

# Scituate Harbor Resiliency Master Plan

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**Task Force Meeting #2**

**September 24<sup>th</sup>, 2019**



# Scituate Harbor Resiliency Master Plan

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## Task Force Meeting #2 Agenda

- ***Draft Existing Challenges and Opportunities Memo***
- **Focus Group Meetings Review**
- **Resiliency Assessment and Action Plan**
- **Community Forum – October 29<sup>th</sup>, 2019**
- **Next Steps**



# Existing Challenges and Opportunities

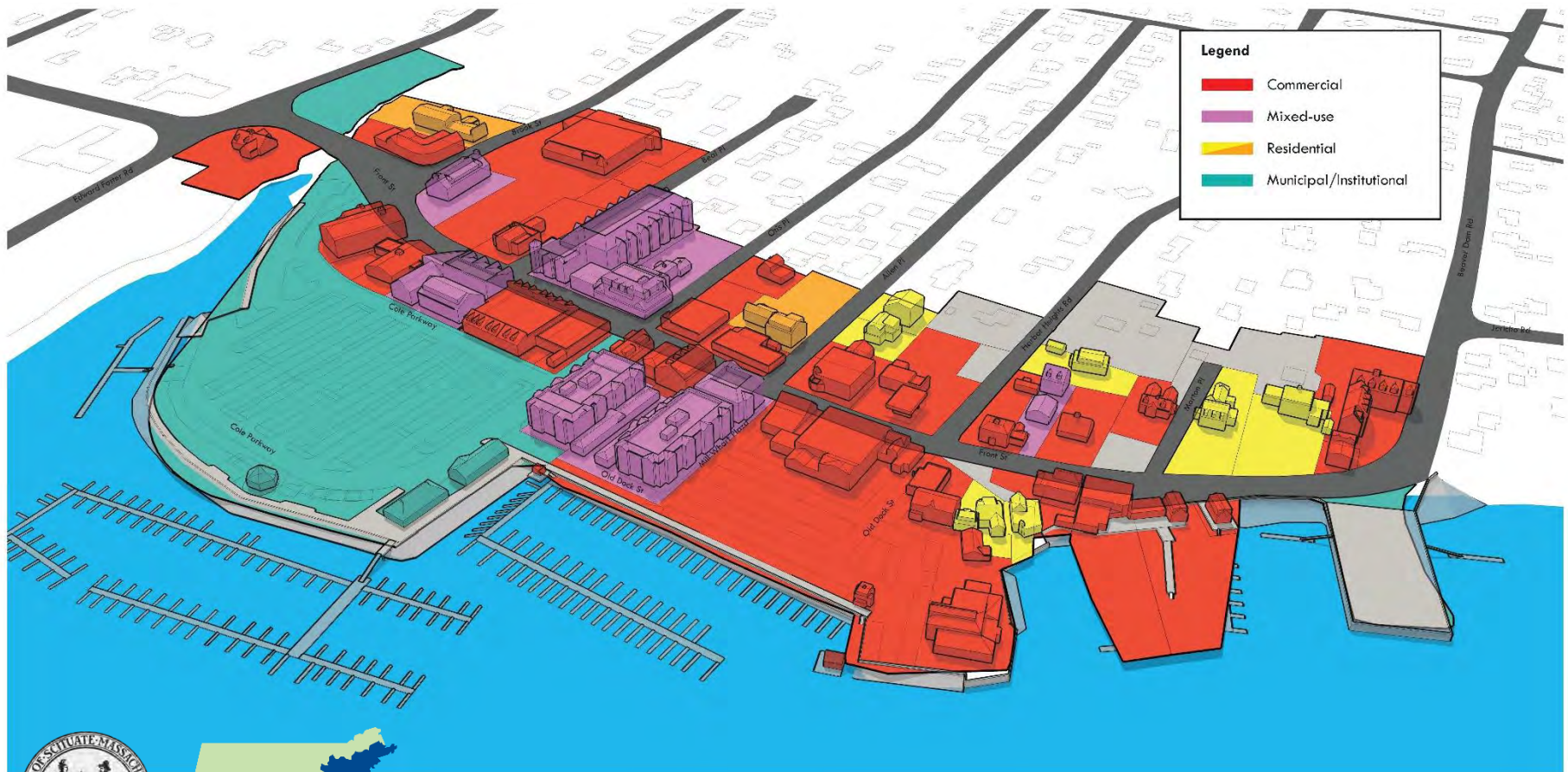
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# Existing Challenges and Opportunities

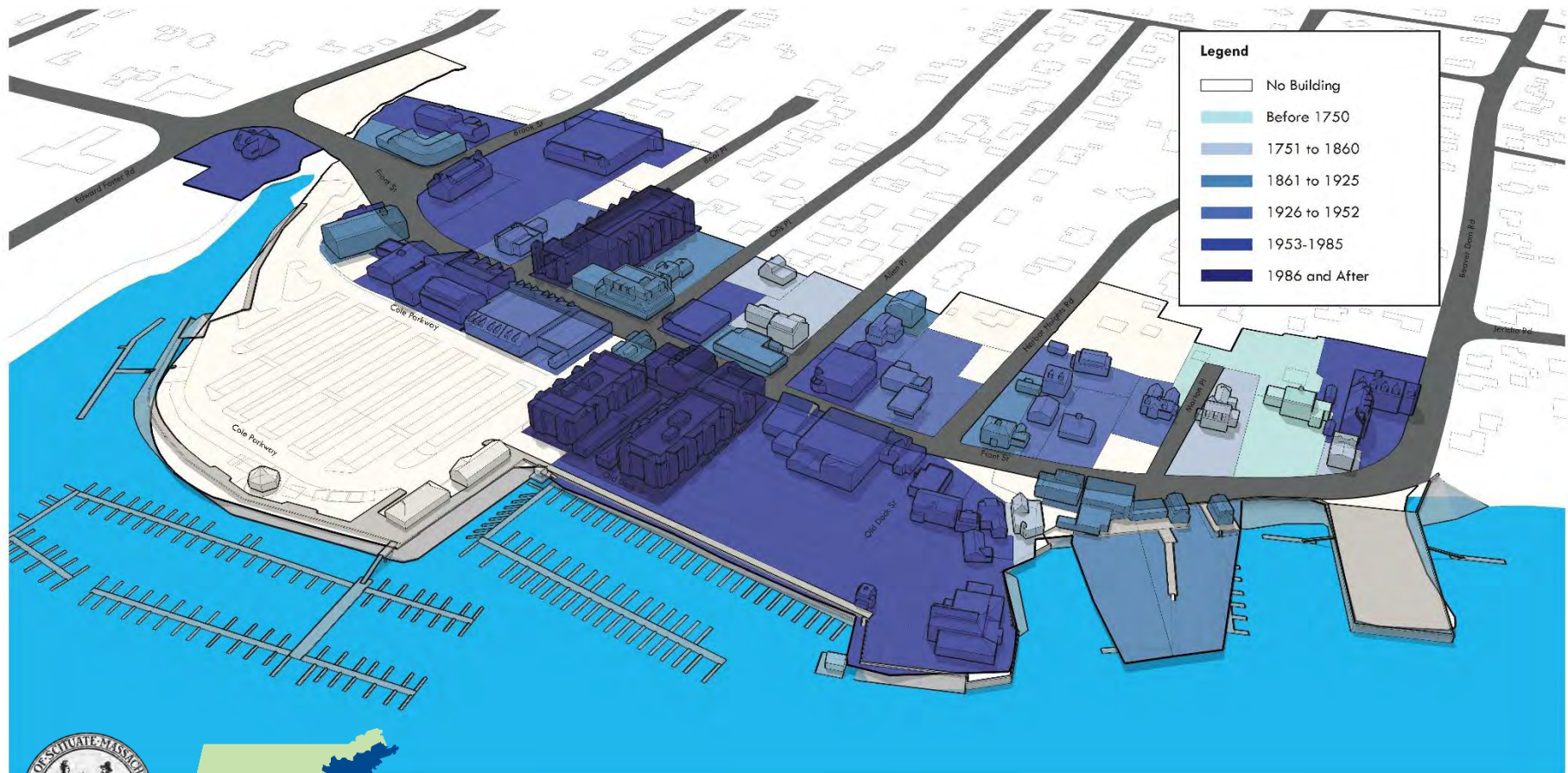
## Existing Conditions Mapping – Land Use





