

Scituate Harbor Resiliency Master Plan

Task Force Meeting #3

November 25th, 2019



Scituate Harbor Resiliency Master Plan

Task Force Meeting #3 Agenda

- **Process Overview and Community Forum Recap**
- **Defined Problem Statement**
- **Outline of Alternative Approaches**
- **Community Open House**
- **Next Steps**






Process Overview and Forum Recap



Schedule

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



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

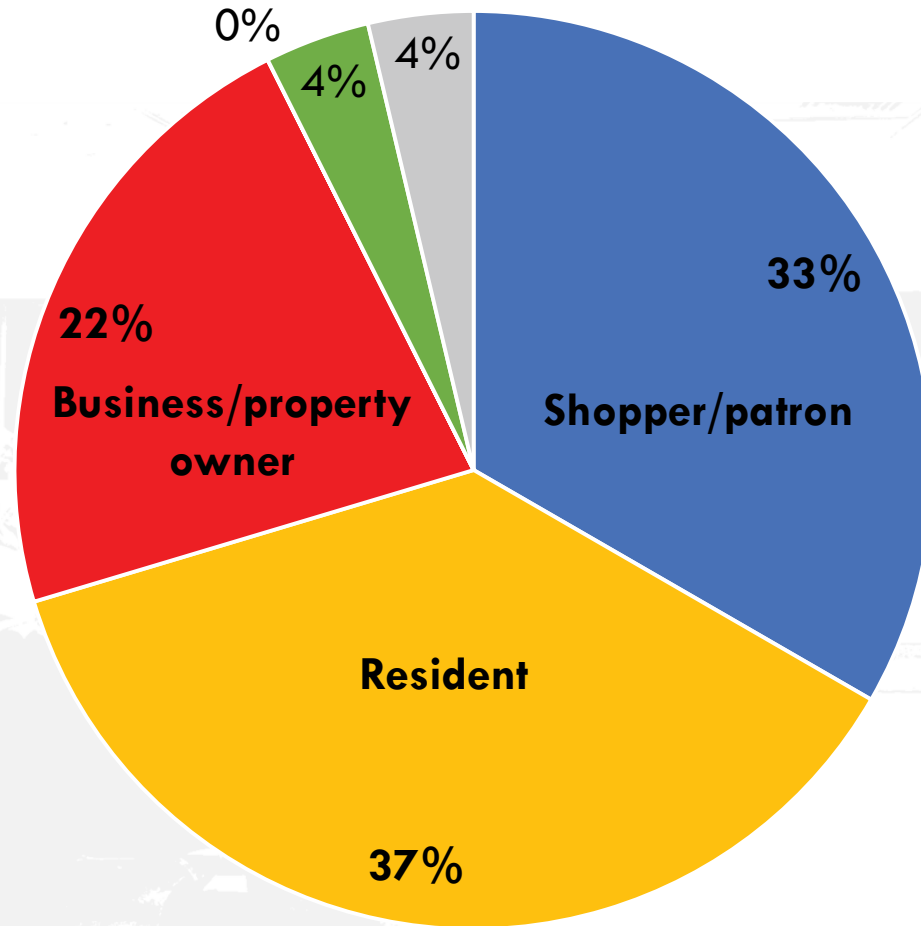
Community Forum Results

- About 50 attendees
- Engaged audience and insightful discussion



Community Forum Results

What is your primary relationship to Scituate Harbor?

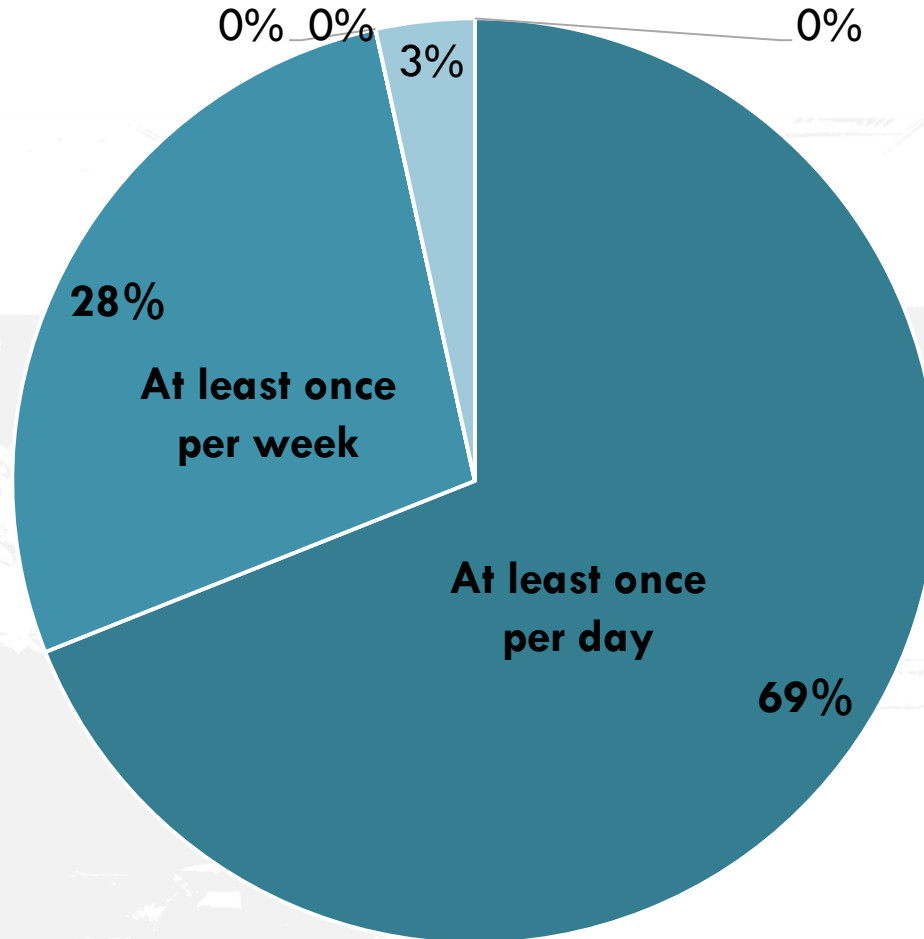


- Shopper/patron of businesses
- Resident (living in the district)
- Business/property owner
- Water-based business
- Water-based recreation
- Other



Community Forum Results

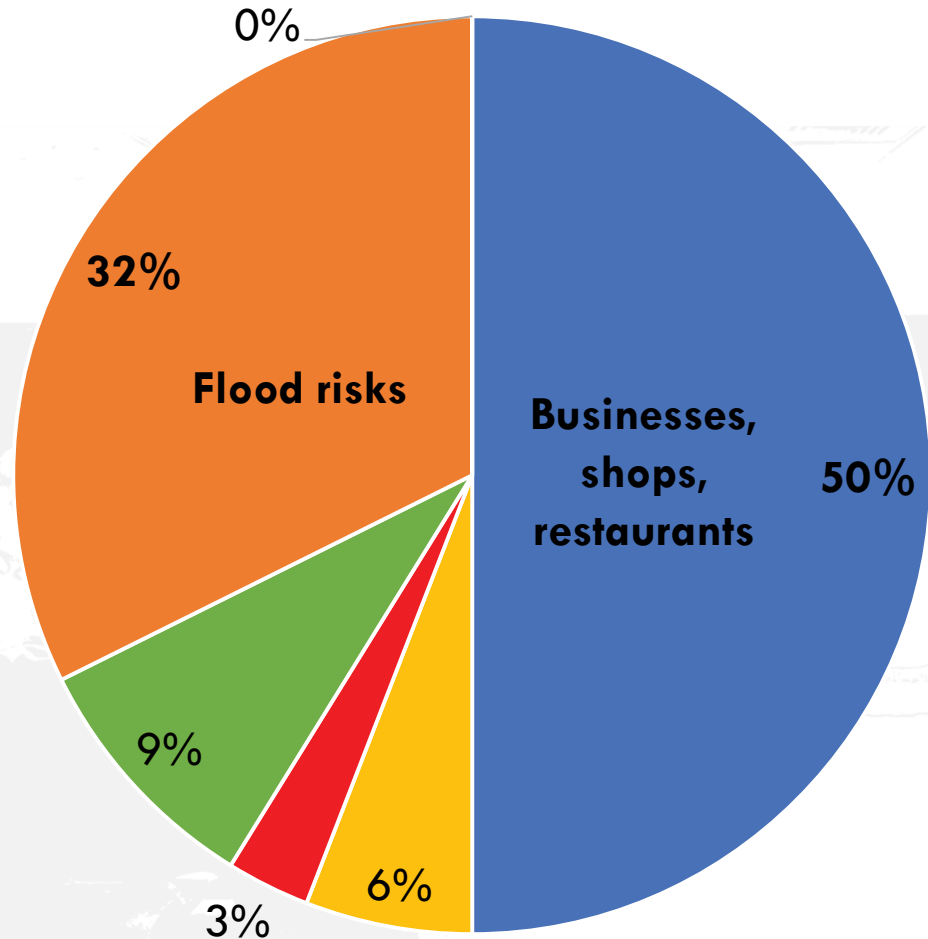
How often do you visit Scituate Harbor?



- At least once per day
- At least once per week
- At least once per month
- At least every few months
- At least once per year
- Less frequently

Community Forum Results

What is your main concern for Scituate Harbor?

