JOINT WORKSHOP

{ NEIGHBORHOOD AND COMMUNITY AFFAIRS COMMITTEE AND BLUE RIBBON PANEL ON SEA LEVEL RISE AND FLOODING

CITYWIDE NEIGHBORHOOD IMPROVEMENTS AND STORMWATER PROGRAM

July 12, 2017

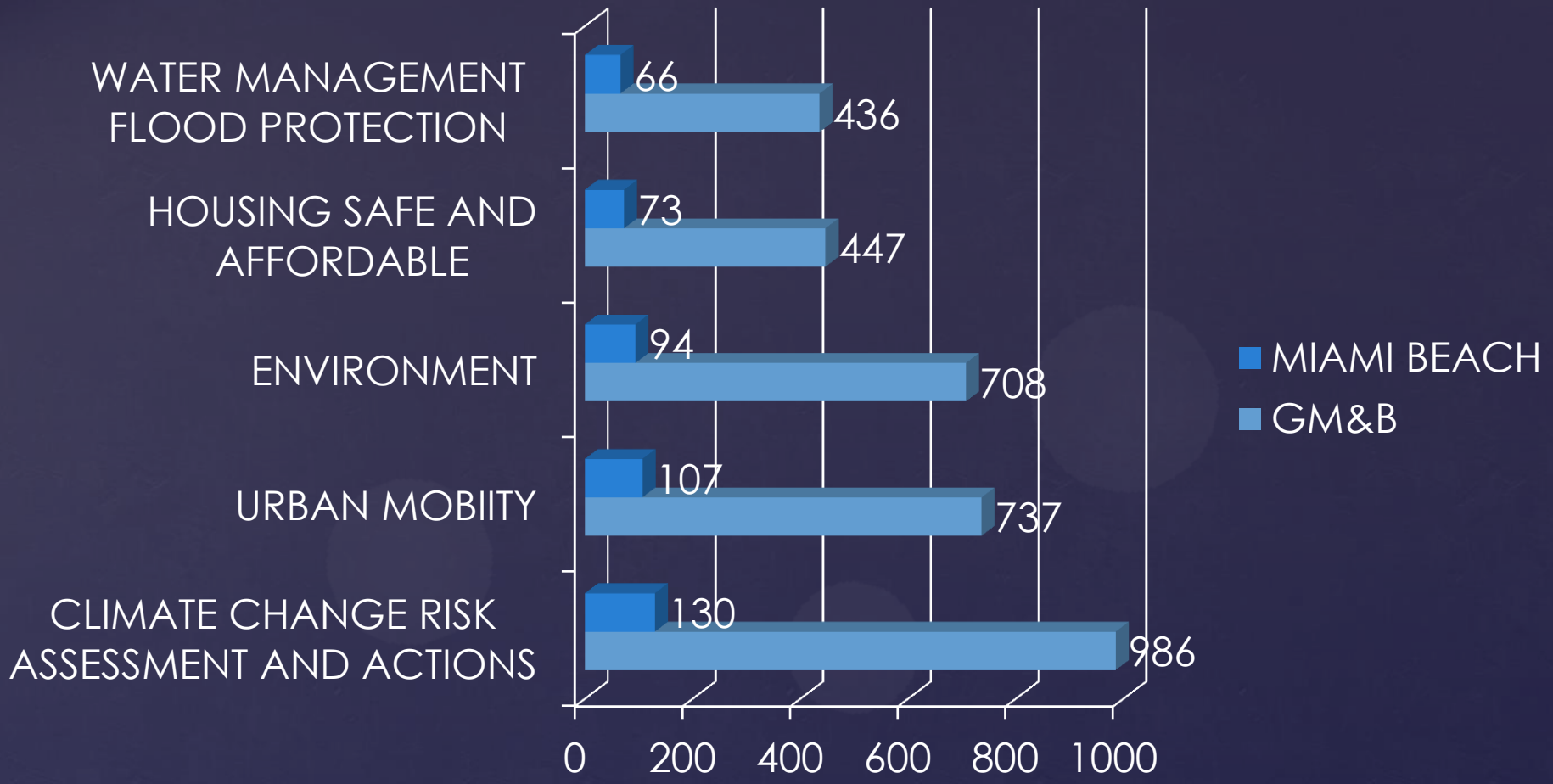
WORKSHOP OUTLINE

- RESIDENT PERCEPTION- OUTREACH AND ENGAGEMENT RESULTS
- FEEDBACK LOOP AND OUTREACH TOOLS
- FLOODING HISTORY
- STORMWATER PROGRAM TIMELINE
- PROJECT TIMING DISCUSSION