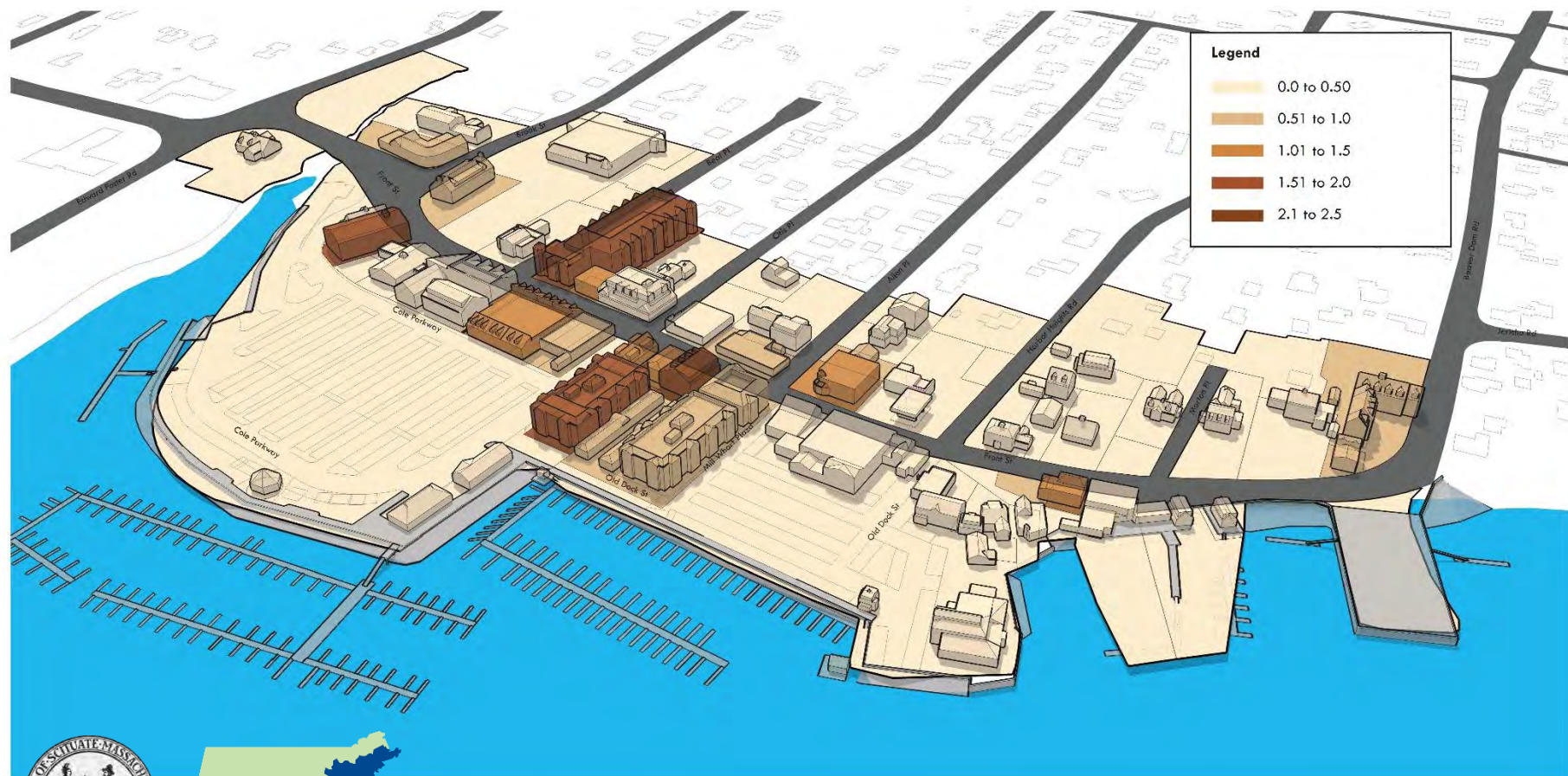
# Existing Challenges and Opportunities

## Existing Conditions Mapping – Age of Structures



# Existing Challenges and Opportunities

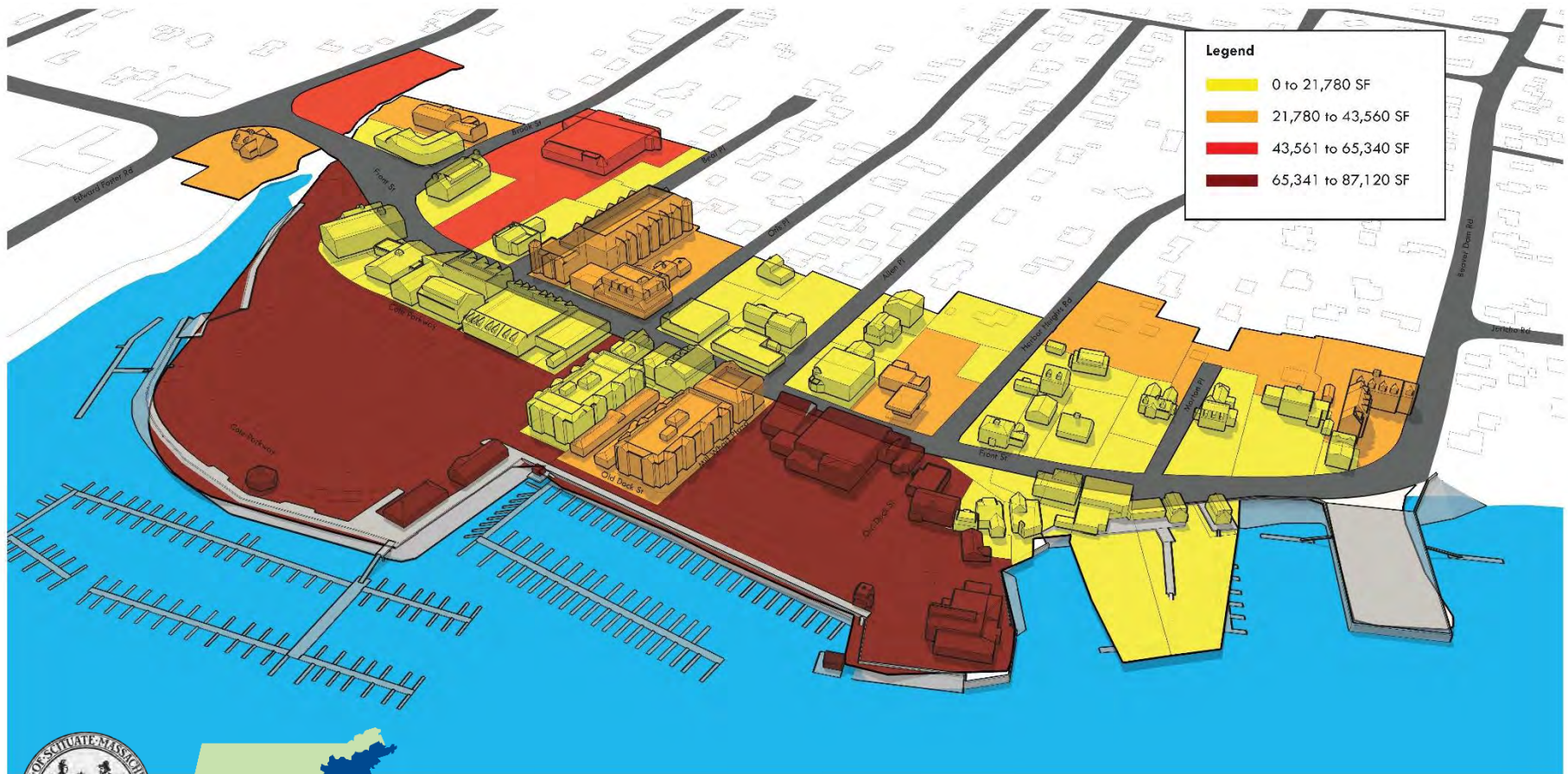
## Existing Conditions Mapping – Density of Structures (FAR)





