

Marblehead Coastal Resilience Planning

Survey Results from September 14 through October 12, 2020

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January 5, 2020



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This survey was conducted for the Town of Marblehead as part of its MA Coastal Zone Management Coastal Resilience FY 21 grant: Increasing Resilience through Community Engagement: Facilitating Implementation of Climate Adaptation Strategies for Marblehead and its Harbor.

The Project included community stakeholder engagement, data gathering, modeling of sea level rise and storm surge through 2070, shoreline assessment of municipal seawalls, and three public presentations. With the assistance of Woods Hole Group and Salem Sound Coastwatch, the following were completed:

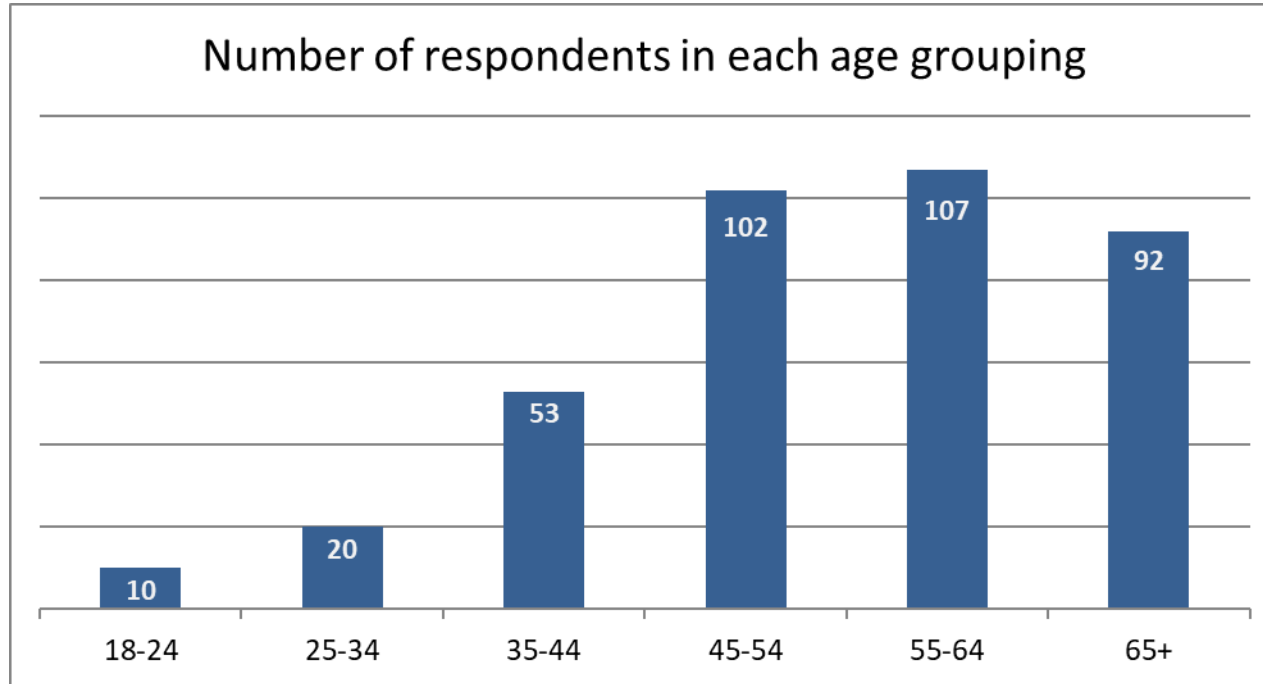
1. Assessment flood risk and depth, and determine key flood pathways where coastal floodwaters are predicted for the 2030, 2050 and 2070 scenarios
2. Identification of vulnerable areas of the Harbor at risk of coastal flooding under present day and projected future climate change conditions
3. Prioritization of public infrastructure at risk under current, 2030, 2050 and 2070 scenarios
4. Development of preliminary strategies to protect the most vulnerable public infrastructure and critical facilities from storm surge flooding from more intense storms and sea level rise.
5. Communication of the potential climate change impacts and Marblehead's vulnerabilities to all members of the community through multiple venues.

Answer Choices	Responses	
I live in Marblehead.	95%	370
I have a boat in Marblehead waters.	44%	172
I work in Marblehead.	32%	124
I have experienced damage from previous storms.	19%	74
I own waterfront property in Marblehead.	12%	48
I own a local business in Marblehead.	10%	40
I live in a flood prone area in Marblehead.	9%	36
I work on the water.	4%	14
I am not a resident of Marblehead	3%	13
I am a student.	2%	7

12 comments: resident for many years, downsized to another town, visit often, raised there, summer residents, work and play on the Harbor all my life

While only 9% identify as living in a flood prone area, 19% suffered storm damage and 12% said they have waterfront property. These differences could be explained by wind driven storm damage and higher waterfront property or set farther back away from the water.

Q1: Where respondents live, work, and their experience with boating, storms and flooding. Answered: 390 Skipped: 0 Asked to check as many as apply.



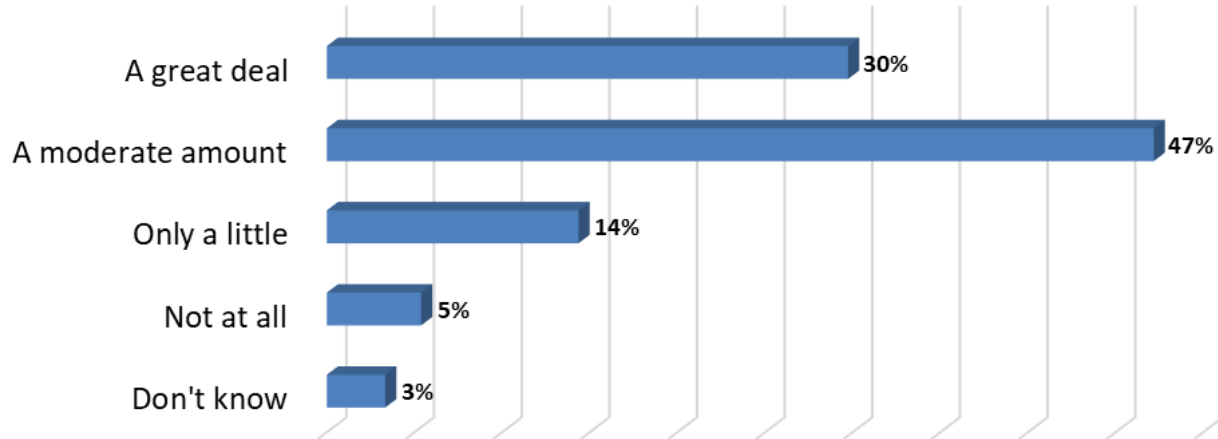
It was very helpful to have the Superintendent of School share the survey in the District newsletter.

Q19: Please provide your age group.