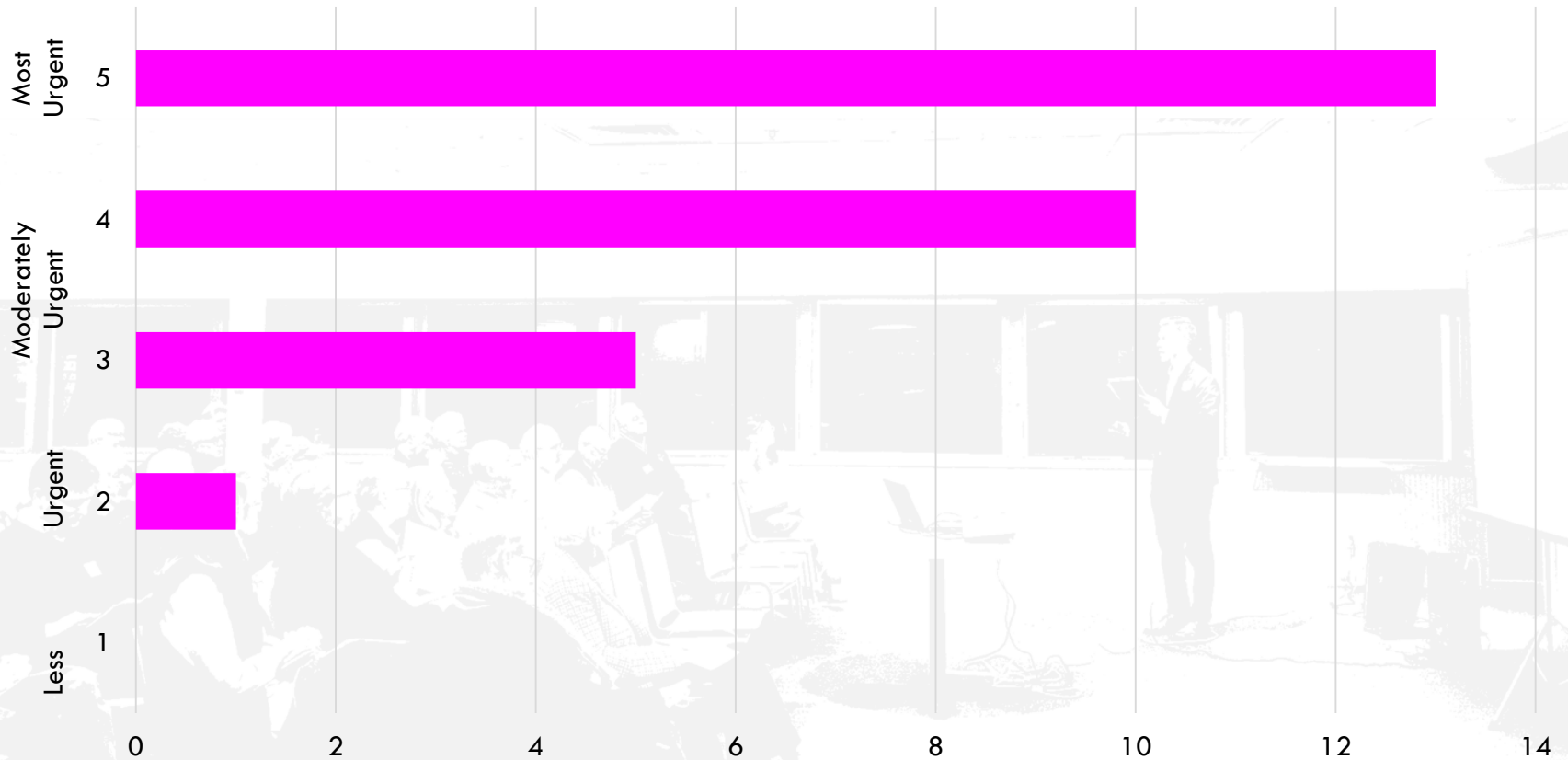


- Businesses, shops, restaurants
- Access to the water
- Flood risks

- Things to do, events, community gathering
- Convenient parking
- Other

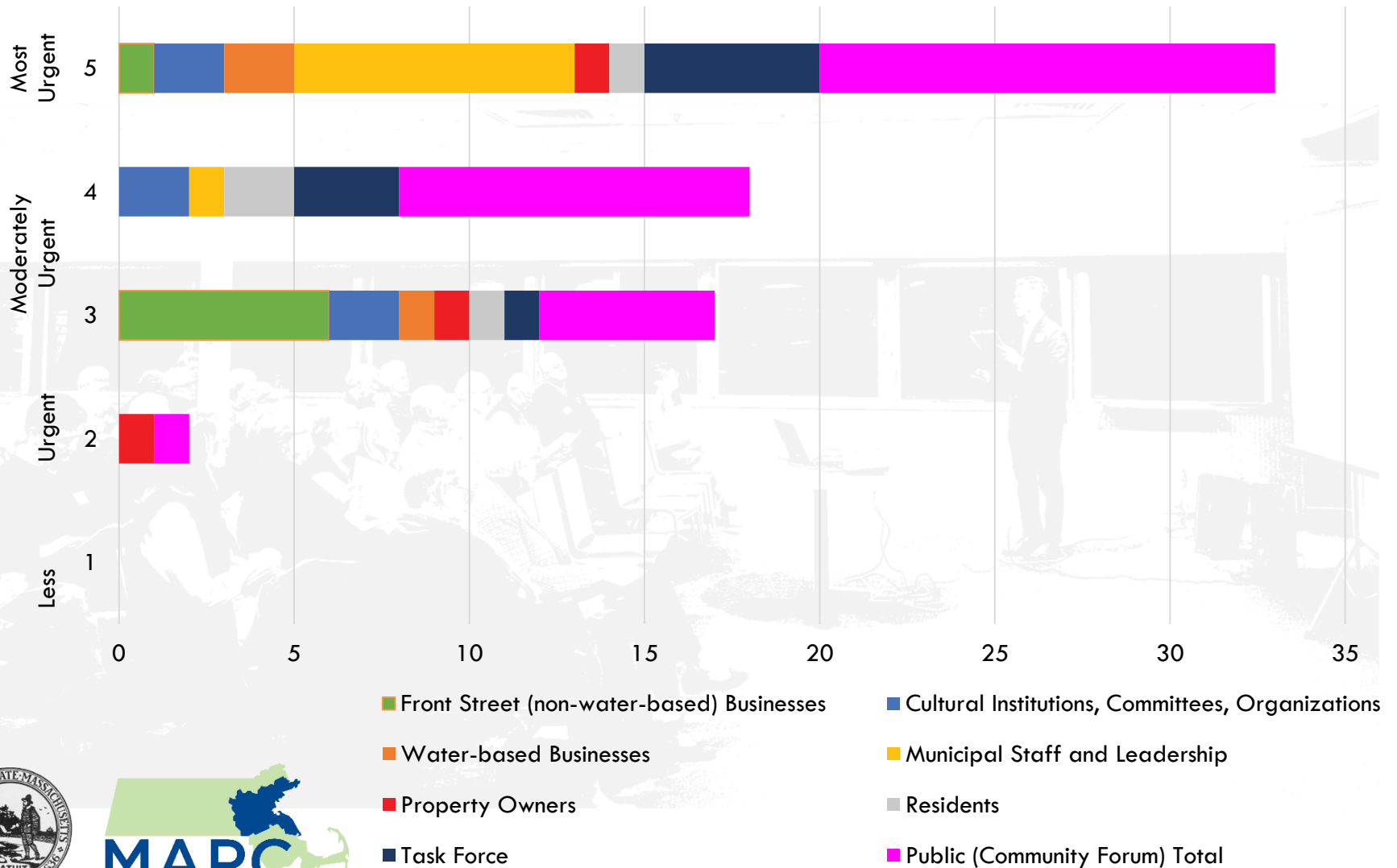
Community Forum Results

How urgent do you feel coastal flooding issues area?



Community Forum Results

How urgent do you feel coastal flooding issues area?



Community Forum Results

What is not working well today in Scituate Harbor?



Community Forum Results

What is working well today in Scituate Harbor?



