

MEMORANDUM



TO: The Honorable Mayor John Tecklenburg, Mark Wilbert, Amy Wharton, Chief Curia, Chief Reynolds, Keith Benjamin, Matt

Fountain, Robert Hauck, Jason Kronsberg, Jacob Lindsey, Geona Shaw-Johnson

FROM: Tracy McKee, Chief Innovation Officer; Susan Poteat, Director of Process & Service Improvement

CC: Naomi Broughton, Dennis Dowd, Daniel Flessas, Matt Frohlich, Mandi Herring, Andrea Jones, Rick Jerue, Stephen Julka, Jason Krusen, Katie McKain, Christopher Morgan, Shannon Scaff, Chip Searson, Robbie Sommerville

SUBJECT: March 2020 FloodStat Pre-Meeting Report

March 4, 2020

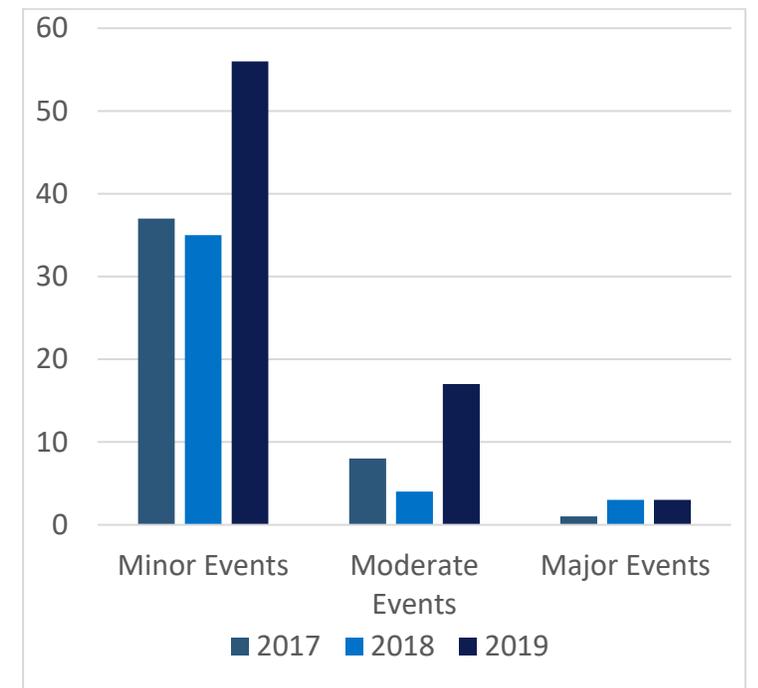
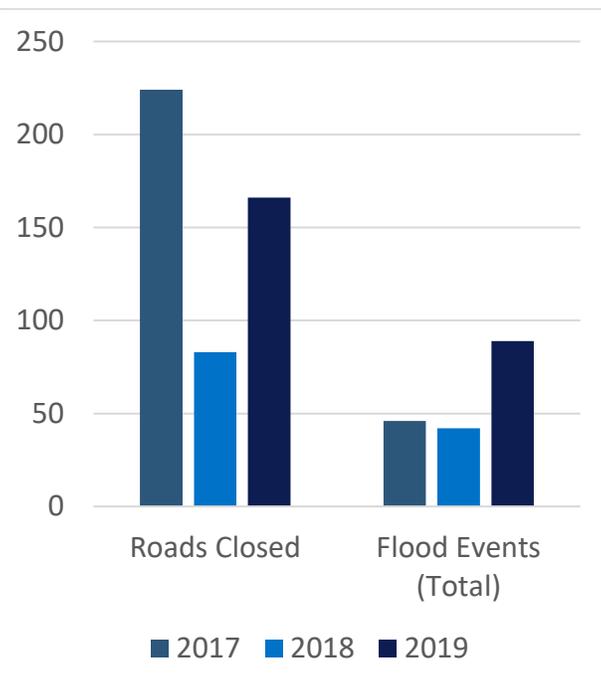
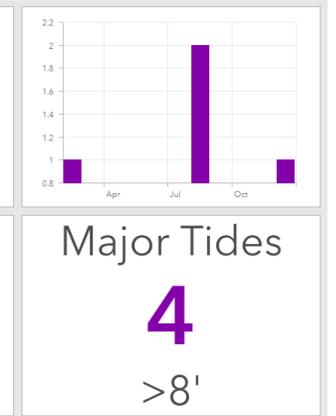
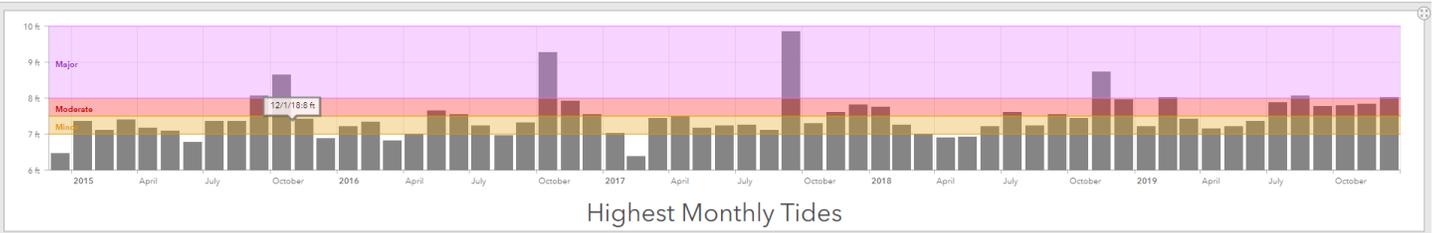
This is a pre-meeting report for the FloodStat meeting scheduled for Thursday, March 5, 2020 at 9:00AM in the Public Meeting Room at 2 George Street. The overall objective of the FloodStat program is to ***Increase the City's Resilience to Flooding, SLR, and Storm Surge.***

