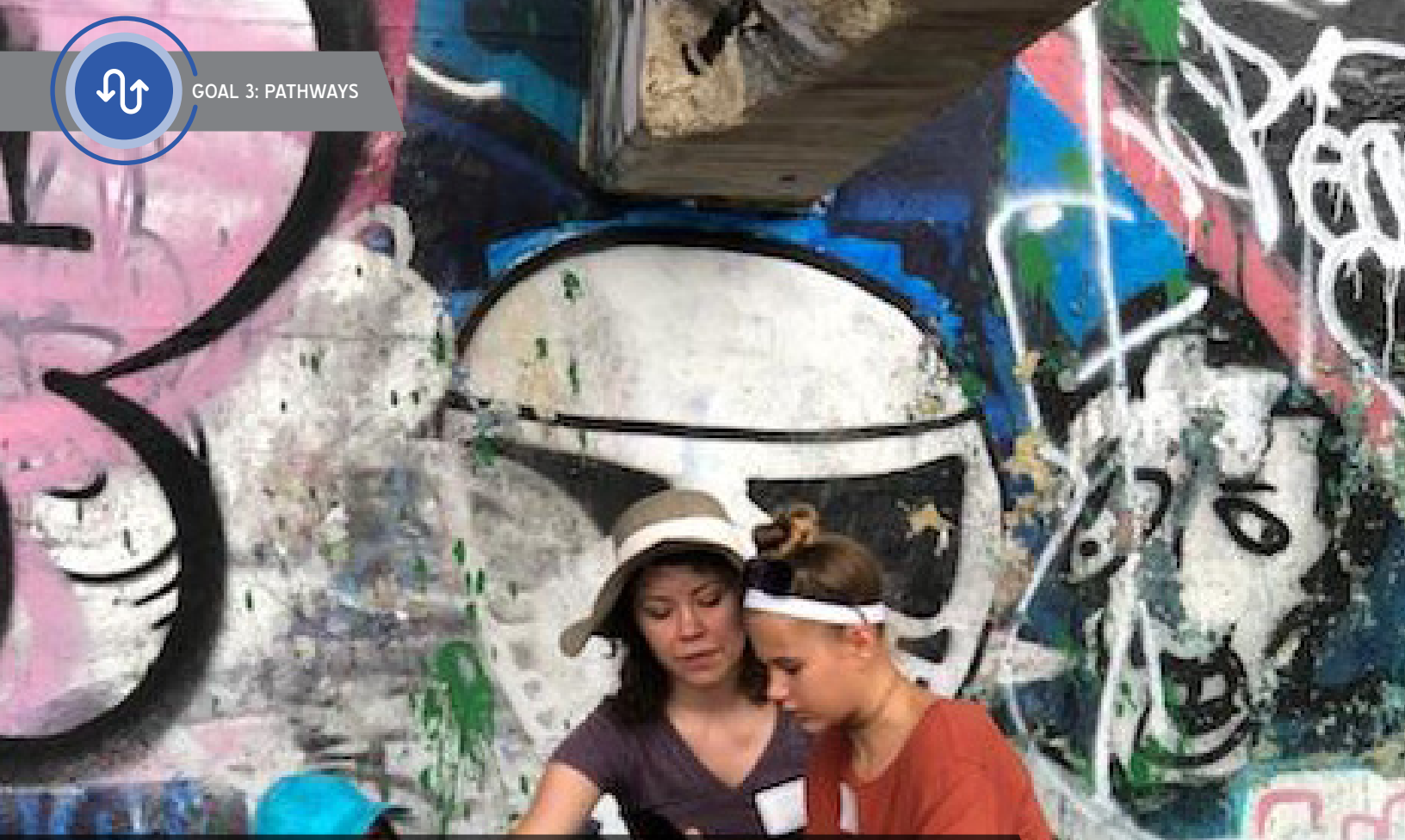


A strength of the Greater Miami & the Beaches (GM&B) region is our understanding of the power of collaboration. We have seen its success in the Southeast Florida Climate Change Compact and our joint participation in the 100RC Resilience Accelerator initiative. The actions described in the Resilient305 Strategy pave the way for increasing efficiencies among all 34 cities and county as we unite in tackling the shocks and stressors we share, from flooding to major hurricanes. The challenge is to make sure that staff and leaders across the GM&B municipalities have both an understanding of the breadth and depth of our challenges and the tools needed to address them. Through our "Pathways" actions, we aim to build the connections, collaborations, and committed leadership needed to change the status quo, enabling GM&B to become a global leader in resilience. We can achieve this by setting common goals, and committing to actions that bring together governments, businesses, and academic and community organizations.

WHO IS WHO?

THE PARTNERSHIP

Greater Miami & the Beaches (GM&B)

THE SUPPORTING ORGANIZATION

100 Resilient Cities (100RC)

THE STRATEGY

Resilient305

THE IMPLEMENTING TEAM

PIVOT (Progress Innovation Vision for Our Tomorrow)


OBJECTIVO 3:
CAMINOS
GOAL 3:
PATHWAYS
OBJEKTIF 3:
WOUT

Objective 10

Pre-plan for Post-recovery

Action 42 Pre-Planning for Post-Disaster Toolkit

Action 43 Roll-out 5-Step Guide to Innovative Recovery Financing

Action 44 Bounce Forward 305 – Distribute Resilient Urban Land Use Essentials Guide

Objective 11

Cultivate Resilience Expertise

Action 45 Send your Boss to Bootcamp

Action 46 Resilient 35 in the 305 Network

Action 47 Train Employees to be Resilient

Action 48 RISE to the Rescue

Objective 12

Leverage our Experience

Action 49 Collaborate with Universities

Action 50 Create an Actionable Science Advisory Panel (ASAP)

Action 51 Resilience Accelerator Workshops

Objective 13

Develop Shared Resources

Objective 14

Leverage our Dollars

OBJECTIVE 10: PRE-PLAN FOR POST-RECOVERY

ACTION 42: PRE-PLANNING FOR POST-DISASTER TOOLKIT

HOW THIS WILL HELP US

- Streamlines government processes
- Increases understanding of resilience
- Improves natural disaster preparedness
- Attracts state and federal funding
- Expedites disaster recovery

PERFORMANCE METRICS

- Number of cities trained in the Miami-Dade County Intergovernmental Annex on Post-Disaster Recovery
- Number of cities that use the toolkit to develop Post-Disaster Plans
- Number of cities reporting faster recovery after a shock