GOAL

To continue the stormwater, water, wastewater, and road infrastructure investments for flood risk reduction, climate adaptation, and overall improved services in a manner that ensures resident collaboration, mobility, livability, and quality of life for today and our resilient and sustainable future.

RESIDENT PERCEPTION



100 RESILIENT CITIES QUESTIONNAIRE- TOP 3 PRIORITIES

MIAMI BEACH 342 PARTICIPANTS
GREATER MIAMI AND THE BEACHES (GM&B) 2031 PARTICIPANTS

RESIDENT PERCEPTIONS
SEA LEVEL RISE AND FLOODING
STATISTICALLY VALID SURVEY

- OF RESIDENTS **SUPPORT USING TAX DOLLARS** TO ADDRESS RISING SEA LEVELS

89%

76%

- OF RESIDENTS HAVE OBSERVED **COASTAL WATER LEVEL INCREASES**

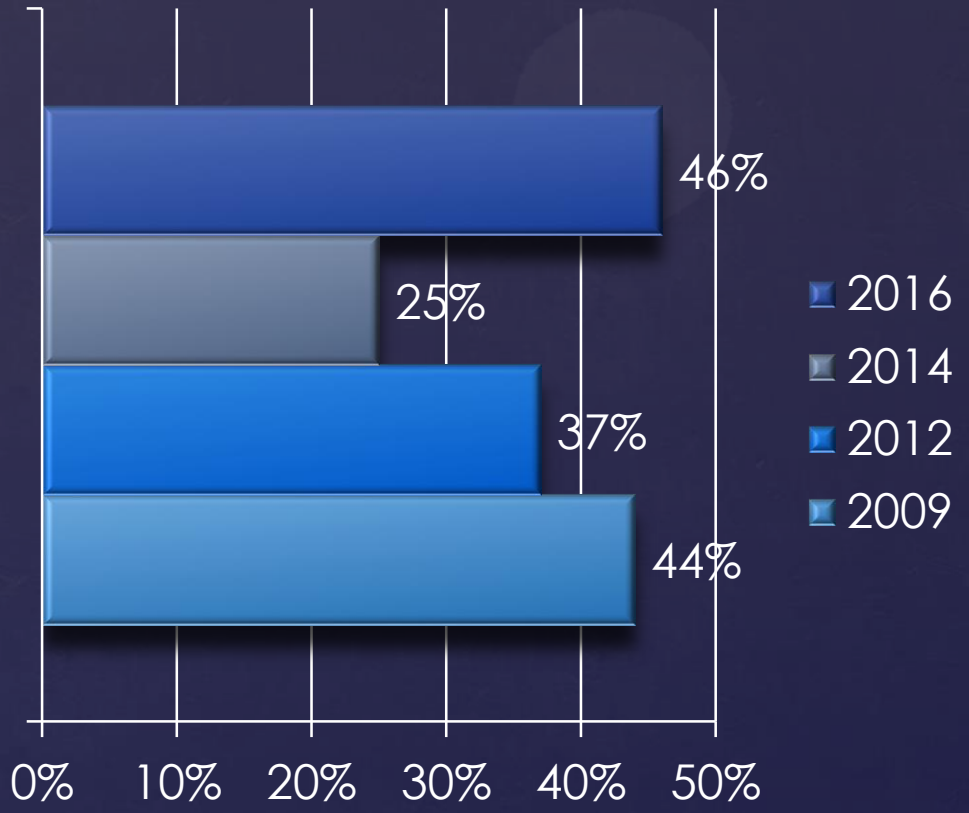