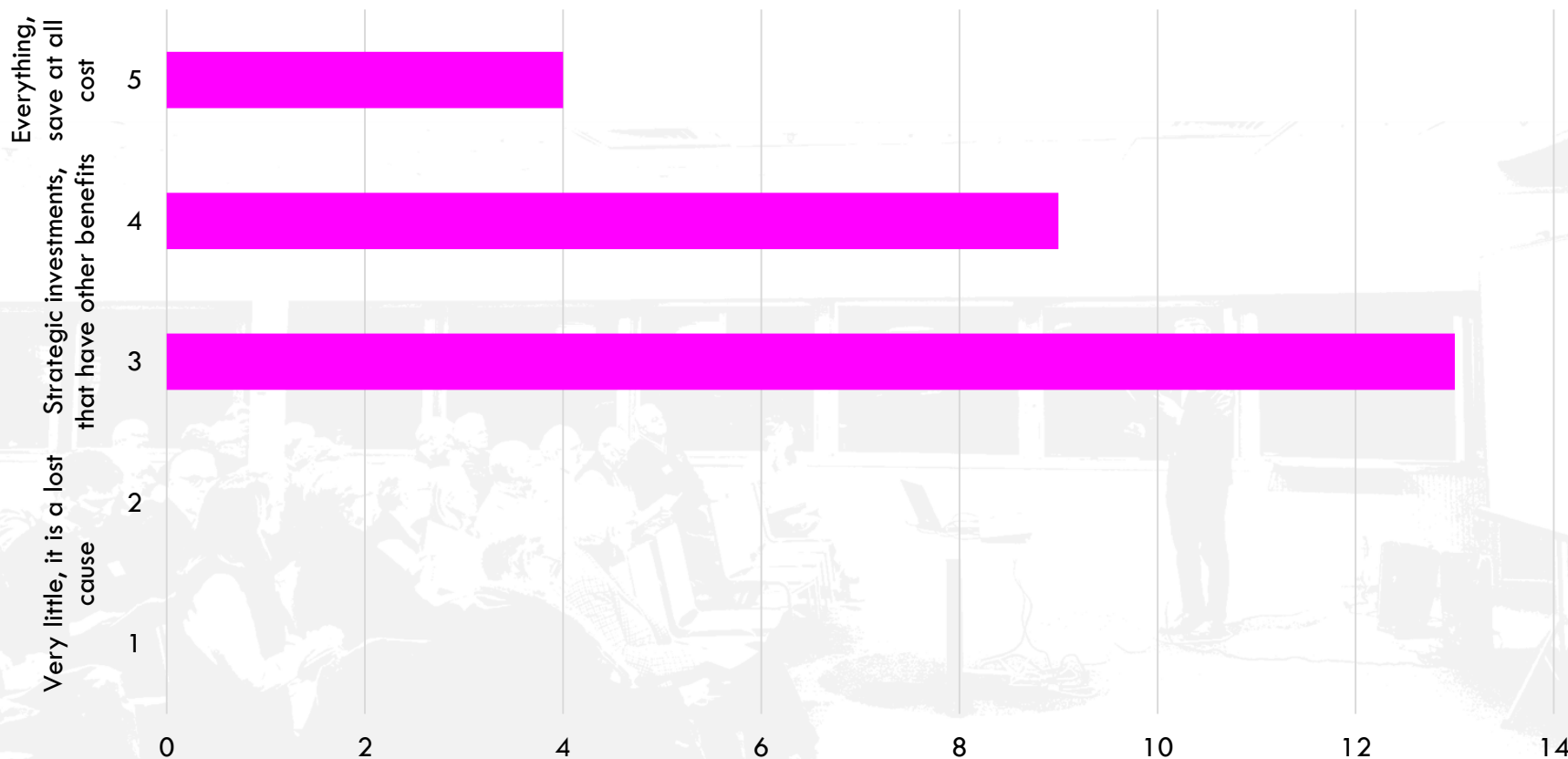
Community Forum Results

What is most important for the future of Scituate Harbor?



Community Forum Results

What should be done collectively to save all that?

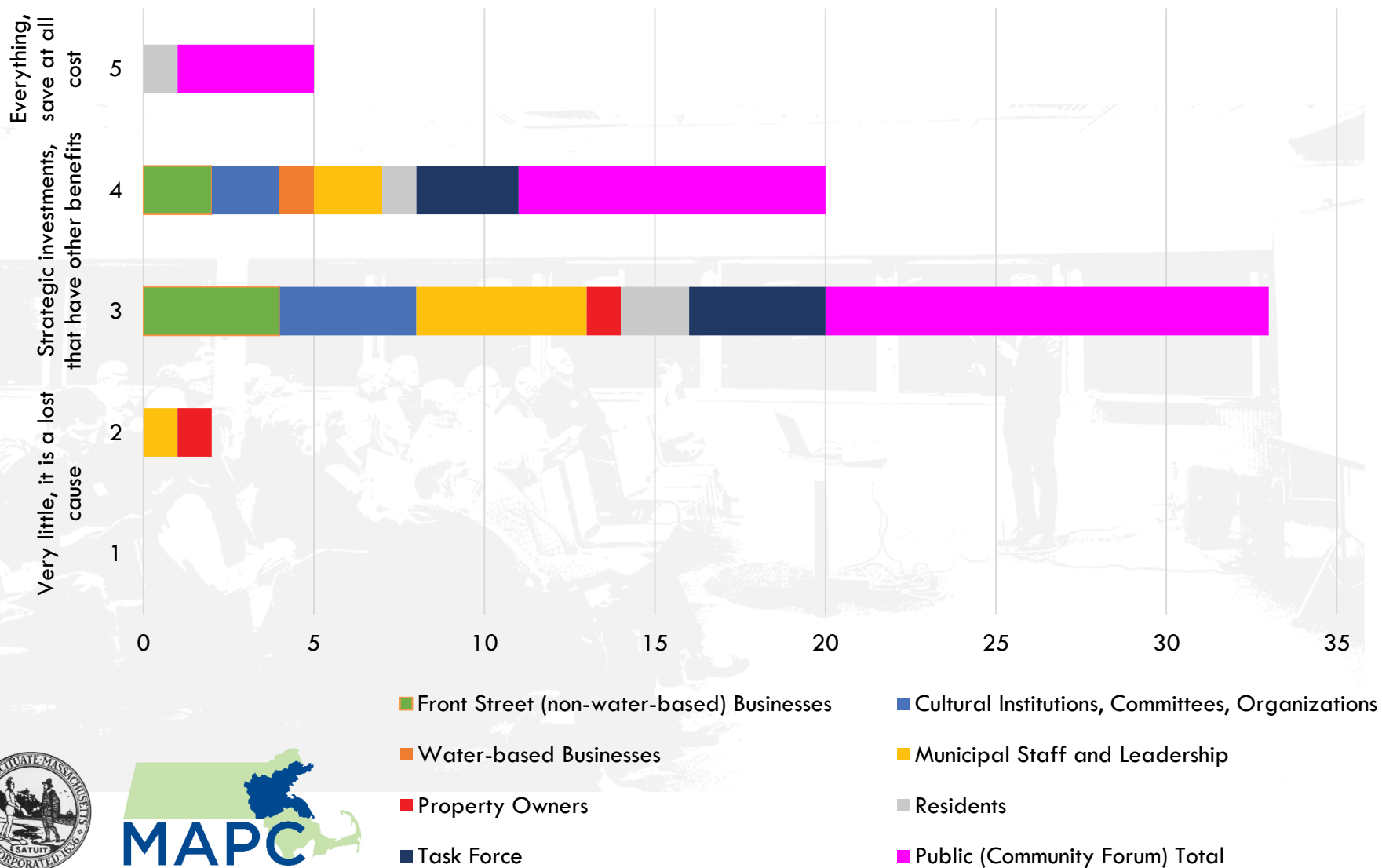


Public (Community Forum) Total



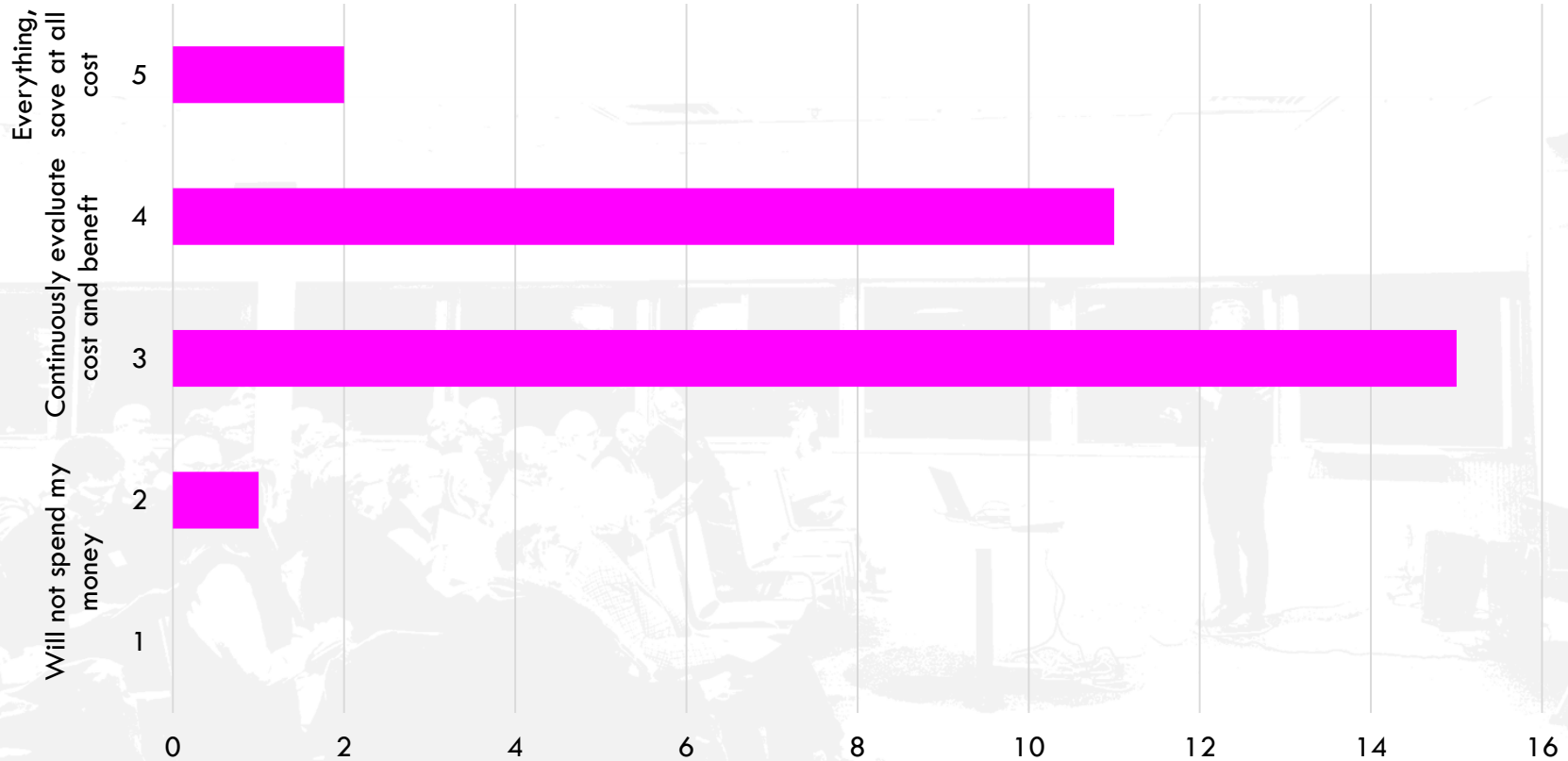
Community Forum Results

What should be done collectively to save all that?



