity for the benefit of builders and developers, to create opportunities in eco-tourism, and to enhance and maintain a desirable quality of life on the Island.
- The project incorporates Best Practices for reducing losses in future disasters by (a) protecting wetlands which in turn absorb much energy from storm surges, and (b) protecting dunes and shorelines, which provide a defense to storms.



- The project provides benefits to the community as a whole by maintaining the desirability of living on the Island. As a highly desirable place to live and work, the City will be a stronger competitor for attracting businesses and the people who work in them.
- Economic sustainability flows from this legislation by the simple fact that land governed by preservation ordinances generally enjoys greater appreciation and higher value.

Action Steps

- Information gathering with key City departments
- Draft the ordinance
- Review by Legal and Planning departments
- Present to Planning Commission and City Council
- Secure funding for academic-based Comprehensive Environmental Impact Study (CEIS)
- Form a scientist/resident partnership for the CEIS

Time is of the essence. In order to be an effective part of Galveston's recovery, a framework for environmentally sensitive land use must be in place before environmental issues arise, rather than after construction or application for State and Federal funds begins. Accordingly, we ask that City Council direct the legal department to place this legislation in a high priority for completion of drafting, review, passage and implementation.

Financial Considerations

Cost Estimate/Preliminary Cost:

Development of a CEIS	\$600,000
Development of land use ordinances: In-kind, to be completed by the team and passed with City Council	
Total Cost	\$600,000
Funding Gap	(\$600,000)

Potential Resources

- EPA Region 6: Wetland Program Development Grant,
<http://www07.grants.gov/search/search.do;jsessionid=Lhh4J60GRHnjS5dCkD81VGC1JpqMvqCKxTypJnhTh4Wv7dbSy1tk!1677821819?oppld=46029&flag2006=false&mode=VIEW>
- General Land Office
- H-GAC

Clean Green and Smart Galveston Initiative

Recovery Value: Moderate

Project Champion: Sheryl Rozier

Background: After the devastating hurricane on September 8, 1900, Galveston's City leaders carried out an ambitious plan to minimize future hurricane damage by building a seawall and raising the level of the city to deter flooding. Some might look at this as our forefathers first attempt at a more sustainable island. Galveston is uniquely positioned on a barrier island, and has an inherent need to rebuild in a sustainable manner that pays homage to being a part of a barrier ecosystem. Even before Hurricane Ike, there was increased local interest in environmentally sensitive planning. This is also noted in the Comprehensive Plan of 2001 as a mid-term action. The time is now to look toward the future of this island by maintaining and protecting the integrity of our natural resources and environment.

Goal: Galveston is a center for environmental education and an example for new concepts of coastal conservation by becoming the icon for what is a progressive, sustainable, coastal community. The Clean Green & Smart Galveston Initiative is a comprehensive approach to begin creating a more sustainable Galveston.

Project Description

Enact a City wide clean-up initiative with an education campaign that inspires pride in the community and provides aggressive enforcement for ongoing efforts:

- Provide ongoing clean-up of storm debris and review policies for future storms
- Educate school students at all grade levels about the importance of keeping Galveston clean and green, while promoting a sense of community pride in the next generation
- Implement a promotional campaign to galvanize citizens and emphasize the importance of the City's cleanliness for our citizen's quality of life and to attract tourists and businesses
- Provide comprehensive signage informing citizens and tourists of the fines and punishment of littering
- Provide trash receptacles for Downtown, Seawall and the beach pedestrian traffic
- Expedite and/or elevate Code Enforcement's power to police current City Ordinances, with stringent penalties

Implement a comprehensive City wide recycling program:

- Establish a permanent facility for recycling

- Purchase the appropriate equipment necessary for this program, i.e., trucks, curbside containers
- Fund an educational campaign about appropriate usage of curbside and drop-off recycling services and enforce fines for placing trash in recycle carts
- Initiate a single-stream curbside recycling program to encourage more residents to recycle with all items placed in one container, separate from their regular household trash
- Establish recycling program requirements for commercial businesses, apartments and multi-family dwellings
- Provide recycling containers for paper, plastic and cans adjacent to trash receptacles on the Strand and along the Seawall

Institutionalize sustainability at the City Staff level with the creation of an Office of Sustainability to coordinate with other City Departments:

- Provide a position at the City Staff level that produces a plan with policies and programs that promote sustainability, with the following possible themes: cleanliness, environmental education and awareness, greening, the green economy, pollution, prevention, resource conservation and transportation
- Develop a policy with the focus on the exploration of alternative energy sources for the public and private sector, with possible incentives for business development
- Develop and distribute an educational campaign about the environmental, economic, health and community benefits of building green and how it affects quality of life
- Adopt Green Building standards that will create cost effective, energy efficient structures that conserve and protect our natural resources



Additional Action Steps

Clean-up Galveston

- Fund a “Keep it Clean” Campaign which includes methods for reporting litter and illegal dumping
- Remove illegal signs from right-of-ways including utility poles
- Provide dog waste disposal stations with enforcement signs about fines for not “scooping the poop”
- Develop a fee charged to absentee property owners to cover the costs of maintaining their vacant, privately-owned lots, when not maintained to City code
- Develop an adopt-a-street program with signage thanking the organization that is keeping it clean
- Partner with existing local and national organizations for assistance, i.e., Clean

Recycling Program

- Provide scheduled bulk item pick-ups
- Enforce proper disposal of construction debris and educate builders about recycling options
- Provide an appropriate and accessible facility for drop-off of household and commercial hazardous waste
- Encourage personal composting and establish clear guidelines for curbside pick-up of yard waste
- Educate the public about common code violations and methods to report them
- Develop a plan for recycling storm debris
- Consider a “pay as you throw” program to create a direct economic incentive to recycle more and generate less waste



Office of Sustainability

- Partner with a steering committee to assist in the development of this position
- Determine the review, verification, certification, and enforcement processes
- Provide building project review during the permitting process to highlight sustainable opportunities
- Encourage participation in LEED Green Building Rating System™
- Partner with foundations with a focus on sustainability

- Partner with local universities for research and data on coastal living conditions
- Advise the Convention and Visitor’s Bureau on Green opportunities

Sustainable Opportunities

- Purchase City trucks for the recycling program that run on alternative fuels
- Use our own City waste to generate energy
- By educating our children on green opportunities we provide a more sustainable future for Galveston

Financial Considerations

Total Cost:	TBD
Funding Gap:	TBD

Potential Resources

- Clean Galveston, Inc. www.cleangalveston.org
- Earth 911 www.earth911.com
- The Ocean Conservancy www.oceanconservancy.org
- Texas Commission on Environmental Quality www.tceq.state.tx.us
- Environmental Protection Agency www.epa.gov
- Local Government Environmental Assistance Network (LGEAN) www.lgean.org
- Dare County, Currituck County Recycling Centers www.outerbankschamber.com/relocation/recycling.cfm
- City of Wilmington, North Carolina Recycling www.wilmingtonnc.gov/Departments/PublicServices/SolidWasteManagement
- City of Austin Solid Waste Services www.ci.austin.tx.us/sws/default.htm
- Create the Future, A Smart Community www.outerbankschamber.com/smartindex.cfm
- Litter Prevention www.louisvilleky.gov/Brightside/Litter+Prevention
- The City of Baltimore, MD www.baltimorecity.gov
- Sustain Lane -- People-Powered Sustainability Guide www.sustainlane.com
- U.S. Green Building Council www.usgbc.org
- Green Communities Planning and Construction Grants www.greencommunitiesonline.org/tools/funding/grants/planning.asp

Trees

Recovery Value: Moderate

Project Champion: Jackie Cole

Background: Tree lined boulevards have been a part of the Galveston streetscape since the early 1900's and have welcomed visitors and created a sense of place. Hurricane Ike, with its strong winds and salty storm surge, damaged or destroyed many trees and vegetation along the boulevards. Recognizing the value of the urban forestry to the community image and real estate values; the City of Galveston immediately solicited the assistance of the Texas Forest Service to evaluate the condition of the City's trees, particularly the oaks and palms along Broadway Street.

Goals

- Restore and improve landscaping along the community gateways and within neighborhoods
- Encourage private and public plantings of vegetation
- Create "Green Streets" that reduce stormwater runoff, flooding, and improve water quality
- Enhance the community image to increase tourism and stimulate the economy
- Educate the community on the vegetation and maintenance most appropriate for Galveston Island
- Implement the recommendations from the Texas Forest Service "Hurricane Ike Tree Mitigation Plan"

Project Description

The City of Galveston has long recognized the value of vegetation and landscaping, going back to the creation of the tree and oleander-lined boulevards after raising the island in the early 1900's. The benefits of well-designed landscaping include increased business growth and retail activity, greater tourist activity, improved property value, greater community pride, decreases in stormwater runoff, and improved air and water quality. During the post storm recovery, the community has identified the need for a comprehensive approach to care, maintenance, and enhancement of the landscaping and vegetation.

The appropriate selection of plants coupled with a prescribed care and maintenance program ensures the longevity of plant life and beauty. Fiscally, the long term maintenance costs will be significantly lower without the need to use

irrigation or expensive fertilizers, herbicides, and insecticides that also negatively impact water quality. Additionally, prescribed care and maintenance will reduce the long-term costs and lifespan of the vegetation. Therefore, it is important the city use certified professionals to ensure the proper health and maintenance of this valuable community asset.

The creation of a "green streets" program in Galveston will help reduce stormwater runoff, non-point source pollution, flooding, and possibly the need to replace or increase the capacity of expensive stormwater utility systems. By retrofitting the public right-of-ways or obtaining easements, the City can create rain gardens, or bioswales, along the roadways. While citizens will recognize this as improved landscaping that helps improve community pride and character, the city will be able to realize a substantial decrease in stormwater runoff; which will reduce flooding, reduce non-point source pollution, and improve water quality.



The 2009 Arbor Day Program will be an excellent inaugural event for the tree program. The continuation of the programs will necessitate the formation of a tree committee and support of city staff and a well-established partner organization, such as Tree City USA. A critical project component will be a public education campaign extolling the benefits of native vegetation and how the public can

individually contribute with landscaping decisions on their property. Particular focus will be on the benefits of planting native plants, how to select appropriate plants, and how to maintain the plants.

Action Steps

- Create a comprehensive tree maintenance plan
- Hire and/or train city employees to become certified arborists
- Implement the tree maintenance plan
- Create a program and plan for the planting of native trees and vegetation along streets and neighborhoods to include guidelines that creates "green streets," which manage stormwater runoff onsite through the use of vegetated practices that benefit water quality and increase infiltration capacity. Begin with a demonstration project that allows the City and citizens to recognize the advantages and gain information on the Green streets concept
- Create an educational outreach program that includes written materials on the benefits of native plant landscaping, plant selection criteria, planting instructions, and care and maintenance. Written materials also to include celebration and recognition of local trees and native landscaping to raise awareness
- Partnership with an established tree program, such as Tree City USA (a division of the Arbor Day Foundation) to provide technical resources, tools, and funding for tree initiatives
- Partnership with established educational programs like Galveston County extension services and Master Gardeners, Master Naturalists to develop educational programs and gain advice on demonstration programs

Sustainable Opportunities

- Creation of rain gardens or bioswales will reduce stormwater runoff
- Select and choose native plants for landscaping that will eliminate the need to irrigate and use fertilizers, and pesticides

Financial Considerations:

Cost Estimate/Preliminary Costs:

Creation and Printing of Educational Materials	TBD
Training for Professional Arborist:	TBD
Landscape Materials	TBD

Total Cost	TBD
Funding Gap	TBD

Potential Resources

- Galveston Parks & Recreation
- Galveston Department of Planning and Community Development
- Galveston County extension service, master gardeners, [HYPERLINK "http://aggie-horticulture.tamu.edu/Galveston/index.htm"](http://aggie-horticulture.tamu.edu/Galveston/index.htm) <http://aggie-horticulture.tamu.edu/Galveston/index.htm>
- Houston-Galveston Area Council, [HYPERLINK "http://www.h-gac.com/home/default.aspx"](http://www.h-gac.com/home/default.aspx) <http://www.h-gac.com/home/default.aspx>
- Houston Area Urban Forestry Council, [HYPERLINK "http://www.houstonareaurbanforestrycouncil.org/"](http://www.houstonareaurbanforestrycouncil.org/) <http://www.houstonareaurbanforestrycouncil.org/>
- International Society of Arboriculture - Texas Chapter, [HYPERLINK "http://www.isatexas.com/"](http://www.isatexas.com/) <http://www.isatexas.com/>
- Texas Forestry, [HYPERLINK "http://txforests.tamu.edu/main/default.aspx"](http://txforests.tamu.edu/main/default.aspx) <http://txforests.tamu.edu/main/default.aspx>
- Texas Department of Transportation, [HYPERLINK "http://www.txdot.gov/"](http://www.txdot.gov/) <http://www.txdot.gov/>
- Department of Forestry from the Stephen F. Austin University, [HYPERLINK "http://www2.sfasu.edu/forestry/about.html"](http://www2.sfasu.edu/forestry/about.html) <http://www2.sfasu.edu/forestry/about.html>
- A tree foundation, such as, Tree City USA, a division of the Arbor Day Foundation, [HYPERLINK "http://www.arboday.org/programs/treeCityUSA/index.cfm"](http://www.arboday.org/programs/treeCityUSA/index.cfm) <http://www.arboday.org/programs/treeCityUSA/index.cfm>
- Home Depot Foundation – Community Tree Grant Program, [HYPERLINK "http://www.homedepotfoundation.org/grants.html"](http://www.homedepotfoundation.org/grants.html) <http://www.homedepotfoundation.org/grants.html>
- Lowe's Charitable and Educational Foundation, Inc, [HYPERLINK "http://www.lowes.com/lkn?action=pg&p=AboutLowe/Community"](http://www.lowes.com/lkn?action=pg&p=AboutLowe/Community) www.lowes.com/lkn?action=pg&p=AboutLowe/Community
- Apache Foundation, [HYPERLINK "http://www.apachecorp.com/"](http://www.apachecorp.com/) <http://www.apachecorp.com/>

West Galveston Island Land Conservation

A plan to conserve and protect undeveloped land on West Galveston Island by implementing the West Galveston Island Greenprint for Growth (WGIGG).¹

Recovery Value: Community Interest

Project Champions: A. O'Donnell and N. Rubin

Vision Statement: Galveston is

- clean, smart, sustainable promoting green living practices
- has scientifically based policies for environmentally sustainable development and infrastructure that is in harmony with nature
- dedicated to preservation and conservation of sustainable natural resources
- a welcoming, scenic, and natural place with planned beautification standards



¹ West Galveston Island Greenprint for Growth (WGIGG), published October, 2007
http://www.tpl.org/tier3_cd.cfm?content_item_id=22058&folder_id=264

Background

The City of Galveston recognizes the importance of planning and implementing strategies to conserve green space on a local level, with emphasis on coastal natural resources. In 2003, the Galveston City Council authorized the development of the Galveston Comprehensive Plan, which outlined the objective to “Encourage the development of the West End of the Island with a focus on the environment, aesthetics and economics.” Additionally, the natural resource section states the objective to “Preserve and protect Galveston Island’s sensitive natural resources by facilitating creation of a network of permanently protected open space.”²

In 2005, the City authorized a study by The Trust for Public Land, which resulted in a report called West Galveston Island Greenprint for Growth. “Greenprinting for Growth” is The Trust for Public Land’s term for a strategy to manage growth, one that ensures quality of life, clean air and water, recreation, and economic health. A vision for future growth and a plan to protect important natural resources - that is what greenprinting is all about. Ultimately, greenprinting involves defining a conservation vision, securing the conservation funding, and acquiring and managing conservation lands. Galvestonians can move forward to conserve critically important lands by focusing on the results described in the WGIGG and its recommendations on the most viable funding sources for land acquisition.

The WGIGG was the culmination of extensive public involvement in pursuit of a common vision for the West End. The stakeholders established their top five goal categories and established their weights of importance as follows:

Protect Habitat	28%
Protect Shoreline	27%
Provide Drainage and Flood Management	16%
Preserve Island’s Local Character	18%
Provide Access and Connectivity for Public Recreation	11%

If the WGIGG conservation vision process is successful, development and conservation can both occur and protect some of our community’s most cherished lands. Local and outside investments will offer fair compensation for West Galveston Island landowners who seek to conserve those lands, which will enrich the lives of future generations of Galveston residents far beyond the monetary value of the investment. Land conservation provides many opportunities for

² Galveston Comprehensive Plan, A Shared Vision for Galveston Island, Final Ed. Sept 2003, pages 47, 115

consideration of community needs and desires, because it can be applied to farmland, prairie, coastal natural resources, parks, habitat, and more.

Undeveloped land has been identified on the maps prepared by The Trust for Public Lands as having high priority for conservation and preservation. Nine different habitat types exist in the identified areas: freshwater wetlands, saltwater wetlands, bird rookeries, oak mottes, dunes, salt flats, upland coastal prairies, beaches and submerged aquatic vegetation. The properties have both Gulf and Bay access.

Goal: This project will address conservation of some of the last remaining open space on West Galveston Island for the environmental and historical education of our citizens and visitors, for protection of marine life, birds and other wildlife, for protection of our water quality and public safety. Our goal is to protect by acquisition and conservation west end coastal habitat composed of beaches, dunes, swales, upland prairies and wetlands.

Project Description

To preserve the undeveloped land that has been identified, by means of the WGIGG and the Geohazard map, as having high priority for conservation and preservation. Two committees will be set up to help guide the project: a Coordinating Committee and a Technical Advisory Committee. Full community stakeholder meetings will also be convened to solicit input on land use, educational and conservation priorities. We will encourage representation from area non-profit organizations including:

- Galveston Island Nature Tourism Council
- Friends of Galveston Island State Park
- Artists Boat
- The Cabeza de Vaca Center
- Scenic Galveston
- Galveston Bay Foundation
- Houston Audubon Society
- Galveston Beach to Bay Preserve, and Surf Riders

Other stakeholders to consider are local west end landowners, developers, real estate representatives, sport and commercial bay fishermen, members of both Galveston Alliance of Independent Neighborhoods (GAIN) and the West Galveston Island Property Owners Association (WGIPOA), Federal and State agencies such as U.S. Fish & Wildlife and Texas Parks & Wildlife, NOAA, FEMA, City representation for the Planning Department and City Council, and Galveston Parks Board. It will be



very important that there be citizens selected from each council district and an at large member appointment by the mayor. This group must project a broad representation from all of Galveston.

Several tracts of land on the West End are, or may be, available for conservation. A goal of 3,000 acres could create an emerald necklace that would provide public access to the beach and bay while protecting valuable habitat for wildlife and tourism. One example would be the completion of the McAllis Point project on West Galveston Bay. Approximately 60 acres of the 127 acres of land there have been saved to date and in Galveston County's ownership, with the remainder in the ownership of the Permanent School Fund. Acquisition of approximately 18 more acres from the Permanent School Fund is currently in progress (awaiting confirmation of final funding). The balance of approximately 50 acres is under consideration for a Coastal Impact Assistance Program grant, but other funding sources may be needed. This tract has been recognized by state and federal agencies as containing good examples of most all the native habitats of West Galveston Island. Other examples of potential high value conservation lands that may be available are in the vicinity of Settegast Road and Eckerts Bayou. Like the McAllis Point property, the Settegast Road property has most all the native Island habitats on or adjacent to the property, and at least portions of it may be available for conservation, as the owner's development plans may be shifting in light of Ike and other developments on the Island.

In order to offer a fair market price, we will pursue the following funding sources, which can be knit together into a “funding quilt” to purchase as much of the designated land as possible:

- Investigate creating a local funding source that can be used to meet the community’s objectives:
 - Seek approval for a General Obligation bond
 - Dedicate a portion of the Hotel Occupancy Tax or other tax revenue
 - Consider the formation of the legislatively authorized West Galveston Island Conservation District
 - Seek a charter amendment that removes expenditures of shoreline protection or development of a trail system from the City’s expenditure cap
 - Develop a program of Park Impact Fees for new development
 - Establish a barrier island stabilization fund (through sources such as future increases in land value)
- Apply for new funding from the Texas Parks and Wildlife Department local grants
- Apply for Federal funding from the Coastal Estuarine Land Conservation Program (CELCP)
- Consider how Homeland Security funding may support an initiative to reduce storm impact. The FEMA Disaster Mitigation Act of 2000 requires that communities prepare Local Mitigation Strategy (LMS) plans.
- Consider applying for conservation and mitigation funding to buy the land before development is allowed to be constructed in a coastal island flood plain not protected by a seawall
- Investigate funding possibilities from private foundations and corporate giving programs

This project will increase ecotourism and environmental education on the Island. A goal will be to enhance and work with existing organizations or programs. This project will add to the quality of life on the Island by preservation of some of the last unique historical and environmentally-sensitive land on the Island. It is an investment in the future of our children to see and experience native coastal habitat and the role that it plays in the protection and enjoyment of our daily lives. We have a chance to demonstrate how development and conservation can work together for the benefit of all in our Galveston recovery from Hurricane Ike.



HOUSING AND COMMUNITY CHARACTER



HOUSING AND COMMUNITY CHARACTER

Overview

Housing and Community Character projects merge several closely related interests that can improve Galveston's quality of life for residents and visitors. Hurricane Ike caused damage impacts to more than 75 percent of the housing units throughout the City, leaving approximately 1,400 families displaced and resulting in more than 29,000 requests for Individual Assistance from FEMA. Many citizens cannot afford the cost of repair or replacement and have abandoned their homes. These uninhabited houses, along with decreases in population and reduced city services, will be challenges for Galveston as it reestablishes its population. Abandoned housing will place added strain on an already existing large demand for housing affordable to all economic groups. This crisis in housing could further widen the economic gap on the Island. All of these factors may lead to a diminished quality of life, now enhanced by our historic assets and cultural programs.

Galveston's housing assistance and redevelopment efforts are coordinated through the City's Grants and Housing Department and the Galveston Housing Authority. The Grants and Housing Department administers the CDBG program offering Homes Investment Partnership Program, Housing Rehabilitation and Code Enforcement. The Galveston Housing Authority coordinates the City's public housing and Section 8 voucher assistance programs. The housing strategies in the Recovery Plan projects meet repair and replacement objectives of the City and identify and address housing needs of some of its most vulnerable residents. The projects provide benefits such as home ownership, infill housing proposals, rehabilitation of abandoned and historic properties, lease-to-own and outright purchase programming, code compliance assistance and enforcement, and Hope VI conversions.

No doubt, housing is a critical piece of the City's recovery after Hurricane Ike. Equally important is the need to make the island a welcoming environment and a livable community for all. This starts with a project to improve the gateway to the island and continues with projects that make neighborhoods more sustainable and attractive.

This plan recognizes that the Island's arts community and preservation of its historic resources make Galveston a unique place to live and visit. The existing performing arts season that attracts internationally recognized talent to the Island is a solid base from which to expand cultural tourism that brings vitality while adding to the local economy.

The rich collection of 19th and 20th century buildings are a character-defining part of the Island and offer a project opportunity to recognize this uniqueness and

expand markets for the Island, as well as creating projects on which to build an educational institution and serve as a model for new construction. Likewise, the threatened materials of some of the buildings must be addressed to strengthen tourist destinations and further revitalization already well-established in Galveston. The nationally prominent downtown district is one such area in need of immediate attention, as is the need to mitigate future disasters on the island.

The Housing and Community Character projects provide the underlying building blocks typical of a successful community that recognize the value of quality and affordable housing, safe neighborhoods, preservation of historic buildings, cultural life and attractions, and a vitality that makes people want to live on the Island. These projects recognize that Galveston has a unique identity and should preserve its special sense of place. The Housing and Community Character projects should be implemented and expanded to strengthen Galveston's resolve and ability to recover from one of the costliest disasters in U.S. history.

Goals

- Create quality, environmentally friendly and affordable housing that meets the needs of all economic groups, honoring the Island's diversity and especially recognizing the need to grow the middle class population
- Foster a safe, clean island with beautiful gateways and attractive, walkable, accessible and safe neighborhoods with recreational facilities for all ages
- Develop architecturally appropriate infill and aggressively increase rehabilitation of existing housing stock
- Support the arts, cultural tourism, and historic preservation as a source of economic and educational vitality for the city
- Develop a citizenry with community character that fosters mutual respect, dignity and pride
- Increase recognition and protection of the historically and architecturally significant built environment of Galveston Island

Housing Market Study

Recovery Value: High

Project Champions: The members of the project team and members of the infill-rehab and Sally Abston Homes teams.

Background

On Saturday, September 13, 2008, Hurricane Ike made landfall over Galveston, Texas. More than 80 percent of homes were damaged by the storm. Data from various reports compiled by the city and FEMA disaster recovery efforts indicated:

- Based on the city's property analysis, a total of 1,237 parcels were assessed as substantially damaged or destroyed. Of that number, 603 parcels were homestead³ properties;
- The GHA owned 948 units of which 528 apartments units were substantially damaged or destroyed
- FEMA received more than 29,000 requests for individual assistance
- Because of the extent of damage and/or lack of flood insurance, many homes will be abandoned or need to be replaced

The GCRC recognizes that the success of the recovery efforts is dependent on rebuilding/repairing the community's housing inventory. Therefore, it is imperative that a two-part study be conducted to 1) understand the community's housing stock and 2) create a planning tool to implement the community's vision for the future.

There is no recent housing market study for the Galveston region that provides the information needed by public and private decision-makers, especially in the dramatically altered real estate situation resulting from Hurricane Ike and 2008/09 international economic decline. Although HUD is scheduled to undertake its conventional housing study in this market after the year 2013, that analysis would be too late and not in sufficient detail to address local needs.

The cost of this study is small in proportion to the program expenditures it will guide or inform as a result of data collection, interpretation and market analysis. In just the first round of housing funds via Hurricane Ike related CDBG appropriations from Congress via the State of Texas, more than \$70 million will be invested by the City of Galveston program.