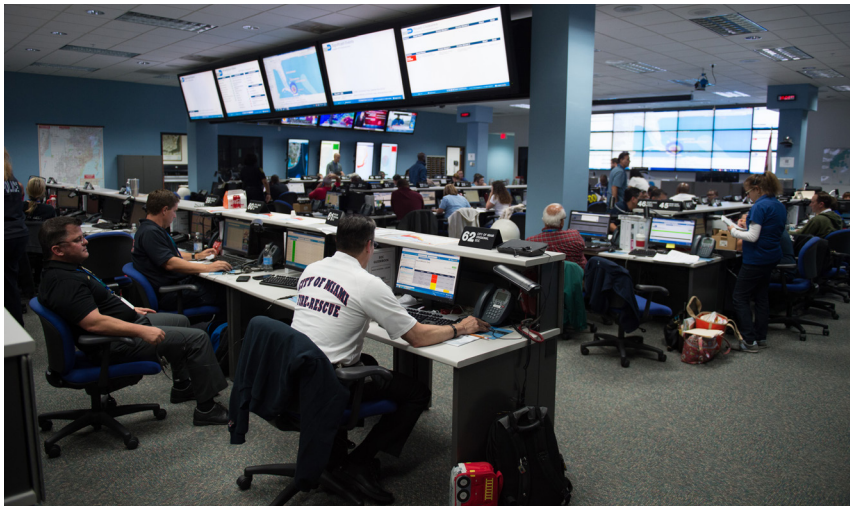
KEY COLLABORATORS

LEAD: Miami-Dade County

- City of Miami Beach
- City of Miami
- All Miami-Dade County municipalities

FUNDING

Funded by in-kind support



TIMEFRAME: SHORT-TERM (1-5 YEARS)

DESCRIPTION

Disaster recovery can be a long process with the success and timeliness of the efforts being partially dependent on quality pre-planning. Recovery efforts begin immediately after the disaster/shock, with actions and programs being set in motion, setting the stage for a long-term recovery for which the entire community is already prepared.

In 2018, GM&B developed the "Rapid Response Essentials" toolkit to foster better intergovernmental coordination for response and recovery actions. The toolkit is aligned with the County's recently updated Post Disaster Redevelopment Plan (PDRP) and is an appendix to the County's Comprehensive Emergency Management Plan. GM&B encourages cities to use the plan's guidance to analyze their capability to recover or bounce forward after a shock and, if appropriate, create their own tailored version of the toolkit.

The toolkit:

- Provides awareness of what government response is and helps to clarify responsibilities
- Spells out steps to set up for a recovery process that supports a rapid bounce forward
- Creates a network of trained and prepared recovery staff
- Builds bridges to other segments of the community, including businesses and the most vulnerable
- Provides a roadmap of critical path to recovery for whole community

ACTION 43: ROLL-OUT 5-STEP GUIDE TO INNOVATIVE RECOVERY FINANCING

OBJECTIVE 10: PRE-PLAN FOR POST-RECOVERY

TIMEFRAME: IMMEDIATE (0-1 YEAR)

DESCRIPTION

Disaster preparedness is a strength of the GM&B region. The region has learned from history, having experienced disasters, but these risks have strengthened our emergency management preparation and response systems. To advance financial recovery, lessons learned from past storm events have been transformed into a simple and short 5-Steps to Innovative Disaster Financing guide to complement traditional insurance and FEMA funding for recovery in GM&B municipalities. This guide focuses on financial preparedness to recover faster after an event. Cities conventionally rely on traditional indemnity insurance and FEMA reimbursements, but this is often not enough to cover all the damages and service needs. It is also cumbersome and often takes too long. The guide describes a cohesive interdisciplinary team approach to examine current insurance coverage, financial risk, bond ratings, and economic drivers. The guide includes a list of financing options for recovery, and their benefits and drawbacks. The guide also provides information about parametric insurance, prepared by SwissRe, a 100RC Platform Partner. The Government Finance Officers Association of the United States and Canada (GFOA) will expand the use of the 5-Steps Guide with its member cities, highlighting it as a resource and topic for conferences.

SPOTLIGHT

Government Finance Officers Association

The GFOA, founded in 1906, represents public finance officials throughout the United States and Canada. The association's more than 20,000 members are federal, state/provincial, and local finance officials deeply involved in planning, financing, and implementing thousands of governmental operations in each of their jurisdictions. GFOA's mission is to advance excellence in state and local government financial management and it has accepted the leadership challenge of public finance. To meet the many needs of its members, the organization provides best practice guidance; consulting; networking opportunities; publications, including books, e-books, and periodicals; recognition programs; research; and training opportunities for those in the profession.

HOW THIS WILL HELP US

- Streamlines government processes
- Improves financial planning
- Attracts state and federal funding
- Expedites disaster recovery

PERFORMANCE METRICS

- Number of cities reporting using resource
- Change in municipality financial coverage

KEY COLLABORATORS

LEAD: Government Finance Officers Association of the United States and Canada

FUNDING

Unfunded

OBJECTIVE 10: PRE-PLAN FOR POST-RECOVERY

ACTION 44: BOUNCE FORWARD 305 - DISTRIBUTE RESILIENT URBAN LAND USE ESSENTIALS GUIDE

HOW THIS WILL HELP US

- Improves public realm
- Increases understanding of resilience
- Streamlines government processes
- Improves natural disaster preparedness

PERFORMANCE METRICS

- Number of GM&B municipalities reporting using the guide
- Number of GM&B municipalities updating planning documents/ordinances

KEY COLLABORATORS

LEAD: GM&B

- Gold Coast Chapter of American Planning Association
- Miami-Dade County Planners Technical Committee
- Miami-Dade County School Board Staff Working Group
- Local municipal planning and land use boards

FUNDING

None needed

TIMEFRAME: IMMEDIATE (0-1 YEAR)

DESCRIPTION

The Resilient Land Use Essentials Guide was developed during Resilient305 Strategy development phase. It is a guide for governments and other urban stakeholders in the GM&B region that contains recommendations for land use actions that local governments can implement before a disaster to facilitate post-disaster recovery and potentially minimize negative impacts, particularly in the face of climate-induced flooding and sea level rise. In this context, land use planning refers to rules and guidelines governing the disposal of public and private land to promote the physical security of urban communities. The guide is intended for every city planner, with notice to the city manager and emergency manager. GM&B lead planners will share, present, and facilitate dialogue at local collaborating venues.

ACTION 45: SEND YOUR BOSS TO BOOTCAMP

OBJECTIVE 11: CULTIVATE RESILIENCE EXPERTISE

TIMEFRAME: IMMEDIATE (0-1 YEAR)

DESCRIPTION

Plans and strategies tend to sit on the shelves unless they are operationalized and actively put into use. It is critical for all 34 GM&B cities and the county to be motivated to adopt resilience policies at the governance level, and take action at the staff operational level. To accomplish this, Miami-Dade County will collaborate with GM&B partners to host an intensive 1-day workshop every January for the next 3 years. The boot camp is geared to newly elected and re-elected local municipal elected officials and is intended to grow our leadership commitments beyond mayors. Participants will be introduced to theory and practice of the Resilience Accelerator approach. They will be coached by experts and inspired by 100RC network mayors experienced in implementing strategies. Local and regional resources will also be shared. Participants will leave with the tools, tips, tricks, and relationships to operationalize the Resilient305 Strategy and support their CROs in action and implementation. Participating cities that commit to creating or identifying a CRO in their city would be able to participate in Action 46: Resilient 35 in the 305.