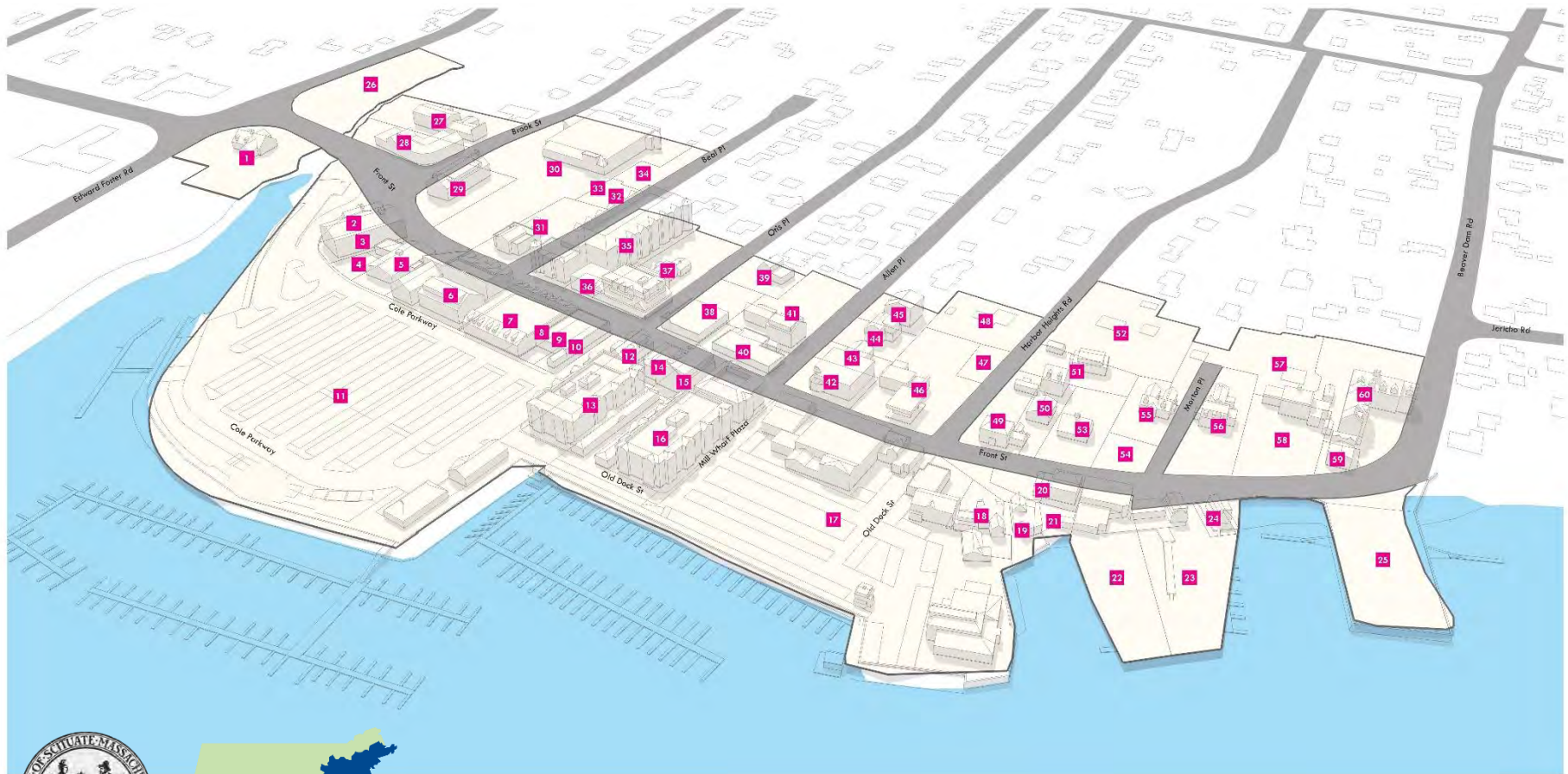
# Existing Challenges and Opportunities

## Existing Conditions Mapping – Size of Properties



# Existing Challenges and Opportunities

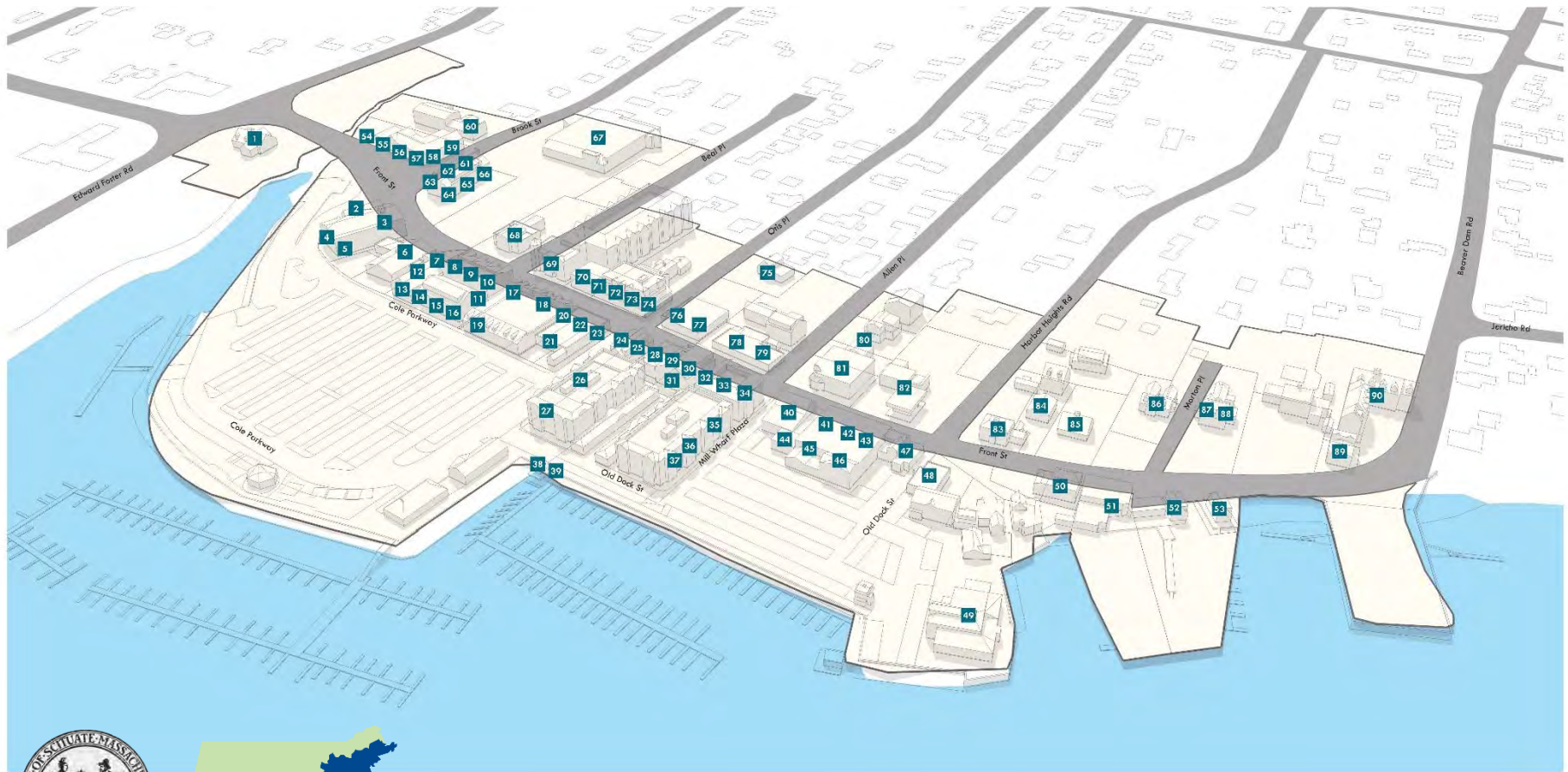
## Property Inventory and Map





# Existing Challenges and Opportunities

## Business Inventory and Map





# Focus Group Meetings Review

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# Scituate Harbor Resiliency Master Plan

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## Focus Group Meetings

- **Tuesday, August 20<sup>th</sup> and Wednesday August 21<sup>st</sup>**
- **90 minute meetings**
- **(6) Focus Groups** (34 individuals):
  - Front Street (non-water-based) Businesses (7)
  - Cultural Institutions, Committees, Organizations (6)
  - Water-based Businesses (2)
  - Municipal Staff (12)
  - Property Owners (3)
  - Residents (4)
- **Follow-up survey to invitees that could not attend**
  - 13 responses as of 9/24/19



A background image showing a flooded street in a residential area. The water is murky and reflects the overcast sky. In the background, there are multi-story houses with brick and siding, some with porches. Power lines and poles are visible above the street. The overall tone is somber and highlights the impact of flooding.

This study seeks to identify specific and viable long term **solutions to improve the resilience** of Scituate Harbor.

Solutions can only be identified if we **clearly define the problem** we are trying to solve.

This meeting is an initial step in that process of defining the problem and identifying solutions.



# Scituate Harbor Resiliency Master Plan

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## Focus Group Meeting Agenda

- **Introductions**
- **Study introduction**
- **Interactive Resiliency Game**
- **Facilitated Exercises**
  - **Share your experiences**
  - **Help us define the problem**
  - **Discuss possible solutions**
- **Open Discussion and Next Steps**



# Interactive Resiliency Game

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# The Ocean Game: The sea is rising. Can you save your town?

By ROSANNA XIA, SWETHA KANNAN, TERRY CASTLEMAN

JULY 7, 2019

The sea is rising higher and faster — California could see a jump of more than 9 feet by the end of the century. Flooding and erosion threaten homes. Beaches could vanish. But everyone insists: This is a game that can be won.

**Objective:** You are in charge. *Can you save your town within 8 turns?*

Play



<https://www.latimes.com/projects/la-me-climate-change-ocean-game/>



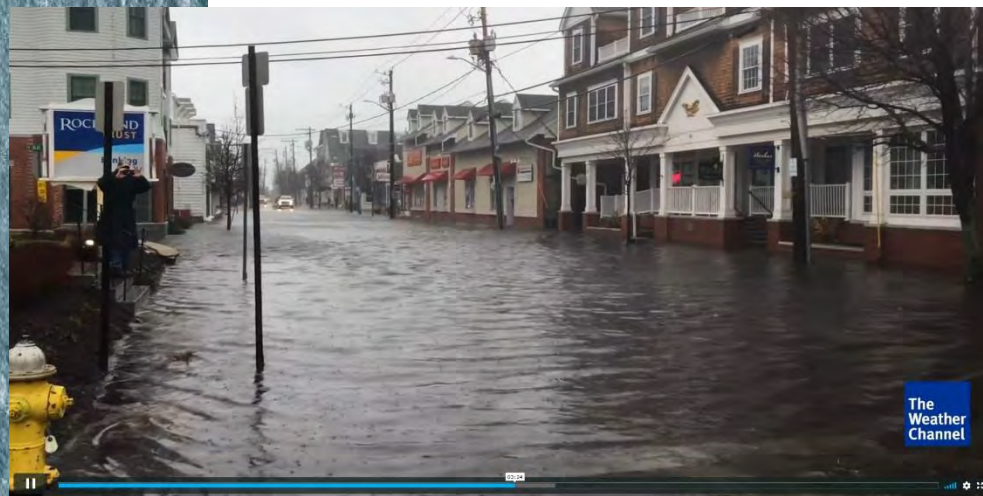
# Help Us Define the Problem

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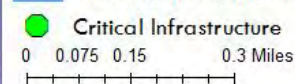
# Scituate Harbor Resiliency Current Flood Zones



## FEMA National Flood Hazard Layer

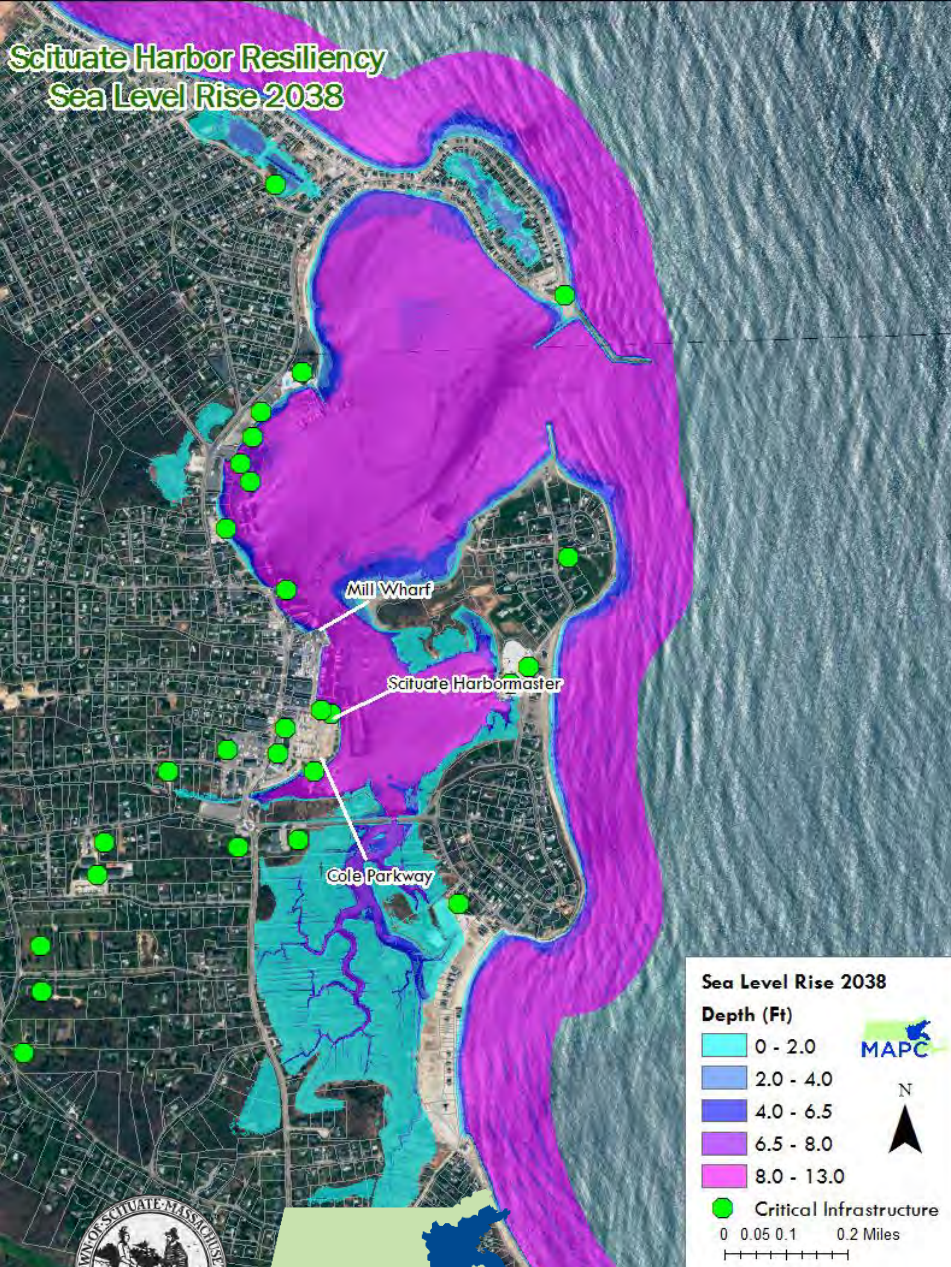
### Type

- VE: High Risk Coastal Area
- X: 0.2% Annual Chance of Flooding
- 1% Annual Chance Flood
- Critical Infrastructure