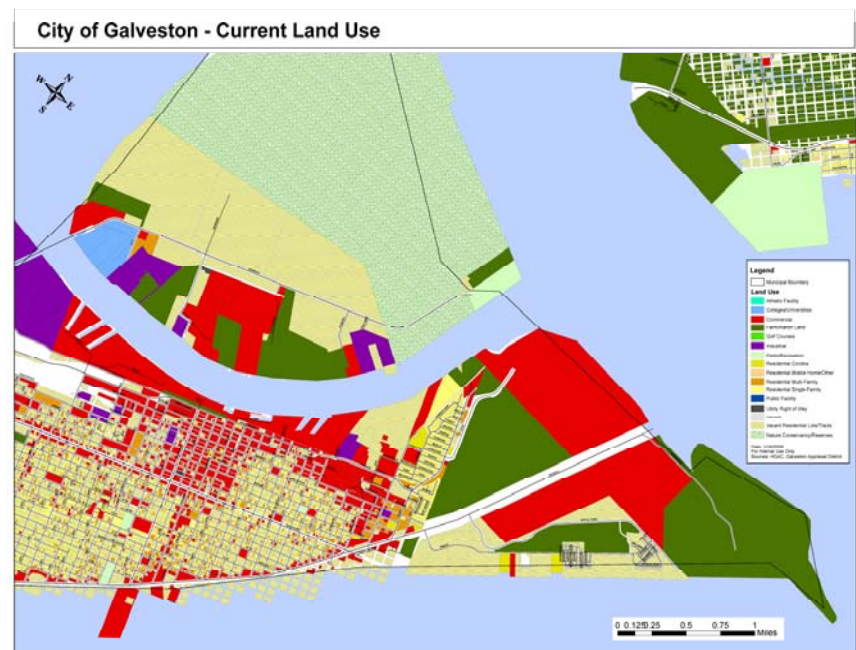
³ Homestead exemptions remove part of your home's value from taxation

Goal: To conduct a housing market study to assess the housing stock and develop a housing strategy to meet the community's short and long term housing needs.

Project Description

Conduct a housing market study to identify housing needs, resources, locations, and housing delivery system. This study can be the foundation for a strategic housing plan that will involve a broad cross section of the community and can be prepared by a housing committee with technical support from municipal staff and consultants. This study will also provide guidance on future housing needs--both ownership and rental--and identify actions for existing and future housing. In addition this study will outline potential funding sources from private, local, state, and federal agencies.

Once the study has been completed, the results would be shared with community groups and local organizations allowing it to be a tool to shape policies and implement housing and community development programs.



Action Steps

Part I

Housing inventory and assessment expanded to do a detailed inventory of uninsured and underinsured neighborhoods and housing stock to assess current conditions. This will include, but will not be limited to assessing damaged properties, vacant lots, abandoned lots, and tax foreclosure properties. This process can be accomplished using data provided by city staff, FEMA, in-the-field observation by volunteers, and other sources as needed.

Housing inventory and assessment - elements of the plan will include the following plans and information:

- Obtain Galveston's Consolidated Plan
- Obtain city's property inspection analysis
- Obtain listings of vacant and abandoned properties and Government-owned vacant lots
- Obtain information regarding code violation(s) including general condition inspection (paint, roof, yard)
- Obtain layered GIS maps from Texas A & M, Texas Land Office, Galveston County Assessor's Office
- Create base file system including census information;
- Survey local real estate companies, appraisers, banks and mortgage lenders to gain insight of current market conditions and trends

Part II

After data is obtained, analyze data to provide the following recommendations:

- A comprehensive housing strategy to meet current and future demographic, social, and economic trends for:
 - New single-family houses and apartments in various price levels
 - Appropriate ownership and rental ratio
 - Provision for affordable housing and special needs population
 - Location of new housing opportunities
- An implementation strategy such as:
 - Homeownership program
 - Utilization of city-owned lots for affordable housing
 - Partnership with a local affordable housing developer/non-profit agency to rehab neighborhoods
- A timeline and tracking tool

Sustainable Opportunities: The study will support a plan of action for recovery as well as support housing development growth. It will target redevelopment of infill neighborhoods impacted by Hurricane Ike. It will also call for use of recycled materials and building of eco-friendly homes.

Financial Considerations

Cost Estimate/Preliminary Cost

Part I: Assessments and inventory costs	\$90,000
Part II: Public process, recommendations, and report writing	<u>\$70,000</u>
Total Costs	\$160,000
Funding Gap	(\$ 160,000)

Potential Resources

- City of Galveston CDBG Funds
- GHA

Galveston Housing Rehabilitation and Infill

One House, One Block, One Neighborhood At A Time

Recovery Value: High

Project Champion: Galveston Homeowners in Partnership with the City of Galveston

Background: Galveston's short and long-term recovery depends on its residents returning to the Island to a home and a job. Its recovery depends on revitalizing neighborhoods affected by Hurricane Ike, which caused damage impact to more than 75 percent of the housing stock on the Island. Previous to Ike, many neighborhoods were experiencing a decline in population and existing homes were in need of repair. The storm exacerbated this condition in many neighborhoods. Civic pride and a sense of 'place' are strong on Galveston Island and residents want to rebuild and improve their neighborhoods to encourage growth and stability for families that live here and to welcome new homeowners to the island.



Goal: To save and regenerate existing neighborhoods, and to improve their affordability and their appeal. This will be accomplished through sustainable planning, elevating eligible homes, rehabilitating homes and the building of new homes as infill. The outcome of this building effort will ensure that neighborhoods are affordable, safe, clean and connected, using compatible neighborhood coastal design. Priority will be given to owner-occupied homes.

Project Description: Establish a non-profit Community Based Housing Corporation (CHODO), located within neighborhoods and housed in resource and design center(s). The neighborhood center(s) will be staffed by the non-profit and trained by City personnel. The purpose of the CHODO and resource center(s) is to educate and connect homeowners with the housing rehabilitation and infill program to elevate, rehabilitate, or rebuild their home. At these center(s) homeowners can apply to the program, learn about funding eligibility, the permitting process, sustainable design/materials, code requirements and more.

Action Steps

1. Inventory and graphically map neighborhoods and housing stock to assess current conditions. This will include, but will not be limited to, assessing the island's damaged properties, vacant lots, abandoned buildings, tax foreclosure properties, topography, existing infrastructure, hotspots, and homeownership vs. rental trends. Identify houses eligible for elevation to B.F.E. and above. This process can be accomplished using data provided by City staff, FEMA, in-the-field observation, and other sources as needed.
2. Perform a real estate market needs assessment. This will provide the community information about the housing market. The assessment will answer urgent questions, such as what housing is existing and what is needed, while also projecting trends for future population growth and decline. (Objectives 1-2 are the goal of another sub-committee project team).
3. Target neighborhoods for the program. In conjunction with the results of needs assessment and established neighborhoods, meet with all relevant stakeholders, such as residents and merchants, to identify the strengths, weaknesses, and desires of each neighborhood. This can be completed in workshops on a neighborhood-by-neighborhood basis, planning strategies with residents where they can create new neighborhoods and maintain existing ones that are attractive, convenient, safe and healthy for generations to come. These revitalized neighborhoods can protect the environment while stimulating economic growth with collective input from citizens. Develop criteria for eligibility, oversight and management of funds for project

recipients to address a range of homeowner incomes and specific housing needs and conditions, one house, one block, one neighborhood at a time.

4. Organize design competition(s). (1) Neighborhood Master Plan : design for social, environmental and economic recovery built upon existing and future social capital. (2) Homes: solicit designs for the rehabilitation of existing homes and construction of new homes with a sales price of \$125k or less.
5. Outreach. Locate the community resource and design center(s) within neighborhoods to connect homeowners with the housing rehabilitation and infill program. The centers will be located within the neighborhoods for easy homeowner access to the rebuilding application and process, while also serving as a neighborhood demonstration home. Whether it is new construction or an elevated and/or rehabilitated existing home, this resource center should be constructed using the US Green Building Council's LEED-Homes Guidelines.



6. Network with City services. This program should be developed and implemented in partnership with private and public funding sources and through strong working relationships with the City's Housing, Planning, and Permitting and Public Works Departments. Working with each department, together with homeowners, will help expedite the permit process, construction and promote neighborhood continuity.

7. Plan for phases in neighborhood redevelopment.

A) Phase I. Immediately - Build, Elevate, Rehabilitate 225 Homes

'Fast track' the project: Build and rehabilitate homes while designing the Master Plan at the same time. Simultaneous with immediately beginning the process of building, elevating and rehabilitating homes, contract with a planning/ architectural firm for neighborhood Master Plans.

- Create a Master Plan for each neighborhood to develop infill standards, streetscapes, open public spaces, infrastructure improvements, transportation, and connectivity.
- Use the neighborhood Master Plans in conjunction to create a new Master Plan for Galveston.
- Identify and secure funding through FEMA, CDGB, gap financing and other sources to achieve this goal.
- Enroll the pilot project in the U.S. Green Building Council's LEED-Neighborhood Development Program (five home minimum), which provides sustainable guidelines for neighborhood planning.

B) Phase II. 2 to 4years - Build, Elevate, Rehabilitate (xxx) Homes – Numbers of Homes = Pending Market Analysis and Demand

- Leverage the successes in the completed projects to fulfill remaining and future needs for housing, open space and infrastructure.
- Economy of building and materials can be achieved by grouping projects in neighborhoods and in time. The price per square foot is reduced when there are more projects going on in the same neighborhood at the same time.
- Sustain the rebuilding momentum by staying within the curve of housing demand.

C) Phase III. 2 to 6 years - Build, Elevate, Rehabilitate (xxxx) Homes, Businesses and Re-Open Schools

- Create an inclusive, improved, affordable, flexible Galveston of improved neighborhoods that encourages private-public investment and ensures the continued success of these existing neighborhoods.

- Create a working model for other towns to follow as they plan to recover from disasters.
- Showcase Galveston Island's success in planning for a sustainable future.

Sustainable Opportunities

- Regeneration of existing neighborhoods is the optimum sustainable plan for recovery
- Building and rehabilitating homes in existing neighborhoods takes advantage of existing infrastructure and transportation, while capitalizing on the social fabric already in place and improving it, thus, attracting new homeowners to the island
- Designing for recovery on the neighborhood scale maximizes the funding resources so that public amenities can also be improved, such as, parks, sidewalks, lighting and drainage

Cost Analysis

Action steps #1 and #2 are part of the committee's Housing Needs Study project

Action steps #3 and #4: Criteria development in committee

Action steps #5 and #6:

Creating a 501c(3) Non-profit legal fees	\$ 2,500
One full time employee, one or two half time employees (1 year)	\$ 100,000
Operating cost (phone, internet, lights and gas) 12 months @ \$500 per month (1 year)	\$ 6,000
Purchase/rehab office space	\$150,000
Office furnishings (desk, table, computer, printer, phone, fax)	<u>\$ 20,000</u>
Total Funding needed for Action Step #5	\$278,500

Action step # 7:

Master Plan, consulting fee for Neighborhoods Master Plan	\$ 325,000
New construction: 1200 sq. ft elevated/LEED @ up to \$110.00 sq. ft., plus average lot cost \$50,000 (improved) Total = \$182,000.00 X 75 homes	\$13,650,000
Rehabilitation of existing homes, @ up to \$75.00 sq. ft. , average 1,200 sq ft X 150 homes	\$13,650,000

Elevation of existing homes, avg. of \$65 per sq. ft plus improvements. Average 1,200 sq. ft. @ \$65 sq. ft. X 175 homes

\$13,650,000

Funding needed

\$41,275,000

TOTAL PROJECT COST, PHASE I

\$41,553,500

Possible Resources

- HUD, CDBG, City of Galveston Grants and Housing Division, HOME funds. The City of Galveston, Department of Grants and Housing, has a number of existing housing programs that could be used in this project.
 - The Community Investment Department of the Federal Home Loan Bank of Dallas. Affordable Housing Program (AHP) Funding. Also funding for Homebuyer education and counseling services. AHP application deadline 2/01 through 3/15.
 - Home Depot local store, materials discounts on material purchased.
 - The Home Depot Foundation, 2455 Paces Ferry Road C-17, Atlanta, GA 30339
- | | Letter of Inquiring (LOI)
Dead Line | Full Project Description
Dead Line |
|-----------|--|---------------------------------------|
| 1st cycle | 11/15 | 01/01 |
| 2nd cycle | 06/01 | 09/15 |
- Houston Endowment Inc., 600 Travis, Suite 6400, Houston, TX 77002-3000, Phone 713-238-8100, e-mail: info@houstonendowment.org, year round application date.
 - HUD-approved Housing Counseling Agency : http://www.hud.gov/offices/hsg/sfh/hcc/hcc_home.cfm
 - See "Housing Study Project" for additional resources for first part of this project

Sally Abston Housing Program

Recovery Value: High

Project Champion: TBD

Background

On Saturday, September 13, 2008, Hurricane Ike made landfall over Galveston, Texas, causing damage impact to more than 75 percent of homes in the community.

FEMA received more than 29,000 requests for funding under the Individual Assistance (IA) program from residents of the City of Galveston. Because of the extent of the damage and/or lack of flood insurance, it is estimated that a substantial number of homes may be abandoned or need to be replaced. Other homes receiving substantial damage may face large funding gaps between insurance settlement and replacement cost. The International Residential Code (building codes adopted by the City) requires any residential structure that sustained damages in excess of 50 percent of the building's pre-disaster improvement value must be razed or replaced. There is potential for damaged residences to be rehabbed or reconstructed and, thus, providing an opportunity for families to acquire these structures and take pride in homeownership.

Goal: Develop a comprehensive program to stimulate opportunities for families to retain their homes or become homeowners by providing assistance through self-help homeownership programs.

Project Description

A housing program will be created that allows low-to-middle income families to 1) retain ownership of their home after repairs or replacement or 2) achieve homeownership through a "self-help" home construction program. In partnership with the Bay Area - Houston Habitat for Humanity Affiliate, a "Building Blitz"⁴ could be organized.

The project will assist low-income homeowners to repair or replace homes through volunteer labor with materials purchased by loans and grants. The project will provide opportunities for homeownership for displaced renters through a partnership with the Bay Area - Houston Habitat for Humanity Affiliate⁵. Within

two years, this would create a program that constructs new homes and offers options for current renters to obtain homeownership through a lease-to-own program, where families become homeowners after leasing their residence for three years. During the lease period, the prospective owners would be required to complete a certified homeownership counseling course, which includes topics on credit and ownership responsibilities. As a self-help program, the applicants would be required to sign commitments to provide a certain number of labor hours in the construction of the home they will lease-to-own.

If the Sally Abston Advisory Board wishes to expedite the process, it could consider contacting one of the national housing non-profit organizations and create a local affiliate unit. The linkage would provide the Sally Abston program quick access to experience and resources.



⁴ Habitats building blitz is where a mass number of volunteers come from Americus GA. To construct from 10 to 50 homes at one time.

⁵ A partnership with this affiliate would provide the opportunities for immediate start up of the program. Current estimates indicate that it takes more than a year to start up a new Habitat, and the committee would lose its ability to pursue any other type of program.

Action Steps

- Create the Sally Abston Advisory Board incorporated under IRS 501c (3)⁶ non-profit tax statues. The board members will need to be recruited from a cross-section of the community. To function effectively, the initial board should be limited to five to eight members. The organizers should seek assistance from an attorney early in the process, possibly “pro bono” services
- Contact Texas Facilities Commission⁷ and apply to receive surplus office equipment, such as computers, phones, furniture
- Create a partnership with the Bay Area - Houston Habitat for Humanity Affiliate
- Seek assistance for start-up funding from local businesses, individuals, and the City
- Create a marketing campaign to generate interest in financial contributions and volunteering.
- Attract inter-faith groups, AmeriCorps, and other non-profits to volunteer construction help.
- Establish community service programs to encourage high school students to volunteer.

Insufficient funds are available to finance home projects using only government sources such as CDBG or HOME⁸. A leveraged financing program will have to be created. Sources such as CDBG or HOME could be used as interim financing tools to construct the homes. Upon completion, part or all of this funding could be converted to a loan or forgivable loan. The difference between the actual cost to construct and value of improvements (the free labor portion) would be loaned to the families at low or no interest. The financing package would also require inclusion of funds available to the family through qualifying for conventional lending sources. Only the funding gap would be covered under this program. This arrangement thereby generates the fundamental income necessary for the developer (Sally Abston Advisory Board) to create a fund and to cover overhead and thus continue to provide housing services to the community.

Sustainable Opportunities: The project rewards homeownership as well as recovery of housing stock within the community. The new units will be energy efficient and built to codes to mitigate storm damage.

⁶ United States Internal Revenue Service

⁷ Greg Conn, Manager, Texas Facilities Commission, Federal Surplus Property Program, P.O. Box 13047, Austin, TX 78711-3047, phone (817) 831-6767

⁸ HOME is one of HUD’s primary housing programs.

Financial Considerations

Start up cost 3 months overhead (Includes telephone and internet services)	\$1,500
First year funding requirements based on 100 homes (Material cost for first home, based on 1000 sq. ft. and a zero cost lot, is \$75,000) ⁹	\$7,500,000
Funding Gap	\$7,501,500

Potential Resources

- HUD, Funding for lot and on-site improvements. Self-Help Homeownership Opportunity Program (SHOP). Contact City of Galveston, Grants and Housing Division
- The Community Investment Department of the Federal Home Loan Bank of Dallas. AHP Funding. Also funding for home buyer education and counseling services
 - AHP application deadline 2/01 through 3/15
- Home Depot local Store, discounts on material purchased
- Bay area - Houston Habitat for Humanity, 281-337-3590, P.O. Box 1284, Dickinson, TX
- City of Galveston, Grant and Housing Division, CDBG funding
- The Home Depot Foundation, 2455 Paces Ferry Road C-17, Atlanta, GA 30339

	Letter of Inquiry (LOI) Deadline	Full Project Description Deadline
1st cycle	11/15	1/01
2nd cycle	6/01	9/15

- Houston Endowment Inc. 600 Travis, suite 6400, Houston, TX 77002-3000, Phone 713-238-8100, e-mail: info@houstonendowment.org Year-round application period.
- HUD-approved Housing Counseling Agency :
http://www.hud.gov/offices/hsg/sfh/hcc/hcc_home.cfm

⁹ Estimate is based on information from Bay Area Habitat for Humanity- Houston, materials only except for contract services for electrical and plumbing systems then adding additional cost due to elevation type of construction required.

Sustainable Neighborhoods Code Compliance Strategy

Recovery Value: Moderate

Project Champion: TBD

Background: Strong winds, flooding and a widespread field of debris from Hurricane Ike left a large percentage of properties in Galveston damaged and in disrepair. Properties fell into a state of decline as a result of property owners relocating to other communities or not having adequate resources to repair, clean or clear debris from their properties. It is estimated that more than 75 percent of the dwelling units in the City of Galveston had damage impact. Because of the extent of the damage and/or lack of flood insurance, it is estimated that a substantial number of homes may be abandoned or need to be replaced. The issue of property maintenance may be exacerbated by the unusually high percentage of renter-occupied dwelling units which was estimated to be 57 percent (13,443)¹⁰ in 2007. Numerous housing studies have shown a stronger likelihood of property decline in communities with a high percentage of renter-occupied dwellings.



Goal: To create a city wide program and information/educational campaign to assist residents and business owners with property maintenance and improvement issues so as to stabilize property values, prevent neighborhood blight and reduce health and safety concerns.

Project Description: Well maintained neighborhoods and commercial districts will enhance the image and beauty of Galveston, while stabilizing property values. A strong and consistently applied sustainable code compliance program is critical to post-storm recovery. The program will serve as a property maintenance guide and educational resource for public and private property owners. It will outline requirements for property maintenance, procedures for rebuilding, and methods for efficient public service delivery. A sustainable code compliance program, utilizes a traditional notice and citation systems for problem property owners. It also educates and raises awareness of municipal codes. The program will create a culture of compliance through community vigilance, pride, empowerment, and networking.

A careful review of Galveston's existing code compliance programs/policies should be undertaken and amended to accommodate best practices from communities who have experienced dramatic renewal efforts with sustainable code compliance programs. Recommended changes could include an enhanced ticketing/citation mechanism for code enforcement officers that allows citation issuance similar to that of civil infractions but without police assistance. High priority or large scale violations can be address through the creation of an immediate action resolution team comprised of the Galveston police, fire, and public works departments, and building division. A multi-media awareness campaign should be implemented to address compliance issues unique to Galveston with a focus on building relationships between city agencies and key neighborhood leaders. A Code Compliance Officer Registration Program should be mandatory for all code compliance personnel to increase credibility.

Action Steps: (Phases if needed)

Phase I: Develop a Sustaining Neighborhood Strategy (or similar program such as "Taking Back Our Neighborhoods") along with a multi-media (brochures, internet, radio, kiosk, TV) public awareness campaign to educate and inform citizens and property owners about local codes and compliance policies and procedures.

- Include focus areas and priority violation problems related to post storm recovery as part of an immediate resolution strategy
- Identify high profile or visible issues that can be resolved to increase credibility and a buzz among citizens

¹⁰ U.S. Census Bureau Data Set: 2005-2007 American Community Survey 3-Year Estimates

- Establish a weekly question and answer column using local newspaper and online news blogs
- Plan a series of code compliance workshops with the general public and include community profile highlights and problem spots that neighborhood residents can relate to in comparison with where they live
- Create user-friendly, bilingual brochures for easy understanding and tips about property maintenance, codes and safety questions, resources for assistance, and code compliance contacts
- Post the International Property Maintenance Code for easy public view, as adopted by the City through Ordinance 07-015
- Provide assistance to landlords in drafting property maintenance disclosures
- Take advantage of “free” public notices/messages using water bills
- Consider eliminating “negative” terms such as enforcement across the board and replacing with “compliance.” Sustainable code compliance is primarily solution-based versus punitive
- Create workable links with local learning centers and neighborhood organizations such as the Galveston Alliance of Island Neighborhoods and the HDGP
- Explore the Safe Streets Now program
- Identify a network of resources for home improvements to include grants, low interest loans, flexible financing, and other supplemental programs

Phase II: Develop a citizens training program that allows “hands-on” experience in code compliance initiatives to encourage community self policing. Hold periodic meetings of successful neighborhood organizations to extol tools and methods that have worked, and to “recruit” new neighborhoods and encourage fledgling organizations.

Phase III: Adopt a Rental Inspection Program (or similar program), Paint for Free program, Fire Alarm program, Property Maintenance Service program, and other such programs as part of the overall code compliance strategy.

Phase IV and beyond: Continue ongoing programming and measure progress and results.

Sustainable Opportunities: Code compliance programs foster community sustainability in two ways: 1) through ongoing education and awareness programs whereby neighborhoods become self-policing about compliance, and more knowledgeable about programs and services available that assist with property maintenance and improvements; 2) stringent code compliance of land use approval requirements that meet sustainability parameters; and 3) a review of

current processes Best Practice: See City of College Station, TX/Neighborhood Partnership and Neighborhood Integrity Programs.

Financial Considerations

Galveston currently has a code compliance program, which consists of seven code enforcement officers, one code enforcement field supervisor, and an assistant director. Funding for code compliance personnel is shared through a combination of the CBDG and the Galveston General Fund.

A post-recovery sustainable neighborhood strategy could be incorporated into the current code compliance program; however, Galveston’s 2001 Comprehensive Plan suggests that code compliance staff is already under heavy constraint. Two to three additional code enforcement officers may be needed to accommodate increased challenges and workloads due to Hurricane Ike. A budget for overtime could be included to accommodate evening and weekend patrols and servicing. Also, new programming is needed to develop assistance and education programming and to help neighborhoods become organized for self-policing code compliance initiatives.

Total Estimated Cost

Two code enforcement officers (additional if part-time)	\$ 75,000
Overtime	\$ 30,000
Marketing materials	\$ 10,000
Training	<u>\$ 10,000</u>
Total	\$125,000
Funding Gap (to be identified)	(\$125,000)



Potential Resources

- City of Galveston General Fund
 - Rental Inspection Program as revenue generator (not for profit)
- City of Galveston Receivership Program
- CDBG
 - Neighborhood Amenities Program for funding
 - Housing Rehabilitation Program
- HDGP
- The Galveston County Daily News
- GuidryNews.com
- State of Texas
 - Department of Housing and Community Affairs
 - Tax Relief for Qualified Renovations and Infill/Residential Development
 - Tax Reinvestment
 - Department of Health: Healthier Neighborhood Road Map--kit handout
- Galveston Alliance of Island Neighborhoods
- Texas Municipal League
- Kempner Funds
- Mitchell Initiative
- Moody Funds
- The Jesse Tree
- North Side Task Force
- Marathon Oil Company
- Shell Oil Company Foundation
- Department of Health and Human Services
- Marathon Oil Company
- Shell Oil Company Foundation

Saving Faces in the Strand and Mechanic Historic District: Cast Iron Façade Restoration Grant Program

Recovery Value: Moderate

Project Champion: TBD

Background: The Strand/Mechanic National Landmark Historic District has evolved as Galveston's center for commerce and trade during the last half of the 19th century to serve as the City's hub for culture and entertainment. The district is home to more than 45 historically significant buildings within a 12-block grid of approximately 450 acres¹¹.

On September 13, 2008, Hurricane Ike flooded the district with a 12-foot, saltwater storm surge, inundating the historic buildings and their delicate architectural detailing. Exposure to the hurricane's surge has hastened the deterioration of the district's noteworthy collection of cast iron store fronts.



The Strand/Mechanic National Landmark District was listed on Preservation Texas' 2009 Most *Endangered Historic Places*, which reflects the increasing awareness in Texas of the potential loss of the district as an important component of history in the state. Endangered historic places represent those pieces of history whose loss would seriously affect the historic and cultural integrity of Texas and the affected locale, where immediate preservation or stabilization efforts should be focused.

Goal: Develop and fund an incentive for property owners in the Strand/Mechanic Historic District to improve or restore the historic facades that contribute to the district's historic character and significance.

Project Description

Hurricane Ike caused extensive damage to the buildings within the Strand/Mechanic Historic District, which contains many of Galveston's historically-significant commercial buildings. The district is an entertainment area for tourists and the local community, and is within walking distance of the waterfront and UTMB campus. Many of the district's facades remain in disrepair or have not been properly maintained due to tenant vacancies, cash shortfalls and shortage of contractors, and lack of vibrant business activity.