HOW THIS WILL HELP US

- Increases understanding of resilience
- Streamlines government processes

PERFORMANCE METRICS

- Number of elected officials participating in Bootcamp annually
- Percent GM&B municipalities participating in Bootcamp annually
- Number of GM&B municipalities with CRO

KEY COLLABORATORS

LEAD: Miami-Dade County

- GM&B

FUNDING

Initial in kind support from GM&B and The Miami Foundation with participating cities providing in-kind support after participation

OBJECTIVE 11: CULTIVATE RESILIENCE EXPERTISE

ACTION 46: RESILIENT 35 IN THE 305 NETWORK

HOW THIS WILL HELP US

- Reduces sea level rise and coastal flooding impacts
- Improves water quality
- Improves natural disaster preparedness
- Improves community cohesion
- Increases understanding of resilience
- Streamlines government processes

PERFORMANCE METRICS

- Number of cities active in the network/year
- Number of multi-city resilience projects established
- Number of cities with CRO
- Number of peer learning exchanges by end of 2020

KEY COLLABORATORS

LEAD: Miami-Dade County

- All municipalities within Miami-Dade County
- Urban Sustainability Directors Network
- Southeast Sustainability Directors Network
- Florida Sustainability Directors Network

FUNDING

Within existing GM&B municipalities' budgets

TIMEFRAME: SHORT-TERM (1-5 YEARS)

DESCRIPTION

Miami-Dade County will catalyze the resilience work across Miami-Dade County by providing peer exchange and connecting local government practitioners through the planned Resilient 35 in the 305 Network. The 305 Network will facilitate intergovernmental collaborative work among practitioners by enhancing and supporting the sharing of communication and resources between cities in Miami-Dade County to advance resilience work. The 305 Network will support its member cities in their resilience work, develop multi-city collaboration projects, influence the development of policies at the local and regional level, and build a network of trusting relationship between peers. To participate in the 305 Network, cities commit to creating a CRO position or identifying a person responsible for CRO duties.

305 Network members will be able to transfer knowledge learned from their peers to their own work and thereby synergistically advance resilience within their municipality. Through the 305 Network, GM&B municipalities will be able to leverage resources to become better prepared to overcome the shocks and stressors the region faces. For example, the City of Miami Beach has made significant strides in stormwater management, land use changes, and creative procurements. The City's lessons learned and resulting products will be made available to 305 Network member cities to modify and inspire their own work. By participating in this local network, including the elected official bootcamp (Action 45, Send your boss to bootcamp) and the online training, GM&B municipalities in the GM&B region are truly making strides towards resilience.

SPOTLIGHT

LOCAL MITIGATION STRATEGY

LMS Miami-Dade

Miami-Dade County's Local Mitigation Strategy (LMS) is a whole-community initiative designed to reduce or eliminate the long-term risk to human life and property from hazards. Established over two decades ago, the LMS is a comprehensive approach to effectively reduce the impact of current and future hazards and risk faced by communities within Miami-Dade County. The LMS is a compendium of efforts of the whole community, integrating governmental and non-governmental agencies such as non-profit, private sector, educational and faith-based organizations as well as communities, families and individuals.

In addition to preparing residents for the potential impacts of various types of natural hazards, the LMS is critically important because it satisfies Miami-Dade County's mitigation plan requirement under Section 322 of the Stafford Act as enacted under the Disaster Mitigation Act of 2000 and enables all jurisdictions that participate in the LMS to be eligible for federal hazard mitigation grants in the event of a declared disaster. To remain current and vital, the LMS is updated annually and the LMS Committee holds four meetings yearly. Additionally, the LMS plan undergoes a complete state and federal review and approval every 5 years by Florida's Department of Emergency Management and FEMA, and is ultimately adopted by local elected officials.

ACTION 47: TRAIN EMPLOYEES TO BE RESILIENT

OBJECTIVE 11: CULTIVATE RESILIENCE EXPERTISE

TIMEFRAME: IMMEDIATE (0-1 YEAR)

DESCRIPTION

For some occupations, such as a CRO or an Emergency Manager, resilience is the essence of the job. For many others, resilience adds a new way of thinking, a new lens to examine existing work and service delivery. The City of Miami Beach will pilot online resilience training for all employees and make the material available to the GM&B municipalities to enable them to adapt it to their own training programs.

By using eLearning platforms, cities can create custom learning experiences that engage learners through interactivity and collaboration. These systems are available 24 hours a day, 7 days a week, 365 days a year for any department and any shift. Effective rollout will include determining which courses are appropriate for learners. The City of Miami Beach will work with experts to develop content and build courses that may include a PowerPoint presentation, video vignettes, and/or a mastery component. Each government entity can further customize the resilience training with city-specific information and can work with their internal training coordinators to determine who will be required to take the courses, assign them through the eLearning platform, and determine the frequency of the refreshers.

HOW THIS WILL HELP US

- Increases understanding of resilience
- Streamlines government processes

PERFORMANCE METRICS

- Number of employees trained annually
- Number of entities implementing the training

KEY COLLABORATORS

LEAD: City of Miami Beach

- Miami-Dade County

FUNDING

Partially funded by in-kind services and participating cities

CASE STUDY

100RC TRAINING FOR LOS ANGELES

As part of the effort to spread the impact of Resilient Los Angeles and to implement its priority initiatives, Los Angeles Mayor Eric Garcetti signed an executive directive instructing many City departments to designate Departmental Chief Resilience Officers (DCROs) who are tasked with integrating resilience priorities across each arm of City operations, programs, and policy. With its diversity in expertise and thematic interest, this group is a critical resource for mainstreaming resilience thinking in Los Angeles. By significantly expanding the number of resilience champions in Los Angeles and paving the way for new kinds of cross-departmental partnerships on resilience initiatives, the group also sits at the forefront of Resilient Los Angeles implementation.

To support these efforts, 100RC partnered with the City of Los Angeles to conduct in-depth collaboration sessions for the DCROs in November 2018, focused on project financing and frameworks for implementation and evaluation to further advance resilience work. The interactive workshop not only equipped the DCROs with new methods and tools to design and implement projects with resilience benefits, but also empowered them to directly apply these practices with the aim of building resilience capacity among departmental staff and City stakeholders.

OBJECTIVE 11: CULTIVATE RESILIENCE EXPERTISE

ACTION 48: RISE TO THE RESCUE

HOW THIS WILL HELP US

- Improves communication with residents
- Improves community cohesion
- Enhances community-based interventions
- Increases understanding of resilience

PERFORMANCE METRICS

- Number of RISE Guide downloads
- Number of GM&B municipalities using RISE Guide

KEY COLLABORATORS

LEAD: Municipal employees, contractors, and university students

FUNDING

GM&B municipalities may prioritize with existing funds

TIMEFRAME: SHORT-TERM (1-5 YEARS)

DESCRIPTION

How we communicate the needs of more complex projects both planned and underway in the GM&B region is paramount to gaining public support and engagement. GM&B municipalities will leverage the City of Miami Beach Resilient Integrated Strategic Engagement (RISE) Guide to ensure strong and consistent messaging that increases awareness and helps shape the narrative around resilience. The purpose of this action is to provide cities with new tools and resources to engage and dialogue with the communities of today about the vision for tomorrow. Communicating purpose, customizing products, and coordinating processes are the basis of a core framework that any city can use.

The City of Miami Beach created its RISE Guide out of a need for consistent and transparent city messaging surrounding the Miami Beach Rising Above stormwater and climate resilience programs. Cities can tailor this guide for their own use. The facts, tips, and training in the RISE Guide will empower staff in community dialogue, improving the public's trust and faith in city adaptation actions. Tools like the RISE Guide are essential to break down silos, build knowledge of resilience, and arm communicators and all departments with the information they need to speak with the community.