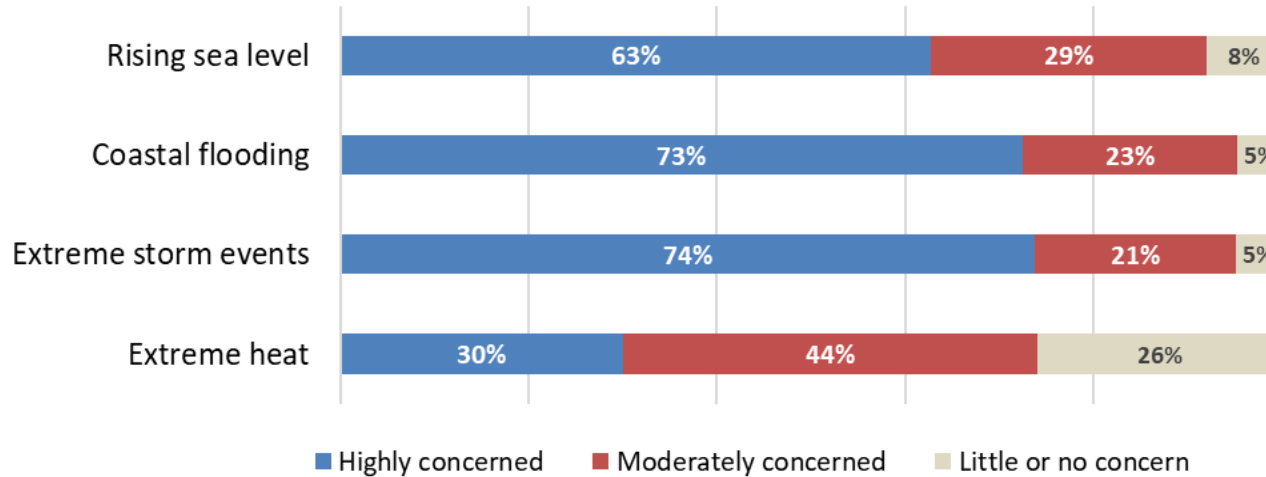
Answered: 384 Skipped: 6



Percent of respondents that thought they would be harmed personally by climate change



Level of concern for the following climate hazards in Marblehead

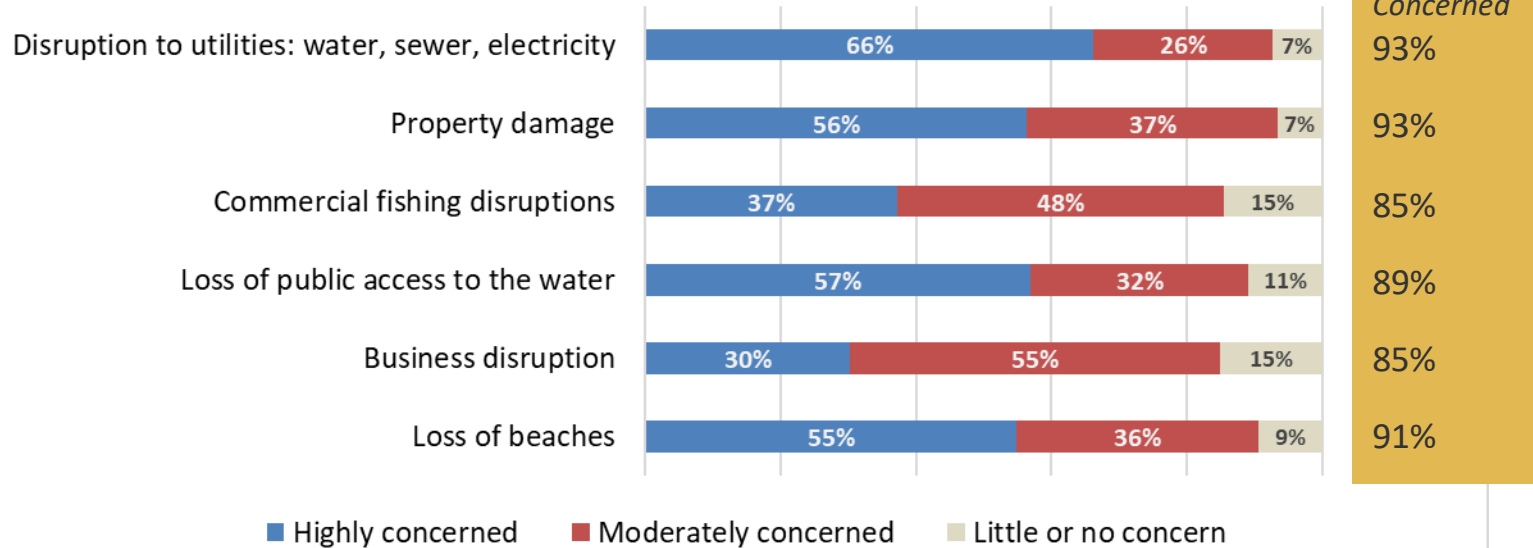


Marblehead's Municipal Vulnerability Preparedness (MVP) Report (2018) identified the Town's top four climate change hazards as coastal flooding from sea level rise and storm surge, inland flooding from intense precipitation, high wind, and coastal erosion. Heat was not considered a top priority for Marblehead.

Q7: Which of the following climate hazards are you most concerned about for Marblehead?