The Façade Restoration Grant program will reestablish the district as a strong downtown destination and gathering place, economic activity center, and central component of Galveston's identity.

The Grant program will:

- Allow historic building owners struggling with a declining local customer base and battered building stock to offset the costs of building improvements to prevent further degradation of the district's physical face, encourage new tenants, improve occupancy ratios, and re-establish district vibrancy.
- Provide a blueprint for preserving the district's historic character while bringing other building facades into conformity with the desired historic character.
- Foster an increase in new development in areas abutting the district.
- Serve as a catalyst for creating connections between other programs such as channel side waterfront and port revitalization, business preservation and response to hazards, UTMB retention, implementing new business dynamics, and fostering a cultural/heritage revival.

¹¹ State of Texas Historic District Atlas

- Create an environment of cooperation and mutual benefit between the public and private sectors.

A successful façade restoration program depends on strong financial assistance and incentives, including easy-to-understand design standards and fast-tracking of applications. The program is a vital link to a strong recovery for the City of Galveston’s economy, vibrancy, and sense of place.

Action Steps

- Schedule an initial meeting and subsequent workshops with stakeholders and action members to determine who will perform the study.
- Take advantage of current and future designations that recognize the district, by generating an advertising and public interest conduit.
- Perform an in-house “Façade Conditions Survey and Report” to prioritize hotspots and vulnerable buildings. Review and analyze data from surveys that are on file with the City of Galveston’s Planning Division. Refer to the “Design Standards for Historic Properties of Galveston, Texas” for assisting with developing primary goals of the façade restoration program.
- Perform a search and review of successful programs implemented by other communities to determine if particular mechanics of those programs can be replicated or modified to serve Galveston’s needs.
- Coordinate activities with the Galveston Downtown Development Plan.
- Determine if the façade restoration program can be completed in-house, or if an outside resource is required. A registered architect familiar with Galveston’s historic buildings and styles may be included as part of the Façade Grant guidelines drafting team. There are many opportunities for technical assistance and funding, however, initial research should be performed to determine the scope of the project, and whether it could be performed with existing staff, free or reduced cost professional services, and non-profit organizations.
- Create a draft Façade Restoration and Improvement Program that addresses: 1) aspects or features of facades that would be eligible under the program such as cast iron elements, signage, glazing and openings, architectural details, secondary facades; 2) parameters and guidelines for application requirements that include text and graphics explaining requirements for restoring entire facades or individual details; 3) determines if grants would be available under a fixed amount or as a percentage of eligible improvement costs up to a maximum amount. NOTE: Many communities typically offer façade grants in the range of \$2,500 to \$30,000; however, the emphasis on restoring the cast iron components previously mentioned requires higher end funding up to

\$100,000 for each façade; 4) a simple, expedited application process (fast track); 5) adherence to the Secretary of the Interior’s Standards for the Treatment of Historic Properties; and 6) complies with required technical and engineering standards.

- Identify initial funding source(s). Determine how funding will take place, and who will manage the funding line item. Consider Tax Increment Reinvestment Zone financing as a longer term funding resource (not an immediate resource).
- Adopt the program and implement.
- Work closely with existing business community in the district to discuss the benefits of the program.

Sustainable Opportunities: Façade improvement and restoration activities contribute to a more sustainable downtown by emphasizing the use and preservation of existing and reclaimed building materials and features versus replacement with newly produced materials and features that typically have decreased life spans. If facades are repaired and strengthened, buildings are less likely to be demolished.

Financial Considerations

Total Estimated Cost for program outline (If consultant used): \$ 25,000

- May be reduced if some in-house work is done
- Technical and engineering evaluations

Additional Financial Considerations:

First Two Years of Funding for Grant Bank (money for façade grants)	\$750,000
First Two Years Total Cost of Entire Program	\$775,000
Funding Gap	(\$775,000±)

Potential Resources

GHF

- Provide input to program development
- Develop funding mechanism
- Serve as arbiter of grant applications

City of Galveston Department of Planning & Community Development

- Perform “Façade Conditions Survey and Report”
- Consider a local development authority or Main Street program

- Building Division & Code Compliance: Reviewers and emissaries of the program

City of Galveston Grants & Housing Department

- CDBG funds-blight removal, redevelopment activities

City of Galveston

- Provide funding through sales tax, user fees, tax increment reinvestment zone, general fund
- Incentivize through sales tax abatement, Historic Preservation Revolving Loan Fund, and low interest loan programs
- Federal Preservation Tax Credits (if administered locally)
- Seek pro-bono work from an architectural team

City of Galveston Landmark Commission

- Provide input to program development

H-GAC (they have contacted me about involvement)

HDGP

- Program Information/Marketing

Texas Historical Commission

- CLG grant (surveying, plans, brochures, etc.)
- Federal Preservation Tax Credits (if administered through SHPO)

National Trust for Historic Preservation

- National Preservation Loan Fund
- National Trust Community Investment Corporation
- Preservation Funds grants

National Park Service

- The Secretary of the Interior's Standards for the Treatment of Historic Properties

National Main Street Program

- Program information and set-up



Galveston Island Historic District

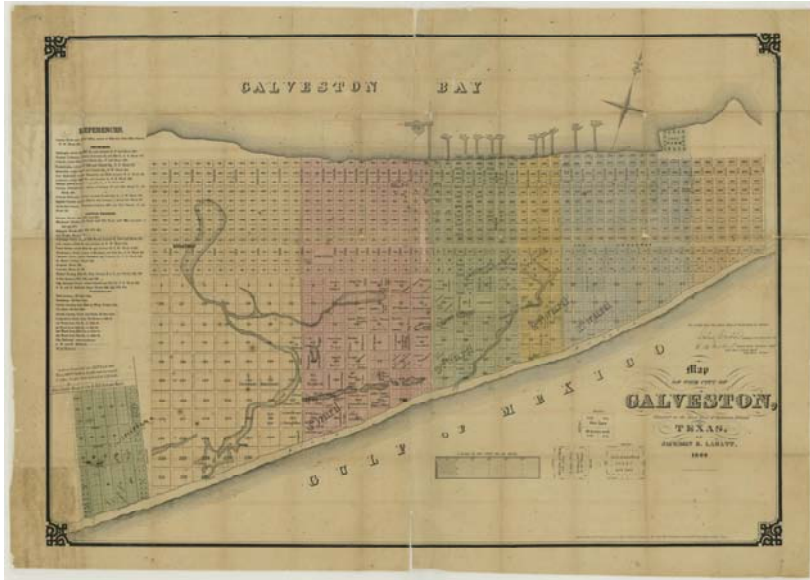
Recovery Value: Moderate

Project Champion: GHF / Dwayne Jones

Background

Once known as the “Wall Street of the Southwest,” the City of Galveston is nationally recognized for its rich array of nineteenth and twentieth century architecture that embodies events that shaped the heritage of this barrier island community. One of the most widely known events associated with Galveston is the 1900 hurricane, also known as Isaac’s Storm. The hurricane was the deadliest natural disaster in U.S. history with 6,000 reported deaths on Galveston Island. The City’s response to the disaster led to the construction of the Galveston Seawall, an engineering marvel that gave the citizenry the confidence to rebuild. The resulting pattern of development on Galveston Island is unique and serves as a fine-grained, decade by decade, walkable “museum” of the evolution of 19th and 20th century development paradigms

Galveston Island has five National Register Districts, two of which are designated National Landmark Historic Districts. In addition, 30 buildings in Galveston have been listed as part of a Multiple Resource Listing. The State of Texas recognizes 85 properties as Recorded Texas Landmarks. Locally, the City of Galveston has



designated four Historic Districts, of which three are also registered nationally, along with 10 local Galveston Landmarks.¹²

While the Seawall has provided nearly a century of protection from the devastation of the 1900 storm, the historic fabric of the city remains vulnerable to flood and wind damage as evidenced by the recent impacts from Hurricane Ike. The City’s place in history, and its outstanding historic structures and architectural resources provide a basis for creating a more expansive historic district overlaying Galveston’s historic urban core.¹³

Goal: Provide protection for Galveston’s historic resources through increased awareness of the significant role the City has played in national history by submitting an application to nominate the historic urban core to the National Register of Historic Places.

Project Description

The impacts to Galveston Island from Hurricane Ike have contributed to extensive structural, economic, environmental, and social damages that will require a well-planned long-term recovery strategy. This strategy should include capitalizing on Galveston Island’s historic resources to preserve historic fabric and structural integrity, foster economic viability through tourism, and increase opportunities for a variety of funding mechanisms. Nominating Galveston Island’s historic urban core to the National Register of Historic Places may capture historic neighborhoods, non-residential areas (corner stores), and individual sites and buildings that have not yet been officially recognized for their contributions to Galveston Island’s history under Criterion C (architecture) of the National Register Criteria. It may also recognize the importance of Galveston Island to the broad patterns of national history under Criterion A (event).

A successful nomination would increase the potential for preserving Galveston Island’s historical buildings, structures, and sites through the application of design standards, infrastructure and new construction design sensitivity, and wayfinding systems. Furthermore, it may raise awareness of Galveston Island’s struggles and successes since its inception, which provides economic, environmental, and social benefits.

The area to be considered for nomination would be approximately five square miles, roughly bounded by 61st Street on the west, Harborside Drive on the north,

¹² City of Galveston website

¹³ Urban Core as identified by the City of Galveston Historic Preservation Plan

6th Street on the east and the Seawall on the south. Such an expansive area for consideration may hold merit due to Galveston's older intact structures--42.9 percent (14,300) of the City of Galveston's housing units were constructed prior to 1960.¹⁴ While many buildings on Galveston Island have been documented as part of the Historic American Building Survey, recent local surveys may reveal important information that can be used to justify such a large area as a single district nomination. Whatever the case, the amount of research needed for a successful nomination will require the use of multiple resources and partnerships.

As a Certified Local Government (CLG) designated through the Texas Historical Commission and the National Park Service, the City of Galveston is eligible to receive technical assistance grants that may help with nomination activities. The CLG designation requires a community to create an ongoing system of local surveying and inventorying of historic properties.



Action Steps

- Create a nomination committee which includes the GHF, City of Galveston Historic Preservation Officer, and the Galveston Landmark Commission as leaders of the effort.
- Produce a graphical survey delineating all existing historic districts, sites, and landmarks according to federal, state, or local designations.
- Identify a proposed boundary for nomination including a contextual report with special emphasis on 20th century spatial development patterns.
- Consider public workshops to educate affected residents and property owners to gain support, interest, and momentum for the project.
- Review and analyze all available data and documentation including, but not limited to past building and area surveys.
- Reevaluate the proposed boundary for nomination.
- Determine what additional survey work is needed to supplement existing data.
- Based on the scope of work anticipated, discuss the project with the State Historic Preservation Officer (SHPO) for possible assistance, or apply for technical assistance funding and other grant opportunities.
- Consider outsourcing through an outside consultant, local academic institution, non-profit organization, or citizen volunteers.
- Complete the Nomination Proposal application and forward to the Texas Historical Commission.
- Coordinate a digital processing and data preservation program.

Sustainable Opportunities: There is an increased opportunity for creating more sustainable buildings within the existing historic and coastal context of Galveston Island through the application of design standards for both historic buildings and structures, and proposed non-historic construction that affects historic resources.

¹⁴ U.S. Census Bureau Data Set: 2005-2007 American Community Survey 3-Year Estimates

Financial Considerations-Three Options:

(1)	Total Estimated Cost (in-house)	
	Staffing	\$ 10,000
	Supplies and digital graphics set up (assumption)	<u>\$ 15,000</u>
		\$ 25,000
(2)	Total Estimated Cost (if only outside consultant)	\$ 75,000
(3)	Total Estimated Cost (university assistance combined with in-house):	\$ 30,000
	CLG	up to \$ 10,000
	Environmental Sensitivities Research Institute (ESRI) Technical Grant	tbd
	Funding Gap (with CLG grant)	(\$15,000 - \$65,000)



Potential Resources:

- City of Galveston Planning and Community Development Department
 - In-kind assistance/digital resource equipment and materials
 - In-kind documentation and consultation
 - Provider of historic information
 - Rental Inspection Program as revenue generator
 - Tax incentives
- City of GHA
 - CDBG Program
 - As part of program and rehabilitation funding schedule
- Galveston County
 - In-kind assistance/digital resource equipment and materials
 - In-kind documentation and consultation
- City of Galveston Landmark Commission
 - Review and comment on progress
- GHF
 - In-kind assistance
 - Provider of historic information
- Texas Historical Commission
 - CLG Grant for nomination proposal
 - Between \$250 - \$10,000 (application due each Summer)
 - Texas Preservation Trust Fund (annual grant includes planning assistance)
 - Texas Heritage Tourism Partnership Grant
- Governor's Division of Emergency Management
 - Recovery and mitigation program funding
- Preservation Texas
- National Trust for Historic Preservation
 - National Trust Preservation Fund
 - Johanna Favrot Fund for Historic Preservation
 - Consider National Main Street Program
- National Park Service
- University Urban Planning programs
 - Opportunity for research in recognized environment
- ESRI geographic information systems (GIS) and Mapping Software
 - Government or Non-Profit technical grant

Raising Standards: Hazard Mitigation Guidelines for Historic Structures

Recovery Value: Moderate

Project Champion: TBD

Background

Galveston Island's historic buildings are vulnerable to damage from extreme weather events, as evidenced from the destruction caused by Hurricane Ike's strong winds and approximate 12-foot storm surge that inundated the flood-prone areas of the community. The development of mitigation measures consistent with the Secretary of the Interior's Standards for Rehabilitation will assist property owners in the protection of their properties from wind and flood events, while maintaining their historic character.

In 2007, the Galveston Department of Planning and Community Development prepared the "Disaster Preparation for Historic Properties" brochure; however, it did not address technical issues involved with mitigating properties through elevating, floodproofing, and hardening without altering historic character and integrity. The "Design Standards for Historic Properties of Galveston, Texas" was produced by the department in 2004 based on the Secretary of the Interior Standards for Treatment of Historic Properties. However, this document is limited mostly to aesthetics and does not impart structural design methods for wind and flood protection.

Goal: Develop mitigation guidelines to reduce the damage from wind and flood events to historic properties while maintaining their historic integrity.

Project Description

Detailed guidelines are required on Galveston Island for elevating and floodproofing historic properties. This project will involve developing mitigation guidelines for historic properties that will "not preclude the structure's continued designation as a historic structure ..." and is "... the minimum necessary to preserve the historic character and design of the structure"(44 CFR 60.6(a)). A registered architect familiar with Galveston's historic buildings and styles may be included as part of the hazard mitigation guidelines drafting team. This should be an architect meeting professional qualifications under SOI Standards; and an urban planner familiar with historical development patterns.

It is important that these guidelines be developed consistent with applicable building codes and local design standards. Because activities affecting historic districts often involve subjective decision-making, these guidelines are intended to be applied, as appropriate, by the reviewing body that retains authority to examine

proposals on a case-by-case basis. This project should also consider potential funding sources for mitigation projects that may be available through the CDBG Recovery Funds, or FEMA's Hazard Mitigation Grant Program, Pre-Disaster Mitigation, or Public Assistance programs. If funding from federal agencies is being considered, the guidelines should be minimally compliant with the Secretary of Interior's Standards and Section 106 Review.



Action Steps

- Perform a literature review of available resources for mitigating historic properties, including FEMA, International Building Code Council, National Trust for Historic Preservation, and the National Park Service.
- Identify an architect
- Hold public workshops to solicit community support and education of concept.
- Create a draft mitigation guidelines document with input from the City of Galveston Building Official, Historic Preservation Officer, and local architect (pro bono professional or team).
- Hold workshops with the Galveston Landmark Commission and Planning Commission, GHF, property owners, and neighborhood organizations.
- Develop and adopt guidelines.
- Apply for and obtain mitigation funding, and provide assistance to property owners. Establish a coordinated, streamlined application and funds distribution process.

Sustainable Opportunities: Hazard Mitigation Guidelines will contribute to a sustainable coastal environment by eliminating or reducing loss of life and property. The rehabilitation of historic properties is a sustainable practice that promotes the reuse of environmental, social, and economic resources. Sustainable practices will be incorporated into the Hazard Mitigation Guidelines to amend for archaic standards of development. Structures that are designed to withstand disaster events are more sustainable.

Financial Considerations

Total Estimated Cost (If consultant used):	\$50,000
May be reduced if some in-house work is done	
Funding Gap	(\$50,000)

Potential Resources

City of Galveston Planning & Community Development Department

- Planning Division
 - Historic Preservation Officer
- Building Division

City of Galveston Grants & Housing Department

- Grants & Housing Department
 - CDBG

FEMA

- Coastal Construction Manual
- FEMA Publications #312 *Homeowner's Guide to Retrofitting: Six Ways to Protect Your House From Flooding*, #347 *Above the Flood: Elevating Your Flood Prone House*, 386-6 *Integrating Historic Property and Cultural Resource Considerations Into Hazard Mitigation Planning*, and #467-2 *Floodplain Management Bulletin: Historic Structures*
- Elevation Grant Program
- Hazard Mitigation Grant Program
- Apply to the National Flood Insurance Program
 - Apply to the Community Rating System
 - Apply for Flood Mitigation Assistance

City of Galveston Landmark Commission

GHF

Texas Historical Commission

National Park Service

- The Secretary of the Interior's Standards for the Treatment of Historic Properties

The International Building Code Council

- Technical/Construction Reference

The National Trust for Historic Preservation

University of New Orleans, LA

- Center for Hazards Assessment Response & Technology
 - UNO-CHART-historic elevation history and discussions

Handbook for Floodplain Acquisition & Elevation Projects

- 2001, Florida Department of Community Affairs
- 2007 California Historical Building Code, Title 24, Part 8

Galveston Historic Foundation/Galveston Housing Authority Preservation Partnership

Recovery Value: Community Interest

Project Champion: Galveston Historic Foundation, Galveston Housing Authority

Background

Hurricane Ike caused damage to approximately 80 percent of the City of Galveston's housing units. Because of the extent of the damage, most of the City's public housing is currently uninhabitable. The City has a low rate of home ownership and a large number of citizens in need of some form of housing assistance. According to the U.S. Census Bureau, the percentage of renter-occupied dwelling units in Galveston is estimated to be approximately 57 percent (13,443) in 2007.

Galveston's older neighborhoods east of 61st Street have traditionally been home to families representing a broad socio-economic spectrum living side by side in mansions, cottages, and shotguns. This diversity in both people and streetscape is a strong factor in the definition of Galveston's character. The City has a large stock of small to medium sized houses 50 years old or older in all of its neighborhoods. In fact, 42.9 percent (14,300) of the City of Galveston's housing units were



constructed prior to 1960.¹⁵ Such houses, rehabilitated according to the City of Galveston's *Design Standards for Historic Properties in Galveston* and the *Secretary of the Interior's Standards for the Treatment of Historic Buildings*, could serve as subsidized scattered-site housing. The GHF has many years of experience in rehabilitating such small houses in compliance with both city design guidelines and building codes.

Goal: Develop a model project using historic buildings for scattered sites public housing.

Project Description: This project is to form a partnership between the GHF and the GHA to rehabilitate historic structures for scattered-site public housing in neighborhoods east of 61st Street in accordance with local, state and federal guidelines, zoning ordinances and other applicable regulations. A project of this nature would provide safe, attractive housing, increase awareness of the historical and architectural significance of Galveston's housing stock, revitalize neighborhoods and prevent blight.

Action Steps

- Create a task committee to identify potential sites for acquisition and rehabilitation. Include stakeholders from the GHA, GHF, and appropriate City staff to increase understanding of concept through final permitting and occupancy standards
- Develop all necessary standards and contractual requirements, as well as, administration format for the program
- Identify funding sources and establish the initial funding bank
- Solicit applicants for housing using a pre-established formula

Sustainable Opportunities: By utilizing the built environment for affordable and low-income housing, the City will accomplish sustainability goals of infill and redevelopment in established neighborhoods with existing infrastructure already in place. In addition, preservation and sustainability education is promoted among residents who become knowledgeable about such issues as part of the requirements for receiving assistance.

¹⁵ U.S. Census Bureau Data Set: 2005-2007 American Community Survey 3-Year Estimates

Financial Considerations

Cost Estimate/Preliminary Cost:

First Year Administration Costs	\$ 25,000
First Year Purchase and Rehabilitation of two units	<u>\$500,000</u>
Total	\$525,000
Total Cost: Ongoing program costs	tbd
Funding Gap	(\$525,000)

Potential Resources:

- GHF
- GHA
- HUD
- City of Galveston Planning Department
- City of Galveston Landmark Commission
- Texas Historical Commission
- Preservation Texas
- National Trust for Historic Preservation
- National Park Service



Gateway Beautification

Recovery Value: Community Interest

Community Vision: As both home and destination, Galveston represents cultural vitality and quality of life. Clean, safe neighborhoods have a broad socio-economic spectrum of responsible citizens. A solid economic, educational, recreational and medical infrastructure supports households and visitors in an atmosphere of natural beauty, historical significance and artistic flair.

Background: The Gateway Beautification Project is a focused effort at ensuring the gateways of I-45, Broadway, Harborside Drive, Seawall Boulevard, 61st Street, Ferry Road and FM 3005 present the best possible image of our city as discussed by the GCRC.

Goal: The image will be a City that is clean and well maintained on a regular schedule, it should be well landscaped using sustainable vegetation and reasonable design standards with understood code enforcement ordinances, and it should be inviting to visitors and residents with signage having artistic flair.

Project Description

This project is of paramount importance for long term recovery. It is a positive step in projecting a “can-do” attitude, it can be accomplished in a reasonable length of time, it is sustainable, it is green, and it is one that is uplifting and achievable for the citizens of our community.

Galveston is already known as the Oleander City and this should be capitalized on at all gateways. The plants are hardy and colorful, needing little maintenance and water. Palm trees and magnolias are evergreen and sturdy and help create a tropical atmosphere. Signage can incorporate these images for consistency in public right of ways. The Galveston Visitors Center should be easily accessible, well staffed and noticeably attractive for all visitors.

- The stakeholders include every citizen of Galveston and community and governmental groups interested in beautification efforts. The stakeholders also include state and federal agencies that partner with communities and provide resources for highways, parks and scenic byways.
- The project benefits include the natural stimulus that occurs when a city/property presents itself in the most favorable light. When visitors and citizens have a positive impression, commitments are made that are lasting. A feeling of pride encourages more investment of time and money, visitors will return and spread the word as ambassadors of our Island, and the quality of life



that all citizens deserve is realized. An atmosphere is created that would encourage both economic and emotional investment.

Action Steps

- Citizens and property owners should be given incentives to follow existing guidelines and city ordinances when improving their homes, neighborhoods and businesses. Methods to recognize these efforts can be further developed to reward such efforts such as neighborhood beautification awards or Clean Galveston Awards. Incentives like short term tax breaks would make these expenditures for landscaping more affordable for all citizens.
- School children should be involved with beautification efforts and projects at their schools. It would teach them the joy of creating worthwhile improvements in their environment and foster responsibility in their community.
- The city and county governments of Galveston County along with TxDOT and other state and federal agencies need to periodically review areas of responsibility and expertise and research ways to share resources to maximize beautification and clean-up challenges. TxDOT needs to advertise their plans through a community forum or newspaper articles. The Parks Board and the City of Galveston Parks and Recreation Department should identify existing plans like the Broadway Beautification Plan and the Seawall Enhancement Plan and identify projects that can be accomplished using newly identified money for recovery and clean-up. Designated clean-up crews, street sweepers, and landscape crews can provide jobs for this concentrated effort.

Financial Considerations: tbd

Funding Gap: tbd

Galveston Center for Historic Preservation

Recovery value: Community Interest

Project Champion: Galveston Historical Foundation (GHF)

Background

There is a need in the national academic arena for historic preservation training in several specific areas of the masters programs and Galveston can fill that need in several ways. Galveston has a rich and exciting history that is part of the national and international histories. Galveston also has a fabulous setting for trade's workshops – hands on demonstrations of preservation techniques, because of the architecture and the environment here (and the condition of the structures). Thus the need here of Galveston for bringing historic structures into compliance with sustainable standards segue ways with the needs of the preservation masters students to learn these trades and techniques.

A model for the type of center proposed is the Center for Historic Preservation, an outreach arm of Ball State's Master of Science in Historic Preservation Program in Indiana. TAMUG, located on Pelican Island, has a small historic program, and may be the best choice for academic establishment.

Goals

This project meets many of the following goals, policies, and objectives that were defined in the 2005 Galveston Preservation Plan, Progress through Preservation:

- Build awareness of the historical, cultural and archaeological assets of Galveston Island and make preservation a priority for all segments of the community
- Promote heritage tourism as a form of economic development in the City of Galveston
- To protect and preserve the integrity of historic neighborhoods and all aspects of the area, which contribute to the quality of life of Galveston residents

In addition, this project would complement and support the goals and objectives of the Historic Preservation Element of the City's 2008 draft Comprehensive Plan, the 2007 Disaster Preparation for Historic Properties plan, and the goals developed by GCRC during the second Recovery Planning Workshop held on February 9, 2009.

Other benefits to be realized by establishing an institution of higher learning for historic preservation studies would be:

- Economic: Provide a forum for seminars, workshops, and symposiums thus causing many locations on the island to fill up with students, professors, and

other academicians, in addition to the regular occupants (students, professors and academicians) of the Center itself. The Center would occupy some areas that are in need of occupants (such as the Orphanage on Moody, 21st Street, many houses, and even Old Red).

- Economic/Restoration: Provide ready to hand teams for the restoration and adaptive reuse of many projects. One example: restore the popping brick around the steel columns so common and so overwhelming in so many of our loveliest buildings downtown. Students would help also to obtain funding for the historic preservation projects.
- Economic/Housing: the students and professors will need housing and this would reduce or eliminate the loss of residents due to the permanent evacuation of many medically related residents.
- Economic/Tourism: tourist activities will be better served by the activity of restoration and adaptive reuse of the structures on the island. Guides to these projects would interest many and increase the number of reasons for visiting the island.
- Awareness of historical, cultural, and archaeological assets would be increased on an international scale. APTI, the Association for Preservation Technologies International, has already staged a conference here and this sort of activity would increase ten-fold with a much needed and well heeled center for studies related to the unique demands of our coastal environment and our place in history.