Project Background

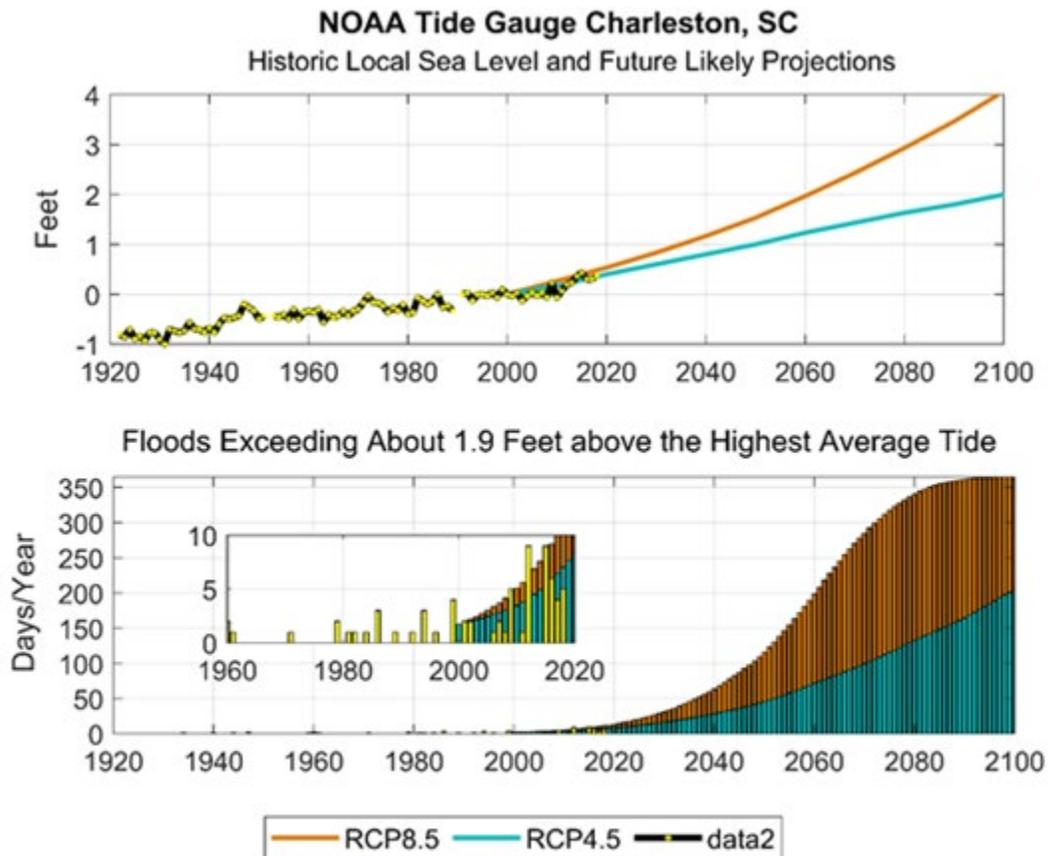
To bring all stakeholders up to speed, we will kick off with the background of the FloodStat program, our Key Performance Indicators (KPIs) and some basic flood stats from NOAA and our GIS team. The City's Floodplain Manager and Capital Projects reported at the February FloodStat Meeting. Sustainability, Stormwater, Traffic & Transportation will report. at the March meeting.

