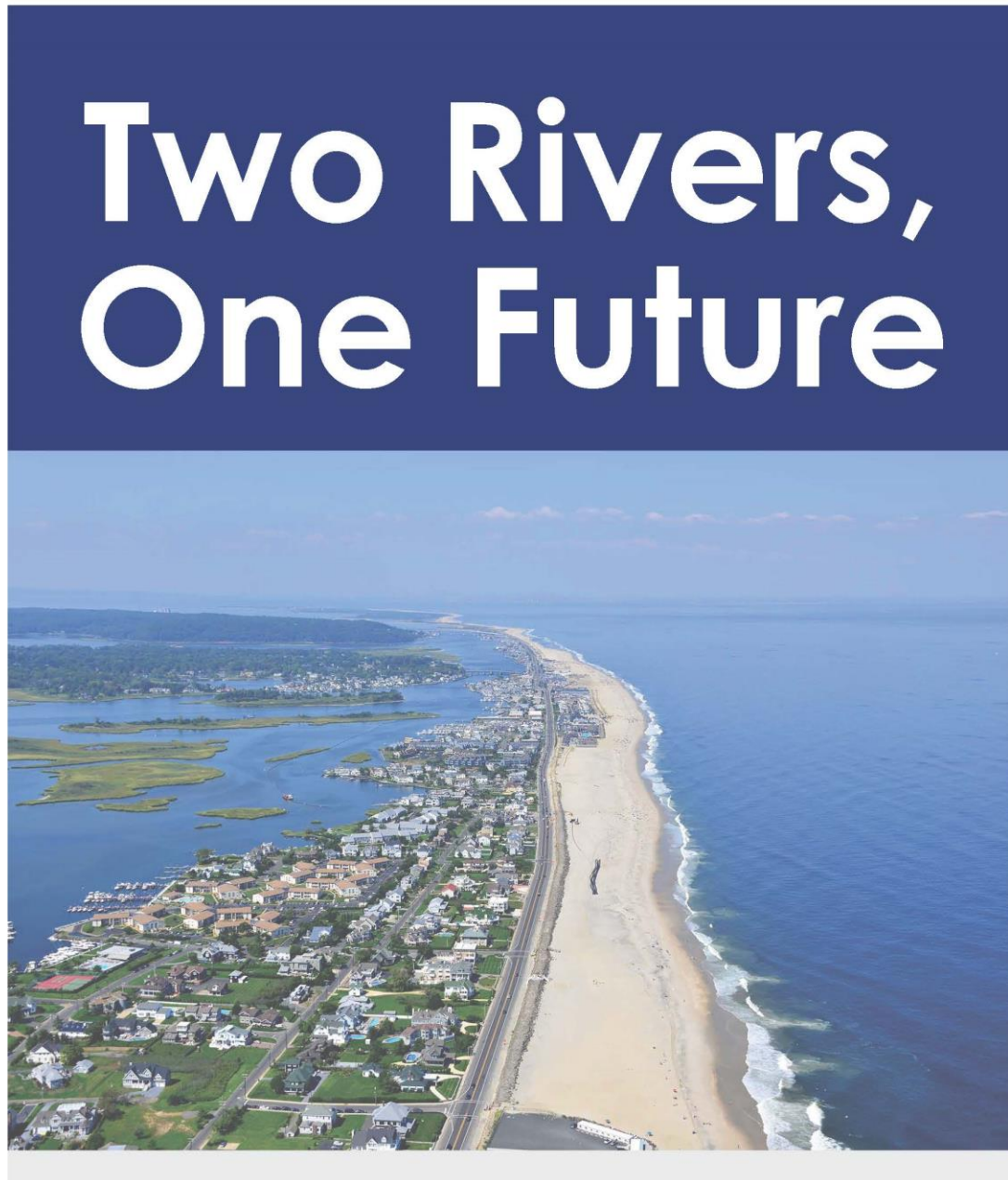


STAKEHOLDER AND COMMUNITY ENGAGEMENT PLAN



ACKNOWLEDGEMENTS

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ABOUT THIS DOCUMENT

The New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (NJ FRAMES) project was made possible through grant funding provided by the National Oceanic and Atmospheric Administration (NOAA). In the early stages of project implementation, the project team determined documentation of utilized engagement strategies would benefit other climate adaptation and resilience practitioners. Hence, the “Stakeholder and Community Engagement Plan” was drafted both to serve as documentation of the initial engagement ideas for each project task, but also as a living document over the course of project implementation.

Throughout the document readers will find both “planned” and “actual” engagement activities, methods and resources. “Planned” activities were initial thoughts, early in the project kick off, regarding engagement strategies. “Actual” reflects the iterative-nature and realities of project implementation, project resource adjustments, project timeline expansion and stakeholder turnover.

It is the authors’ hope that other climate and resilience practitioners will springboard from the lessons learned of the NJ FRAMES project team’s engagement and that application of stakeholder and community practices continues to advance and provide a compass for coastal climate adaptation and resilience planning and implementation.

OVERALL PROJECT APPROACH

The New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (NJ FRAMES) project proposes a multi-partner regional planning initiative in the Two Rivers region of Monmouth County to pilot a process that will increase the long-term resilience of New Jersey's coastal communities to coastal hazards. This process will implement NOAA's *What Will Adaptation Cost? An Economic Framework for Community Infrastructure*¹ (hereafter, Framework) establishing a replicable version tailored to New Jersey.

The project will engage the 15 municipalities² that make up the Two Rivers Council of Mayors (Council) and a wide range of stakeholders, through a robust public engagement process, to develop and evaluate multiple planning scenarios in response to projected coastal hazards. The ultimate deliverable for the NJ FRAMES project is a Regional Resiliency and Adaptation Action Plan (RRAAP) identifying prioritized regional and municipal-specific actions that will result in a more resilient Two Rivers region.

The NJ FRAMES project is funded through the National Oceanic and Atmospheric Administration (NOAA) FY 2015 Regional Coastal Resilience Grant issued to the New Jersey Department of Environmental Protection (NJDEP) Coastal Management Program (CMP). This award partners the CMP with the Rutgers University (Rutgers Team – made up of the Jacques Cousteau National Estuarine Research Reserve (JC NERR) and the Edward J Bloustein School of Planning and Public Policy (RU-Bloustein School), Louis Berger, and Oceanport Borough.

THE IMPORTANCE OF STAKEHOLDER & COMMUNITY ENGAGEMENT

A robust public engagement process, incorporating the vision of the Two Rivers communities will be employed throughout the NJ FRAMES project. This document, the Stakeholder and Community Engagement Plan (hereafter, Engagement Plan), will guide and inform the engagement strategies utilized throughout the project. All partners, (the Project Team) will utilize stakeholder facilitation and risk communication best practices, detailed in the Engagement Plan, from the project kick off, through presenting the costs and benefits of various planning scenarios and finally in the presentation of the finalized RRAAP. The processes of engaging stakeholders and the public throughout this project will ensure that decisions about the type and extent of mitigation activities in the Two Rivers region will be well informed and vetted.

The wide range and diversity of regional input, including multiple advisory groups and public engagement opportunities, is strategic for the purpose of hearing from a wide variety of opinions. Stakeholders will include, but are not limited to, elected officials, county officials, local citizens, community organizations, technical experts, local business interests, and environmental organizations. Public engagement will include full-time residents, second homeowners, occasional visitors, and the

¹ http://seagrant.noaa.gov/Portals/0/Documents/what_we_do/climate/NOAA_What_Will_Adaptation_Cost_Report.pdf

² Borough of Eatontown, Borough of Fair Haven, Borough of Highlands, Borough of Little Silver, City of Long Branch, Township of Middletown, Borough of Monmouth Beach, Township of Ocean, Borough of Oceanport, Borough of Red Bank, Borough of Rumson, Borough of Sea Bright, Borough of Shrewsbury, Borough of Tinton Falls, and Borough of West Long Branch

media. Care will be taken to identify socially vulnerable populations (linguistically isolated, high rates of poverty, minority, or aging populations), and representatives that work with these populations, and ensure they are engaged. These advisory groups and public engagement events will provide an opportunity to help shape the project dialog, build a shared vision and understanding of the project goals and opportunities, and solicit public input on key strategies to inform the Adaptation Planning Scenarios.

STAKEHOLDER & COMMUNITY ENGAGEMENT GOVERNANCE STRUCTURE

The stakeholder and community engagement process established a Steering Committee, Constituency Advisory Group, and Technical Advisory Group (see NJ FRAMES Community Engagement Framework structure, Figure 1).

The structure of the project governance system assumed the following:

1. The outcome of the project is a Regional Resilience Adaptation Action Plan (RRAAP) developed for the Council and presented by the CMP. Through frequent communication with the Council, and inclusion of municipal representatives from each of the 15 municipalities in the Two Rivers region, the CMP will seek, but does not require, consensus of the Council on the final RRAAP.
2. The Project Team will regularly coordinate with the Council, providing updates and seeking input on consequential decisions, throughout the project.
3. The Steering Committee will be the primary forum for analysis and plan development. The Steering Committee will have a representative from each of the 15 Two Rivers municipalities, and five community stakeholders - one (1) representative each from the five (5) Constituency Advisory Group.
4. A Constituency Working Group will be responsible for representation and engagement of appropriate community stakeholders throughout the course of the project and provide input to the Steering Committee for comment and consideration.
5. A Technical Working Group will advise on technical, legal, and policy feasibility of strategies under consideration, and will provide input to the Steering Committee for comment and consideration.
6. The Project Team will seek public input through a variety of data collection efforts, public comment, and public events on consequential considerations undertaken throughout the project.
7. The CMP will create and maintain a project website that will serve as a platform for communication with the public on the status of the project. All public meeting summaries and materials from public meetings, intermediate analyses, and final work products will be posted to a website maintained by the CMP.
8. The CMP will establish a Coordinating Agencies Working Group to consult on the project, providing guidance and data as necessary and appropriate to further the goals of the project. Additionally, this group is being used to pilot a coordination process to better align activities by state and federal agencies in New Jersey.

PRE-ENGAGEMENT ACTIVITIES AND OUTREACH

PLANNED: ESTABLISH PROJECT WEBSITE

The CMP will create and maintain a project website that will serve as a platform for communication with the public on the status of the project. All public meeting summaries and materials from public meetings, intermediate analyses, and final work products will be posted to a website maintained by the CMP.

ACTUAL: ESTABLISH PROJECT WEBSITE

The website can be found at: <https://www.nj.gov/dep/bcrp/njframes.html>

PLANNED: COORDINATE WITH THE TWO RIVERS COUNCIL OF MAYORS

Oceanport Borough initiated a process to provide updates to, and get feedback from, the Two River Council of Mayors (Council) throughout the project. This process included an initial kickoff meeting presenting the Council with the goals of the project, process, and proposed outcomes. Thereafter, the Project Team will meet with the Council on a semi-annual basis at a regularly scheduled Council meetings to provide updates on the status of the project. These meetings will be scheduled to coincide with significant decision-points in the project, such as, but not limited to:

- Understanding Baseline Risk
- Risk Assessment and Adaptation Planning Scenarios
- Evaluating Adaptation Planning Scenarios
- Selecting Preferred Planning Scenario
- Presenting the Final RRAAP

Coordination of these meetings is the responsibility of Oceanport Borough or their representative. Representatives from each Project Team partner are expected to participate.

Each municipality was asked for a letter that:

- (1) Pledges support for the project, participation of municipal staff as necessary and appropriate, and communication efforts to ensure community involvement throughout the process; and
- (2) identifies a municipal representative to serve on the Steering Committee, a municipal representative with appropriate technical expertise and/or knowledge of municipal plans/project/facilities to serve on the Technical Advisory Group, and that provides the representative the authority to make decisions on behalf of the municipal government as part of the planning process.

Additionally, each municipality was asked for recommendations for community stakeholders to serve on the Steering Committee and Constituency Advisory Group.

Throughout the life of the project, Oceanport Borough will conduct regular communication related to the on-going status of grant funded project activities to all participant municipalities and facilitate the collection and communication of municipal feedback to project partners.

ACTUAL: COORDINATE WITH THE TWO RIVERS COUNCIL OF MAYORS

After the initial kickoff meeting with the Council, held in September 2016, a representative from each municipality was selected to serve on the Steering Committee. Representatives also recommended community stakeholders to serve on the Constituency Advisory Group.

Coordination and update meetings were held with the Council when the project team had substantial updates to report. Project updates were provided at the March 2017 and October 2017 Council meeting.

To ensure continued engagement on the project outside of scheduled Council meetings, in early 2018 DEP coordinated one-on-one meetings with municipal officials to ensure their engagement on the project, selection of appropriate municipal participation in the advisory groups, and review of the asset, plan, and project data collection. Meetings were held with the following communities: Fair Haven, Little Silver, Middletown, and Shrewsbury.

Additionally, from October through December 2019, the project team had numerous conversations with municipal representatives to brief them on the planning scenarios, action options, and to discuss the selection of the final preferred planning scenario and content of the RRAAP.

Through these meetings, it was decided that DEP would present at the first Council meeting in 2020, to present the outcomes of the final RRAAP and the project. This meeting took place in February 2020.

Thanks

PLANNED: COORDINATE WITH MONMOUTH COUNTY

As part of establishing the Planning Context, the Rutgers Team will initiate engagement with Monmouth County OEM, Planning Board, and Engineering County agencies. This includes an initial kickoff meeting presenting the County with the goals of the project, process, and proposed outcomes. Thereafter, the Project Team will meet with the County on an as-needed basis to provide updates on the status of the project. The goals of the initial meeting were to discuss recent county efforts (e.g., the County's Hazard Mitigation Plan), understand the priorities of the communities that emerged from those processes (including both resiliency and related community priorities, such as for transportation, development, etc.), and determine how recent county efforts could be leveraged during the NJ FRAMES process. Monmouth County representatives at the meeting were asked for recommendations for community stakeholders to serve on the Steering Committee, Constituency Advisory Group, and Technical Advisory Group.

ACTUAL: COORDINATE WITH MONMOUTH COUNTY (SEPTEMBER 12, 2016)

As part of establishing the Planning Context, the Rutgers Team initiated engagement with Monmouth County OEM, Planning Board, Engineering and other appropriate County agencies. An initial County agency kickoff meeting was held on September 12, 2016. The County agency reps were presented with the goals of the project, process, and proposed outcomes. The Monmouth County agency reps were also asked for recommendations for community stakeholders to serve on the Steering Committee, Constituency Advisory Group, and Technical Advisory Group.

PLANNED AND ACTUAL: ESTABLISHMENT OF STEERING COMMITTEE, CONSTITUENCY ADVISORY GROUP, AND TECHNICAL ADVISORY GROUP

The Project Team coordinated with the Council and Monmouth County to identify appropriate stakeholders to provide a diverse and community-representative process, and establish the Steering Committee, Constituency Advisory Group, and Technical Advisory Group.

- **Steering Committee** – JC NERR will facilitate the Steering Committee, which will be comprised of one representative from each of the 15 municipalities, Monmouth County, 5 members from the Constituency Advisory Group, and NJCMP. The Steering Committee will provide direction and guidance to the Project Team, agree on the three adaptation scenarios to proceed into the Cost Benefit Analysis, and agree upon the preferred adaptation scenario detailed in the Regional Resilience and Adaptation Plan (RRAAP).
- **Constituency Advisory Group** - Rutgers University will facilitate the Constituency Advisory Group, which will be comprised of local non-profit organizations, community leaders, academic institutions, business representatives, watershed groups, and others. The Constituency Advisory Group will provide comments to the Steering Committee on project tasks and analysis results and facilitate gathering information from representative targeted constituent groups. The Project Team will identify communities that are most vulnerable and ensure that they are included in the stakeholder process, along with representatives that work with these populations.
- **Technical Advisory Group** - Louis Berger will facilitate Technical Advisory Group, which will be comprised of one technical representative from each of the Two Rivers municipalities, Monmouth County, the New Jersey Association of Floodplain managers, New Jersey APA, and other technical practitioners. The Technical Advisory Group would provide comments to the Steering Committee on project tasks and analysis outcomes, based on both local and technical knowledge. The Technical Advisory Group will meet as-needed, i.e. driven by a specific milestone or key issues to be addressed, or other aspects where TAG input is appropriate and timely. The Technical Advisory Group will be kept informed throughout the process.

Unless otherwise stated, the Technical Working Group and Constituency Advisory Group will meet before the Steering Committee, as they are expected to provide input to inform the deliberations and decisions of the Steering Committee. A list of each type organizations and titles comprising each of the group is provided in Appendix B.

Figure 1. NJ FRAMES Community Engagement Framework Structure

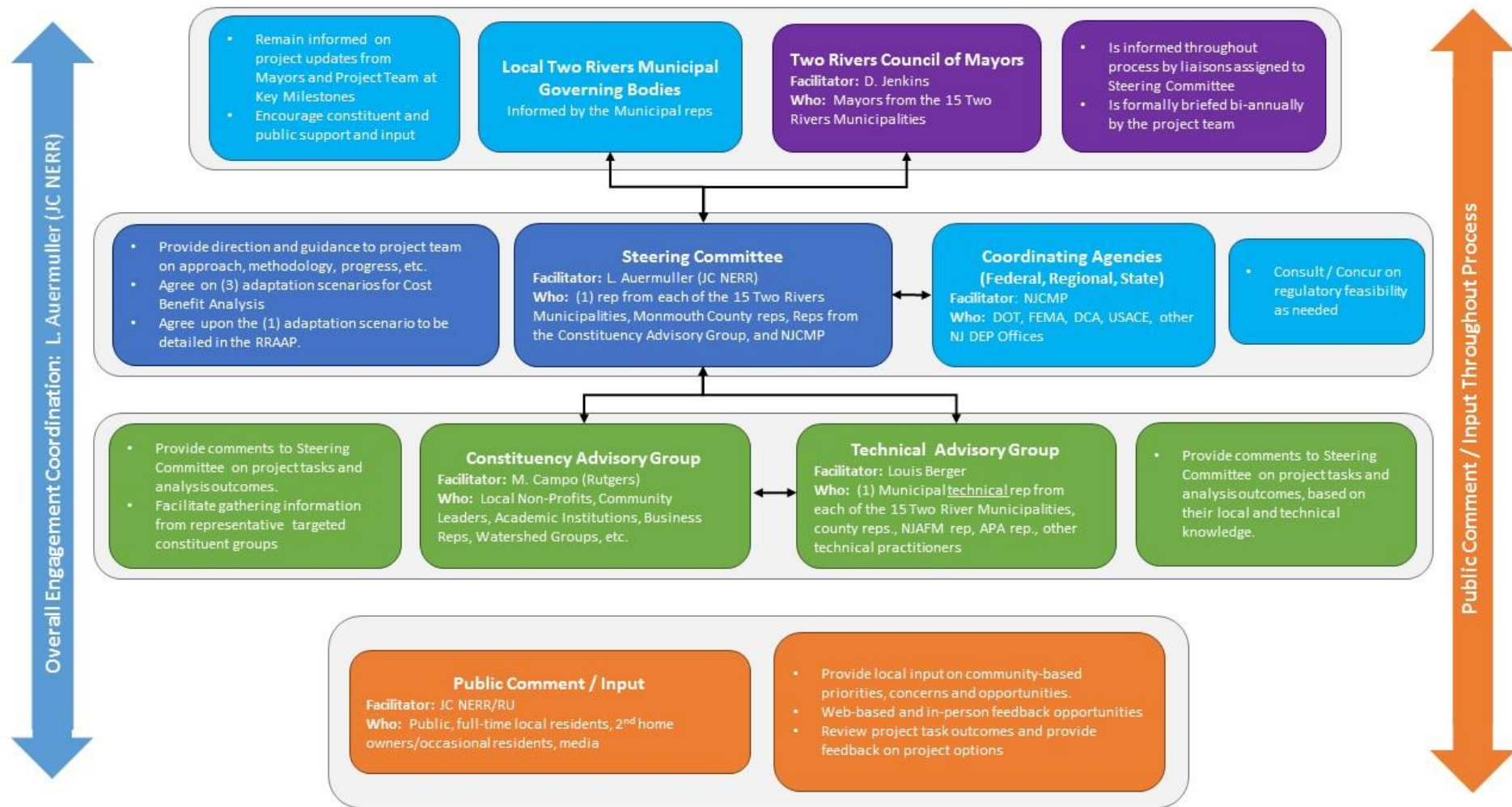
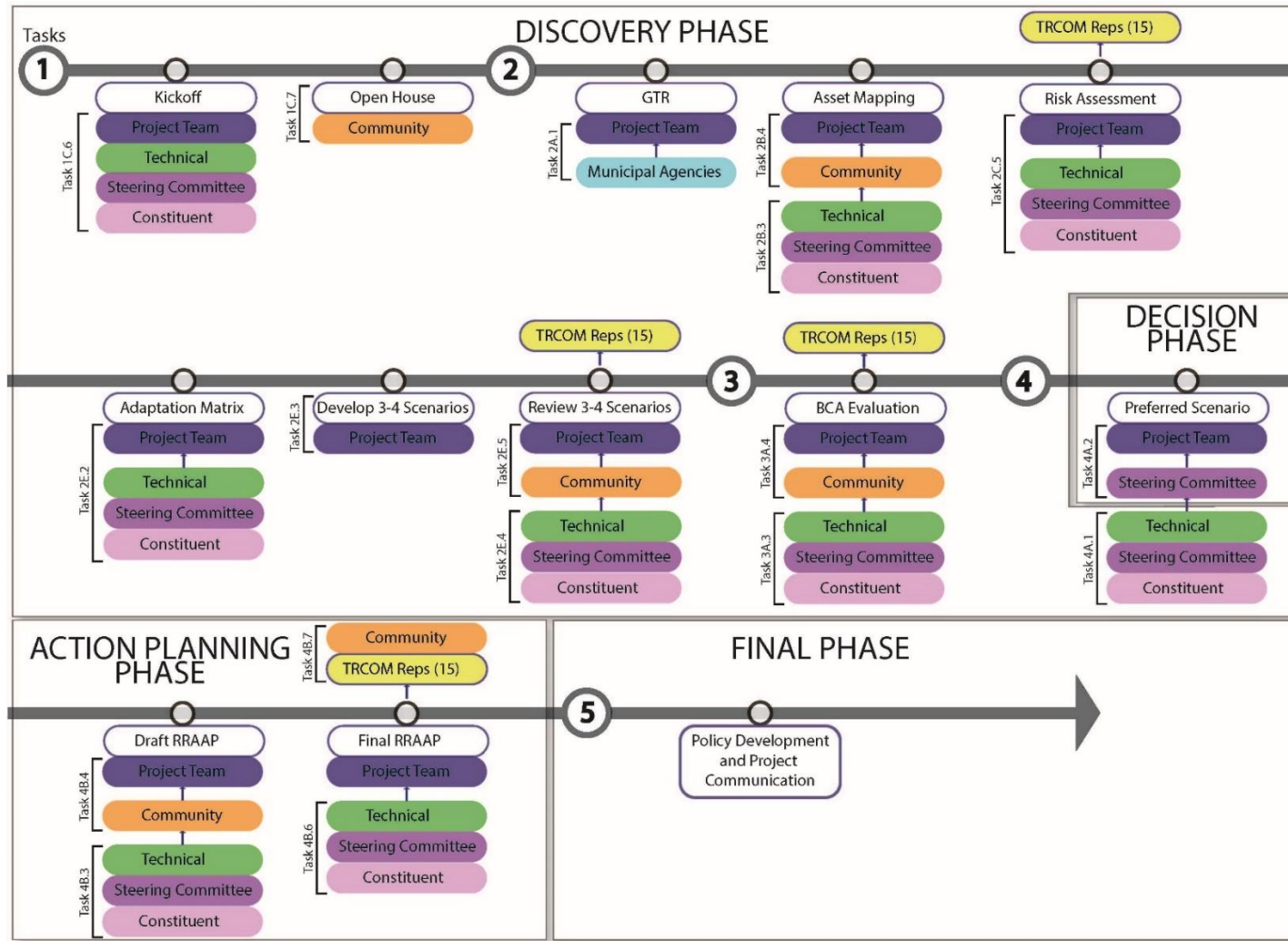


Figure 2. NJ FRAMES Engagement Phases and Involved Stakeholders



ENGAGEMENT PHASES

For each of the tasks in the NJ FRAMES project, an engagement strategy has been proposed, based on the type of stakeholder. These engagements, by task, are depicted in Figure 2. More specifics about each Engagement Phase and Engagement Strategy are described below.

DISCOVERY PHASE

KICK OFF EVENTS

PLANNED: ADVISORY GROUPS KICKOFF

The Project Team will hold a combined project kickoff meeting with all the advisory groups. Presentations in the meeting will describe the overall project, outline the role and responsibilities of each advisory group, present the Stakeholder and Community Engagement Plan, and detail the climate projections and planning guidance.

The stakeholder meeting will be hosted over the course of a full morning with all advisory groups meeting together first followed by each individual group splitting out into breakout meetings. These breakout meetings will be facilitated by the respective Project Team leads assigned to each advisory group.

ACTUAL: ADVISORY GROUPS KICKOFF - NOVEMBER 21, 2016

The Project Team held a project kickoff meeting with potential members from all advisory groups on November 21, 2016. The Project Team delivered presentations at the meeting to:

- Describe the overall project;
- Outline proposed roles and responsibilities of each advisory group and their membership;
- Propose a Stakeholder and Community Engagement Plan; and,
- Detail the climate projections and planning guidance for the project using the total water levels approach agreed by the Project Team.

In addition to presentations, each of the stakeholder groups met with their respective facilitation leads to discuss any questions or concerns regarding the presented materials and the next steps for each of the stakeholder groups.

The Constituent Advisory Group members were invited to participate in a group activity to generate an initial set of vision statements for the project. The Project Team facilitated a discussion about constituent advisory group participants' "vision" for the region and the project using cards with images. The facilitator asked everyone to introduce themselves and explain how the picture related to their vision for the region and the outcomes of the project.

PLANNED: PUBLIC OPEN HOUSE

Goals: Project kick-off; general awareness building; inform the public about resiliency planning; generate excitement, communicate timeline and opportunities for public participation, collect attendees'

perspectives on future vision for the region, pressing issues in the region, understand public perspectives on a successful outcome of the project

Output:

1. Notes from debriefing meeting
2. Results from hourly polling activities

The primary engagement activity for the public kick-off will be an open house event at a major venue in the Two Rivers area. An open house provides an excellent opportunity for project staff and experts to provide information to the general public in a casual, fun atmosphere. The Project Team will develop and present materials in fun and engaging ways that will review the intent of the project, the types and opportunities from Community Engagement, the sea-level rise and coastal storms projections being used in the project, the project schedule, opportunities for community participation, rosters of each work group, and the reasoning behind planning for resilience in the region.

The open house will also include some activities that showcase all the wonderful opportunities that exist in the Two Rivers area. A possible theme for the event could be “Why We Love Two Rivers,” implying that there are many reasons we should protect the coastal communities that comprise the Two Rivers area. The open house would also be an opportunity to use keypad polling technology as a means of engaging the participants in some baseline discussion of resiliency issues. A 10-15-minute keypad polling activity could be done at the top of each hour of the event to allow participants to have flexibility.

In order to reinforce this idea, as well as provide some opportunity for levity and fun, the open house could include a photo booth for participants to gain insight into local values and priorities. Participants can pose in the photo booth with a sign that says “I love Two Rivers because...” wherein they would fill in their favorite things about their community. To make the photo booth even more festive and fun, we could provide “dress up” accessories that evoke some of the most well-known characteristics of the Two Rivers area, such as the beach, the water, theater, arts, and more. The photos that are collected could be used later in the project, on the website and included in the final report.

- **Proposed Venue:** The ideal venue for this open house would be a large, well-known community asset with ample space, seating availability and a festive ambiance. Such a venue would increase the appeal and attention of the open house, while providing a bit of a “cool” factor. A great example of such a space would be the Two Rivers Theater in downtown Red Bank, NJ.
- **Outreach and publicity:** The open house event will be advertised in a variety of ways. The Project Team will generate buzz using social media, earned media, and possibly handing out flyers in the downtown areas of the Two Rivers municipalities. The Constituency Advisory Group will also play a critical role in recruitment through their already-established networks of communities and residents.
- **Timing:** The event is tentatively scheduled to take place in late-winter 2017. However, the Project Team should be aware of competing events, given the holiday season. Earlier in the month is better.
- **Materials Needed:** A full event plan will be developed in preparation for the open house. However, some key materials needed for this event are posters, easels, tables and chairs, refreshments, photo booth, accessories/costumes, small white board with markers.

Role of the Advisory Groups: Members of the Steering Committee, the Constituency Advisory Group, and the Technical Advisory Group will be encouraged to participate in the public kickoff open house event. Mayors and other elected officials from the 15 communities will be encouraged to attend as well. These

important project partners and leaders will be key ambassadors to the community members and should make themselves available to answer questions or speak directly with members of their towns or communities that attend the public open house event.