Project Description

This project is to find and facilitate a partnership/affiliation with a well established university that will expand it's curriculum to include the much needed (nationally) Center for Preservation Trades and Workshops - and the History of Galveston Island. GHF would provide the inventory of available spaces for the classes and housing for the students and lead the negotiations with owners for their use by the University.

This project would bring the multiple activities to the island that associate with a university – the people of the school itself as well as the visitors for the programs and symposiums the school presents. Such visitations and occupations naturally add to the activities indulged in by tourists and the economic growth due to the increased occupancy of the buildings. The tax base grows. The repairs of the historic structures are funded.

Professors and students will be further attracted to an island that is on the National Register. Being on the National Register will also aid in obtaining grants for the expensive repairs that are beyond the finances of some owners.

Action Steps: (phases if needed)

- Determine which universities have the best offering for our branch – Center for Preservation Trades and Workshops
- Develop a schedule for housing the classes, staff and students (both long term and short term)
- Bring the owners of the targeted properties into the planning process. Obtain input from organizations that serve these owners
- Evaluate and apply eligibility criteria for education, networking and outreach for the traditional building trades
- Develop priorities for restoration work needed on the island. Test the student/preservation education value and reprioritize as needed
- Establish 501(c)3 non-profit status for the Workshops, and list grants to be sought
- Establish membership in IPTW and PTN. Early on, offer to host the International Trades Education Symposium, here on the island

Sustainable Opportunities

The housing for students and professors would use presently vacant structures that need to be occupied, so these would be upgraded as needed for structural sustainability. This also provides the sustainable aspect of retaining the infrastructure and fabric of existing neighborhoods. We would employ the energy audits as well, which are already a program in the offing.

Financial Considerations

Determining program and space costs for a historic preservation graduate program at an unknown institution is extremely difficult. It is anticipated that such a program would eventually be partially subsidized by tuition and enrollment costs. However, typical graduate programs require accreditation in order to attract students. This may or may not occur until the first enrollment class graduates, which requires a high initial investment to the fledgling program. The preparation of staff and curriculum may require additional funding to meet the needs of national preservation standards, coupled with minimum university-level standards.

Preliminary Cost Estimate

Initial Programming for Historic Preservation Graduate Program:

Staff/Curriculum	\$250,000
Materials/Supplies/Technical Aids	\$250,000
Studio/Workshop Space-retrofit	\$200,000
On-site work programs	<u>\$100,000</u>
	\$800,000
Total Cost	To be determined by program continuance
Funding Gap	(\$800,000)

Potential Resources

- City of Galveston
- GHF
- HDGP
- Texas Historical Commission
- TAMUG
- Preservation Texas
- National Trust for Historic Preservation
- National Park Service
- Texas State Parks and Wildlife Department

HUMAN SERVICES



HUMAN SERVICES

Overview

Successful schools and quality health care are critical components in the overall strength, growth and prosperity of any community.

Hurricane Ike severely disabled both the education and health care infrastructures of the Island, prompting lingering concerns about the long-term outlook for each. In addition, the hurricane heavily taxed the city's social service network, jeopardizing the availability of services for basic needs such as food, clothing, shelter and safety. Higher level services such as counseling, financial assistance, health education and recreation were also seriously impaired because of the storm.

At a time when health care, social service support and educational programs were in increased demand, most of these systems were rendered dysfunctional in the weeks and months post-Ike. Yet, if the community is to recover from the perils of Ike and rebuild itself in a stronger, less vulnerable image, its educational, health care and social support programs must be restored quickly and with forethought and care.

Providing adequate human resources to all Galveston residents is priority for post-Ike recovery. Likewise, ensuring that all school-age students have access to quality educational programs and that all residents are afforded state-of-the-art healthcare must also be priorities in a post-Ike Galveston.

Education

Prior to Hurricane Ike, challenges faced by the Galveston Independent School District (GISD) were significant. The public school system was in a state of decline in several key areas, including enrollment, student achievement and finance, with each exacerbating the other and leading to budget cuts, layoffs and school closures.

After Hurricane Ike, the district made a valiant attempt to stabilize the lives of students and families, re-opening within five weeks of the storm's landing. As expected, the immediate returning enrollment was greatly reduced. That situation had persisted at the six-month mark with approximately 30 percent of the students still not returned to GISD.

In projecting enrollment as best it can and in planning for the 2009-2010 school year, GISD announced and implemented a major reduction in force. The district also confirmed that three campuses heavily damaged in the storm would not re-open for the new school year, if at all.

While it is certain that the schools can be repaired, it is less certain how many students who have spent the majority of the 2008-2009 school year elsewhere will return to Galveston. It is also true that many of the district's most urgent problems, while made worse by the Ike, cannot count the Hurricane as their original source. Enrollment, for example, has been in steady decline since 2006, forcing the closure of two elementary schools in 2007. In fact, before the hurricane, every GISD campus was operating under capacity.

The GCRC Education Workgroup readily acknowledged the role of the elected School Board of Trustees as the appropriate body for resolving the overarching problems of the district. The Workgroup, however, fervently recognized that the schools can be the source of great prosperity or serious detriment in any community, particularly one undergoing massive recovery and rebuilding.

The Workgroup, therefore, concentrated its efforts on conceptualizing programs that support and supplement educational programs, that play a key role in recovery and that attract families to Galveston Island as a place to work and live.

The Workgroup views education as the primary economic engine for the recovery of Galveston. The Workgroup further understands the unprecedented continuum of education offered in Galveston, including GISD, public charter and private schools, Galveston College, Texas A & M University at Galveston and the University of Texas Medical Branch.

A community that espouses education as a core value ultimately indicates a citizenry that is better educated, more self sufficient and productive, more environmentally savvy, in overall better health and with higher expectations for safety and security for all. Galveston, the Workgroup believes, can be this community.

Education Goals

- Create a Neighborhood Learning Center, the primary purpose of which is to support the public education system with after-hours educational programs and, secondarily, to serve as a multi-use facility that provides support programming for students, families and citizens of all ages and needs.
- Provide tuition and fees to any Galveston graduate to any Texas public 2 or 4 year institution.
- Ensure that every student who graduates from the public high school will be college and workforce ready through an individualized education focusing on the whole child.

Health Care

Healthcare services on Galveston Island were hard hit by Hurricane Ike. Hospitals and social service agencies were flooded, supplies and equipment were destroyed, and healthcare workers themselves lost their homes and jobs.

The closing of the Level I Trauma Emergency Center and scaling back services at the John Sealy Hospital at UTMB resulted in the loss of approximately 3,800 full-time jobs. While these layoffs take place during a national recession, healthcare is identified as one of the key economic sectors that show competitive advantage and growth potential.

Medical facilities play a significant role during natural disasters in addressing essential health and safety needs. The rebuilding of Galveston's healthcare network is a priority and absolutely vital to the social and economic recovery of the city and the region. According to a 2003 study of the economic impacts of the University of Texas System, UTMB contributes nearly 28,000 jobs and \$1.8 billion to the ten-county Houston-Galveston Region. In addition, the medical branch provides specialty services to 90 percent of the uninsured in the Galveston County Health District as part of its 117-year mission to educate health care providers and provide indigent patient care.

Social service organizations in Galveston were also severely impacted and forced to close due to damages from Hurricane Ike. Service organizations, such as The Jesse Tree, The Children's Center and St. Vincent's House, were unable to respond to the needs of clients and those left homeless after the hurricane.

Since Hurricane Ike, health care providers and organizations have identified opportunities to redesign a system that can meet the needs of the evolving population through collaboration and coordination of services. While these efforts are ongoing, a substantial mismatch remains in the needs of the population for all types of health care.

The recovery goals identified by the Health Care Workgroup include:

- Everyone living in Galveston will have a specifically identified ability to access healthcare, including disease prevention, health promotion, acute healthcare, emergency medical services, long-term care, mental health, and healthy lifestyles
- Galveston will have a comprehensive, organized, and coordinated system of healthcare for all
- Restore UTMB to pre-Ike conditions as an outstanding health care and educational facility, as a regional destination for comprehensive specialized healthcare, as a nationally recognized premiere research facility, and as a stable employer that attracts over one thousand middle income families to Galveston annually

Neighborhood Learning Center

Recovery Value: High

Project Champion: TBD

Background: Hurricane Ike forced an estimated 65 percent of the residents to leave Galveston for an extended period of time, which severely impacted the number of families which returned to the City. It remains unclear how many of these families will return permanently once their homes are rebuilt. To demonstrate the severity of Ike's possible long-term negative effects, the GISD, the public school system, reports the loss of approximately 2,000 K-12 students since Hurricane Ike. GISD is struggling to plan for staffing and programming for the 2009-2010 school year.

Galveston estimates a loss of 15-25 percent of its full-time residential population, perhaps permanently. Because of the post-storm population decline, the City and the various organizations devoted to recovery are aggressively pursuing programs and opportunities to attract families back to the island, to sustain those which have returned and to entice new families as permanent Galveston residents.

The Galveston community views education as a top priority in its recovery, and it strives to improve not only its public education system but also after-hours opportunities for educational support and innovative educational programming for citizens of all ages. Providing increased educational opportunities will encourage displaced families to return and new families to move to Galveston, while retaining families who currently reside on the island.

Goal: To provide a facility and programming that promotes and supports conventional education programs as well as the learning of life skills that will help residents become better educated, more productive individuals and contributors to their families and their community.

Project Description

A model Neighborhood Learning Center program within the current Galveston context will include, but not be limited to parenting and family matters/activities, tutoring personal finance, re-employment skills, GED, health and wellness education, CPR training, senior and adult programs and other support programs. Programming will focus on critical life skills, targeting all ages from toddlers to seniors. The Neighborhood Learning Center will be located in an area that is easily accessible, safe and inviting, and all programming will be offered for free or at a minimal cost to participants. Performance standards will be developed to measure program success.



Post-Ike recovery requires innovative, aggressive and accessible educational programming. The majority of education and social service facilities in Galveston experienced damages to physical infrastructure, staffing and availability of services. The return to full solvency of "lost" educational programming due to Hurricane Ike remains unclear, and may continue as such, indefinitely. Partnerships should immediately be established to reinvest and recover programming that may have been lost and establish new programming to support the overall goal of achieving a better educated citizenry for Galveston.

To achieve this goal, it is recommended that the City immediately work to establish partnerships among GISD, public charter and private schools, colleges and universities, local providers, government agencies, neighborhood organizations, healthcare providers, and local businesses. The national program, "21st Century Community Learning Centers," and its Texas equivalent under the Texas Education Agency offer grants and project models from communities of various sizes. Galveston may be able to tap these resources for both funding and guidance on elements likely to be successful in this situation of community disaster recovery.

Action Steps

- Create small task force comprised of representatives of GISD and other education institutions, government agencies such as the GHA, neighborhood

organizations, local businesses, established neighborhood groups and other potential stakeholders such as the George Mitchell family foundation

- Identify potential neighborhoods for the model learning center facility and prioritize according to prescribed criteria
- Identify existing facilities which can be converted for use or engage architectural services for conceptualizing new facility
- Identify a lead coordinator/program director (volunteer basis initially) for the model neighborhood learning center
- Establish a non-profit organization or fold the Neighborhood Learning Center into an existing not-for-profit program to enhance funding opportunities
- Identify sources of funding and in-kind assistance for staff and programs
- Develop priority programs and measurable performance and attendance mechanisms that benefit lifelong learning
- Develop and implement a community awareness/marketing campaign for the Neighborhood Learning Center, including costs, rendition of facilities, and programming
- Develop one model center; based on its success, expand concept to additional neighborhoods
- Explore the establishment of additional centers based on the initial model

Sustainable Opportunities: Neighborhood Learning Centers offer opportunities to educate individuals, families, neighborhoods and communities. Communities that value and support education through sustained investment reap the benefits of a healthier, more educated and conscientious citizenry. In turn, those citizens are better stewards of the community's resources, from economical to environmental, and are more committed to ensuring a quality life experience for all.

Financial Considerations

Total Estimated Preliminary Cost:

Staff	\$ 50,000
Equipment	\$ 75,000
Program Materials	\$ 25,000
Building space and land	<u>\$1,850,000</u>
Total	\$2,000,000
Funding Gap	(\$2,000,000)

Potential Resources

GISD

- Staffing resource
- In-kind building space

City of Galveston

- General Fund program start-up costs
- In-kind department assistance, e.g., code enforcement, initial meeting space
- GHA Partnership
- CDBG Program

Galveston County

- Program start-up costs

Galveston County Community Action Council

Galveston County Health District

- H-GAC for funding
- Adult and Child Health resource
- Ongoing Program Funding

U.S. Department of Education

- 21st Century Community Learning Centers
 - Formula Grants
 - 2009 Discretionary Grants

New Property Development Proposals

- Neighborhood Impact Studies and associated Exactions

Local Corporations Public Relations Departments

- Community Investment Funds

Texas Education Agency

- Texas 21st Century Community Learning Centers Grant (cyclical)
- Other funding opportunities

State of Texas

- Department of Housing & Community Affairs

University of Texas

TAMUG

Galveston College

UTMB

- Osher Lifelong Learning Institute
- Coordinated health and wellness programs

Rosenberg Library

- Technical assistance

Galveston County Arts Council

Sealy-Smith Foundation

Moody Foundation

Galveston Alliance of Island Neighborhoods

Robert Wood Johnson Foundation

- Vulnerable Populations Grant

AT & T Foundation

The Barbara Bush Texas Fund for Family Literacy

Ben & Maytee Fisch Foundation

Bridgeway Charitable Foundation

Build-A-Bear Workshop Foundation

Harry S. and Isabel C. Cameron

Mamie McFaddin Ward Heritage Foundation

Nelda C. and H.J. Lutcher Stark Foundation

R.C. Johnson, Jr. Foundation, Inc.

Sprint Foundation

UTMB Public Information Campaign - “Here for the Health of Texas”

Recovery Value: Moderate

Project Champion: TBD

Background

High quality, affordable healthcare is essential to sustaining the quality of life and economic vitality of any community. The UTMB, a Level I Trauma Center on Galveston Island, is the primary source of secondary and specialty healthcare serving the nine-county region in south-east Texas. The medical branch is the largest employer in Galveston County providing about 13,300 on-campus jobs, and about 14,300 off-campus jobs (A Study of the Economic Impact of the University of Texas System, 2004)

The impact of UTMB must be measured beyond the delivery of health care. UTMB adds \$1.8 billion to the financial and cultural welfare of the City of Galveston, the region and the State of Texas. The corps of medical professionals, educators and researchers contributes to the expanding body of medical knowledge both nationally and internationally.

UTMB employees and their families, and students are important contributors to the arts, housing and educational communities on the Island.

Project Description

Through a coordinated media campaign, UTMB will be recognized for its myriad contributions to the communities that it impacts: health, economic, educational, arts, and non-profit. UTMB will promote the return on investment to the local, regional, and state economy. By improving public awareness of the work done through UTMB, greater numbers of Texans will recognize and pay for the value received.

“Here for the Health of Texas” will become as well known as MD Anderson’s slogan: “Making Cancer History,” with the attendant favorable public support enjoyed by the Houston Medical Center.

UTMB public information campaign will highlight:

- Galveston as a destination for specialized medical care
- UTMB’s significance as a major employer for Galveston and the region
- UTMB’s proximity to the chemical plant complex along the coast, and the importance of off-shore oil industry Trauma Level One care availability to injured workers, and reduces the pressure on Houston’s trauma centers.
- UTMB is a center for wellness, for promoting health related activities, education and lifestyles.

Sustainability: This is a joint effort bringing together community members who can advocate for the full restoration of UTMB with the Legislature and the University of Texas Regents. Future projects will address other constituencies such as: Winter Texans, UTMB’s reach in the human service/non-profit sector, its impact on local performing arts, the real estate market, and its significance in attracting a stable middle class population.

Partners / Stakeholders

- City of Galveston
- Galveston County
- The Daily News
- Craig Eiland – Texas House of Representatives, District 23

Vocational-Technical Center

Recovery Value: Moderate

Project Champion: Galveston College, Dr. Myles Shelton, President

Background

The development of a skilled workforce is critical to the economic recovery of Galveston. In the wake of Hurricane Ike, Galveston has lost many businesses, residents, and consequently a large segment of its labor pool. Developing a workforce with the job skills that match the available jobs – or the jobs that will be available in the future - is critical to business retention and expansion, as well as retaining residents in the community.

The Vocational-Technical Center under the auspices of Galveston College and Galveston ISD will provide training and career exploration for high school students, college students, as well as non-traditional students. The curriculum will be



designed to give students an opportunity to learn specific technical skills, professional employment behaviors, and positive work ethics. Students will have access to a technology-enriched environment, taught by a qualified staff, using state-of-the-art equipment. All of the programs will be offered for credit through Galveston College. High school students may earn credit through the Early Admissions/Dual Credit Program Partnership between GISD and Galveston College; dual credit students, college students, and non-traditional students will all have opportunities to earn certificate and/or associate degrees in the various programs offered.



Goals: Create a challenging, dynamic program of study that will serve a diverse community, resulting in a skilled workforce that meets the needs of employers in Galveston and the surrounding metropolitan region.

Project Description

Post-storm conditions have created an opportunity to establish a Vocational-Technical Center in certain vacated facilities or to build a new facility on land where no facilities currently exist. The Vocational-Technical Center will be dedicated to providing excellence in teaching, technology, and partnerships by offering quality vocational-technical educational experiences to encourage students to reach their full potential and to prepare them for 21st Century employment opportunities and lifelong learning. The curriculum will reflect the needs of business and industry in Galveston, as well as those employers that the community wishes to attract.

Whereas, Galveston College already offers technical training targeted to hospitality, tourism, and medical care; key businesses and industries that the new center would allow Galveston College and GISD to target include: oil and gas, maritime industries, industrial trades, and environmentally friendly/green collar jobs. In addition, the center would allow for the expansion of existing programs, such as welding, and would allow for the introduction of specialty programs, such as Sonography or Logistics Technology. The objectives of the Vocational-Technical Center will be:

- Employable job-related skills supported by strong workplace ethics
- Subject matter taught with real world applications
- Career pathways that link secondary and higher education
- Second-chance education and training
- Workplace training, skill set upgrades, and career advancement

Action Steps

- Build on the existing partnership between Galveston College and GISD to create a leadership team for vocational-technical education in Galveston
- Design, develop, and implement a technical curriculum that reflects the needs of business and industry and of the community
- Affiliation with the Career and Technology Association of Texas
- Create an implementation plan
- Secure or build appropriate facilities for technical education that will aid the community in the recovery process and be a catalyst for the long-term growth of the community

Sustainable Opportunities

- Reuse an existing building and re-design to meet LEED Standards, if possible; if not possible, build an appropriate facility using LEED standards
- Environmental related and “green collar” job training for students

Financial Considerations

Cost Estimate/Preliminary Cost

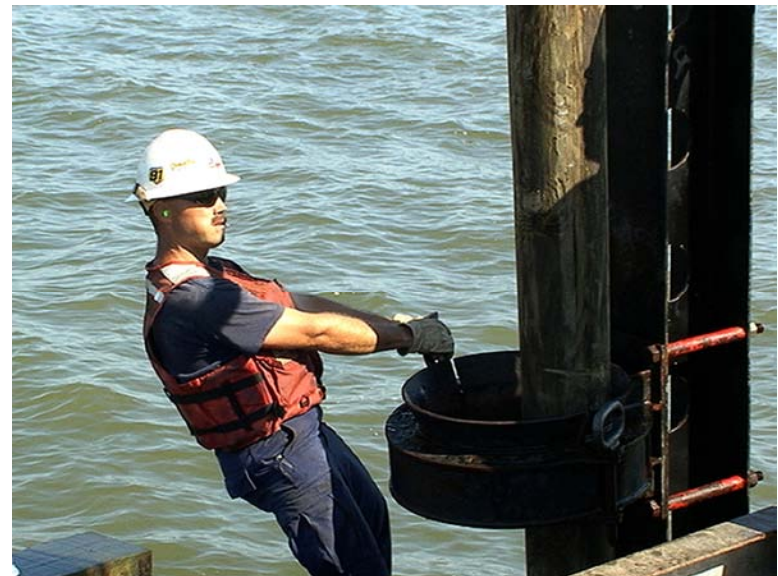
Cost to Secure and reconfigure a building or to build a building to meet the curriculum needs	TBD
Costs to fund staff, equipment, and supplies	TBD

Total Cost	TBD
Funding Gap	TBD

Potential Resources

The Vocational-Technical Center will draw upon multiple funding sources. In addition to the resources of Galveston College and Galveston ISD potential grant opportunities include, but are not limited to, the US Department of Education Grant Programs for Higher Education Disaster Relief and Rehabilitation Long-Term Training--Rehabilitation Counseling. In addition, business and industry partnerships could be established.

- Association for Career and Technical Education: <http://www.acteonline.org/>
- Career and Technology Association of Texas: <http://www.ctat.org/>
- GISD: <http://www.gisd.org/gisd/site/default.asp>
- Galveston College: <http://www.gc.edu/gc/Default.asp>
- Texas Education Agency: <http://www.tea.state.tx.us/>
- US Department of Education, Office of Vocational and Adult Education: <http://www.ed.gov/about/offices/list/ovae/pi/grntprgm.html>
- Galveston Area Businesses and Industries
- GEDP



Health Needs Assessment

Recovery Value: Moderate

Project Champion: TBD

Background

Natural disasters and hurricanes tend to have a cumulative effect on the low income and vulnerable populations in a community. Vulnerable populations, the working poor, homeless, disabled, and elderly often have fewer financial resources and are less resilient to disasters. As a result, this population is likely to neglect important medical care because they are more concerned with meeting basic needs for housing and food.



For the City of Galveston, the impact of Hurricane Ike, the destruction of personal property, the loss of jobs and a weak national economy has resulted in an increase in the number of individuals and families slipping into poverty. This situation is especially critical for Galveston where 23 percent of the 2007 population was living below the poverty level and more than 9 percent received some form of public assistance.

Since the hurricane, social service organizations have seen a higher number of people seeking help in putting their lives back together. The uninsured are less likely to have a usual source of care outside the hospital emergency room and

either delay or forego needed medical care. This is particularly true in Texas which has the nation's highest rate of people without health insurance.

An effective long-term recovery plan for Galveston will include a program designed to reduce health inequalities by extending primary health care to populations at risk.

Goal: Provide a cost effective method for providing routine primary and preventative care to uninsured or underinsured population already receiving social services.

Project Description

Conducting a HNA is one of the first steps for reviewing the health issues facing a specific population within a community. The purpose of an HNA in health care is to provide information for planning the needed services and addressing health inequalities. An HNA can be used to identify priority health care issues among a specific population, and analyze the capacity of community services to determine areas for resource allocation.

This recovery project proposes the implementation of an HNA of the uninsured and underinsured clients of local social service agencies to identify the health care service needs and the cost associated with service delivery. Information from the HNA will be used to develop a service-specific plan to test the cost effectiveness of using the case management framework of social service agencies to deliver primary health care to the uninsured / underinsured.

Action Steps

- Identify partners and stakeholders and identify potential areas for collaboration: health departments, universities, public agencies, and local service providers
- Establish a task force to take on the following responsibilities:
 - Determine needs assessment scope and desired outcomes
 - Approve design and oversee entire process
- Choose a consultant:
 - Coordinate the process and perform specific tasks
 - Assist with determining the scope of the HNA and developing research questions
 - Design HNA methodology, collect and analyze data, and present results

Sustainable Opportunities

- Maximize the impact of health and social services through coordinate care
- Improve health, especially inequalities and promote social justice
- Avoid compromising the health of future generations
- Require broad ownership and involvement of the targeted population
- Provides preventive care and primary care to vulnerable populations, reducing emergency room visits

Financial Considerations

Cost Estimate

HNA	\$90,000
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Potential Funding Resources

- American Leadership Forum
- UTMB Department of Preventative Medicine and Community Health
- U. S. Department of Health and Human Services
- Kaiser Permanente

Partners / Stakeholders

- City of Galveston
- Galveston County Health District
- Gulf Coast Center
- UTMB Department of Preventative Medicine and Community Health

Galveston Promise

Recovery Value: Community Interest

Project Champion: Galveston P-16 Council (members include: Superintendent, GISD; President, Galveston College; Chief Executive Officer, TAMUG; President, UTMB; and representation from large and small businesses, as well as local philanthropic and religious organizations).



Background

Before Hurricane Ike

- Galveston has been slowly losing population, and the enrollment at GISD has been falling
- Galveston's "Child-Raising Age" population was already under-represented

After Hurricane Ike

- GISD has lost about 2,500 students
- Galveston has lost between 15,000 and 20,000 residents

Goals

- Put in place a mechanism to actively recruit families to Galveston
- Raise educational expectations of students and their families

Project Description: The Galveston Promise is based on the highly-successful Kalamazoo Promise which has demonstrated a significant increase in student enrollment in a city that previously experienced a declining population

For any long-term Galveston public high school graduate, we (the Galveston Community) will pay tuition and mandatory fees at any Texas public college or university. In order to obtain the Galveston Promise, public school students would have to make suitable progress towards graduation and, after admission to a Texas public college or university, to maintain their enrollment in good standing. Thus, the Galveston Promise promotes both educational achievement and economic development, providing an incentive for families to remain in Galveston or relocate to Galveston to be eligible to receive the benefits of the Galveston Promise. Galveston already has a nucleus from which the Promise can be grown—the Galveston College Universal Access program.

Under the leadership of the Galveston P-16 Council private foundation and other non-governmental sources of funds will be sought to create an endowment that will perpetually support the Galveston Promise.

Action Steps

- Galveston P-16 Council is already in place
- The Council will take the leadership in submitting proposals to private foundations and individuals to obtain funds to create the Galveston Promise Endowment
- The Galveston P-16 Council, working with the appropriate constituencies, will develop the necessary criteria for student eligibility for and continued support from the Galveston Promise

Sustainable Opportunities: The creation of an endowment provides for a sustainable base for the Galveston Promise.