- OF RESIDENTS HAVE OBSERVED **INCREASED FLOODING**

74%

2016 CITY OF MIAMI BEACH RESIDENT SURVEY
ETC INSTITUTE

#1 STORMWATER AND DRAINAGE IS THE MOST IMPORTANT CAPITAL IMPROVEMENT PROJECT FOR RESIDENTS

RESIDENT SATISFACTION WITH EFFORTS TO MANAGE STORMWATER DRAINAGE/ FLOODING



2016 CITY OF MIAMI BEACH RESIDENT SURVEY
ETC INSTITUTE

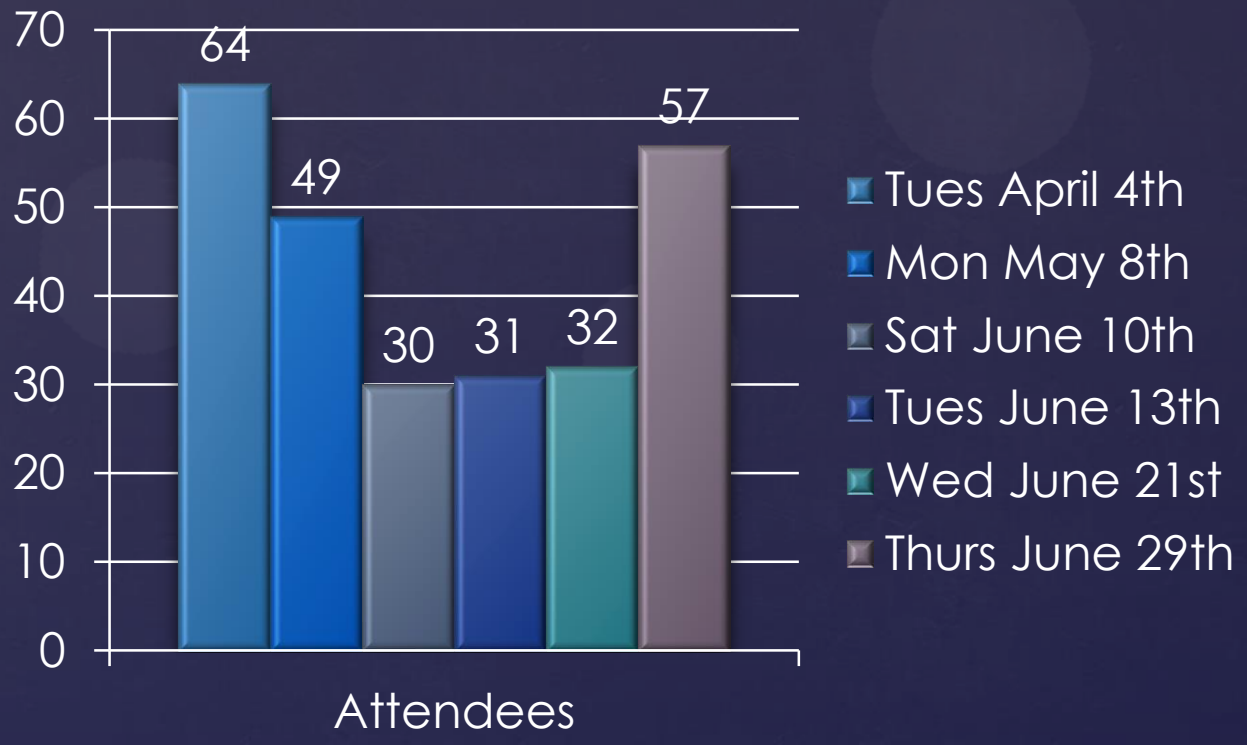
HIGHEST PRIORITIES FOR RESIDENTS

STATISTICALLY VALID SURVEY

1. THE JOB THE CITY IS DOING TO ADDRESS HOMELESSNESS
2. CLEANLINESS OF NEIGHBORHOOD STREETS
3. EFFORTS TO MANAGE STORMWATER DRAINAGE/ FLOODING
4. CLEANLINESS OF CANALS/ WATERWAYS
5. PERFORMANCE IN ADDRESSING NEEDS OF RESIDENTS
6. QUALITY OF POLICE SERVICES