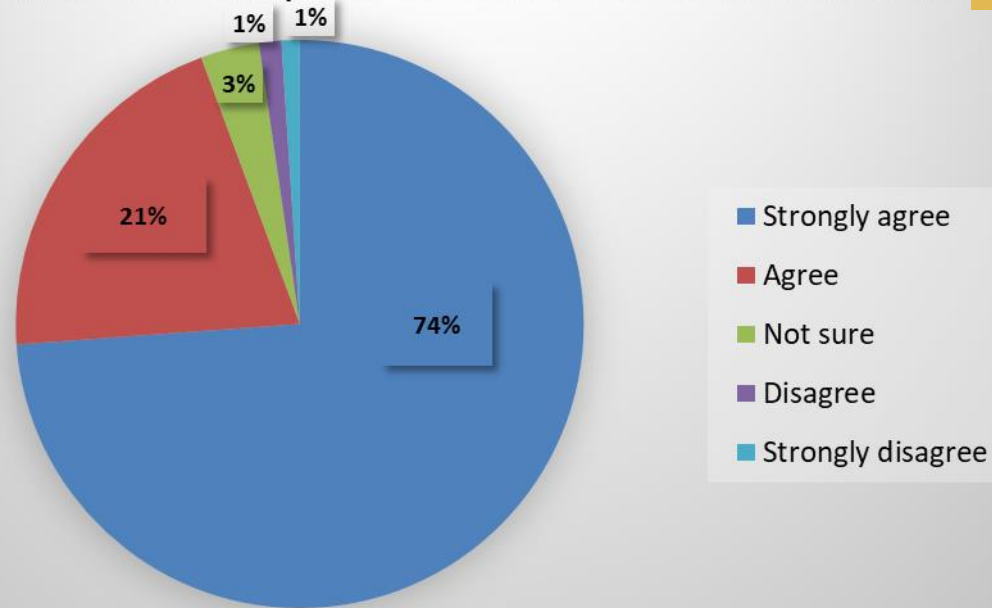
Answered: 390 Skipped: 0

Level of concern for being at risk from climate change



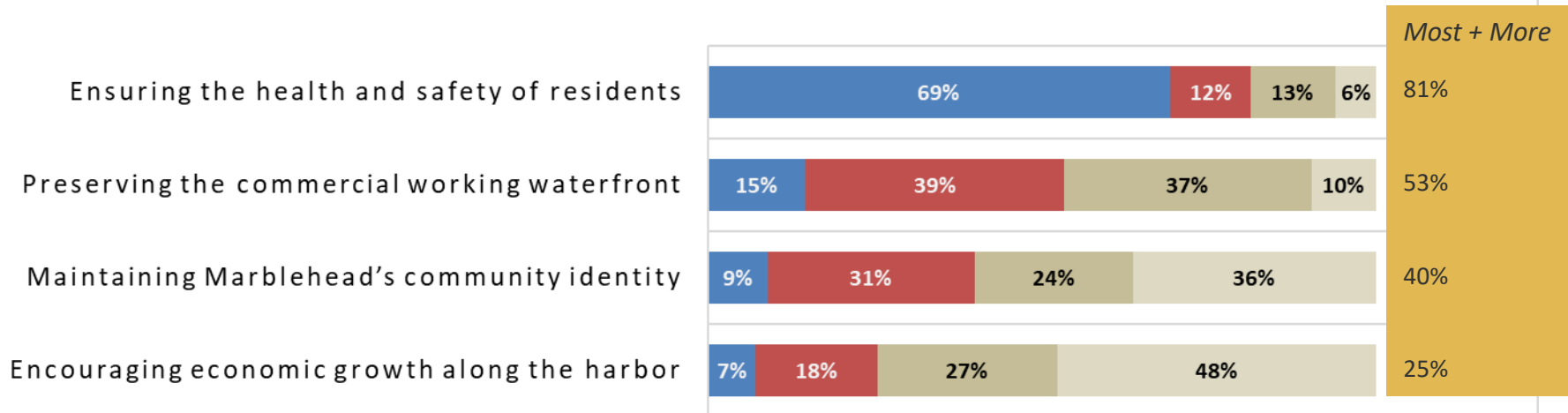
The Town should proactively identify and plan for future climate impacts to our shoreline and harbor.

95% Agree



Least to most important reasons for coastal resilience planning in Marblehead

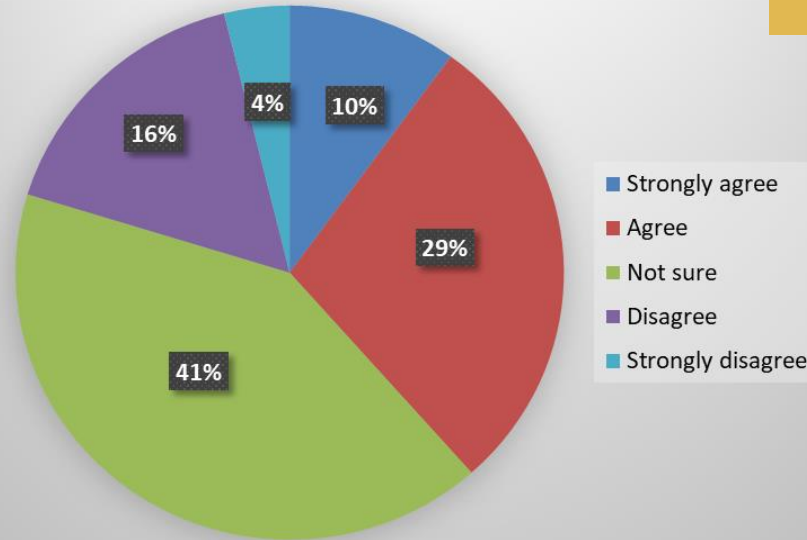
■ Most ■ More ■ Less ■ Least



Answered: 390 Skipped: 0

Q4: Rank in order of importance what you believe are the most important reasons for coastal resilience planning in Marblehead.

Residents and businesses share a common understanding of the future climate risks to Marblehead.

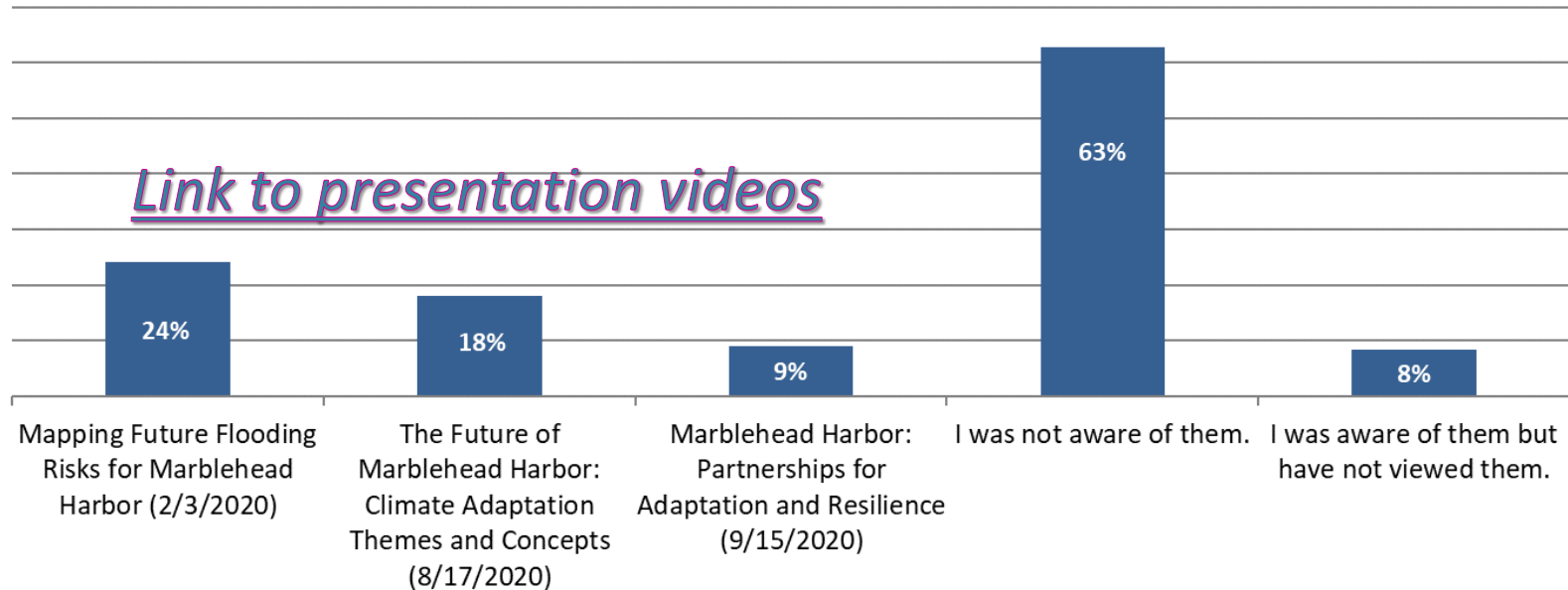


39% agree while
41% are unsure.