Financial Considerations

Cost Estimate/Preliminary Cost: Current and projected GISD enrollment and known college/university costs suggest that approximately \$1,000,000 per year will be required to support the Promise. To obtain that level of income the Endowment should be approximately \$20,000,000.

Total Cost:	\$20,000,000
Funding Gap:	\$20,000,000

Potential Resources: Philanthropic organizations and private individuals

INFRASTRUCTURE, TRANSPORTATION AND MITIGATION



INFRASTRUCTURE, TRANSPORTATION, AND MITIGATION

Overview

The success of economic revitalization and community development will track with how well the community improves mobility and connectivity by improving roadways, arterials, public transit and alternative modes of transportation, as well as sewer, water, and stormwater drainage systems, which need to be hardened to improve resistance and resiliency to future storm damage.

While initial recovery efforts included making utilities functional for Island residents and businesses, enhancement and mitigation must be accomplished to facilitate rebuilding of the community and to protect the health, safety and welfare of the public. Mitigation is a key component in both immediate and long-term stability.

The recovery challenges from Hurricane Ike are great and residents face formidable obstacles in rebuilding and future growth. Despite the obstacles, the collective community is ready to seek state and federal funding, as well as more non-traditional forms of funding and public-private partnerships to accomplish the goals and attain the vision for transportation and infrastructure improvements.

Hazard Mitigation

The City of Galveston is no stranger to extreme weather, having experienced at least ten major storms since the Hurricane of 1900. However, the devastation of Hurricane Ike brought a new sense of urgency to reduce disaster losses and break the cycle of disaster damage, reconstruction and repeated damage.

A reoccurring theme from public comments throughout the recovery planning process is the need for more education on prevention and preparedness before and after a storm. Residents of Galveston have expressed a desire to strengthen their homes, businesses, and critical facilities to create a more resilient and sustainable community.

Pre-disaster and post-disaster mitigation planning forms the foundation for a long-term strategy to reduce risks to lives, property and the economy. The City of Galveston is taking an all-hazards approach to updating the existing hazard mitigation plan to assess the City's vulnerability and identify actions to reduce potential losses. The mitigation plan will serve as a blueprint for strategies to relocate and elevate buildings, harden infrastructure, enforce building codes, educate the public and create ordinances that promote environmentally responsible development.

Summary of Mitigation Projects

The Mitigation Plan project is composed of actions to help reduce damages from natural and man-made hazards. These actions include:

- All-risk hazard mapping
- Evaluate and recommend nonstructural methods to reduce the effects of hazards on Galveston Island. (The City of Galveston could adopt land use policies and development practices and offer retrofitting opportunities that will reduce the risk exposure to existing and future development)
- Plan, design, and implement protection to critical facilities and infrastructure by partnering with UTMB, GISD, power providers, AT&T, USPS, and TXDOT
- Investigate alternative methods of providing flood insurance to the community

Goals

As a result of the combined forces of the GCRC, the following infrastructure/transportation goals have been identified:

- Establish Galveston as a national model for disaster recovery and hazard mitigation
- Provide for continuity of community by reducing current and future consequences from all hazards
- Enhance and strengthen public and private infrastructure to ensure continuity of service and quick recovery from any disaster, significantly reducing the potential of future damage while protecting the tax base
- Provide for island-wide and regional multimodal transportation system that serves and connects all segments of the local and regional population and incorporates transit oriented design in all future development
- Enhance transportation system to provide reliable, efficient, well maintained, safe sustainable operations through benchmarks of excellence

Sanitary Sewer Improvements

Recovery Value: Moderate

Project Champion: TBD

Background

There are five wastewater treatment plants (WWTPs) on Galveston Island that serve approximately 22,000 homes (approximately 88 percent of the islands residents) and most commercial properties. Approximately 75 percent of the residences drain to the main WWTP located at 59th Street. During Hurricane Ike, the storm surge flooded the north side of the island causing the main WWTP facility and the Seawolf WWTP facility (located on Pelican Island) to be overtopped by the rising storm surge and fail causing service disruptions to the majority of homes. As a result of being inundated by the storm surge, millions of gallons of untreated sewage contained in the two facilities were disbursed into the rising floodwaters and deposited throughout the eastern end of Galveston, Pelican Island, and into the West Bay causing numerous immediate and long-term health risks.

Many underground sanitary sewer pipes are in need of replacement/rehabilitation. There have been infiltration issues for a long time and the City has commissioned studies to determine what pipes need rehabilitation/replacement. These issues were exacerbated by the events associated with Hurricane Ike. The City has been making these repairs/replacements incrementally for some time until the funds were no longer available.

There are three residential sections of the City that are served by individual disposal systems that are failing, creating a potential environmental problem. During rain events, the residents have noted that raw sewage leaches from their septic fields into their yards, roadside drainage ditches, the bay and the Gulf. In order to ensure that the City has a reliable and safe sanitary sewer available and to eliminate a significant potential health risk, an extension of the system to unserved areas is needed. This problem was worsened by Hurricane Ike and is a matter of the general health and welfare of the island and surrounding waters.

Goals

- To protect the health and welfare of the residents by improving the quality, safety, and dependability of the wastewater disposal system.
- To provide reliable, safe, healthy, and stable wastewater disposal, including those residents that have individual disposal systems (septic systems).

- To prevent the wastewater disposal system from being adversely affected by storm events.
- To reduce the possibility of untreated sewage leaving the wastewater treatment plants during storm or flooding events.

Project Description

The City must ensure that the wastewater treatment system has greater dependability, quality, and safety. Key objectives in achieving these goals are to provide mitigation measures at each of the WWTPs to prevent overtopping during storm events upgrading the treatment plants to meet design requirements, extending the public sanitary sewer system to provide service to residents with septic systems, and to upgrade sanitary sewer mains serving communities along the seawall.

The WWTPs are located on property owned by the City totaling approximately 12.0 acres. Each of these plants is in need of some amount of rehabilitation due to storm related damages. These rehabilitation steps must be done in conjunction with the necessary mitigation measures in order to ensure that storm events do not overtop them. Any repair/rehabilitation must include upgrades that are necessary to meet specific requirements of reasonable Codes and Standards.

The City should provide sanitary sewer extensions to all residents of the City and eliminate the approximate 3,000 septic systems currently in use. This extension will include the Bay Harbor, Indian Beach, and Ostermeyer areas.

The City commissioned a study in 1994 (updated in 2005) regarding the state of the sanitary sewer system for the areas along the seawall. The City is aware of the sewer lines that need rehabilitation and has undertaken to rehabilitate those sections of pipe on an on-going basis, as budget permits.

Summary of project items:

- Repair/rehabilitate/upgrade the existing wastewater treatment plants.
- Harden the WWTPs against storm events.
- Extend the public sanitary sewer system to all incorporated areas of the City.
- Rehabilitate the sanitary sewer lines along the seawall.

Action Steps (Phases if needed)

- Complete funding plan
- Complete preliminary engineering study
- Final design and engineering documents and permitting
- Acquire easements and/or land for improvements
- Rehabilitation/extension of the upgraded public wastewater disposal system

Sustainable Opportunities: By rehabilitating and hardening the sanitary sewer collection system and the wastewater treatment facilities, the City will be able to rebound from the devastating effects of Hurricane Ike, grow the quality of life for its residents, and encourage industry to move onto the island.

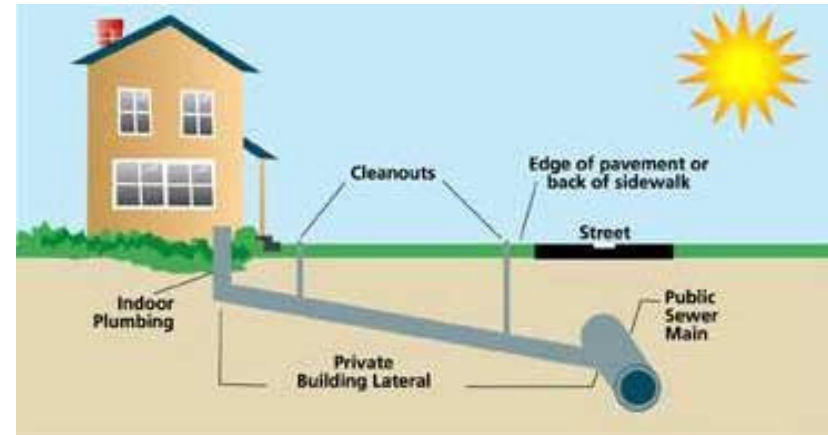
Financial Considerations:

Cost Estimate/Preliminary Cost	\$96,000,000
Funding Gap	(\$96,000,000)

Potential Funding Sources:

Federal Grants (see <http://www.fema.gov/government/grant/government.shtm#2>)

- CDBG – Entitlement Grants (CFDA Number: 14.218)
- HMGP Grants (CFDA Number 97.039)
- Emergency Management Performance Grant (CFDA Number 97.042)
- Flood Mitigation Assistance Program (CFDA Number 97.029)
- Repetitive Flood Claims Programs (CFDA Number 97.092)
- Severe Repetitive Loss Pilot Program (CFDA Number 97.110)
- Community Disaster Loan Program (CFDA Number 97.03)
- Pre-Disaster Mitigation Program (CFDA Number 97.047)
- Superfund Amendments and Reauthorization Act
- FEMA Public Assistance Program (CFDA Number 97.036)
- State of Texas Grants (see <http://www.txdps.state.tx.us/dem/pages/grants.htm>)
- State of Texas Governor’s Division of Emergency Management (GDEM)
- ORCA Funds
- Local Businesses
- Local Residents
- Tax Revenue



Take A Seat

Recovery Value: Moderate

Project Champion: Island Transit is a department of the City of Galveston. The City of Galveston Intermodal Transportation Committee is a group of citizens appointed by City Council to advise regarding transportation issues and decisions. The Goodman Corporation, which is a private business with offices in Houston, historically is the entity contracted to perform transportation planning and obtain funding for transportation studies and construction.

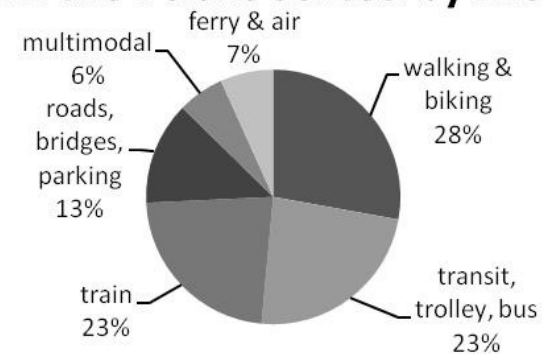


Background

A reliable, convenient public transit system is critical to rebuilding an Island community that is neighborhood and family friendly, respectful of the environment, attractive and friendly to tourists, and supportive of expanded job and business opportunity. Being able to easily travel all over the Island without needing a car, in combination with the proposed rail connection to the mainland, can help to reverse the withering decades-long outmigration of resident families. Our own local experience and recent research nationwide confirms that families provide the most reliable foundation for successful economies. Reliable transit also is vital for safe, timely evacuation when the next disaster threatens.

A review of public comments from the community recovery open houses in January showed the percentage of concerns or suggestions for public transit was tied with rail and second only to walking and biking. Rebuilding a bigger, better transit system on which we then can “Take A Seat” is crucial to community recovery from Hurricane Ike. Island Transit lost all 4 electric buses, all 4 trolleys, and other vehicles from the transit fleet. Even before Ike inundated the Island, there was unrelenting concern expressed about low ridership, lack of easily accessible and accurate schedule information, lack of service to some parts of the Island, and service schedules mismatched to the needs of a tourism economy. We are thankful the transit system was of assistance in the evacuation and was up and running again soon after the storm, albeit with borrowed vehicles and on reduced schedule.

Transportation Comments from the Public sorted by Mode



Goal: The Take a Seat project has three goals: (1) rebuilding and expanding the transit fleet to connect all parts of the Island, (2) engaging the public in events, competitions, and incentives to increase use of transit, and (3) connecting with other elements of the Island’s transportation system at multimodal hubs and smart street facilities.

Project Description: To establish our system as a world class public transit network that connects residents, students, commuters, and tourists to beach and bay, downtown and Pelican Island, Bolivar ferry landing and San Luis Pass, the “Take A Seat” project will rebuild and expand availability, visibility, reliability, and use of

bus, trolley, and other mobility options for people to conveniently and quickly get everywhere on the Island without needing a car.

Action Steps

Rebuild the transit fleet:

- Equip buses with bike and surfboard racks that are recreation and commuter friendly.
- Configure interior seating to accommodate luggage, packages, picnic baskets, and shopping totes.
- Consider minimizing the size of buses and run more of them—e.g., choose buses that are designed for “shuttle” between terminals at major airports as an alternative to the big buses that are traditional in clogging the streets in major city centers.
- Style buses, trolleys, and other transit vehicles to communicate that Galveston Island is a place in time where people know their neighbors and enjoy traveling together.
- Choose vehicles, fuels, and fleet facilities that support “green” and sustainable coastal living.
- Establish a system of standards (e.g., for fleet maintenance, operating schedules, accuracy of schedule information, ridership targets) with high visibility, and routine feedback to the public to ensure the system becomes and remains world class.

Reach out to the public to increase ridership:

- Create a “cool,” consistent marketing campaign to promote use.
- Conduct special events (e.g., celebration of World Car Free Day) to increase awareness and ridership.
- Explore ways to offer free bus service via federal funding and incentive programs and through public-private venture (e.g., large hotels and condominium and neighborhood associations paying annual fee to obtain agreed upon numbers of free passes for their constituents to use transit).

Connect with other elements of the Island’s transportation system:

- Establish a system of intermodal hubs across the Island including 61st Street, Airport, 25th Street, Ferry Landing, and near the San Luis Bridge to connect with trunk lines (e.g., Seawall Boulevard Master Plan) and off Island. Consider public/private venture to place parking garages at the hubs to include truck-stop style convenience stores that provide supervised public restrooms and showers as well as groceries and car fueling.

- Connect with “Smart Street/Complete Street” design requirements to ensure transit stops at the hubs and at all route stops are clean, safe, well lighted and evoke civic pride.
- Connect with “Stroll and Roll” projects to give people easy access to nature parks and beach and bay locations that are vulnerable to damage from motor vehicle incursions.
- Explore water taxi system from downtown/Pier 21 area up to Houston.

Sustainable Opportunities:

- Rebuild the transit system to be a model for coastal communities.
- Within the system of standards, establish ridership targets and routinely publish calculated amounts of energy saved and pollution prevented.
- Negotiate and publish plans for using transit in disaster evacuations so as to protect people and safeguard the fleet.
- Consider options for integrating public transit with school transit in partnership similar to the current project with Gulf Coast Center’s Connect.

Financial Considerations:

Cost Estimate/Preliminary Cost

Chance – Optima Bus	+/- \$260,000
Ford E450 – Bus	+/- \$65,000
Ford E350 Van	+/- \$20,000
Minor – Rail Trolley	+/- \$495,000
E-Bus – Trolley Bus	+/- \$284,000
Hourly operation cost (From 2006 Goodman Seawall Study)	\$50/hour
New transit routes, type of vehicular service and frequencies	TBD

Note: These cost estimates are for approximating new vehicles that may be required by Island Transit. Additional real estate for fleet storage and service has not been accounted for. Total future cost of this project can not be estimated until the specific quantity and types of new Island Transit fleet vehicles are determined.

Potential Resources

- CMAQ Improvement Programs
- Statewide Transportation Enhancement Program (STEP)
- Federal Livable Communities Initiative (LCI)
- Transportation and Community and System Preservation (TCSP)

Drinking Water System

Recovery Value: Moderate

This project calls for the repair (and hardening) or replacement of a portion of the existing water distribution system that was significantly affected by Hurricane Ike. As a result of storm related system failures, water service was disrupted throughout the island for a number of days. Repairing this system is imperative to the long-term recovery and viability of the City of Galveston and is linked to numerous projects throughout the island.

Project Champion: (when identified)

Background

The City is served by a public drinking water system that has parts that are over 100 years old. The existing system provides drinking water to the entire island including approximately 25,000 residences. The recent Hurricane Ike storm event caused disruptions in the water service on the island and raised additional concerns about the condition and functionality of the existing system. The City purchases its drinking water from the Gulf Coast Water Authority and it is brought to the island from the treatment facility in Texas City, Texas. Prior to the storm, the City of Galveston usage of water during non-peak months was approximately 15 million gallons per day (MGD) and during the peak months was approximately 25 MGD. The current non-peak water usage by the City is approximately 10 MGD.

During Hurricane Ike, the water system failed as a direct result of the storm. The tanks did not fail, the lines didn't fail. The failure was a result of the inability of City staff to keep the pumps running at the main plant. The pumps had a natural gas operated back-up generator system that turned on and was functioning. The issues occurred when the gas wholesaler who supplies natural gas to the retailer that the City purchases it from cut off the supply of natural gas to the City. Once the natural gas stopped, the generator stopped working and the pumps could no longer run. This created a situation where there was not enough water stored at elevation to provide adequate pressures throughout the system and a disruption in service.

Potable water is brought to the City through two (2) existing waterlines that run in the vicinity of an existing railroad bridge that runs from Galveston Island to the mainland near Texas City, Texas. The first of these lines is a 30" transmission main that runs within the existing railroad bridge. This line has a capacity of approximately 25 MGD. The second line is a 36" transmission main that runs on top of the existing railroad bridge and has a capacity of approximately 35 MGD. There is a third main that crosses the West Bay which is underground near the existing railroad bridge. This line is a 30" transmission main with a capacity of

approximately 25 MGD, was constructed in 1894 and is not in service at this time. The two lines on the existing bridge are both owned by the Gulf Coast Water Authority and the older, buried line is owned by the City.

The water distribution system on the eastern end of the City, consisting of the higher density residential and commercial properties, is protected from storm damage along the gulf side (southern side) of the Island by the existing seawall. However, it is not protected on the Bay side (northern side). In addition, the western end of the island, consisting of lower density, higher end residential properties, remains unprotected on all sides against future storm events. While the pressure in the system is not a source of concern, the amount of water stored on the island and the amount of water stored at elevation are items of concern for the community.

The existing water storage tanks/pumping stations on the island are all relatively low and subject to potential damage during storm events. Both City staff and residents have expressed concerns about the long-term safety of these facilities. Increasing protection of these existing highly valuable assets and upgrading the infrastructure are central to the overall viability of the recovery of the City and could mitigate extensive damage from future storm events.

Goals

- To protect the health and welfare of the residents of the City by improving the quality and dependability of the potable water service throughout the island.
- To provide additional on-island water storage at elevation (in elevated storage tanks) in order to be able to provide adequate water pressure throughout the island in the event of a catastrophic power failure at the pumping stations.
- To reduce the possibility that water service will be disrupted during future storm events.
- To ensure that the potable water supply coming to the City from the mainland does not get interrupted by a waterline break in the existing water transmission lines crossing the West Bay.

Project Description

In order for a full recovery to continue, the City must ensure that greater water service dependability and adequate water pressures are available throughout the island at all times. Key objectives in achieving greater service dependability are to be able to store water at elevation, harden the public water system along the length of the island, rehabilitate the existing under water bay crossing transmission main and upgrade the existing water towers/pumping stations. The City currently

has approximately 32 million gallons (MG) of water stored on the island in both ground and elevated tanks. Included in this is approximately 0.5 MG that is stored in the existing ground level Jamaica Beach storage tanks.

There are currently five (5) water pumping stations owned and operated by the City that provide the available water pressure throughout the island (30th Street, 59th Street, Scholes Airport, Pirates Beach and Jamaica Beach). The largest of these (30th Street) is currently undergoing a renovation by the City and has been left out of this project. This project proposes to upgrade the remaining four (4) pumping stations against damage from future storm events and to make all necessary changes (if any) to bring the designs of these stations up to all current codes for pumping station construction.



In addition, both City staff and residents have expressed the desire to be able to store a greater amount of water on the island at elevation so that if a disruption to the power to the pumps occurs again, there would be adequate water pressures throughout the island for a period of time until those pumps can be brought back on-line. This project proposed to accomplish this by providing a new elevated water tank at Jamaica Beach (with an approximate volume of 1.7 MG). Outside the scope of this project is the currently on-going expansion/renovation of the water storage tanks at 30th Street.

In association with the construction of this new water storage tank/pumping station at Jamaica Beach; this project proposes to construct a new 16" transmission

main from 13 Mile Road to the new Jamaica Beach Pumping Station that would run alongside the existing 16" main in this area. This project involves approximately 2.0 miles of 16" watermain construction.

Both City staff and residents have expressed concerns about the redundancy of the drinking water delivery to the island from the mainland. There are concerns about the two (2) delivery lines being located on the existing railroad bridge and subject to damage from above ground issues (wind, debris, flood, etc.) during storm events. While neither of these lines was damaged in Hurricane Ike, the bridge was known to have been affected by the storm and there are concerns about the long-term safety of these lines on the bridge. In order to provide needed redundancy to the potable water supply to the island and to guard against the possibility that the water supply to the island would be disrupted in the event of an incident involving the existing railroad bridge, this project proposes to rehabilitate the old, buried 30" watermain that is not currently in service by "slip-lining" (inserting a smaller pipe inside) the existing 30" transmission main with a 20" main. This would reduce the capacity of the line from approximately 25 MGD to approximately 18 MGD.

Summary of Project Items

- Harden existing water storage tanks/pumping stations on the island.
- Construct new elevated water storage tower/pumping station at Jamaica Beach to help with pressure issues in the western end of the City.
- Construct 16" watermain from 13 Mile Road to Jamaica Beach.
- Rehabilitate the existing 30" bay crossing watermain.

Action Steps: (Phases if needed)

- Complete funding plan
- Complete preliminary engineering study
- Acquire easements and/or land for improvements
- Final design and engineering documents and permitting
- Installation of new public water system facility

Sustainable Opportunities

A reliable and safe potable water delivery system is vital for viability of any community. The upgrading and hardening of this system for the City is of the utmost importance to the City not only as a means of recovering from Hurricane Ike, but also for encouraging new residents and businesses to relocate onto the island, allowing the community to grow.

Financial Considerations

Cost Estimate/Preliminary Cost	\$ 78,300,000
Funding Gap	(\$ 78,300,000)

Potential Funding Sources:

Federal Grants (see <http://www.fema.gov/government/grant/government.shtm#2>)

- Emergency Management Performance Grant (CDFA Number 97.042)
- Flood Mitigation Assistance Program (CDFA Number 97.029)
- Repetitive Flood Claims Programs (CDFA Number 97.092)
- Community Disaster Loan Program (CDFA Number 97.03)
- Hazard Mitigation Grant Program (CDFA Number 97.039)
- Pre-Disaster Mitigation Program (CDFA Number 97.017)
- Superfund Amendments and Reauthorization Act
- FEMA Public Assistance Program

State of Texas Grants (see <http://www.txdps.state.tx.us/dem/pages/grants.htm>)

State of Texas Governor's Division of Emergency Management (GDEM)

ORCA Funds

Local Businesses

Local Residents

Tax Revenue

Thoroughfares and Bridges

Recovery Value: Moderate

The GCRC has identified a series of roadway recovery and improvement projects that improves mobility and decreases congestion. These projects specifically improve the elevation and evacuation safety of critical transportation corridors on the island; while serving all modes of passenger and freight traffic. Many roadway projects were identified, but the following projects have been previously identified through extensive consultation with leadership and general public by the City of Galveston mobility plan as having the highest priority in addressing key problem segments: Develop a workable Thoroughfare Plan for improving traffic flow on the island; construct a direct connector ramp (flyover) providing continuous flow between 61st Street and northbound IH-45; raise the elevation of FM 3005 to exceed the 10-year storm water surface elevation; raise Harborside Drive to exceed the 10-year storm water surface elevation; construct a West Bay crossing to provide an alternate island evacuation route; construct a Pelican Island Industrial Causeway and Corridor to the mainland linking container traffic to the mainland, and repair/reconstruct the current 51st street Pelican Island Bridge.

Island Thoroughfare Plan

Project Description: The Island Thoroughfare Plan will guide the development of an efficient and appropriate thoroughfare system to meet existing and future travel needs on the Island. In addition to the priority items highlighted here for recovery, other factors such as efficient signalization systems, filling in missing links, impacts of new development, and adding capacity where needed should be considered.

Action Steps

- Identify partners
- Secure funds
- Select consultants
- Inventory existing conditions
- Organize public input
- Develop plan
- Estimate costs of improvements
- Coordinate with comprehensive plan
- Institutionalize plan

Cost Estimate: \$150,000 - \$200,000

Potential Resources: H-GAC, TxDOT, FTA, County, City, FEMA

Raising Harborside Drive

Project Description: Harborside Drive serves as the evacuation route for residents located on the northeastern part of Galveston Island and Pelican Island. This facility suffers from early flooding and “ponding” during even minor weather events. Disruption of this roadway directly impacts business along this industrial corridor as well. Raising Harborside Drive to exceed the 10-year storm water surface elevation will enhance both the safety of the community for evacuations and positively impact the adjacent business corridor.



Action Steps

- Identify partners
- Secure funds
- Conduct feasibility study
- Develop detailed costs
- Evaluate environmental impacts
- Coordinate design with TxDOT
- Secure funding
- Construct

Cost Estimate

Feasibility	\$200,000
Design	\$1,000,000
Construction	\$10-20,000,000

Potential Resources: City and county do feasibility and design to entice TxDOT participation in construction.

Raising FM 3005

Project Description: FM 3005 provides the only current evacuation route for Galveston Island's West End residents. This facility suffers from early flooding during storm events and is in close proximity to erosion impact areas.

Action Steps

- Secure funding
- Construct

Cost Estimate

Construction	\$10-20,000,000
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Potential Resources: Feasibility and design are finished. This should entice TxDOT participation in funding construction.



Pelican Island Industrial Causeway and Corridor

Project Description: This project will create new connectivity to the mainland through construction of an ICW bridge and causeway from Pelican Island to Texas City (Loop 197). This new corridor will provide better access to the Island and anticipates the development of a major port container terminal on Pelican Island.