2016 CITY OF MIAMI BEACH RESIDENT SURVEY
ETC INSTITUTE

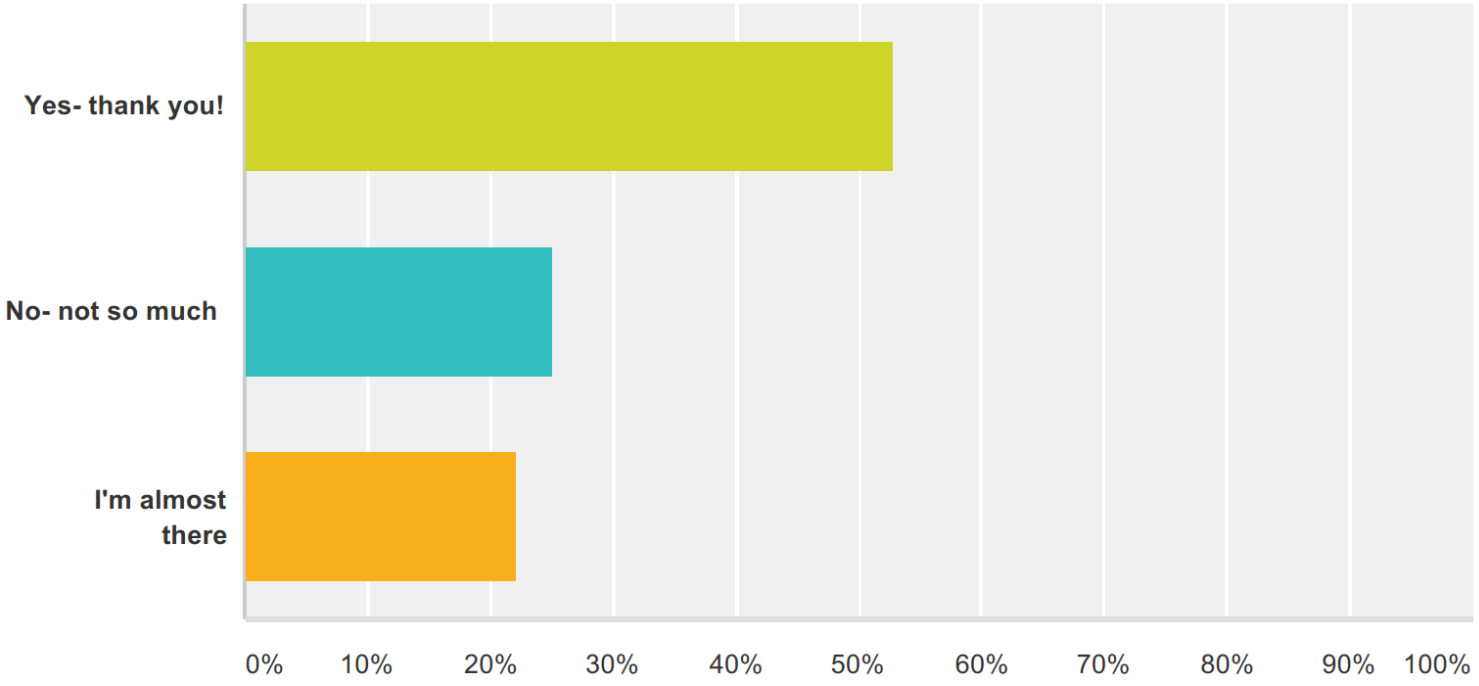
RESILIENCE OPEN HOUSE
263 ATTENDEES



Miami Beach Open House Exit Survey

Q1 Was enough information provided tonight for you? (select one)

