## RESILIENCY COMMUNICATIONS PLAN ANNUAL EVALUATION REPORT

PROGRAM FOR PUBLIC INFORMATION DEVELOPED FOR THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY RATING SYSTEM (CRS)

ANNUAL EVALUATION REPORT TO COMMUNICATE PROGRESS TOWARD DESIRED OUTCOMES AND PROVIDE RECOMMENDATIONS FOR IMPROVEMENTS.

**NOVEMBER 14<sup>TH</sup>, 2018** 



RISING ABOVE



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#### **INTRODUCTION & BACKGROUND**

#### **RESILIENCY COMMUNICATIONS PLAN OVERVIEW**

The Community Rating System (CRS) is a voluntary program under the Federal Emergency Management Agency (FEMA) allowing communities to earn flood insurance Under FEMA's National Flood discounts. Insurance Program (NFIP), cities earn points for activities promoting conducting flood The CRS insurance and reducing flood risk. rating score ranges from 1 to 10 (1 being the highest and 10 the lowest). The City of Miami Beach falls under a Class 6 rating, providing residents with a 20% insurance premium discount, translating into \$6,495,291 in annual savings. The City is working hard to maintain its current rating and trying to improve it to a Class 5.

As part of the CRS program, the Program for Public Information (PPI) is available to cities as another way of earning points toward the CRS rating. This program allows cities to convene a committee and collaborate to identify communication projects that reduce flood risk and increase flood awareness.

The program complements the City's approach to public participation and is a key part of the *Miami Beach Rising Above* Resiliency Communications. This is one way the City can help with economic resilience- to keep flood insurance as affordable as possible within the current National Flood Insurance Program.

## FLOOD INSURANCE FACTS

- The City of Miami Beach participates in the National Flood Insurance Program (NFIP) Community Rating System (CRS).
- Currently the City holds a strong Class 6 rating, this places the city among the top 5% of Miami-Dade County's 32 municipalities.
- This effort saves residents and businesses 20% on their flood insurance premiums an estimated \$6.5 million each year.

As a coastal barrier island, 97% of the properties in City of Miami Beach are located within or near a High-Risk Flood Zone Area (Special Flood Hazard Areas- "SFHA") as mapped by FEMA. The flood zone requires flood insurance coverage for any building with a federally-backed mortgage.

The PPI requires a plan for implementation and annual report updating the Commission about the different outreach programs implemented.

This annual evaluation report highlights the progress made toward desired outcomes established on the plan, project implementation status and recommendations for future improvements. In 2017, the City of Miami Beach released the Resiliency Communications Plan, referred to as a Program for Public Information (PPI) through the Community Rating System (CRS). Since then, the Committee has met regularly to monitor and evaluate status of projects and outcomes. In addition, City staff collected data on the PPI project implementation and success measures. This information is included on this report to not only show activities conducted but also understand the impact that outreach projects have in the community. This report allows the Committee to keep track of the Plan's outcomes, celebrate achievements, identify areas of improvements and continue planning for the future.

The following items are covered in this report, as required by the National Flood Insurance Program:

- A review of projects conducted in 2017 and 2018;
- Progress towards the desired outcomes;
- Recommendations for improvement; and
- Changes in the target audiences.

#### **RESILIENCY COMMUNICATIONS COMMITTEE**

A Resiliency Communications Committee, made up of private and public stakeholders, guided the Program for Public Information (PPI). The Committee followed a seven-step planning and public involvement process defined by the Community Rating System Program. Their unique perspectives and expertise helped define target audiences, messages, outcomes, and outreach methods.

The City of Miami Beach has a wealth of knowledge regarding flood hazards and flood risk. The Resiliency Communications Committee is comprised of six stakeholders, each with valuable perspectives and insight on flood risk and insurance. The Committee member expertise is specified by the CRS program, which requires representation from the City's Communications Department, the City's Floodplain Office, real estate, banking, and insurance. The Committee was previously formed by the City Commission through Resolution No. 2016-29585 on September 27, 2016. The Committee was re-created through Resolution No. 2017-30104 on December 13, 2017 and is required to be re-created annually.

2018 RESILIENCY COMM	UNICATIONS COMMITTEE
Tonya Daniels, Chair	<b>Director</b> Marketing and Communications Department
Scott Diffenderfer, CIPS, LCAM	<b>Real Estate Agent</b> Licensed Real Estate Broker Associate, Compass President of the Belle Isles Residents Association Residential Board of Governors for the Miami Association of Realtors
Carlos Gutierrez, PA	Real Estate Agent Principal Realtor, Gutierrez Group - Real Estate Coldwell Banker Residential Real Estate 2016 President Miami Association of Realtors
Mohsen Jarahpour, CFM	Floodplain Manager Building Department
John J. Lee	Insurance Agent Vice President, FirstService Financial
Alan Randolph	Banking Industry Representative Deputy Director of Community Banking, Bank OZK

#### PLAN DEVELOPMENT

#### SEVEN-STEP PROCESS

The committee followed a seven-step process that serves as a roadmap for completing and reviewing the PPI's activities. The committee held its first meeting in October of 2016 and since then staff has continued working diligently in completing several projects outlined on the following pages of this plan.