The Project Team will provide these the Advisory Groups with the necessary materials to help publicize the upcoming event and encourage participation from community members. Materials for publicity could include event flyers, sample blog posts, text for social media posts (Facebook, Twitter, etc.) and sample letters of invitation.

ACTUAL: TWO RIVERS, ONE FUTURE OPEN HOUSE (FEBRUARY 23, 2017) – PUBLIC OPEN HOUSE

The Public Open House took place at the Two River Theater in Red Bank on February 23, 2017. The goal of the project kick-off was general awareness building, to inform the public about resiliency planning, generate excitement, communicate timeline and opportunities for public participation, collect attendees' perspectives on future vision for the region, pressing issues in the region, and to understand public perspectives on a successful outcome of the project.

Role of the Advisory Groups: Members of the Steering Committee, the Constituency Advisory Group, and the Technical Advisory Group as well as mayors and elected officials from the 15 communities were encouraged to participate in the public kickoff open house, as they are key ambassadors to their community.

**The Public Kick Off Open House Report for Project Task 1C.7 is appended to the end of this Plan as Appendix C.*

ASSET MAPPING

PLANNED: STAKEHOLDER EVENT #2: ASSET INVENTORY/ASSET MAPPING

Activity 1: Support the use of asset inventory web tool (Task 2B.2). The Constituent and Steering Committee groups will assist the Project Team in publicizing and distributing information about the asset inventory web tool. For example, these groups can distribute information and announcements about the tool via email blasts or newsletters to encourage public participation. They can also post via social media to let local followers know about the online tool. The Project Team will also ask these groups to use the online mapping tool to fill in information as needed.

Activity 2: Participatory Mapping Workshops (Task 2B.3): The Project Team will plan in-person workshops for the Steering Committee, the Constituency Advisory Group and the Technical Advisory Group in order to continue to identify key assets in the community. Depending on the precise format of the meeting and availability of meeting space, the Project Team could choose to have a separate meeting for each group, or combine all three groups into one workshop (perhaps this is a good scenario if there is overlap in terms of membership). The workshop would include a facilitated discussion about critical assets and an opportunity to break out into table discussions (perhaps by town or by neighborhood depending on the scale of the meeting) to review large-scale maps and identify asset locations on the maps. See attachment on Participatory Mapping in the Appendix A for more detail on this type of workshop format.

- Proposed Venue: A large meeting space or classroom in the Monmouth County area, possibly a local college or large library meeting room

- Outreach and Publicity: No outreach or publicity require – workshop by invitation only.
- Materials Needed: A full agenda and facilitator guide will be developed prior to the meeting. In addition, some key materials needed are large maps, stickers or small post-it's to identify locations, large post-it boards to record important comments during facilitation, refreshments, information packets for participants.

Activity 3: Support Pop-up Kiosk (Task 2B.4). The Constituent Advisory Group will be asked to support the pop-up kiosk engagement (see Community Event #2), especially as it relates to reaching vulnerable populations and traditionally under-represented populations. While the Project Team will be taking the lead on the pop-up kiosks for the general public, it will be looking to the Constituency Advisory Group to co-host a location in their community or deploy a kiosk event independently on behalf of the Project Team. These organizations and agencies that will make up the Constituency Advisory Group will be chosen based on their knowledge and insights into the communities that they serve. Reaching the vulnerable, and often underserved, communities will be a key factor in the success of the public engagement campaign, and ultimately the success of the project. Through their deployment of the kiosk, the Constituency Advisory Group members can act as trusted advocates for the members of their communities, bringing important information to them and obtaining critical feedback from them but through a familiar face or familiar organization (see Trusted Advocate overview in Appendix A for more information on this approach).

- Kiosk location: Kiosk locations will be determined by the Constituency Advisory Group timing.
- Materials Needed: Materials for the pop-up kiosk could include (but not limited to): table, tablecloth (branded is best), easels, posters, giveaways/candy, demographic surveys, clip boards, post-its, pens, markers, and kid's activities.

Activity 3: (Option 2) "Mapping in a Box." (Task 2B.4) Similar to the workshop that the Project Team ran for the Steering Committee and the Constituency advisory group, the Project Team could create a simplified asset mapping activity that is packaged into a "Mapping in Box" for the stakeholders to use to run mini-workshops in their communities and report back to the Project Team (see "Meeting in a Box" overview in the Appendix A for more information about this technique). This technique is particularly important for getting input from residents who might be difficult to engage with the pop-up kiosk and online tool, such as elderly, special needs, and low-income residents. Through this "Mapping in a Box" the Constituency Advisory Group members will also act as trusted advocates for the members of their community (see Trusted Advocate overview in the Appendix A for more information on this approach).

ACTUAL: STAKEHOLDER EVENT #2 CAG ASSETS INVENTORY MAPPING (SEPTEMBER 25, 2017)

The asset inventory and mapping stakeholder workshop took place on September 25, 2017 at Hackensack Meridian Health Riverview Medical Center in Red Bank. The event was the first in the project's #MapWhatMatters" series and tasked the CAG with assisting the Project Team in adding assets that were not included as part of the publicly available data and therefore, helping to identify critical and locally significant assets.

At the workshop, the project team first discussed the structure and responsibilities for participation in the

CAG. Next, the project team collected descriptions of assets from the CAG that members described as making the community a strong and a great place to live. “Assets” were described as people, places, events, and things in the categories of economic, health and social services, housing, infrastructure systems, natural and cultural resources, and vulnerable populations (with more detail on the different categories given to the members at the workshop and questions answered as they came up throughout the event).

CAG members were also asked to identify and discuss relevant data sets that their local organizations may already maintain that represent regionally important asset categories. See Appendix E for a participant agenda, process agenda and participant list.

PLANNED: COMMUNITY EVENT #2: REGIONAL ASSET INVENTORY (MULTIPLE DATES, AUGUST – SEPTEMBER 2017)

Activity 1: Pop-up Kiosk (Task 2B.4). In order to solicit input on the asset mapping from residents in person, the team developed and deployed a “pop-up” kiosk for public engagement. The kiosk included maps, posters, and other display materials relevant to asset mapping, as well as a table for information on the project and other giveaways (candy, keychain, etc.). The in-person engagement team also solicited feedback using tablets directed to the asset mapping web platform being developed by Louis Berger. Participants would have the choice whether they wanted to provide assets on a physical map or on the electronic maps. The Project Team could assist in recording the names, address and other available information of the assets using clipboards or post-its so that information from participants is as complete as possible. The team will also ask the participants to fill out an anonymous demographic profile form. This will ensure that the participation is well representative of the demographics of the target area. Activities for kids should also be made available, such as stickers or coloring pages, to occupy children while parents/caregivers stop to engage in the mapping activity.

Activity 2: Online Asset mapping (Task 2B.2) Louis Berger is developing an online platform for collecting asset mapping input from the residents of the 15 Two Rivers municipalities. The Project Team will use popular social media tools and earned media outreach to promote the web tool and drive participation on the site.

- Outreach and publicity: Below are some specific ideas for generating participation in online engagement for asset mapping:
 - Create a twitter hashtag to drive social sharing of information about the online asset mapping platform for the Two Rivers project. Develop a list of clever, pithy tweets that could be distributed to Constituent Advisory Group for their own use and promoted through their twitter accounts.
 - An online photo campaign mirroring the photo booth idea from the kick-off open house. People could pose for selfies or send photographs of their favorite local assets (with tagging or full names/address included in the post). Careful marketing of this campaign would be needed to make sure that participants are also participating on the official online asset mapping tool.
 - In coordination with the NJDEP press office, engage in targeted media outreach to local outlets in the Two Rivers communities. Posting on neighborhood community pages, local Patch sites, NJ.com Monmouth County pages, and other local weekly newspapers. This outreach would include background on the overall project, information about the asset

mapping campaign, and a link to the online mapping tool. Media outreach would also include follow-up phone calls to distribution list.

- Timing: This engagement activity should occur at the same time as the pop-up kiosk campaign.
- Materials Needed: The only critical material for this outreach is the development of the web-based asset mapping tool and active to social media accounts.

ACTUAL: COMMUNITY EVENT #2: REGIONAL ASSET INVENTORY (MULTIPLE DATES, AUGUST – SEPTEMBER 2017)

The Project Team initially identified possible kiosk locations in 14 of the 15 municipalities under the Two Rivers plan. Specific venue locations were then selected at the 10 locations listed below.

Event	Location	Date
Sea Bright Farmer's Market	Sea Bright	8/3/17
Thursdays by the Sea	Long Branch	8/10/17
Sounds at Sunset	Fair Haven	8/11/17
Red Bank Community Block Party	Red Bank	8/12/17
West End Farmer's Market	Long Branch	8/17/17
Boskerdoo Coffee Shop	Monmouth Beach	8/18/17
Sea Bright Farmer's Market/Craft Fair	Sea Bright	8/24/17
"Show it at the Shore" Classic Cars & Concerts	Highlands	9/16/17
Middletown Day	Middletown	9/23/17
Little Silver Library	Little Silver	9/28/17

This engagement was scheduled to begin in the month of August 2017, particularly for the weather being ideal for this type of engagement, given the nature of the outdoor activity and the concentration of people in these communities during the summer months.

Because the team brought the mapping and information to where the public was, very little publicity was needed when conducting this pop-up engagement. However, notice of the engagement campaign was publicized through social media and through the Constituency Advisory Group. See Appendix D for additional information on the Map What Matters Public engagement.

ACTUAL: TWO RIVERS ONE FUTURE ONLINE ASSET MAPPING PORTAL

To publicize the asset mapping portal, the project team used the #MapWhatMatters in all social media to drive social sharing, dispersed fliers throughout the Two Rivers advertising the portal, and provided information and the opportunity to view the portal at all engagement events.

During the Map What Matters Public engagement, 330 asset points were logged through the online mapping portal.

ACTUAL: MUNICIPAL DERIVED ASSET POINTS THROUGH GETTING TO RESILIENCE PROCESS

During the NJ FRAMES Getting to Resilience (GTR) process, facilitators and note takers kept track of mentioned critical facilities and assets. Critical facilities are any assets in the municipality that have a significance, be it for safety, quality of life, culture, etc. Before beginning the review of maps, identification of critical facilities was done by the group to allow the discussion of flooding impacts to expand beyond simply what gets wet and move towards what impacts flooding will have on emergency response, community identity, and everyday life. At any point during the review of mapping that additional facilities or assets were identified, facilitators took note of them for reference in total water level map viewing and for future vulnerability assessment. See Appendix F for the GTR identified municipal assets.

ACTUAL: UNDERREPRESENTED POPULATION ENGAGEMENT

The NJ FRAMES project team conducted interviews with representatives of eight not-for-profit social service organizations located in the Two Rivers study region in spring 2018.

- Parker Health Clinic
- Monmouth Conservation Foundation
- Coastal Communities Family Success Center
- St. Anthony of Padua Church
- Lunch Break
- Oasis
- Family Promise
- Affordable Housing Alliance

The organizations provide services to portions of the study region whose populations exhibit the potential for high social vulnerability. Three themes emerged from the discussions. First, that day to day living is tenuous for socially vulnerable populations. Individuals are at risk from not only environmental hazards but social and economic systems and structures that exacerbate the effects of environmental hazards. Interview participants perceived that these existing stressors (e.g., affordable housing, access to healthcare, limited mobility) made vulnerable individuals less likely to recover from all types of catastrophic events. The second theme that emerged from the interviews was that local networks of trusted partners are increasingly important for managing social stressors. Networks of not-for-profit social service organizations fill an increasingly large gap between population needs and available government service. These networks are critical for connecting local individuals' needs to national response networks in a way that builds trust during recovery. Third and final, disasters intensify the impacts of those pre-existing stressors and while few of the organizations viewed themselves as "recovery" or "emergency management" organizations, several mentioned providing recovery services to the population that they serve. The key takeaway from this engagement activity was that the organizations interviewed did not view the environmental stresses and resilience to storms as a hazard, but as an exacerbating stressor that creates more tension on existing inequities among the populations that they serve.

PROJECT GOVERNANCE AND DECISION MAKING

UNPLANNED: STEERING COMMITTEE "VISIONING" MEETING – MARCH 2018

The project team met with the Steering Committee on March 12th at Monmouth University to gauge the Committee's regional resilience goals. The following six questions were asked of the committee members with all responses collected in Appendix G.

- What are the things you love about a resilient Two Rivers region?
- What does a resilient Two Rivers region look like?
- What key items would be on your checklist for a resilient Two Rivers region?
- What do you view as the challenges to realizing this vision?
- If you had a blank check to do anything to improve resilience in the Two Rivers region, what would you use it to do?
- What do you view as the opportunities to realize this vision?

The discussion resulted in a Regional Resilience Goals Checklist (also Appendix G) addressing the following four topics areas to be addressed in the Regional Resilience Action Plan:

- Environmental/Physical
- Social
- Economic
- Regional Partnerships

UNPLANNED/ACTUAL: STEERING COMMITTEE RESILIENCE ELEMENTS CHECKLIST WEBINAR (AUGUST 2, 2018)

The goal of this webinar was to test the waters in terms of if the project is moving in the right direction regarding the four topic areas identified in the resilience elements checklist. Polling of the resilience elements was done via Mentimeter online voting. Team members from JCNERR/RU walked stakeholder members through how to use the interactive polling and what the ratings and colors represented as well as tallied the results of the voting

The webinar asked questions regarding what the Regional Resilience Action Plan will/should accomplish as well as one question designed by the project team designed to gauge the stakeholder's participating on the webinar what they expect the project to achieve. The webinar survey also asked committee members their opinion on keeping specific questions and verbiage as part of the resilience goals, including specific questions referencing vulnerable populations and social equity.

The full output of the webinar survey on the goals of the Regional Resilience Action Plan can be found in Appendix H.

RISK ASSESSMENT

PLANNED: STAKEHOLDER EVENT #3: UNDERSTANDING BASELINE RISK

Goal: To help the advisory groups understand the baseline risk in order to have them later help develop appropriate resiliency strategies; to review the public engagement strategies for presenting the scenarios.

Activity 1: Advisory Groups Meeting (Task 2C.5). The Project Team will convene a meeting of the Steering Committee, the Constituency Advisory Group and the Technical Advisory Group to discuss baseline risk and public engagement strategies. For the baseline risk discussion, the Project Team will give a presentation and facilitate a follow-up discussion with the meeting participants. The exact agenda and facilitation technique for the discussion will be determined closer to the meeting date. The Project Team will also present the groups with the information about upcoming public engagement strategies pertaining to risk assessment and adaptation planning scenarios (as

outlined below – Texizen, Community Conversations, Meeting in a Box), with the possibility of engaging in a mock meeting or other role-playing activity to help the advisory groups better understand the engagement techniques and provide the Project Team an opportunity to test out their approach (and receive feedback).

ACTUAL: STAKEHOLDER EVENT #3: UNDERSTANDING BASELINE RISK

The project team decided to combine Stakeholder Event #3 with Stakeholder Event #4. This combined meeting is described fully in Stakeholder Event #4 below. This combined meeting's purpose was to review the Baseline Risk and to review Adaptation Planning options.

ADAPTATION MATRIX AND ADPATATION SCENARIO DEVELOPMENT

PLANNED: STAKEHOLDER EVENT #4: DEVELOP COMMUNITY-DRIVEN ADAPTATION PLANNING SCENARIOS

Goal: To allow the members of the Advisory groups to give input on the scenario planning process

Activity: The project team will plan a meeting of the Advisory groups to present the completed resilience and adaptation matrix and lead a facilitated discussion to provide feedback. Specific facilitation techniques and meeting structure will be determined closer to the meeting date.

ACTUAL: STAKEHOLDER EVENT #4: DEVELOP COMMUNITY-DRIVEN ADAPTATION PLANNING SCENARIOS



The project team met with first TAG and then CAG Committee members in two separate meetings on August 28th at Hackensack Meridian Health River Medical Center in Red Bank to collect feedback from committee members on the various adaptation scenarios and offer participants the opportunity to tell project staff about local projects or additional strategies that may not be captured.

Both meetings began with Kelly Pflicke delivering a brief project overview and timeline, staff from Louis Berger presenting the takeaways from the risk assessment as well as a contextual analysis of the risk assessment. Rutgers staff then introduced the meeting exercise referred to as *"Taking Your Temperature of the Adaptation Options"*. Photos of the poster boards from the dot exercises are in Appendix I.

During the first instance of this exercise with the TAG, participants were asked to assign a colored dot to various adaption options listed on large poster boards hanging on the walls and add any options that felt may be missing. The adaptation options included strategies for

- ✓ Structural and Nature-based Measure
- ✓ Local Plans and Policies
- ✓ Education/Awareness and Incentive Programs

The colored dots represented three separate opinions of the adaptation options:

-  A green dot represented an option that TAG members supported
-  A yellow dot represented an option that TAG members were not sure of and wanted to discuss further/learn more about.

- A red dot represented an option that was not supported.

After the TAG committee members completed the dot exercise for the various actions, project staff then delivered a report out on the general feeling towards the actions, followed by a group discussion allowing participants to volunteer further explanation on their opinion on the adaptation actions.

Following the morning meeting with TAG members, the project staff then met with CAG members to repeat with dot exercise and have CAG members give feedback on how TAG members responded to the actions and offer any additional comments beyond what was captured by the TAG members.

Following the dot exercise, Rutgers staff then asked CAG members to finalize the Resilience Elements Checklist and Vision. Comments received included:

- Clarification of contaminated sites
- Add wastewater to infrastructure group
- Add non-governmental agencies to regional partnerships

Appendix I includes the meeting materials and outcomes from Stakeholder Event #4.

REVIEW RISKS AND PROVIDE INPUT ON ADPATATION SCENARIOS

PLANNED: STAKEHOLDER EVENT #5: DEVELOP COMMUNITY-DRIVEN ADAPTATION PLANNING SCENARIOS

Goal: Present a conceptual diagram of the 3-4 adaption planning scenarios developed through the charrette

Activity: This material will be at a meeting of the Advisory groups. The project team will present the adaptation scenarios and lead the Advisory groups in a facilitated discussion to provide feedback and suggest modifications to scenarios. Specific facilitation techniques and meeting structure will be determined closer to the meeting date.

ACTUAL: STAKEHOLDER EVENT #5: DEVELOP COMMUNITY-DRIVEN ADAPTATION PLANNING SCENARIOS

The January 9, 2019 stakeholder meeting was a combined meeting with members of the Steering Committee, Constituent Advisory Committee and the Technical Advisory Committee. This half-day, morning meeting was hosted by the Monmouth County Parks at the Red Hills Activity Center in Middletown, NJ. The agenda included a project updates, a presentation on adaptation actions to address regional risks, group breakouts to dig into adaptation options at the sub-regional level, report outs from each sub-regional and a group discussion on regional goals and regional adaptation strategies.

NJ DEP facilitated introductions and provided an update and overview of the NJ FRAMES project. They explained that the goal of the meeting was to get stakeholder feedback on specific adaptation actions and the spatial application of those strategies, along with broader policies and concepts, for which a regional plan could be built around. Three adaptation planning scenarios were developed by the project team to facilitate this discussion.

Perkins Eastman provided an overview of the process that the project team used for developing draft adaptation planning scenarios around three themes: “living with the water,” “protecting our communities from the water,” and “moving away from the water.” Eric described how these scenarios were then applied at a sub-regional level for five key areas identified through the risk assessment: Bayshore Waterfront, Downtown Highlands, Navesink Riverfront, Shrewsbury Estuary and Sea Bright/Monmouth Beach. Examples of the different scenarios and related strategies were given for each sub region.

Two group breakout exercises were then facilitated across the five sub regions to discuss stakeholder feedback on proposed actions. Participants self-selected which sub region to participate in and were encouraged to rotate to a new sub region at the break.

The next steps included working to refine the draft adaptation planning scenarios based on feedback received and a provision to submit written feedback. It was explained that the next meeting of the advisory groups and the steering committee would be to present the costs and benefits of the scenarios and the various mitigation actions. Additional outreach with the public will follow and will be used to share and receive feedback on the scenarios.

The process agenda and the final summary document from this meeting are included in Appendix J.

PLANNED: COMMUNITY EVENT #3: INTRODUCE RISK ASSESSMENT AND ADAPTATION PLANNING SCENARIOS

Goal: Solicit input from the general public on the scenarios; indicate preferred scenario, understand the community’s adaptation priorities and feedback.

Activity 1: Textizen (Task 2E.5) Using the text message survey tool Textizen, the Project Team will solicit feedback on the scenarios and allow residents/participant to vote on their preferred scenario. In addition, the Textizen tool allows the Project Team to ask participants follow up questions or request some additional information. These follow up questions could be substantive or could be as simple as a few key demographic questions, such as gender, age and zip code. See Appendix A for full description of the Textizen tool.

- Outreach and Publicity: Posters and advertisements that depict the scenarios will be developed by the Project Team. The posters will ask participants to text a number and choose which scenario they would prefer for the future of Two Rivers. The posters/advertisements would include enough detail and information so that participants can make an informed response (the exact language will be developed closer to the launch of this phase of outreach). These posters/advertisements would be placed in key strategic locations around the region, with special emphasis on places where people typically spend time waiting (such as bus stops, train stations, laundromats, municipal buildings, etc.) to increase the likelihood of participation.
- Materials Needed: Textizen account, posters/advertisements.

Activity 2: Community Conversations. (Task 2E.5) Marketed as “Community Conversations about Our Future,” the Project Team will execute a series of face-to-face community conversations about the Two Rivers regions to speak directly to residents about their preferred scenario for the future. Community conversations are usually small group meetings (ranging from 8 to 15 people) at popular community

locations and are facilitated by a subject-matter expert or local community leader. In the case of the Two Rivers FRAMES project, it may be ideal to have the mayors from each of the 15 municipalities co-host a community conversation in conjunction with the Project Team. The host municipality could help the Project Team identify an appropriate local hot spot – a coffee shop, a community center, a library, a mall, or even a popular pub or restaurant – to hold the community conversation. The Project Team would develop a facilitators’ guide for the conversation leader. This guide would include talking points, suggested questions and important information about the project. Feedback would be collected by the Project Team via an assigned note-taker. Participants would also be asked to vote on their preferred scenario. This could be done via paper ballot or large poster/sticker dots.

- *Outreach and publicity:* These community conversations would be carefully advertised and promoted through local media, website, and through the municipalities’ mailing lists, Facebook pages, and other social media accounts. Flyer advertisements could also be posted nearby the selected locations and door-to-door outreach could be conducted to local businesses to ensure that the small business community has an opportunity to voice their opinions.
- *Materials needed:* The required materials will depend on the selected locations for the community conversations. For example, if a local pub, coffee shop, or restaurant is chosen, the Project Team will not need to provide tables and chairs. If the Project Team were to set up community conversation in a town square or other outdoor location, we might need to provide seating. In addition, the Project Team will need to provide handouts in key information for participant, facilitators’ guides, posters or other displays as needed, refreshments for participants.

Activity 3: Meeting in a Box (in coordination with Constituency Advisory Group). A “Meeting in a Box” package will be prepared for members of the Constituency Advisory Group (CAG) or other non-CAG community groups to facilitate meetings with their own members and communities on the topic of scenario planning. Like the facilitator guide that will be provided for the community conversations activity above, the Project Team will provide a facilitator guide and materials for anyone interested in executing their own “community conversations” style meeting on behalf of the project. The Project Team will design an activity that will take 20-40 minutes to complete, that can be done as a stand-alone meeting or as an add-on to a regularly scheduled meeting or event (such as a neighborhood association meeting, or a Green Team meeting). The CAG and other volunteer meeting hosts will record the results of these meetings and report them back to the Project Team.

- *Outreach and Publicity:* The Project Team can use social media and other web tools to advertise the “call for hosts” for the “Meeting in a box’ and let people know how to request material (or download materials, if it is all done electronically). For the specific meetings, members of the CAG and other volunteer hosts will be responsible for announcing/advertising their community event, as well as arranging for the logistics. The Project Team will be available to support and provide guidance, advice and assistance as needed.
- *Materials needed:* A “Meeting in a Box” kit, including facilitators guide and other specific materials that will be developed closer to the launch of this engagement technique.

ACTUAL: COMMUNITY EVENT #3: INTRODUCE RISK ASSESSMENT AND ADAPTATION PLANNING SCENARIOS

The entire project team reached the conclusion that this Community Event would not be hosted until the final scenarios are developed and the cost benefit analysis was completed. This originally planned Community event will be rolled up into the next Community Event as described in “Community Event #4: Evaluate Adaptation Planning Scenarios”

REVIEW BENEFIT COST ANALYSIS OF SCENARIOS

PLANNED: STAKEHOLDER EVENT #6: EVALUATE ADAPTATION PLANNING SCENARIOS

Goal: Present the findings of the cost-benefit analysis for each of the 3-4 scenarios.

Activity: These findings will be presented at a meeting of the Advisory groups. The project team will present detailed description of the process for how the cost-benefit analysis was calculated and present the results. The project team will engage the Advisory groups in a facilitated discussion for input and feedback. Specific facilitation methods will be determined closer to the meeting date.

ACTUAL: STAKEHOLDER EVENT #6 COMBINED WITH COMMUNITY EVENT #4 – EVALUATE ADAPTATION PLANNING SCENARIOS.

A NJ FRAMES Open House was hosted at the Middletown Arts Center Gallery on July 10, 2019 from 4-7pm. The goal of the event was to collect qualitative and quantitative feedback from stakeholders and residents to inform the steering committee's final scenario selection. A process agenda and materials from the Open House are included in Appendix K.

The Open House format was set up with various stations around the arts gallery. The following stations were included:

- Welcome Table - Upon entering the open house, guests signed in. We obtained information such as name, township of residence or work location, email address, and whether they were stakeholder or general public. Attendees also received an information packet that guided them through the format of the open house and helped them to understand the three scenarios.
- Background Information and Project Overview - This station provided background information including the project timeline and project goals. Project team staff answered questions and give participants a quick orientation to the rest of the activities in the room.
- What's at Risk? - This station displayed information on sea-level rise and flood projections, as well as how projected water levels will impact important assets in the region (incorporating findings from the no action scenario where possible).
- 2030, 2050, 2100 Scenario Stations (of Living with the Water, Protecting from the Water, and Moving Away from the Water) - These stations, grouped by decade (2030, 2050, 2100), had three maps: one for Living With, one for Protecting From and one for Moving Away. Rutgers compiled (1) binder with precedent photos of sample strategies to be deployed (e.g. photo of living shoreline) for reference with participants. Participant's welcome packet also included descriptions of these scenarios and information on key features/strategies to be deployed for each scenario.

Two to three project team members were present at each station to manage discussion and answer questions. At least one team member captured notes of large takeaways. A scorecard was also provided for participants to provide written feedback.

- Final Station - The purpose of this station was to provide participants with information on next steps in the NJ FRAMES project, when to expect a final plan document and further opportunities to participate in the process. This station also provided information on how to

give input online and who to contact for more information. Participants were encouraged to write impressions on a large coastal themed poster as they left, including how they felt after participating in the event.

- Additional stations included a Kids Corner, staffed by NJ DEP's Bureau of Watershed Management and a refreshment station.

Media coverage of the Open House included the following:

- <https://tworivertimes.com/preparing-for-future-storms-and-sea-rise/>
- <https://www.njtvonline.org/news/video/coastal-communities-weigh-in-on-resiliency-planning/>
- <https://www.app.com/story/news/local/land-environment/2019/07/11/nature-not-homes-flood-prone-portions-monmouth-co/1676681001/>

An email was sent to follow up with the steering committee members, advertising a website link on the TwoRiversOneFuture.org website to allow for feedback on scenarios. This online survey allowed for additional feedback from attendees as well as feedback from those not in attendance at the Open House.

PLANNED: COMMUNITY EVENT #4: EVALUATE ADAPTATION PLANNING SCENARIOS

Goal: Present outcomes of cost-benefit analysis

Activity 1: Online Engagement. Since this is a “push out” of information to the general public, an online engagement approach may be enough to achieve the goals of sharing the outcomes of the cost-benefit analysis.

ACTUAL: STAKEHOLDER EVENT #6 COMBINED WITH COMMUNITY EVENT #4 – EVALUATE ADAPTATION PLANNING SCENARIOS.

See above for a description and overview of these combined engagement activities.

PLANNED: STAKEHOLDER EVENT #7: PRESENTATION OF FINAL PLANNING SCENARIOS

Goal: Present the final planning scenarios to the groups, a summary of the BCA results, list of opportunities, costs benefit results, identification of tasks that are easily achievable, and challenges for each scenario.

Activity: Each member of the Advisory group will receive an evaluation template for providing private feedback on the scenarios. The project team will also lead the group in a facilitated discussion to provide feedback. Precise facilitation methods will be determined closer to the meeting date.