This program is part of a larger PriorityStat initiative intended to foster collaboration and increase accountability around the Mayor's highest priorities. FloodStat is the first to go live. HousingStat and MobilityStat are currently in development.

While we encourage the public to attend these meetings, we are still working on the most effective means for gathering feedback and engaging with stakeholders.



The City recently received updated data from our NOAA partners that consider a comprehensive look at the historic data to include 2019. The key message from the incorporation of recent data is that almost half of the total amount of SLR in the last 100 years has occurred in the last 20 years.



FloodStat Key Performance Indicators (KPI)

KPI 1: No preventable loss of life or injuries during a flood event.

KPI 2: Reduce flood damage to private property.

KPI 3: Reduce the economic impact of SLR and flooding events.

KPI 4: Reduce the flood risk to the City.

KPI 5: Reduce the flood risk to the City through Community Activism.

Staff Reports

Sustainability				
Metric	KPI	Trend	Reporting Frequency	Data Source(s)
Increase the number of storm drains adopted in the City.	5	 161 (160 baseline)	Quarterly	Storm drain adoption database
Reduce citywide carbon emissions 80% by 2050.	5	 2.17 mm CO ₂ e (baseline)	Annually	Greenhouse Gas Audits
Reduce municipal carbon emissions 80% by 2050.	5	 38,046 mt CO ₂ e (baseline)		Greenhouse Gas Audits
Increase the number of businesses and homeowners that participate in voluntary stormwater detention programs.	5	 0 (baseline)	Quarterly	Rainproof Pilot

Increase the number of gallons of stormwater diverted from the central stormwater system through voluntary detention efforts.	5		Quarterly	Rainproof Pilot
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Increase the number of storm drains adopted in the City.

Of the 9,068 city storm drains mapped and showcased in the Adopt-a-Drain Program, **161 drains** have been adopted as of 2/28/20. There is a lot of opportunity to perform outreach and get more drains adopted.

Discussion items:

- *Including SCDOT owned drains or other privately-owned drains to open the program up to more participation*
- *The best way to utilize data from drain field inspection reports*
- *Ideas for creating a monthly recognition program*
- *Suggested approaches to reach more people*

Reduce carbon emissions 80% by 2050- citywide.

Citywide Emissions: Captures emissions from buildings, transportation, and waste in City limits. The baseline of 2.17 mmt CO2e (million metric tons of CO2e) was established in 2002 and our goal is to decrease to 0.48 mmt CO2e by 2050.

2018 greenhouse gas emissions data is currently being requested and collected. A new Climate Action Plan will be created based off the data and inspiration from the 2010 Charleston Green Plan which could alter this goal.

Discussion items:

- *2018 greenhouse gas emissions data is currently being requested and collected.*

Reduce carbon emissions 80% by 2050- municipal.

Municipal Emissions: A subset of citywide emissions, this audit specifically captures emissions from City buildings, streetlights, City fleet, and City employee commute.

Our government goal is the same, 80% reduction by 2050, and our municipal baseline of 38,046 mt CO₂e (metric tons of CO₂e) emissions was also established in 2002, and our goal is to decrease emissions to 7,609 mt CO₂e by 2050.

Discussion items:

- *2018 greenhouse gas emissions data is currently being requested and collected.*
- *Collaborating with Fleet to add new efficiency and electrification goals*
- *Putting together a team together from Sustainability, Finance, Stormwater, and Capital Projects to evaluate our ability and capacity to reduce emissions*
- *Electric powered leaf blowers*
- *Streetlights*

Increase the number of businesses and homeowners that participate in voluntary stormwater detention programs.