Below is a summary of the seven steps followed by the Committee during years 2017 and 2018:

- 1. Establish the Committee: The Committee was established in 2016 and meets at least twice a year to discuss initiatives within the program and approve documentation.
- 2. Assess the Community Information Needs: The Committee agreed that, for the purpose of the Program for Public Information, the entire City should be considered one target area with 6 different audiences (property owners, renters, businesses, recently flooded areas, repetitive loss sites, local organizations).
- 3. Formulate Messages: The committee conducted an insurance coverage assessment and formulated specific messages to those properties that carry a lower rate of flood insurance. In addition, all the Miami Beach area is targeted

with flood awareness messages disseminated through different channels.

- 4. Identify Outreach Projects to Convey the Messages: The Committee identified various outreach projects outlined on the outreach implementation table of this report. The projects are crucial to achieve established outcomes on this plan, such as increasing flood insurance coverage and awareness of flooding in the community.
- 5. Inventory of other Public Information Efforts: The Program for Public Information requires examining existing information efforts. A list was compiled through staff research and Committee members' input. This list is published on the City's Resiliency Communications Plan published in March of 2016 and available on the City's website.
- 6. Prepare the PPI Document: Preparing the PPI document involved a concerted effort from staff and the Committee. The document is updated every year to make improvements to projects and increase community outreach.
- 7. Implement, Monitor and Evaluate: The Committee meets twice annually to evaluate the program and incorporate revisions. This report specifically addresses this last step and includes a summary of the progress made in 2017 and 2018.

#### COMMITTEE'S ACCOMPLISHMENTS

The role of the Committee was to help develop the PPI by providing feedback every step of the way. City staff developed the agendas, facilitated the meetings, and prepared draft materials for discussion. In the last year and a half, the Committee and City staff completed the seven steps mentioned above in addition to important community projects. These efforts helped increase awareness about flooding and reduce flood insurance rates for residents. A summary of accomplishments include:

#### COMMUNITY NEEDS ASSESSMENT:

 Flood insurance coverage assessment
Inventory of public information efforts

**93%** of Miami Beach buildings are in a flood zone

#### TARGET AUDIENCES & MESSAGES

3. Identified 6 audiences: property owners, renters, businesses, recently flooded areas, repetitive loss sites, local organizations

4. Identified 10 important messages

## IMPLEMENT & MONITOR

5. Prepared and implemented the PPI Plan

6. Obtained City Commission approval

7. Monitored the plan by tracking activities and making improvements

#### 10 STEPS TO FLOOD AWARENESS

8. Prepared and sent out targeted flood insurance fact sheets

9 Prepared and promoted a flood awareness guide

10. Used MB Magazine to promote flood awareness messages

11. Prepared and distributed door hangers

12. Disseminated social media messages

13. Prepared and sent out repetitive loss property letters

#### **EVALUATION AND MONITORING**

#### SUMMARY OF OUTREACH PROJECTS

City staff and the Committee identified 11 outreach projects and 23 outreach project types, which means the same projects are shared through different channels and with distinct audiences. All the projects planned for 2017 and 2018 were completed or are on track to be completed, and new projects were identified for additional outreach opportunities.

These projects are a priority for staff who have developed new approaches and have woven messages into the broad array of communications approaches. For example, the Miami Beach Rising Above portal, launched in Jan 2018, serves a portal for resiliency and go-to page for climate adaptation and mitigation initiatives. The portal features the FEMA Flood Zone Map and many of materials created as part of this Committee.



Other new projects include social media flood awareness messages and the Bloomberg Mayors Challenge competitions to better prepare the community for extreme weather events. Flood awareness information provided to all properties: An important milestone in completing the seven steps of the program was to develop **10 messages** for flood awareness. The 10 messages are included in the Miami Beach Magazine which is mailed directly to 61,000 households every quarter and distributed at City's public facilities. The same messages are shared through email to reach neighborhood associations and are provided at community meetings.