Action Steps

- Identify partners
- Secure planning funds
- Conduct feasibility study
- Develop detailed costs
- Evaluate environmental impacts
- Seek TxDOT designation
- Coordinate design with TxDOT
- Secure funding
- Acquire right-of-way
- Construct

Cost Estimate

Feasibility	\$700,000
Design	\$10,000,000
Right-of-way	\$ 20,000,000
Construction	\$100,000,000

Potential Resources: TxDOT, County, City, special congressional appropriation for recovery

West Bay Crossing

The West Bay Crossing will improve connectivity of the Island with the mainland through the construction of an ICW bridge and causeway and connecting roadways from the Island (west of the State Park) to the mainland connecting to into the 35/288 corridor. This is an important evacuation project to divert a significant amount of traffic away from the I-45 evacuation corridor.

Action Steps

- Identify partners
- Secure planning funds
- Conduct feasibility study
- Develop detailed costs
- Evaluate environmental impacts

- Seek TxDOT designation
- Coordinate design with TxDOT
- Secure funding
- Acquire right-of-way
- Construct

Cost Estimate

Feasibility	\$700,000
Design	\$10,000,000
Right-of-way	\$ 20,000,000
Construction	\$100,000,000

Potential Resources: TxDOT, County, City, special congressional appropriation for recovery

61st Street Flyover

Project Description: The 61st Street Flyover includes a one-lane flyover with shoulder from 61st Street northbound to IH-45 westbound. The addition of one free-flowing lane from IH-45 eastbound to 61st Street southbound would also be included. This would facilitate evacuation, but more importantly would have great economic development value in supporting the seawall tourist industry.



Action Steps

- Update previous TxDOT feasibility
- Coordinate design with TxDOT
- Acquire funds
- Construct

Cost Estimate: \$10,000,000

Potential Resources: STP/CMAQ/special earmark recovery

51st - Pelican Island Bridge Rehabilitation

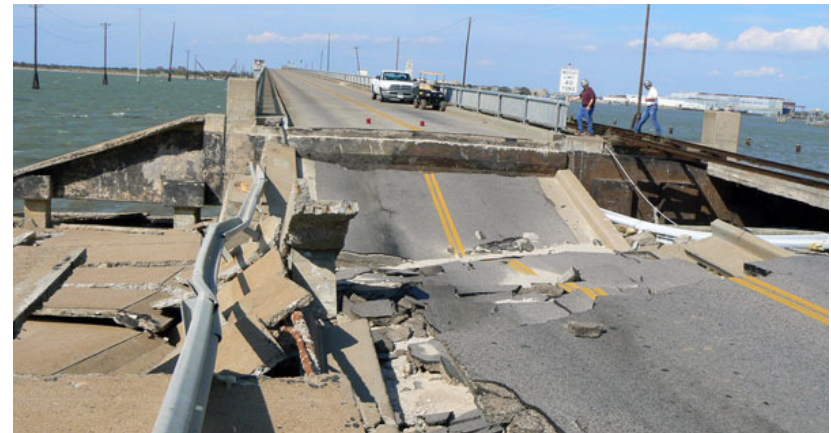
Project Description: Repair damage from age and Hurricane Ike. Improve signalization. Improve industrial development potential of Pelican Island. Include freight rail.

Action Steps

- Analyze deficiencies and need
- Add to TxDOT system
- Complete design locally to entice TxDOT
- Secure funding
- Construct

Cost Estimate: \$25,000,000

Potential Resources: STP (if added to state system), special earmark, county, city



Storm Drainage: End Street Flooding Now

Recovery Value: Moderate

This project calls for the repair and hardening of the existing storm drainage system that serves the City and was significantly affected by Hurricane Ike. As a result of the storm, significant deposits have been left in the storm sewer system causing a reduction in the capacity of the pipes and creating greater recurrences of flooding problems. In addition, the storm sewer system in the City has significant capacity restrictions due to the overall elevation of the island and the lack of available head within the system. The repairs and enhancements to the storm sewer system are needed in order to minimize the recurrences of flooding during smaller, more frequent storm events and to ensure the recovery of the City and the health and safety of its residents.

Project Champion (when identified)

Background

The underground storm sewer system for the City was affected by Hurricane Ike depositing large amounts of sediment in the pipes which caused reduced hydraulic capacities. There are sedimentary deposits left in the system even during non-storm situations that the City has an on-going operation to clean out. However, much of the fleet of vehicles used to do this type of maintenance (vacuum trucks generally) was damaged during the storm and the City is now unable to perform the required cleaning.

In addition to the additional sediment deposits in the pipes, the storm sewer system in the City has severe capacity constraints due to the overall elevation of the island and the lack of available head (pressure on the water in the pipes) to move the storm runoff through the system. Even during small rain events, the storm sewer system is insufficient, flooded roadways are common. Traffic and commerce for residents, tourists, businesses, schools and hospitals is brought to a stop. Because the island is so flat and low, the pipe sizes needed to convey the flows are typically very large. There are a number of areas where the pipes in the ground are not capable of conveying the flows to those pipes even if the pipes are cleaned out. In these areas, changes must be made to the storm sewer system in order to make the system capable of carrying the flows to it during the design storm. These measures may mean upsizing pipes or adding additional pipes. In speaking with City staff, it has become clear that there are situations where other utility lines have been built right through storm sewer pipes (i.e. a sanitary sewer main runs through a storm sewer pipe – “intervening utilities”). In situations like this, the utilities must be revised so that they do not interfere with each other’s functionality.

A report commissioned by the City entitled “City of Galveston Master Drainage Plan”, by Dannenbaum Engineering Corporation dated July 2003, contains a preliminary analysis of the storm drainage system at the time and recommends measures to get the system to adequately pass the 2-year storm event. This study does not address any “intervening” utilities problems. Any future study and /or final design must include the revisions necessary to all of the utility systems to eliminate these utility crossing issues.

In addition, TxDOT did a study dated January 26, 2004 entitled “Presentation Study: FM 3005 – Drainage Outfall Study, Galveston Island, Galveston County, Texas, CSJ No. 0051-09-021, TxDOT contract no. 12-245P5024” that details possible improvements to the storm drainage system along FM 3005 to improve stormwater discharge and flooding issues along that road.

While the state of the existing storm sewer system has been a concern of the city for some time, the situation was made considerably worse due to the deposits left after the floodwaters receded following Hurricane Ike. City staff indicates that significant flooding (1-2 feet deep) occurs more than once a year. This causes water to stand in the streets until it can exit through the storm sewers or be soaked into the ground. This standing water creates a health issue for residents and becomes a safety concern emergency vehicles may not be able to use certain roadways during these events.

Goals

- To protect the health and welfare of the residents of the City by improving the functionality and dependability of the storm drainage system throughout the island
- To minimize the flooding damage due to frequent smaller storm events

Project Description

In order to be able to recover fully from this devastating storm event, the City must ensure that the runoff from the smaller, more frequent storm events can be adequately and safely removed from the streets and discharged into acceptable receiving channels and, eventually released into the Bay. The key objectives in achieving these goals are to provide mitigation measures for the storm sewer system to minimize the amount of sediments and debris in the pipes, to clean deposits out of the pipes to bring the capacities of the pipes back to their “design” capacities and to replace/enhance portions of the system where it is required.

The “Master Drainage Plan” by Dannenbaum Engineering and the report by TxDOT provide a basis for making the necessary improvements to the storm drainage

system and provide some approximate costs for the recommended measures (based on information current at the times of the reports). This project proposes to implement the measures proposed within these documents in an effort to enhance the drainage system and minimize potential flooding issues throughout the city.

Summary of Project items:

- Clean the existing storm sewer pipes of sediment deposits to allow the existing system to work as originally designed.
- Implement the recommendations of the existing “Master Drainage Plan” for the City and the existing TxDOT report. In doing this, the issues of the “intervening utilities” must be addressed.

Action Steps: (Phases if needed)

- Complete funding plan
- Final design and engineering documents and permitting
- Acquire easements and/or land for improvements
- Implement actions of the Master Drainage Plan and TxDOT report to upgrade the existing storm drainage system

Sustainable Opportunities: The improvement and hardening of the storm drainage system throughout the island will allow the City to continue to rebound from the affects of Hurricane Ike and grow in all of the directions it plans.

Financial Considerations:

Cost Estimate/Preliminary Cost	\$116,200,000
Funding Gap	(\$ 116,200,000)

Potential Funding Sources

Federal Grants (see <http://www.fema.gov/government/grant/government.shtm#2>)

- Emergency Management Performance Grant (CDFA Number 97.042)
- Flood Mitigation Assistance Program (CDFA Number 97.029)
- Repetitive Flood Claims Programs (CDFA Number 97.092)
- Community Disaster Loan Program (CDFA Number 97.03)
- Hazard Mitigation Grant Program (CDFA Number 97.039)
- Pre-Disaster Mitigation Program (CDFA Number 97.017)
- Superfund Amendments and Reauthorization Act
- FEMA Public Assistance Program

State of Texas Grants (see <http://www.txdps.state.tx.us/dem/pages/grants.htm>)

- State of Texas Governor’s Division of Emergency Management (GDEM)
- ORCA Funds
- Local Businesses
- Local Residents
- Tax Revenue



Smart Streets

Recovery Value: Moderate

Project Champion (when identified)

Background

The City of Galveston's grid street pattern has its origins in the 1838 platting and sale of lots by a group of investors seeking incorporation of a town by the Texas legislature. The legislature granted the incorporation in 1839 and by 1880 Galveston was the largest city in Texas.

In some instances, the street and infrastructure network in the City has been in place for over one hundred years. As the automobile gained prominence through the 20th century, a greater emphasis was placed on accommodating the movement of cars over other users in the streetscape.

The impacts of Hurricane Ike have revealed a need for infrastructure improvements along several street corridors in the more densely developed east end of the island. Traffic flow and surface drainage of storm water are two major factors negatively impacting Galveston's streets. Undersized and outdated storm drainage infrastructure contributes to periodic flooding in several areas of the city, and the modern population size and rigid grid network of streets has resulted in general traffic circulation and signalization issues. Public transit, pedestrian and bicycle movement considerations are needed to improve the overall quality of the Galveston streetscape experience.

Goal: Enhance transportation system to provide reliable, efficient, well maintained, safe sustainable operations through benchmarks of excellence.

Project Description: The GCRC has identified an opportunity for improving the quality of Galveston's streetscape. Refurbishing the city's streetscape to incorporate "Complete Streets" standards will improve the safety and welfare of the many pedestrian and bicycle users already traversing the streets of this tourist friendly community. This project proposes the creation and adoption of new ordinances for streetscape design standards for both new street construction and corridor enhancement projects. This project supports economic and tourism recovery policies and initiatives through the enhancement of business and tourism districts and residential neighborhoods. Once established, the "Complete Streets" policies will continue to revitalize and maintain a healthy and vibrant Galveston.

Smart Streets will:

- Make all intersections and grade changes ADA

- Install proper signage at all crosswalks and intersections
- Enforce pedestrian Right-of-Walk to make Galveston 'Pedestrian Friendly'
- Upgrade all street lighting to make it safe, beautiful and 'dark sky' compliant & energy efficient
- Improve lighting for pedestrians on seawall
- Upgrade visibility and enforcement of all crosswalks
- Establish a "clear site triangle" at all intersections, alleyways and driveways
- Implement street beautification
- Limit parking to one side of all thoroughfares and "one-ways", restrict parking of large trucks, trailers and boats on these streets, use the open lane for bikes
- Establish trash and recycling containers along all major streets, downtown, seawall / UTMB / TAMUG



Action Steps: (Phases if needed)

- Create a task force pursuing the development and adoption of “Complete Street” standards
- Create task force to identify key city streets for corridor enhancement project development and the coordination of “Complete Street” projects and construction improvements with other city planned utility and bicycle/pedestrian improvements
- Complete funding plan for construction and continued “Complete Street” maintenance
- Final project engineering and construction

Sustainable Opportunities: Incorporate Best Management Practices in any upgraded storm sewer infrastructure

Financial Considerations

Cost Estimate/Preliminary Cost

Smart Street Ordinance and Design Standards Creation	\$85,000
Detailed Study of Existing City Street Right-of-Way Conditions and Typical Street Sections	\$65,000
Specific Street Construction projects	TBD

Potential Resources

- Congestion Mitigation and Air Quality (CMAQ) Improvement Programs
- Statewide Transportation Enhancement Program (STEP)
- Federal Livable Communities Initiative (LCI)
- Transportation and Community and System Preservation (TCSP)
- CDBG



Galveston-Houston Commuter Rail

Recovery value: Moderate

Project Champions: The entire GCRC which agrees that the project is essential for the community as a whole.

Key Facts and Background

“Forecasts for the Houston-Galveston region indicate rapid multi-county population and employment growth characterized by suburban expansion, increasing freeway congestion, and limited transportation and infrastructure funding to meet these growing needs.” (Goodman Corp Executive Summary)



Galveston Island also offers only one viable way off the Island in the event of a mass evacuation or impending disaster. The Island has a growing traffic and congestion problem and experiences large increases in the population during the peak tourism months and special events when the population may increase from the average of fifty-seven thousand to over 100,000. An historical presence of a Galveston-Houston rail in the early 20th Century existed previously when rail connections were the main means of mass transportation. Many of the same needs exist today that support the call for the commuter rail system. The Galveston-Houston commuter rail project is imperative for Galveston to increase its options for mass evacuation of the Island's population and equipment and bringing large scale resources to the Island for recovery.

This is a Capital Project that has a regional scope.

This project compliments the community vision: it provides increased connectivity for the general population in a cost-effective manner, improves resiliency of the Island after an evacuation or disaster, provides environmental benefits and decreased dependence on petroleum products. Rail is proven to be one of the most cost-effective and efficient forms of transportation, lending support to its sustainability.

Goals

- Island wide and regional multimodal transportation system that connects all segments of the Island and regional population and incorporates transit-oriented design in all future development
- Enhance transportation system to provide reliable, efficient, well maintained, safe, sustainable operations through benchmarks of excellence
- Enhance and strengthen public and private infrastructure to ensure continuity of service and quick recovery from any disaster, significantly reducing the potential of future damage while protecting the tax base
- Provide for continuity of community by reducing current and future consequences from all hazards
- Establish Galveston as a national model for disaster recovery and hazard mitigation

Project Description

The GCRC recommends the support and continued analysis of consultant Barry Goodman's (currently underway) work on the commuter rail project, including the "south leg stops" at League City, Dickinson, La Marque-Texas City and Galveston. The GCRC further recommends two primary Galveston hubs, located at 61st Street at Harborside Drive and 25th Street-Shearn Moody Plaza, and a new transit-oriented design station at UTMB as well as an eventual direct linkage of the Galveston commuter rail system to downtown Houston and METRO light rail.

Project benefits include acting as a major catalyst for the economic development, attraction and retention of the middle-class and integrated transportation for the entire Galveston Community as a whole. The project creates the opportunity for two-way commuting infrastructure where residents can choose to live in Galveston while working off-Island at points north which would support increase of the tax base. It would serve as an alternate evacuation route and mitigation means for both people and equipment in the event of a disaster. The commuter rail would be

a cost effective way to transport mass numbers of people, decrease traffic congestion, and increase productivity (opportunity to recover cost of time spent sitting in traffic) as well as decreasing commuter and visitor travel-related stress. The project would create transit-oriented and economic development throughout selected areas of the Island and would aid in mobility, recovery, community character, housing and environmental benefits for Galveston Island. The 61st and 25th Street hub, and UTMB station, would help contribute to transit-oriented and mixed-use development in key economic areas of Galveston Island. It also would provide a mechanism for visitors to come to the island on weekends without vehicles; all benefits help contribute to the Island's overall quality of life.

"This study concludes that the most viable alternative for additional transit capacity, in terms of ridership, cost, minimal construction impacts, and connectivity, is the GH&H commuter rail alternative within the existing UP right-of-way." (Goodman Corp, Executive summary, pg 5.)

Alternatives to the commuter rail project includes rapid transit bus and park-n-ride services, however these alternatives are not nearly as efficient or sustainable; nor do they offer the large-scale mitigation potential that the commuter rail presents. In addition, the alternatives do not appeal to all areas and demographics of the community and would not be widely approved in contrast to the commuter rail.

The timeframe for this project may be looked at in phases, depending on funding. To date, funding for the proposed "improvements to the rail bridge at ICW to a 300' span, high clearance lift bridge" has received Congressional approval. Existing studies suggest the Galveston-Houston commuter rail could run as early as 2012.

Project Impact

The project is a multi-agency project that is regional and affects all demographics. It positively impacts economic growth, community character, housing, environmental concerns, and the needs of residents from all socioeconomic backgrounds throughout Galveston Island and the Galveston-Houston region.

Importance for Recovery

The Galveston-Houston commuter rail project is both a long-term and general recovery project. It would allow a faster and safer alternative to evacuation and accessibility to the Island once any hazards were cleared, supporting the Island's resiliency. It also supports community sustainability in that it is an efficient use of energy, land and natural resources. The 61st and 25th Street hubs and UTMB station would bolster transit-oriented and mixed-use development, increasing the tax base. The project reduces loss in the future due to disasters by providing an additional means of efficient evacuation of equipment, resources and people. The project builds community capacity by providing transportation for work, recreation,

and evacuation for all the residents, commuters and visitors of the Island. Increased connectivity to jobs (employment opportunities expanded) both on and off the Island would contribute to Galveston's community growth and sustainability.

Feasibility

The project is already being studied and identified as highly feasible; Galveston Island is one of many partners looking to establish a connectivity line and Galveston City Council has shown continued support of further analysis, passing the feasibility study and is now in "intense analysis phase."

Phasing

"Based on the potential for northbound and southbound demand, there may be an opportunity for a phased approach to implementation. Two minimum operable segments have been evaluated.

- Southbound (Clear Lake Area to Galveston)
- Northbound (Dickinson to Downtown Houston)

The northbound phase would have higher capital costs, operating costs, and ridership, compared to the southbound phase, which would be easier to implement quickly. Building the entire 45-mile corridor between Galveston and



downtown Houston would address bi-directional demand. Improving the entire corridor also is critical in addressing evacuation capacity.” (Goodman Corp, Executive Summary: pg 5.)

The project has been researched, presented to Galveston City Council, and was 1 of 5 major corridors studied specifically by H-GAC for commuter rail service and was the top rated corridor due in part to the seven-day-a-week demand and two-way ridership. Rail right-of-ways are already available through the existence of the tracks in place.

Cost

“The City of Galveston began working on the project in 2003 with a \$900,000 budget. The Federal Transit Administration (FTA) provided 80 percent of that amount with a local share of 20 percent that the City of Galveston paid from its Transit Bond fund. Initial expenditures were for demonstration train service between League City and Galveston under contract with AMTRAK, bringing passengers to Galveston on holiday weekends. Following those successful demonstrations, the feasibility or advanced planning study was undertaken. Completed in 2007 the study resulted in recommendation that this corridor is the most feasible for commuter rail in the Houston-Galveston region. The executive summary of the report is attached.

In 2008 the Galveston City Council authorized the FTA-required Alternatives Analysis (AA) study at \$800,000. Because of the nature of the federal funding received for this phase of the project, the local responsibility/match of Galveston is only \$29,000.

Approximately \$10,000,000 has been requested from 2010 federal appropriations to move directly into the preliminary engineering phase upon completion of AA.

Although Galveston Island has taken the lead thus far, subsequent phases will proceed with as many as 12 partners including other municipalities, counties, and special districts. Galveston will be responsible for their fair share of the total \$400,000,000 price tag for the 50-mile corridor.” (John Carrara, The Goodman Corporation Vice President)

Background resources to be included in this project

- Goodman Corporation Houston-Galveston ITS Commuter rail study
- Galveston Transportation Summit: Transportation Futures for Galveston Island, Galveston County and the Houston-Galveston Region. April 29th, 2008. Galveston Island Convention Center.
- The 2035 Regional Transportation Plan (www.2035PLAN.org)
- “Paying Our Way: A New Framework for Transportation Finance. Executive Summary.” Report of the National Surface Transportation Infrastructure Financing Commission.
- Galveston Island Mobility plan

Ike Dike

Recovery Value: Moderate

Project Champions: Bill Merrell, Marie Garrett, Len Waterworth, Jerry Mohn, Marty Bilek, Sidney McClendon III

Background

Houston-Galveston Region has Significant Value

- Home to ~2 Million people and may double by 2050
- Provides valuable ecosystem services
- Supports a vast petrochemical complex
- Port of Houston alone generates >\$117 Billion/year economic activity

Storm Impact is Costly - 2008 Hurricane Ike

- 102 Deaths, 34 Missing
- Caused \$22 Billion in damage
- Damaged sensitive ecosystems and wildlife habitats
- Devastated vulnerable (poor/elderly) populations much more than others
- A farther west trajectory could have resulted in much worse

Unpredictability is a problem

- A major storm every ~15 years but...
Quick Intensity changes occur
Ex. 1932: Strength from 0 to Cat 4 in ~48hrs; Cat 3 to landfall in ~6hrs.
Significant Direction changes occur
Ex. 2008: Eye from South Texas to Houston/Galveston in ~48hrs.
- Large scale evacuations are difficult with little time
- Significant suffering by our less resilient populations
- Unprepared = Loss of Lives as well as Loss of Property

Goals

- Provide Comprehensive Regional Storm Surge Protection
 - Protect People, Properties, and Ecosystems
 - Physically reduce vulnerability/risk thereby encouraging investment

- Provide a Lower Total Cost Solution
 - Less than a single Ike-like hurricane recovery
 - Less than individually armoring the entire Bay/Beach Complex

Project Description

Ike Dike Recovery Committee Project Summary

The Ike Dike recovery committee project is focused on providing a comprehensive regional storm surge protection plan. Protecting people, properties and ecosystems by physically reducing the vulnerability/risk from storm surge events. The plan would provide a lower total cost solution: less than a single Ike-like hurricane recovery or individually armoring the entire bay/beach complex.

Project components include a Galveston Island seawall extension/revetment to San Luis Pass (~18 miles) and a Bolivar peninsula seawall from Bolivar Roads to High Island (~35 miles) including wrap-arounds; and floodgates at the Bolivar Roads Ship Channel, San Luis Pass, and the Intracoastal Waterway.

Protect the entire Houston-Galveston Bay/Beach Region from hurricane surge using a coastal barrier solution similar to the Dutch Delta Works.

Major Project Components include

- Galveston Island Seawall extension to San Luis Pass (~18 miles)
- Bolivar Peninsula Seawall from Bolivar Roads to High Island (~35 miles)
- Seawall Inland “wrap-around” or extension at each end
- Floodgates at Bolivar Roads Ship Channel, San Luis Pass, and the Intracoastal Waterway
- Ongoing maintenance plan creation

Action Steps

Develop project key attribute and assumption list to be used by project design engineers, for example:

- Protect against flooding from a category 4 hurricane, 8 knot wind, include appropriate compensation for wave action
- Protect areas west of High Island and east of San Luis Pass; Bay and Beach

Develop preliminary project design using holistic view (all phases)

Update Cost/Benefit Analysis and project funding based on preliminary design and an eye on phased implementation

Develop final project design and determine project phases for example:

- West End Seawall Extension
- Bolivar Seawall Construction
- Individual floodgates and associated “wrap around” extensions

Finalize Funding

Execute Project

Sustainable Opportunities

Implement Galveston West End and Bolivar seawall solutions that improve beach/dune ecosystem sustainability

- Sand and vegetation covered reinforced dune (such as granite) provides an environment conducive to wildlife as well as significant storm protection
- Include sand stabilization components to hold and increase beach width
- Minimize impact to existing structures

Leverage Ship Channel gate construction to increase usable channel width

- Widen usable channel specification while keeping same water transportation volume from bay to/from gulf to minimize bay/beach environmental impact

Protect sensitive bay environmental habitats by eliminating significant salt-water storm surges

Create a solution that minimizes the need for other/individual large-scale surge mitigation projects

Financial Considerations:

Preliminary Cost Estimate:

Seawall (all phases, including extensions & wrap-arounds)	\$ 1,000 M
Bolivar Roads Floodgate	\$ 1,000 M
San Luis Pass Floodgate	\$ 50 M
Intracoastal Floodgate	\$ 100 M
Total Cost	\$ 2,150 M
Funding Gap	(\$ 2,150M)

Costs will change based on design solution chosen and will increase if land purchase is required. Not adjusted for future inflation.

Potential Financial Resources:

- Petroleum Industry
- Port of Houston
- Federal/State/County/City Mitigation Funds
- Regional Gas Tax
- Property Taxes

Potential Development Resources:

- Private/Public Partnerships
- Universities
- Corp of Engineers

Galveston Levee

Recovery Value: Moderate

Project Champion (when identified – sponsor is a “local public body” – 30% cost must be borne by sponsor)

Background

The City of Galveston is a barrier island community subject to hurricanes from the Gulf of Mexico. The most widespread and costly damage inflicted by these storms is flood damage generally caused by the wind-driven storm surge and the wave action associated with storms. While Galveston has a seaward-facing seawall that has proven its value in protecting the city from storm waves, it is unprotected from hurricane flood damage from Galveston Bay, as evidenced by Hurricane Ike (Sep 2008). Storm surge during this storm was driven into Galveston Bay causing it to inundate the island from its bay side.

Statistically, Galveston is affected by hurricanes approximately once every 2.5 years. The island is hit directly approximately once every 10 years. Extremely severe storms hit Galveston roughly once every 25 to 50 years. Historical recorded storm surges associated with hurricanes have reached 14.2 ft in the storm of 1900 (killing an at least 6,000 people, making it the deadliest natural disaster in U.S. history), 12 feet in the storm of 1915, and 15 feet for Hurricane Carla in 1961. In Hurricane Ike, the storm surge elevations were approximately 10 feet on the western end of the island and approximately 13 feet on the eastern end. Construction of the 17-foot Seawall on the southern facing shore of the City began soon after the 1900 hurricane hit Galveston. During Hurricane Ike, the Seawall functioned as designed and protected the southern part of the City from the wind driven waves as it did during previous storms since 1900.