ACTUAL: STEERING COMMITTEE, CONSTITUENCY ADVISORY GROUP, AND TECHNICAL ADVISORY GROUP MEETING #7: PRESENTATION OF FINAL PLANNING SCENARIOS

In lieu of an in-person meeting, the Project Team choose to host a webinar with the steering committee and CAG and TAG members. The webinar was hosted on September 4, 2019 via Rutgers Webex platform. The agenda for the two-hour webinar included a project timeline review, a review of the “No Action Risk

Assessment” results and takeaways, and time for in-depth overviews and discussions of the three (3) scenarios: Living with Water Scenario, Protecting Our Communities from the Water Scenario and Moving Away from the Water Scenario. For each scenario, the scenario was reviewed, there was a review of the comments received, the benefit cost analysis was reviewed and the scenario’s alignment with the project goals and overall “scoring” was presented. Through a Mentimeter, online polling website, the steering committee and CAG and TAG members were given time to answer questions regarding their impressions of each scenario. Through the webinar platform, each of the respondents’ answers were anonymously shared with the other participants. The questions included:

- What additional information would improve your understanding of this scenario?
- What do you like about this scenario?
- What do you dislike about this scenario?

Additional time during the webinar was given for group verbal discussion. Appendix L includes materials from the webinar, including the agenda and the results of the Mentimeter polling.

DECISION PHASE – PREFERRED SCENARIO SELECTION

PLANNED: STEERING COMMITTEE MEETING: SELECT PREFERRED PLANNING SCENARIO

The Project Team will conduct a facilitated discussion using the process of consensus building, with the Stakeholder Working Group to select a Preferred Planning Scenario. The discussion will use the confidential feedback of the members to facilitate discussions and identify any remaining areas of concern prior to developing the analysis for the preferred alternative.

ACTUAL: INDIVIDUALIZED, IN-PERSON MEETINGS WITH ANY INTERESTED STEERING COMMITTEE, GROUP MEMBERS

Despite numerous efforts to try to schedule an in-person, combined meeting that would include members of the Steering Committee, no single date could be found to include a representative number of steering committee members for this important project decision point. The Project team opted instead to offer individualized, in-person meetings with any member of the above-mentioned group, at a location and date of their choosing. This alternate the originally planned, collective meeting was chosen as the next best option to meeting together as a full stakeholder committee.

These individual meetings occurred between October – November 2019. The intent of the meetings were to discuss the feedback received on the draft adaptation scenarios, how strategies have been revised based on that feedback, to discuss what strategies the members wanted to see in the preferred scenario and those strategies they could not support, to have them take part in the selection of a preferred scenario, and to discuss the final step in the project, which is development of an Action Plan.

While each meeting was run differently based on the participants and the direction of the conversations, generally the meetings reminded the steering committee members about the current stage of the project and the end of 2019 project end date.

Discussions and informal presentations focused on updating members on the feedback received from both the open house and webinar held in mid and late summer 2019. Additionally, at each participating steering committee member meeting, the project team members reviewed the development of the scenarios and the regional risk. Specifically reviewed:

- The three different total water levels used throughout the project.
- In-depth details on the 11 proposed strategies.
- Region-wide actions, region-wide policies, and sub-region actions for 2030, 2050, and 2100 for the sub-regions of Downtown Highlands, the Shrewsbury River, Sea Bright/Monmouth Beach, the Lower Navesink, and the Bayshore Waterfront.
- Next steps for the project and for regional resilience planning
 - Development of the Preferred Scenario and Action Plan
 - Creation of an informal regional resilience planning body
 - Continued outreach
 - Integration of strategies into current regional planning initiatives.

These individual meetings resulted in confirmation of the following, as it relates to the proposed strategies:

- All steering committee members (met with) are on board with the strategies outlined for the project if they are not portrayed as required, or the only option, for specific locations
- There weren't any strategies the steering committee members (met with) were not on board with.
- Agreement that a regional planning body should exist, for the conversation to continue post NJ FRAMES.
- While the DEP should be involved or and aware of the efforts of this planning body, it should not be championed by the DEP. Most (met with) steering committee members agreed that it should either be the County, a resilience officer identified by the County, or integrated in NJ's Office of Emergency Management (OEM).

Additional details regarding these individual meetings, including steering committee met with and summarized discussion items, are included in Appendix M.

ACTION PLANNING PHASE

PLANNED: STAKEHOLDER EVENT #8: REVIEW DRAFT RRAAP

Goal: Present the plan to the groups, including key talking points and a 1-2-page summary with conceptual diagrams; They will also receive a print copy and an executive summary.

Activity: The project team will lead the group in a facilitated discussion about the draft plan. Precise facilitation techniques and input methods will be determined closer to the meeting date. The Advisory group may also provide input on the draft plan via email or electronic online form.

ACTUAL: WEBINAR WITH STEERING COMMITTEE, CONSTITUENCY ADVISORY GROUP, AND TECHNICAL ADVISORY GROUP MEMBERS TO PRESENT DRAFT RRAAP COMBINED WITH COMMUNITY EVENT #5: PRESENT DRAFT RRAAP

The project team had desired another Open House to present the draft RRAAP to the members of the stakeholder and steering committees and the public. After further considerations, it became apparent that the team just did not have the resources or time remaining. It was also decided that the intended

purpose of the draft RRAAP input session and final RRAAP input session were similar enough to combine and getting feedback from the right people was more important than a specific number of people.

After consultation with NOAA, the project team decided to use a webinar platform to present the RRAAP to the stakeholder/steering committee and public. Feedback regarding the draft RAAAP was collected during the webinar and an additional opportunity for feedback, in the form of an online survey, was also provided. This survey and the draft RRAAP was posted on the NJ FRAMES website and were included in social media blasts and a follow up email to the stakeholder and steering committee members. Individuals were encouraged to promote participation in the feedback survey through their own social media platforms and networks.

Specifics regarding the webinar, social media outreach, follow up emails to stakeholders and the feedback received during the webinar are provided in Appendix N.

PLANNED: COMMUNITY EVENT #5: PRESENT DRAFT RRAAP

Goal: Present overview of draft plan and commence 30-day public comment period

Activity 1: Earned Media. In coordination with the NJDEP Press Office, the Project Team will develop a suite of press materials announcing the availability of the Draft RRAAP and the opening of the 30-day public comment period. Press materials will summarize some of the recommendations in the plan, point residents to where they can find more information, and provide information on the formal comment procedure. The Project Team will determine at the time whether to provide interviews to the press or hold a press event/press conference.

Activity 2: Redeploy Pop-up Kiosk. The pop-up kiosk engagement strategy will be redeployed in this phase of the project to announce the draft plan and provide information about the public comment period. Depending on the timing, the Project Team could staff one kiosk in each of the 15 municipalities of the Two Rivers area. The kiosks would contain a brief summary of the plan (a brochure or full executive summary), posters with highlights of the plan, and other background information as needed. The team would also distribute post cards that provide information for how residents can provide formal comments during the comment period. If possible, we could also collect informal comments on the spot, using post-its or poster board, or a comment box.

ACTUAL: WEBINAR WITH STEERING COMMITTEE, CONSTITUENCY ADVISORY GROUP, AND TECHNICAL ADVISORY GROUP MEMBERS TO PRESENT DRAFT RRAAP COMBINED WITH COMMUNITY EVENT #5: PRESENT DRAFT RRAAP

See details provided above in, “Webinar with Steering Committee, Constituency Advisory Group, and Technical Advisory Group Members to Present Draft RRAAP Combined with Community Event #5: Present Draft RRAAP” in Appendix N.

PLANNED: STAKEHOLDER EVENT #9: REVIEW FINAL RRAAP

Goal: Present final RRAAP to the groups; provide groups with talking points and materials to assist in explaining the RRAAP to their constituents/communities; receive hard copy of final RRAAP.

Activity: The project team will make a final presentation to the Advisory group. The meeting activities will focus on moving forward towards next steps in implementing the plan. A detailed agenda and meeting plan will be developed closer to the meeting date.

ACTUAL: WEBINAR WITH STEERING COMMITTEE, CONSTITUENCY ADVISORY GROUP, AND TECHNICAL ADVISORY GROUP MEMBERS TO PRESENT DRAFT RRAAP COMBINED WITH COMMUNITY EVENT #5: PRESENT DRAFT RRAAP

See details provided above in, “Webinar with Steering Committee, Constituency Advisory Group, and Technical Advisory Group Members to Present Draft RRAAP Combined with Community Event #5: Present Draft RRAAP” in Appendix N.

FINAL PHASE

PLANNED: COMMUNITY EVENT #6: PRESENT FINAL RRAP

Activity 1: Project Wrap Event. Mirroring the Public open house kick-off event, the Project Team should plan and execute a “project wrap” event to present the final RRAP to the public and celebrate the hard work of the various stakeholder committees. The event could include many of the components from the kick-off events, including posters/displays, refreshments, short presentations, and some more light-hearted components. The team could reprise a keypad polling activity to gauge public perceptions of resiliency planning at the end of the project (as opposed to at the beginning at the kick-off event), perhaps underscoring how far the community has come in working together for resiliency. The photo booth could also be reprised with a slightly different tag line, something like “I’m proud of Two Rivers communities because...” could underscore the message of having achieved a collective goal.

ACTUAL: PRESENT THE FINAL RRAAP

The NJ DEP posted the final RRAAP to the NJ FRAMES website. Additionally, an email was sent out to the Steering Committee and other stakeholder committees to advise them the final RRAAP was placed on the website. Included in this email was a request to share it with their networks. NJ DEP also sent an email to all the addresses they had on file as “interested in the project”, to make them aware of the final RRAAP.

Details regarding these emails and the NJ FRAMES website are included in Appendix O.

As a final communication step for the project, NJ DEP presented at the Two Rivers Council of Mayors meeting on February 27, 2020 to discuss possible implementation steps for the RRAAP and to gather thoughts from the Two Rivers Council of Mayors.

APPENDIX A: PROPOSED ENGAGEMENT TECHNIQUES

RISK COMMUNICATION PRACTICES

What it is: Communicating climate change science and the expected impacts on the Two Rivers region to non-scientists and those who may be ideologically opposed to climate change is complex. As we design our education and outreach efforts, we are doing so with risk communication best practices in mind. This allows messages about resilience science to resonate and help drive ideas for solutions at the community and individual levels.

- Connecting to what people care about
- Avoiding too much doom and gloom in messaging
- Connecting impacts with potential solutions
- Using good science communication practices
- Using multiple methods for demonstrating and illustrating impacts

Why it works: When communicating about risks such as climate change and sea level rise, simply providing more information is not enough to trigger behavior changes. Multiple disciplines of social science research have identified that effective communication about climate change must incorporate what we refer to as risk communication best practices. Climate change is a type of risk where individual personal values are far more likely to dictate how someone perceives the risk. As such, it's important that communications address this divide by making the topic more accessible and less connected to polarizing terms.

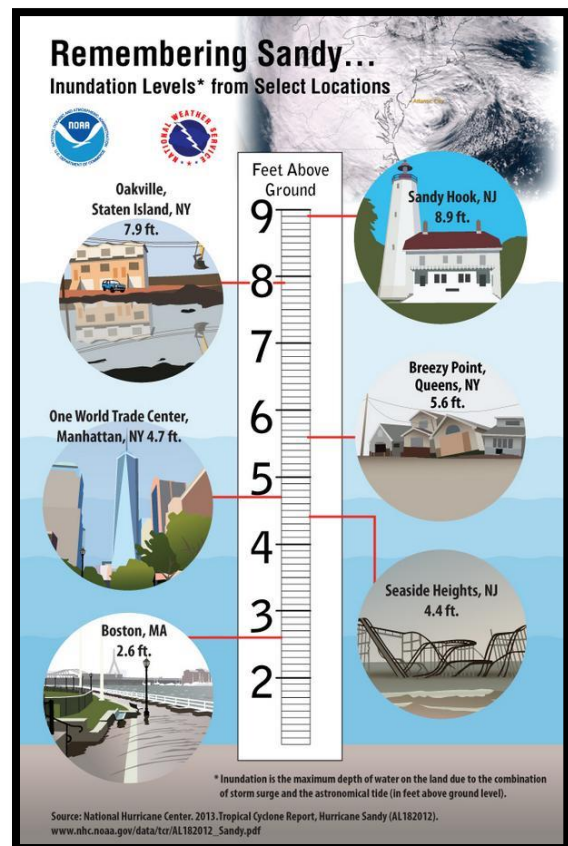
When to use it: Risk communication principles will be applied at all levels of outreach and engagement to make messages about sea level rise impacts more relevant to stakeholders and the public.

Audience: Everyone. Effective risk communication depends on how everyone perceives the risk.

Estimated level of effort: This is a major effort that incorporates training for the entire outreach team.

Cost considerations: There are no external costs associated with this other than time for training.

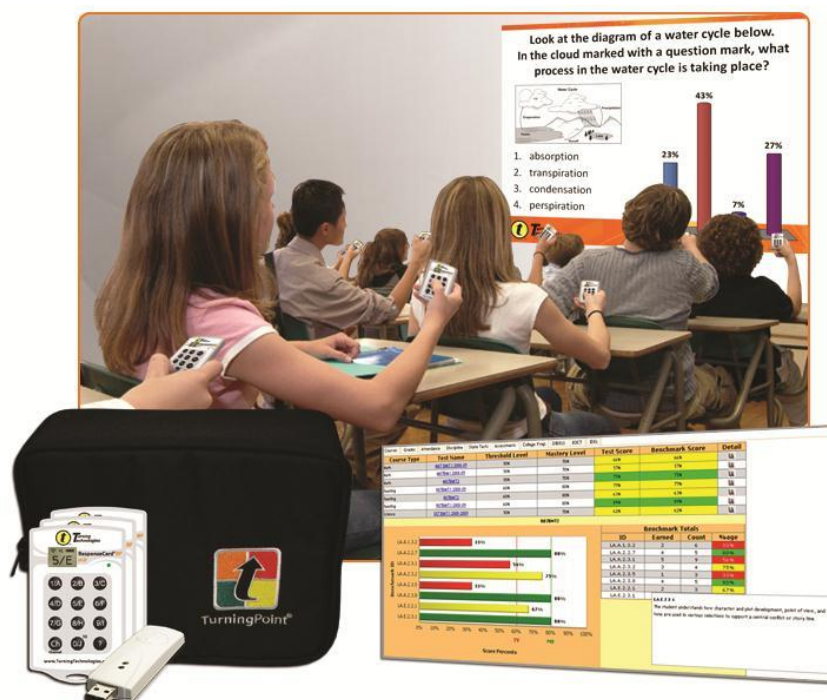
Resources:



KEYPAD POLLING

What it is: Keypad polling is an electronic polling technology that allows participants at various public meetings or other events to provide input on topics that a hosting agency wants feedback on. Questions are presented in a survey format to an audience (usually a large one) via an electronic projector or through the Internet. The audience members press the numbers or letters on their keypad that correspond with their personal opinions. Some technologies allow cell phones to take the place of the keypads so that participants can provide more detailed and individualized responses. The data is collected and analyzed immediately and is usually displayed before the audience in real time (although this is optional – an agency may elect to keep the responses private and for their own research).

TurningPoint Technologies is just one of many companies that offer complete packages for keypad polling that include keypads for participants and software that can collect, analyze, and display response data almost instantaneously.



Why it works: Keypad polling allows for greater accuracy in data collection. At traditional meetings, asking audience members to raise their hands to vote on a subject can make people uncomfortable, especially if the topic is controversial or complicated. Further, at traditional public meetings, more outspoken participants tend to dominate the discussion. Keypad polling combats this phenomenon by giving each participant's opinion equal weight. Also, the data that is collected is not only analyzed instantly in the form of graphs and charts that can be shown to the audience for perspective, it can be saved and stored for future use. Miscalculation of participants' opinions is minimized.

When to use it: An agency should utilize keypad polling when its goal is to obtain extremely accurate and honest feedback from a large audience, especially if the topic or issue begs questions that are controversial (and therefore best answered privately). Additionally, keypad polling is an excellent way to show the audience what everyone else is thinking. As such, it can be used as a strategy for demonstrating a consensus (or lack thereof) about a subject.

Audience: There is almost no limit to who can participate in keypad polling because it is a relatively simple technology. It can be used with children in schools or adult residents at community meetings. It can also be adapted to accommodate people with Limited English Proficiency (LEP). However, it may be difficult for those with visual impairments or low literacy levels to participate.

Estimated level of effort: Presuming that a meeting has already been coordinated and the technology is on hand, there is very little effort associated with keypad polling. A competent staff person may need to set up the software in advance and integrate questions into a presentation. Other than that, all an agency needs to do is distribute the keypads to participants and ask for input.

Cost considerations: Keypad polling may be a significant financial investment. If an agency plans to use the technology often or on a consistent basis at meetings and other events, a full purchase of a package should be considered. Various companies offer differing products and packages, but an agency should expect to spend at least \$1,000 and perhaps up to \$3,000 on the technology. However, if an agency is anticipating only using keypad polling at a single event or very infrequently, much cheaper rental options are available that may cost anywhere from \$100 to \$500.

Examples:

Enhancement of public meetings in cities across California

<http://www.westerncity.com/Western-City/June-2010/Using-Keypad-Polling-to-Enhance-Public-Meetings/>

Input on various Metropolitan Area Planning Council projects; Boston, MA metro area

<http://www.mapc.org/keypads>

Resources:

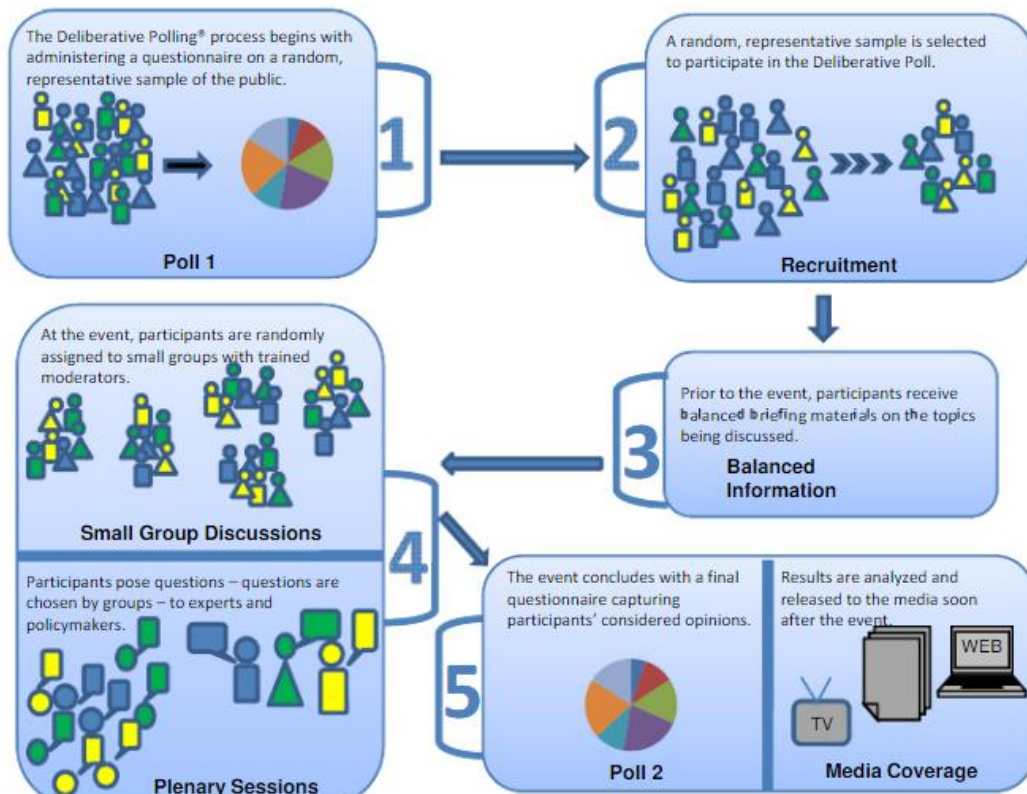
<https://www.turningtechnologies.com/pdf/BestPractices/ClickToEngage-Public-Agenda-2013.pdf>

<http://www.planningtoolexchange.org/tool/keypad-polling>

http://mpotransportationoutreachplanner.org/mpotop/sites/default/files/outreach_strategies/instant-polling-technology.pdf

DELIBERATIVE POLLING

What it is: Deliberative polling measures opinion changes when those polled are given an opportunity to engage in informed and reflective discussion. Usually, a random sample is polled on a certain issue or topic. After the initial poll, members of that sample are then invited to participate (this time, in person) in a more detailed discussion after being given briefing materials in advance. The sample is then polled once more after the detailed discussion has taken place. The differences in opinion before and after the detailed discussion represents how public opinion might be affected if people were better informed about an issue or topic.



A graphic developed by the What's Next, California? Project demonstrates the sequence of events in deliberative polling

Why it works: Deliberative polling is effective on multiple levels. Gauging changes in opinion before and after educational materials are disseminated and discussions take place is as simple as comparing the poll differences. More than likely, it will be obvious if a greater depth of understanding results in major changes of overall opinion. Further, supposing that those changes occur, they can serve to illuminate whether a broader education program needs to be developed by an agency and what the format and content of that education should be. Also, the results can be broadcast to the wider public to demonstrate their lack of understanding about a subject and shift the dialogue surrounding it.

When to use it: The primary objective of deliberative polling is to determine how people's opinions change as they become better informed. Therefore, it should be used regarding a topic or issue that the public may not be particularly knowledgeable about. Further, it can be used to determine exactly how informed the public is, and whether increased education about a subject has a significant impact on how that subject is perceived and evaluated.

Audience: There are multiple “audiences” in deliberative polling. First, the agency that is utilizing the method is attempting to gauge the opinions of the public and how they can use educational tools to more effectively influence those opinions going forward. Second, the participants themselves are (potentially) gaining greater insight into an issue that is relevant to them. Third, the broader public becomes an external audience that is shown how the participants’ views evolved as they became more knowledgeable. In regard to recruitment, participants will most likely need to be people with an intrinsic interest in the issue or topic at hand who also have the time and resources needed to take an initial and final poll, invest time reading educational materials, and attend a discussion session.

Estimated level of effort: While efforts to coordinate deliberative polling may vary, it can be assumed that greater efforts will yield more effective results. First, a poll needs to be designed and distributed and its results must be analyzed. Second, participants need to be recruited to take part in discussions. This step is more complicated than organizing a typical public meeting because educational materials need to be created and distributed beforehand, and knowledgeable moderators need to be recruited and trained to run the sessions. Finally, an analysis of the change in opinion must be performed and the results must be communicated both within the agency performing the deliberative polling and to the participants (and potentially the broader public). More than likely, the entire process may take multiple months from start to finish and will require significant amounts of planning and coordination.

Cost considerations: The total cost of deliberative polling is an amalgamation of the costs of its component parts: The initial poll, development of educational materials, in-person discussions with moderators, and a final analysis. Of all the potential tools an agency may use for public engagement, deliberative polling is likely to be on the higher end of the cost spectrum. However, given a fitting issue and proper design, the results should be extremely useful.

Examples:

Building New Renewable Energy Projects in Texas

http://apps2.eere.energy.gov/wind/windexchange/pdfs/33177_tx.pdf

‘Invent the Future’ Workshops – Chicago Metro Area Planning’s GOTO 2040 Plan

<http://imagine.boston.gov/blog/smslaunch/>

Broad-based public engagement in Kent County, Michigan

<http://www.kentcountyspeaks.org/>

Resources:

<http://participedia.net/en/methods/deliberative-polling>

<https://www.feedbackr.io/>

<http://www.nextca.org/pages/the-deliberative-opinion-poll>

OPEN HOUSE

What it is: An open house is a buffet-style meeting where guests can drop in at any time and talk one-on-one with representatives at various booths or stations. It is an informal setting in which people can get information about a specific plan or project. Open houses have no set, formal agenda. Unlike a typical public meeting, no formal discussions or presentations take place, and there are no audience seats. Instead, people get information informally and at their own pace from various exhibits. Perhaps most importantly, attendees are encouraged to offer their opinions, comments, and preferences to staff (either orally or in writing). Usually there are different stations/tables/kiosks, each of which offers information about a single aspect of a project.



Open houses are a great opportunity for members of the public to talk with experts about plans and provide their input.

Why it works: The casual format of an open house allows for more direct connection with attendees, which in turn allows them to feel more comfortable offering their input than they would in a formal setting with many people. Also, by breaking projects and plans (which can be extremely complex and detailed) into its component parts, participants can focus on the specific aspects that are most important or interesting to them. This also allows an agency to determine which parts of the project or plan are of most interest to the public, as more people will gravitate and provide feedback at those stations/tables/kiosks. Further, whereas public meetings usually occur only once and for a short period of time, open houses can take place over the course of an entire day or even an entire weekend, giving interested members of the community more flexibility to attend.

When to use it: Open houses are ideal for communicating issues surrounding complex, large-scale, multi-faceted plans to the public. They are also an effective strategy for collecting feedback about those plans, both general and specific, from participants. The interactive nature of an open house lends itself to plans that are in the progress of being developed and input is genuinely needed (as opposed to plans that are already nearly finalized and simple communication or public affirmation is the objective of the event).

Audience: The intended audience for an open house depends on the scale of the project/plans being exhibited. Presuming the scale is local (neighborhood/municipality/small region), it is imperative to attract local community members to the event. Since the underlying intention is to solicit feedback, organizers should actively encourage attendance of those who will be impacted by the project/plans (business and property owners, residents, etc.).

Estimated level of effort: The major effort required for hosting an open house is related to developing and coordinating individual exhibits so that each is unique and meaningful to attendees. High turn-out is important for

receiving quality feedback, so open houses for projects/plans that are not particularly controversial may need to focus more intensely on advertising and recruiting attendees.

Cost considerations: The major costs associated with hosting an open house include renting a space (if one is not already available to the agency), advertising the event, developing materials for exhibits (such as posters and other visuals, informational hand-outs, etc.), and potentially providing refreshments for attendees. Overall, the expenses should be relatively minimal.

Examples:

Neighborhood Main Streets Projects – Milwaukie, OR

<http://www.milwaukieoregon.gov/planning/neighborhood-main-streets-project-open-house>

African American History Project – San Francisco, CA

<http://sf-planning.org/article/african-american-history-project-open-house>

30% Design Plan for Broadway Improvement Project

<https://www.tucsonaz.gov/newsnet/learn-about-30-design-plan-broadway-improvement-project-open-house>

Resources:

<https://connect.ncdot.gov/projects/toolkit/Pages/TechDetails.aspx?Title=Open%20Houses/Open%20Forum%20He arings>

https://www.fcm.ca/Documents/tools/International/Local_Government_Participatory_Practices_Manual_EN.pdf

SOCIAL MEDIA PHOTO CAMPAIGN

What it is: Social media photo campaigns are a way for an agency to promote a program or raise awareness about an issue through encouraging the public to volunteer relevant photos and other media online. Typically, they convey simple, 'tagline'-oriented messages and have widespread, ubiquitous appeal to maximize participation. There is no limitation on the range of topics a campaign may address. Once a theme is developed by an agency, the public is invited to develop their own content related to that theme and share it with their friends, family, and the general public.



The Montgomery County, Maryland DOT developed a Twitter campaign to promote its pedestrian safety program. The public was encouraged to share its own photos and other media by using the hashtag #YOLOWalksafe.

Why it works: The incredible reach of social media cannot be denied, and there may be no more effective way to quickly spread a message to a large audience. Photo campaigns on social media have an avalanche effect in which a post generates more posts, each of which in turn generates more posts. Participation is attractive to social media users because it is free of cost, relatively quick and simple, and can be fun, exciting, or humorous.

When to use it: An agency should create a campaign primarily to spread awareness of or promote a simple message. A picture is often more powerful than words, so this type of campaign should be used for concepts that are highly visual and do not need much explanation. It can be used as a pathway to a deeper message, but the campaign itself should not be bogged down by complexity. Also, it may not be the best medium to draw attention to controversial matters that require in-depth analysis.

Audience: Social media campaigns are mostly used to target younger, media-savvy audiences. However, internet and smart phone usage is expanding rapidly across all demographics, so such limitations on campaigns may no longer be in effect.

Estimated level of effort: Most effort will be directed towards devising a simple and catchy yet effective campaign theme that can generate a popular buzz and then deploying that theme across various social media platforms. Once a campaign is established, some effort is required to maintain interest in the theme by adapting it to stay relevant. Research may also be required to determine effective placement of advertisements if they are being used to promote the campaign.

Cost considerations: Generally speaking, this should be a nearly cost-free tool for engaging the public. Twitter, Facebook, and other social media platforms allow completely free participation. However, an agency may want to pay for physical and/or virtual advertisements to help promote the campaign.