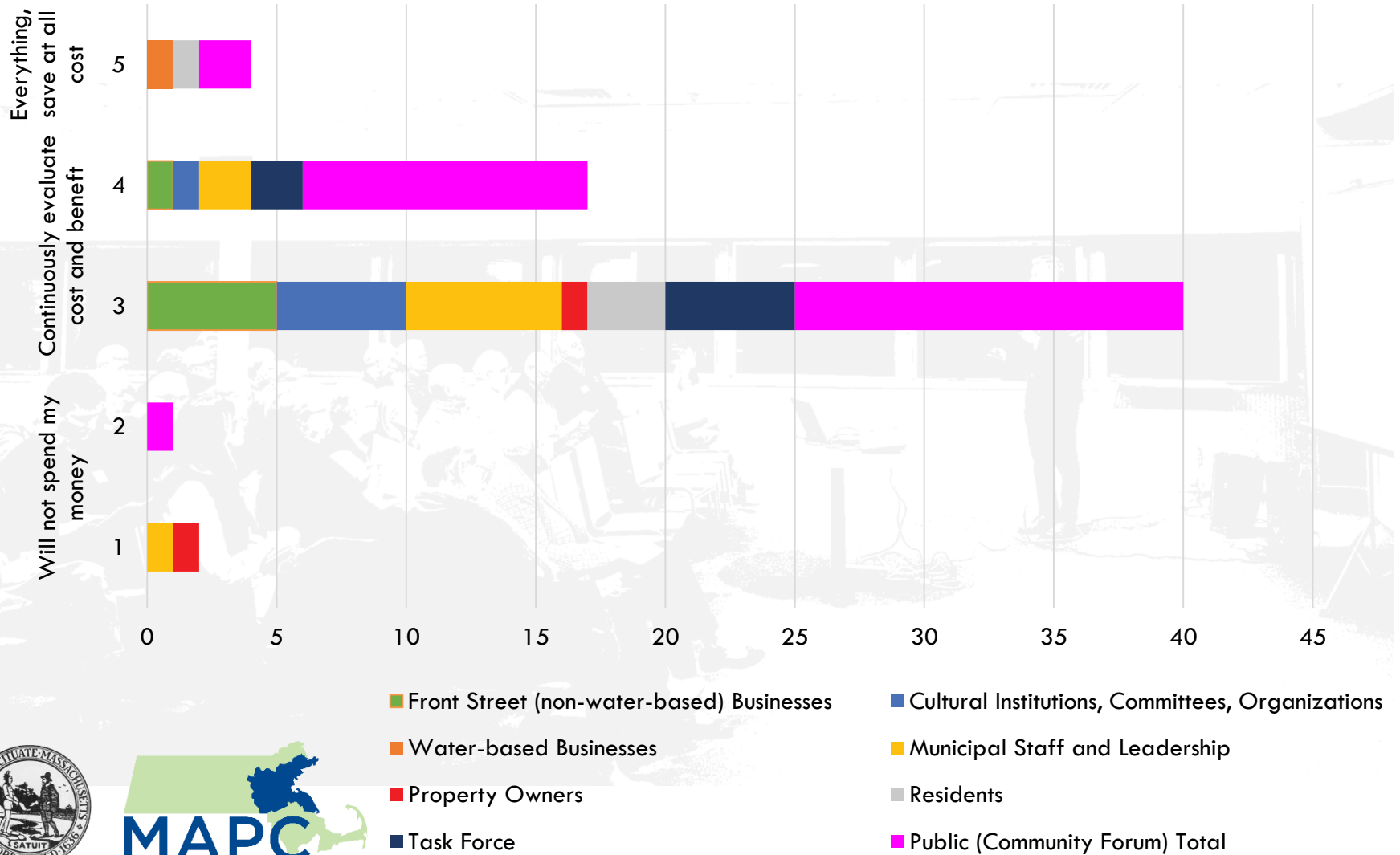
Community Forum Results

What would you do to save all that?



Community Forum Results

What would you do to save all that?



Open House Results

Scituate Harbor Resiliency Master Plan

Help define appropriate resilience solutions for Scituate Harbor

Follow the 3 steps to share your priorities:

Step 1 Review potential resilience strategies below and pick your top (3) strategies for improved resilience in Scituate Harbor

Step 2 Pick the (3) pins that correspond to the color of your top (3) strategies

Potential Solutions Inventory

Category	Strategy	Description	Example	Pin Color
Open Ocean Adaptation	A Fertilization	Fertilization structures in the water column or at the water surface reduce sediment and organic matter from entering the water column.	A water pump fertilizer barge or waterline structure such as the Blue Waterline Hydroponic Fertilizer Barge in Providence, Rhode Island.	Red
	B Attenuation	Floating structures in the open ocean or at the water surface reduce wave energy and protect coastal infrastructure.	Floating breakwaters, typically composed of concrete, steel, or other durable materials.	Blue
	C Fertilization	A variety of coastal protection structures including rip rap, seawalls, armor stone, bulkheads, and other structures that protect against rising sea levels and waves.	A variety of coastal protection structures including rip rap, seawalls, armor stone, bulkheads, and other structures that protect against rising sea levels and waves.	Black
	D Attenuation	A variety of permeable systems or structures that reduce wave energy and protect coastal infrastructure.	Permeable systems may include floating breakwaters, submerged breakwaters, and other structures that reduce wave energy.	Yellow
Coastal/Harbor Adaptation	A Fertilization	A variety of permeable systems or structures that reduce wave energy and protect coastal infrastructure.	Elevated shore walls, seawalls, armor stone, and other structures that reduce wave energy.	Blue
	B Attenuation	A variety of permeable systems or structures that reduce wave energy and protect coastal infrastructure.	Elevated shore walls, seawalls, armor stone, and other structures that reduce wave energy.	Black
	C Elevated	A variety of structures to raise the elevation of the structure above water level.	Elevated shore walls, seawalls, armor stone, and other structures that reduce wave energy.	Yellow
Land Adaptation	A Fertilization	Permeable or temporary barriers of sandbags, steel, or other materials, primarily for flood protection during high tides and waves.	Permeable or temporary barriers of sandbags, steel, or other materials, primarily for flood protection during high tides and waves.	Red
	B Elevated	Increases the height of the building or other structure to allow water to flow beneath the building during a flood event.	Increases the height of the building or other structure to allow water to flow beneath the building during a flood event.	Black
	C Elevated	Increases the elevation of the building or other structure to allow water to flow beneath the building during a flood event.	Increases the elevation of the building or other structure to allow water to flow beneath the building during a flood event.	Yellow
	D Accommodate	Design parks, streets, buildings, and other infrastructure to flood without causing damage.	Design parks, streets, buildings, and other infrastructure to flood without causing damage.	Blue
	E Migrate	The structure and associated infrastructure are moved to a safer location.	The structure and associated infrastructure are moved to a safer location.	Black

Looking for something else?
If nothing fits, use your thinking, put it on a pin, and let us know what you think.

Community Forum
October 29th, 2019

Scituate Harbor Resiliency Master Plan

Prioritize the most important locations for your top (3) strategies

Follow the 3 steps to share your priorities:

Step 3 Place the (3) pins you selected in "Step 2" in the highest priority locations where the strategies would be appropriate in Scituate Harbor

Use enlarged area below

Community Forum
October 29th, 2019



Defined Problem Statement



Problem Statement

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.

Problem Statement

Create a cohesive vision for Scituate Harbor that will build resilience incrementally, through coordinated and layered measures, to meet flood challenges projected for mid-century (2050) and beyond. Near term and long term actions should create more flood resilience while creating additional benefits to the district that will:

- Enhance economic vitality of the district
- Improve the public realm of the district
- Strengthen community and civic gathering
- Address district parking deficiencies
- Maintain cost effectiveness
- Retain the ability to implement
- Recognize and reduce the negative impacts

Problem Statement

- Enhance economic vitality of the district by protecting, strengthening or expanding the key assets of the district,
- Improve the public realm of the district for pedestrian and bicycle safety and sustainable infrastructure,
- Strengthen community and civic gathering to reinforce Scituate Harbor as the heart of the community,
- Address district parking deficiencies to improve access and functionality,
- Maintain cost effectiveness by strategically weighing benefits and disadvantages of investments,
- Retain the ability to implement current and future actions to further protect and improve the district
- Recognize and reduce the negative (environmental, social, or community) impacts that may result from investments

Problem Statement

Create a cohesive vision that will build resilience incrementally, through coordinated and layered measures, while creating additional benefits to the district that will:

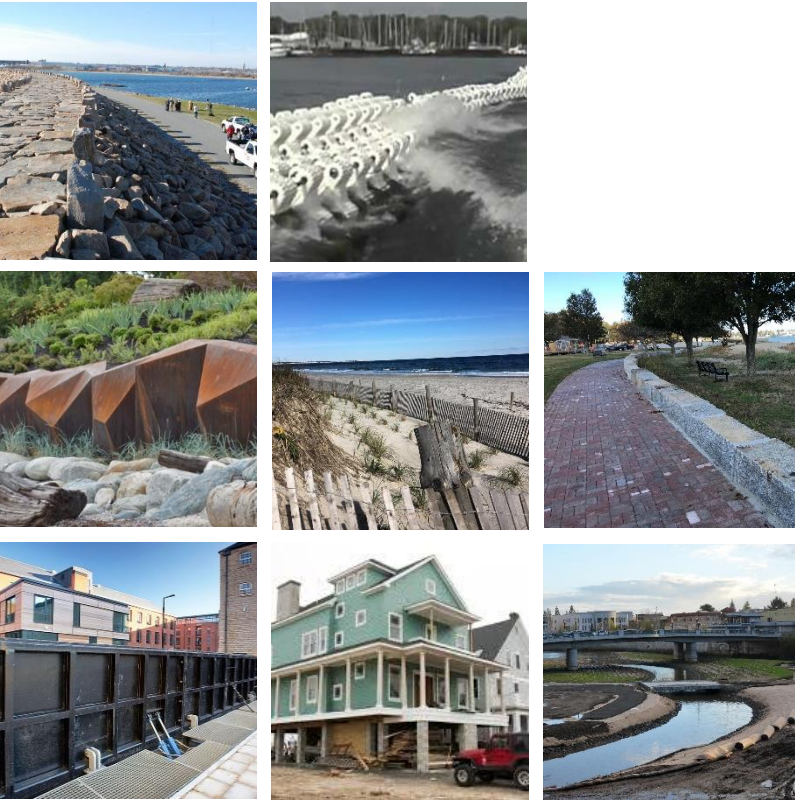
	Enhance economic vitality	Improve the public realm	Strengthen community and civic gathering	Address parking deficiencies	Maintain cost effectiveness	Retain the ability to implement	Reduce negative impacts
Alternative A							
Alternative B							
Alternative C							

Outline of Alternative Approaches



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:

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



DRAFT FOR DISCUSSION

Community Forum Results

Which types of solutions do you think are most appropriate?