SPOTLIGHT

UNIVERSITY OF MIAMI

A graduate student intern attending the University of Miami School of Education and Human Development Community and Social Change Master's Program developed the guide based on models and theories from the field of community psychology. Community psychology focuses on social, cultural, economic, political, environmental, and historical influences to positively impact local communities at a systems level, not just the individual level.

UNIVERSITY OF MIAMI

ACTION 49: COLLABORATE WITH UNIVERSITIES

OBJECTIVE 12: LEVERAGE OUR EXPERIENCE


Photo Credit: FIU

TIMEFRAME: SHORT-TERM (1-5 YEARS)

DESCRIPTION

GM&B will challenge the spirit of innovation by enhancing its ongoing partnership with universities and industry experts to develop creative solutions to technical problems. GM&B will leverage research and expertise from local and regional academic institutions—such as Florida International University, Miami-Dade College, and the University of Miami—to help prepare for and address current and future shocks and stressors via a university collaborative. These institutions are committed to collaborating to move resilience forward with GM&B, which will foster a community-owned approach to adaptation measures and mitigation efforts. These institutions have research expertise in addressing 21st-century problems, such as housing, climate resilience, and transportation, and are seedbeds for innovative solutions to these challenges. The collaborative will work with the PIVOT Team to identify research priorities and will be convened yearly by the PIVOT Team to share and give updates on ongoing research and projects related to shocks and stressors.

These institutions have a history of collaboration with GM&B under a MetroLab agreement activated in 2017 to address the Zika outbreak. MetroLab is a City + University Collaborative for Urban Innovation and drives partnerships between local governments and universities to help the public sector adapt to rapid technology change.

HOW THIS WILL HELP US

- Increases understanding of resilience
- Streamlines government processes
- Improves industry/job diversification

PERFORMANCE METRICS

- Number of projects developed in collaboration with universities and colleges
- Dollars received by partners to fund collaborative projects

KEY COLLABORATORS

LEAD: Miami-Dade County

- Florida International University
- Miami-Dade College
- University of Miami
- Florida Climate Institute

FUNDING

Partially funded through GM&B staff time and university research grants

OBJECTIVE 12: LEVERAGE OUR EXPERIENCE

ACTION 50: CREATE AN ACTIONABLE SCIENCE ADVISORY PANEL (ASAP)

HOW THIS WILL HELP US

- Reduces sea level rise and coastal flooding impacts
- Reduction in sunny day flooding
- Reduces stormwater flooding
- Attracts state and federal funding
- Increases understanding of resilience

PERFORMANCE METRICS

- Number of ASAP provided climate updates
- Number of experts regularly participating on ASAP

KEY COLLABORATORS

LEAD: Florida International University, Sea Level Solutions Center

- Southeast Florida Regional Climate Change Compact
- Florida Climate Institute and Other Academic Institutions in Southeast Florida
- South Florida Water Management District

FUNDING

Unfunded

TIMEFRAME: IMMEDIATE (0-1 YEAR)

DESCRIPTION

Science is complex, evolving, and critical in adapting to sea level rise and climate change. Florida International University's Sea Level Solutions Center will lead an Actionable Science Advisory Panel (ASAP) to make it easier for GM&B municipalities to use the best available science to inform planning and decision making associated with resilience efforts at the local government level.

ASAP's priority will be to provide data driven recommendations and best available science on locally appropriate standards and projections regarding future rainfall and temperature patterns, sea level rise, and groundwater levels. These projects are particularly important to the GM&B region because of the anticipated effects of climate change on regional hydrology and water management systems. ASAP will also be an ad-hoc resource to GM&B, helping to support Action 53: Share Bold Integrated Water Models made up of GM&B municipalities working in the modelling and infrastructure fields. ASAP will include interdisciplinary experts from multiple universities and colleges. ASAP's work will coordinate with and complement the work of the Southeast Florida Climate Change Compact and the Florida Climate Institute.

This action is derived from the Urban Land Institute's examination of City of Miami Beach's stormwater program, which resulted in suggestions that local science be used to provide recommendations about strategies and investments from a 30- to 70-year horizon. The Urban Land Institute also recommended new strategies for benchmarking to accommodate increased future risk and the changing climate.

SPOTLIGHT

FIU SEA LEVEL SOLUTIONS CENTER

The FIU Sea Level Solutions Center is a hub for international research, collaboration, education, communication, and outreach. Working with experts around the world, the Center develops useful sea level responses while collaborating with those on the ground to meet real-time needs. It provides support, leadership, personnel, and researchers who have significant international, national, regional, and local relationships. GM&B partners have a strong existing relationship with the Center and it is that strong relationship—combined with GM&B's sense of urgency—that will make ASAP a valuable tool for GM&B local governments.

FIU Sea Level Solutions Center
Florida International University

ACTION 51: RESILIENCE ACCELERATOR WORKSHOPS

OBJECTIVE 12: LEVERAGE OUR EXPERIENCE

TIMEFRAME: SHORT-TERM (1-5 YEARS)

DESCRIPTION

GM&B will commit to seeking resources—together with its university, nonprofit and corporate partners—to continue hosting resilience accelerator workshops. These workshops advance innovation and a holistic and inclusive approach to defining and implementing affordable housing and climate adaptation projects.

In August 2018, 100RC and Columbia University Center for Resilient Cities and Landscapes hosted a 3-day Resilience Accelerator workshop. Each participating jurisdiction selected a resilience project that faced a complex path towards implementation, such as aligning stakeholder and inter-agency interests or integrating engineering, land use, and public/private financing solutions. The objective was to improve the resilience value of each project while challenging the people and institutions delivering those projects to be more holistic, anticipatory, reflective, innovative, and radically action-oriented in their work. Each jurisdiction had an 8-10 member team with a mix of staff and outside experts. Each project team also had a facilitator and a visual facilitator to help guide the conversation and capture progress. The workshop began with an open session where the public and broader stakeholders were invited to learn about the projects and provide their input. Public, elected leaders, and key stakeholders were also invited at the end of the workshop to learn about the outcomes.

HOW THIS WILL HELP US

- Increases understanding of resilience
- Improves communication with residents
- Improves community cohesion
- Streamlines government process
- Reduces duplication of services

PERFORMANCE METRICS

- Number of resilience accelerator workshops held biannually

KEY COLLABORATORS

LEAD: GM&B

- University Partners
- Private-Sector Partners
- Nonprofit partners

FUNDING

Unfunded

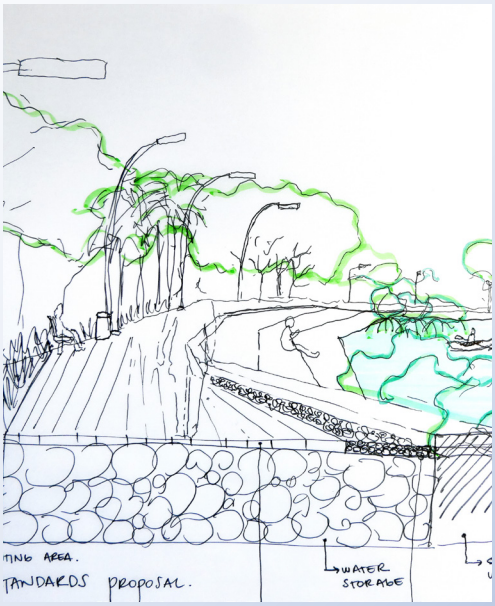
CASE STUDIES

RESILIENCE ACCELERATOR – BRICKELL BAY DRIVE

The Brickell Bay Drive Accelerator was a 3-day workshop focused on the protection and adaptation of essential economic, natural, and human resources of the waterfront. Realizing the vulnerability to sea level rise, storm surge, and other challenges, the City of Miami selected the Brickell Bay Drive project as a demonstration project to incorporate more resilient design into waterfront standards. The scope of the project was increased through the 100RC Resilience Accelerator workshop held in August 2018.