Answered: 390 Skipped: 0

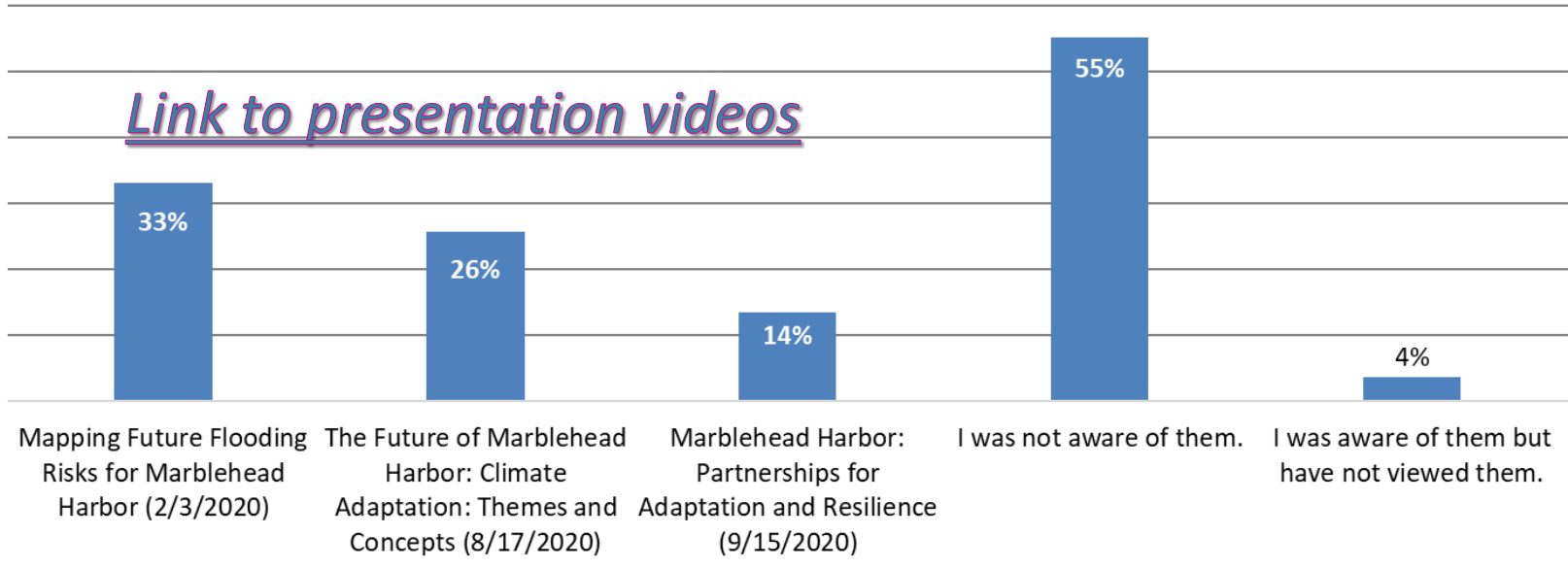
Q9: I think residents and businesses share a common understanding of the future climate risks to Marblehead.

Percent of respondents who attended or watched the Marblehead Coastal Resiliency Planning Presentations by 10/10/2020



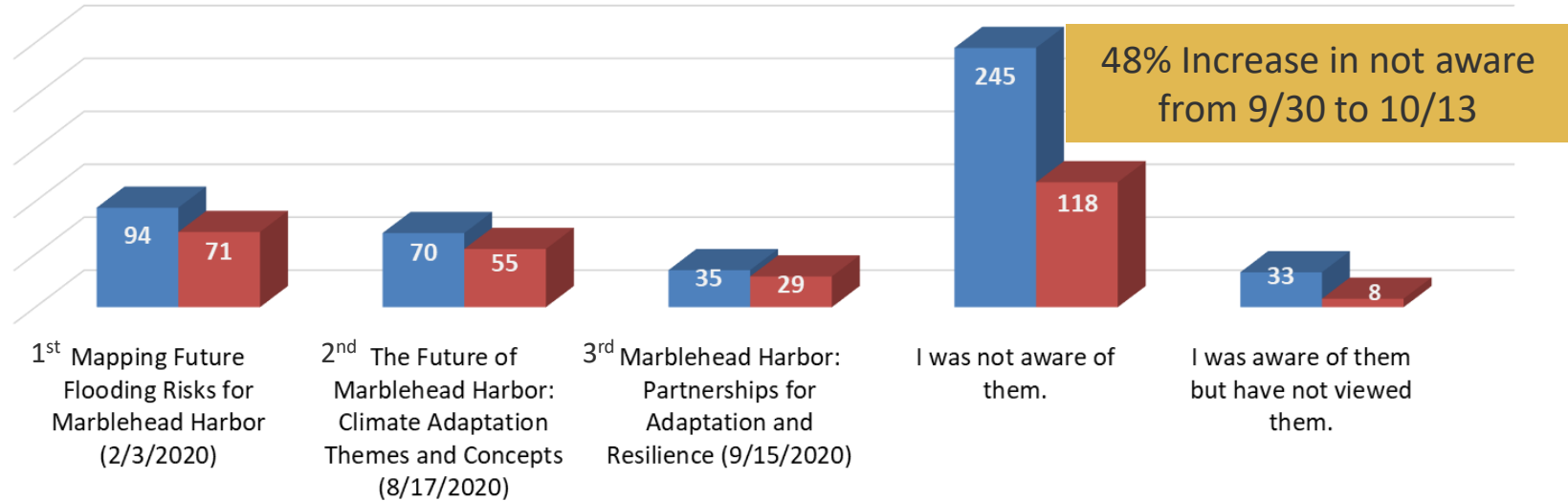
Percent of respondents who attended or watched the Marblehead Coastal Resiliency Planning Presentations by 9/30/2020

[Link to presentation videos](#)



Comparison of the number of respondents who attended or watched the 2020 Marblehead Coastal Resiliency Planning Presentations