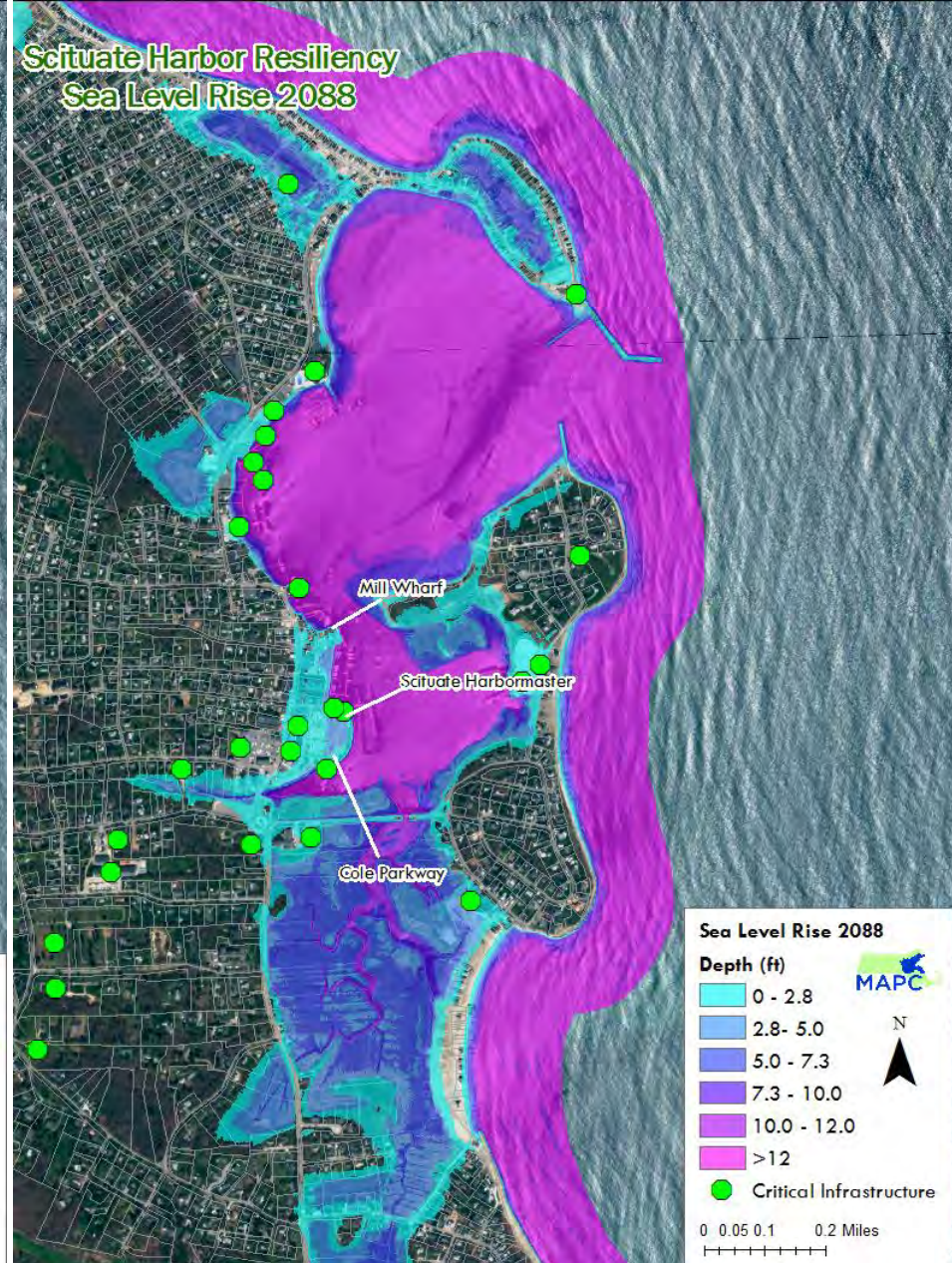


# Scituate Harbor Resiliency Sea Level Rise 2038



MAPC

# Scituate Harbor Resiliency Sea Level Rise 2088

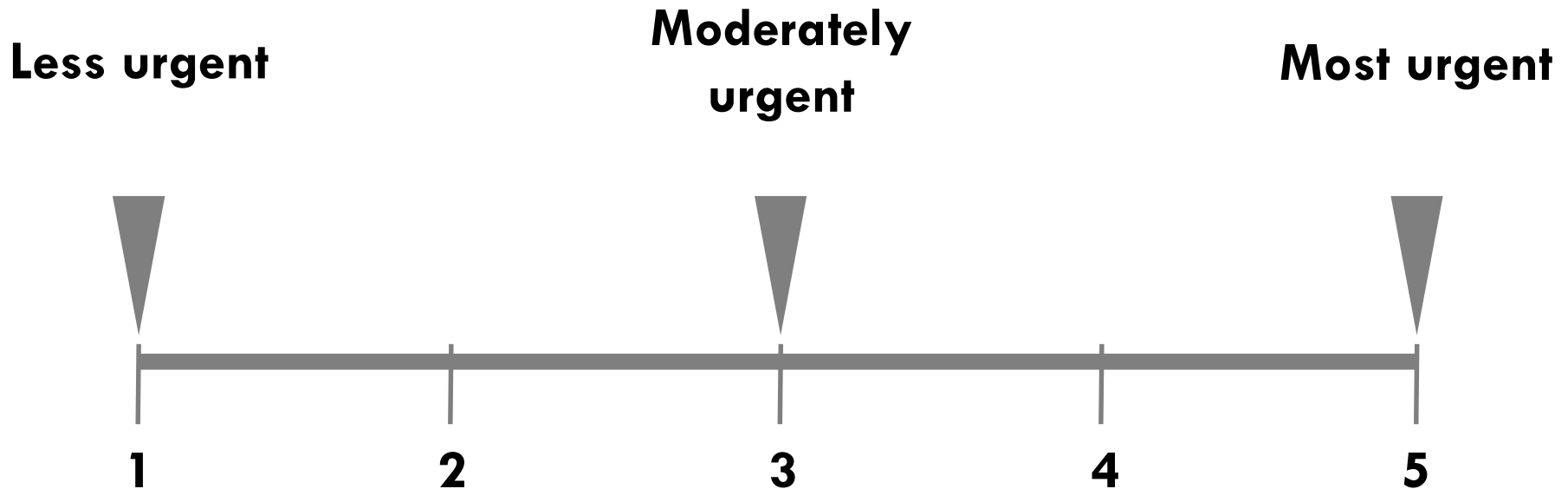




# *Help us define the problem:*

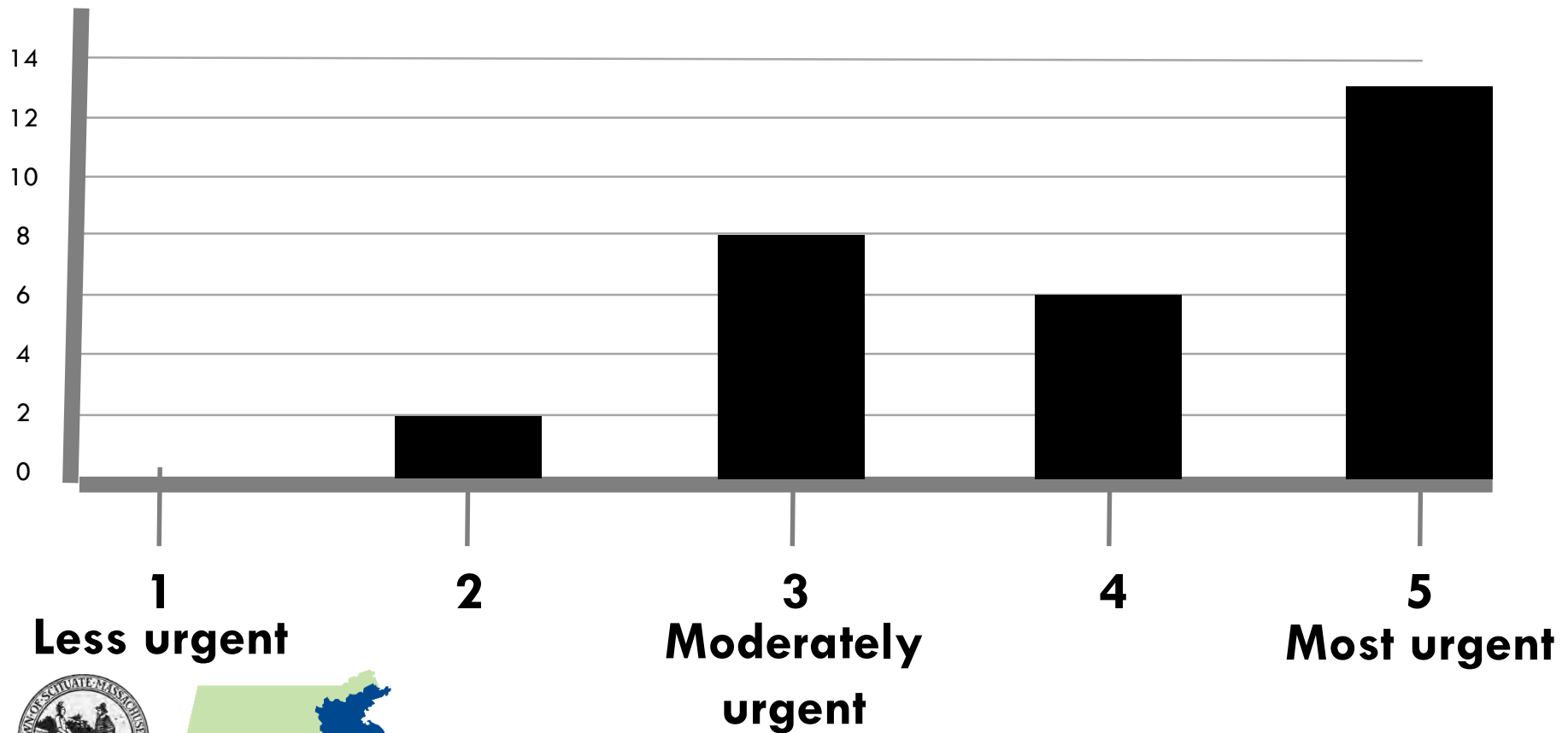
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## HOW URGENT DO YOU FEEL COASTAL FLOODING ISSUES ARE?