The waterfront design standards addressed included: 1) accessibility and livability, 2) environmental enhancement, 3) risk reduction, 4) economy and tourism and 5) history and culture. The goal of the project was to improve flood and surge protection while still providing water access, and to improve public greenspace and connectivity while encouraging multimodal transportation options.

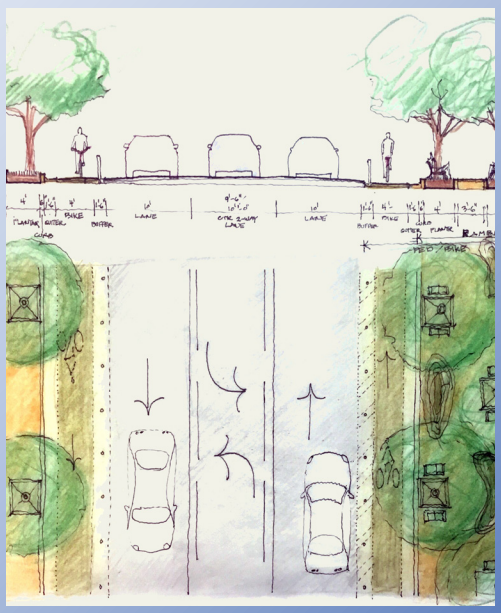
Key city departments and local and national experts participated and helped identify challenges as well as available resources. The project was made possible through the Brickell Adaptation Action Area, which allowed for more innovative design, and funding through the Miami Forever Bond. It was intended to serve as a model to update waterfront standards across the City and to provide an approach to public-private financing for construction and maintenance.



RESILIENCE ACCELERATOR – WEST AVENUE

The West Avenue Resilience Accelerator was a 3-day workshop focused on addressing aging infrastructure while mitigating the impact of sea level rise. In conjunction with 100RC and Columbia University, the workshop brought together multidisciplinary expertise to provide guidance on urban design, innovative engineering solutions, and stakeholder engagement.

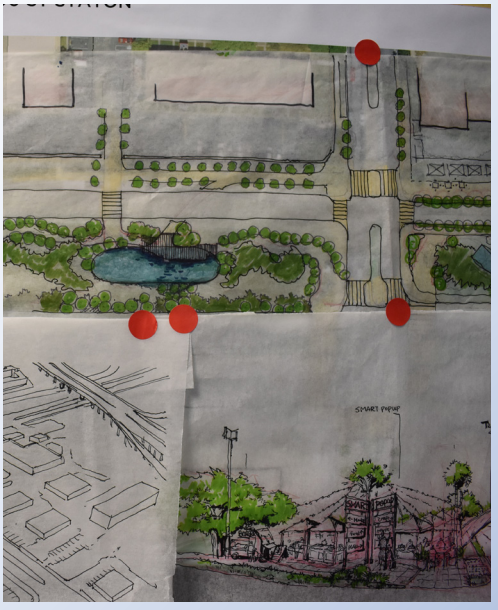
The workshop focused on process and design based on current and future environmental challenges, while considering costs and benefits. Throughout the workshop the City of Miami Beach team tested and evaluated elements of the West Avenue Project to develop modifications that enhance the projects resilience and build community consensus, while remaining fiscally responsible. As a result, the team identified appropriate enhancements based on the project's lifecycle, existing and future site challenges, and feedback from the local community.



CASE STUDIES

RESILIENCE ACCELERATOR – SOUTH CORRIDOR TRANSIT HUBS

The South Corridor Transit Hubs Resilience Accelerator was a 3-day workshop focused on developing concept design for a transportation hub along the south corridor of the Miami-Dade County SMART Plan. In conjunction with 100RC and Columbia University, the workshop focused on design guidelines for a proposed transportation hub pilot at the intersection of SW 211th Street and U.S. Highway 1. Experts who participated in the accelerator ranged from a specialist in transit-oriented design and planning to an expert in affordable housing and an expert in pedestrian networks and parks. As part of this workshop, four overarching goals for transportation hubs were established: Adapt to change, prepare and protect communities, enhance multi-modal sustainable mobility, and reduce disparities. The experts outlined a mix of policy, programming, and capital improvements that can be made to achieve those goals. Because of this workshop, design concepts for transit hubs and first/last mile connections between the SMART Plan corridors and the regional non-motorized trail system (SMART Trails Master Plan) were developed.



RESILIENCE ACCELERATOR – MILITARY TRAIL HOMES

Palm Beach County, a member of the Southeast Florida Climate Change Compact, was invited to participate in the Resilience Accelerator workshop as a way to extend the resources and benefits of this program to the greater southeast Florida Compact region. This Accelerator focused on developing resilient, dignified cottage homes to promote self-sufficiency and inspire future small-scale affordable housing to fulfill a vital need. The Military Trail Homes sit along an abandoned site on the SR 809 highway running through Palm Beach County. Key questions addressed during the accelerator were: (1) What innovative design solution can create a welcoming community for extremely low- and low-income people in a car-oriented commercial strip? And (2) How can this low-cost, small-footprint housing provide a model for developing other types of housing in the region? The accelerator began by identifying the top shocks and stressors that the future housing development needs to consider: an opioid epidemic, economic instability, extreme heat, mobility challenges, potential violence, and prioritizing housing for single mothers. The guiding principles developed and shared at the workshop included requests for proposals for a resilient traditional housing scheme.