**Flood Awareness and Hurricane Guides:** The flood awareness guide has informed hundreds of residents about the different existing flood awareness messages. The guide has been published on the City's website since spring of 2017. The hurricane guide includes flood preparation messages in addition to tips on how to respond to extreme weather events. Approximately 3,500 copies of the guide have been handed out to residents in 2018 and 4,700 in 2017. In addition, the document is available on the website and these same flood preparedness messages are sent out through email



blasts to the community in advance of anticipated rainfall and King Tides.

#### **Response to Flood Events:**

Responding to flood events in the community is an important priority for the City. In 2017, City officials attended a meeting in Sunset Harbor to specifically listen and respond to questions and concerns from a heavy rain event. In the same year, various email communications were sent out during a storm event.

#### Social media messages:

As more residents use social media, the City has expanded its reach via Twitter, Facebook and Nextdoor. Tweets related to flood awareness received more than 100,000 impressions in 2017 and 2018. Impressions mean that Tweets were viewed by users and possibly re-tweeted. In addition, the City plans to start measuring the quality of flood awareness messaging in social media to ensure all communications have the desired change of behavior.

Letter from elected leadership: In 2017, a letter from the Mayor was provided at community meetings attended by elected officials. The letter encourages homeowners to purchase flood insurance and is also sent out via mail. The same letter will be part of a 2018 newsletter. This effort provides valuable activity points for the CRS Activity 370 Flood Insurance Coverage Improvement Plan.

**Fact Sheets:** Different fact sheets were created to reach various types of properties, focusing on the areas with low flood insurance coverage. Through the flood insurance coverage assessment, 2-4 unit properties were identified as having low coverage. Special fact sheets were sent to all these building types to encourage the purchase of flood insurance. In addition, fact sheet messages were added to a specialized door hanger and distributed to Code Enforcement and Emergency Management staff for use during any potential storm events. Also, to prepare the community for King Tide season, a specialized fact sheet is communicated before and during these events take place. More than 4,000 subscribers receive the King Tides fact sheet via email. Additional factsheets include information tailored to business owners, real estate agents, tenants, construction industry, potential homeowners and the Biscayne Bay area.



Resilient Construction Fact Sheet

The outreach implementation table details the audiences, messages, desired outcomes, projects to support the messages, list of projects, project accomplishments for 2017 and 2018 and stakeholders that help disseminate the information. The table serves as a tracking mechanism to ensure that projects are completed on a timely manner and to prepare the community for flooding events. In order to evaluate the outreach project status for 2017 and 2018, the table shows the status of projects for this period of time, achievements and output measures indicating the level of effort and resources invested for this plan.

	Stakeholder	Ves - RE: Miami Beach Newsletter shared City flood avareness messages in 2018. Neighborhood associations share messages.	2	ut SS Yes-associations	0 Yes-associations, d critical facilities, hotels, etc.	2	Yes- local news an social media all sharing.
2017-2018 Proiset	Accomplishments	In addition to including flood awareness information provided to a properies through MB magazine, thr messages were also distributed through email to neighborhood associations and communicated at community meetings. The Mami Beach Magazine is mailed directly to 61,000 households every quarter at distributed at City's public facilities.	In 2017, a letter from the Mayor was provided at community meetings attended by elected officials. Will be incorporated into 2018 newsletter tt encourage the purchase of flood insurance.	The flood awareness guide has informed hundreds of residents about the different existing flood awarenes messages. The guide has been published on the City's website since 2017 and the 10-messages are communciated via MB Magazine to residents.	The hurricane guide includes flood preparation messages in addition to tips on how to respond to extreme weather events. Approximately 3,500 copies of the guide have been handed out to residents in 2018 and 4,700 in 2017. In addition, the document is available on the website and these same flood preparedness messages are sent out through ema blasts to the community.	Informational Fact Sheets are provided in highly trafficked areas of city hall.	Various ernail communications were sent out during a 2017 storm event. In 2018, areal blasts were shared about preparing for storm events. King Tides and hurricanes. More the 4,000 subscribers receive these ern blasts depending on the topic they subscribe to.
f Projects	2018	Quarterly	Fall of 2018	Ongoing	Amual/ Spring 2018	Ongoing	Spring and Fall King Tide season. Begiminig of hurricane season in June. Major stormirali events
Status o	2017	Quarterly (Beginning Spring 2017)	Annual/Summer 2017	Annual <sup>/</sup> March 2017	Annual/ Spring 2017	Ongoing/Start March 2017	Spring and Fall King Tide season. Begiming of hurricane season in June. Major storm/rainfall events
Denartment	Assignment	Communications	City Manager's Office	Building and City Manager's Office	Emergency Management / Communications	Building	Communications, Public Works, Emergency Management
Droioct(c) to Sumort	rrojeci(s) to support Message	OP#1-Flood awareness information provided to all properties through MB Magazine. Additional outreach through email blasts and meetings.	DP#2-Letter from elected leadership encouraging purchase of flood insurance coverage.	DP#3-Flood Awareness Guide provided on website.	DP#4-Hurricane Guide includes Flood Preparation message. E-blasts and newsletters including burricane preparedness messaging are also sent out to the community (Supports Activity 330)	OP#5-FEMA and State of Florida Flood Hazard and Flood Insurance Guides available at City Hall.	OP#6-For Flood Response (before, during and after a flood) Messages 1-5, provided online, through social media, eblasts to stakeholders, radio/fv.
Outcome	in Behavior)			Increase comprehensive awareness of flood hazard and Mami Beach messages related to people and properties protection for flood event.	Increase safety awareness before, during and after flood events. Reduce preventable accidents and damage from flood waters.		
	Messages	Messages 1-10	Messages 1-5	Messages 1-10	Messages 1-7	Messages 2, 3, 4, 5, 9	Messages 1-5, 7
	Target Audience			Note that the flood awareness messages and outreach projects are important for <b>all</b> of Miami Baach residents and businesses, since 97%	of all properties are within a SFHA (Special Flood Hazard Area).		