# Initial Results

## HOW URGENT DO YOU FEEL COASTAL FLOODING ISSUES ARE?





# *Help us define the problem:*

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**WHERE HAVE YOU SEEN THE BIGGEST ISSUES WITH FREQUENT FLOODING?**



# Initial Results

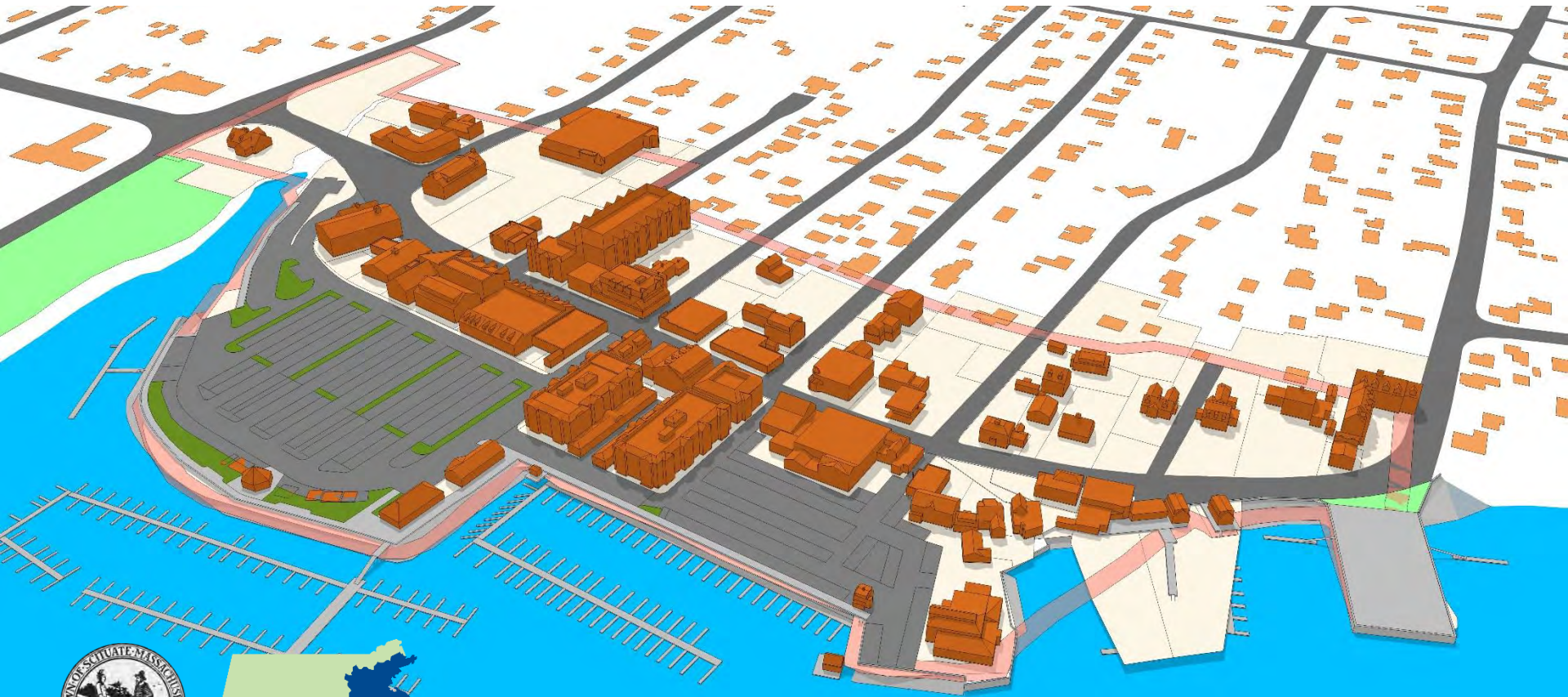
**WHERE HAVE YOU SEEN THE BIGGEST ISSUES WITH FREQUENT FLOODING?**





# *Help us define the problem:*

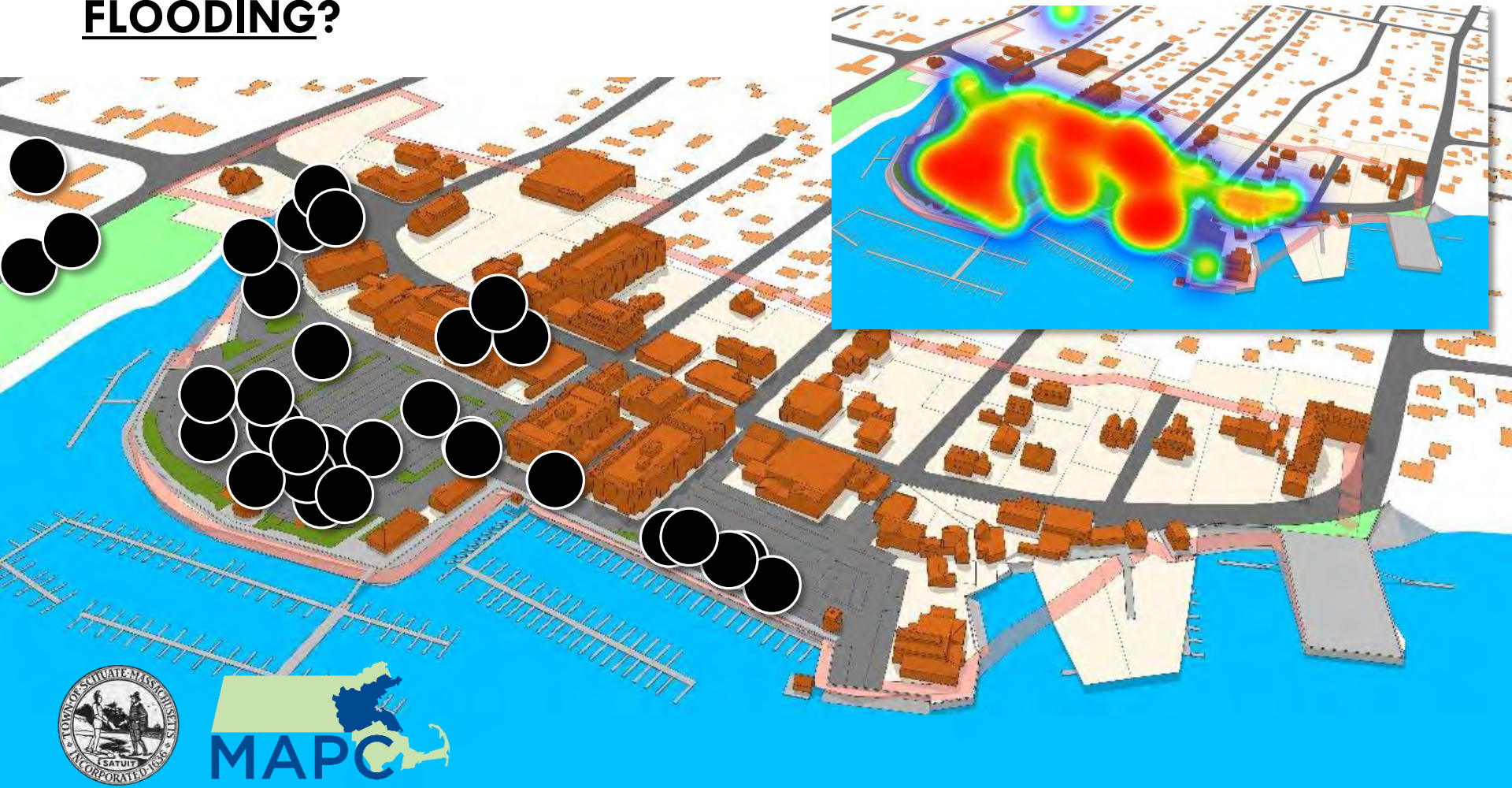
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# Initial Results

**WHERE HAVE YOU SEEN THE BIGGEST ISSUES WITH FREQUENT FLOODING?**





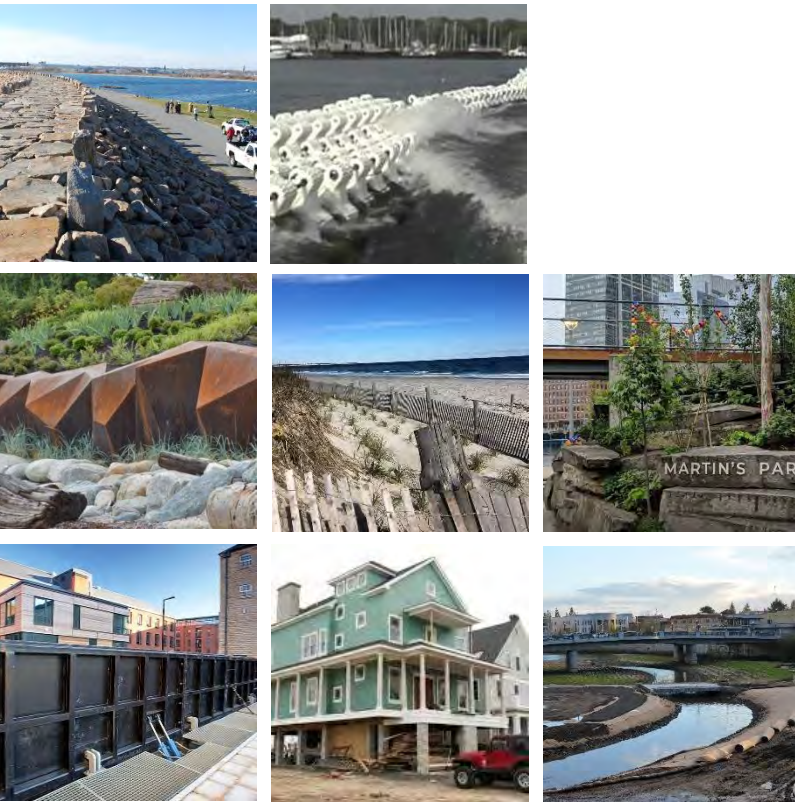
# Discuss Possible Solutions

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# Scituate Harbor Resiliency Master Plan

## Potential Solutions Inventory











- **Open Ocean Adaptation**
  - Fortification (*outer/inner harbor barrier, hurricane gate*)
  - Attenuation (*wave attenuation/dampers*)
- **Coastal/Harbor Adaptation**
  - Fortification (*sea wall, boulders, sheet piling*)
  - Attenuation (*beach nourishment, living shorelines, oyster reefs, break waters*)
  - Elevated (*earthen berms, elevated harbor walk*)
- **Land Adaptation**
  - Fortification (*flood proofing buildings/infrastructure*)
  - Elevated (*elevate buildings/infrastructure, utilities*)
  - Accommodate (*floodable buildings/infrastructure, flood diversions*)
  - Migrate (*buy-out, relocation, zoning changes*)





# Potential solutions matrix:

Open Ocean Adaptation		Potential Investment	Potential Environmental Impact	Public or Private Funding	Example
		\$ \$ \$ \$			
<b>A Fortification</b> (outer/inner harbor barrier, hurricane gate)		\$ \$ \$ \$		Public or Private Funding	
<b>B Attenuation</b> (wave attenuation/dampers)		\$ \$ \$ \$		Public or Private Funding	
Coastal/Harbor Adaptation					
<b>C Fortification</b> (sea wall, boulders, sheet piling)		\$ \$ \$ \$		Public or Private Funding	
<b>D Attenuation</b> (beach nourishment, living shorelines, oyster reefs, break waters)		\$ \$ \$ \$		Public or Private Funding	
<b>E Elevated</b> (earthen berms, elevated harbor walk)		\$ \$ \$ \$		Public or Private Funding	
Land Adaptation					
<b>F Fortification</b> (flood proofing buildings/infrastructure)		\$ \$ \$ \$		Private Funding	
<b>G Elevated</b> (elevate buildings/infrastructure, utilities)		\$ \$ \$ \$		Public or Private Funding	
<b>H Accommodate</b> (floodable buildings/infrastructure, flood diversions)		\$ \$ \$ \$		Public or Private Funding	
<b>I Migrate</b> (buy-out, relocation, zoning changes)		\$ \$ \$ \$		Public Funding	