OBJECTIVE 13: DEVELOP SHARED RESOURCES

ACTION 52: CREATE A RESILIENT305 ARCGIS HUB

HOW THIS WILL HELP US

- Improves communication with residents
- Increases understanding of resilience
- Streamlines government processes

PERFORMANCE METRICS

- Number of Hub users
- Number of GM&B municipalities participating in Hub

KEY COLLABORATORS

LEAD: Miami-Dade County

- GM&B
- GM&B municipalities

FUNDING

Partially funded via Miami-Dade County staff time. Update of ArcGIS Hub post-launch is unfunded

TIMEFRAME: IMMEDIATE (0-1 YEAR)

DESCRIPTION

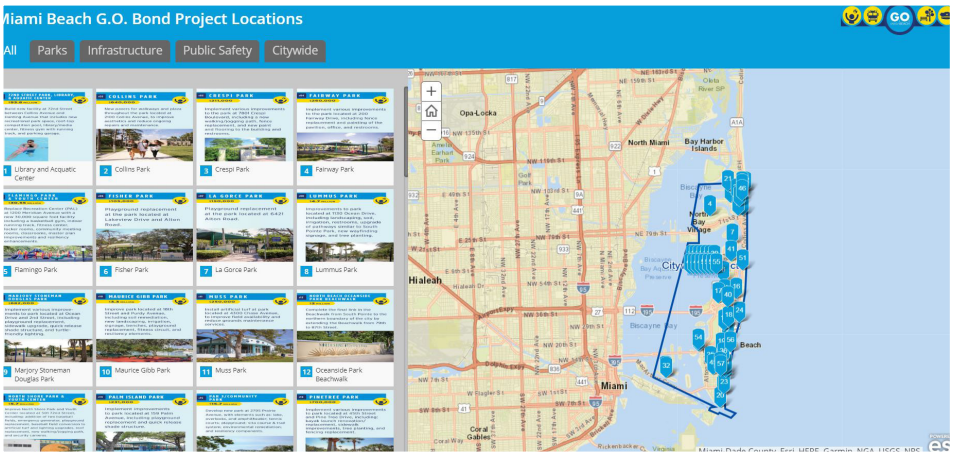
GM&B will work with Miami-Dade County to create a Resilient305 data-driven initiative on ArcGIS Hub. This cloud-based platform will be an opportunity to share open data, interact with users, and to provide progress updates on action items in the Resilient305 Strategy with local governments and the community at large. GM&B municipalities will have the opportunity to request access to the latest resilience data and create their own initiatives, facilitating data sharing and improving intergovernmental collaboration. The ArcGIS Hub will also create an opportunity to help keep the general community updated on the progress of the Resilient305 Strategy.

To help launch the Resilient305 actions, the GM&B team will create an advisory group of potential municipal representatives and community members to help set expectations for the initiative, inventory existing data, and advise creation of materials and data for the Resilient305 ArcGIS Hub.

CASE STUDY

CREATE VISUALLY ENGAGING STORY MAPS TO COMMUNICATE RESILIENCE GOALS

Story maps are highly versatile tools that can be easily shared via social media and can be readily adapted to address any number of themes. Miami-Dade County has begun developing story maps to help visualize data and communicate various resilience challenges with the community. By collaborating with subject matter experts and GIS professionals, the County has been able to effectively demonstrate sea level rise as well as showcase what projects are underway to address the flooding. A second story map was developed to analyze both where to site transit stations and how stations could be reimagined to also serve as community resilience hubs, offering multiple public services and providing civic spaces. GM&B will continue to work with its partners to help tell its resilience stories using this new digital tool.



OBJECTIVE 13: DEVELOP SHARED RESOURCES

ACTION 53: SHARE BOLD INTEGRATED WATER MODELS

HOW THIS WILL HELP US

- Reduces duplication of services
- Streamlines government processes
- Reduces stormwater flooding
- Reduces sea level rise and coastal flooding impacts
- Reduction in sunny day flooding
- Increases understanding of resilience

PERFORMANCE METRICS

- Number of resources shared

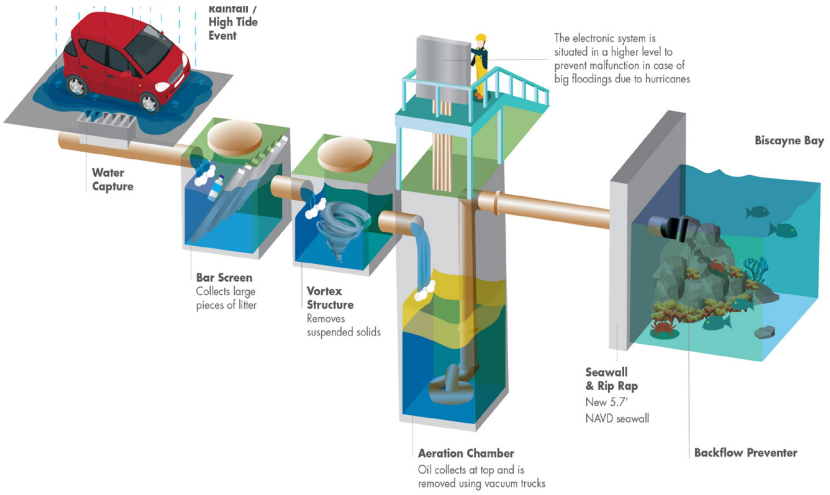
KEY COLLABORATORS

LEAD: Miami-Dade County + The City of Miami Beach

- GM&B municipalities

FUNDING

Unfunded



TIMEFRAME: SHORT-TERM (1-5 YEARS)

DESCRIPTION

GM&B is at the forefront of climate change innovation, especially related to flood management. The Urban Land Institute, in its examination of the City of Miami Beach's stormwater program, commended the City for making a "courageous start to combat sunny day flooding...for its timely action, investment in physical infrastructure, identification of self-funding sources, and a decision to include sea-level rise and increased precipitation in planning." To build on lessons learned and improve consistency across its GM&B municipalities, GM&B will spearhead implementation of a step-by-step approach to hydrodynamic computer modeling developed by AECOM; this action will involve all GM&B municipalities. Steps include inventorying current efforts and moving towards developing shared data; improving assumptions for sea level rise, rainfall, and groundwater; and compiling a library of modeling efforts. By working together with its GM&B municipalities, GM&B can make complex water modeling for infrastructure planning better, faster, and cheaper for GM&B municipalities through collaboration and enhanced tools.

Flood management is incredibly complex and using integrated hydrodynamic computer modeling is an action that will benefit the entire GM&B region. GM&B municipalities can build on existing data and work completed, reducing duplication of efforts and saving time and money. Routine meetings to build knowledge and relationships are key to understanding how to use these data. This modeling effort will result in decreased modeling costs and faster construction of capital projects based on modeling outcomes. The products of this action will include a centralized data repository and a library of models to help understand scenarios, assumptions, limitations, boundary conditions, and when to use them. To kick off this action, GM&B will create a sample resolution with an interlocal agreement to be adopted by participating cities. This resolution should include a municipal commitment and funding model to move forward with this action.

ACTION 54: EMPLOY A ONE WATER APPROACH

OBJECTIVE 13: DEVELOP SHARED RESOURCES

TIMEFRAME: SHORT-TERM (1-5 YEARS)

DESCRIPTION

One of the goals for improving water resilience for GM&B is to move towards a "One Water" approach, which was detailed by the U.S. Water Alliance publication, One Water Roadmap: The Sustainable Management of Life's Most Essential Resource, published in 2016. As one of five global cities selected by The Rockefeller Foundation to help develop the international City Water Resilience Approach, GM&B will use the City Water Resilience Approach to assess the resilience of its County-wide water supply and water infrastructure. The challenges and gaps to resilience will be identified and those results will be used to identify and develop indicators for a more resilient water supply and management system, improve interagency collaboration on water issues, and develop and implement a One Water Resilience Action Plan.

The One Water framework states that "all water has value and should be managed in a sustainable, inclusive, and integrated way." This is particularly true in southeast Florida, where, due to the porous limestone geology, hydrology, and climate of the region, water resources are intricately connected and highly managed to provide for water supply, flood protection, and other needs. The City Water Resilience Approach will also serve to improve collaboration and coordination on water issues, which meets the interests expressed by numerous stakeholders during the Resilient305 Strategy development phase.