Examples:

#YOLOWalksafe Campaign, Montgomery County, Maryland

<https://twitter.com/yolowalksafe>

<http://www.schooltrainingsolutions.com/blog/yolo-walk-safe-program-promotes-pedestrian-safety-among-high-school-students/>

Resources:

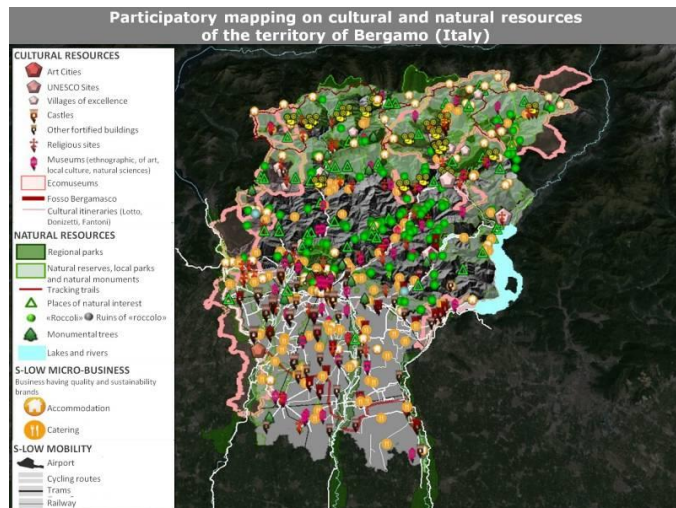
<http://www.socialmediaexaminer.com/3-social-media-engagement-techniques-that-work/>

<http://www.phrp.com.au/issues/march-2015-volume-25-issue-2/social-media-campaigns-make-difference-can-public-health-learn-corporate-sector-social-change-marketers/>

<http://www.cbsm.com/public/world.lasso>

PARTICIPATORY MAPPING

What it is: Participatory mapping is a group-based qualitative research method that gives participants freedom to shape discussion on a given topic with minimal intervention from researchers. Put more simply, it is an activity whereby citizens are asked to mark preferences, locations, and other features related to a given topic on a map. The medium through which this process occurs has historically been a large, physical map that is brought out at a meeting or other public venue so that the public can write, draw, or place post-it notes directly on it. However, there are now web-based applications such as CrowdMap which allows vast numbers of internet users to digitally provide personal input.



Participatory mapping can be made available through online resources (at left) or be included as an activity facilitated by staff at a group event (above).

Why it works: Perhaps no one has a more intimate understanding of the geographical dynamics of a community than the people who live there. If an agency wants to initiate a program or project that has a distinct geographical component (which very well be most), participatory mapping is an effective way to gather input. Even if an agency is confident that it has a solid understanding of where certain things are or should be, the local community may have a contrasting opinion and it is important to gain insight into those differences. Further, maps are tangible objects that bring the abstract issues of planning into a visual world that community members can imagine and relate to, which in turn spurs on their interest in participation.

When to use it: Participatory mapping can be used for a variety of purposes: To help communities articulate and communicate spatial knowledge to interested agencies; to allow communities to record and archive local knowledge; to assist communities in land-use planning and resource management; to enable communities to advocate for change; to increase a community's effective capacity; to address resource related conflict; etc. Ultimately, an agency would be well served to use participatory mapping when trying to understand a community's perception of any topic that has geographical implications.

Audience: All people who have any semblance of geo-spatial awareness of the landscape in question should be able to contribute in a participatory mapping exercise. Physical, in-person variations of this method are better suited for those who may need a staff member to facilitate their understanding of the map and the mapping goals. The online variation is effective because it allows for high levels of specificity and is extremely versatile, but it may limit participation to those with high-speed internet access and advanced understanding of how to use web-based programs.

Estimated level of effort: Presuming the input an agency wants to receive from a community is already determined (i.e. – “where should the new bus stop be located on Elm Street?”), the only effort that is required is developing a map (physical or digital) that portrays the area of concern in a manner which allows for a high level of community feedback. Online versions are more complex to maintain, but there are web programs available that simplify the process.

Cost considerations: Costs can vary from extremely cheap (printing out a large map and asking people at public meetings to draw ‘X’s on areas of concern) to moderately expensive (maintaining a volunteered-content digital map that allows users to insert pins and other information that are catalogued in an online database). Determining which variation is more appropriate will depend on agency goals.

Examples:

Delaware Valley Regional Planning Commission, Mercer County Bikeability Map

<http://www.dvrpc.org/webmaps/MercerBLOS/>

Chicago Snow CrowdMap

<https://chicagosnow.crowdmap.com/>

Resources:

<https://www.ifad.org/documents/10180/d1383979-4976-4c8e-ba5d-53419e37cbcc>

<https://www.publicengagement.ac.uk/do-it/techniquesapproaches/participatory-mapping>

<http://www.researchfororganizing.org/index.php?page=community-mapping#Activity37>

MOBILE OUTREACH

What it is: Mobile outreach is any form of outreach that exists within or through a vehicle that can quickly and easily be moved to where people tend to congregate, such as schools, libraries, shopping malls, churches, and community events. The specific form of mobile outreach may be a converted city bus, a rented ice cream truck that offers ice cream in exchange for participation, or any other vehicle used in a creative manner that helps to convey an agency's message. Participants may look at information materials such as posters and videos, take surveys, discuss issues with staff, etc.



A regional planning agency for the Tulsa, Oklahoma metro area transformed an ordinary city bus into a mobile transit lab featuring educational tools, LCD video screens, and interactive displays. Upon entering the bus, Tulsa residents were asked to take a short transit survey. More than 1,500 surveys were collected.

Why it works: Mobile outreach is effective because it avoids the time and space limitations of traditional meetings and other outreach events. Vehicles can go wherever people are, whenever they happen to be there. Convenience is a requirement for participation for most people, and mobile outreach provides that convenience. Further, highly professionalized mobile outreach conveys an image of legitimacy and innovation for the agency, even to those who do not participate. A converted bus or other rented vehicle is a form of advertising that can create agency 'buzz' across a local community.

When to use it: Mobile outreach has the potential to reach many people in a short period of time, but most of those people will only participate if the information presented is simple and doesn't take up too much of their time. An agency should utilize this concept if they want to develop their overall brand, distribute simple information, and receive lots of basic input from a broad range of community residents.

Audience: There are no limitations to who might be interested in exploring the topics presented through a mobile outreach platform. The type of participants will vary depending on where an agency decides to set up shop. However, the key is to strategically plan a schedule or route to be in busy places when people at those places have spare time to invest.

Estimated level of effort: Mobile outreach most likely requires considerable effort. Beyond the usual time dedicated to developing informational materials, surveys, etc., an agency must adapt those materials to the physical form of the outreach. Also, location scouting should be done to devise a schedule/route that maximizes participation.

Cost considerations: Converting a bus, renting an ice cream truck, etc. may be expensive. There also could be expensive associated with giveaways to participants. However, it is difficult to quantify the benefits of growing a brand and reaching a much greater number of people. There may be significant upfront costs and vehicles may require ongoing maintenance.

Examples:

Fast Forward Mobile Outreach Bus, Indian Nations Council of Governments, Tulsa Metro Area

<http://www.planetizen.com/plan/fast-forward-mobile-outreach-bus>

<https://www.planning.org/awards/2012/fastforward.htm>

Resources:

<http://www.slideshare.net/rtspincog/fast-forward-mobile-outreach>

DIGITAL STORYTELLING

What it is: Digital stories are first-person visual narratives told in the storyteller's own words and voice. They can combine text, still images, and short video clips that allow an individual to express their story of being impacted by an issue or program in a succinct and relatable way. Digital stories are often exhibited on an agency website, perhaps on the homepage or in a section dedicated to personal stories of residents. However, an agency may also include a digital story as part of a larger news story about their program or project that is posted on a local news source's website.

The Mid-America Regional Council of the Kansas City Metro Area has a campaign called '50 Faces of Head Start' that gives insight into the personal stories of those who have benefitted from the program. Head Start provides comprehensive early childhood development and education services



Why it works: Demonstrating how an agency's program or a topic an agency wants to address affects the lives of real people provides a human element that can generate interest in or sympathy with a cause. Used at a local or even regional scale, some of the people sharing their stories may be recognizable, which allows viewers to understand an agency action on a personal level. At any given moment, there may be myriad agencies operating in a variety of capacities within a community, so it is important to find ways to stand out in the crowd. By providing compelling, relatable, personal stories, an agency can more effectively communicate the gravity of an issue and make its causes and goals seem more real.

When to use it: Digital storytelling is an optimal strategy for allowing a target audience to make deep personal connections to an issue, program, or cause. It can also be very effective in demonstrating how relevant events have progressed over time. Digital stories can show how a specific event affected an individual or family, how someone benefitted or could benefit from a program, etc.

Audience: Personal anecdotes are relatable in some way to all people. Anyone who can access an agency's website and view the digital stories will be able to take something away from the experience. An agency may want to tailor digital stories to be most appealing to a specific target audience. However, they can also be used to broaden an agency's audience.

Estimated level of effort: If an agency already maintains a website, posts advertisements online, or is regularly featured by local news sources, creating a platform to exhibit digital stories should be relatively painless. The biggest

effort required will be seeking out people with stories and asking them to contribute. Some additional effort may be required in developing the actual content, depending on the desired production value.

Cost considerations: Presuming an agency already has a website that is regularly maintained, the only guaranteed costs involved are those related to seeking out people with relevant stories to share and reformatting the website to accommodate those stories. However, there may be some additional production costs if the agency must record video footage or take pictures, or if those sharing their stories want some form of compensation.

Examples:

Mid-America Regional Council's '50 Faces of Head Start' Campaign, Kansas City Metro Area

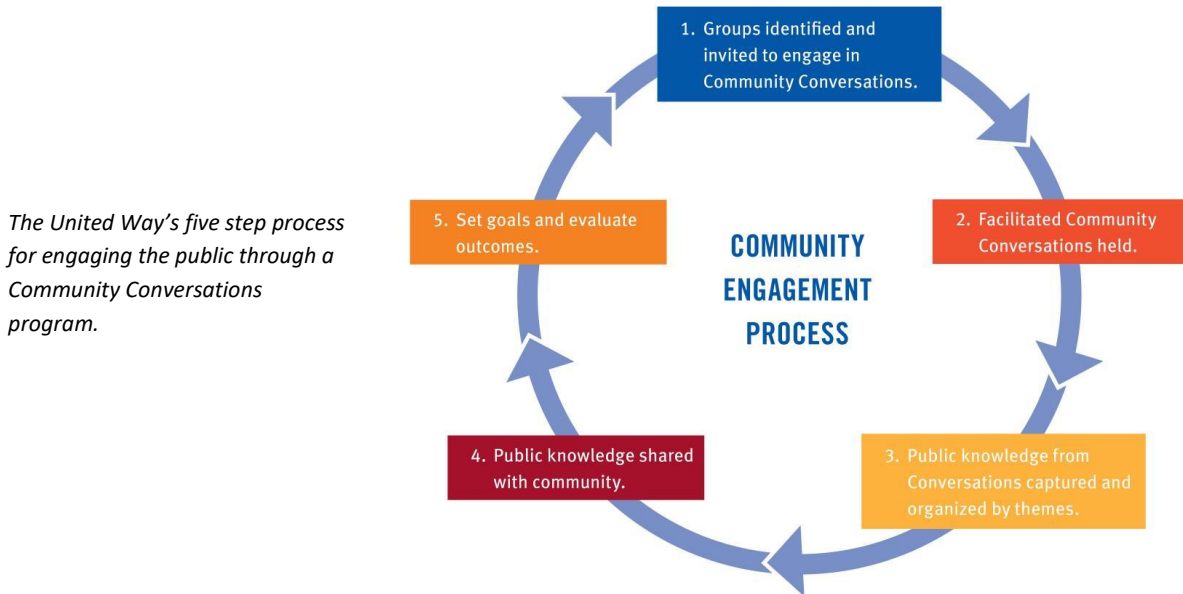
<http://www.marc.org/Community/Head-Start/50-Years-of-Opportunity/50-Faces-of-Head-Start>

Resources:

http://www.scottishhealthcouncil.org/patient_public_participation/participation_toolkit/digital_stories.aspx#.V7Z825grLIU

COMMUNITY CONVERSATIONS

What it is: Community Conversations are a specific form of group session in which community members are asked to help identify and address critical community needs, issues, and solutions. Normally, these sessions are held in small groups (6 to 15 people). However, conversations can be conducted with subgroups in a larger community session, enabling all individuals present an opportunity to participate. Sessions are generally an hour to an hour and a half in length and are held in familiar, easily accessible, and neutral locations such as local cafes or bars, libraries, community centers, etc.



Why it works: Many forms of public engagement are merely informative and do not necessarily empower community members or give them confidence that their voices are heard, and their participation is meaningful. Ultimately, this limits the enthusiasm people must participate at all. The Community Conversations model, on the other hand, provides a more interactive approach. Sessions are designed as a forum to gather detailed input, and then that input is shared with the public so the agency can be held accountable for incorporating it into policy and action. Finally, feedback about the outcomes are requested to continue the flow of communication between the agency and the community. When participants have an understanding that their input is considered and potentially acted on by an outside agency, they will be more eager to maintain a relationship with that agency and provide future input.

When to use it: The Community Conversations model should be used if acquiring local input is of serious importance to the implementation of a program or development of a project and an agency wants to initiate a cycle of input, incorporation, and feedback. It can also be used as a method of increasing familiarity and trust between the agency and community.

Audience: While this approach to public engagement could be used for any demographic, it will be most appealing to people who are comfortable sharing personal opinions in small group settings or have the potential to be personally affected by the issues being discussed.

Estimated level of effort: Effort will be expended to: Plan and organize sessions, recruit participants, reserve spaces to hold sessions, facilitate and record discussions, analyze and draw up reports about participant input, determine how to incorporate input into agency action, and publicly demonstrate how the outcomes were influenced by the conversations to encourage continued participation.

Cost considerations: Eliciting participation may require offering compensation for time, travel expenses, etc. It may also cost more than a typical public meeting to devise reports and advertise the outcomes to the public.

Examples:

Nashville Area MPO, 2035 Comprehensive Plan

http://www.nashvillempo.org/plans_programs/rtp/2035_involvement.aspx

Chicago Metropolitan Agency for Planning, GO TO 2040 Citywide Plan

http://www.cmap.illinois.gov/documents/10180/29785/6-11_Community_Conversations.pdf/36082eab-249c-43b7-a120-cd5c79681798

Boston, Massachusetts, Community Conversations series

<http://www.patriotledger.com/article/20150616/news/150619262>

Resources:

<http://www.unitedwayracine.org/com-convo>

<http://www.unitedwayracine.org/sites/unitedwayracine.org/files/Community%20Conversations%20Year-end%20Report%207-22-16%208.5x11%20FINAL.pdf>

“MEETING IN A BOX”

What it is: “Meeting in a Box” is a public engagement technique designed for community groups, neighborhood associations, or friends to gather at a convenient time and location to share their opinions about a plan or project in their community. Participants are given a “Meeting in a Box” kit that contains everything they need to hold a meeting/discussion on their own, including instruction sheets for the host/facilitator, discussion questions, worksheets for participant responses, feedback questionnaires, and directions for recording and returning responses. These kits can be completely paper-based, downloadable, and posted on a project or agency website for any interested individual or organization to use. However, kits can also include other meeting materials such as project posters, post-its, stickers, and other engagement materials that are relevant to the specific meeting design of the kit. These are usually distributed in a limited number. Sponsoring agencies can also provide snacks or a small stipend for refreshments, depending on the scope and budget of the project.

American Meetings, Inc. offers a professionalized “Meeting in a Box” service that includes a kit that contains all of the materials an agency may require for a meeting. This can be especially helpful for an agency that is holding multiple meetings in different locations but wants all of the meetings to be consistent



Why it works: The “Meeting in a Box” concept is an effective engagement technique because it leverages social connections that already exist in a community. Residents are more likely to participate and engage with a familiar organization or community member than an agency that might be perceived as an ‘outsider’ to the community.

When to use it: “Meeting in a Box” is most effective when soliciting detailed, qualitative feedback from community members. Meeting in a Box encourages small group conversation and discussion, often associated with a deeper level of engagement. However, “Meeting in a Box” can also be used to distribute surveys and collect more quantitative data as well.

Audience: “Meeting in a Box” has broad appeal to a variety of audiences but is most effective in areas with high civic participation rates.

Estimated level of effort: “Meeting in a Box” requires significant effort up front to develop the materials that will be included in the kit. Depending on the complexity of the specific project and the type of materials, upfront time investment could be anywhere from a couple of days to a few weeks. Some investment of time will also need to be made to publicize the meetings and recruit participants to run them on your behalf. This can be done via social media, through partner organizations, or even through earned media content. However, once the “Meeting in a Box” kits are distributed, there is almost no staff time required (aside from occasionally troubleshooting or responding to questions from participants). Bottom line: High upfront investment of time, but little ongoing time required.

Cost considerations: Generally speaking, “Meeting in a Box” is a low-cost engagement method. However, costs can vary depending on the types of meeting materials that are provided by the sponsoring organization. If materials are being custom printed or refreshments are being reimbursed (or stipend provided), then costs will be higher. A simple, downloadable packet is the lowest cost option for a “Meeting in a Box.”

Examples:

National MS Society:

http://www.nationalmssociety.org/NationalMSSociety/media/MSNationalFiles/Documents/Live-Fully-Live-Well-SHGL-Discussion-Guide_Final_v2-LowRes-SinglePages.pdf

Ft. Lauderdale Meeting in a Box Facilitator Guide (YouTube video)

<https://www.youtube.com/watch?v=ThrosdAK2Xs>

College Park, Maryland:

http://www.collegeparkmd.gov/government/administration/StrategicPlan/College_Park_Meeting_in_a_Box_Instructions_FINAL.pdf

Rails to Trails Toolkit:

<http://www.railstotrails.org/resource-library/resources/meeting-in-a-box-rails-to-trails-conservancy-s-toolkit-for-building-rail-trails/>

Minneapolis 2040:

<https://www.minneapolis2040.com/document/meeting-box>

Resources:

<http://americanmeetings.com/meeting-types/meetings-in-a-box/>

POP-UP MEETINGS

What it is: Pop-up meetings are a way to engage the public by bringing the meetings to where people already are, rather than asking them to go out of their way to come to a meeting at a specific location. The physical format of a pop-up meeting is only limited by an agency's creativity and resources: It can take on the traditional 'tent and tables' format or be as elaborate as the retrofitted truck shown below. The purpose of the pop-up meetings can be simply informative (distributing pamphlets, displaying posters, etc.) to more participatory (administering surveys, holding impromptu Q and A sessions, etc.).



Public Art Saint Paul has an artistically retrofitted city truck that is used to engage communities in public venues and customize civic meetings based on place. In exchange for their thoughts, survey responses, or handwritten love letters to the city, participants receive ice pops.

Why it works: It can be hard to recruit participants for traditional public meetings. Many people do not have time or are simply unable to go out of their way to attend. The benefit of a pop-up meeting is that it can be organized in convenient and heavily trafficked places such as farmers markets, shopping malls, downtown streets, and busy parking lots. A pop-up meeting is also effective because it doesn't have the 'one and done' limitation of a traditional public meeting: It can be moved to different places, allowing for multiple meetings in different locations in a single day. Further, if certain areas or venues prove to be more effective for attracting participants, the pop-up can quickly and easily be set up there again.

When to use it: Pop-up meetings are effective when an agency wants to distribute information or solicit feedback from a community without having to jump through the usual hoops to garner participation. It is also an opportunity to advertise a specific project or program (or perhaps the agency itself).

Audience: Pop-up meetings can be used to approach and solicit feedback from any population in any heavily trafficked area. However, the usual considerations of how to accommodate the anticipated audience should be maintained (i.e. - If a pop-up meeting is being organized in a neighborhood with many LEP Spanish-speakers, information should be provided in Spanish and bilingual staff members or translators should be on hand).

Estimated level of effort: The amount of effort exerted to organize a pop-up meeting will vary greatly depending on the nature of the materials being developed or distributed, the number of events and locations the pop-up is organized for, and the physical form of the pop-up itself. A 'tent-and-table' approach is simple and straightforward, but it may not be as eye-catching and inviting as other more elaborate approaches (such as retrofitting a vehicle).

Cost considerations: Depending on the format of the pop-up meeting and the materials involved, there could be a significant initial monetary investment. Staff may also need additional training to effectively hold pop-up meetings in diverse venues. However, any costs associated with organizing a traditional public meeting (advertising, renting a space, providing refreshments, offering payment or travel reimbursements in exchange for participation) could be eliminated.

Examples:

Public Art Saint Paul, St. Paul, Minnesota

[http://publicartstpaul.org/project/popup/#about the project](http://publicartstpaul.org/project/popup/#about_the_project)

River North/Streeterville Transit Study, Chicago, Illinois:

<http://www.rnstransit.com/outreach-popupMeetings.html>

Resources:

<http://www.foursquareitp.com/blog/engaging-the-public-on-transit>

<http://www.sharpandco.com/ways-to-boost-public-involvement/>

TEXTIZEN

What it is: Textizen is a web platform that sends, receives, and analyzes text messages. An agency customizes a campaign online by devising question types, creating built-in logic, customizing area codes, etc. People are then invited to participate in the campaign by texting responses to questions that are displayed on transit ads, postcards, at live events, or whatever venue fits the desired audience. Texts sent by participants initiate automated text conversations that address follow-up and/or related questions. The breadth and depth of the text conversations is entirely up to the designer. Textizen also provides outreach strategy, design, and content development services.



Advertisements encouraging people to provide feedback can be displayed in a variety of ways and venues, such as at transit stops, on telephone poles located on busy public streets, or as tabletop ads in waiting rooms, restaurants, etc.

Why it works: Over 90% of Americans have text messaging options on their phones, so opening participatory communication through that medium carries with it the potential of getting feedback from an enormous population. Perhaps most importantly, it is extremely easy and convenient for people to participate. Depending on where you display the advertisements, people may be in a position where they are waiting or bored (and potentially in the process of using their phones anyway). Participating may be a fun way to pass the time. Further, it is a 'no pressure' form of participation: People do not have to go out of their way to send in responses, there is no set length of time that participants must dedicate to responding, it removes any discomfort people might have with dealing with someone in person, it does not require submittal of personal information (other than a cell phone number), it is an extremely simple and easy process, and it is totally free of cost.

When to use it: Textizen can be used creatively to acquire feedback for any topic. However, while the depth of the questioning can be customized by the agency, it is probably best to keep questions simple and straightforward. It is a great tool for getting lots of quick feedback about basic concepts. The most effective way to keep participants interested is to use 'yes or no' or multiple-choice questions with clear and simple options. Overall, an agency should use Textizen to quickly determine if a community has a consensus response to a broad query.

Audience: Anyone who has a cell phone with texting capability can participate. In the past, this may have included a more limited audience, but today this includes people of all ages, socio-economic statuses, etc. Given that the purpose is to receive as much feedback as possible, it would be wise to place advertisements in more densely populated areas. In general, an agency should expect to receive the most feedback from young adults, as they are

more adept at using various cell phone features and tools and are less suspicious about having their cell phones numbers made available.

Estimated level of effort: The challenging parts of using Textizen are determining what questions to ask and deciding where to place advertisements, and the Textizen team helps for both. Once an agency's questions have been honed and advertisement locations figured out, setting up the campaign online is a fast and painless process. If the questions are properly devised, and the ads effectively located, participants' responses are collected and analyzed by Textizen, which in turn provides the agency with clear and concise data to evaluate.

Cost considerations: There are myriad factors that can alter the cost of using Textizen, but anticipated survey volume is the primary factor of determination. Setting up a campaign in a large city will be vastly more expensive than setting one up in a suburban town. The outreach strategy, design, and content development services that Textizen offers are considered additional expenses. Lastly, an agency should consider the expense associated with whatever form of advertising they are utilizing (i.e. – renting ad space at bus stop shelters or on trains, designing, printing, and distributing flyers, etc.).

Examples:

Philadelphia 2035 Comprehensive Plan

<http://planphilly.com/articles/2012/06/05/city-philadelphia-and-code-america-launch-textizen>

Imagine Boston 2030 Citywide Plan

<http://imagine.boston.gov/blog/smslaunch/>

Resources:

<https://www.textizen.com/welcome>

<http://www.challengestodemocracy.us/home/leveraging-technology-to-improve-participation-textizen-and-oregons-kitchen-table/#sthash.Au9zhy8X.dpbs>

TRUSTED ADVOCATES

What it is: Successfully used in cities across the country, the Trusted Advocate engagement model contracts with a member of a specific community to lead engagement of his/her community in a public process. The Trusted Advocates usually have deep connections to their communities as organizers and/or advocates. Trusted Advocates have demonstrated their abilities to navigate cultural and language differences and have the confidence of both the people in their communities and the public agency. The role of a Trusted Advocate is a flexible one that may take on different responsibilities depending on the goals of the agency and the type of audience that they are trying to reach. A Trusted Advocate can be utilized to provide quality translations at agency events, provide fair and equitable facilitation in native languages, do simultaneous interpretation, provide advice and expertise on cultural concerns and barriers, keep records and make reports of participant feedback, recruit community members to attend events, assist in running workshops, etc. Overall, Trusted Advocates are intermediaries that open channels of communication and trust between specific communities and the agency working to serve those communities.



A Public Outreach and Engagement Liaison (POEL) for the City of Seattle's Department of Neighborhoods helps run a public meeting for members of his community.

Why it works: The Trusted Advocate model is effective because people are much more likely to participate in an event or meeting if someone they know and have confidence in will not only be in attendance with them, but also facilitating the flow of information. Trusted Advocates lend credibility to the agencies they work for and ensure that the agency is getting accurate, representative, and high-quality feedback from the target community.

When to use it: If an agency wants to reach a specific community or demographic but does not have a high level of familiarity with it (or vice versa), the Trusted Advocate model is an effective bridge of communication and learning.

Audience: Trusted Advocates are most used to connect with underrepresented communities that may have low levels of familiarity with or trust in an agency. Such groups may include minority, LEP, and immigrant communities. However, there is no reason the model cannot be expanded to other demographics. For example, an agency could reach out to seniors by recruiting a respected member of a retirement community or to young people by connecting with members of a local college government.

Estimated level of effort: The way an agency wants to utilize a Trusted Advocate will ultimately be determined by the nature of the community and the goals of the agency. Components that require effort include recruiting advocates, potential training, and organizing/maintaining a program if the concept is adopted by an agency on a more permanent basis. If an agency has solid connections with various community-based organizations that it can utilize to recruit talented liaisons, much less effort will be required.

Cost considerations: Trusted Advocates usually work on a contractual basis, so an hourly wage or set project payment is usually offered in exchange for their services. They may also require some specific training depending on how an agency wants to use them. Finally, if an agency develops this model into a full-fledged program, some staff may be needed to organize and run that program. There is a possibility of recruiting Trusted Advocates on a volunteer basis, but an agency is more likely to draw in the most effective recruits if some form of compensation is offered.