Community Forum Results

Open Ocean Adaptation

- Fortification
- Attenuation
- Something else?

Coastal/Harbor Adaptation

- Fortification
- Attenuation
- Elevated

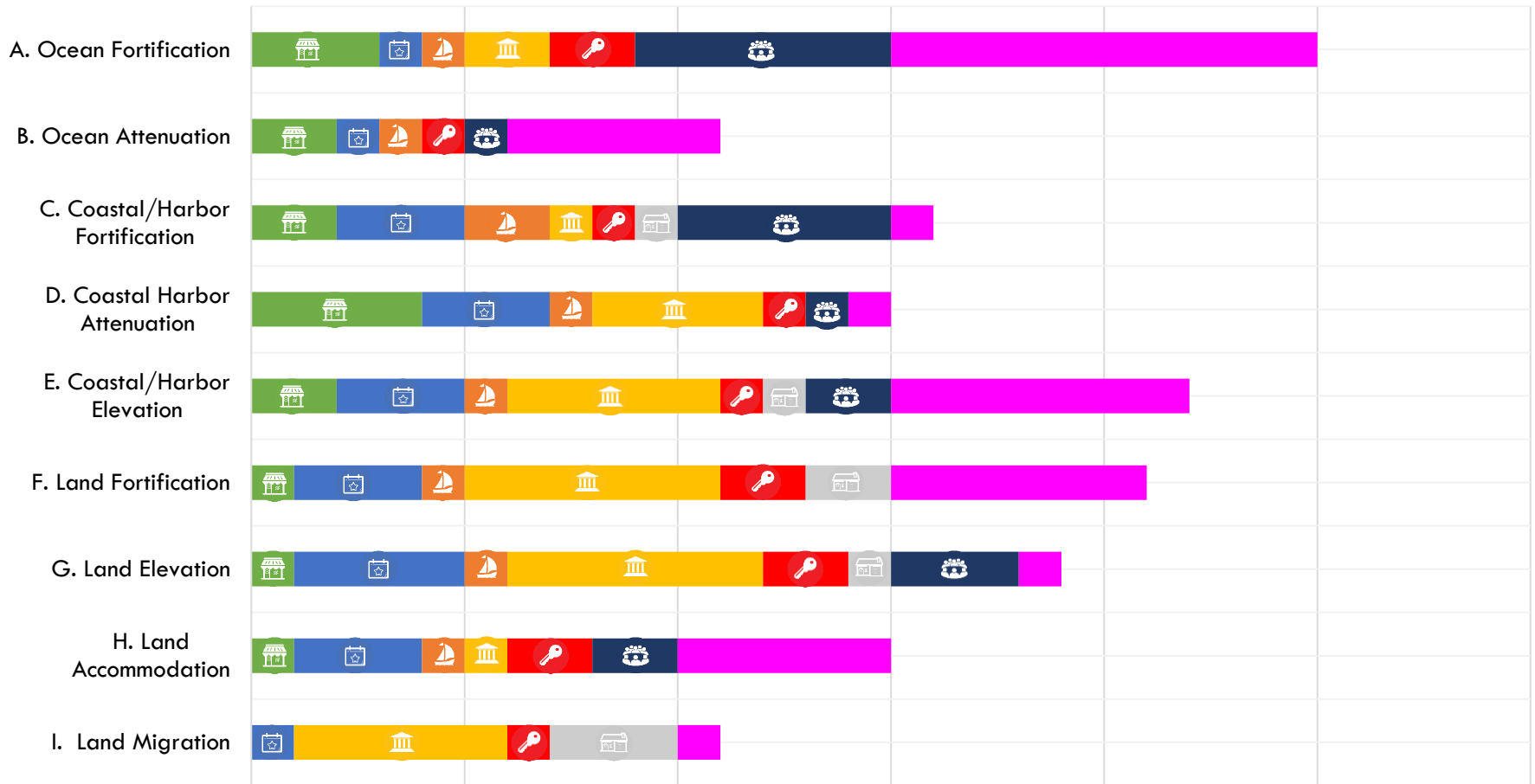
Land Adaptation

- Fortification
- Elevated
- Accommodate
- Migrate



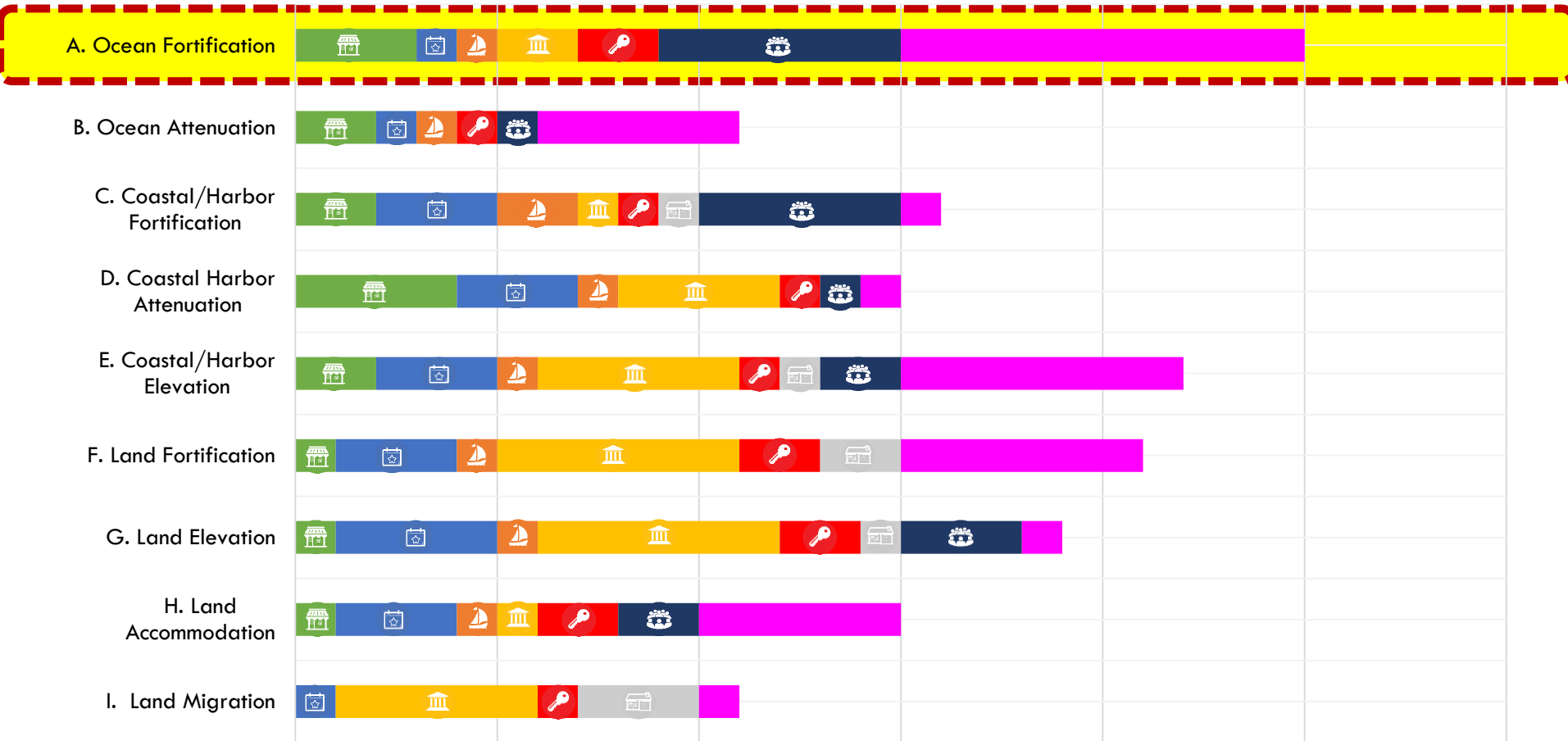
All Combined Results

Which types of solutions do you think are most appropriate?



Conceptual Alternative A

Which types of solutions do you think are most appropriate?