SPOTLIGHT

RESILIENT UTILITY COALITION

The Resilient Utility Coalition (RUC) was created to advance utility infrastructure resilience efforts. Partners from public utilities, private industry, and academia are working together to operationalize policies/practices and build capacity among operators and partners in making our systems more resilient to hurricanes, infrastructure failure, increased precipitation, sea level rise, and saltwater intrusion. By operationalizing resilience through interdisciplinary and integrated planning, RUC is improving water quality, public health, and its use of resources with responsible investments. RUC was born in South Florida, inspired by the Southeast Florida Climate Compact, and nurtured by the 100RC network.

Resilient Utility Coalition

HOW THIS WILL HELP US

- Streamlines government processes
- Increases understanding of resilience
- Reduces sea level rise and coastal flooding impacts

PERFORMANCE METRICS

- Publish Water Resilience Action Plan

KEY COLLABORATORS

LEAD: Miami-Dade County

- Resilient Utility Coalition
- Florida Department of Environmental Protection
- South Florida Water Management District
- U.S. Army Corps of Engineers

FUNDING

Partially funded by the Rockefeller Foundation

OBJECTIVE 13: DEVELOP SHARED RESOURCES

ACTION 55: PLAN EFFICIENTLY & EFFECTIVELY TOGETHER

HOW THIS WILL HELP US

- Reduces duplication of services
- Replaces aging infrastructure
- Streamlines government processes
- Improves financial planning

PERFORMANCE METRICS

- Number of projects identified for improved coordination
- Dollars saved from coordinated or combined projects
- Number of violations of Miami-Dade County's Pavement Moratorium

KEY COLLABORATORS

LEAD: Miami-Dade County

- Local utilities
- GM&B municipalities

FUNDING

Partially funded by Miami-Dade County

TIMEFRAME: IMMEDIATE (0-1 YEAR)

DESCRIPTION

Significant efficiencies and cost-savings can be achieved with better planning and coordination of capital projects. Miami-Dade County will spearhead an effort to improve intra- and inter-agency communication and coordination on planning and implementation of utility and other capital projects. This effort will build upon existing coordination of capital projects between the Miami-Dade Department of Transportation & Public Works (DTPW), the Miami-Dade Water & Sewer Department (MDWASD), and utility companies, as well as existing quarterly meetings of intra- and inter-agency utility and infrastructure staff. It will also take advantage of existing technology and software platforms, such as the iWASD open source GIS data hub, which reports on the status of construction and permitting projects. Initial steps will include broadening the scope and participation of the meetings and providing training and assistance on the iWASD platform to improve the use of this helpful data source. Miami-Dade County, led by MDWASD, is also implementing e-Builder, a role-based enterprise management tool that will assist County Departments in managing capital improvement and development project lifecycles and business processes. The e-Builder system will serve as a project control tracking system, integrated across departments for efficient and coordinated delivery of capital improvements.

Additionally, Miami-Dade County has taken steps that can be used as a foundation to better coordinate and inform GM&B municipalities and other agencies. For example, a Utility Round Table was established in October of 2013 by the Miami-Dade Division of Environmental Resources Management (DERM) as an effective forum for information exchange among utilities, design professionals, and regulators to improve communication, coordination, and feedback between the County and stakeholders, and to provide updates on existing and proposed regulations, policies, and procedures. Multiple benefits can be gained through improved coordination on capital projects including reduced disruptions, increased efficiencies and economies of scale, and reduced violation of the County's Pavement Moratorium.

SPOTLIGHT

SOUTHEAST FLORIDA CLIMATE CHANGE COMPACT

Southeast Florida has a young but rich history in regional collaboration to tackle complex issues. In the fall of 2009, about 100 leaders in the region convened the first annual climate leadership summit. By early 2010 each county—Palm Beach, Broward, Miami-Dade and Monroe—approved a simple yet powerful resolution committing to the Southeast Florida Climate Change Compact to work in earnest on climate change adaptation and mitigation efforts. The Compact staff steering committee is composed of county and municipal partners, as well as the South Florida Water Management District and TNC. With support from the Kresge Foundation and the Institute for Sustainable Communities, the Compact has produced many important resources for local governments including the unified sea level rise projections, a regional greenhouse gas baseline, two regional climate action plans, annual legislative priorities, extensive training opportunities, and 10 annual summits (with attendance surpassing 700 in 2018 at the Miami Beach Convention Center). This model of regional collaboration has been the source of inspiration to many other regional collaboratives from as far away as Durban, South Africa, to as close as our friends in Central Florida and the Tampa Bay area.

Learn more at: http://www.southeastfloridaclimatecompact.org/.

SOUTHEAST FLORIDA
REGIONAL COMPACT
CLIMATE CHANGE

OBJECTIVE 14: LEVERAGE OUR DOLLARS

ACTION 56: FINANCE A RESILIENT FUTURE

HOW THIS WILL HELP US

- Improves financial planning
- Increases understanding of resilience
- Streamlines government processes
- Attracts state and federal funding

PERFORMANCE METRICS

- Number of online hits of guide
- Number of GM&B municipalities assigning budget to resilience initiatives
- Outcome: Identification of implementation funding in GM&B budgets to advance Resilient305 objectives

KEY COLLABORATORS

LEAD: Miami-Dade County

- City of Miami Beach
- City of Miami

FUNDING

Partially funded by Miami-Dade County

TIMEFRAME: SHORT-TERM (1-5 YEARS)

DESCRIPTION

The success of a resilient budget depends on a diversified economy that reduces the impact of a financial shock, the flexibility to reallocate funds to critical projects that address shocks when needed, and allocation of funds that prioritize resilience objectives across departments. GM&B will identify and recommend funding in each entity's budget towards the implementation of Resilient305 objectives that reflect these success factors. To augment this initiative, GM&B will create an online guide and reference materials for other governments and agencies who wish to incorporate and prioritize resilience objectives in their budgets and strategic plans.

Leading by example, Miami-Dade County continues to organize its multi-billion dollar budget around the four dimensions of 100RC's City Resilience Framework: health and wellbeing, economy and society, infrastructure and environment, and leadership and strategy. The County's current FY 2018-19 Budget and Multiple Year Capital Plan includes specific references to operating expenditures and capital projects targeted towards resilience efforts. In FY 2019-20, the County will further prioritize resilience objectives by restructuring its strategic plan around the Framework's four dimensions and will establish a resilience accelerator program to support financing of resilience projects in the GM&B region.

The GM&B Resilient305 Strategy development phase gave the City of Miami Beach the opportunity to update its strategic plan through the lens of resilience. The City is increasing the resilience impact of capital projects through integrated planning and is also evolving traditional government services to plan for resilience shocks and stressors.

Resilience and innovation are cross cutting themes in the City of Miami's updated strategic plan, and priorities and actions identified during the GM&B Resilient305 Strategy development phase will be integrated into that plan. The City's interdepartmental Resilience Action Group is charged with implementing that strategy.