Examples:

City of Seattle Department of Neighborhoods, Public Outreach and Engagement Liaisons

<http://www.seattle.gov/neighborhoods/programs-and-services/outreach-and-engagement>

District Councils Collaborative of Saint Paul and Minneapolis, Trusted Advocates Project

<http://dcc-stpaul-mpls.org/content/transit-more-ride-trusted-advocate-project>

Resources:

<http://www.cssp.org/publications/neighborhood-investment/top-five/making-connections-a-trusted-advocate-a-multicultural-approach-to-building-and-sustaining-resident-involvement.pdf>

<http://www.funderscollaborative.org/wp-content/uploads/2016/04/Trusted-AdvocateProjectEvaluation.pdf>

http://www.ourregion.org/documents/Community%20AmbassadorTeam%20Training_1.pdf

**APPENDIX B: STEERING COMMITTEE, CONSTITUENCY ADVISORY COMMITTEE, AND
TECHNICAL WORKING GROUP TITLES AND AFFILIATIONS (2018)**

Name	Title	Affiliation	Working Group(s)
Maloney, Ted	Township Engineer	Middletown	Technical, Steering Committee
Brennen, Linda	Supervising Planner	Monmouth County	Technical, Steering Committee
Latini, Charles		APA New Jersey	Technical
Corcione, Lindsay	Assistant to the Administrator & Mayor/Human Resource Manager	Eatontown	Technical
"Shirley, Charles (Temp)"	Lt.	Long Branch	Technical
		Monmouth Beach	Technical
"Englehardt, Inkyung (Alt.)"		Monmouth County	Technical
Williams, Amy		"NJ Sea Grant Stevens Institute"	Technical
Halpern, Barton		Oceanport	Technical
Marks, David		Rumson	Technical
Tangolics, Mary		Sea Bright	Technical
Cranmer, David		Shrewsbury	Technical
Giddings, Joe	Project Manager	Highlands	Technical
Rohmeyer, Doug		Highlands	Technical
Giddings, Joe	Project Manager	Red Bank	Technical
Newman, Laura		Red Bank	Technical
Keen, Cliff	Director of Public Utilities	Red Bank	Technical
Carter, Glenn	Director of Planning and Zoning	Red Bank	Technical
Poruchynsky, Nick	Assistant Director of Engineering and Public Works, Code Enforcement Officer and Zoning Officer	Fair Haven	Steering Committee, Technical Committee
Muscillo, Michael	Admin	Ocean Township (previously with Tinton Falls)	Steering Committee, Technical Committee
Skudera, Michael	Admin	Tinton Falls	Steering Committee, Technical
Neff, Bob	Mayor	Little Silver	"Steering Committee, Technical "

Tucci, Janet	Mayor	West Long Branch	"Steering Committee, Technical "
Kirk, Ron	Director of Community Development Planning Administrator	Ocean Township	Steering Committee (alternate)
Crochet, Tom	Director, Public Works	Ocean Township	Steering Committee (alternate)
Berkowitz, Tracey	Land Use Assistant	Ocean Township	Steering Committee (alternate)
Shaffery, Mark	Public Works	Tinton Falls	Steering Committee (alternate)
Mack, John	OEM	Tinton Falls	Steering Committee (alternate)
Connelly, Dennis J.	Mayor	Eatontown	Steering Committee
Gonzales, Kim	Admin	Highlands	Steering Committee
Hayes, Kevin	Admin	Long Branch	Steering Committee
Mercantante, Tony	Admin	Middletown	Steering Committee
Wilson, Judy	Admin	Monmouth Beach	Steering Committee
Oppegaard, Mike	OEM Coordinator	Monmouth County	Steering Committee
Sikand, Mike		Oceanport	Steering Committee
Shehady, Ziad	Administrator	Red Bank	Steering Committee
Rogers, Tom	Admin. and Clerk	Rumson	Steering Committee
Kelly, Brian	Councilman	Sea Bright	Steering Committee
Seaman, Thomas	Admin, CFO/Tax Collector	Shrewsbury	Steering Committee
Bearmore, Bethany		Louis Berger	Project Team, Technical
Auermuller, Lisa		JC NERR	Project Team, Steering Committee
Angarone, Nick		NJDEP	Project Team, Steering Committee
Pflicke, Kelly		NJDEP	Project Team, Steering Committee
Campo, Matt		Rutgers	Project Team, Constituency
Benzing, Jeb		Binera	Project Team
Witherell, Ben		BPU	Project Team
Brunton, Jennifer		Louis Berger	Project Team
Hasegawa, Takeshi		Louis Berger	Project Team
Veraart, Niek		Louis Berger	Project Team

Jenkins, Dave		Millenium Strategies (representing Oceanport)	Project Team
DuMont, H. David		NJDEP	Project Team
Hill, Rebecca		NJDEP	Project Team
Semple, Elizabeth		NJDEP	Project Team
Crilly, Dianne	Office of Economic Analysis	NJDEP	Project Team
Betzhold, Lindy		NOAA	Project Team
Cheng, Debbie		Perkins Eastman	Project Team
Fang, Eric		Perkins Eastman	Project Team
Herb, Jeanne		Rutgers	Project Team
Kaplan, Marjorie		Rutgers	Project Team
Krause, Stacy		Rutgers	Project Team
Salerno, Miriam		Rutgers	Project Team
Kiel, Bryan		Louis Berger	Project Team
Modjeski, Al (Capt. Al)		Littoral Society	Constituency, Steering Committee
O'Brien, Kelli	COO	Riverview Medical Center – Hackensack Meridian	Constituency, Steering Committee
Pluchino, Anthony	Program Director	Society of St. Vincent de Paul Disaster Services Division	Constituency, Steering Committee
Herrington, Thomas		Urban Coast Institute, Monmouth University	Constituency, Steering Committee
Diaz-white, Anna		180 Turning Lives Around, Inc.	Constituency
Palumbo, Jo Ann		180 Turning Lives Around, Inc.	Constituency
Westendorf, Cindi		180 Turning Lives Around, Inc.	Constituency
DiNapoli, Joanne		181 Turning Lives Around, Inc.	Constituency
Ridgely, Bobbie	Director, Sandy Recovery Team	A Future with Hope	Constituency
Pincelli, Meyer		Affordable Housing Alliance - HRRC	Constituency
Tello, Christina		Affordable Housing Alliance - HRRC	Constituency
		Affordable Housing Alliance - HRRC	Constituency
Dillingham, Tim		American Littoral Society	Constituency
Maffei, Tara	Chief Ext. Relations Officer	American Red Cross	Constituency

Olivero, Gary		American Red Cross	Constituency
		Bayshore Regional Watershed Council	Constituency
Haygood, Ben		Bayshore Resource Center	Constituency
Welsh, Joanne		Borough of Oceanport	Constituency
Lao-Collins, Marlene		Catholic Charities, Diocese of Trenton Disaster Response Program	Constituency
Nikolatos, Maria		Catholic Charities, Diocese of Trenton Disaster Response Program	Constituency
Stevens, Paola		Churches Accomplishing Long Term Recovery (CALTR)	Constituency
Lees, Zachary	Ocean and Coastal Policy Attorney	Clean Ocean Action	Constituency
Zipf, Cindy		Clean Ocean Action	Constituency
Oesterheld, Beatriz		Community Affairs and Resource Center (CARC)	Constituency
Rose, Lynda		Eastern Monmouth Area Chambers of Commerce	Constituency
Leder, Joan		Envirotopic Solutions LLC	Constituency
Cerruti, Jim		"Fair Haven Yacht Works MTANJ"	Constituency
Miller, John		FHWA NJ	Constituency
Steadman, Bruce		Fort Monmouth Economic Revitalization Authority	Constituency
Gray, Cliff		Gateway Church of Christ	Constituency
McAllister, Kelly		Girl Scouts of the Jersey Shore	Constituency
McMullin, Michelle		Gracie and the Dudes	Constituency
Calabro, Kayla		HABcore Inc.	Constituency
Mulligan, Maureen		Habitat for Humanity in Monmouth County	Constituency
Dougan, Helene		Health and Wellness Coach	Constituency
Brown, Dean	Rev.	Holy Trinity Lutheran Church	Constituency
Barnum, Amanda		Long Branch Concordance Family Success Center	Constituency
		Lutheran Church of the Reformation	Constituency

Elefante, Alex		Lutheran Social Ministries of New Jersey	Constituency
Levine, Steve		Manalapan Teen CERT / MRC-CERT	Constituency
Danko, Melissa		Marine Trades Association of New Jersey	Constituency
DePedro, Wendy		Mental Health Association of Monmouth County	Constituency
Farry, Ewa		Mental Health Association of Monmouth County	Constituency
Kostenblatt, Jessica		Mental Health Association of Monmouth County	Constituency
Jenkins, Dave		Millennium Strategies	Constituency
Fouratt, Mary Eileen		Monmouth Arts	Constituency
Gorsegner, Manda		Monmouth Arts	Constituency
Staub, Teresa	Executive Director	Monmouth Arts	Constituency
Brockwell, Amanda	Deputy Exec. Director	Monmouth Conservation Foundation	Constituency
Kastning, William D.		Monmouth Conservation Foundation	Constituency
Henry, David		Monmouth County Regional Health Commission	Constituency
MacDonald, Tony		Monmouth University – Urban Coast Institute	Constituency
		Navesink Shrewsbury River Fishing Club	Constituency
Keane, Kevin		New Jersey American Water	Constituency
Kutner, David		New Jersey Future	Constituency
Mauriello, Mark		New Jersey Future	Constituency
Hayes, Tom		New Jersey Natural Gas	Constituency
Miller, Jon K.		New Jersey Sea Grant Consortium	Constituency
Rowe, Peter		New Jersey Sea Grant Consortium	Constituency
Donofrio, Jim		NJ Chapter of the Recreational Fishing Alliance	Constituency
Antonucci, Claire	Executive Director	NJ Sea Grant	Constituency
Blazak, Dennis		NWS Earle	Constituency

Mans, Debbie		NY/NJ Baykeeper	Constituency
Remaud, Greg	Deputy Director	NY/NJ Baykeeper	Constituency
Baggot, Wendy	Treasurer	Oceanport Cares	Constituency
Harris, Jack		Oceanport Cares	Constituency
Karinja, Rick		Oceanport Flood Mitigation Committee	Constituency
Mahon- Ellam, Christina		Oceanport OEM	Constituency
Gruskos, Richard		Oceanport Water Watch Committee	Constituency
Mueller, Merideth		Presbytery of Monmouth, Presbyterian Church (USA)	Constituency
Cimorelli, Matt		Reformation Lutheran Church	Constituency
Keszler, Deb		Reformation Lutheran Church	Constituency
Israel, Betty		Salvation Army	Constituency
Lotze, Autumn	Senior Resilience Specialist	SBP "Saint Bernard Project"	Constituency
Smith, Mark (filling in for McGee, Kevin)	Volunteer Manager	SBP "Saint Bernard Project"	Constituency
McGee, Kevin		Sea Bright Rising	Constituency
Bohse, Pat		Social Communities Activities Network	Constituency
Disco-Shearer, Elizabeth		St. Vincent de Paul Disaster Services Division	Constituency
LoGuidice, Joyce		The Arc of Monmouth	Constituency
Verriest, Colleen	Vice President, Counseling & Social Services	The Community YMCA	Constituency
Hearne, Tim		United Way of Monmouth County	Constituency
Maglori, Concetta		Visiting Nurse Association of Central Jersey	Constituency
Conklin, John III			Constituency
Reynolds, Joseph			Constituency
Martin, Julie	Clerk & Registrar	Eatontown	
Jackson, George	Admin	Eatontown	
Lucarelli, Ben	Mayor	Fair Haven	
Cinquegrana, Allyson	Clerk	Fair Haven	

Casagrande, Theresa	Admin	Fair Haven	
Brookes, Bonnie	Clerk & Registrar	Highlands	
O'Neil, Rick	Mayor	Highlands	
Jungfer, Kimberly	Clerk	Little Silver	
Jungfer, Kimberly	Admin	Little Silver	
Schneider, Adam	Mayor	Long Branch	
Schmelz, Kathy	Clerk	Long Branch	
Murray, Stephanie	Mayor	Middletown	
Brunt, Heidi	Clerk	Middletown	
Escalante, Joyce	Clerk	Monmouth Beach	
Howard, Sue	Mayor	Monmouth Beach	
McLeod, Allison	Office of Local Government Assistance	NJDEP	
Pflugh, Kerry	Director of the Office of Local Government Assistance	NJDEP	
Siciliano, Christopher	Mayor	Ocean Township	
Buttiglieri, Vincent	Clerk	Ocean Township	
Smith, Jeanne	Clerk	Oceanport	
Poerio, Raymond	Admin	Oceanport	
Coffey, John	Mayor	Oceanport	
Hoffmann, Doreen	Admin. Secretary	Red Bank	
Menna, Pasquale	Mayor	Red Bank	
	Clerk	Red Bank	
Ekdahl, John	Mayor	Rumson	
Long, Dina	Mayor	Sea Bright	
Pfeiffe, Christine	Clerk	Sea Bright	
Verruni, Joseph	Admin	Sea Bright	
Burden, Donald W.	Mayor	Shrewsbury	
Krueger, Kathleen	Clerk	Shrewsbury	
Perillo, Vito	Mayor	Tinton Falls	
	Clerk	Tinton Falls	
Cole, Lori	Clerk	West Long Branch	
Murray, Stephanie	Admin	West Long Branch	
Robertson, Valerie		Middletown	

APPENDIX C: FRAMES PUBLIC OPEN HOUSE

**Public Kick-off Open House
February 23, 2017
Two Rivers Theater, Red Bank, NJ
6-8pm**

- I. Open House Goals
- II. Venue and Setup
- III. Activity Station Summaries
 - A. Station 1: Background Information and Project Overview
 - B. Station 2: Maps and Technical Information
 - C. Station 3: Survey
 - D. Station 4: Photo Booth
 - E. Station 5: Kids Corner
 - F. Station 6: Staying Involved
- IV. Additional Attachments
 - A. Open House Flyer
 - B. FRAMES Project Fact Sheet
 - C. Two Rivers Region Map
 - D. Open House Sign in Sheet
 - E. Survey Summary

Goals

Project kick-off; general awareness building; inform the public about resiliency planning; generate excitement; communicate timeline and opportunities for public participation, collect attendees' perspectives on future vision for the region, gather views on pressing issues in the region, understand resident perspectives and values on a successful outcome of the project.

The open house was attended by 46 people. There was lively discussion on many topics and there seemed to be a genuine interest on the topic of future resilience in the region. Also, Michael Schwebel (Monmouth University) attended the open house ready to assist and Spanish-speaking participants.

Venue and setup

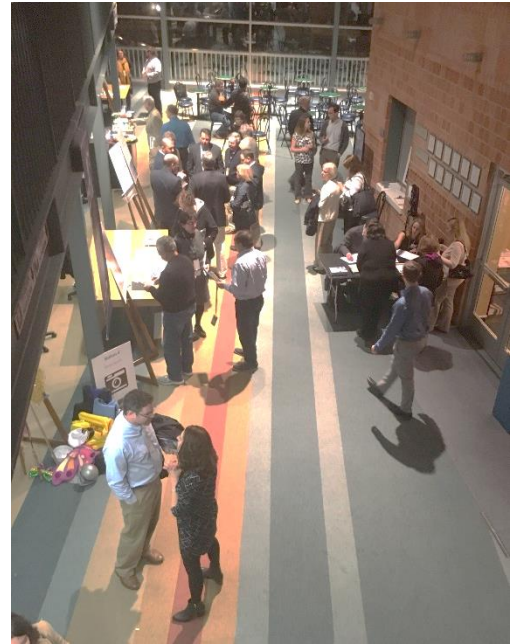
The open house took place at the Two Rivers Theater in downtown Red Bank. This venue is a well-known community asset with ample space, seating availability and a festive ambiance.

The theater's large lobby was set up in a format conducive to an open house, with stations and small tables placed around the room. The area was large enough that even with a good turnout, the space did not seem cramped or crowded.

The open house had a casual feel, with participants able to move freely from one station to another without a set agenda for the evening. Participants received a floorplan map so that they could easily locate each of the stations in the lobby.

Activity station summaries

The open house provided an excellent opportunity for project staff and experts to provide information to the general public in a casual, fun atmosphere. Members of the project team, advisory groups and elected officials participating in the public open house were given a name badge with an identifying badge or banner ("Mayor", "Advisory Council", "Project Team", etc.) so that public participants could easily identify them.



The open house offered a variety of activity stations to engage with participants and solicit feedback. Details on these five stations are listed in the following sections.

STATION 1: BACKGROUND INFORMATION AND PROJECT OVERVIEW

(Nick Angarone, NJDEP) This station provided background information on resiliency with an explanation of why resiliency planning is important for communities. This station also had general information about the FRAMES project, including a timeline and opportunities for future public engagement. A 2-page Fact Sheet (attached as Attachment Item B) was also provided. It was critical that a region map was present, as some attendees did not know the municipalities forming the Two Rivers Region.

STATION 2: MAPS AND TECHNICAL INFORMATION

(Matt Campo, Rutgers University, and Chris Huch, JCNERR) This station provided more technical information about the FRAMES project and the planning process, including technical information on sea-level rise scenarios. The data was displayed in both paper map form as well as projected onto a screen.





STATION 3: SURVEY

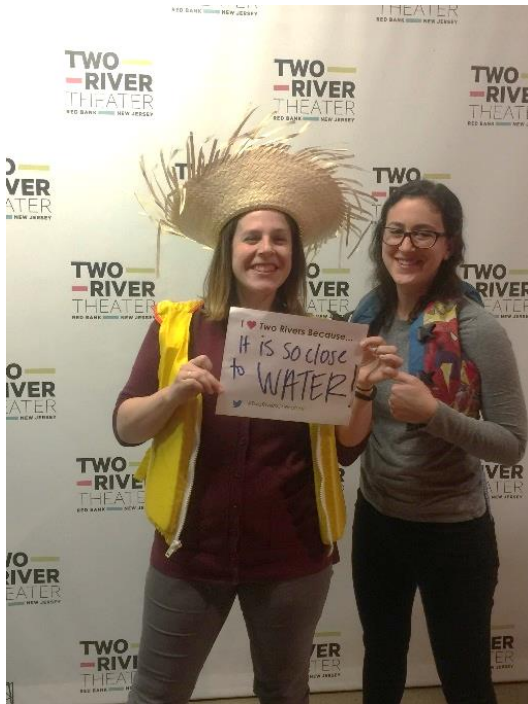
(Stacy Krause, Rutgers University) Instead of using the Turning Point Technology keypad-polling devices, paper survey forms were used to engage participants. The survey consisted of 9 questions on activities relating to community values and priorities. Survey questions are listed below, and a summary of results can be found attached as Attachment Item E.

1. Choose affiliation:
2. I am here because I like the idea of “resilience”.
3. People in the Two Rivers Community are committed to the well-being of the community.
4. People in the Two Rivers Community have hope about the future.
5. People in the Two Rivers Community work together to improve the community.
6. The Two Rivers Community looks at its successes and failures so it can learn from the past.
7. The Two Rivers Community has priorities and sets goals.
8. The Two Rivers Community actively prepares for the future.
9. What is the source of your greatest connection to your community?



STATION 4: PHOTO BOOTH

(Rebecca Foster, NJDEP and Kelly Pflücke, NJDEP) The photo booth station allowed for some fun while also



gathering feedback. Participants posed in the photo booth with a sign that said, “I love Two Rivers because...” and filled in their favorite things about their community. The responses are listed below:

- The Rutgers Crew
- Of the wonderful striped bass fishing
- I like to fish
- It’s my home
- It is close to the beach!
- It’s almost summer!!!
- It’s still above the high tide line!
- Great theater venues!
- Da Beach!
- The Night Life!
- Because it’s twice as good!!
- Great Restaurants!
- It is so close to water!
- Near the beach!
- Louis Berger
- I like to walk on the Boardwalk with my dog.
- The sun never sets!

Participants were also asked to share their photos via social media using the hashtag **#TwoRiversOneFuture**.

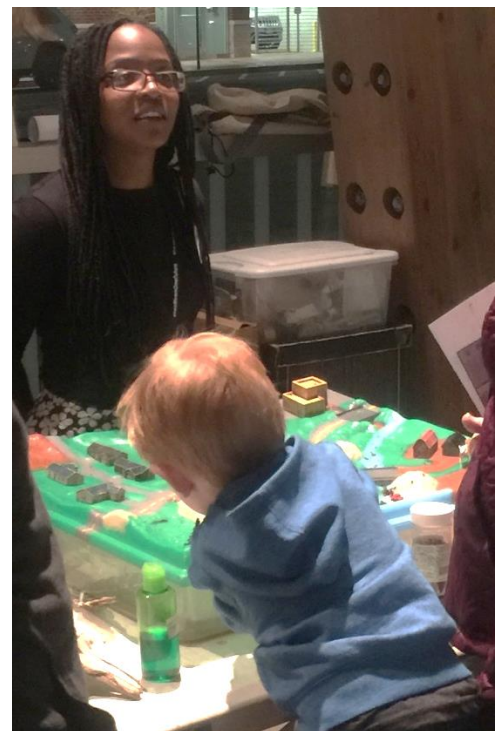
Participants were offered the chance to sign a waiver giving the project team permission to use their photos on the project website or in the final report.

STATION 5: KIDS CORNER

To keep the open house a family-friendly forum, activities specifically designed to engage children were included. This was done to encourage participation from a wider audience, as residents would not need to arrange for childcare in order to attend. The “Kids Corner” table was equipped with a variety of craft activities suitable to a range of ages, as well as a specific engagement activity designed to solicit feedback from young participants. One such activity was a coloring page about wildlife or ecology of the Two Rivers area.

STATION 6: SIGN IN AND STAYING INVOLVED

The final station collected participant’s names and offered an opportunity to sign up to be on the FRAMES mailing list and be notified of future meetings, events and project updates. There were also magnets distributed with the project name, website, twitter handle, and other contact information. The typed-up sign in sheet is attached as Attachment Item D.



Media and publicity:

The publicity plan prior the open house included:

- Social Media Outreach: Event posts on Facebook, twitter, and project website.
- Earned Media: Press release and pitch to local media (list provided to NJDEP prior to event)
- Flyers for distribution in the downtown areas of the Two Rivers communities.

Outreach to community groups and CBOs throughout the area.



All media requests at the open house were directed to Liz Sample, NJDEP.

Present at the open house was media reporter Tom Mongelli from the FM radio station 92.7 WOBM, a popular station in New Jersey. His full article can be found here: <http://wobm.com/tags/nj-frames/>

NJ FRAMES



Navesink River (Flickr User Bogdan Migulski)

Flood protection open house for Two Rivers region February 23

By Tom Mongelli February 15, 2017

How extensive are flood problems in Monmouth's Two Rivers region, between the Navesink and Shrewsbury Rivers? How are they being addressed? How do we handle them in the meantime? An open house, February 23 at the Two River Theater in Red Bank, might shed some light on the matter.

[Read More](#)

Attachment A: Open House Flyer

Two Rivers, One Future

Resiliency Planning Open House

Thursday, February 23rd
6:00 pm - 8:00 pm

Two River Theater
21 Bridge Avenue
Red Bank, NJ 07701



Stop in any time between 6 pm and 8 pm



Refreshments will be served.



This event is family-friendly, so bring the kids!



NJ FRAMES is working with the 15 towns surrounding the Navesink and Shrewsbury Rivers to identify ways to reduce the risks and the impacts of future flooding.

Come learn about the project and how you can help make the future of your community more resilient!

New Jersey Fostering Regional Adaptation through
Municipal Economic Scenarios (NJ FRAMES)



#TwoRiversOneFuture



Attachment B: FRAMES Project 2 Page Fact Sheet

Two Rivers, One Future

New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (FRAMES)

Our coastal communities are subject to floods that can cause expensive damage. As sea level rises, we will see more of these dangerous floods. Flood damage to our homes and businesses is not our only concern. Sunny day floods, or chronic tidal flooding, can affect what roads we can drive on, when schools are closed, and otherwise limit our community's ability to function normally.

What is resilience?
Resilience is our community's ability to return to normal after a flood. We can reduce damage from future coastal floods and allow our communities to quickly return to normal by making changes and preparing for the future. Making our community more resilient also reduces the inconvenience and impacts from chronic tidal flooding.

Why Plan for Resilience?
Changes that improve our community's resilience to floods and sea level rise take a long time. The first steps include learning where our community is most vulnerable to flooding now and in the future, and planning for ways that we can reduce the risk of flood damage or floods that harm our community's ability to function during storms or chronic tidal flooding.

What is the NJ FRAMES Project?
The NJ FRAMES project is a regional and collaborative effort to understand and begin to address our future flood vulnerability. The end result of the project will be a long-term resilience plan for the 15 municipalities surrounding the Navesink and Shrewsbury rivers. This plan will identify ways our communities can reduce risk and impacts together. The project is led by the New Jersey Department of Environmental Protection (Coastal Management Program) in cooperation with the Two Rivers Council of Mayors. NJ FRAMES is funded by a grant from the National Oceanic and Atmospheric Administration (NOAA).

 #TwoRiversOneFuture <http://www.nj.gov/dep/oc/up/njframes.html>





Two Rivers, One Future

New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (FRAMES)

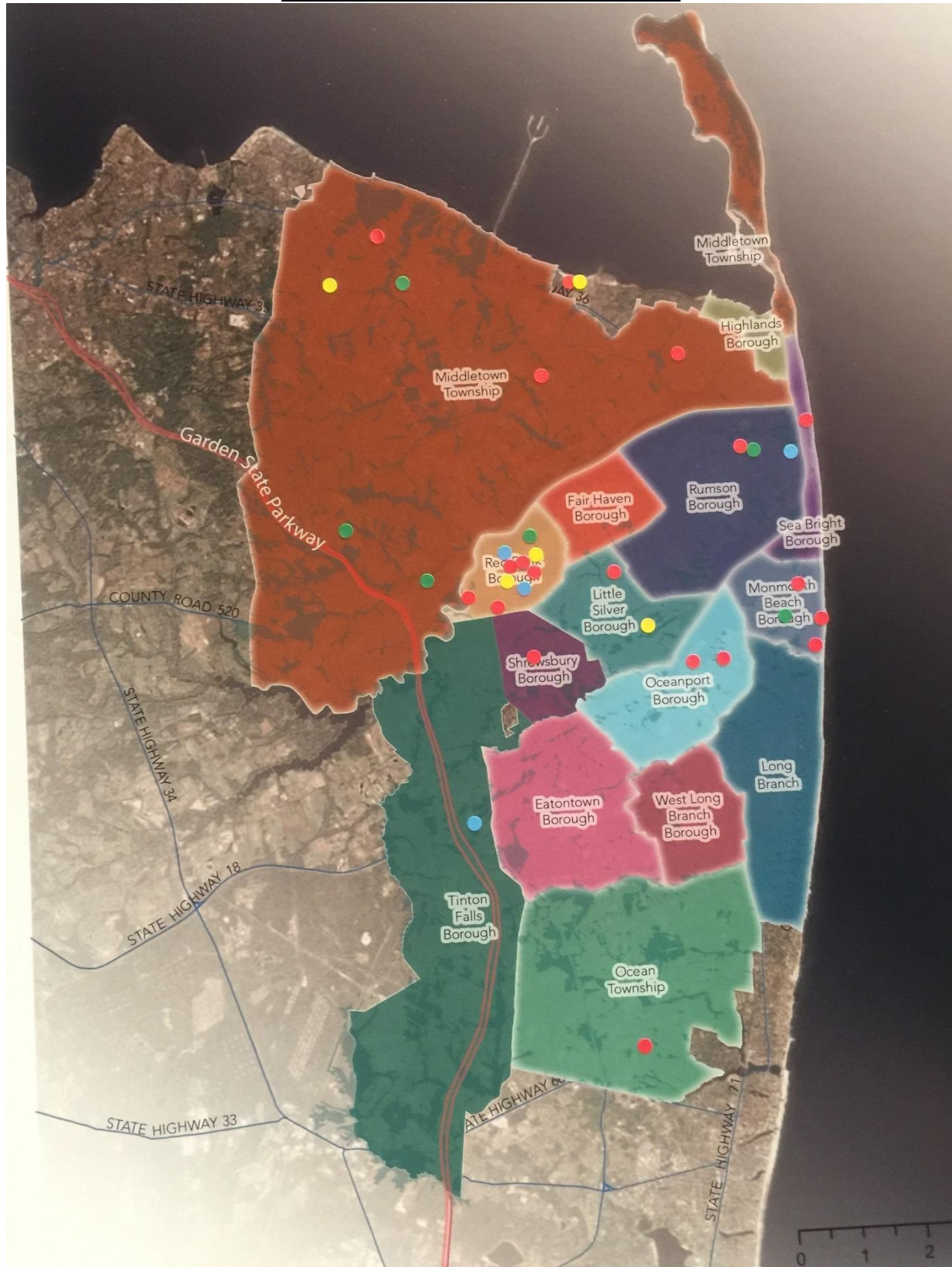
Why Create a Regional Resilience and Adaptation Action Plan?
Floods don't pay attention to municipal boundaries. It's important that our communities work together to address these challenges. A regional plan will coordinate engineering, planning, land use, conservation, and economic development in ways to improve flood resilience. The FRAMES project will assess the people and important places that flooding will affect now and in the future. Throughout the three-year project, residents and leaders will have opportunities to work with researchers and share their thoughts and vision for their community now and into the future.

How Do We Know What to Plan For?
Rutgers University produced a report in 2014 that provided science-based estimates for sea-level rise in New Jersey. The FRAMES project will assess flooding vulnerability by examining how the combined impacts of flooding from additional sea level rise and storm events will affect people and places. For more details about the Rutgers University report being used in the FRAMES project, see: www.njadapt.rutgers.edu/resources/nj-sea-level-rise-reports.

Assessing Flood Vulnerability in the Two Rivers Region
The FRAMES project will assess flooding vulnerability beyond these sea level rise ranges by examining how flooding at specific levels will affect people and places. Researchers will use 3 feet, 7 feet, and 12 feet above high tide as part of the planning. These water levels were calculated by adding sea level rise projection levels to historic and storm tide records of Sandy Hook, N.J. These overall levels are important for how our communities plan for roads, bridges, and buildings because of the potential damage during future storms. By planning and preparing now for these water levels, we can make our community more resilient to future storms and flooding while reducing future recovery costs.