DRAFT FOR DISCUSSION

# Potential solutions diagram:





# Initial Results

## Open Ocean Adaptation

**Fortification** (outer/inner harbor barrier, hurricane gate)

**Attenuation** (wave attenuation/dampers)

## Coastal/Harbor Adaptation

**Fortification** (sea wall, boulders, sheet piling)

**Attenuation** (beach nourishment, living shorelines, oyster reefs, break waters)

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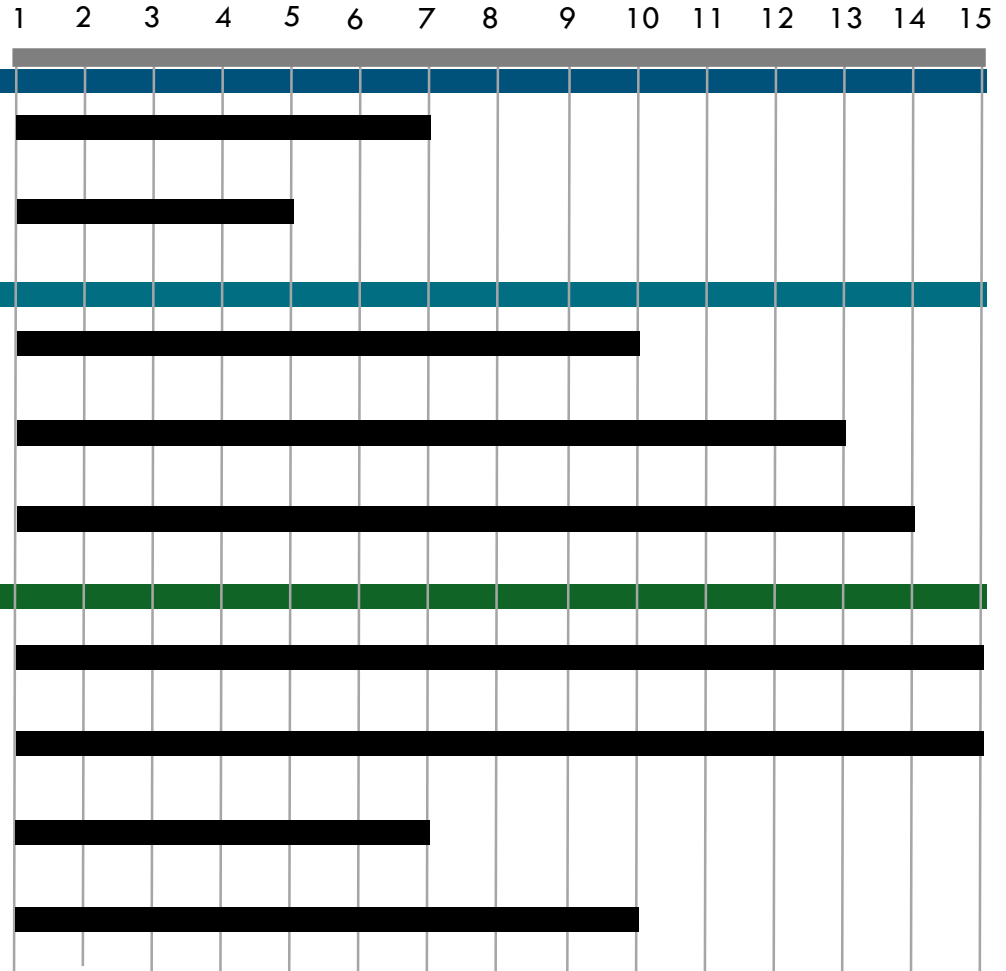
## Land Adaptation

**Fortification** (flood proofing buildings/infrastructure)

**Elevated** (elevate buildings/infrastructure, utilities)

**Accommodate** (floodable buildings/infrastructure, flood diversions)

**Migrate** (buy-out, relocation, zoning changes)



# Share Your Experiences

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# ***Initial Results***

## **WHAT IS WORKING WELL TODAY?**

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# Initial Results

## WHAT IS NOT WORKING TODAY?

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# ***Initial Results***

**WHAT MUST BE HERE IN THE FUTURE?**

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# *Help us define the problem:*

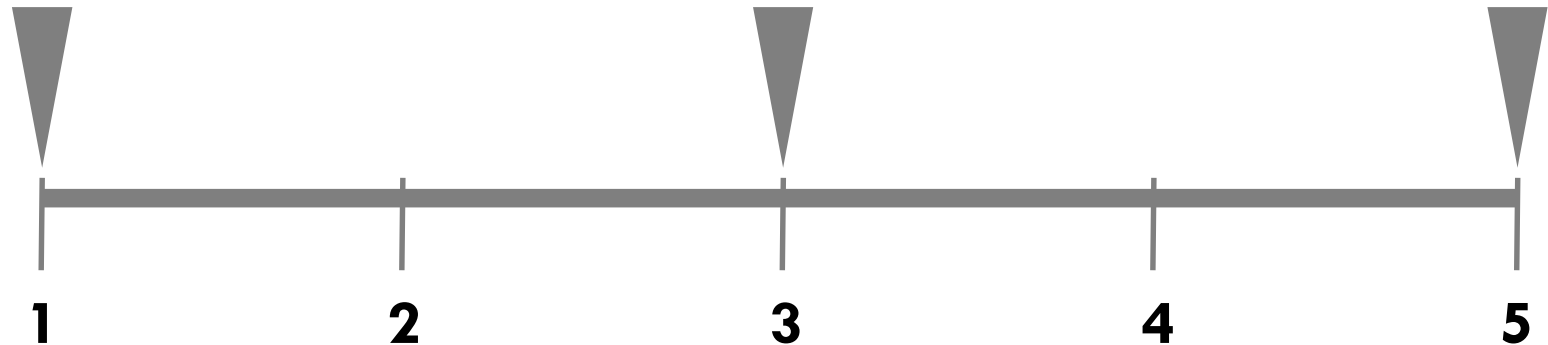
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## WHAT SHOULD BE DONE COLLECTIVELY TO SAVE ALL THAT?

**Very little, it  
is a lost  
cause**

**Strategic  
investments, that  
have other benefits**

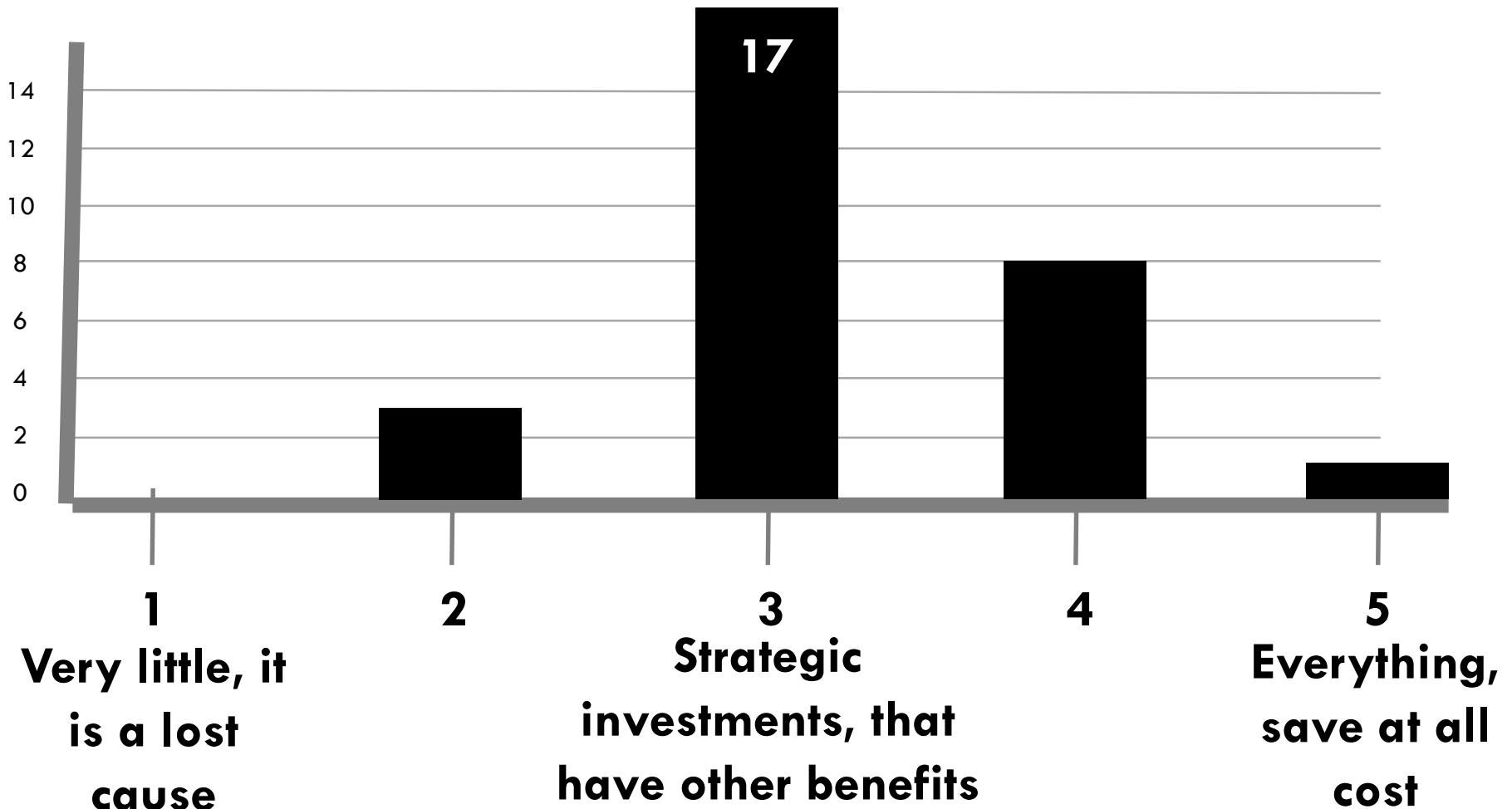
**Everything,  
save at all  
cost**





# Initial Results

## WHAT SHOULD BE DONE COLLECTIVELY TO SAVE ALL THAT?



# *Help us define the problem:*

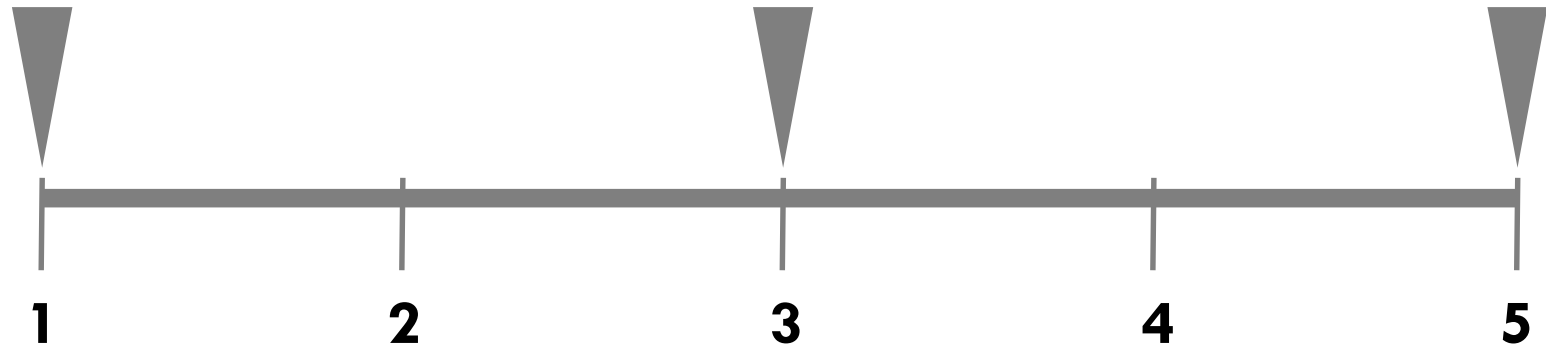
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## WHAT WOULD YOU DO TO SAVE ALL THAT?