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					Status of	Projects		
Target Audience	Messages	Outcome (Desired Changes in Behavior)	Project(s) to Support Message	Department Assignment	2017	2018	2017-2018 Project Accomplishments	Stakeholder
3a. Residents: tenants	Messages 1 through 8 Importance of insurance coverage for renters. Discuss storm/ flood preparation with landlord.	Increase insurance coverage Increase flood preparedness awareness awareness Increase in the use of flood resistant materials by tenants.	See OP#1,3,4,5,6 OP#8-Fact Sheet for tenants provided on website	City Manager's Office, Building	See OP#1,3,4,5,6 OP#8- Annual/April	See OP#1,3,4,5,6 OP#8- Annual/April	This fact sheet was created to specifically target tenants and is available on the website where thousands of residents can view it daily.	£
	Messages 1 through 10	Increase comprehensive awareness of CRS and Mami Beach flood messages.	See OP#1,3,4,5,6	City Manager's Office, Building, Communications	3 times per year	3 times per year	"Described previously in the 'All of Marni Beach' audience	
3b. Residents: property owners*	Messages 1, 2, 3, 4, 5, 6 The City is investing in flood risk reduction efforts. Know your elevation and your options to reduce risk	Increase retrofits, use of flood resistant materials Increase in inquiries/technical assistance to the Flood Plain Manager	OP#8-Fact Sheet designed for all residents that highlight risk reduction from the sand dune system, new elevation requirements, street elevation and stormwater pumps.	Building, Communications	Ongoing	Ongoing	Through the flood insurance coverage assessment, 2-4 unit buildings were identified as having ow coverage. Special Fact Sheets were sent to all these building types to encourage the purchase of flood insurance.	
	Message 1, 2 Insure your property from flood loss.	Increase in insurance coverage for 2-4 family unit properties. (Targeted through Flood Insurance Coverage Assessment)	OP#8-Fact Sheet mailed for 2-4 Family Unit properties.	Building, Communications	April 2017	Fall 2018		Yes-associations share with multi- family bldg residents

All Miami Beach is considered a target area

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					Status of	Projects		
Target Audience	Messages	Outcome (Desired Changes in Behavior)	Project(s) to Support Message	Department Assignment	2017	2018	2017-2018 Project Accomplishments	Stakeholder
3b. Residents: property owners*(continued)	Messages 2, 3, 4, 7 King Trdes are normal in coastal areas but can cause flooding. Protect your family, home, and your vehicles.	Reduce preventable accidents and damage from flood waters.	OP#8-Fact Sheet designed for King Tride seasons. Distributed through social media, eblasts to stakeholders, radio/h.	Communications, Environment and Sustainability	Spring and Fall King Tide seasons	Spring and Fall King Tide seasons	A specialized Fact Sheet is communicated before and during King Tide season. Wore than 4,000 subscribers receive these email blasts.	Yes- associations share with members
3c: Residents: Condo/Neighborhood Associations	Messages 1 through 10	Increase insurance coverage Increase retrofits, flood resistant materials	See OP#1,3,4,5. OP#8-Fact Sheet provided in person at meetings, and also shared by associations with members.	Building, Communications	Ongoing	Ongoing	*Described previously in the 'All of Mami Beach' audience	Yes-associations share with members
4a. Businesses: tenants*	Messages 1 through 10 Importance of insurance coverage and discussing storm/flood preparation with landlord.	Increase insurance coverage Increase retrofits, flood resistant materials (Targeted through Flood Insurance Coverage Improvement)	See OP#1.3.4.6 OP#8-Fact Sheet emailed and mailed with the Business Tax Receipt (BTR) renewals.	Building, Com munications, Finance	Annual/ Summer	Annual/ Summer		Q
4b. Businesses: property owners*	Messages 1 through 10 Importance of insurance coverage and discussing storm/ flood preparation with tenants. Resources to understand elevation, public infrastructure improvements, resources for retrofits. (Supports Activity 360 Flood Protection hformation)	Increase insurance coverage Increase retrofits, flood resistant materials (T argeted through Flood Insurance Coverage Assessment)	See OP#1,3.4.6 OP#8-Fact Sheet emailed and mailed with the Business Tax Receipt (BTR) renewals. (Supports Activity 360)	City Manager's Office, Building, Finance	Annua// Summer	Annual/ Summer	This fact sheet is mailed to businesses renewing their Business Tax Receipts. Approximately 6,500 copies were mailed to businesses in 2018.	Ž