Answered: 36 Skipped: 0



	RESIDENT QUESTIONS	STAFF ANALYSIS	ACTION
1	FLOOD INSURANCE IMPACT	FEMA CONTACT AND RESEARCH	FLOOD INSURANCE FACT SHEET CONGRESSIONAL HEARINGS
2	FLOODING IMPACT ON PRIVATE PROPERTY	ENGINEERING REVIEW	ADDITIONAL DRAINAGE INLET DESIGNED
3	ROADWAY ELEVATION	RESILIENCE & GIS PROJECT	ADAPTATION CALCULATOR

PUBLIC FEEDBACK LOOP

	RESIDENT QUESTIONS	STAFF ANALYSIS	ACTION
4	FLOODING IMPACT ON PRIVATE PROPERTY	ENGINEERING REVIEW	DRAINAGE CAPACITY FOR PRIVATE PROPERTY
5	FLOODING IMPACT ON PRIVATE PROPERTY	ENGINEERING REVIEW	COMMISSION RESOLUTION
6	INDIVIDUAL AND NEIGHBORHOOD CONCERNS	IMPROVE PUBLIC ENGAGEMENT METHODS	RESILIENCE OPEN HOUSES AND FAQs
7	HARMONIZATION WITH PRIVATE PROPERTY	INDIVIDUAL ON-SITE CONSULTATION	INDIVIDUAL HARMONIZATION DESIGN