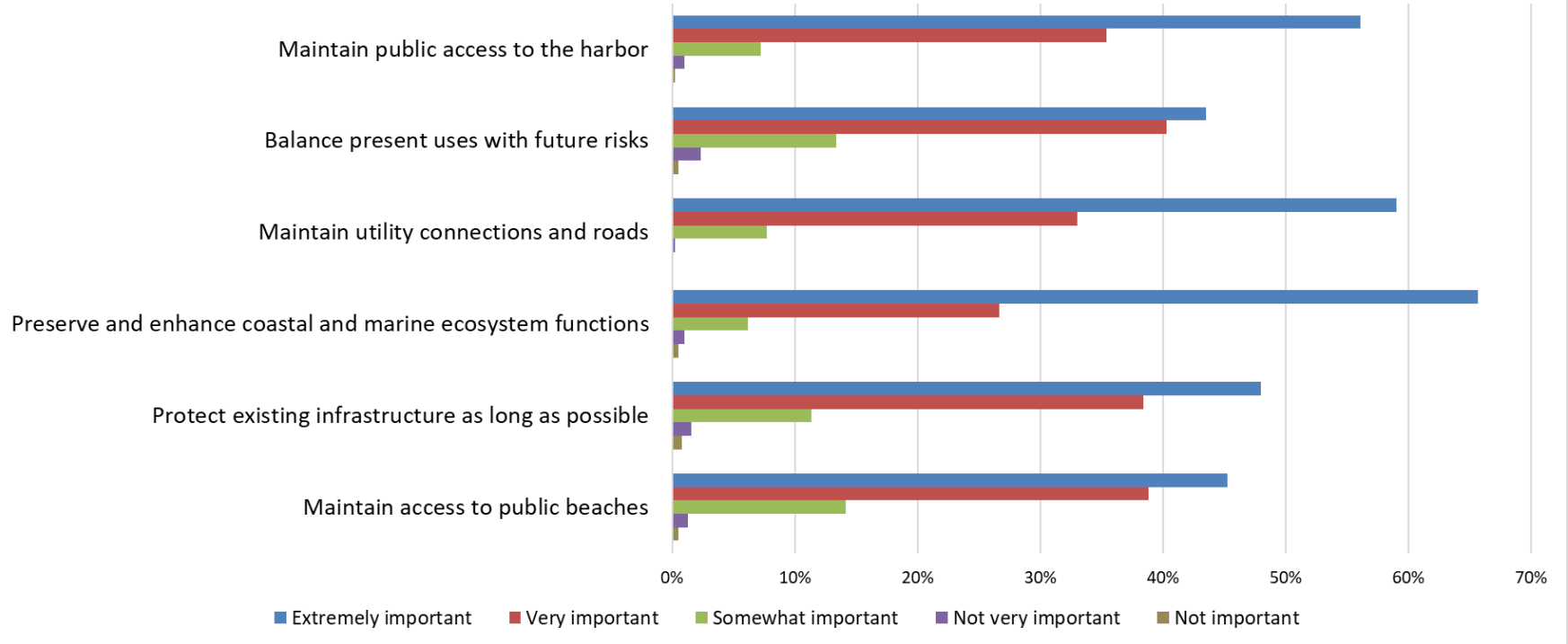
by time survey was answered ■ 10/13/2020 ■ 9/30/2020



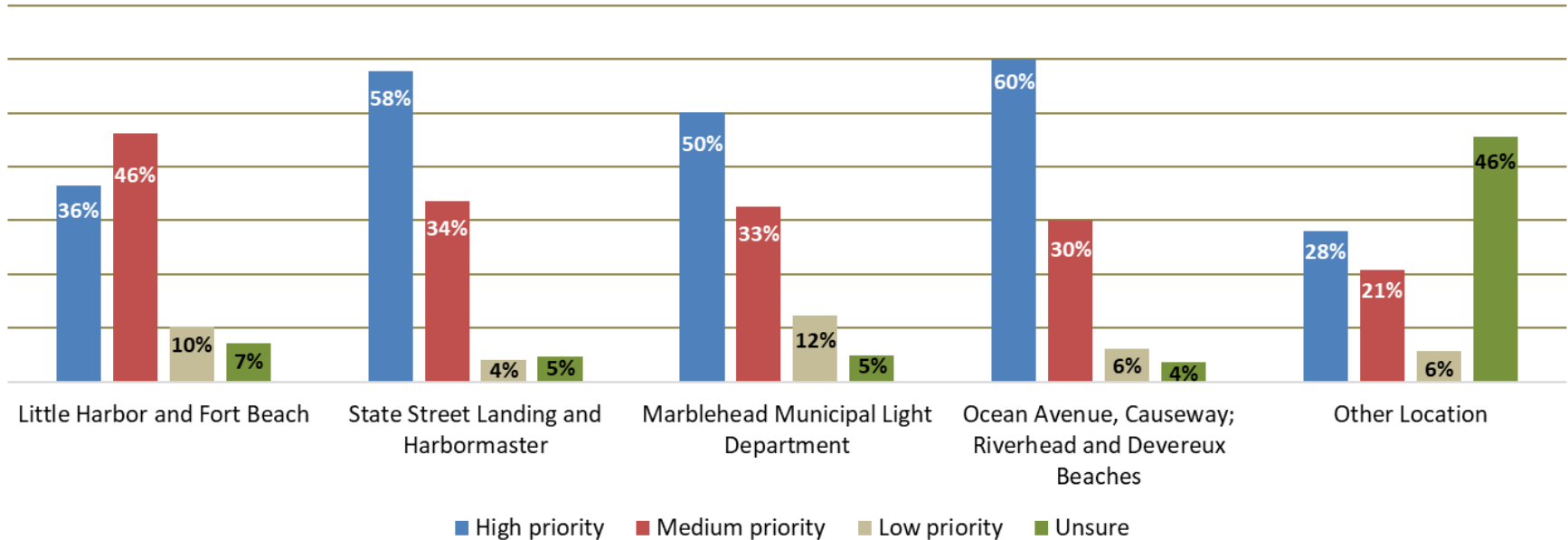
1st presentation 282 people attended; 2nd 105 virtual logons; 3rd 58 virtual logons

Q10: Have you attended any of these presentations or watched their videos? Answered: 214 by 9/30/2020 vs 390 by 10/13/2020

How respondents ranked the importance of the following adaptive strategies for Marblehead



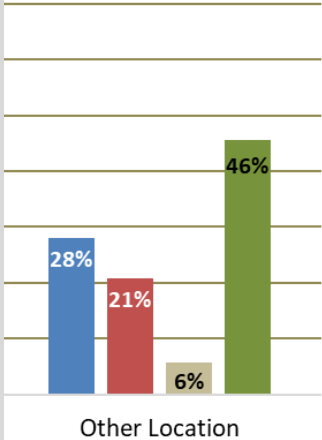
Respondents' prioritization of Town climate adaptive planning and actions for the four areas identified as at risk from future climate change



Respondents' prioritization of Town climate adaptive planning and actions for the four areas identified as at risk from future climate change