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					Status of	Projects		
Target Audience	Messages	Outcome (Desired Changes in Behavior)	Project(s) to Support Message	Department Assignment	2017	2018	2017-2018 Project Accomplishments	Stakeholder
	Message 1 through 8 Importance of protecting equipment and vehicles. Education in retrofits and flood resistant materials.	Increase resilient retrofits, flood resistant materials.	See OP#6 OP#8-Fact Sheet for "building resiliently" issued with building permits.	Building	Ongoing	Ongoing	The retrofit fact sheets have been daily handed out to homeowners, contractors, architects and engineers through the building permitting process and the community industrial construction meetings.	Yes-contractors share with property owners
4c. Businesses: contractors	Message 8 Importance of keeping the Biscayne Bay clean and the storm drain system clean. (Supports Activity 540 Drainage System Maintenance- Compliments Maintenance- Compliments National Pollution System (NPDES) outreach.)	Reduce dumping and pollutant discharges to storm drains and Bay.	OP#8-Fact Sheet for Biscayne Bay and storm drain system cleantiness issued with building permits (Supports Activity 540) Activity 540-Included as a condition in Right of Way and Building Permit Condition.	Building, Environment and Sustainability	Ongoing	Ongoing	This fact sheet is available at the City's website and physical copies can be found at the building department where hundreds of residents can access them daily.	Yes-contractors share with sub- contractors
5. Real Estate Agents and Insurance Agents	Messages 1 through 8 The City is investing in flood risk reduction efforts. Know your elevation and your options to reduce risk. Resources to understand personal property elevation, if there is any history of flooding. (Supports Activity 340 Real Estate Agents Brochure)	Maintain or increase flood ins urance coverage rates. Increase resilient retrofits with renovations. Increase in information inquiries/technical assistance to the Flood Plain Manager.	See OP#1,3 CP#10-Real Estate Fact Sheet available on City website distributed to MB agencies, and by the Mami Association of Realtors. OP#11-Letter to Real Estate Agents, Insurance Agents, and Banks.	Building, Communications	Annual	Annua, Summer	The Real Estate Fact Sheet has been disseminated through various channels including the website, MB agencies and the Mami Association of Realtors. Targeted letter sent to 90 real estate agents, insurance agents, and banks agents, insurance agents, and banks zone information.	Yes-Real Estate agencies and agents share

					Status of	<sup>†</sup> Projects		
Target Audience	Messages	Outcome (Desired Changes in Behavior)	Project(s) to Support Message	Department Assignment	2017	2018	2017-2018 Project Accomplishments	Stakeholder
	Messages 1 through 10 Importance of flood insurance and building resiliently.	Increase in information provided at organization meetings.	See OP#1,3,4 OP#8-Fact Sheet provided at meetings by Community Outreach Specialist	Building, Communications	Ongoing/ as needed	Ongoing/ as needed	Marketing and Communications Department attends meetings and provides fact sheets.	Yes- organizations share
6. Local Organizations (Schools, Neighborhood Associations, Civic Organizations, etc.). Organizations, etc.).	Importance of being prepared through signing up with City tor munications channels for inform ation on flood, hurricare, and King Tide preparedness.	Increase in organizations signed up for Social Media and E-Blasts.	See OP#6	Communications	Spring and Fall King Tide seasons and Hurricane season (3 times per year at minimum)	Spring and Fall King Tide seasons and Hurricane season (3 times per year at minimum)	In 2018, messages about King Tides were shared at least three times in social media in addition to email blasts promoting the same messages. Tweets related to flood awareness received more than 100,000 impressions in 2018.	Yes- organizations share
All audiences	Messages 1,3,7 Bloomberg Mayors Challenge (new initiative)	Increase safety awareness before, during and after flood events. Reduce preventable accidents and damage from flood waters.	Additional Project: Bloomberg Mayors Challenge (new initiative)	City Manager's Office, Public Vorks, Environment & Sustainability	NA	Summer of 2018	Tested an innovative flood alert tool with more than 100 businesses and residents with the purpose of better preparing the community for extreme weather events and flooding. Publicized through social media channels and gained national attention.	Yes- news and businesses
All audiences	Messages 1-10 Miami Beach Rising Above Portal	Increase safety awareness before, during and after flood events. Reduce preventable accidents and damage from flood waters.	Additional Project: Mami Beach Rising Above Portal	Environment & Sustainability, City Manager's Office	NVA	January 2018	The Miami Beach Rising Above portal, launched in Jan 2018, and serves a portal for resiliency and go- to page for climate adaptation and mitgation initatives. The portal features the FEMA Flood Zone Map and many of materials created as part of this Committee.	Redistributed through wide- reaching ULI report