Unfortunately, Ike caused a huge mass of water to come from the bay and flood the island from the north, where there is no flood protection system in place. This flooding caused much of the island to be inundated, causing the majority of the damage to the island. The estimated cost of the damages caused by Hurricane Ike are in excess of \$22 billion, making it the third most costly hurricane in U.S. history. Included in this estimate are the costs of the devastating damage to essential infrastructure such as the wastewater treatment plants and the potable water distribution system caused by Ike. The threat of disease and disruption of service

resulted in the island residents not being allowed back to their homes for over 12 days, which caused additional damages from extensive mold growth and spoiled food. A substantial proportion of the island’s residences are undergoing or awaiting repair at the time of preparing this plan, six months following the storm.

Goals

- To protect the health, welfare and property of the residents and businesses of the densely populated area of Galveston Island from storm related floodwaters.
- To encourage investment (commercial, residential, medical, educational, infrastructure, governmental, and utilities) in Galveston by decreasing the risk of flooding with a structural flood control system.

Additional Benefits:

- Enhancing land values (and subsequently increasing the tax base)
- Reducing losses of income by residents and businesses
- Reducing emergency response and recovery costs during and following storm events
- Complementing other recovery and development projects for Galveston

Project Description

This project calls for the construction of a levee around the more densely populated eastern portion of the island. It is an effort to minimize the exposure to flood damages during large-scale storm events and protect the lives and property of the residents of Galveston. The proposed levee system would protect the City on its bay side and connect with the eastern and western ends of the existing seawall.

The project proposes to enhance the existing storm protection provided by the seawall by constructing a levee/floodwall system encircling the City (Figure 1). Depending on its final engineering and alignment after thorough study, the system might include both earthen levees and concrete floodwalls, pump stations, gates, interior storm water outlets and other features to control floodwater intrusion and removal from the city.



Figure 1. Proposed Galveston Levee system and existing Texas City levee shown with 15.8-foot storm surge and the resulting flood protection. Potential additional benefits of the plan to other developments for Galveston Island are also indicated. The exact course and components of the system would be determined by a detailed feasibility and engineering study. The community recommends that this study be initiated immediately.

The issue of storm related flood protection is not a new one and is one that the community and federal agencies have considered in the past. In 1979, the USACE released a report entitled “Feasibility Study – Texas Coast Hurricane Study”. This report preliminarily studied the effects of hurricanes on five Gulf coastal areas in Texas including the Houston-Galveston Area. The report contains a Galveston levee plan that closely resembles the measures conceived in the project described here (Figure 2). The 1979 plan contains a brief economic analysis of the project including the potential benefits associated with it. All of the analysis provided is based on 1970s data and would need to be updated to current figures for any new levee plan. The updated plan should include the knowledge learned over time including the success of the Texas City levee system during Hurricane Ike.

The 1979 plan proposed a levee/seawall based protection system that encompasses the eastern end of the island and includes approximately 7.8 miles of earthen levee and approximately 4.7 miles of concrete floodwall (predominately through the port area). In addition, the report recognized that the system would need to accommodate the roads, railroads and other infrastructure that would be impacted. This plan was identified at the time to be the most feasible when

compared to several other plans for protecting larger areas of the island and Galveston Bay (up to 127 miles of coastline) because it provided the highest benefit-cost ratio (2.4 compared to 1.1) and had the fewest environmental, engineering and management challenges. Further study and discussion should take place with the USACE to determine current feasibility.

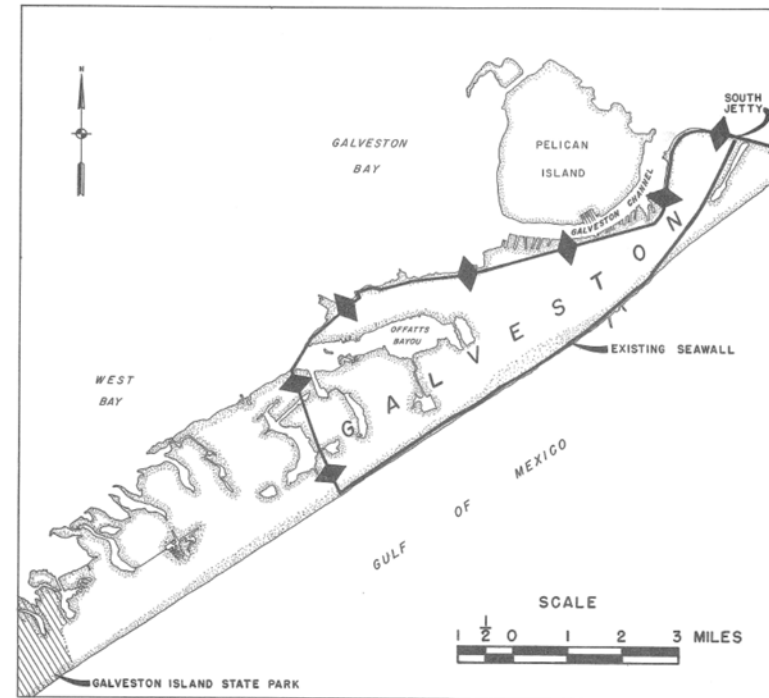


Figure 2. Recommended Galveston Levee plan resulting from the 1979 USACE study.

In addition to the primary function of protecting the majority of the City’s residents and businesses from flood damage during storm events, the proposed levee project could benefit a number of other projects to help Galveston’s recovery and development (Figure 1). For example, the levee could be incorporated into a plan to raise Harborside Drive and/or provide an easement for the Galveston end of a commuter rail line to Houston. It could provide an elevated highway connecting FM 3005 and West End traffic directly to the I-45 causeway via a bridge and floodgate at the entrance to Offatts Bayou. If the plan is designed and constructed in an appropriate and aesthetic manner, the levee and its adjacent areas could be an eco-tourist draw, providing a hiking/bike path with wetland, city and bay

observation points. The plan would also incorporate an improved storm water drainage system for the city.

Similar ideas have been implemented in other areas including the nearby community of Texas City. The levee system protecting Texas City is 17 miles long and 23 feet in elevation at its highest point. The Texas City levee was built in response to Hurricane Carla and has functioned well in all subsequent hurricanes protecting that city from flood damage during hurricanes, tropical storms and torrential rains (see Figure 1). In addition to creating a barrier to storm surge, the Texas City levee system was designed to handle 9 inches of rainwater runoff in a 24-hour period and a 14-inch rainfall during non-hurricane tide conditions.

There are considerable hurdles to cross in conjunction with this project including (but not limited to): funding, environmental impacts, state and federal regulations, land acquisition, timing, construction management and inspection, and public sentiment. However, though the obstacles and costs may be high the community believes the considerable benefits of this project outweigh those costs and that further study to update the previous USACE study is warranted.

The community recommends that the city and county move rapidly to revisit and update the previous studies for protecting Galveston, and seek funding to implement a modern levee protection system for the city. Otherwise, it is only a matter of time before Galveston will once again experience devastating flooding from a hurricane.

Sustainable Opportunities: The construction of a Galveston levee system would help the City rebound from this disaster by helping to ensure the future growth and vitality of Galveston. It would protect the City from damages from future storms and may help in the implementation of other reconstruction projects (such as storm sewer system upgrades and evacuation route and transportation enhancements).

Financial Considerations

Cost Estimate/Preliminary Cost:	\$ 400 to 800 million
Definitive Cost Estimate:	To be determined with engineering study
Funding Gap:	\$ 400 to 800 million

Potential Funding Sources

Federal Grants (see <http://www.fema.gov/government/grant/government.shtm#2>)

- Emergency Management Performance Grant (CDFA Number 97.042)
- Flood Mitigation Assistance Program (CDFA Number 97.029)
- Repetitive Flood Claims Programs (CDFA Number 97.092)

- Community Disaster Loan Program (CDFA Number 97.03)
- Hazard Mitigation Grant Program (CDFA Number 97.039)
- Pre-Disaster Mitigation Program (CDFA Number 97.017)
- Superfund Amendments and Reauthorization Act
- USACE

State of Texas Grants (see <http://www.txdps.state.tx.us/dem/pages/grants.htm>)

- State of Texas Governor's Division of Emergency Management (GDEM)
- ORCA Funds
- Local Businesses
- Local Residents
- Tax Revenue

Desalination Plant

Recovery Value: Low

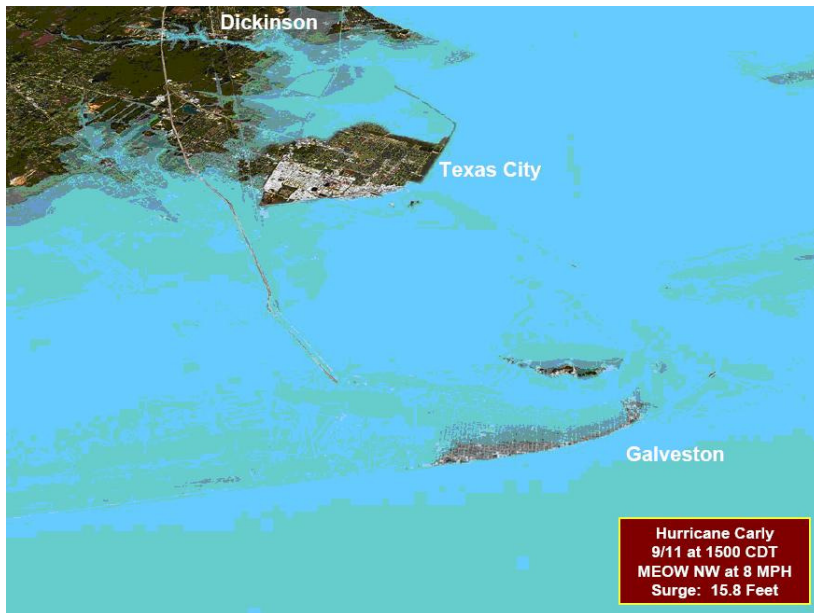
Project Sponsor: City of Galveston

Local Community Contact: John Machol, USACE Project Manger, GCRC
Infrastructure Spokesman

Contact Information: 409-766-3944 (work) 409-256-0575 (cell)
john.f.machol@usace.army.mil

Community Vision: The creation of a 50 mgd Desalination Plant supports the community vision of a resilient, sustainable water source that will make Galveston independent and prosperous.

KEY FACTS



Background: Hurricane Ike caused widespread damage throughout the city. The city's water and sewer systems were flooded, causing significant damage. The

disruption in service posed real health threats, including the potential outbreaks of cholera and Legionnaires' disease. The Infrastructure Subcommittee of the GCRC concluded that securing the City water source was vitally important to Galveston's recovery. A Desalination Plant could supply a safe and secure source of water and provide a new source of income for Galveston.

WHY DESALINATION?

By 2050, Texas will need new water supplies to satisfy growing demands by residents, businesses, and industry. The over-appropriated water sources cannot meet these demands, but seawater from the Gulf of Mexico can. A Galveston-owned and operated Desalination Plant would have several advantages. First, the Desalination Plant would provide a safe, secure water source for Galveston, allowing relief from increasing water costs, shortages due to drought, and increased upstream demand. Second, the additional water provided by the facility will allow Galveston to become a major exporter of potable water, generating a stable income for the Island's economic recovery. Galveston can find entities willing to help defray the cost of construction since the Desalination Plant will ease the demand on surface water rights and reduce in-stream-flow requirements for the watersheds that feed Galveston Bay complex. The increase in inter-basin water transfer requests expands the interest from regional municipal, industrial, and agriculture users. Upstream users would benefit from a reliable new source of water, both directly and indirectly. Houston has plans to import water from the Brazos and Neches Rivers, San Antonio plans to pump water from the Lower Colorado River, and the Dallas-Fort Worth Metroplex is rapidly outstripping their water sources. The Desalination Plant supports the community vision of a resilient, sustainable water source that will make Galveston independent and prosperous.

SCOPE OF WORK

This capital improvement project would be located at Scholes Field adjacent to the existing water treatment plant. The basic project components include; Intake, Pretreatment, Reverse Osmosis, Potable Water Distribution, and Concentrate Disposal. Large-scale desalination uses large amounts of energy as well as specialized infrastructure. Coupling this project with it's own solar or wind generator (or both) will reduce the long-term operating costs and help Galveston meet sustainability goals.

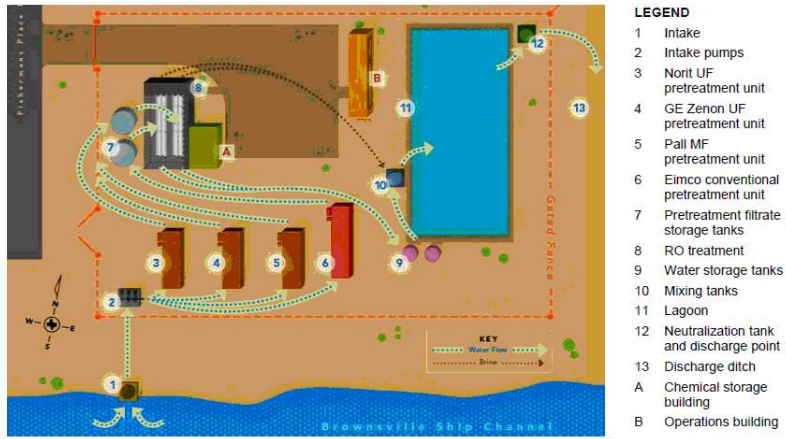


Figure 2-2: Schematic layout of the Brownsville Seawater Desalination Pilot.

Economics

A number of factors determine the capital and operating costs for desalination: capacity and type of facility, location, feed water, labor, energy, financing and concentrate disposal. For cities on the coast, desalination is being increasingly viewed as an untapped and unlimited water source. Galveston would receive a return on the investment by selling water to Island residents, businesses and industry. Once the needs of Galveston are met the City could sell excess water. Using the Brownsville model as a reference, the total estimated cost for the Galveston 25 mgd Desalination Plant is projected to be \$182,000,000. Building a larger 50 mgd plant will allow the sale of excess water to upstream users but will not double the production costs. The proposed project would also set the stage for subsequent expansions of seawater desalination capacity as Houston-area water demands increase and regional partners are developed. We know that seawater desalination is not the least expensive option to expand our water supply. Nevertheless, Galveston should pursue seawater desalination as a means of diversifying its water supply sources by the only drought resistant supply available. Seawater desalination will require a capital infusion from a public source. Galveston can finance a portion of this project using loans from the Texas Water Development Board (TWDB) State Participation Fund.

Stakeholders: Citizens of Galveston, Port facilities, Tourist Industry, Petrochemical Industry, Regional water users (Agriculture/Municipal/Industrial), TCEQ, National Marine Fisheries Service, TPWD, USACE, GLO

Resources: Endless supply of Gulf of Mexico saltwater, brackish groundwater, space at Sholes Field Airport, Gulf.

Funding: Partnering with TWDB, TWCA, FEMA, Department of Energy (DOE), Houston, Texas City, Friendswood, Baytown, and upstream municipalities up to San Antonio, Dallas and Austin; financial credits for re-use

Stroll and Roll

Recovery Value: Low

Project Champion (when identified): Park Board, Planning Staff, Trust for Public Land Houston-Galveston

Background

The annual tourism business attracted to Galveston contributes to the pedestrian activity that typically occurs in the city's public streets and parks. The Seawall draws a large volume of pedestrians and seasonal bicycle rentals, which demonstrate that pedestrian and bicycle activity is not only a voluntary recreational activity of local residents, but also a vital component of the local economy and land use. Creating safe and aesthetically pleasing bicycle and pedestrian-oriented paths have been linked to the revitalization of neighborhoods and business districts; as residents and visitors are more likely to utilize facilities where the user feel safe. This also helps contribute to an active and healthy community.



In recent years, Galveston has recognized the need to invest in pedestrian and bicycle facilities. Multiple studies have been conducted that have consistently noted community interest and demand for improved pedestrian and bicycle infrastructure and safety throughout the city. The Greenprint for Growth study for West Galveston Island, prepared with The Trust for Public Land, addressed a need for a Master Trail Plan while expressing the need for sustainability and conservation. The typical city street widths from curb to curb in Galveston are 38 feet in the east-west direction and 48 feet in the north-south direction. These streets, if properly designated, can accommodate bicycle travel and pedestrian activity. The City of Galveston's recovery from Hurricane Ike may eventually result in street and utility infrastructure improvements. In such instances, unique opportunities exist for incorporating improvements to pedestrian and bicycle systems concurrent with the pavement and subsurface improvements.

Goal: Enhance the multimodal transportation system to provide reliable, efficient, well maintained, safe, and sustainable operations for pedestrian and bicycle activity.

Project Description

The GCRC has identified a highly visible, safe and wide-reaching pedestrian and bicycle trail system as a key element to facilitate a strong recovery for the island's tourism industry and revitalization of its neighborhoods. Several studies, reports and partially funded projects already exist and are recommended for implementation. Specifically, pedestrian and bicycle improvements have been proposed for along the Seawall, as well as a variety of pedestrian and bicycle improvements proposed in the September 2006, HGAC Galveston Pedestrian and Bicyclist Special Districts Study. The city planning and engineering staff has drafted a Hike and Bike Trail Master Plan that considers potential trail and sidewalk improvements for improved pedestrian and bicycle connectivity throughout the entire 30 mile island.

This project will prepare an island wide Pedestrian and Bicycle Movement Master Plan and develop minimum design and construction standards associated with city pedestrian and bicycle improvements. Any resulting future construction of pedestrian and bicycle improvements should be coordinated with street and utility improvements planned throughout the city. Any newly developed design standards will be incorporated with the Smart Streets project also identified by the GCRC.

Identified components of this project establish an island wide system for bikes, hikers and pedestrians to include:

- Clearly marked and enforced crosswalks in downtown, Seawall, UTMB and public areas.
- Construct bike/pedestrian interconnections between downtown /A & M / UTMB / Seawall
- Establish bike racks in all of these areas and on buses
- Create better definition for bikes and pedestrians along the Seawall utilizing the south side parking lane and planters to separate traffic
- Develop parking garages on the north side of Seawall
- Create bike and hike trails to parks, nature preserves and other public places
 - Make all intersections and grade changes ADA accessible
 - Install proper signage at all crosswalks and intersections
 - Enforce pedestrian Right-of-Walk to make Galveston ‘Pedestrian Friendly’- [to be accompanied with] bold distinctive graphics
 - Limit parking to one side of all thoroughfares and “one-ways”, restrict parking of large trucks, trailers and boats on these streets, use the open lane for bikes

Action Steps

- Create task force to aid city staff with master trail plan and ongoing maintenance needs for trail facilities
- Complete funding plan
- Implement Seawall Pilot project improvements
- Implement HGAC Pedestrian and Bicyclist Special Districts Study improvements
- Implement key pedestrian/sidewalk improvements identified in master trail plan

Sustainable Opportunities

- Rain gardens and bio-retention facilities near trail rest areas
- Using impervious pavement
- Installing trash and recycling receptacles along pedestrian trails

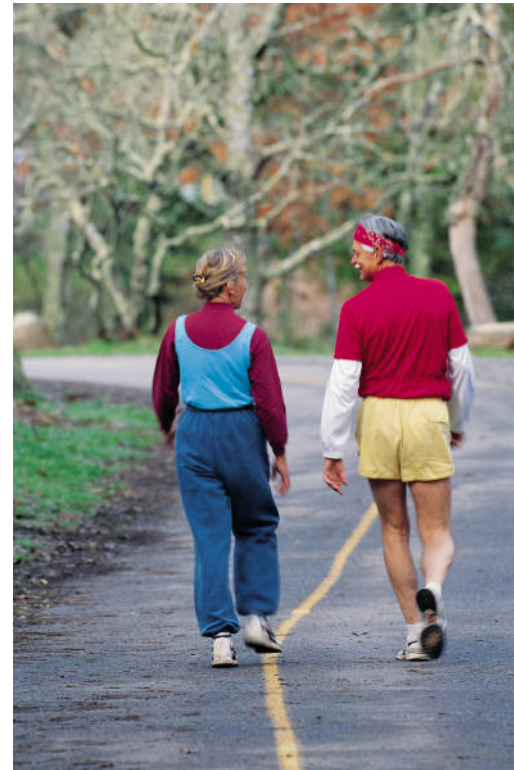
Financial Considerations:

Cost Estimate/Preliminary Cost

Pedestrian and Bicycle Movement Master Plan Development	\$100,000
Master Plan proposed construction projects	TBD

Potential Resources:

- CMAQ Improvement Programs
- Statewide Transportation Enhancement Program (STEP)
- Federal Livable Communities Initiative (LCI)
- Transportation and Community and System Preservation (TCSP)
- Urban and Community Forestry (UCF)
- Land and Water Conservation Fund (LCWF)
- Federal Highway Administration (FHWA) Recreational Trails Program
- Bond Referendum
- Campaigns and Donations
- Foundation and company grants



Hardened Utility Program

Recovery Value: Low

Project Champions: TBD

Introduction

In order to better avoid future disruption of dry utility services from storm or disaster events, this project proposes to establish a utility hardening plan that details minimum standards for dry utility infrastructure, new construction and the implementation of newly available hardware resistant to our climate's harsh conditions.

This program will also facilitate in the creation of newly created building codes pertaining to the residential and business end of electric service meter drops. This new code will aid in increased sustainability and resiliency of future development, allowing for speedier recovery of electric service.

Finally, this program will propose a fully constructed and built out system of hardened utilities for the island and the creation of a Municipal Public Utilities Corporation to manage the system.



Background

After Hurricane Ike came rushing ashore late September 12th, 2008, Galveston Island sustained substantial damage to its dry utility infrastructure. The island went without most of its power for a week and didn't fully recover for much longer than that. Residents, businesses and city personnel suffered as a result.

Project Vision

The proposed hardened utility program correlates with the infrastructure vision through resilience, sustainability and future growth. By definition, resiliency is the power or ability to return to the original form, position, etc., after being bent, compressed, or stretched. Better engineered utility hardware and the implementation of newly developed building codes pertaining to the owner side of the meter drop, will prove it's ability to recover after any disaster event by means of faster recovery times. Hardened dry utility infrastructure is sustainable by supporting, holding, or bearing up to extreme conditions with minimal incurred damage. Future growth is also encouraged through the program by minimizing down time for local businesses and homeowners, as well as the system itself being easily expandable. These three key areas make up the foundation for the Hardened Utility Program.

Goals

The goals are defined at two levels:

- The first level encompasses the immediate action to harden the necessary weak points of **our** dry utility infrastructure
- The second level is for a fully constructed and built out system of hardened utilities for the island

Project Description

Overview: Through phases of completion, the Hardened Utility Program will implement the restructuring of Galveston's dry utility infrastructure. This includes power lines, communication lines and gas.

Benefits: Galveston Island's economy will benefit from this program by means of obtaining it's normal economic pace in a more timely manner. Residents would be allowed back in their homes quicker, businesses would be able to open sooner and city staff could resume operations.

Justification: Investment required for the Hardened Utility Program must be viewed as a priority. The cost involved in hardening all dry utilities is significant but

justified in terms of the benefit to the citizens, patrons and businesses of Galveston Island. The availability of electricity and communications is a prerequisite for the success of every other project designed by the GCRC. Our goal in reference to funding is to achieve funding for a total reconstruction of the dry utility system on the island including costs of planning and administration for the entire project.

First Level: Immediate implementation

The first level encompasses the immediate action to harden the necessary weak points of our dry utility infrastructure

- To immediately mandate new building codes pertaining to the owner side of electric service meter drops, telephone, cable and internet interfaces
- Locate main supply lines throughout city and begin installing corrosion resistant hardware (Sea Spray) where needed most
- Perform stress tests on all(23,000) poles throughout island and begin concrete replacements where needed
- Once new hardware and poles are implemented in areas of concern, begin the phase out of galvanized hardware and wooden poles throughout the Galveston grid
- To engineer the hardened utility system for easy expansion for future island growth

Sustainable Opportunities

That emergency responders, sent forth to repair our dry utility network after storm events, be able to access critical points in the system with minimal setbacks.

Second Level: Total Build-Out

The second Level is for a fully constructed and built out system of hardened utilities for the island

- In order to better avoid disruption of electrical based utility services from storm or disaster events as well as to provide an ever increasing availability of energy for future growth and development, this project proposes the construction of a hardened grid to deliver electrical power from the source of production at the nuclear complex in Matagorda County to the final consumer on Galveston Island.
- In order to advance this project to its ultimate goal, it is recommended that the City of Galveston establish a city owner public utilities company to build and manage the required hardened utility system.

REQUIREMENT: At every level it is advisable to reach a working agreement with the utility companies for these undertakings.

Stakeholders:

The hardened utility program is essential for the survival and operation of the island and its economy as a whole. All citizens and merchants are affected as a result.

Current Status

Electrical Power: supplied by CenterPoint Energy via overhead high power lines supported by steel towers that run parallel to IH45 as well as by means of two land fed cables buried under Galveston Bay. Electric power is received and distributed by six substations throughout Galveston Island. Power to consumers on the island is provided by hanging lines supported by wooden poles and hardware made from galvanized steel. "Sea Spray" hardware is currently being installed during any construction process by CenterPoint Energy. Several new poles have also been built out of concrete by CenterPoint, one of which sits in the ship channel, carrying lines across to Pelican Island.

Natural Gas: Supplied by Texas Gas. Natural gas lines are buried in the ground at a depth of 3 feet as required by law. Improvements on this system would be the encasement of pipelines throughout the island in concrete structures that would allow for ease of maintenance. Texas Gas also needs to construct storage facilities to sustain gas pressure in the event of cut off supplies from main suppliers as occurred during Ike.

Phone and Cable: conduits come onto the island in an encased tube attached to the bottom of the causeway after which they are connected to consumers via wooden poles and underground drops. Telephone service is powered by DC current which requires continuous electrical supply to battery stations. The black-out during Ike caused these batteries to die after 4 or 5 days with consequent phone line cut-offs that are still being restored.

First Level implementation Project:

The first phase is to create a policy document with regulation to bury or otherwise harden dry utilities.

Funding:

The cost of the first phase would be minimal – approximately \$70,000 to pay a consultant to study the problem, write a policy, conduct public meetings and get the policy through the Council. The committee recommends approval of city ordinances that would require the construction by developers and residents of the hardened grid at the neighborhood and household levels including incentives for homeowners and businesses to install home based electrical generating capacity to sell back to the grid.

Second Level implementation Project:

The second Level is for a fully constructed and built out system to provide a source of secure energy for the island.