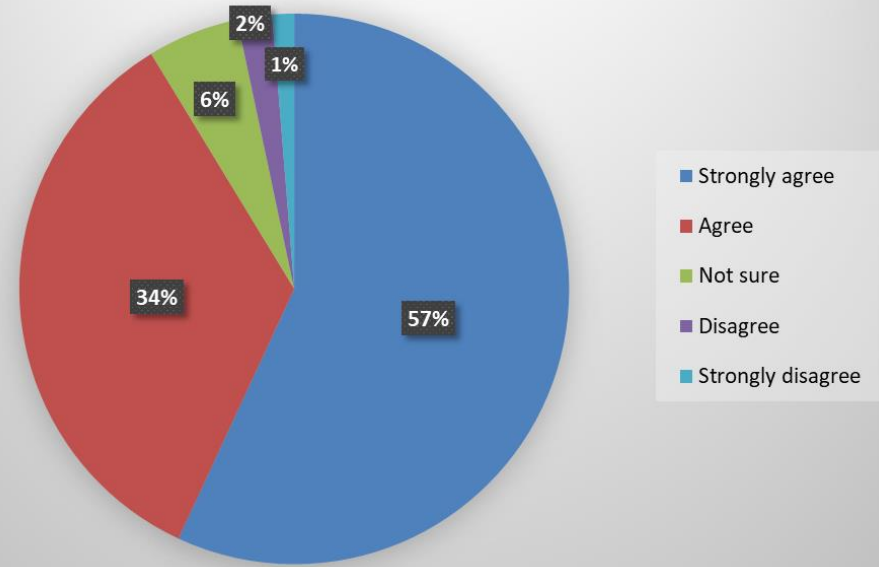
Suggested "Other Locations":

- West Shore, Village Street and Stramski's;
- Dolibers Cove, Grace Oliver's and Seaview Ave;
- Lead Mill where electricity comes into town;
- Atlantic Ave near Swampscott border and Preston Beach;
- Chandler Hovey Park and Fort Sewall;
- Jimmy's Cove, Parker Boatyard;
- Boston Yacht Club and Yacht Club areas



To improve resilience to climate change, the Town should coordinate public and private interests when assessing risk and upgrading infrastructure.

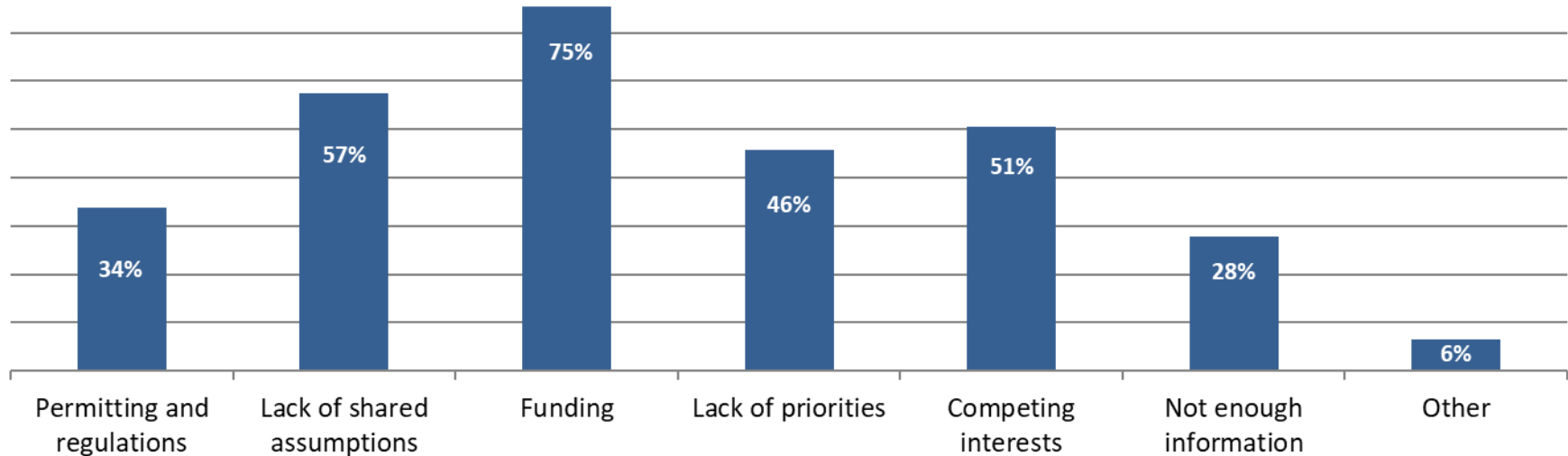
91% Agree



Answered: 390 Skipped: 0

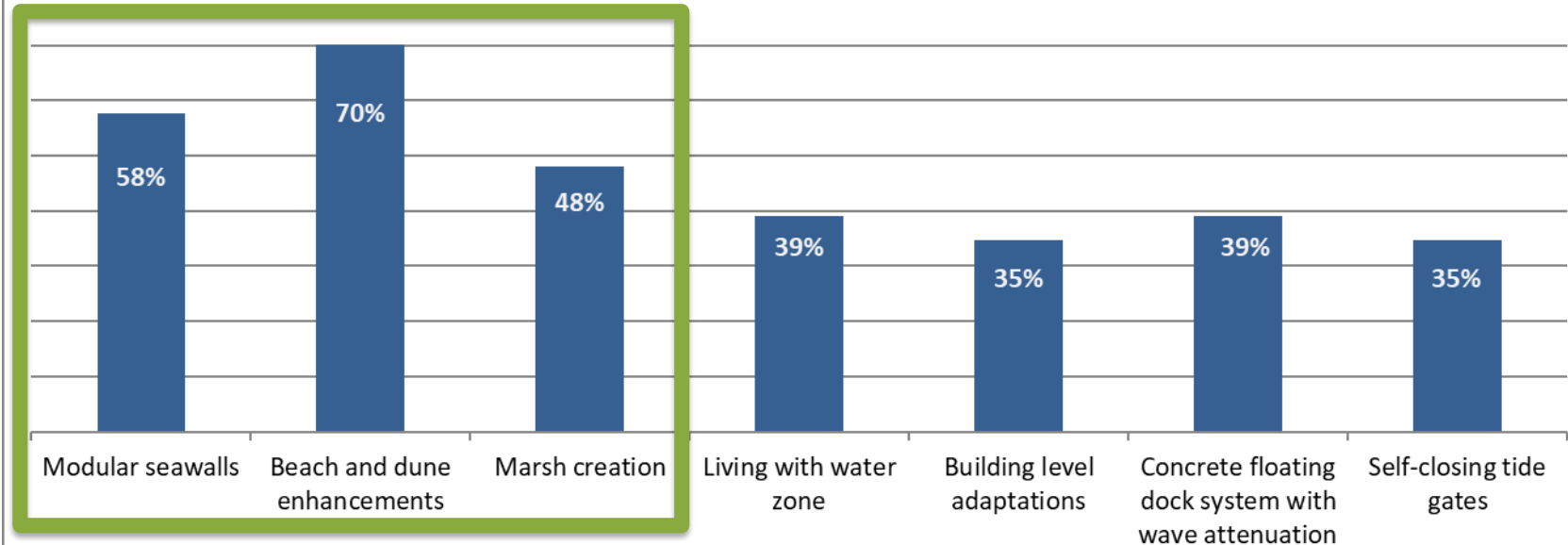
Q8: To improve resilience to climate change, the Town should coordinate public and private interests when assessing risk and upgrading infrastructure.