Attachment C: Two Rivers Region Map



Attachment D: Open House Sign in Sheet

	First name	Last name	Company
1	Dave	Stickle	Monmouth Beach Environmental Commission
2	Boris	Kofman	Red Bank Shade Tree Committee
3	Tom	Labetti	Red Bank
4	Jack	Keeler	Sea Bright, NJ
5	Judy	Wilson	Monmouth Beach
6	Tony	Rosa	
7	Danielle	Reid	Shadow Lake, Middletown
8	Jack	Heide	FEMA
9	John	Chiappineaw	Red Bank, Nj
10	Donna	Dalema	Long Branch Green Team
11	Buzz	Baldanza	Oceanport
12	Bonnie	Heard	T and M Engineering
13	Diane	Doolittle	Matawan Sierra Club
14	Marie	Argibay-Boccasino	
15	Marcia	Blackwell	Long Branch
16	Martin	Travers	Red Bank Environmental Commission
17	Tim	Dillingham	American Littoral Society
18	David	Schmetterer	Red Bank, Monmouth County
19	John	Conklin III	Eatontown
20	Beck	Lee-Stevens	
21	Tom	Rogers	Borough of Rumson
22	Michael	Flynn	Michael Baker
23	Zachary	Lees	Clean Ocean Action
24	John	Crilly	Navesink River Rowing
25	Michael	Fedosh	Township of Middletown
26	Jessica	Kostenblatt	
27	Zoe	Under-Baptie Bloustein	
28	Ralph and Meta	Wyndrun	Fairhaven Environmental Commission
29	Mike	Sikand	Oceanport
30	Ray	Syms	
31	Claire	Antonucci	N.J. Sea Grant Consortium
32	David	Henry	Monmouth County Regional Health Commission
33	Pat	Pinto	Red Bank Environmental Commission
34	Kate	Triggiano	Red Bank Environmental Commission

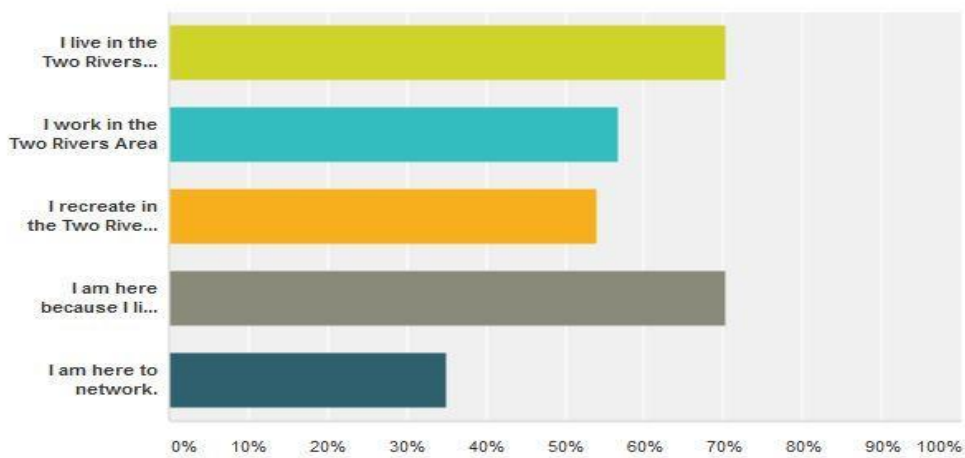
35	David	Marks	Rumson
36	Joann	Lowry	FEMA
37	Joseph K.	Hemphill	Borough of Rumson
38	Jennifer	Hom	Middletown
39	Michelle	Mcglyn	Rumson
40	Amy	Dunford	New Brunswick, NJ
41	Laura	Forrest	FEMA
42	Jeffrey	Mitchell	Monmouth Beach Commission
43	Donna	D'Alema	
44	Amy	Cinguegrana	Atlantic Highlands
45	Gary	Casazza	Rumson
46	Steve	Miller	Middletown

Attachment E: Survey Summary

Q1

Choose all that apply.

Answered: 37 Skipped: 0

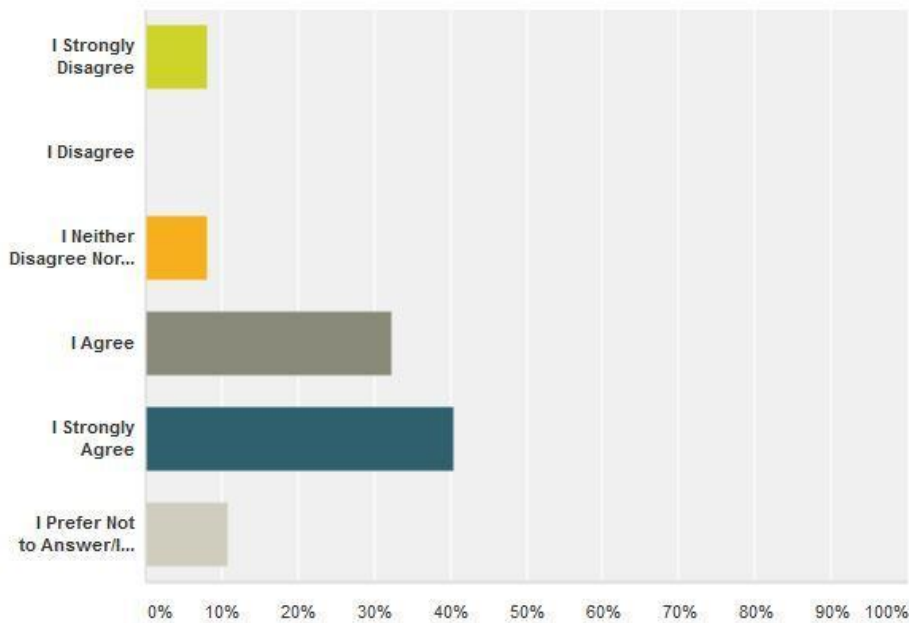


Answer Choices	Responses	
I live in the Two Rivers Area.	70.27%	26
I work in the Two Rivers Area	56.76%	21
I recreate in the Two River Area.	54.05%	20
I am here because I like the idea of "resilience".	70.27%	26
I am here to network.	35.14%	13
Total Respondents: 37		

Q2

People in the Two Rivers Community feel like they belong to the community.

Answered: 37 Skipped: 0

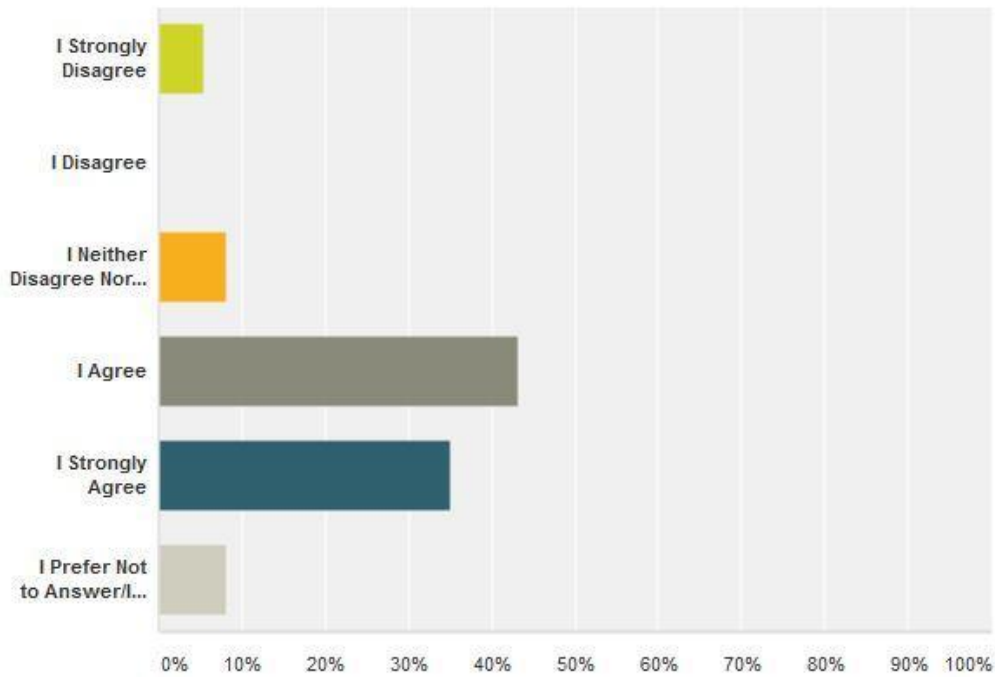


Answer Choices	Responses	
I Strongly Disagree	8.11%	3
I Disagree	0.00%	0
I Neither Disagree Nor Agree	8.11%	3
I Agree	32.43%	12
I Strongly Agree	40.54%	15
I Prefer Not to Answer/I Don't Know	10.81%	4
Total		37

Q3

People in the Two Rivers Community are committed to the well-being of the community.

Answered: 37 Skipped: 0

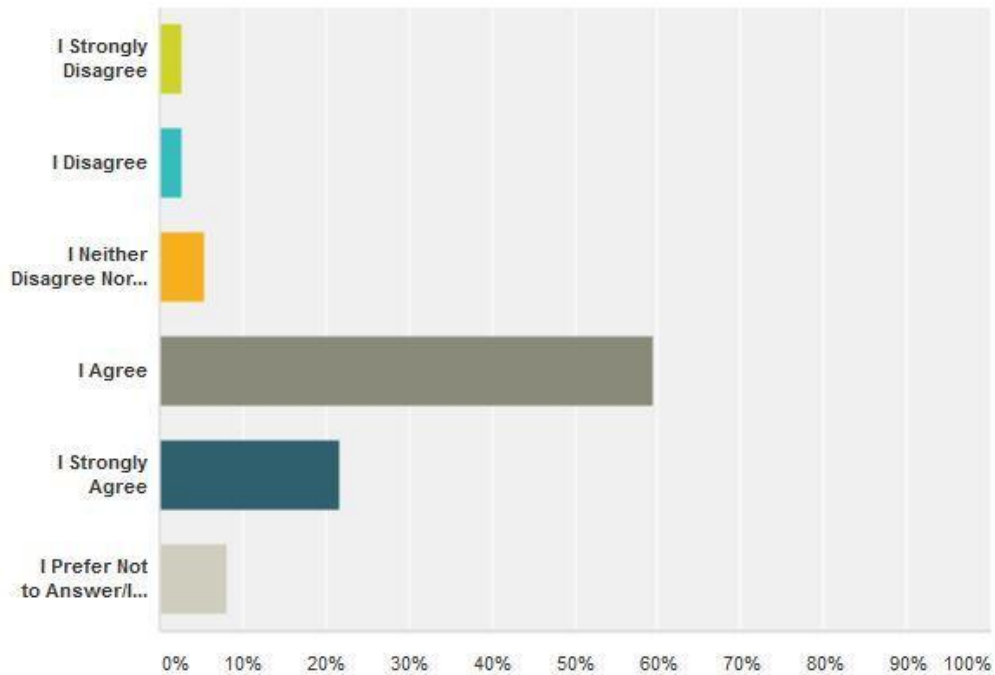


Answer Choices	Responses	
I Strongly Disagree	5.41%	2
I Disagree	0.00%	0
I Neither Disagree Nor Agree	8.11%	3
I Agree	43.24%	16
I Strongly Agree	35.14%	13
I Prefer Not to Answer/I Don't Know	8.11%	3
Total		37

Q4

People in the Two Rivers Community have hope about the future.

Answered: 37 Skipped: 0

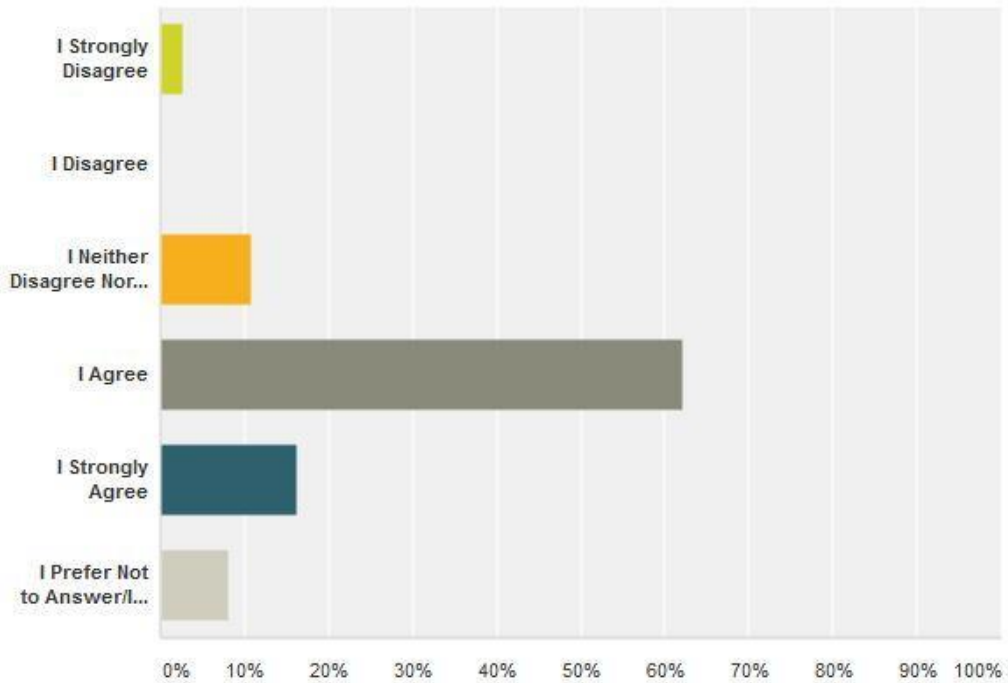


Answer Choices	Responses	
I Strongly Disagree	2.70%	1
I Disagree	2.70%	1
I Neither Disagree Nor Agree	5.41%	2
I Agree	59.46%	22
I Strongly Agree	21.62%	8
I Prefer Not to Answer/I Don't Know	8.11%	3
Total		37

Q5

People in the Two Rivers Community work together to improve the community.

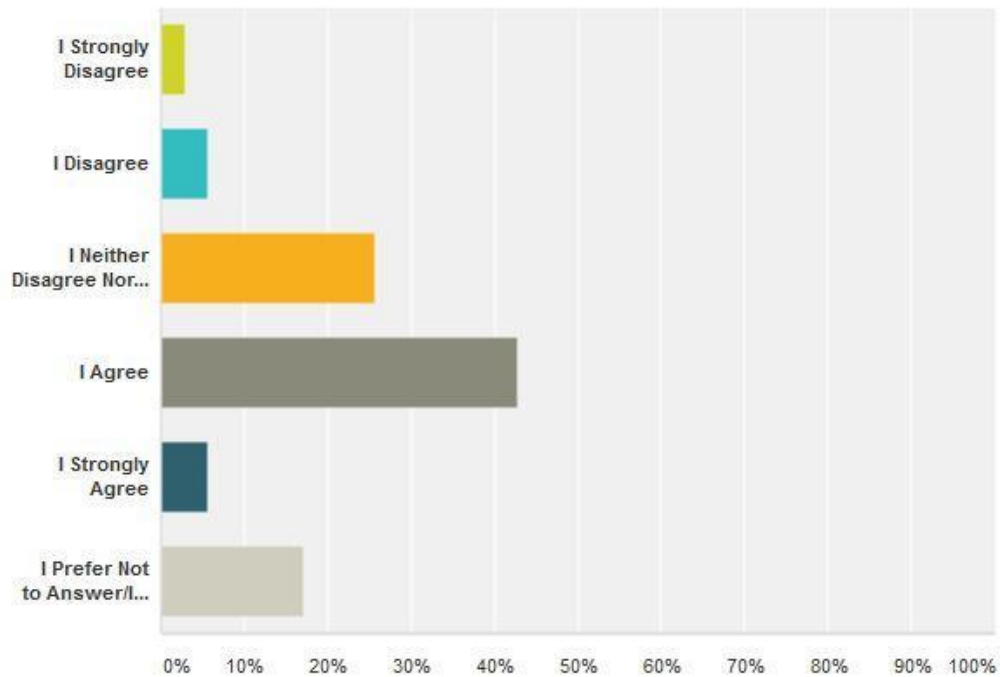
Answered: 37 Skipped: 0



Answer Choices	Responses	
I Strongly Disagree	2.70%	1
I Disagree	0.00%	0
I Neither Disagree Nor Agree	10.81%	4
I Agree	62.16%	23
I Strongly Agree	16.22%	6
I Prefer Not to Answer/I Don't Know	8.11%	3
Total		37

The Two Rivers Community looks at its successes and failures so it can learn from the past.

Answered: 35 Skipped: 2

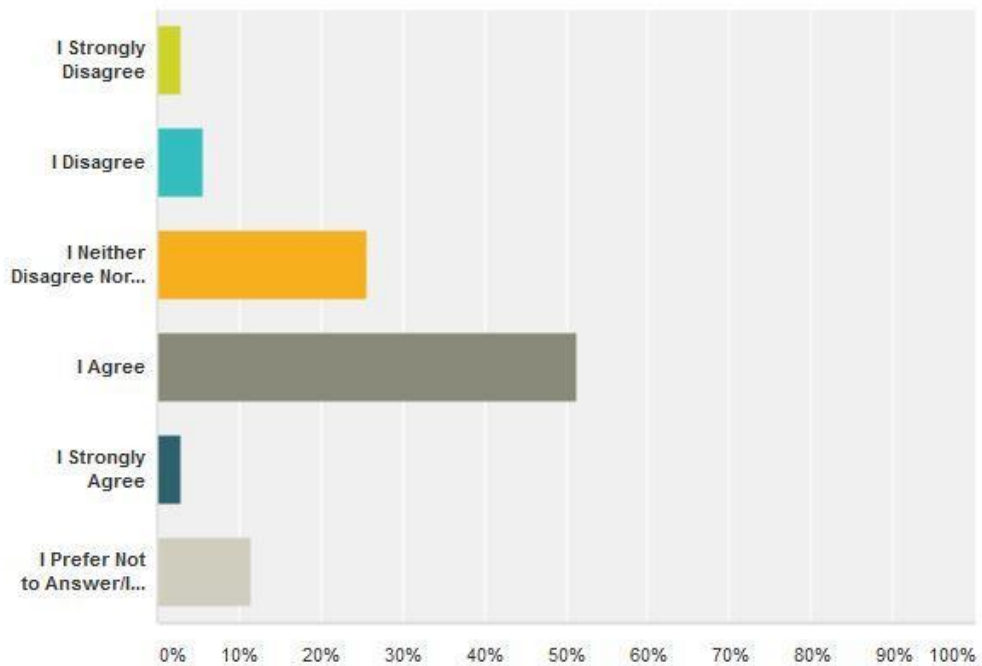


Answer Choices	Responses	
I Strongly Disagree	2.86%	1
I Disagree	5.71%	2
I Neither Disagree Nor Agree	25.71%	9
I Agree	42.86%	15
I Strongly Agree	5.71%	2
I Prefer Not to Answer/I Don't Know	17.14%	6
Total		35

Q7

The Two Rivers Community has priorities and sets goals.

Answered: 35 Skipped: 2

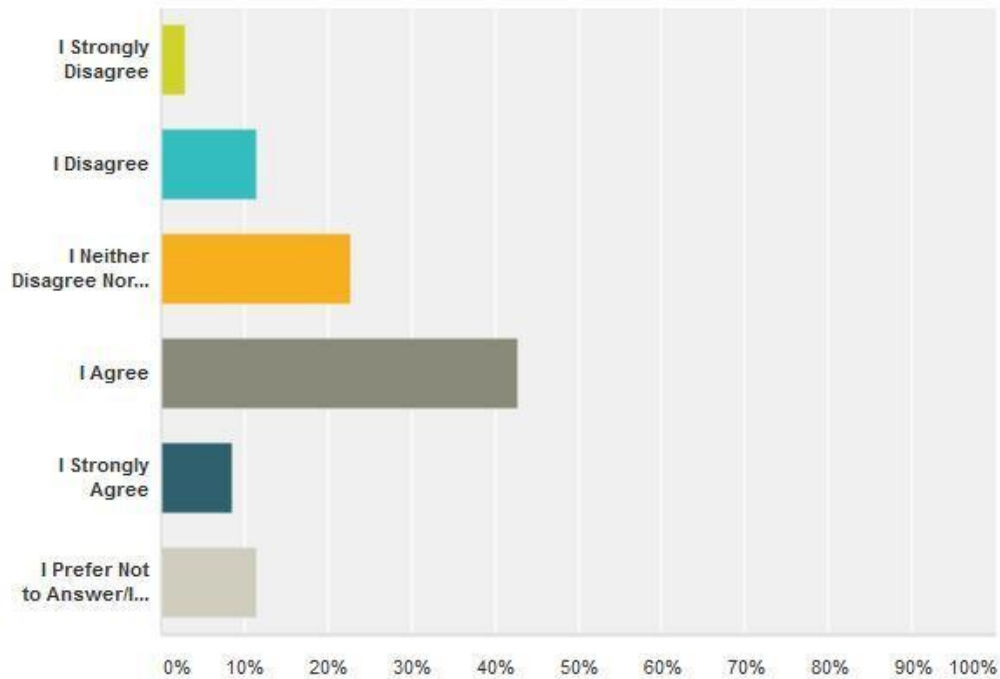


Answer Choices	Responses	
I Strongly Disagree	2.86%	1
I Disagree	5.71%	2
I Neither Disagree Nor Agree	25.71%	9
I Agree	51.43%	18
I Strongly Agree	2.86%	1
I Prefer Not to Answer/I Don't Know	11.43%	4
Total		35

Q8

The Two Rivers Community actively prepares for the future.

Answered: 35 Skipped: 2



Answer Choices	Responses	
I Strongly Disagree	2.86%	1
I Disagree	11.43%	4
I Neither Disagree Nor Agree	22.86%	8
I Agree	42.86%	15
I Strongly Agree	8.57%	3
I Prefer Not to Answer/I Don't Know	11.43%	4
Total		35

APPENDIX D: MAP WHAT MATTERS PUBLIC ENGAGEMENT

Map What Matter Press Release:



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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news releases

FOR IMMEDIATE RELEASE
August 4, 2017

Contact: Caryn Shiinke (609) 984-1795
Lawrence Hajna (609) 984-1795
Robert Geist (609) 292-2994

DEP PROMOTES CAMPAIGN ASKING TWO RIVERS AREA RESIDENTS TO HELP IDENTIFY PROPERTIES AS PART OF FLOOD RESILIENCY PLANNING

(17/P77) TRENTON –The Department of Environmental Protection and officials in the Two Rivers region of northeastern Monmouth County are encouraging the public to identify buildings and other facilities in their communities that should be part of focused flood-resiliency planning efforts.



The *Two Rivers, One Future* campaign provides a unique opportunity for the public to use an online mapping website and social media to have a role in determining future flood-protection strategies for their communities. The DEP will evaluate the project with plans to expand it to other parts of the state.

"This project builds on our ongoing resiliency efforts and is intended to help the public better understanding flood risks while engaging them in the effort to protect their communities," said Ginger Kopkash, DEP's Assistant Commissioner for Land Use. "The DEP and its partners will be able to use information from this effort to develop strategies focused on protecting these important places."

Located in northeastern Monmouth County around the Navesink and Shrewsbury rivers – short and wide estuary-like waterways – the Two Rivers region encompasses 15 municipalities, an area that is vulnerable to coastal flooding.

As part of the campaign, the community is asked to identify places such as public buildings, police and fire stations, municipal buildings, hospitals or urgent care centers, schools, important businesses, and popular gathering spots. The DEP will be conducting extensive outreach in Two Rivers communities this month to promote the campaign.

There are three ways the public can report locations:

- Go to www.TwoRiversOneFuture.nj.gov to drop pins at favorite locations, then describe in the comment field why the place is important.
- Tweet photos, websites, names or locations of the places that matter most, along with a reason why, and use the hashtags #MapWhatMatters and #TwoRiversOneFuture. The same hashtags may also be used on Instagram.
- Visit the *Two Rivers, One Future* #MapWhatMatters booth at a number of public festivals, markets and locations throughout the Two Rivers region this month. A schedule of events is available at www.nj.gov/dep/ocdup/njframes-engage.html

The *Two Rivers, One Future* campaign is the latest component of the three-year New Jersey Fostering Regional Adaption through Municipal Economic Scenarios (NJ FRAMES) Project, which will use resiliency planning to help the Two Rivers Council of Mayors region prepare for and respond to coastal hazards and flooding risks.

The Two Rivers Council of Mayors works to address common issues in their communities. NJ FRAMES builds upon the cooperation of the communities in the region. The DEP has also been performing extensive mapping to identify areas vulnerable to flooding under various storm scenarios.

"While we have collected plenty of great data on at-risk areas in these communities, this effort will help ensure we are focusing our efforts on the right places, and those that matter most to residents," said Assistant Commissioner Kopkash. "Strategies that could be implemented include green infrastructure, living shorelines and hardening of critical infrastructure that would better protect these places and their surrounding neighborhoods."

The 15 communities in the Two Rivers region include Eatontown, Fair Haven, Highlands, Little Silver, Long Branch, Middletown, Monmouth Beach, Ocean Township, Oceanport, Red Bank, Rumson, Sea Bright, Shrewsbury Borough, Tinton Falls and West Long Branch.

NJ FRAMES partners DEP's Coastal Management Program with the Jacques Cousteau National Estuarine Research Reserve, the Louis Berger Group, the Rutgers Climate Institute and the Borough of Oceanport, which represents the Two Rivers Council of Mayors. The project is funded by the National Oceanic and Atmospheric Administration (NOAA).

Project partners help the Two Rivers Council understand the range of costs and benefits of resiliency planning decisions by using a scenario-based approach for its communities. By using a vigorous public stakeholder process that involves the visions of the involved communities, the NJ FRAMES project is expected to develop a plan identifying a variety of measures to enhance flooding resiliency in the region.

NJ FRAMES is one of several resiliency planning grants and projects funded by NOAA. To learn more about the project, visit: www.nj.gov/dep/ocdup/njframes.html

Learn more about the DEP's Coastal Management Program at www.nj.gov/dep/cmp and follow @NJCoastalManagement on Instagram.

DEP PHOTO/Navesink River

Two Rivers Times Article on the Map What Matters Campaign (August 2017): <http://tworivertimes.com/two-river-residents-asked-for-input-on-reducing-future-floods/>



TWO RIVER RESIDENTS ASKED FOR INPUT ON REDUCING FUTURE FLOODS

August 20, 2017



By Jay Cook

Rising sea levels through the next century may have Two River area residents concerned, but now they can have a role in mitigating any future damages.

Stemming from a late February workshop in Red Bank, the New Jersey Department of Environmental Protection (DEP) launched an interactive web mapping tool last week for homeowners, business owners, and officials alike to identify areas of interest in 15 Two River area towns so education and flood prevention tactics can soon follow.

The web project comes from the NJ Fostering Regional Adaptation through Municipal Economic Scenarios (FRAMES) initiative, funded by a nearly \$900,000 grant from the federal National Oceanic and Atmospheric Administration (NOAA).

Towns included in the NJ FRAMES program are Eatontown, Fair Haven, Highlands, Little Silver, Long Branch, Middletown, Monmouth Beach, Oceanport, Ocean Township, Red Bank, Rumson, Sea Bright, Shrewsbury, Tinton Falls and West Long Branch.

Residents living in those towns now have the ability to sign onto the associated website, www.TwoRiversOneFuture.nj.gov, and explore an interactive map with predetermined areas of interest – police stations, fire stations, municipal buildings, to name a few.



Map What Matters Mapping Portal:

<http://lbg.maps.arcgis.com/apps/MapJournal/index.html?appid=c66358c0b812483981d7d49e97863f2d>

NJ FRAMES

NJ FRAMES

Disclaimer

To start using #MapWhatMatters, please read the disclaimer and follow the instructions below to agree with the disclaimer.

- If you are on a desktop or tablet, hover your mouse over the pane on the left and mouse scroll down.
- If you are on a smartphone, swipe the pane on the bottom.

Tutorial

Two Rivers, One Future

New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (FRAMES)






Welcome to #MapWhatMatters!

The information presented is for the purpose of the NJ FRAMES project only. It does not have any official status and is provided for informational purposes only. Information uploaded by the user may be made publicly available but user identity, where provided, will not be disclosed.

By use of this website you agree to the terms above.

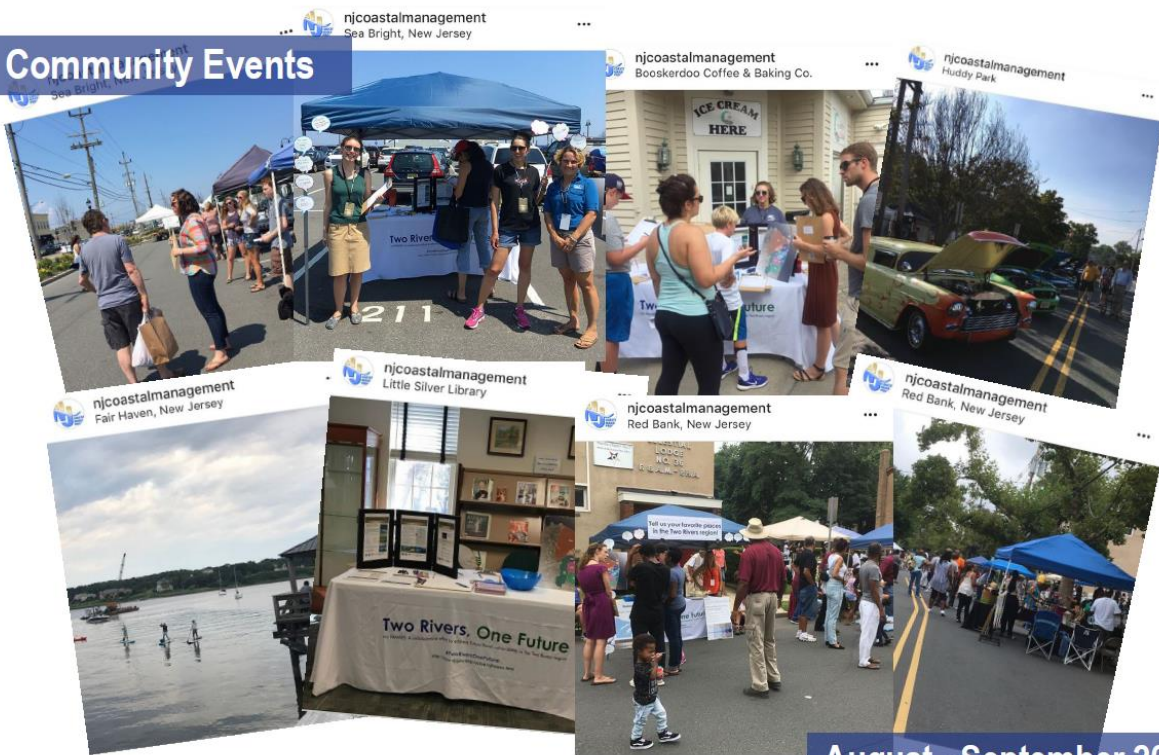
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- If you are on a smartphone, swipe the pane on the bottom.