- In order to guarantee a secure and abundant supply of electricity to the residents and economy of Galveston Island, and, given the unstable nature of the exposed utility system currently available, it is proposed to develop and build an alternate route of supply direct from the source of power production in Matagorda county to follow route SH257 and SH 3005. Total distance of this route is 65 miles from point of production to SH 3005 at San Luis Pass; and 35 miles of SH 3005 to east end of Galveston Island for a total of approximately 100 miles. The current state of damage to both these highways would require their elevation and improvement for the encasement of power lines for their protection in the event of a future hurricane.
- Ownership stake in the power production facility to guarantee both the availability and favorable price structure of power for the future development of Galveston.

Funding

Cost would include the construction of the hardened power grid structure with encased power lines in an elevated highway structure @ \$30 million per mile x 100 miles for a total of \$3B. By locating the main transmission lines of the distribution system encased in an elevated highway structure along this route it would be possible to obtain funding from the highway construction funds at both the state and federal levels. This structure would have the added functionality as a mobility and evacuation route.

To be economically viable the City of Galveston would bid for ownership in the new nuclear power plant in Matagorda County @ a projected cost of \$2 billion for 40 percent ownership. In order to advance this project to its ultimate goal, it is recommended that the City of Galveston establish a city owner public utilities company to build and manage the required hardened utility system. In this manner, the major costs involved in constructing the system could be obtained as grants from the federal government DOE designated specifically for energy projects. In addition, ownership of the public utility would make the city eligible for long term loans payable with income from the sale of power in accordance to the rate of economic growth of the local economy. Economic development would be enhanced by a better power pricing structure. Other simple strategies, such as locating an Island Transit line along 3005 would further expand the possibility of receiving additional funding for this project from federal transportation and mobility funds.

Total cost of proposed project: Five Billion dollars (\$5B).

To extend project to Bolivar Peninsula would cost 27 miles x \$30 mil plus bridge to span the channel @ cost of approx \$500 million as per TXDOT, approximately additional \$1.4 B

Obstacles/Solutions:

The City of Galveston has the means to harden the dry utility infrastructure, but our dry utility infrastructure is owned by separate business entities. To ensure an equal compensation on behalf of the City of Galveston, the Hardened Utility Program subcommittee would like to recommend a reimbursement in the form of an ownership stake from each company equivalent to the amount of money invested in these entities and their distribution systems. By doing so, the money invested has a financial return on top of the return created by means of faster economic recovery.



Hazard Mitigation Plan

All Hazards Mapping

Recovery Value: High

Project Champion: City of Galveston

Background: This project would support the City of Galveston's Hazard Mitigation Planning and would help identify the areas of high risk on the Island. This project is needed to inform decision makers regarding the natural and man-made hazards affecting Galveston Island. Maps incorporating current and expected future conditions are necessary in order to make informed decisions to reduce the consequences of the Island's exposure to risk and to communicate that risk to the citizens of Galveston.

Goal: To inform the public of their risk exposure and to allow decision makers to incorporate credible information regarding areas of high risk into their decision making processes.

Project Description

Map impact areas of existing and probable future hazards on Galveston Island. Develop maps reflecting the following threats:

- Probability-surge inundation maps incorporating long-term effect of sea level rise and storm probability models.
- Erosion mapping: beach loss and wetland loss due to annual and event-driven natural phenomena; Projections of future losses will include effect of sea level rise.
- Terrorist threats to the Ports of Galveston and Texas City and to Texas City refineries: Concentric circle mapping of potential explosions, toxic releases.

Action Steps

- Revise existing maps based on data from reliable sources and from Hurricane Ike, incorporating projections of future climate change.
- For inundation and erosion mapping, map current condition and future expected condition based on reliable estimates.
- Create in flexible platform such as ArcGIS.
- Make maps available to the public using various communication venues.

Sustainable Opportunities: Use a flexible platform so that additional data can be incorporated and existing data can be updated easily.

Potential Resources

- FEMA
- USACE, Engineering Research and Development Center
- USGS
- DHS
- State of Texas, Governor's Division of Emergency Management

Hazard Mitigation – Plan, Design, and Implement Protection to Critical Facilities on the Island

Project Champion: City of Galveston, UTMB, GISD

Background

Post-Hurricane Ike damage assessments have highlighted the vulnerability of the community's critical facilities to all hazards. The immediate need for repair and retrofitting of these facilities is critical to the economic survival of the community.



For some activities and facilities, even a slight chance of flooding is too great a threat. Typical critical facilities include hospitals, fire stations, police stations, storage of critical records, and similar facilities.

Goal: To secure the City's critical facilities to withstand natural and man-made hazards in order to maintain function

Project Description: This project would assess the needs of identified critical facilities on Galveston Island and would plan, design, and retrofit those facilities to meet the criterion set forth by Executive Order 11988 for protection to the 0.2 percent chance (500-year) flood level and other pertinent regulations.

Affected Parties: UTMB, GISD, City of Galveston

Preliminary Cost

Hazard Mitigation Plan \$150,000

Design / Build: TBD

Potential Resources: FEMA (PDM, HMGP, FMA, RFC, SRL)

Hazard Mitigation - Plan, Design, and Implement Protection to Critical Infrastructure on the Island

Project Champion: City of Galveston

Background: Substantial damage was sustained to Galveston's infrastructure with Hurricane Ike. The loss of critical services delayed the return of Island residents which exacerbated property damage and placed those who had remained on the Island throughout the storm and aftermath at risk for health and safety.

Goal: To secure the City's critical infrastructure to withstand natural and man-made hazards in order to maintain function.

Project Description: This project would plan, design, and implement necessary actions to protect the City's critical infrastructure to the 0.2 percent chance (500-year) flood level. Water, sewer, gas and electrical service; telecommunications (include city-wide WIFI); postal service; and evacuation routes would require protection:



Action Steps

- Collaborate with service providers to ensure that level of protection can be achieved.
- Plan, design, and implement necessary upgrades to level of protection required.

Preliminary Cost

Hazard Mitigation Plan \$150,000

Design / Build: TBD

Potential Resources: FEMA (PDM, HMGP, FMA, RFC, SRL)

Hazard Mitigation – Study and Recommend Nonstructural Methods to Reduce the Effects of Hazards on Galveston Island

Project Champion: City of Galveston

Background: Major asset damage and beach erosion from Hurricane Ike demands that the City look to immediately implementable development policies and practices to reduce future losses. Sustainable growth policies are necessary to instill a sense of confidence in the City's redevelopment practices in order to attract investors and residents to the Island.

Goal: To support the City of Galveston's Hazard Mitigation Plan and to create the foundation for an Island-wide Hazard Mitigation Program to produce sustainable growth.

Project Description

Various policies and practices could be implemented by the City to reduce the consequences of hazards associated with existing and future development on the Island. A structural remedy to flood surge will take decades to plan and construct. The City of Galveston could adopt land use policies, require development practices, and offer retrofitting opportunities that will reduce the risk exposure to existing and future development.

For future development, the following items for investigation include but are not limited to:

- Set-back and set-aside ordinances on the beachfront and west end of the Island
- Land use restrictions
- Construction techniques for wind/flood/surge resiliency
- Raise minimum elevation requirement above ABFE

For existing development, the following items for investigation include but are not limited to:

- Elevating homes on pilings or fill material
- Elevating entire neighborhoods on pilings or fill material
- Flood walls around commercial buildings
- Flood proof commercial buildings
- Flood walls surrounding neighborhoods
- Flood walls around individual homes

Financing strategies will be investigated with which the City could partner with its citizens to reduce consequences of hazards. These strategies would allow the City to contribute to the preservation of its tax base while reducing exposure to risk by investing in tax credits, incentives, or subsidies in partnership with private property owners for risk reducing improvements.

Example: The creation of a city-wide reinvestment zone for tax increment financing of flood proofing/elevating private property.

Action Steps

- Evaluate for implementation with respect to population affected, time to implement, magnitude of effect on risk reduction, cost to implement
- Report to City with recommendations

Preliminary Cost

Hazard Mitigation Plan	\$150,000
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Rapid Response Plan

Recovery Value: Moderate

Project Champion: TBD

Background: In the weeks after Hurricane Ike, lack of electricity and telephone led to a significant breakdown in communication and the impression that individuals and the city were tenuously connected. The decreased communication and control of events led to missteps in getting residents back to their homes and delays in beginning post event mitigation.

Goal: To have representation by citizen leaders in each neighborhood area to facilitate information sharing among all citizens before/during/after an event.

Description

The program would establish an organizational structure, training criteria, responsibilities, and reporting relations with the City pre- and post-event. Incident Command System will be embedded within the process to insure all parties are using a common language. Relations with EOC will include protocols for communication and reporting relationships.

Citizen leaders will be liaisons between the city and each neighborhood association and will provide alternate communications to the population when normal communications facilities are unavailable.

Community Emergency Response Teams (CERTs) are formed by members of a neighborhood or workplace, who want to be better prepared. CERT programs are developed to assist communities in taking care of themselves in the aftermath of a major disaster when first responders are overwhelmed or unable to respond because of communication or transportation difficulties. CERT's have proven themselves to be an active and vital part of their communities' preparedness and response capability. For example, CERT's have been used to:

- Assist with evacuations and traffic control
- Promote community awareness of potential hazards and preparedness measures
- Supplement staffing at special events, such as parades
- Act as victims in training exercises

CERT's are also familiar with the Incident Management System and may help local authorities:

- Organize with centralized communications conduit regarding Civil Defense structure, City Emergency Operations
- Designate city government and police liaisons
- Perform mock exercises
- Document and revise process as necessary

Action Steps

- Identify and select best practices, or models that may be applicable to Galveston Island. Include Citizen Corps – CERT
- Identify representatives of subdivisions, neighborhoods, interested private sector businesses that will participate
- Select several representative areas for pilot
- Establish objectives and required resources for each pilot team
- Organize first team and provide initial training
- Review composition and make adjustments
- Establish project timeline and rollout to the entire city
- Please see Steps for Implementation below for details about the process



Sustainable Opportunities: The teams must train and exercise regularly to insure readiness during any disaster. Training opportunities could include exercises with local first responders.

Financial Considerations: Most of this project is low budget. However, the central communications center may have a \$50,000 cost for establishing a location (perhaps in coordination with the county), that might be headquartered at the county site on Hwy 646 that would be hardened against all disasters.

Steps for Implementation

1. Determine and contact neighborhood and property owner's associations about involvement as an on-site area manager for disasters.
2. Encourage or establish neighborhood associations in areas not presently organized.
3. Register and/or list a neighborhood representative and a cognate police liaison with their alternates with a designated city official for use in a disaster. Introduce these to each other by inviting the police liaisons to the cognate neighborhood association meetings. Create special identification tags for these representatives.
4. The representatives should form a committee in each area to develop and enforce a local security plan working with their police liaisons. As part of the plan, area information will be gathered or updated and passed on to the police and fire departments as well as to the city to facilitate maintaining order and



informing residents of plans for the return of residents to the Island in a controlled fashion subsequent to particular disasters.

5. Issue identification tags to each family for use following a disaster in the re-entry process to allow them to return to initiate tear out and airing of residences as quickly as possible
6. The neighborhood chairperson should contact and report to the designated city employee and liaison police officer with a check sheet listing problems, containing space for additional comments. This should be developed for use by city and county representatives for ease of coordination and response by these entities.
7. Establish neighborhood centers to serve as a central communication node during an emergency for the residents of groups of contiguous area.
8. Area representatives should determine if there are members in each area who are competent with chain saws and other equipment so that they could assist city crews in the initial clearing of trees and other debris obstructing street right of way. (Legal liability?) Such lists should be maintained.
9. Each neighborhood: keep a register of residents who are CERT trained and currently qualified to be activated in a disaster.
10. Have, if necessary, a mobile ER and/or emergency surgical facility and listing of neighbors with medical expertise to provide on-going care and continuous service. It should be located in a floor above ground level.
11. Prior to any disaster, designate areas for the initial disposal of trees and debris that could be definitively cleared later.
12. Undertake a feasibility study for the development of a Wide network for Galveston including sources for grant support. Timing may be crucial as this is a component of the federal stimulus package that is likely to pass soon. Working together with Information Services at UTMB, the proper expertise for the design of such a plan may be developed. This could provide a means for communication with residents. Make the system storm proof. As following Ike, automatic periodic announcements following Ike to registered cell phones were very valuable. A list of email addresses and cell phone numbers should be maintained by the city and periodically updated.
13. Encourage the purchase of very inexpensive mobile computers (laptop), one per household that presently lack these, and have email addresses on file for each family.
14. Encourage neighbors to take computer training classes at night at GC, GISD and churches so that everyone can become computer literate.

15. Encourage neighbors to transfer key documents in each household to electronic files that can be stored in “flash units” the size of a thumb that can be worn around the neck in the event of an evacuation. These are available for less than \$10.
16. Should the City designate return by shifts: perhaps by numbered areas?
17. We need a pre-designated communication center, perhaps a central system for communication with the area-designated leaders. (See EOC proposal).
18. We need intact sewers, water, electricity, telephone, cell phone, internet, food. (We need to ask what were the problems experienced by leaders and residents in these areas and to suggest how can we improve response by preplanning.
19. Where neighborhood associations exist—the president serves as liaison between the City and the Association and the Gain Representative can assist. In areas without such a structure, the responsible City Council Representative can appoint a liaison.
20. The city should have a brochure distributed long before the next disaster which spells out what residents need to bring with them when they return: health precautions, clothing, water, food, generator, flashlight, cameras, carpet-cutting knife or shears.
21. Things residents would do on returning should be spelled out in an information circular and on a web site: opening house, mitigate against mold, remove soggy carpet and rugs.
22. Resident should be advised to register with FEMA ASAP, contact your insurance company, and contact your mortgage company.
23. The city should publish building permit rules in advance concerning cut outs of walls, electrical sockets and building permits.
24. The City should maintain a registry of contractors who have done work on Island previously.
25. The city should allow either the homeowner or the contractor to get the various permits.
26. The city should allow one vehicle per household for returning, carrying the designated tag as described in proposal. No trailers and no large private truck (size specified) can enter in the first phase.
27. The city should prohibit cruising in a neighborhood in the first phase of return.
28. The city should maintain a preset bank of computers centrally on or off the island and issue a cell phone and laptop to area representatives.
29. Cut carpets in strips to rapidly remove it.
30. The city should provide instruction of residents to turn off gas and unplug appliances before leaving island,
31. Place trash from rip out in black bags on property near street, not in street.
32. The city should decide when city inspectors should visit home sites.
33. The city should consider whether citizens should be trained and certified (Perhaps as part of the CERT program) to act as adjunct city inspectors.
34. The city should conduct an after-action report (AAR) and take remedial action in areas that are found to need modification or improvement.

Pilot Community-Based Flood Insurance Program

Recovery Value: Moderate

Project Champion: City of Galveston

Background

Community-based flood insurance coverage, Dr. Raymond J. Burby, Univ. of North Carolina at Chapel Hill, "Hurricane Katrina and the Paradoxes of Government Disaster Policy: Bringing about Wise Governmental Decisions in Hazardous Areas," <http://ann.sagepub.com/cgi/content/abstract/604/1/171>

The unprecedented losses from Hurricane Katrina [and subsequent events] can be explained by two paradoxes. The safe development paradox is that in trying to make hazardous areas safer, the federal government in fact substantially increased the potential for catastrophic property damages and economic loss. The local government paradox is that while their citizens bear the brunt of human suffering and financial loss in disasters, local officials pay insufficient attention to policies to limit vulnerability. *The author demonstrates in this article that in spite of the two paradoxes, disaster losses can be blunted if local governments prepare comprehensive plans that pay attention to hazard mitigation.* The federal government can take steps to increase local government commitment to planning and hazard mitigation by making relatively small adjustments to the Disaster Mitigation Act of 2000 and the Flood Insurance Act. To be more certain of reducing disaster losses, however, the author suggests that we need a major reorientation of the National Flood Insurance Program from insuring individuals to insuring communities.

Workshops held to solicit public input for consideration by the Long Term Recovery Committee revealed the need for flood insurance among Galveston's citizens. Galveston is an old city and contains properties that have been owned by families over many generations. These homes have no mortgage requirements for flood insurance but were built long before base flood elevations were established. Many homeowners cannot afford insurance premiums but desire that coverage be extended to them. A program of this kind would help protect the city's most vulnerable population.

Goal: To provide universal flood insurance to Galveston Island residents

Project Description: This project would investigate how a program of community-based insurance could be planned and implemented. The necessary adjustments to local ordinances and Federal laws would be noted and costs and method of implementation described.

Action Steps:

- Investigate mechanisms for community-based flood insurance
- Recognize impediments to achieving community-based flood insurance
- Develop structure for implementation including implementation costs to administer program
- Draft legislation to achieve goal

Emergency Operations Center

Recovery Value: Moderate

This project calls for the construction of a new Emergency Operations Center (EOC) to be used by the Emergency Management Division during situations of heightened awareness such as large scale storms or police/fire/medical emergencies.

Project Champion (when identified)

Background

The City currently has an EOC located within the Criminal Justice Center at 601 54th Street. This center has been in operation at this location for just under three (3) years and is conveniently located within the police complex. The EOC consists of one large room with multiple computers and communications connections, a conference room and an office. Among the main purposes of the EOC are the ability to communicate (with each other and with outside agencies) and the ability to dispatch staff as needed during a situation.

According to the City's Emergency Operations Coordinator, Mr. Charlie Kelly, the EOC is not operational on a daily basis, but is brought into operation when the city deems it necessary. Under normal circumstances, the EOC is "activated" two to three times annually. Generally these situations are routine police situations where the City is trying to maintain order during times of large population increases. However, the EOC is also used during storm event such as Hurricane Ike as a central command center for the City's emergency response teams and staff.

While the existing EOC has functioned very well in times of police emergency, there have been some issues with the EOC as it is used during storm related emergency activations. Since the EOC is located as close as it is to the bay, the building is susceptible to flooding from the bay during large scale storm events such as hurricanes Ike and Rita. At time like these, the EOC is relocated to the San Luis Hotel. There is an existing agreement between the City and the hotel that allows the EOC (including dispatch operations) to be moved to the hotel and located in a designated room that has been pre-wired and set up to accommodate the EOC. The San Luis Hotel is on one of the highest points on the island and is less susceptible to flooding than much of the rest of the island. This relationship between the hotel and the City worked well during Hurricane Ike and the EOC was activated and operational during the entire event. The biggest problem encountered by EOC staff during Hurricane Ike was that they lost their telephone communications ability (both cell and landline) for a long stretch during and after the event which hampered operations considerably.



An additional point of concern was that the UTMB patients and staff were required to evacuate during the mandatory evacuation of Galveston leaving no critical medical personnel on the island. In light of the recent decision by the UT Board of regents, the committee and UTMB feel it is necessary to have a facility where all critical staff (including critical UTMB staff) are able to remain on the island during large storm events such as Hurricane Ike.

Once the storm had passed and the floodwater had receded, the EOC relocated operations back to their own facility and continued the emergency response work as necessary.

Goal

- To protect the health and welfare of the residents of the City by improving emergency preparedness of the City staff and their ability to safely manage the City's emergency operations.
- To insure that critical medical staff are able to remain in the City during storm events.

Project Description

In order to be able to recover fully from this devastating storm event and future similar ones, the community believes they should construct a new EOC which City staff could use as the center of their operations and which would not need to be relocated during storms.

After speaking with Mr. Kelly, it was discovered that the City and UTMB are currently in preliminary discussions to fund and construct an EOC at approximately 6th Street and Seawall Boulevard. This facility, known as the “Safe Room” project, is thought to be able to house approximately 500-600 people from both UTMB and City staff. The center would be used to house critical staff during emergencies, but could also be used for other purposes at other times such as a training center or a meeting space. The City would continue to use their current EOC setup. Associated with this Safe Room could be a parking structure that could house a number of the City’s critical vehicles fleet.

There are a number of possible cross-connections between this facility and other recovery projects described by the community if a new EOC and associated parking structure is construction. If a parking structure is built, it could provide “paid” parking across Seawall Boulevard from Stewart’s Beach which could alleviate the parking on the beach and parking along Seawall Boulevard in this area. It could be used as an economic center allowing for retail/restaurants on the lower floors with the EOC on the upper floors.

Of more concern to Mr. Kelly than a new EOC was the loss of communication within the City during Hurricane Ike. The City has recently received a grant to upgrade their radio system and is looking into other potential solutions to this issue. They are in the process of purchasing a mobile “command center” for future emergency situations. They were very concerned during the hurricane that none of their communications systems (cell phones, satellite phone, radios) were functional during the storm.

Summary of Project items

- Study the need for a new EOC
- Look into the discussions between the City, UTMB and FEMA
- Look into possible solutions to the loss of communications capabilities during storm events

Action Steps: (Phases if needed)

- Determine the need for a new and relocated EOC within the City
- Find potential cross-connections between this project and other priorities within the City

- Create a funding plan between the interested parties (City, UTMB)
- Final design and engineering documents and permitting
- Acquire easements and/or land for improvements
- Construct the new EOC

Sustainable Opportunities: The improvement and hardening of the storm drainage system throughout the island will allow the City to continue to rebound from the affects of Hurricane Ike and grow in all of the directions it plans.

Financial Considerations:

Cost Estimate/Preliminary Cost -	TBD
Funding Gap -	TBD

Potential Funding Sources

Federal Grants (see <http://www.fema.gov/government/grant/government.shtm#2>)

- Emergency Management Performance Grant (CDFA Number 97.042)
- Flood Mitigation Assistance Program (CDFA Number 97.029)
- Community Disaster Loan Program (CDFA Number 97.03)
- Pre-Disaster Mitigation Program (CDFA Number 97.017)
- Superfund Amendments and Reauthorization Act
- EOC Grant Program

State of Texas Grants (see <http://www.txdps.state.tx.us/dem/pages/grants.htm>)

State of Texas Governor’s Division of Emergency Management (GDEM)

Orca Funds

Local Businesses

Local Residents

Tax Revenue

PROJECT TRACKING TOOL

Project Name	Identify Lead/ Responsible Party(s)	Funding Applications Complete	Detailed Scope of Work	Request for Proposal	Bid Award	Project Start	Project 50 Percent Complete	Project 80 Percent Complete	Project Implemented
Galveston Center for Technology and Workforce Development									
Galveston Business Incubator									
Tourism Master Plan									
Seawall Boulevard Enhancement Strategy									
Downtown Redevelopment Plan									
East End Lagoon Nature Park and Preserve									
Galveston Master Sports, Arts, and Recreation Complex									
Galveston Port Improvement Project									
Casino Gambling Feasibility Study									
Galveston Island Ecosystem Restoration: Gulf to the Bay									
Protecting Island Resources									
Clean Green and Smart Galveston Initiative									
Trees									
West Galveston Island Land Conservation									
Housing Market Study									
Galveston Housing Rehabilitation and Infill									
Sally Abston Housing Program									
Saving Faces in the Strand and Mechanic Historic District: Cast Iron Façade Restoration Grant Program									
Galveston Island Historic District									
Raising Standards: Hazard Mitigation Guidelines for Historic Structures									
GHF/FHA Preservation Partnership									
Gateway Beautification									

PROJECT TRACKING TOOL

Galveston Center for Historic Preservation									
Neighborhood Learning Center									
UTMB Public Information Campaign – “Here for the Health of Texas”									
Vocational-Technical Center									
Health Needs Assessment									
Galveston Promise									
Sanitary Sewer Improvements									
Take a Seat									
Drinking Water System									
Thoroughfares and Bridges									
Storm Drainage: End Street Flooding Now									
Smart Streets									
Galveston-Houston Commuter Rail									
Ike Dike									
Galveston Levee									
Desalination Plant									
Stroll and Roll									
Hardened Utility Program									
Hazard Mitigation Plan									
Rapid Response Plan									
Pilot Community-Based Flood Insurance Program									
Emergency Operations Center									

ABBREVIATIONS AND ACRONYMS

AG/MUN/IND	Agriculture/Municipal/Industrial	HDGP	Historic Downtown Galveston Partnership
AHP	Affordable Housing Program	H-GAC	Houston-Galveston Area Council
ASCE	American Society of Civil Engineers	HNA	health needs assessment
CBD	Central Business District	HOME	HOME Investment Partnerships Program
CDBG	Community Development Block Grant	HUD	Housing and Urban Development
CDFI	Community Development Financial Institutions	LEED	Leadership in Energy and Environmental Design
CEIS	comprehensive environmental impact study	LCI	Livable Communities Initiative
CELCP	Coastal Estuarine Land Conservation Program	LTCR	Long-Term Community Recovery
CERT	Community Emergency Response Team	mgd	million gallons per day
CLG	Certified Local Government	MOU	memorandum of understanding
CMAQ	Congestion Mitigation and Air Quality	NIH	National Institutes of Health
DOE	Department of Energy	NOAA	National Oceanic and Atmospheric Administration
EDA	Economic Development Authority	ORCA	Office of Rural Community Affairs
EPA	U.S. Environmental Protection Agency	RFP	request for proposal
ESRI	Environmental Sensitivities Research Institute	SHOP	Self-Help Homeownership Opportunity
FEMA	Federal Emergency Management Agency	STEP	Statewide Transportation Enhancement Program
FSTP	Federal Surface Transportation Program	STP	Surface Transportation Program
FTA	Federal Transit Administration	TAMUG	Texas A&M University at Galveston
GBI	Galveston Business Incubator	TCEQ	Texas Commission on Environmental Quality
GCRC	Galveston Community Recovery Committee	TCSP	Transportation and Community and System Preservation
GEDP	Galveston Economic Development Partnership	TPWD	Texas Parks and Wildlife Department
GHA	Galveston Housing Authority	TWCA	Texas Water Conservation Association
GHF	Galveston Historical Foundation	TWDB	Texas Water Development Board
GIS	geographic information systems	TxDOT	Texas Department of Transportation
GISD	Galveston Independent School District	USACE	United States Army Corps of Engineers
GLO	General Land Office	UTMB	University of Texas Medical Branch at Galveston
HABS	Historic American Building Survey	WGIGG	West Galveston Island Greenprint for Growth