**Will not  
spend my  
money**

**Continuously  
evaluate cost  
and benefit**

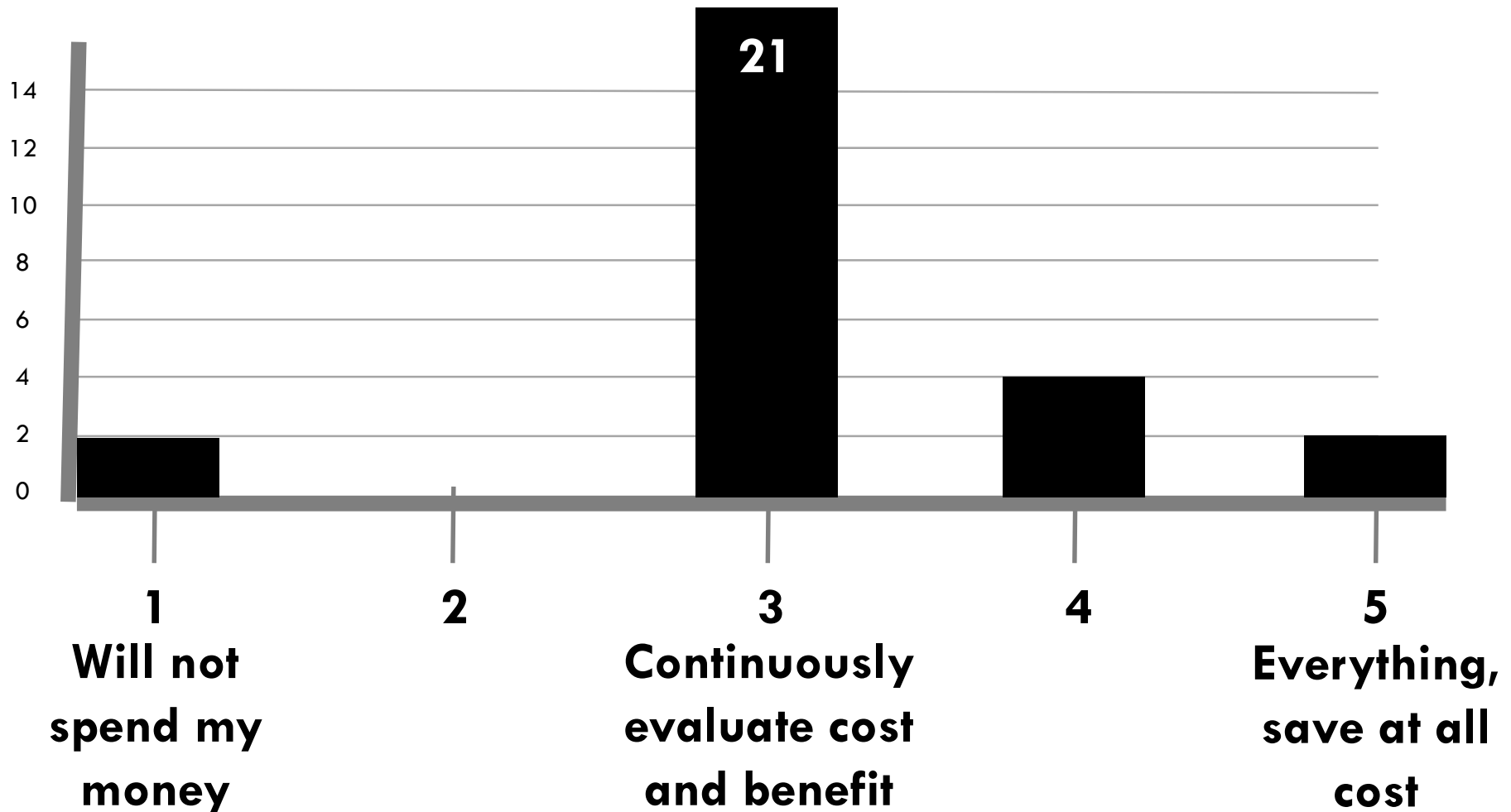
**Everything,  
save at all  
cost**





# Initial Results

## WHAT WOULD YOU DO TO SAVE ALL THAT?



# Resiliency Risk Assessment and Action Plan

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# Risk Assessment

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*Risks (probability and severity)*

**Solutions**

## Environmental

- **Sea level rise/storm surge**
- **Increasing precipitation and severe weather events**
- **Stormwater** (capacity, water quality, damage, green infrastructure, backflow)
- **Extreme heat** (least likely for Scituate Harbor)

## Economic

- **Property impacts**
- **Infrastructure impacts** (including energy, utilities)
- **Climate-driven changes to water-businesses**
- **Weather and climate disruption to businesses**

## Social

- **Disproportionately impacted groups**



# Scituate Harbor Resiliency Current Flood Zones



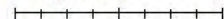
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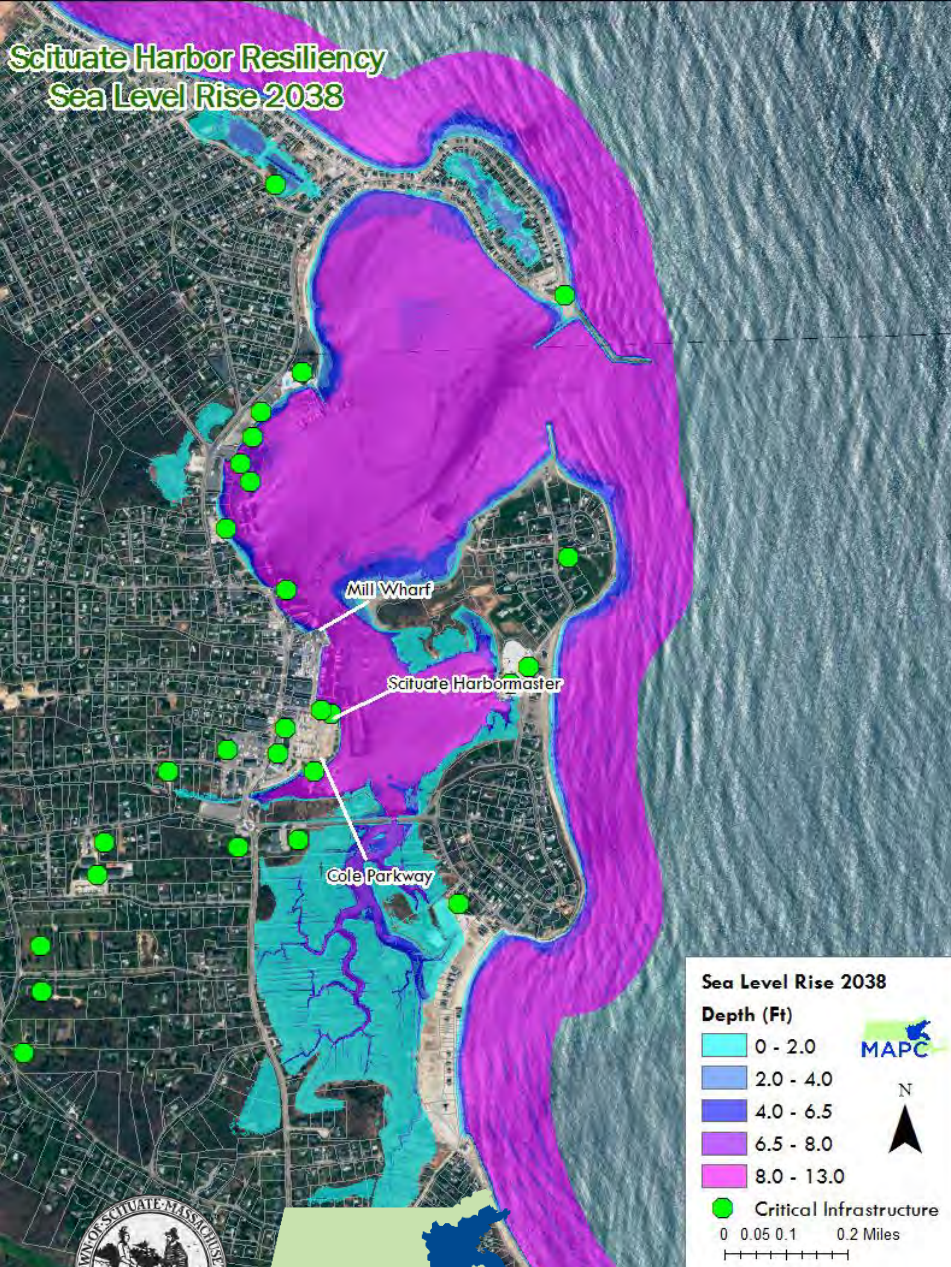
0 0.075 0.15 0.3 Miles