80

Community Events



August - September 2017

APPENDIX E: SEPTEMBER 2017 CAG KICKOFF AND #MAPWHATMATTERS WORKSHOP AGENDA AND ASSET INVENTORY

Constituent Advisory Group (CAG) Kickoff and #MapWhatMatters Workshop Agenda

Monday, September 25, 6:00 PM - 8:30 PM
Hackensack Meridian Health Riverview Medical Center
5th Floor, Two River Conference Room
1 Riverview Plaza, Red Bank, NJ 07701

Agenda

6:15	Welcome
	<i>Kelli O'Brien (Hackensack Meridian Health Riverview Medical Center)</i>
6:20 – 6:40	Introductions and Project Presentation
	<i>Nick Angarone (NJDEP) and Matt Campo (Rutgers)</i>
6:40 – 6:50	Individual Asset Mapping Activity
6:50 – 7:30	Asset Mapping Focus Groups
7:40 – 8:10	Group Summary / Walk About and Discussion
8:10 – 8:30	Wrap-up and Next Steps

Parking, Food, and Other Logistics

Guests should valet park (free of charge) at the Blaisdell Building. Enter through the Blaisdell Pavilion and proceed to the elevators on the right-hand side and up to the 5th Floor conference center. The meeting is in the Two River Conference Room, which can be accessed by going left or right.

Complimentary refreshments will be provided for participants by Hackensack Meridian Health Riverview Medical Center

Please remember to turn in your worksheets, notes sheets, and informed consent to one of the NJ FRAMES team members at the end of the meeting.

Thank You!

Thank you very much for your attendance and help at this event. The NJ FRAMES team recognizes that, in order to be here today, you took extra time out of your regular schedule. We greatly appreciate your willingness to help us and value your input.

Test Run and Orientation

To ensure that all things are in order, the entire team will review the documents and the physical setup prior to the start of the workshop (preferably the day before).

- All staff will run through the agenda, the presentation and the documents and will do a test run through the mapping exercise to ensure that everyone is clear on the process.

- GIS staff will go over the GIS workflow in detail and review the tools, tips and process specifics.

Projectors will only be used in case of emergency. Riverview has offered the team the use of the adjacent small conference rooms for breakout groups.

5:45 - 6:15 Check-In

Prior to the beginning of the workshop, participants will be checked in and provided workshop packets.

- Participants will check in and receive all workshop documents.
 - Agenda
 - Informed Consent
 - Notes Sheets
- We will seat attendees at tables in pre-defined groups with Name Tags.

6:15 – 6:20 Welcome and Introduction

Welcome! Thank you for participating in this workshop, which is part of a project to gather important people, places, events and things (which we refer to as ‘assets’) in the Two Rivers region. This meeting is part of the NJ FRAMES project to assist in the development of a resilience plan in the Two Rivers region. The objectives of today’s workshop are to:

1. Provide an overview of the project
2. Discuss the structure and responsibilities for participation in the CAG
3. Collect descriptions of assets that make your community strong and a great place to live
4. Identify and discuss relevant data sets that your organizations may already maintain that represent regionally important asset categories

Researchers will use the data collected from today’s workshops to create a working dataset to compare with flood exposure and benefit/cost modeling for short and long-term community resilience planning for flooding events. The individual asset mapping exercise will take approximately 10 minutes and will be followed by a breakout session. Following the breakout session, we will summarize some of the findings from each of the groups and have a walk-about for you to review each other’s notes and maps. There are several hard copy maps distributed around the room, in addition to the mapping platform that each breakout group will be using to identify and record information during this workshop.

Remind participants that they are representing “professional” expertise, not personal experiences. They are wearing their professional hat (e.g. hospital admin, coastal engineer, etc.) and not their resident hat (e.g. Little Silver resident).

Before we begin, though, a few points:

- My name is.... [*Facilitator introduces self, others introduce selves*].
- Participation is voluntary
- We will be taking notes during the session that will serve as an aid during the data post processing.
- The notes will not record anyone’s name, and we will treat the responses as confidential information.
- We are interested in everyone’s opinion. This is a broad and inclusionary exercise designed to capture the maximum number of assets. It is intended to lend credence to everyone’s input, regardless of their level of expertise or group agreement. There are no ‘wrong answers’.
- Please silence your cell phones.
- Venue logistics (bathrooms, coffee, etc. – if applicable).

6:20 – 6:40 Introductory Presentation

- [Matt / Nick] An introductory presentation will be prepared to introduce the project staff, present a brief project introduction and discuss goals and pace of the workshop.
- Project Overview
- Roles / Responsibilities
- Governance and participation
- [Matt] The facilitator will introduce the mapping system, do a brief demo of the tools and offer tips for effective and efficient use.
- The facilitator will also review the category definitions and any other selections that users may need to make during the workshop
- Any reference materials created will also be addressed at this time.

6:40 – 6:50 Individual Asset Mapping Exercise

The facilitator will start the mapping process by defining what data should be mapped and what it includes and excludes. The mapper / notetaker will prepare the map view showing the base map zoomed out to the entire study area (use the zoom to full extent/globe button) and explain the existing data, sources, gaps, etc. when applicable. For some uses, existing data will be toggled on (and off as necessary) to provide some context and present the current state of knowledge.

Each of you has a set of worksheets to complete as part of this exercise. We will collect the worksheets at the end of the meeting to record additional thoughts and information that we collect as part of our discussion today. If you would like us to be able to follow up with you in order to discuss your assets, please indicate that we may do so and provide your contact information. We will also take notes to gather comments and information that cannot be mapped. There will be several additional opportunities to identify the important people, places and events in your communities as the project progresses.

We are interested in answering the following questions:

1. What are the most important assets in the **Two Rivers Region** that make your community strong and a great place to live? Each of you please write at least three top priorities. By assets we mean:
 - a. Places
 - b. People
 - c. Events
 - d. Things

For our purposes, we can define the terms place, people, event, and thing as follows:

1. **Places** are geographic locations (a point or a polygon) that make your community strong. A place can be a wetland, oyster reef, park, building, or another physical asset.
2. **People** are individuals or groups of individuals that make your community strong. Sometimes we can map where these people are, and other times we won't be able to. Don't worry about it if you can't give them a place in your community, just tell us who they are.
3. **Events** are social occurrences that happen in a place but might not be in that place all the time. A weekly run, a monthly meeting, and an annual festival can all be important events that make your community strong.
4. **Things** are anything that you don't think fits into the categories above. It could be a favorite food, or a symbol you identify with your community. Again, we may not be able to map some of these, but we certainly want to know if it is important to you.

For our purposes, asset categories may be designated as follows:

1. **Economic**: Commercial establishments or employment centers

2. **Health and Social Services:** Public Health Facilities, Public Safety Facilities, Educational Facilities
3. **Housing:** Single and Multi-family homes and housing
4. **Infrastructure Systems:** Hard and soft infrastructure systems including coastal protection, power, transportation, wastewater, and other public service systems
5. **Natural and Cultural Resources:** recreational areas, environmentally sensitive areas, historic sites, public access points, arts installation, community events, and other similar locations
6. **Vulnerable Populations:** Populations that are elderly, young, have limited mobility, limited English proficiency, or have other limitations that may increase their vulnerability to damages from coastal flood hazards_
 - a. [[[Include SOVI reference layers to facilitate this discussion]]]

****Facilitator Notes:**

1. *Clarify perception vs. observation (i.e. I have indicated this point based on my own professional judgement/ I have indicated this point base on the professional judgement of others that I have observed or work with).*
2. *Remind participants that they are representing “professional” expertise, not personal experiences. They are wearing their professional hat (e.g. hospital admin, coastal engineer, etc.) and not their resident hat (e.g. Little Silver resident).*
3. *Manage participants in a manner that supports elaboration and discussion of assets/maps and the issues at hand in the room. Participants that reference prior meetings, other completed analyses, ongoing projects, etc. should be encouraged to contribute what additional identified resources would add to the discussion in the room.*

Map layers (DRAFT):

1. Two Rivers Region
 - a. Water Levels
 - b. FEMA Floodplain
 - c. Asset Layers
 - d. HAZUS Critical Facilities
 - e. Aerials / Streets Base map

General Notes

- The facilitator should ask for volunteers to start or designate a line-up if no one volunteers.
- Participants should be encouraged to watch as others’ data are posted, but to feel free to consult the blank wall maps or handout maps to consider their own contributions.
- Remind participants data will be merged to create a broader representative data layer.
- This is a broad and inclusionary exercise designed to capture the maximum area over which the use is known to occur. It is intended to lend credence to everyone’s input, regardless of their level of expertise or group agreement. There are no ‘wrong answers’ at this point.
- Disagreements should be noted by the facilitator on the staff notes sheet, but all areas mapped will be reflected in the final product.
- Note that not all participants have to individually enter points or polygons if their areas have been previously drawn by someone else. Redundancy will be considered and recorded from worksheets.

NJ FRAMES CAG Workshop Asset List for Data Collections and Review

Data Category	Data Set / Point Locations and Areas
1 Arts and Culture Point Locations	Community Events
2	Monmouth Arts Council District
3	Red Bank Historic District
4 Galleries	
5 Detour Gallery	
6 Beacon Fine Arts	
7 Stillwell House	
8 Chetkin Gallery	
9 Beach Sweeps	
10 Annual Festivals	
11 Family Fireworks	
12 Fairs	
13 Festivals	
14 Oyster Fest	
15 LS SK	
16 Community Stakeholders	Religious Organizations
17	Nurses
18 Research	
19 Physicians	
20 Teachers	
21 Scientists and Researchers	
22 School Aged Children	
23 Students	
24 Shade Tree Commissions	
25 Wellness Screening	
26 Clergy	
27 Emergency Service Point Locations	Fire
28	Police
29 Religious Organizations	
30 EMS	
31 Hospitals	
32 Shelters	
33 General Infrastructure	Pre-FIRM Construction
34 Bulkheads in Disrepair	
35 NWS Earle Pier	
36 Industrial Uses and Services	
37 Electrical Substations	
38 Hazard Areas	Repetitive Loss / Low Lying Housing
39	Shallow Coastal / Recurrent Flooding Locations

Data Category	Data Set / Point Locations and Areas
40 Municipal / County Planning	Land Use and Zoning
41	Public Works Departments
42 Natural Infrastructure	Proposed Living Shorelines
43	Current Living Shorelines
44 DeNormandie Ave. Site	
45 Oyster Reef (NWS Earle)	
46 Marshes	
47 Wetlands	
48 Dunes	
49 Open Space	
50 Public Agency Point Locations	Public Works Departments
51	Government Offices
52 Public Health Departments	
53 Mosquito Commission	
54 Recreation Point Locations	Beach
55 Parks	
56 Seven Presidents Park	
57 Surfing	
58 Divers	
59 Garden Clubs	
60 Ocean Recreation	
61 Sandy Hook	
62 Public Access Points	
63 Rowing	
64 Sailing	
65 Recreational Fishers and Shellfishers	
66 Recreational Boating	
67 Retail Locations	Grocery Stores
68 Fuel Stations	
69 Pharmacies	
70 Hardware Stores	
71 Stores w/ Chemical Inventories	
72 Retail Stores	
73 Special Places and Assets	Coastal Bluffs
74 Creeks	
75 Beaches	
76 Natural Waterfronts	
77 Monmouth Park Race Track	
78 Bruce Springsteen	
79 Bayshore	

Data Category		Data Set / Point Locations and Areas
80	Species of Concern	Avian Species
81		Marine Species
82		Native Vegetation
83		Trees
84	Transportation Infrastructure	Bellford Ferry Service
85		Roads
86		Evacuation Routes
87		Narrow Streets
88		Parking Lots
89		Fuel Depots
90		Tank Farms
91		Oceanic Bridge
92		Ferry Services
93		Walking
94		Bridges
95		Navesink Bridge
96		Cycling
97	Vulnerable Populations	Elderly Population
98		Vulnerable Populations
99		LMI Population
100		Chapin Long-Term Care Facility
101		Home Care / Service Dependent (e.g. Oxygen, Dialysis)
102		Nursing Homes
103		Limited Mobility / Handicapped
104		Joline Ave. Residences
105		Service Workers (LMI)
106		Drug Treatment Centers
107		Mental Health Service Dependent
108	Water Dependent Uses / Businesses	Depuration Plant
109		Water Dependent Employees (e.g., "Baymen")
110		Public / Private Ramps
111		Public / Private Marinas
112		Commercial Fishers and Shellfishers
113	Water Infrastructure	Sandy Hook Channel
114		Jolene Avenue Sewage Treatment Plant
115		Stormwater Outfalls (CSO)
116		Water Quality
117		Wastewater Utility
118		Swimming River Dam
119		Stream Crossings
120		Pump Stations

APPENDIX F: GETTING TO RESILIENCE MUNICIPAL DERIVED ASSETS



FRAMES Municipal Asset Gathering through the Getting To Resilience Process (GTR)

Submitted by the Jacques Cousteau National Estuarine Research Reserve (JC NERR)

10/2/2017

The NJ FRAMES project is a regional and collaborative effort in coastal Monmouth County, NJ that seeks to understand and begin to address our future flood vulnerability. The end result will be a long-term Regional Resilience and Adaptation Action Plan that will identify ways our communities can reduce risks and impacts together. As part of the NJ FRAMES project, the 15 participating municipalities agreed to go through the Getting to Resilience process. Getting to Resilience is a web-based process to help New Jersey communities build a foundation toward long-term flood preparedness. Participating communities also can

- Find ways to add points and increase flood insurance savings through FEMA's Community Rating System
- Find ways to add actions to the community's hazard mitigation plan
- Earn Sustainable Jersey points simply by completing the process

While the process can be completed without an outside facilitator, having a facilitated GTR process is important because it gives everyone around the table a voice while providing someone who is able to frame and reframe concepts and questions so they are understood by all participants. The facilitator ensures that participants' knowledge and personal experiences do not get lost in conversation. The facilitator ensures that the conversations around the products being shown is productive while also answering questions that may come up. Getting to Resilience is designed to be used with mapping of flood event scenarios and included the use of Total Water Levels developed for the FRAMES project.

Local decision-makers are invited to be involved in the Getting to Resilience process because they have the knowledge of how the community functions at the local level. Municipal decision makers include land use planners, hazard mitigation planners, emergency managers, floodplain/stormwater managers, natural resource planners, municipal engineers, elected officials, zoning/permitting officials, public works officials, CFO's/business administrators, clerks, and certified floodplain managers. The facilitated discussion about the community's strengths and challenges is meant to make the participants more comfortable talking in front of their peers. It gives the facilitator background information on what the community has done in the past and is currently working on. It provides insight on what the participants consider strengths, from actions to ordinances to natural and built infrastructure, and what the participants consider challenging, from regulations to funding to constantly changing levels of resident/visitor knowledge about the community. This local based knowledge helps feed into the larger resiliency picture by creating an awareness of what local decision makers are already doing, what they have done, and what they plan to do in the future to reduce community exposure and vulnerability, reduce the loss of lives and decrease recovery time from disasters. The process also increases the sharing of knowledge among the local decision makers which facilitates overall preparedness.

Asset Gathering

During the course of the GTR process, facilitators and note takers kept track of mention of critical facilities and assets. Critical facilities are any assets in the municipality that have a particular significance, be it for safety, quality of life, culture, etc. Before beginning the review of maps, identification of critical facilities was done by the group to allow the discussion of flooding impacts to expand beyond simply what gets wet and move towards what impacts flooding will have on emergency response, community identity, and everyday life. At any point during the review of mapping that additional facilities or assets were identified, facilitators took note of them for reference in total water level map viewing and for future vulnerability assessment. Assets can include but are not limited to: cultural, historical, and natural assets; negative assets/hazardous sites; pump stations/levees/mitigation project sites; community facilities; businesses; etc.

Of the fifteen municipalities participating in the FRAMES project, seven went through the GTR process. Of those seven, two (Ocean Township and Rumson) went through the full process. The remaining five had already completed GTR either with JC NERR staff in the last few years (Highlands, Middletown, Monmouth Beach, Sea Bright) or were a pilot community during the development of the GTR questionnaire (Oceanport). These five communities received an additional meeting to review total water level mapping, update JC NERR staff on progress made since GTR was completed in their municipality, and provide an opportunity for officials to identify new facilities and assets that were new or otherwise not identified in their GTR process. The following matrix documents the critical facilities and assets identified by municipalities during GTR meetings and GTR follow up meetings.

Municipality	Asset	Street Number	Street Name	Zip Code	Lat	Long	Comments
Highlands	Community Center	22	Snug Harbor Avenue	07732	40.40673 N	-73.99367 W	Now floodproofed
Highlands	Borough Hall	171	Bay Avenue	07732	40.40154 N	-73.987059 W	
Highlands	Police Station	27	Shore Drive	07732	40.398294 N	-73.983237 W	
Highlands	Public Works Yard	42	Shore Drive	07732	40.398474 N	-73.983623 W	Can't be moved
Highlands	Fire Station	171	Shore Drive	07732	40.400661 N	-73.987056 W	
Highlands	Jones Creek Bulkhead						Needs to be replaced
Highlands	Henry Hudson High School-shelter	1	Grand Tour		40.392141 N	-73.985327 W	Shelter location
Long Branch	Pleasure Bay		Pleasure Bay		40.31511 N	-73.995864 W	Identified by Sea Bright which believes construction caused increase runoff
Middletown	Port Monmouth Flood Control Project				40.44187 N	-74.103563 W	Being built to protect Port Monmouth from flooding
Middletown	Croyden Hall	900	Leonardville Rd, Leonardo	07737	40.410754 N	-74.05525 W	Shelter location
Middletown	NWS Earle				40.428048 N	-74.067825 W	Seen as important partner
Middletown	7-11 across from municipal building						Never closed during Sandy
Middletown	Middletown Sewerage Authority	889	NJ-35	07748	40.394607 N	-74.10239 W	
Middletown		100	Beverly Way, Belford	07718	40.428312 N	-74.08211 W	May be vulnerable
Middletown	Sandy Hook Coast Guard Station	20	Crispin Road, Highlands	07732	40.467854 N	-74.008781 W	Seen as important partner
Middletown	Belford Engine Company	739	Main street, belford	07718	40.422012 N	-74.089084 W	
Middletown	North Middletown levee				40.440087 N	-74.104782 W	Protected North Middletown from flooding
Monmouth Beach	Old Borough Hall	22	Beach Road	07757	40.331332 N	-73.979302 W	Being elevated
Monmouth Beach	New Borough Hall/library	18	Willow Road	07750	40.330617 N	-73.978916 W	Has been elevated

<i>Monmouth Beach</i>	Police Station		14	Willow Road	07750	40.330408 N	-73.97908 W	
<i>Monmouth Beach</i>	Seawall				07750	40.334608 N	-73.974265 W	Gaps being filled
<i>Ocean</i>	Brookside Ave Blue Acres Project			Brookside Ave	07712			
<i>Ocean</i>	Deal Lake			S Dittmar Dr	07712	40.233084 N	-74.025710 W	
<i>Ocean</i>	Poplar Brook				07712	40.257670 N	-74.027347 W	Runs through Joe Palaia park
<i>Ocean</i>	Hog Swamp Brook			Roseld Ave	07712	40.248187 N	-74.018068 W	
<i>Ocean</i>	Whalepond Brook				07712	40.274392 N	-74.034705 W	
<i>Oceanport</i>	Municipal Building (is moving)		315	E Main St	07757	40.313567 N	-74.027449 W	Old complex, being rebuilt in Fort Monmouth
<i>Oceanport</i>	Port au Peck Firehouse			Myrtle Ave	07757	40.319923 N	-74.015715 W	Close to flooding in Sandy
<i>Oceanport</i>	Oceanport Hook and Ladder		21	Main Street	07757	40.313174 N	-74.033199 W	Close to flooding in Sandy
<i>Oceanport</i>	Fist Aid & Rescue Squad		2	Pemberton Avenue	07757	40.313793 N	-74.028918 W	Flooded in Sandy, privately owned
<i>Oceanport</i>	Maple Place Elementary School		2	Maple Place	07757	40.317857 N	-74.008031 W	
<i>Oceanport</i>	Wolfhill Elementary School		29	Wolfhill Ave	07757	40.307349 N	-74.03281 W	
<i>Oceanport</i>	Calvary Baptist Church		1305	Eatontown Blvd	07757	40.304714 N	-74.036856 W	
<i>Oceanport</i>	Oceanport United Methodist Church		50	Main Street	07757	40.311253 N	-74.034088 W	
<i>Oceanport</i>	Old Wharf House		315	E Main Street	07757	40.314231 N	-74.02845 W	Currently serving as town's offices
<i>Oceanport</i>	The Jockey Club			Haskell Way	07757	40.310354 N	-74.025338 W	
<i>Oceanport</i>	Oceanport Gardens		274	E Main street	07757	40.312708 N	-74.025522 W	
<i>Oceanport</i>	Fort Monmouth					40.315399 N	-74.039748 W	Site of new municipal complex
<i>Oceanport</i>	Oceanport Landing		417	River Street	07757	40.314417 N	-74.002447 W	

<i>Oceanport</i>	Shrewsbury Sailing & Yacht Club	512 Seawaneka Avenue	07757	40.32896 N	-74.005064 W	
<i>Oceanport</i>	Monmouth Race Track	175 Oceanport Avenue	07757	40.309798 N	-74.014732 W	
<i>Oceanport</i>	Monmouth Park Train Station	175 Oceanport Avenue	07757	40.31339 N	-74.014926 W	
<i>Rumson</i>	Rumson High School	74 Ridge Rd	07760	40.369272 N	-74.002134 W	Shared with Fair Haven
<i>Rumson</i>	Brookdale Community College	Newman Springs 765 Rd	07738	40.325368 N	-74.133093 W	Lincroft
<i>Rumson</i>	Gunning Island		07760	40.356179 N	-73.980735 W	Green Acres
<i>Rumson</i>	West Park Neighborhood	Shrewsbury Dr	07760	40.3611225 N	-73.979992 W	Flood Mitigation Project
<i>Rumson</i>	Barley Point Neighborhood	Barley Point Rd	07760	40.379780 N	-73.993272 W	Barley Point Island
<i>Rumson</i>	Holy Cross School	40 Rumson Rd	07760	40.365734 N	-73.981221 W	
<i>Rumson</i>	Fire Station	140 E River Rd	07760	40.371836 N	-73.999161 W	
<i>Rumson</i>	Rumson Road	Rumson Rd	07760			
<i>Rumson</i>	Pumping station	Bridgewaters Drive	07760	40.315098 N	-74.024319 W	
<i>Rumson</i>	Pumping station	Riverside Avenue	07760	40.316386 N	-74.031623 W	
<i>Rumson</i>	Pumping station	Leonard Avenue	07760	40.319221 N	-74.032483 W	
<i>Rumson</i>	Pumping station	Werah Place and Shrewsbury Avenue	07760	40.316120 N	-74.004390 W	
<i>Sea Bright</i>	Seawall			40.359863 N	-73.972618 W	Gaps being filled
<i>Sea Bright</i>	New Community center/fire station	E River Street		40.3625 N	-73.972933 W	Being built to allow water to pass through
<i>Sea Bright</i>	Riverfront bulkhead			40.359697 N	-73.976136 W	
<i>Sea Bright</i>	Borough Hall	1167 Ocean Avenue	07760	40.359811 N	-73.973569 W	

Analysis

The number and variety of assets identified varied greatly from each municipality with a low of 4 and a high of 16. While some of this may be attributed to the size of the municipality and number of possible assets, there was not a clear trend. Some municipalities identified assets that are already identified as critical assets such as police and fire stations and schools or municipal buildings/properties such as town halls, public works yards, and community centers. Numerous municipalities identified hazard mitigation or protection structures such as bulkheads, sea walls, and levees, noting progress or a need to reinforce these structures. Parks, lakes, and streams were identified for their importance as part of the identity of communities, recreational opportunities, and ability to abate and sometimes cause flooding. At risk neighborhoods were identified by several towns, as were numerous churches and businesses. The presence of Naval Weapons Station Earle and the Coast Guard station on Sandy Hook were identified as assets and possible resources for the region during disaster events. While most assets identified were positive, there was little identification of negative assets other than at risk neighborhoods and waterways prone to flooding and no identification of hazardous sites.

Follow Up

Additional municipalities in the FRAMES project may choose to go through the GTR process during the FRAMES project. Any assets identified during those processes should be added to this dataset. Complimentary asset identification is being done with the public through extensive outreach efforts. The combination of public and municipal official identified assets will be used to gain a better understanding of what impact flooding has or may have within the FRAMES region and what may be done to lessen impacts.

APPENDIX G: MARCH 2018 STEERING COMMITTEE MEETING SUMMARY

NJ FRAMES Steering Committee Meeting

March 12, 2018

Room 201 Edison Science Building Atrium
Monmouth University

Summary of Collaborative Brainstorm: The Key Attributes that Will Make the Two Rivers Region Resilient

What are the things you love about a resilient Two Rivers region?

What does a resilient Two Rivers region look like?

- Safe secure, vibrant growing communities
 - Regionally managed
 - Expanded opportunities for shared uses
 - Like how it looks now
 - Improved infrastructure
 - Reduced flooding
 - Economically vibrant storm resistant- flood proof
 - A region where regular flooding is no longer an issue
- Natural
 - Less impervious coverage
 - Smartly developed
 - Expanded habitat areas that serve as storm buffers to protect the communities
 - Reduced development
 - Oysters and clams

Notes:

- *Change is uncertain*
- *Things that we might want to see are not necessarily realistic nor evidence-based (Residents coming into Monmouth Beach want no flooding, vertical redevelopment doesn't increase impervious cover)*

What key items would be on your checklist for a resilient Two Rivers region?

- Nature-based solutions
 - Additional natural buffers from storm impacts
 - Wider marshes
 - Less impervious cover
 - Stricter tree ordinances
 - Protect barrier islands
- Infrastructure (including shorelines and homes)
 - Power - resilient power grid
 - Heating/cooling
 - Food
 - Transportation
 - Location of critical infrastructure outside the floodplain
 - Ensure that building codes are designed to be conservative to protect new private development
 - Sensible development and redevelopment
 - Elevation of homes and critical facilities
 - Bulkheads – shoreline stabilization

- Dredge rivers to allow for better drainage after flood events
- Stormwater
 - Improvement of Stormwater management systems
 - Outfall conditions and locations
 - Old stormwater inlets being replaced to remove more floatable debris
- Processes
 - Communication among agencies
 - Community response plan
 - Case management
 - List of available resources
 - Shelters
 - Emergency notification to residents

Notes:

- *The cost of pervious infrastructure is potentially unattainable*
- *Look at all options re: green and grey infrastructure*

What do you view as the challenges to realizing this vision?

- Money!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
- Regional planning
 - Working with neighboring communities to mitigate flooding problems
 - Multiple communities
 - Regional coordination
 - Municipal regulations (disparate) – MLUL conflicts.
- Changing conditions
 - Sea level rise
 - Growing population
 - Pressure from developers
 - Aging infrastructure
- Community buy-in
- Regulatory challenges
 - State level regulations – (e.g. lots of regulations to dredge creeks, 3 years to get compliance reviews for bulkheads by hospitals).
 - Multiple state agencies need to put incentives on the table now to keep the towns at the table and to get the other towns to the table
 - Developing model ordinances is an option but each town still needs to make sure a model meets its own circumstances and needs.
 - Identify actions/policies the Two Rivers towns can eventually consider implementing the regional resilience plan.

If you had a blank check to do anything to improve resilience in the Two Rivers region, what would you use it to do?

- Improve aging infrastructure (dig up broken pipes, repave)
- Microgrid's for power
- Stream cleaning (many communities)
- Build and elevate critical infrastructure
- Residential building elevations
- Free technical support (e.g. engineering designs)
- Regional acquisition of open space
- Develop financial incentives
- Assist the lowest income residents who live closest to the water
 - People don't want to take their kids out of schools or move right after a traumatic event.
 - The people who would benefit from a buy-out the most can't afford it.

- Blue Acres didn't work in Little Silver because the wealthy riverfront homeowners didn't want to pursue buy-outs because there was funding for elevation.
- Marinas couldn't afford to stay post-Sandy so now there are more waterfront homes.
- Loss of the character of the town.
 - Historic character of the towns (bungalows) are being bought out by 3 story monster homes.

What do you view as the opportunities to realize this vision?