#### SUCCESS MEASURES

The following success measures show progress toward the desired outcomes described on the outreach implementation table. The measures not only serve as a tracking mechanism, but they are also important to celebrate successful initiatives and identify areas of improvement. The measures also help illustrate City's stormwater program resilience initiatives and efforts undertaken in the last year and a half. The PPI plan's outcomes are highlighted below based on importance, alignment with the City's goals and data availability. The tables show the Plan's desired outcomes (at the top) and are followed by measures indicating progress made and corresponding data. Targets will be set for the upcoming years to communicate the ideal level of performance desired for the measures.

**Outcome:** Increase comprehensive awareness of CRS and Miami Beach flood messages

	2017	2018
Success Measures	Actual	Actual
Number of Twitter impressions about flood awareness messages	256,224	178,629*
Percent increase in page views on flood awareness materials posted on the City's website	baseline	51%
Usefulness of City of Miami Beach's flood awareness information shared through social media (proposed 2019 metric)	N/A	N/A
Nextdoor activity surrounding flood awareness messaging (proposed 2019 metric)	N/A	N/A

\*As of end of August 2018. Data was obtained from the City's Communications Department and Information Technology.

Using various channels to reach different audiences has been a key part of this outreach plan. Since social media is such an important communication channel for various demographics, the City is reaching several residents through this outlet and raising awareness of flooding issues. Promoting flood awareness materials online has also been an important way of communicating with residents and businesses. Staff is tracking traffic on the City's website to evaluate the success of this dissemination method. Lastly, the City also plans to measure usefulness of flood awareness information in the next year to ensure that flood messages promoted through social media are having the desired change in behavior.

The table above illustrates that:

• There was 51% percent more page views from 2017 to 2018 on the Flood

Awareness materials included on the website. The website includes the Resiliency Communications Plan, Flood Awareness Guide and Fact Sheets.

Success Measures	2016	2017	2018
	Actual	Actual	Actual
Linear feet of elevated roadways <sup>1</sup>	N/A*	11,484	33,884
Total amount of stormwater that pumps are able to process (gallons per minute) $^{\rm 2}$	N/A*	120,200	209,200
Percent of flood and drainage complaints resolved in 5 days from initiation date	N/A*	88%	72.7% <sup>3</sup>
% of catch basins and associated piping cleaned annually	85%	95%	100%
Total NFIP (National Flood Insurance Program) claims	15	445	N/A*

**Outcome:** Reduce preventable accidents and damage from flood waters

<sup>1</sup> This data considers all roads elevated in linear feet. The data doesn't take into consideration the different number of lanes per street raised and their width.

<sup>2</sup>Pumping capacity measured includes only stationary pump stations. The data available does not include portable pump stations capacity.

<sup>3</sup>The percent of complaints resolved within 5 days decreased in FY 2018 due to a delay in tickets being closed by staff and

operating with fewer resources. The proper procedure for ticket closure is being reinforced.

\* Data not available at this time.

Reducing preventable accidents and damage from flood waters is an important desired outcome of the Plan and the stormwater program. The measures above help the City track progress on this area but also reflect the various efforts dedicated to improving the storm water system, responding to flooding more efficiently and building resiliently. The table above illustrates that:

- 11,484 linear feet of roadways were elevated in FY 2017. As more infrastructure projects were completed in FY 2018, this figure increased to 33,884.
- In 2017, the City had a total stormwater capacity of 120,200 gallons per minute (GPM). In FY 2018, this increased to 209,200 GPM. An increase in the number of pump stations online in FY 2018 resulted in a higher number for total pump capacity.