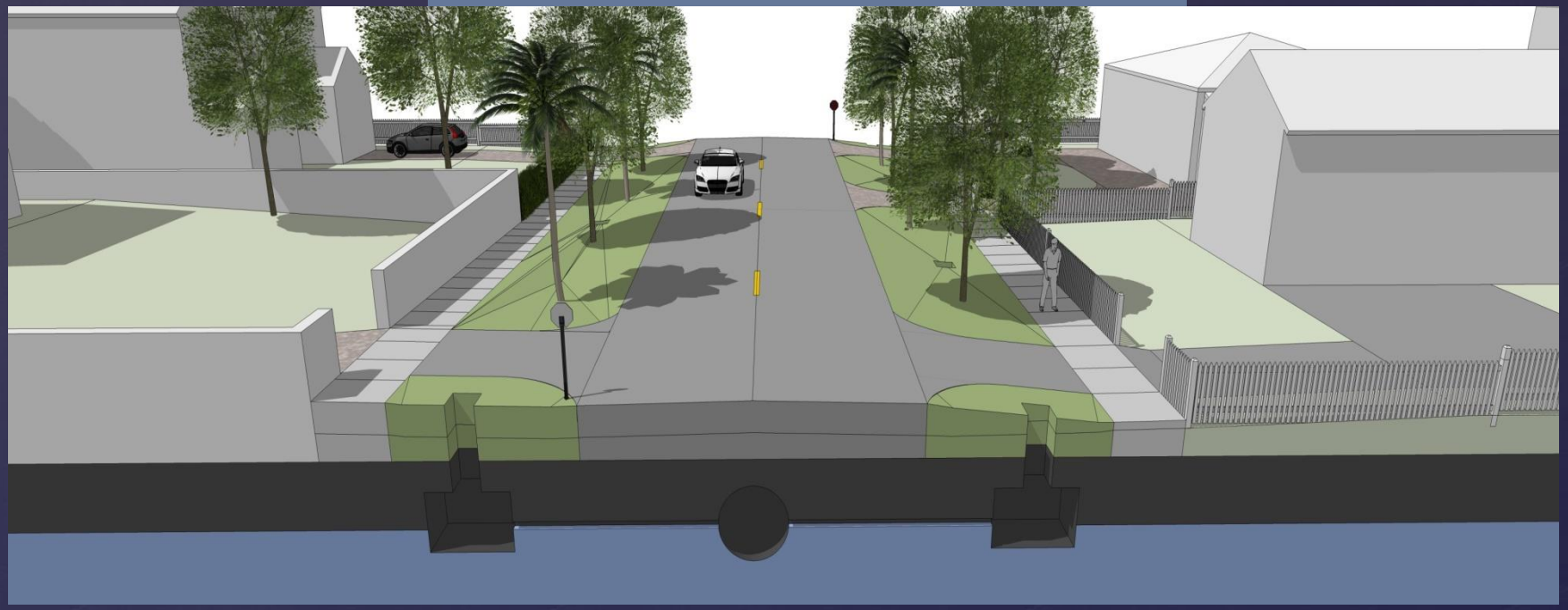
PUBLIC FEEDBACK LOOP

NEW OUTREACH TOOLS

Sample 1

FEEDBACK LOOP OUTREACH TOOL EXAMPLE

Sample 2



FEEDBACK LOOP OUTREACH TOOL EXAMPLE

ADAPTATION
CALCULATOR

FEEDBACK LOOP OUTREACH TOOL EXAMPLE

HISTORY OF FLOODING

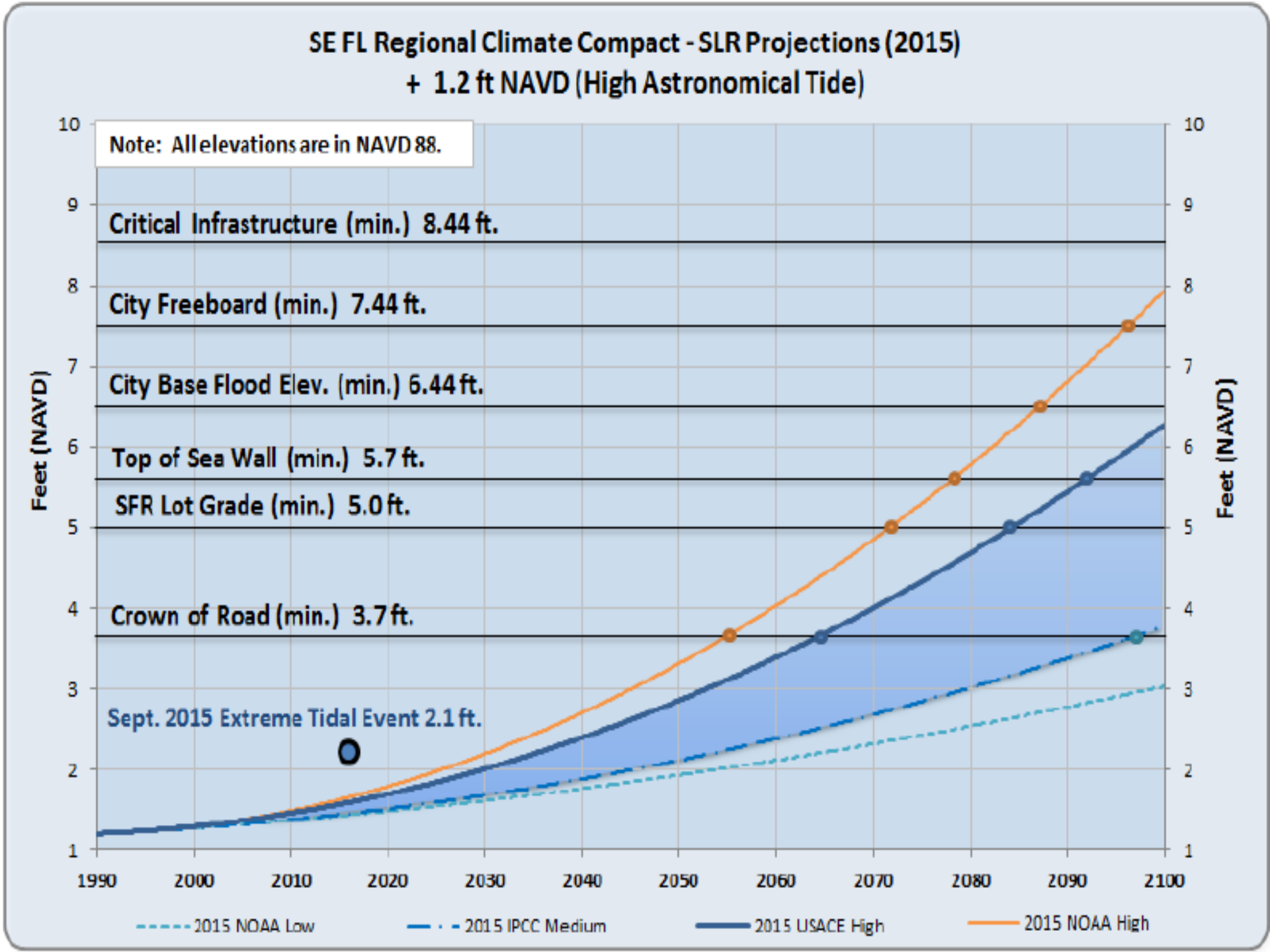
PRIOR TO INFRASTRUCTURE UPGRADES

HISTORY OF FLOODING

PRIOR TO INFRASTRUCTURE UPGRADES

TIMELINE OF ELEVATION-SCIENCE AND ENGINEERING DESIGN CRITERIA

FEB 2014	FEB 2015	SEPT 2015	MAY 2016	JUNE 2016	OCT 2016
R 2014-28499 0.5 Ft-NAVD to 2.7 Ft-NAVD for all tidal boundary conditions. Based on highest tidal events non-storm 1.7 Ft-NAVD	R 2015-28921 Minimum elevation for crown of roads 1' higher (3.7 Ft-NAVD) than the tail water elevation of 2.7 Ft-NAVD For specific projects	Virginia Key Tidal station records highest king tide elevation of 2.07 Ft-NAVD	O 2016-4009 Establishes min 1Ft and max 5 Ft freeboard above FEMA Base Flood Elevation LDR for building height, min elevations yards single family	R 2016-29454 Future crown of road, back of sidewalk elevations 3.7 Ft-NAVD New seawalls min 5.7 Ft-NAVD, Replaced/ repaired seawalls min 4.0 Ft-NAVD	Virginia Key Tidal station records highest king tide elevation of 2.1 Ft-NAVD


SE FL Regional Climate Compact - SLR Projections (2015)
+ 1.2 ft NAVD (High Astronomical Tide)
Note: All elevations are in NAVD 88.
Critical Infrastructure (min.) 8.44 ft.