Conceptual Alternative A

“Close the mouth” – Harbor barrier infrastructure

Approach most similar to the New Bedford Hurricane Protection Barrier case study:



Image credit: US Army Corps of Engineers



Image credit: Jesse Costa/WBUR



Conceptual Alternative A

“Close the mouth” –

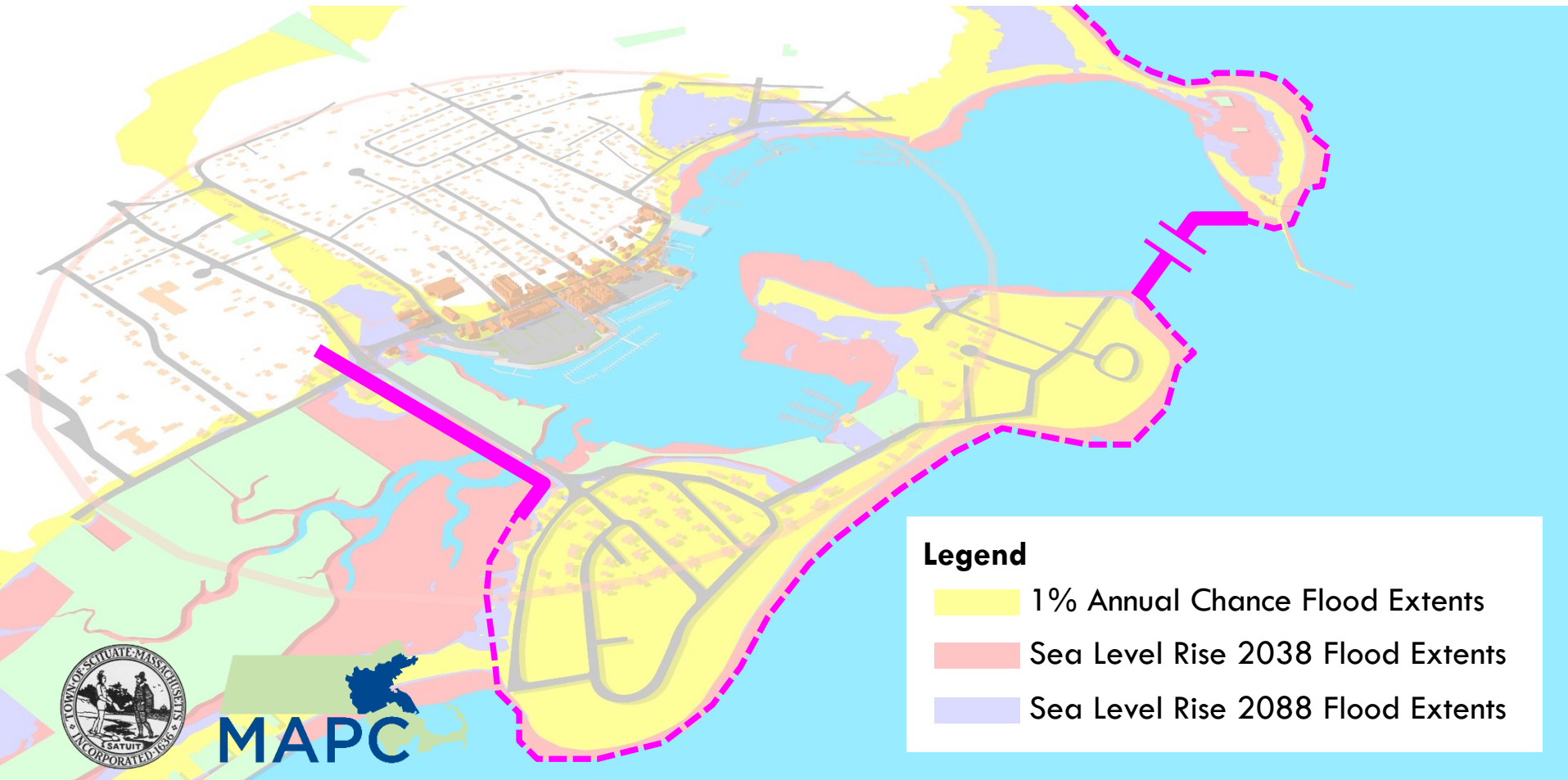
Harbor barrier infrastructure



Conceptual Alternative A

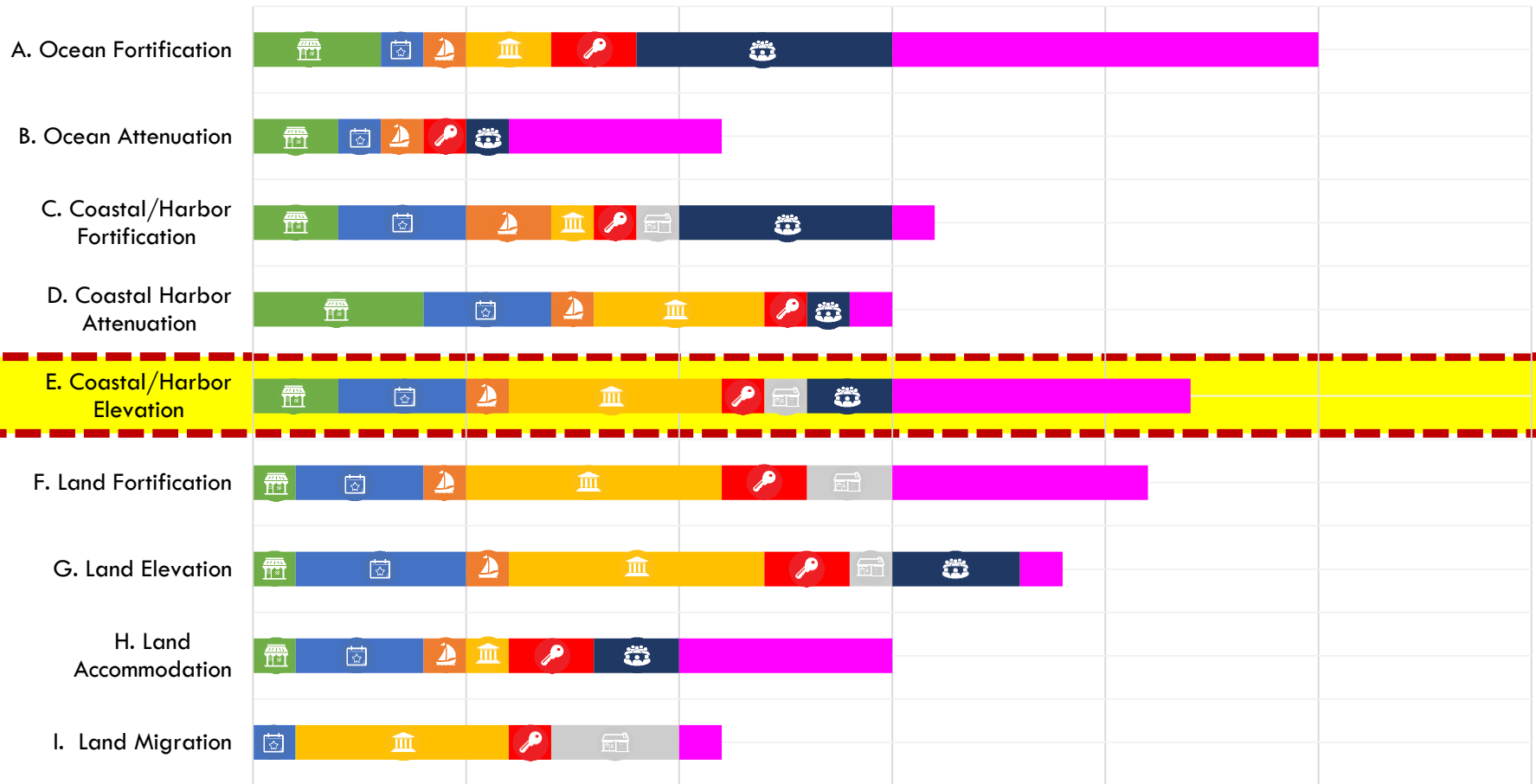
“Close the mouth” –

Harbor barrier infrastructure



Conceptual Alternative B

Which types of solutions do you think are most appropriate?



Conceptual Alternative B

“Lift the edge” –

Incremental elevation of coast

Approach most similar to the Hingham Harbor Resilience Investments case study:

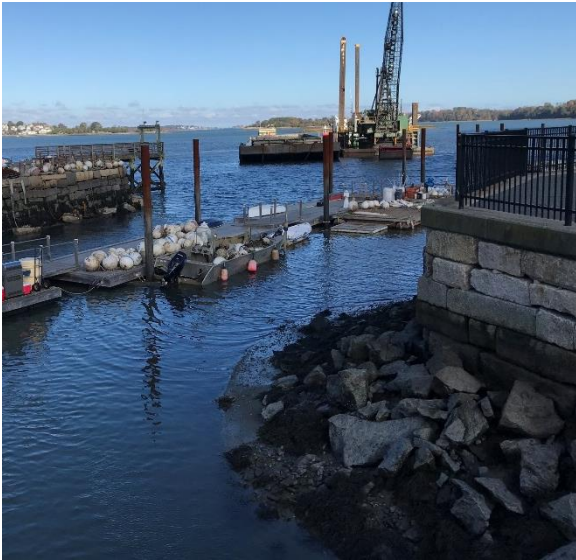


Image credit: MAPC

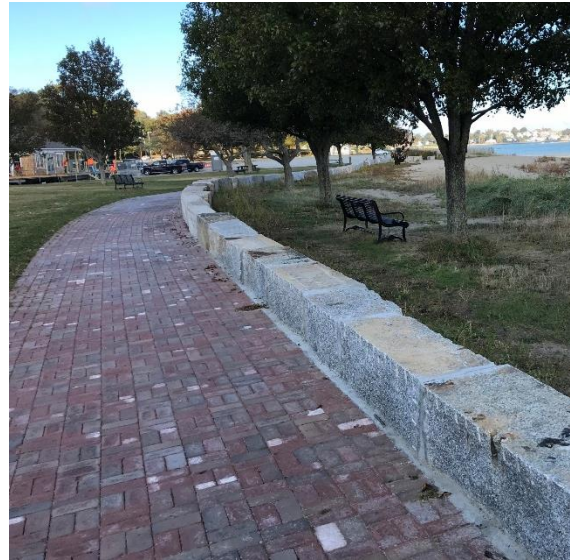


Image credit: MAPC



Image credit: MAPC



Conceptual Alternative B

“Lift the edge” –

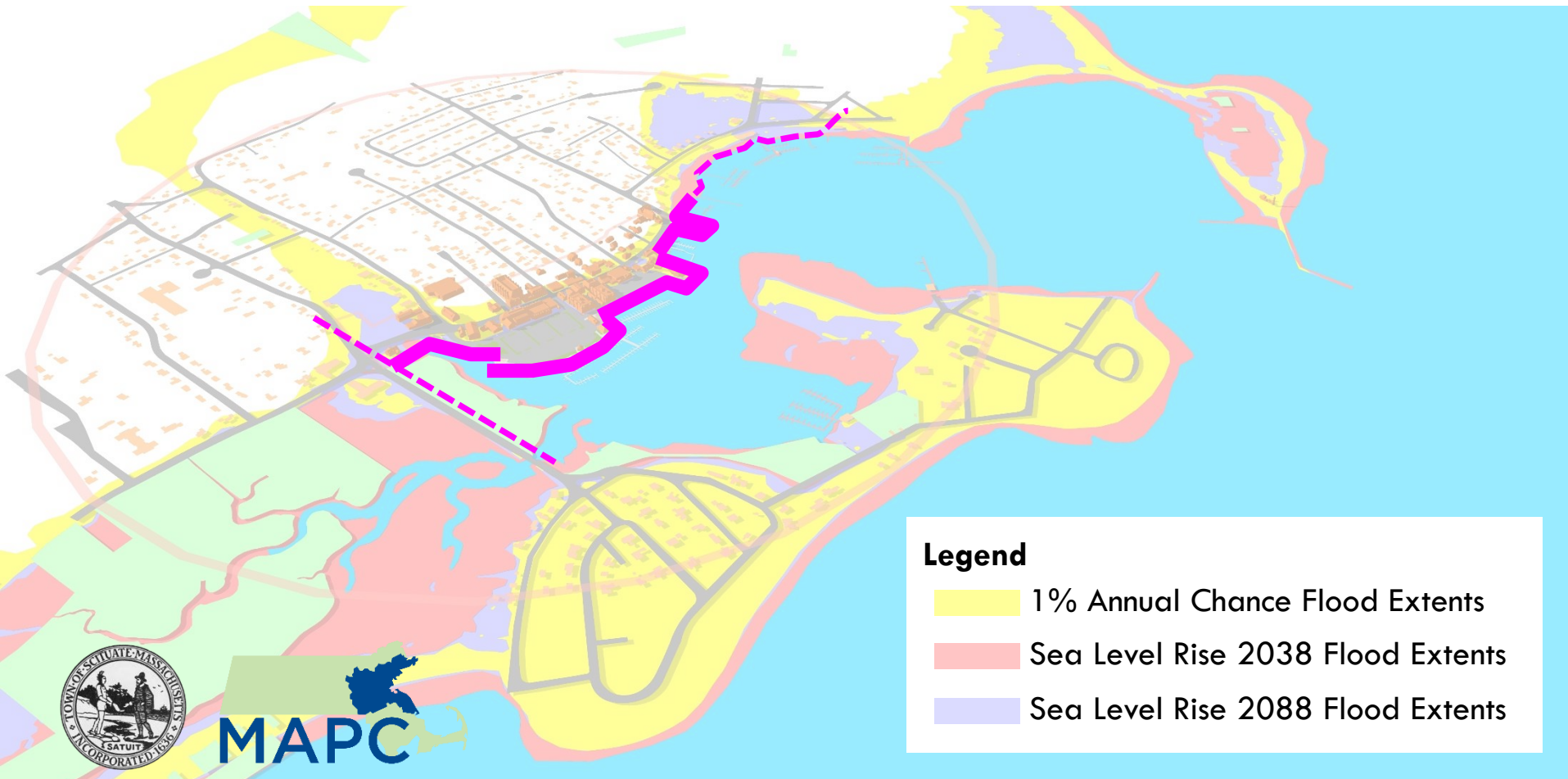
Incremental elevation of coast



Conceptual Alternative B

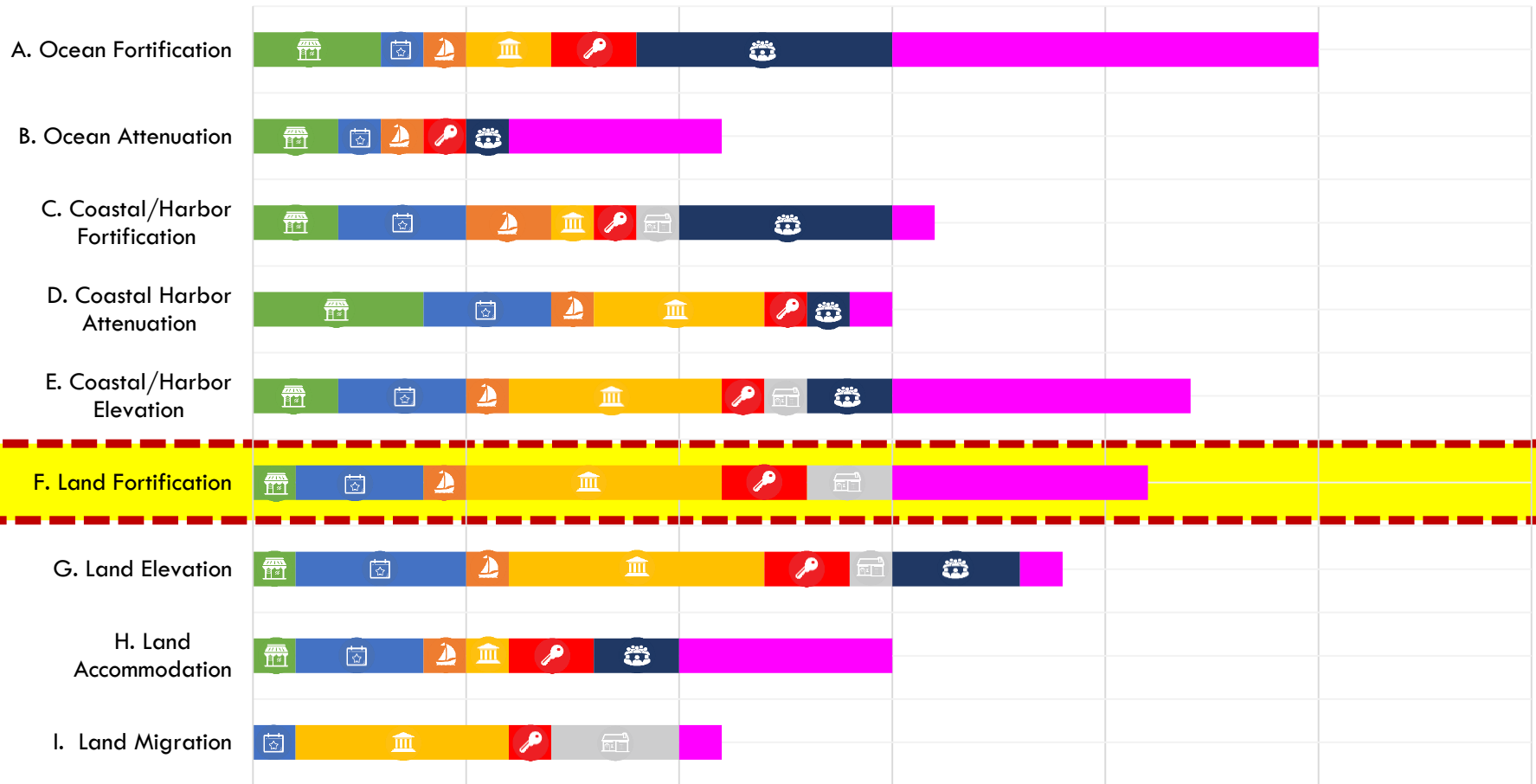
“Lift the edge” –

Incremental elevation of coast



Conceptual Alternative C

Which types of solutions do you think are most appropriate?