There is a current Charleston Rainproof pilot project underway to help develop the data collection and reporting structure. Baseline: 0 ppl (about 15ppl are interested, but nothing installed yet).

Discussion items:

- *Old Windermere neighborhood pilot project*
 - *Master Rain Gardener certification leader*
- *City considering options to incentivize participation in the program and grow awareness*
- *Collaborating with GIS to map voluntary actions*
- *Rain Barrel sale with Clemson*

Increase the number of gallons of stormwater diverted from the central stormwater system through voluntary detention efforts.

Some voluntary efforts exist outside of the Charleston Rainproof pilot project but have not been quantified or located yet,

Discussion items:

- *Refining methodology to calculate volume for rain gardens and rainwater harvesting*
- *Collaborating with GIS to map voluntary actions. Coordinate with SW and differentiate mandated efforts vs. voluntary efforts*

Stormwater Director

Metric	KPI	Trend	Reporting Frequency	Data Source(s)
100% of CP using stormwater funds are prioritized through accepted, standardized stormwater and sustainability criteria.	4		Quarterly	Annual Capital Improvement Plan

100% of CP using stormwater funds are prioritized through accepted, standardized stormwater and sustainability criteria.

The Department is in progress in developing a prioritization system with AECOM, our program management consultant. The system uses quantitative data including those generated in the vulnerability study, the sea level rise strategy, and other City systems to quantitatively assess and score each proposed project. The scoring system has been developed by AECOM with additional input from Departments across the City. The project scores are comprised of 4 quadrants which are in turn comprised of multiple subsections to add up in creating a total value. The quadrants include a traditional economic cost benefit score, an operating/maintenance score, a social benefits score and an environmental benefits score.

The system is in final development with a completion date of Spring 2020. Projects will then be scored in Summer 2020 for further funding consideration in the Fall 2020 budget cycle.

Discussion items:

- *A metric that has been previously discusses is 100% compliance with the City’s stormwater maintenance program. Where are we with that and is that a valid metric to track?*

Traffic & Transportation

Metric	KPI	Trend	Reporting Frequency	Data Source(s)
Increase the number visual flood depth markers on streets with known flooding.	1		Quarterly	GIS; road closures, vehicle losses
Reduce traffic interruption due to flooding.	3		Quarterly	WOMS
100% of streets with on-street parking in areas of known flooding have appropriate warning signage.	3		Quarterly	GIS; Vehicle losses, Drainage Master Plan

Traffic & Transportation did not provide a pre-meeting report.

Discussion items:

- *We previously discussed creating a T&T metric that would look at reducing the number of single passenger car trips in and around the City. Has T&T considered this as a metric?*

Planning				
Metric	KPI	Trend	Reporting Frequency	Data Source(s)
Decrease the number of high-risk acres that can be developed.	2		Quarterly	Vulnerability Assessment, Comprehensive Plan
Increase the % of historic properties in the BAR district that apply for, receive approval and elevate.	2	 29 to 35 approved	Quarterly	Energov

The Board of Architectural Review continues to receive submittals for the elevation of houses across the City. The division predicts the trend will only increase in the coming years.

The BAR staff have received a total of 45 applications for elevation, and 35 of those submittals have received final approval. As of today, there are ten houses in the process of BAR approval. These applicants are either navigating pre-construction meetings, in the process of developing conceptual design, or have progressed to final review.

To date, four houses have successfully been elevated and have received a final Certificate of Occupancy, meeting all the regulations set forth by the City Ordinance. Nine more buildings are awaiting their certificates. Seventeen are currently in various stages of construction.

The BAR staff continues to prioritize these reviews to ensure the security and preservation of Charleston's vulnerable architecture.

Discussion Items:

- *Do we have an estimate of the number of historic structures that are vulnerable to SLR and not to current FEMA/building code standards so we can estimate percentages? What is the freeboard height we are currently requiring and are we doing enough to account for SLR estimates? For the first metric, would it be better to consider something like, "decrease the number of properties that are approved for building in areas that are below xxx elevation and/or have challenges with ingress and egress due to elevations of roads".*

Appendix

Trend icon descriptions

	Problem solving and analyzing
	Trending positive
	Trending negative
	No change
	On Target