City Freeboard (min.) 7.44 ft.
City Base Flood Elev. (min.) 6.44 ft.
Top of Sea Wall (min.) 5.7 ft.
SFR Lot Grade (min.) 5.0 ft.
Crown of Road (min.) 3.7 ft.
Sept. 2015 Extreme Tidal Event 2.1 ft.
Feet (NAVD)
10
9
8
7
6
5
4
3
2
1
1990
2000
2010
2020
2030
2040
2050
2060
2070
2080
2090
2100
2015 NOAA Low
2015 IPCC Medium
2015 USACE High
2015 NOAA High

ALL 4 COUNTIES
MORE THAN 1/3 CITIES

Have adopted the Southeast Florida Climate Change Compact Unified Sea Level Rise Projection for Planning

RESILIENCE PROJECTS BENEFITS

New Water Lines

- Reduced chances of water pipe breaks and lapses in water service
- Improved water pressure in your home
- Increased water flow for the Fire Department in case of an emergency

New Wastewater Infrastructure

- Increased protection of near-shore water quality with reduced likelihood of sewage overflows
- Energy savings from reduced inflows
- Lower maintenance costs
- Safeguarding homes and businesses from sewage backups

New Stormwater System

- Improved drainage in rain and high tide events
- Increased protection from hurricane storm surge and sea level rise
- Reduced risk of flood damage to property

New Roads and Sidewalks

- New and improved lighting
- Increased accessibility for emergency vehicles
- Enhanced neighborhood aesthetics with new roadways, sidewalks, and landscaping
- Improved safety for pedestrians