Conceptual Alternative C

“Work with water” –

Adapt coast and land configuration

Approach most similar to the Boston Martin Richard Park case study:

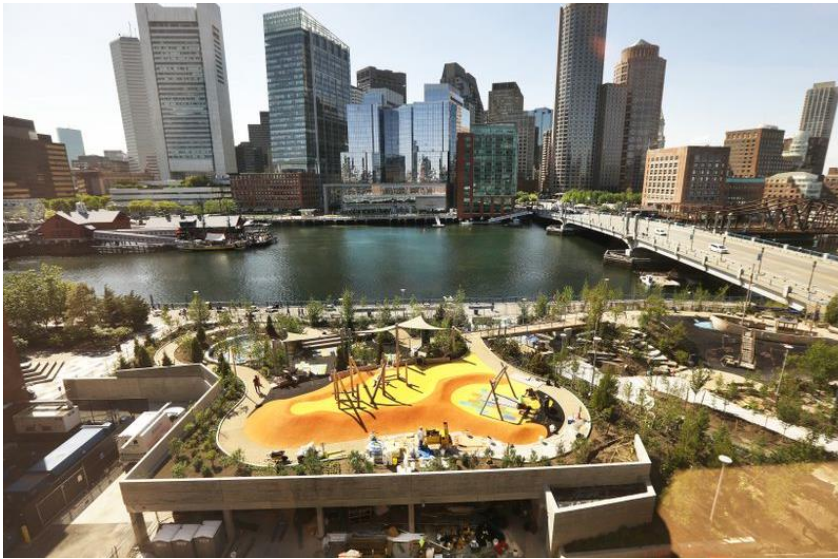


Image credit: Boston Globe



Image credit: Boston Herald



Conceptual Alternative C

“Work with water” –

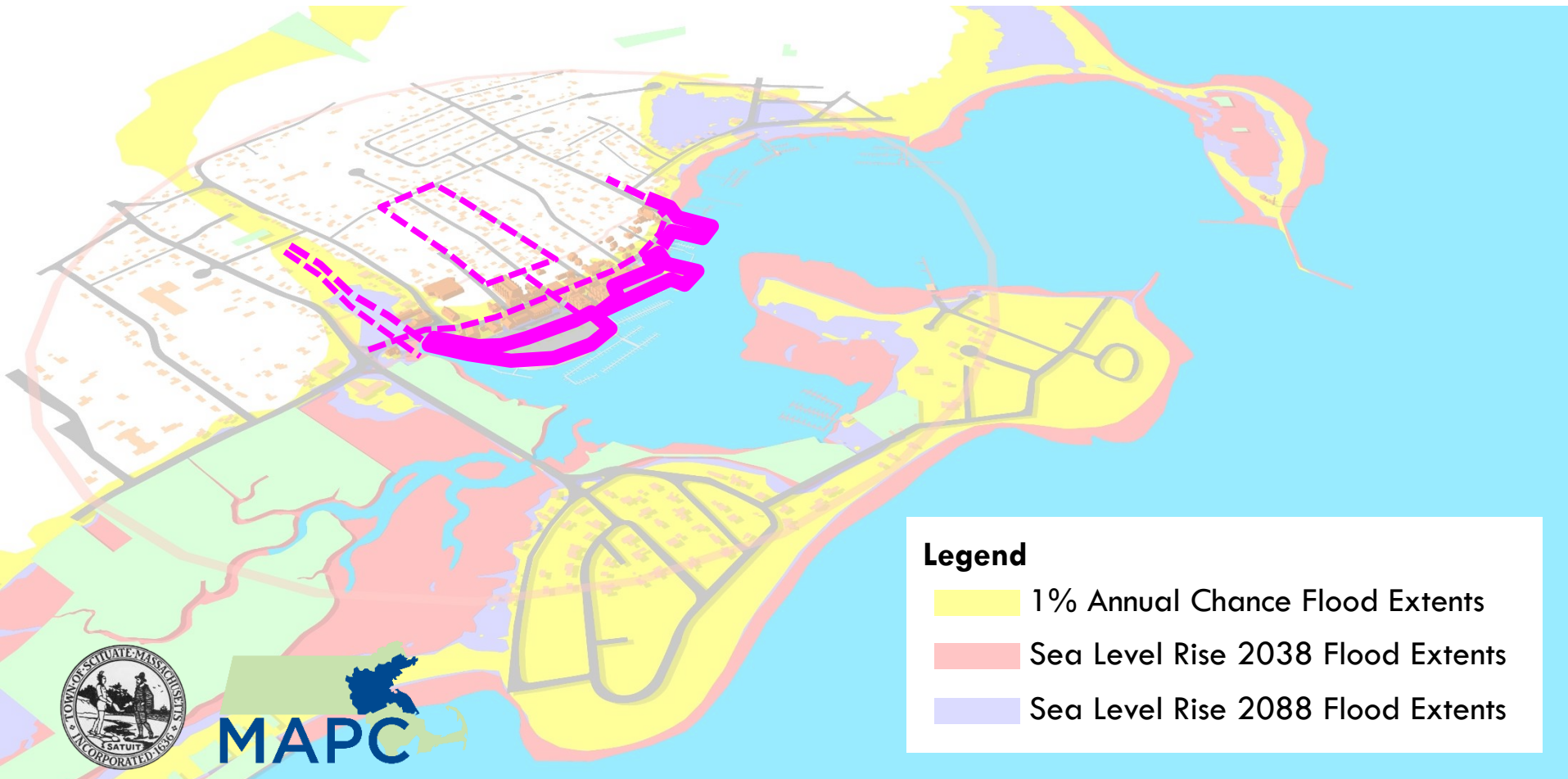
Adapt coast and land configuration



Conceptual Alternative C

“Work with water” –

Adapt coast and land configuration



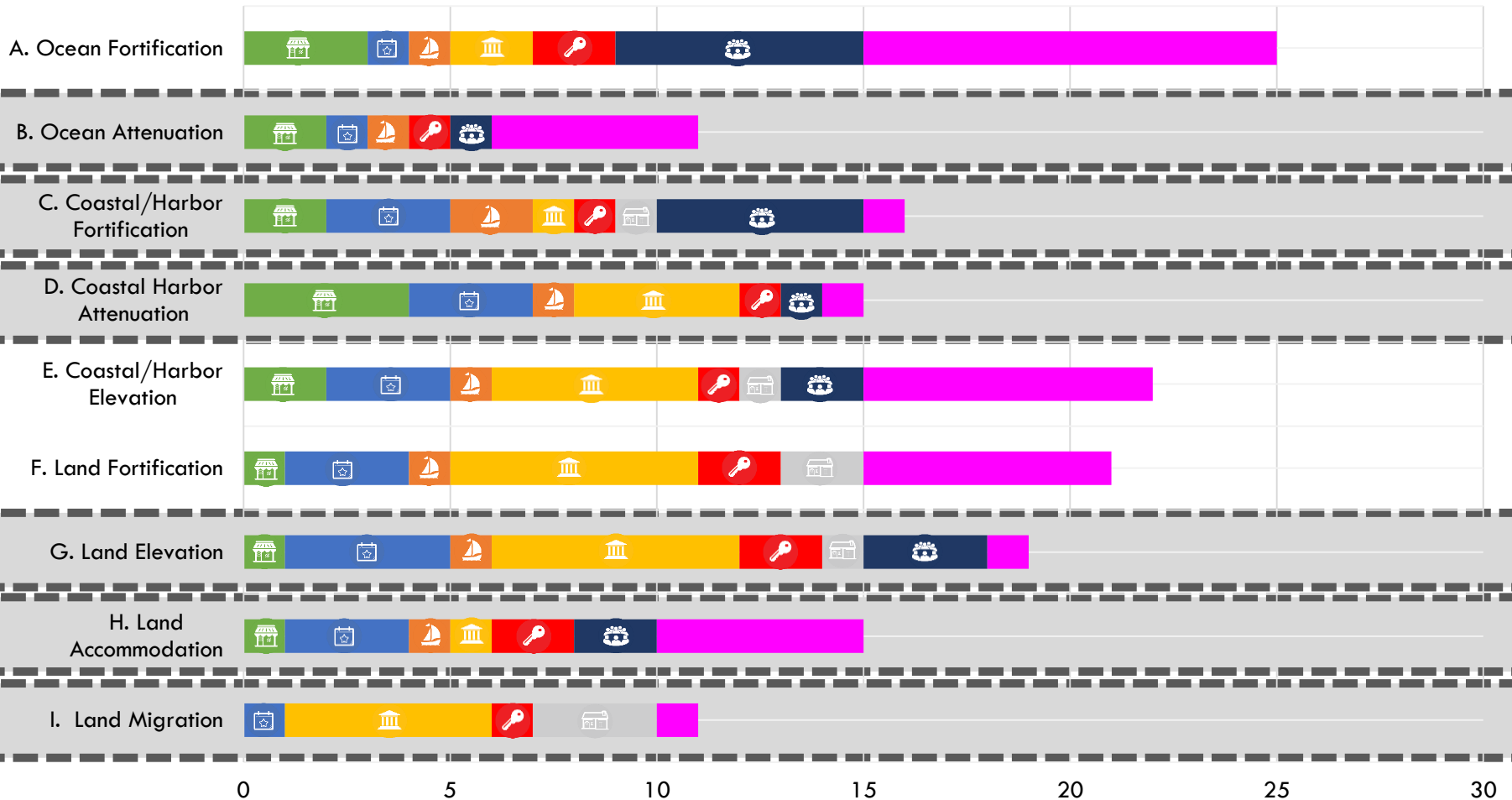
Concept Development and Evaluation

Create a cohesive vision that will build resilience incrementally, through coordinated and layered measures, while creating additional benefits to the district that will:

	Enhance economic vitality	Improve the public realm	Strengthen community and civic gathering	Address parking deficiencies	Maintain cost effectiveness	Retain the ability to implement	Reduce negative impacts
Alternative A							
Alternative B							
Alternative C							

Least preferred – not explored further

Which types of solutions do you think are most appropriate?



Community Open House



Next Steps



Scituate Harbor Resiliency Master Plan




- **Community Open House** – December
- **Task Force Meeting** – January
- **Community Forum** – end of January/beginning of February



Schedule

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Community Engagement Meetings				[Icon]		[Icon]	[Icon]	[Icon]	[Icon]	[Icon]	[Icon]	[Icon]	[Icon]	[Icon]



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

Project website

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

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Scituate Harbor

Sustainability & Resiliency Master Plan

UPDATES ABOUT PROJECT TIMELINE DOCUMENTS EVENTS

UPDATES

UPCOMING EVENTS

Focus Groups
Tuesday, August 20 and Wednesday, August 21
Maritime Center

Questions? Contact:
Josh Fiala, Principal Planner
jfiala@mapc.org
617-933-0760

Scituate Harbor Resiliency Master Plan

Task Force Meeting #3

November 25th, 2019