Percent of respondents who saw the following as challenges the Town will face as it moves forward on climate adaption strategies



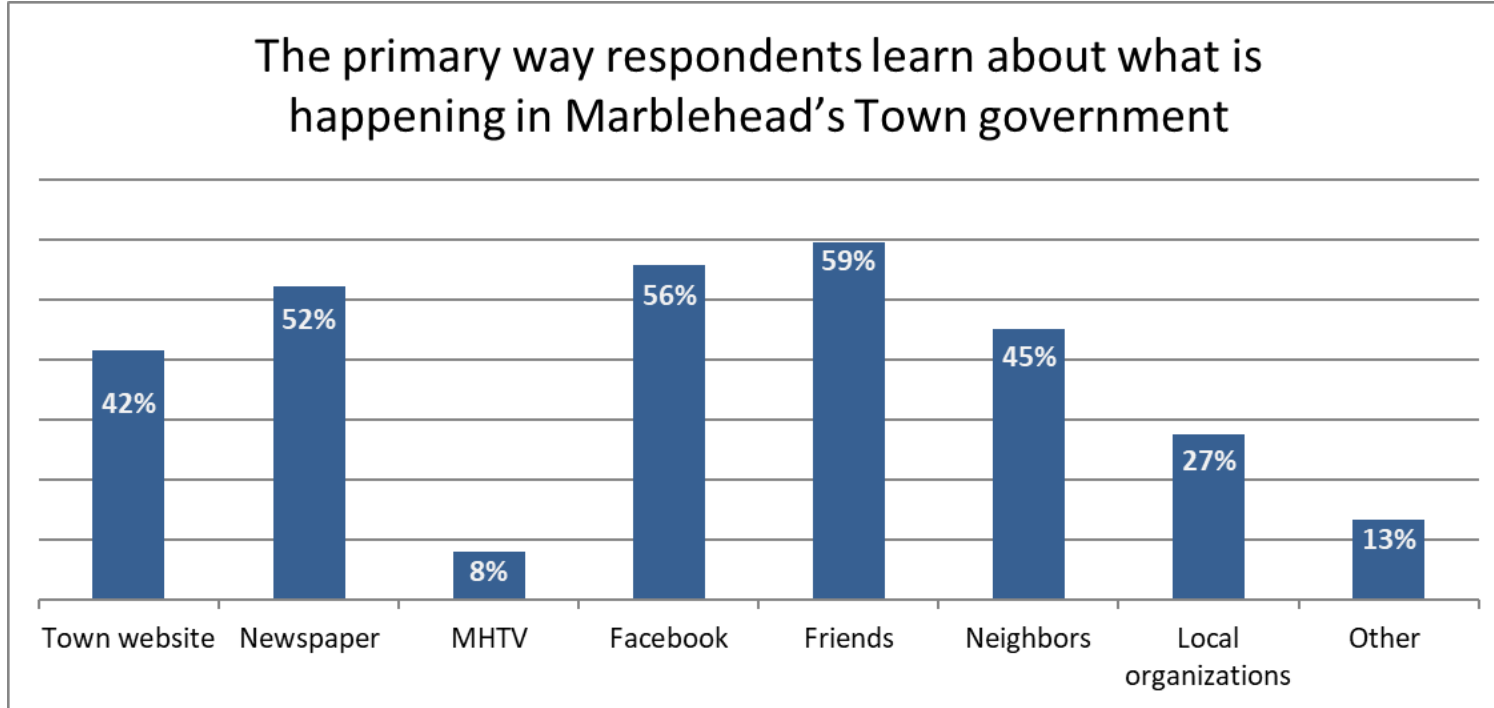
Lack of shared assumptions, lack of priorities and competing interests call out for more public engagement and visioning to achieve great clarity within the Marblehead community on appropriate adaptive strategies.

Percent of respondents who would like to learn more about the following climate adaptation actions

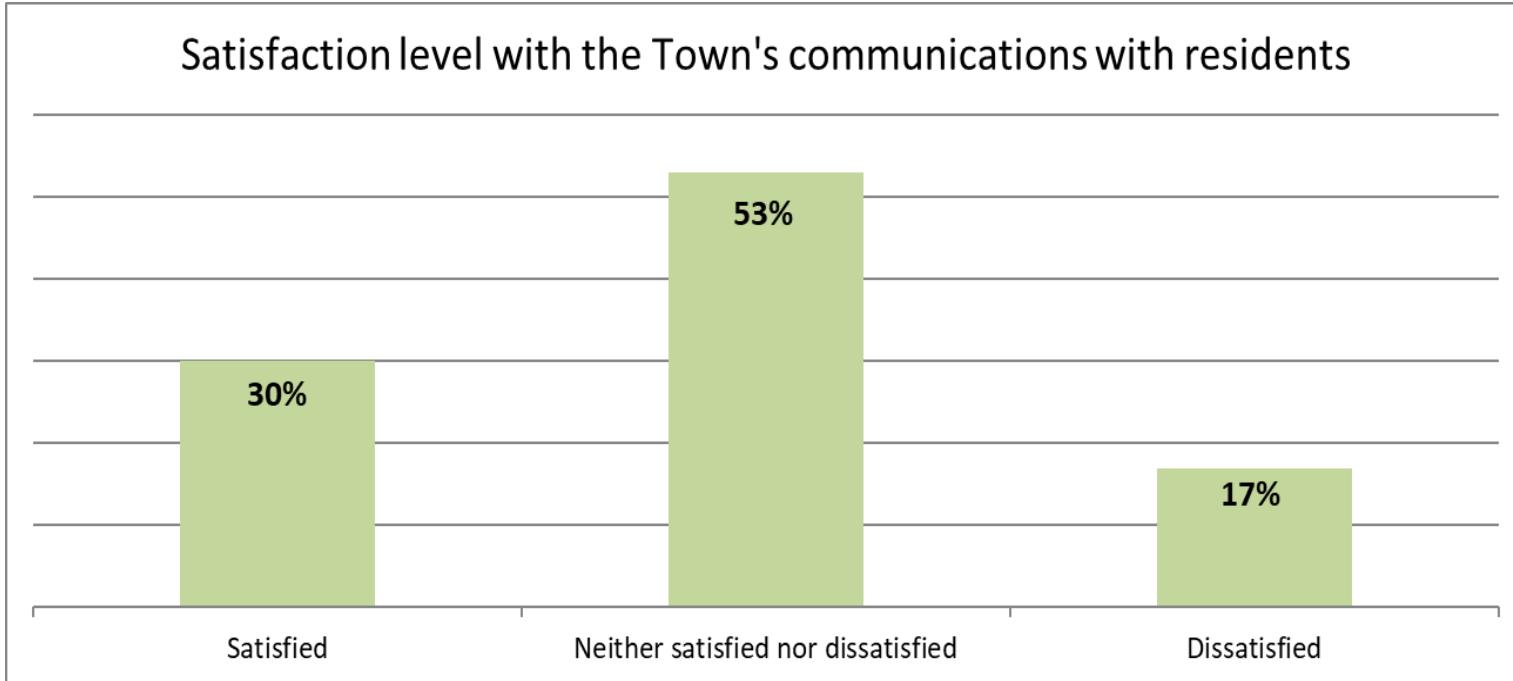


Respondents favored actions that buffer impact at the water's edge rather than building modifications that require more individual actions.