09/24/19

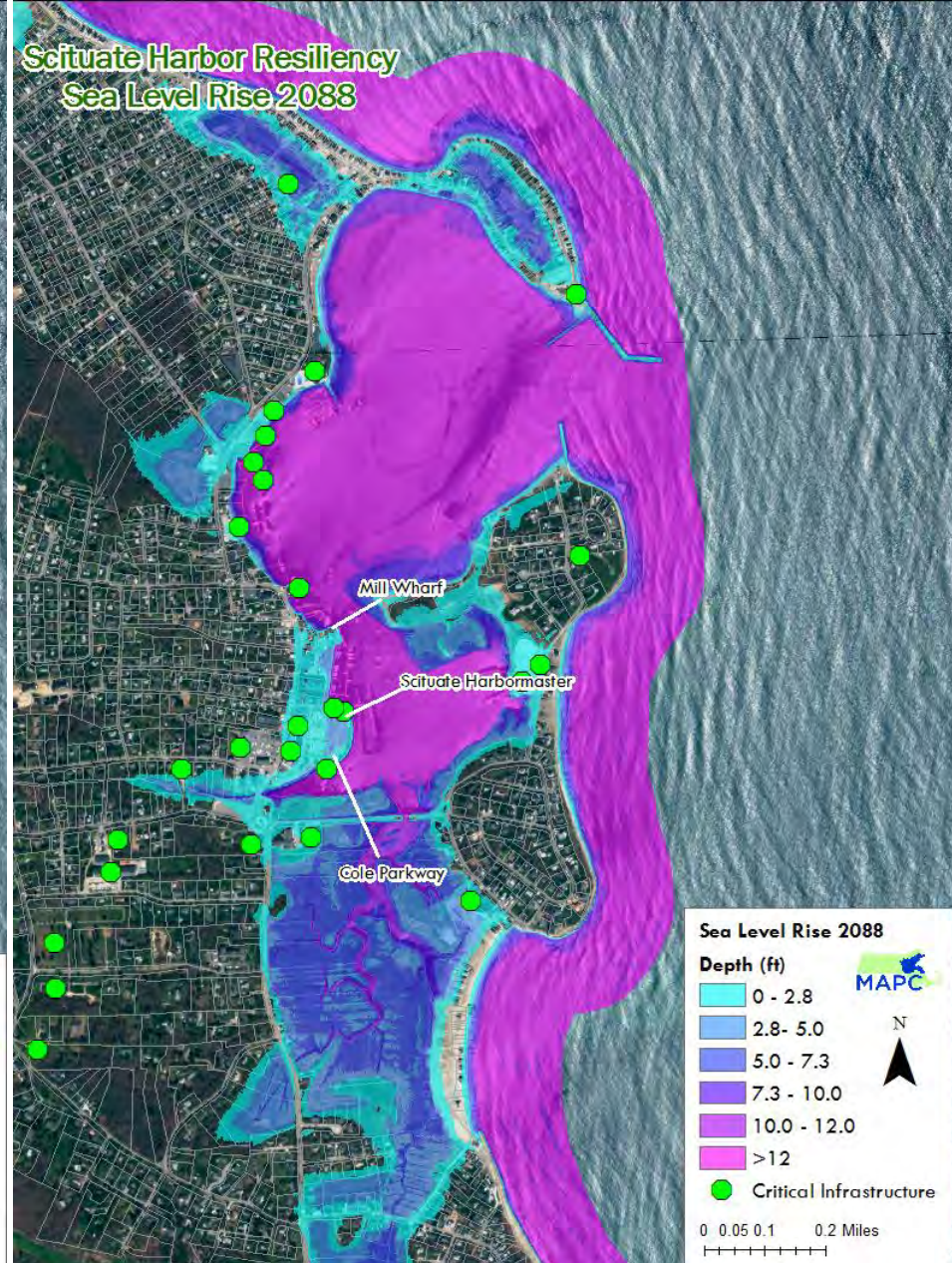


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MAPC

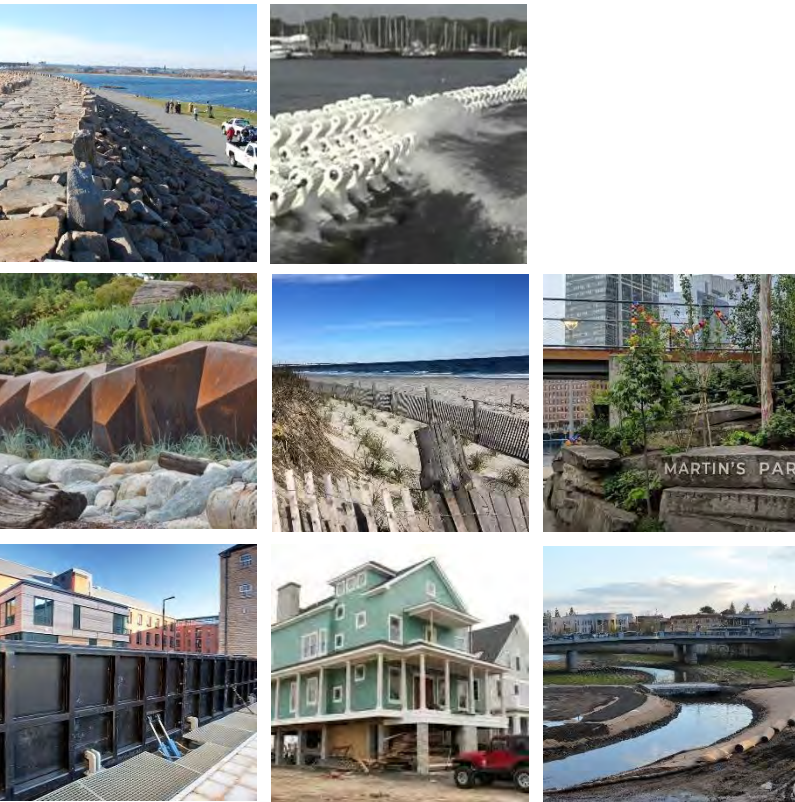
# Scituate Harbor Resiliency Sea Level Rise 2088





# Scituate Harbor Resiliency Master Plan

## Potential Solutions Inventory









































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# Potential solutions matrix:

		Potential Investment	Potential Environmental Impact	Public or Private Funding	Example
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**DRAFT FOR DISCUSSION**

# Potential solutions diagram:





# Community Forum

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# Scituate Harbor Resiliency Master Plan

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## Community Forum Agenda – October 29<sup>th</sup>, 2019

- **Study Introduction**
- **Opportunities and Challenges (with exercise)**
- **Resiliency Assessment (with exercise)**
- **Action Planning (with exercise)**
- **Next Steps**






# Scituate Harbor Resiliency Master Plan

PLEASE JOIN US FOR A

## COMMUNITY FORUM

TO DISCUSS RESILIENCE, SUSTAINABILITY, AND INVESTMENT IN  
**SCITUATE HARBOR**

DATE: TUESDAY, OCTOBER 29<sup>TH</sup>, 2019  
TIME: 7:00 to 8:30PM  
LOCATION: Scituate Harbor Community Building  
Community Room  
44 Jericho Road



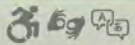
### SCITUATE HARBOR RESILIENCY MASTER PLAN



The Town of Scituate is developing a Scituate Harbor Resiliency Master Plan to guide future growth, conservation and infrastructure enhancements over the next 25 years. The overall goal of the project is to create short-term and long-term recommendations that strengthen the resilience and vitality of the coastal business district through public and private investments, updates to district zoning, and defining design guidelines. The project will define and illustrate desired land use characteristics, building and patterns, public realm elements (including streetscape and open spaces), and green infrastructure improvements. The Master Plan will be phased over the next 25 years, providing flexibility and balancing the economic and resiliency goals of the community.

This plan will be developed through a public process engaging the community's residents, business owners, property owners, and leadership. The recommendations will be based upon community involvement and supported by research and analysis.

Please join us on October 29th at 7:00 pm at the Scituate Harbor Community Room for the first Community Forum for this public process. Learn more about the study with a presentation by MAPC and share your input to guide this process.

Additional background for the project, including updates throughout the process can be found on the project's website at: <https://www.mapc.org/resource-library/resilient-scituate-harbor/>

 If you need special assistance or translation services, please contact MAPC at (617) 933-0760 or [jfale@mapc.org](mailto:jfale@mapc.org)



# Next Steps

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# Scituate Harbor Resiliency Master Plan

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- **Prepare and outreach for forum**
- **Community Forum (10/29/19)**
- Refine Resiliency Action Plan
- Vision Plan and outlined actions
- Next Task Force Meeting (November)
- Community Open House (December)



# Schedule

Task	Year/Month													
	2019								2020					
	05	06	07	08	09	10	11	12	01	02	03	04	05	06
<b>Task 1 – Existing Conditions</b>														
<b>Task 2 – Review of Relevant Plans and Policies</b>														
<b>Task 3 – Resiliency Assessment and Action Plan</b>														
<b>Task 4 – Vision Plans/Zoning Amendments</b>														
<b>Task 5 – Implementation Plan</b>														
<b>Task 6 – Community Engagement</b>	Preparation and Engagement				More Public-facing Engagement									
Task Force Meetings														
Community Engagement Meetings														

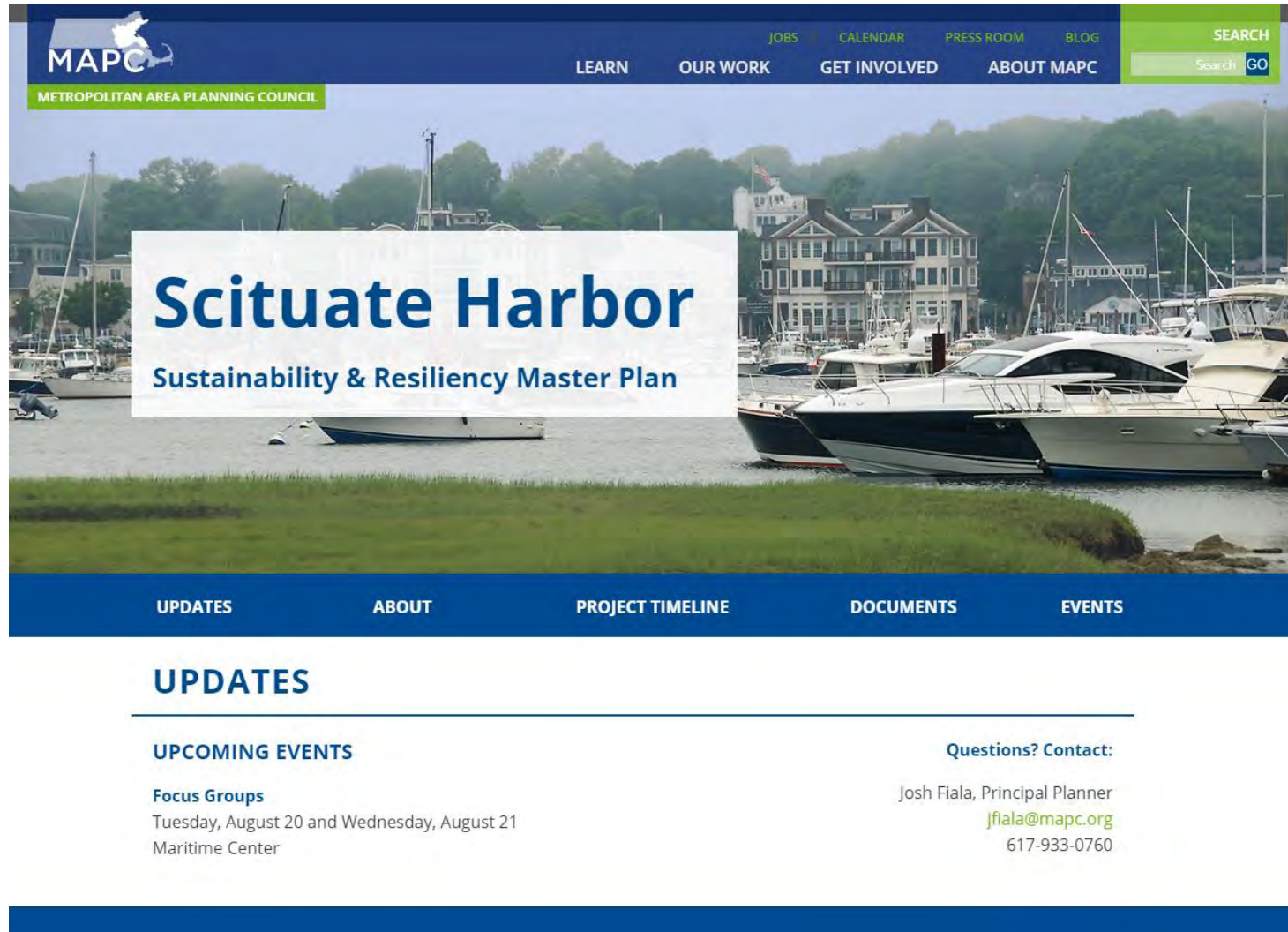


- Community Meeting and Board/Committee Presentations
- Community Open House
- Focus Group Meetings



# Project website

<https://www.mapc.org/resource-library/resilient-scituate-harbor/>



# Scituate Harbor Resiliency Master Plan

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**Task Force Meeting #2**

**September 24<sup>th</sup>, 2019**