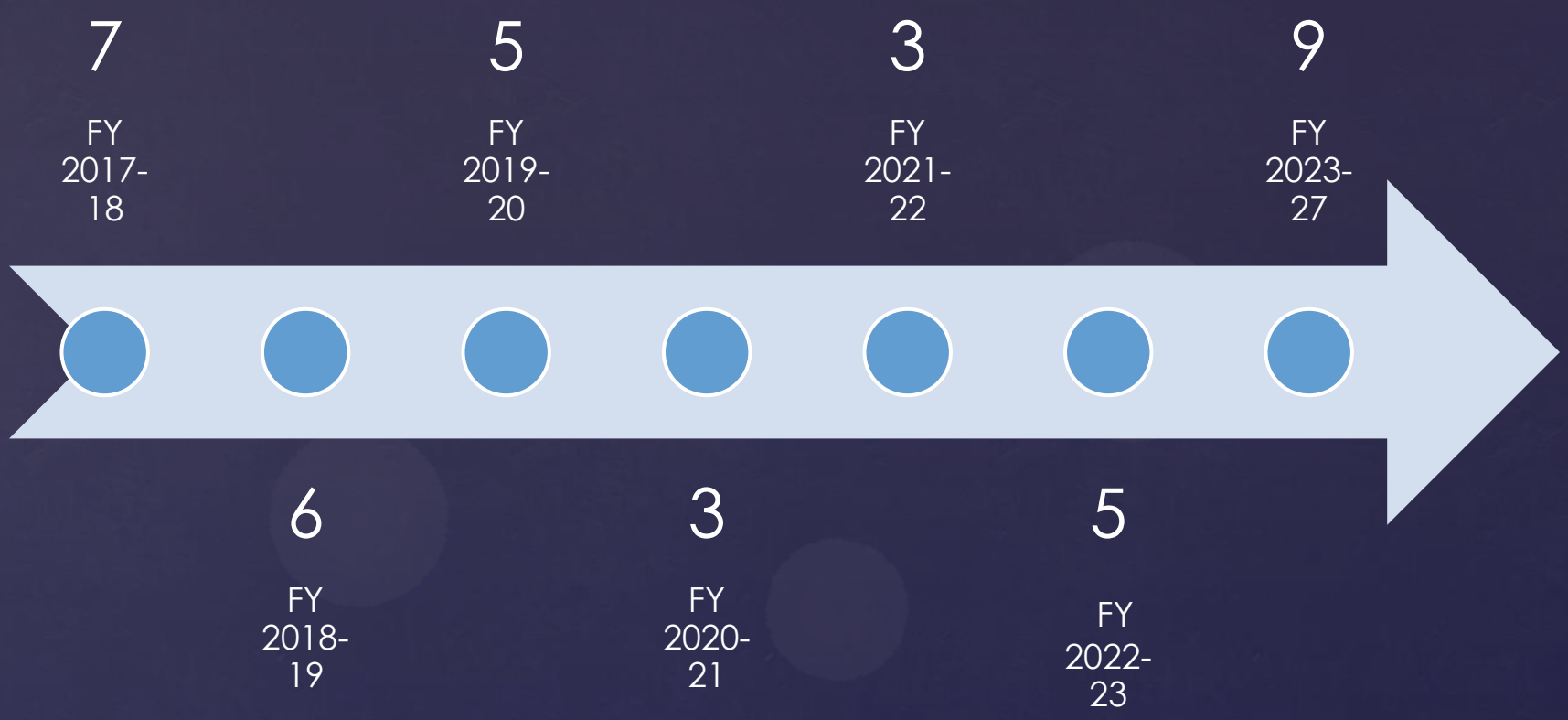
POLICY DECISIONS MADE

- TO INVEST IN AND REPLACE AGING INFRASTRUCTURE
  STORMWATER, WATER, WASTEWATER, ROAD
- TO USE CLIMATE CHANGE COMPACT SCIENCE
- TO ADAPT TO SEA LEVEL RISE

PENDING DECISIONS FEEDBACK NEEDED

- TIMING OF PROJECTS
- PRIVATE PROPERTY HARMONIZATION
- LOCALIZED AND INDIVIDUAL DESIGN

DISCUSSION & DECISIONS



PROJECTS DISCUSSION with MAP HANDOUT

NUMBER OF NEIGHBORHOOD PROJECTS PLANNED PER FISCAL YEAR (FY)

THANK YOU!