- 88% of flood and drainage complaints were resolved within 5 days from initiation date in FY 2017 compared to 72.7% in FY 2018.
- 95% of catch basins and associated piping were cleaned annually in FY 2017 compared to 100% in FY 2018. This measure is a priority for Public Works Operations because cleaning up debris from the storm water system is essential to keep it running properly and increasing pump capacity.
- A total of 15 NFIP claims were submitted in 2016 compared to 445 in 2017. In 2017, the bulk of claims were related to Hurricane Irma. A total of \$96,869 was paid by the NFIP for claims in 2016 compared to \$8,146,446 in 2017. The average claim paid was \$48,435 in 2016 and \$44,035 in 2017. This data was obtained from the National Flood Insurance Program.

Success Measures		2017	2018
		Actual	Actual
Household is prepared with food/water/supplies for an emergency (percent of strongly agree and agree)	58%	No survey	N/A*
I know where to get information during an emergency (percent of strongly agree and agree)	65%	No survey	N/A*
I'm comfortable with my building(s) flood risk protections (proposed 2019 measure)	N/A	No survey	N/A*

Outcome: Increase awareness of being safe before, during and after a flood event

\*Resident Survey 2018 data not available at this time.

Increasing awareness of being safe before, during and a after a flood event is important to ensure residents have the information needed to remain safe and protect their property during extreme weather events. The City's 2016 Resident Survey measures emergency preparedness and awareness as it relates to weather events and emergencies. The survey is conducted every two years to measure residents' satisfaction with City services and perceptions about various issues. A subsequent survey is planned for the end of 2018. The third measure is intended to become a new question on the survey to measure preparedness of buildings for flood risk.

Success Measures	2009	2012	2014	2016	2017	2018
	Actual	Actual	Actual	Actual	Actual	Actual
Percent of residents observing increased flooding	N/A*	N/A*	N/A*	74%	No survey	N/A*
Resident satisfaction with efforts to address stormwater and drainage	44%	37%	25%	46%	No survey	N/A*

#### Outcome: Reduce preventable accidents and damage from flood waters

\*Resident Survey data not available at this time.

In order to understand if residents are experiencing issues with flooding and drainage, survey questions related to these areas are provided to households in Miami Beach. In addition, data related to the satisfaction with stormwater program is provided above.

The data above shows that improvements can be made with regard to the perception of flooding and drainage. However, the City is low-lying and urban, and eliminating flood risk is challenging. The City is focusing its efforts on integrating resilience throughout the organization by working with 100 Resilient Cities to develop a Resilience Strategy along with Miami-Dade County and Miami Beach. Funded by 100 Resilient Cities, the City hosted and is integrating the Urban Land Institute's recommendations to evolve the stormwater management program.

	2017	2018	
Success Measures	Actual	Actual	
% of units with NFIP insurance policies in AE and X areas*	84%	80%	
% of units with NFIP insurance policies in AE areas*	86%	81%	
Percent of units with NFIP insurance policies in X areas*	58%	63%	
Percent of 2-4 units with NFIP insurance policies*	46%	47%	
Percent of non-residential units with NFIP insurance policies*	17%	15%	

Outcome: Increase insurance coverage for 2-4 units and non-residential units

\*Data accuracy is affected by various factors explained below. The flood insurance coverage assessment is required every five years for CRS credit.

Property data was obtained from the Miami-Dade County Property Appraiser. National Flood Insurance Coverage data was obtained from FEMA National Flood Insurance Program. Ninety-three percent of Miami Beach's properties are located in the Special Flood Hazard Area (SFHA) AE Flood Zone. Location in the AE flood zone means that insurance is required for units with federally backed mortgages. The remaining buildings, 7%, are located in Zone X. Buildings in the X zone, adjacent to the AE flood zone, are not required to carry insurance, however, they are vulnerable to flooding and they are encouraged to purchase insurance. The Committee examined the flood insurance coverage in Miami Beach in both 2017 and 2018 to identify where coverage can be improved. Specifically, the Committee focused on 2-4 units and non-residential units due to a lower rate of coverage. These properties were actively targeted to increase insurance coverage.

Miami Beach has an overall high rate of flood insurance coverage. The insurance coverage rate has remained stable in the last two years with minor changes in percent of units covered. The table above shows:

- The overall % of units with NFIP Insurance Policies in AE and X areas slightly decreased to 80% in 2018 from 84% in 2017.
- The percent of units with NFIP Insurance Policies in AE areas decreased from 86% in 2017 to 81% in 2018. From 2017 to 2018, there was an increase of approximately 1,634 units in the AE area. The spike in units from one year to the next one affects the percent of units insured in 2018, as this percent is calculated as number of policies over number of units. This was further impacted by 1,323 fewer policies for this area.
- The percent of units with NFIP Insurance Policies in X areas increased to 63% in 2018 compared to 58% in 2017. For the X zone, the change in units from 2017 to 2018 was 15 fewer units and the change in policies was 197 more policies in 2018. The decrease of new units in this area resulted in a higher percent for the measure "Percent of units with NFIP Insurance Policies in X areas." The increase in policies also impacted the percent of units covered by flood insurance.
- The percent of 2-4 units with NFIP Insurance Policies increased to 47% in 2018 compared to 46% in 2017.
- The percent of non-residential units with NFIP Insurance Policies decreased to 15% in 2018 from 17% in 2017.