The primary way respondents learn about what is happening in Marblehead's Town government

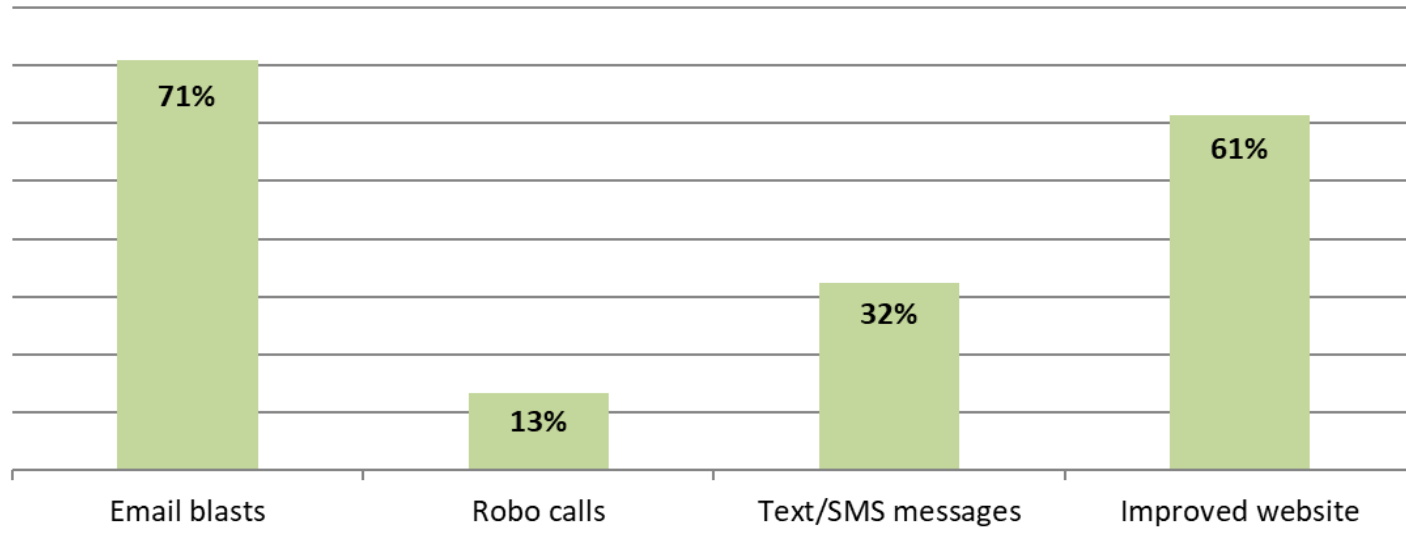


Satisfaction level with the Town's communications with residents

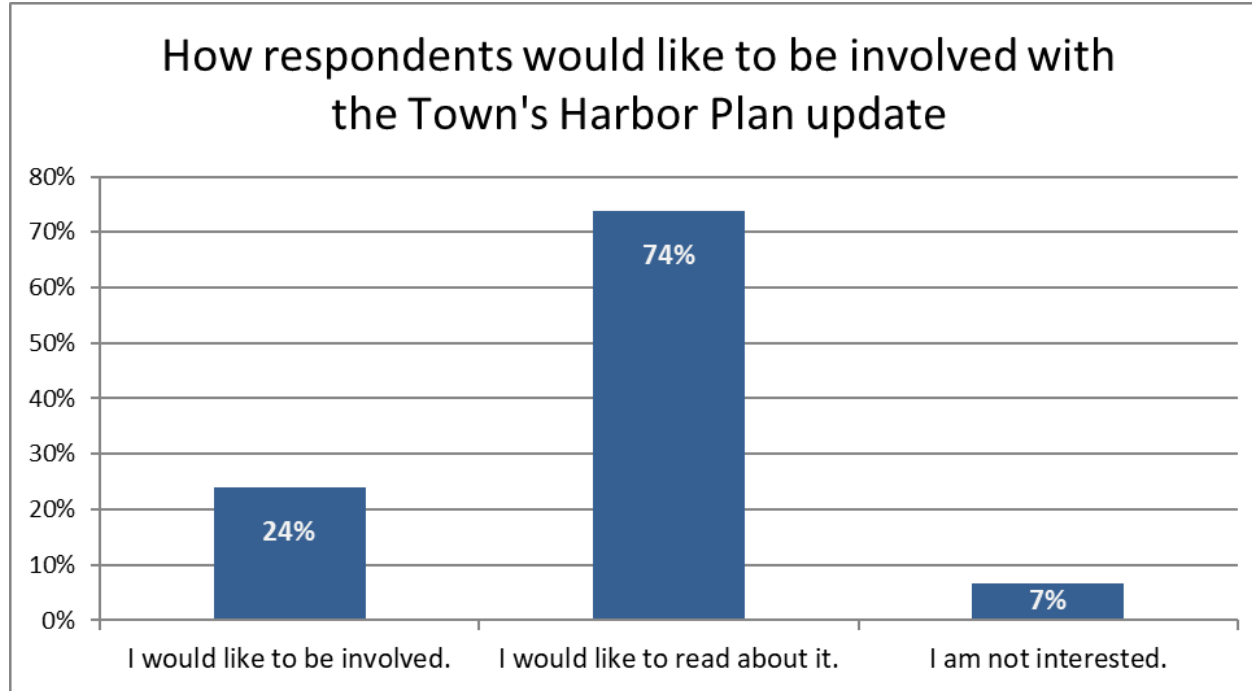


117 respondents were satisfied, while 66 were dissatisfied. The majority of respondents (207) were neither satisfied not dissatisfied.

Percent of respondents who thought the Town could improve its communications by the following actions



Since this survey, Marblehead has improved the website with a community project tab on the landing page, <https://www.marblehead.org/>



91 respondents would like to be involved, while 279 or 74% would like to read about it.

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Increasing Resilience through Community Engagement: Facilitating Implementation of Climate Adaptation Strategies for Marblehead and its Harbor

Through this process, the Town has identified 4 at-risk areas around the Harbor and has a clearer picture from the Massachusetts Coastal – Flood Risk Model (MC-FRM) of its flood risk, depth of flooding, flood pathways, and potential sea level rise elevations for the 2030, 2050 and 2070 scenarios.

Possible adaptive strategies were conceptualized but to determine actual necessary actions to be taken will require more detailed work that includes community engagement, planning, mapping and engineering. The natural ocean and landscape must be understood and enhanced where possible to build resiliency in Marblehead.

The Town is continuing to explore adaptive strategies through the Marblehead Harbor Plan and the FEMA Hazard Mitigation Plan updates. Communication of the potential for increasing climate change impacts and Marblehead’s vulnerabilities to all members of the community will continue to be important throughout these projects.

For more information on Marblehead's Coastal Resilience Planning



<https://www.marblehead.org/planning-department/news/coastal-resilience-czm-grant>

Or

<http://salemsound.org/climateAdaptMH.html>

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