ACTION 57: LEVERAGE THE POWER OF PURCHASING

OBJECTIVE 14: LEVERAGE OUR DOLLARS

TIMEFRAME: IMMEDIATE (0-1 YEAR)

DESCRIPTION

Municipal purchasing can be a game changer in facilitating innovative solutions to societal challenges. Every year, local governments spend millions of taxpayer dollars procuring municipal goods and services. GM&B will arm local purchasing managers with tools and training to modernize local government procurement to address shocks and stressors, thereby accelerating efforts in resilience building. Procurement officials will learn how to change language in city solicitations to ensure that consultants not only understand stressors, shocks, and climate vulnerabilities, but also know how to address these matters in the most innovative ways possible.

Steps include creating a baseline inventory of resilient procurement policies throughout the cities within Miami-Dade County. A database of innovative procurements, tools, and practices will be created for GM&B municipalities to access. Recent creative examples from the City of Miami Beach include the development of design guidelines for historic properties in the face of sea level rise and an economic analysis of the stormwater program. Finally, a local platform for training opportunities will be created through the local National Institute of Government Purchasing (NGIP).

HOW THIS WILL HELP US

- Increases understanding of resilience
- Streamlines government processes

PERFORMANCE METRICS

- Number of resilient policies implemented by GM&B municipalities
- Number of innovative procurements
- Number of procurement trainings

KEY COLLABORATORS

LEAD: GM&B

- Participating GM&B municipalities
- National Institute of Government Purchasing (NGIP)
- Anchor institutions

FUNDING

Funding will be identified by each entity during the annual budget process


2930

CASE STUDY

MIAMI BEACH GREEN PURCHASING POLICY

The City of Miami Beach has created and adopted a Green Purchasing policy that includes elements of resilience to address shocks and stressors. Additionally, the City has recently processed three thought-provoking and cutting-edge solicitations that illustrate the type of changes required by municipal governments to address the challenges of our time:

1. Business case analysis/economic analyses of the City's stormwater program
2. Development of design guidelines for historic preservation in the face of sea level rise and climate change
3. Master design consultant for integrated water management

These solicitations challenged the consultant community to forge new relationships and to cross sectors to begin to answer the complex questions facing cities today.

OBJECTIVE 14: LEVERAGE OUR DOLLARS

ACTION 58: PILOT RESILIENCE FINANCING DECISIONS TOOLKIT

HOW THIS WILL HELP US

- Increases understanding of resilience
- Streamlines government processes
- Improves financial planning

PERFORMANCE METRICS

- Creation of a Resilience Financing Decisions Toolkit
- Number of resilient shoreline projects funded/ year

KEY COLLABORATORS

LEAD: Miami-Dade County

- The Nature Conservancy
- GM&B municipalities

FUNDING

Partially funded by Miami-Dade County

TIMEFRAME: SHORT-TERM (1-5 YEARS)

DESCRIPTION

GM&B will use the initial financing resources developed during the Resilient305 Strategy development phase to create a resilience financing decisions toolkit that will serve as a resource and guide for GM&B municipalities that are evaluating and prioritizing funding options for resilience-related projects. Technical experts and municipal stakeholders will be convened to identify gaps and additional resources to further enhance the toolkit. Resilient305 actions, such as the Sea Level Rise Strategy and The Nature Conservancy's nature-based coastal resilience project, will also inform development of the resilience financing decisions toolkit. Stakeholders and potential users will be brought together to vet a draft toolkit and help finalize it before release. The goal of this action is to provide resources and assistance to smaller cities with limited staffing and financial resources and to help better coordinate resilience projects across the GM&B region.

CASE STUDY

INNOVATIVE INSURANCE FOR TOURISM INCOME IN THE CITY OF MIAMI BEACH

The City of Miami Beach has actively examined parametric insurance as part of the 100RC network. Parametric insurance is a form of risk transfer, paying an agreed-upon amount when a specific condition is met. This is an excellent exercise for city managers, risk managers, and chief financial officers in determining their best financial risk reduction method. Such innovative insurance mechanisms were also a feature of the Urban Land Institute Advisory Services Panel invited by the City of Miami Beach for a global and interdisciplinary analysis of the City's stormwater program. As the leading revenue generator for GM&B and second in the State of Florida, tourism revenue is a key funding source and is governed by state statute.

Tourism revenue is relatively volatile because it is vulnerable to sudden changes in economic conditions and other shocks. While this revenue is critical to the City, there is also a risk from any significant negative impacts to both the Resort Tax Fund and the General Fund. Over the last few years, the City's tourism revenue has suffered from major events like Hurricanes Matthew and Irma, alarm over the Zika virus, the closing of the convention center during renovation, and economic recession. Given this variability, the City decided to seriously explore parametric insurance for its tourism revenue.

OBJECTIVE 14: LEVERAGE OUR DOLLARS

ACTION 59: DEMONSTRATE THE COST BENEFITS OF RESILIENCE

HOW THIS WILL HELP US

- Replaces aging infrastructure
- Improves financial planning
- Improves communication with residents

PERFORMANCE METRICS

- Number of resilience infrastructure projects in cities evaluating costs and benefits
- Number of projects initiated due to study

KEY COLLABORATORS

LEAD: City of Miami Beach

- GM&B

FUNDING

Funded by each entity

TIMEFRAME: SHORT-TERM (1-5 YEARS)

DESCRIPTION

Cities need to invest in infrastructure now to reduce the risk of flooding today and well in the future. How to communicate the value of these investments is a developing field for many disciplines, from engineers and scientists to bankers and insurance companies. GM&B will lead (and learn from) all our cities as we define and communicate the benefits of resilience investments together. GM&B will share its approaches and lessons learned from a variety of studies and projects (such as those described in the following case study), including cost-benefit analyses in dollar terms, green infrastructure, and adaptation pathways. The more cities can work together to increase the understanding of resilience benefits for public and private property, the more we can help residents, businesses, elected officials, and the world be informed to make their own adaptation investment decisions. This action will also be part of Action 46: Resilient 35 in the 305 Network, which builds relationships and resilience across municipal governments. GM&B will also share this information for dialogue and learning with its participating Chambers of Commerce.

CASE STUDY

COST-BENEFIT ANALYSIS OF RESILIENCE INVESTMENTS

The City of Miami Beach's 'Business Case Analysis' is a one-of-a-kind project that will examine both the risks from sea level rise and rainfall, and demonstrate how the stormwater program can reduce this risk. The study will demonstrate the costs and benefits of doing nothing, of public infrastructure investment, and of varying levels of private adaptation investment. This type of cost-benefit analysis is a unique process and requires a diverse team—from scientists to flood insurance experts—to begin to understand the complexity of these separate but related issues.

Miami-Dade County is conducting a county-wide assessment of the feasibility of various measures that can protect the community from impacts of sea level rise. This assessment estimates the economic feasibility of the multiple adaptation pathways under consideration.

Miami's updated stormwater master plan includes a cost-benefit analysis of all recommended capital improvements. Considerations include risk reduction to lives and property, as well as environmental, economic, and quality-of-life impacts. To demonstrate the benefits of this approach, the City recently partnered with its Downtown Development Authority to contract Impact Infrastructure, Inc. to conduct a model, triple bottom line (environmental, social, and economic) cost-benefit analysis on a hybrid living shoreline project in the Brickell Area.