Two factors affecting the accuracy of data were identified in this analysis. First, both data sources, Miami-Dade County Property Appraiser and NFIP, are external to the City. For this reason, the reliability of the data is not within the City's control. Another factor is the number of units obtained for this report which was captured in two different points of time for comparison purposes. Both systems likely have reporting lag

times as well. Changing the time frames to account for increase in new units may result in slightly different insurance coverage rates.

The Committee also discussed reasons that may be impacting the rate of flood insurance coverage in the City. For example, properties without a federally backed mortgage do not require flood insurance. Homeowners of these properties may decide to drop flood insurance or seek a private insurer. Another reason is that NFIP flood insurance policies in the AE zone are more expensive than in 2017. The flood insurance assessment shows that the average policy for the AE zone costs \$49 more in 2018 than in 2017. This increase may be a reason for homeowners to seek lower rates in the private market. Private insurance coverage for flooding is not part of this assessment. It is likely that the inclusion of this data may change the coverage rate results. The following pages provide recommendations for the improvement of tracking mechanisms including insurance coverage data and building retrofits.

This analysis also compliments the flood insurance coverage assessment, coverage improvement plan, and coverage implementation plan as part of the CRS Activity 370 Flood Insurance Coverage Improvement Plan.

#### SUMMARY OF RECOMMENDED IMPROVEMENTS

- Focusing on tracking flood insurance coverage is a lesson the City learned while completing this report. The City conducted analysis to understand coverage for 2018, however, there are data variables that need to be further analyzed in future years to better understand the rate of flood insurance. Among the recommended actions are to connect with private insurance companies to analyze private coverage.
- Being able to better track building retrofits will help staff track upgrades that reduce flood risk. The Building Department is already working on including more detailed information on the permitting application. This data will allow the City to measure use of flood resistant materials, elevation of equipment, flood retrofits and other improvements.
- Implementing tracking mechanisms for measuring the quality of information disseminated as part of the outreach projects. For example, the usefulness of social media flood awareness messaging will be measured starting next year to ensure residents find the information useful and if it helps with decision-making/ behavior. Flood communications messaging is also expanding through additional communication channels, such as text message alerts through MBTraffic, MBAlerts, and through Nextdoor.
- **Continue implementing outreach projects** to reduce flood risk and help reduce the cost of flood insurance premiums. As the City moves forward with the program, outreach projects may be updated to ensure that the flood messages are having the desired impact in the community.
- Implementing the Urban Land Institute's recommendations to improve the stormwater management program, communication with residents and integrating green and blue infrastructure. The City Manager's READY (Resilient Enhancement Design for YOU) Team is developing an approach to study the feasibility of these recommendations, many of which will require policy level action and funding.
- Implementing a holistic approach to resilience in the organization through the implementation of the 100 Resilient Cities- Resilience Strategy and updating the City's strategic plan with a resilience focus on addressing our shocks and stresses. The actions within these plans will help drive efforts to reduce flood risk.
- Sharing the "Are You Interested in Purchasing Property on Miami Beach?" Fact Sheet with real estate agents. The Fact Sheet targets potential property buyers in Miami Beach, and serves as a guide to prepare homeowners for extreme

weather events and flooding. Real estate members of the Committee volunteered to visit different real estate agencies in Miami Beach to distribute the Fact Sheet and build awareness of flood risk and risk reduction. This effort provides valuable activity points and can lead to important resilience investments from buyers.

#### CONCLUSION and NEXT STEPS

Overall, the Resiliency Communications Plan (Program for Public Information, PPI) activities were developed and implemented in 2017 and 2018. Various outreach projects were completed and continue to be scheduled for upcoming years.

Miami Beach is committed to reducing the cost of flood insurance, reducing flood risk and increasing flood awareness. The efforts complements the stormwater program, land use amendments to reduce flood risk, and the developing Resilience Strategy, which is gaining momentum as the region evolves in aligning efforts to address common shock and stresses.

This Resiliency Communications Plan, developed for the NFIP CRS program, opens the doors for increased integration of initiatives that go hand in hand with resilience practices and provides the City with opportunities to improve its programs. The Resiliency Communications Committee and staff will to continue to implement the plan, track progress and make recommended improvements.