- Collaborative regional planning
 - Innovative partnership
 - This group
 - Common values among the communities
 - Pre-planning
- Funding availability
 - Are post-Sandy disaster relief funds available?
 - The potential for future funding to implement planning
 - Can this planning process create opportunities?
- Regional cohesion
 - Cost sharing
 - Strong tax base and constituency
 - Everyone is facing the similar hazards
 - Public is aware of the issues
- State support for this effort
 - Potential MLUL changes
 - Having a regional resilience plan can help win in the "court of public opinion" to bring resources to the region because everyone is aware of the challenges (e.g. flood hazards, sea level rise) that the 15 municipalities collectively face.

Two Rivers, One Future

New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (FRANKS)

The Steering Committee's Regional Resilience Goals

"The Regional Resilience Adaptation Action Plan will..."

ENVIRONMENTAL / PHYSICAL

- ☐ Balance Grey and Green Infrastructure
- ☐ Prioritize the Use of Nature-based Solutions
- ☐ Protect Habitats
- ☐ Expand Natural Areas/Open Space
- ☐ Protect Residential Areas
- ☐ Improve Stormwater
 - Infrastructure
 - Management
- ☐ Minimize Erosion
- ☐ Improve "Lifeline" Infrastructure Reliability
 - Power
 - Water
 - Transportation
 - Healthcare
- ☐ Increase Food Independence
- ☐ Increase Sheltering and Evacuation Infrastructure
- ☐ Ensure Adequate Sheltering and Evacuation Processes

SOCIAL

- ☐ Improve Social
 - Equality
 - Equity
- ☐ Preserve Regional Character
- ☐ Increase Communication to the Residents Regarding Flood Risks
- ☐ Reduce Exposures on Vulnerable Populations

ECONOMIC

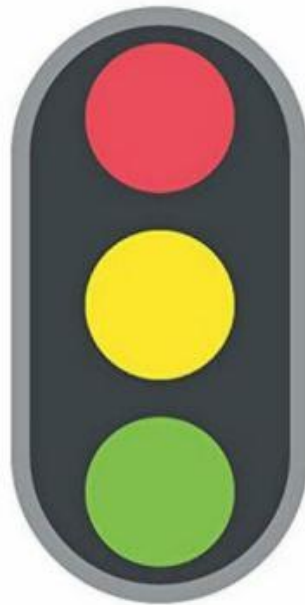
- ☐ Facilitate Economic Development Strategies
- ☐ Preserve Ocean / Water Dependent Businesses
- ☐ Utilize Creative Municipal Financing Opportunities
- ☐ Connect to Incentive-based Programs (CPS, Sustainable Jersey, etc.)
- ☐ Maximize the Benefit Cost Ratio

REGIONAL PARTNERSHIPS

- ☐ Increase Communication Among Agencies and Organizations
 - Federal
 - State
 - County
 - Regional
 - Local
- ☐ Increase Utilization of Shared Services

OTHER CONSIDERATIONS

- ☐ Reduce exposures to existing industrial facilities and other potentially contaminating sites
- ☐ Maintain Social and Community Connectivity
- ☐ Reduce impacts to vulnerable populations



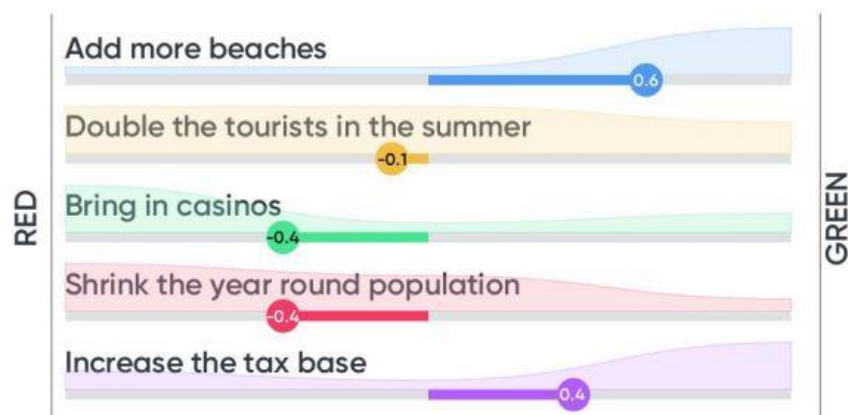
Mentimeter

Resilience Elements Checklist - Groundtruthing

8
👍 👎

TEST: The Regional Resilience Adaptation Action Plan will...

Mentimeter



8

The Regional Resilience Adaptation Action Plan will...

Mentimeter



10

The Regional Resilience Adaptation Action Plan will...

Mentimeter



10

The Regional Resilience Adaptation Action Plan will...

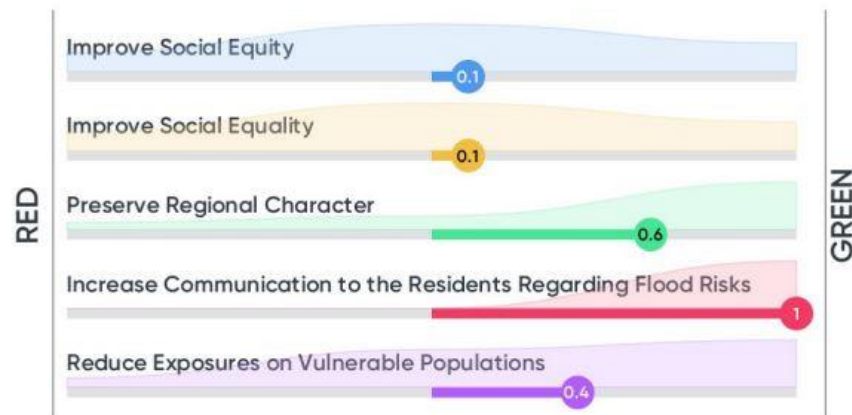
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10

The Regional Resilience Adaptation Action Plan will...

Mentimeter



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The Regional Resilience Adaptation Action Plan will...

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The Regional Resilience Adaptation Action Plan will...

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The Regional Resilience Adaptation Action Plan will...

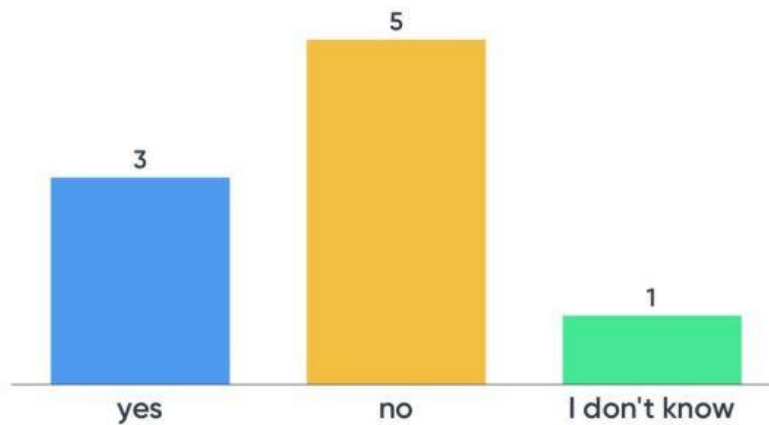
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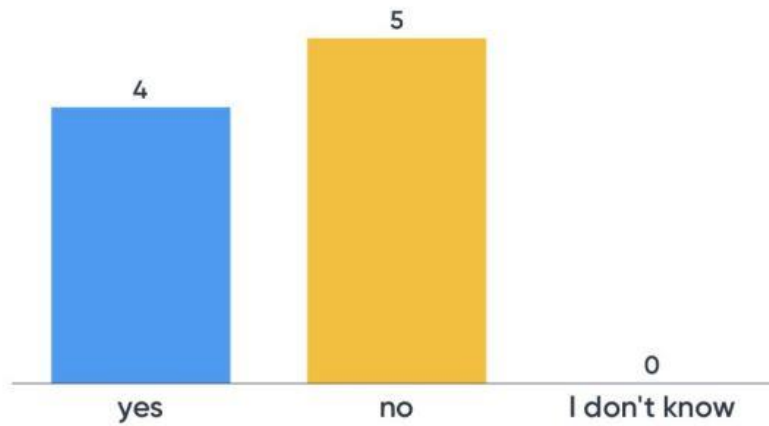
Keep this on the checklist? - Improve Social Equity

Mentimeter



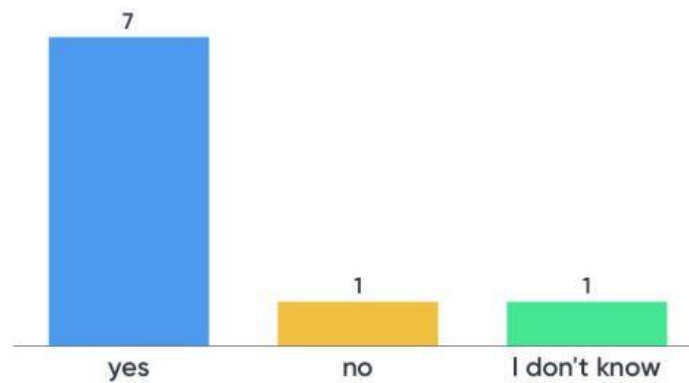
Keep this on the checklist? - Improve Social Equity

Mentimeter



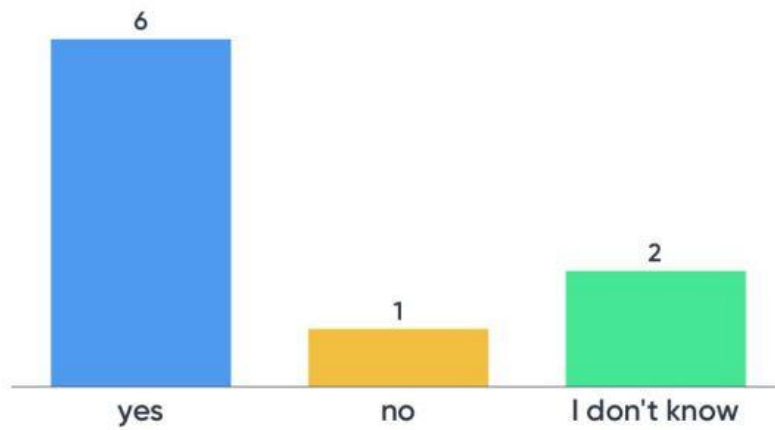
Keep this on the checklist? - Reduce exposures to existing facilities and other contaminating sites

Mentimeter



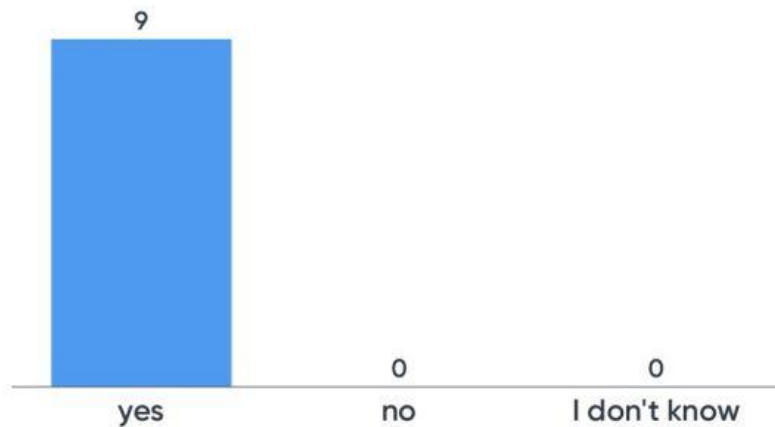
Keep this on the checklist? – Reduce impacts to vulnerable populations.

Mentimeter



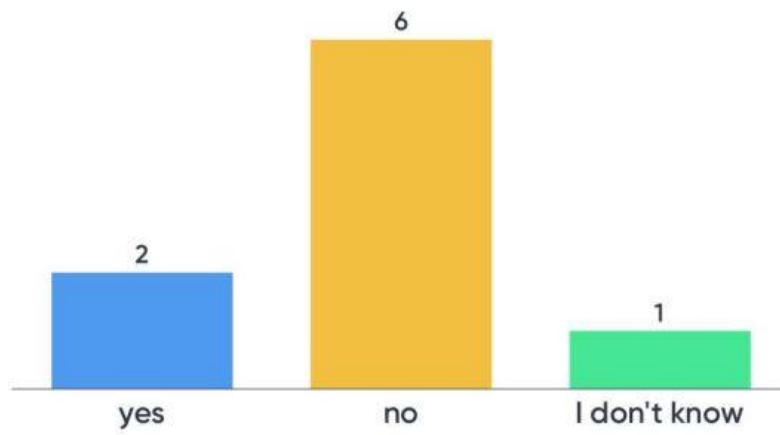
Keep this on the checklist? – Reduce impacts to our region's populations.

Mentimeter

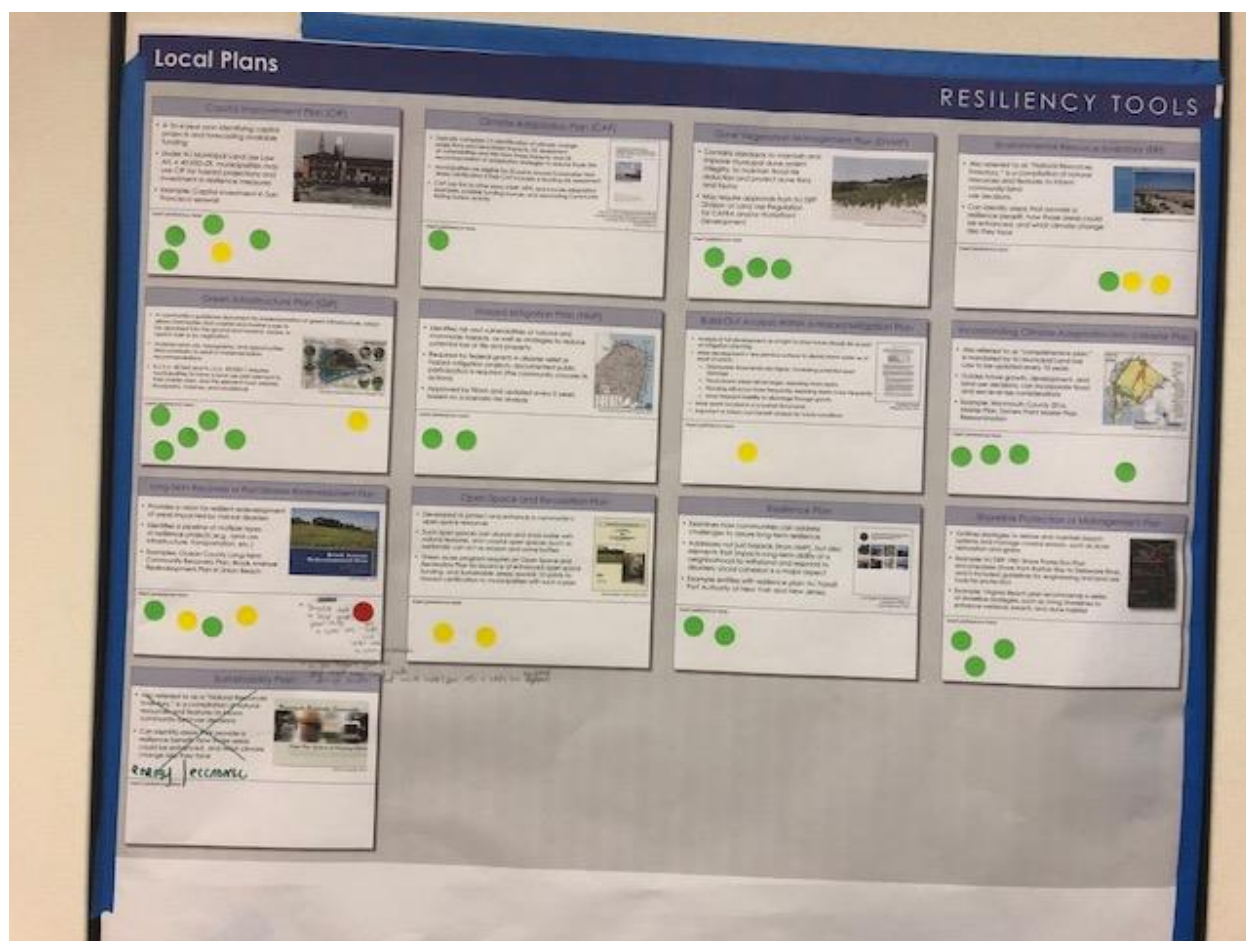


Keep this on the checklist? - Increase food independence

Mentimeter



APPENDIX I: AUGUST 2018 ADVISORY GROUP MEETINGS POSTER BOARDS



Other Options

CAP, HMP, SP, RP - larger policies

Towns need "disaster ^{risk reduction} response in all policies"
ie: resilience elements in open space plan

- Flood Zone Buyouts

RESPONSE SOLUTIONS (NS VOAD & COAD)
Verbal Plans of Action Discussion
Community " " " "

- Require generators for new development. Particularly
Food stores & Gas stations

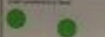
Every plan online to be viewed by public

RESILIENCY TOOLS

1000/feroxym (sensibilizing)
RS
Lacton Synthase 4000?

- Communities can receive 20 Community Rating System points for updating data on coastal erosion risks and regulatory maps at most every five years.

using but not an incentive if
you are not satisfied. Hejazi - Bial



- FEMA offers extensive training to all levels of disaster prevention and response through its Emergency Management Institute

-
- Landscape Architecture: Problem Solving**
 Robert Langsley and Peter Zumthor
 with a foreword by Peter Zumthor
 160 pages, 200 illustrations, 200 color photographs
 ISBN 978-0-262-08345-0



- Tourism program (administered by the national weather service) to recognize such communities as individual sites that have implemented communication and safety measures to protect against future storms.
- Five requirements must be completed:
 - Establish a 24-hour warning point and Emergency Operations Center
 - Move away from one-way to two-way severe weather warning and to alert the public
 - Create a system that monitors local weather conditions
 - Promote the importance of public readiness through community seminars
 - Develop a formal hazardous waste plan, including

* More thoroughly tested than previous
- Doris

- A 36-hour, certified program for communities that participate in the National Flood Insurance Program (NFIP)
- CRR seeks to reduce damage and payout

-

- Problems of competing CRS requirements for

Other Options

Building Code Requirements + Local Incentives (Glen)

↳ Enforcement (Requirement of Generators, BUT

Expedited Permitting Processes
- to be incentivized

Need to tie that
to regional resilience
measures. Education
on a systems based
resilience plan.

Participation of Counties in
IM

- Interactive Knowledge Sharing for mun.

Stop creating pamphlets, engage locals to market ideas
Interactive, community lead (ex. arts)
Engage (Ex instead of a high H₂O sign, have a mural)

- Participation of Planner/Engineers in building resilience,
cross-train w/ building officials

Interactive Resilience (or other) plans instead of static map

110

Other Options

1. NAVFAC Climate Change Guidance 2017
- Appendices 1) & 2) & 3)
2. Microgrids
3. Backfills/Raising Communities

green

- climate adapt. in MP
- Post dis Redev. (answer may be in another location or less intensity)
- Resiliency in all plans or publicly available

red

- Dev. fees in V₁ area
(should be no dev. in vulnerable areas)

Other Options

CAP, HMP, SP, RP - larger policies

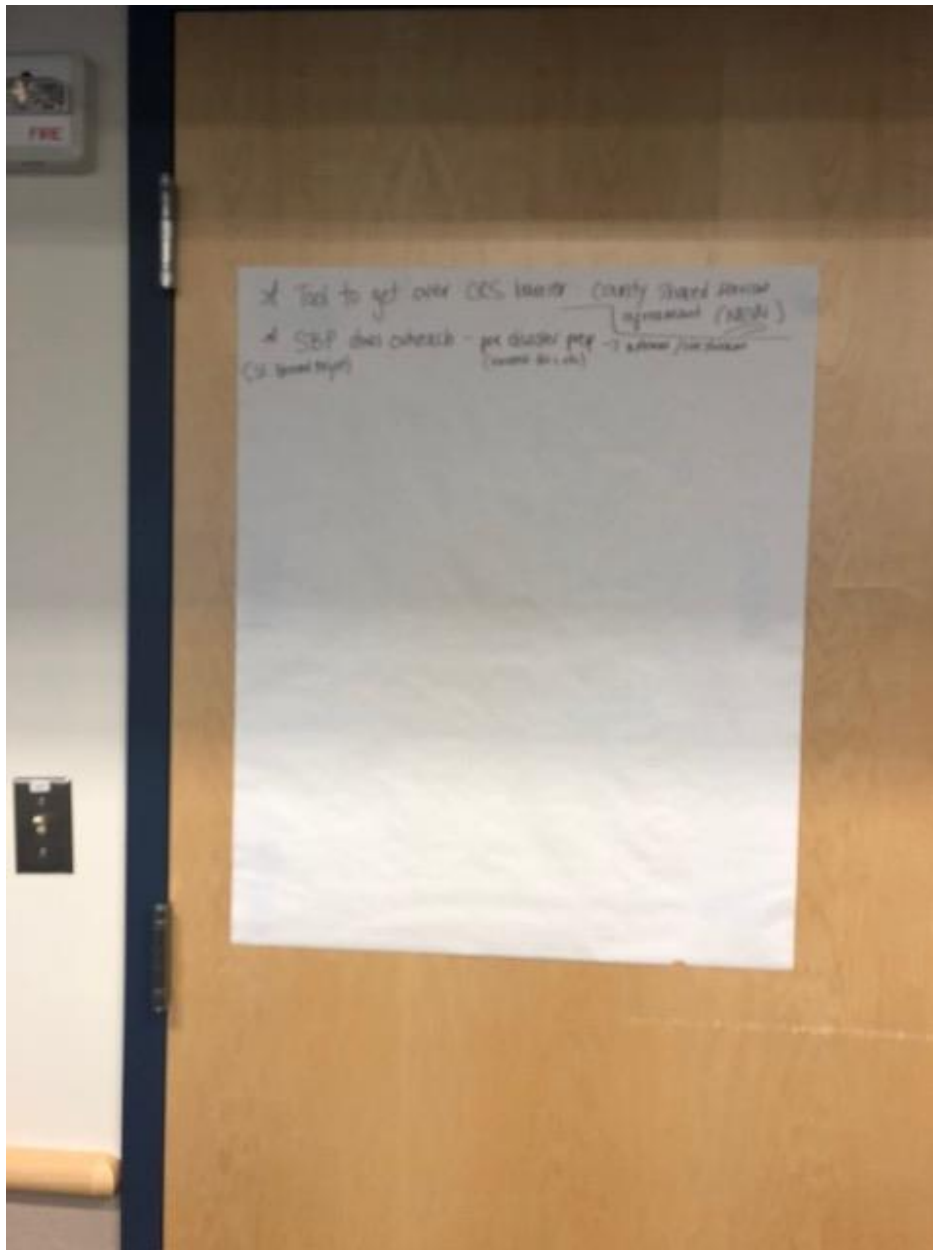
Towns need "disaster ^{type reduction} response in all policies"
ie: resistance elements in open space plan

- Flood Zone Buyouts

RESPONSE SOLUTIONS (NO ROAD & COAD)
Structure of Policy Document

- Require generators for new development. Retain
Food stores & Gas stations

every plan crime to be used by police



* Task to get over CCS board - County Board Review
* SBP does check - per disaster prep - information (18/24)
(18/24) (18/24) (18/24)

URBAN FOREST & TREE
MGMT

S.C. MTBT

MOVEABLE BRDG

raising a Bldg
we don't
this

physically moving building
my not work in certain communities (e.g. Mountain
Branch)

Beech
Nourishment
- Mountain Beech

COASTAL CONSTRUCTION
GUIDELINES

*All that information
local + national reviewed
to inform local preparedness
+ mitigation - look from
others experiences

Wetland
Restoration

Shoreline
has many
wetlands

Two Rivers, One Future

New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (FRAMES)

The Steering Committee's Regional Resilience Goals

"The Regional Resilience Adaptation Action Plan will..."

ENVIRONMENTAL / PHYSICAL

- ☐ Balance Grey and Green Infrastructure – 0.9
- ☐ Prioritize the Use of Nature-based Solutions -0.7
- ☐ Protect Habitats - 0.9
- ☐ Expand Natural Areas/Open Space -0.9
- ☐ Protect Residential Areas – 0.7
- ☐ Improve Stormwater
 - Infrastructure – 0.8
 - Management – 0.8
- ☐ Minimize Erosion - 0.8
- ☐ Improve "Lifeline" Infrastructure Reliability
 - Power – 0.8
 - Water – 0.7
 - Transportation -0.7
 - Healthcare -0.5
 - Wastewater
- ☐ Reduce vulnerabilities of existing facilities and potentially contaminating sites - NEW Wording
- ☐ Increase Sheltering and Evacuation Infrastructure -0.6
- ☐ Ensure Adequate Sheltering and Evacuation Processes – 0.7

SOCIAL

- ☐ Maintain Social and Community Connectivity – 0.6
- ☐ Preserve Regional Character -0.7
- ☐ Increase Communication to the Residents Regarding Flood Risks - 1
- ☐ Ensure Use of Resilience Strategies that are Inclusive – NEW Wording

ECONOMIC

- ☐ Facilitate Sustainable Economic Development Strategies – 0.8
- ☐ Preserve Ocean / Water Dependent Businesses -0.6
- ☐ Utilize Creative Municipal Financing Opportunities - 0.6
- ☐ Connect to Incentive-based Programs (CRS, Sustainable Jersey, etc.) -0.8
- ☐ Maximize the Benefit Cost Ratio -0.7

REGIONAL PARTNERSHIPS

- ☐ Increase Communication Among Agencies and Organizations
 - Federal -0.9
 - State -1.0
 - County – 0.8
 - Regional - 0.9
 - Local -0.9
 - NGOs
- ☐ Increase Utilization of Shared Services - 0.6

APPENDIX J: STAKEHOLDER EVENT #5: DEVELOP COMMUNITY-DRIVEN ADAPTATION PLANNING SCENARIOS - JANUARY 9, 2019

Two Rivers, One Future

New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (FRAMES)

NJ FRAMES Steering Committee, Technical and Constituency Advisory Groups Workshop

Wednesday, January 9, 9:30 a.m. – 12:30 p.m.

Red Hill Activity Center

Tatum Park, Middletown, NJ 07748

Agenda

- | | |
|--------------------------------|--|
| 9:30 a.m. – 9:50 a.m. | Welcome, Introductions, and Project Update
<i>Linda Brennen, Monmouth County</i>
<i>Kelly Pflicke, NJ DEP</i> |
| 9:50 a.m. – 10:10 a.m. | Adaptation Actions to Address Regional Risks: An Overview Presentation
<i>Eric Fang, Perkins Eastman</i> |
| 10:10 a.m. – 10:50 a.m. | Digging into Adaptation Options at the Sub-Regional Level
<i>Group Breakout Exercise</i> |
| 10:50 a.m. – 11:00 a.m. | Break |
| 11:00 a.m. – 11:45 a.m. | Digging into Adaptation Options at the Sub-Regional Level (cont'd)
<i>Group Breakout Exercise</i> |
| 11:45 a.m. – 12:00 p.m. | Report Out |
| 12:00 p.m. – 12:25 p.m. | Group Discussion on Regional Goals and Regional Adaptation Strategies
<i>Eric Fang, Perkins Eastman</i> |
| 12:25 p.m. – 12:30 p.m. | Wrap-up and Next Steps
<i>Kelly Pflicke, NJ DEP and Lisa Auermuller, JC NERR</i> |

Parking, Food, and Other Logistics

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The meeting will be held in the Health Room and the adjoining two classrooms for breakout discussions.

Complimentary refreshments will be provided for participants by Monmouth County and Rutgers University.

Thank You!

Thank you very much for your attendance and help at this event. The NJ FRAMES team recognizes that, in order to be here today, you took extra time out of your regular schedule. We greatly appreciate your willingness to help us and value your input.

Logistics

Project team members, who are able, should arrive at 9 a.m.

Materials Needed	Person Responsible
Agenda	Kelly
Laptop	Matt
Projector	Lisa
Sign-in sheets	Lisa
Name tags and sharpies	Lisa
Table cover	Lisa
Sub regional Posters (5)	PE/LB
Tracing paper, pens	PE
Notepaper, pens	Notetakers
Slide presentations (2)	Kelly, PE
Wifi stick	LB

9:00 – 9:30 Sign-in

Prior to the beginning of the workshop, participants will sign in at a table (provided by Tatum Park) towards the entrance of the room. Participants will receive:

- Agenda
- DEP photo release form

Coffee and tea will be provided by Tatum Park. Lisa will bring additional snacks (fruit/granola bars/trail mix).

9:30 - 9:50 Welcome, Introductions, and Project Update

Linda Brennen welcomes everyone to the facility/room logistics.

Kelly facilitates room introductions and provides project overview/update.

**The room will be setup with a laptop, projector, and screen provided by Tatum Park. Lisa and Matt will bring a backup laptop and projector.*

9:50 - 10:10 Adaptation Actions to Address Regional Risks: An Overview Presentation

Eric provides overview of process for developing draft scenarios and high-level presentation of sub regional strategies.

10:10 – 10:50 Digging into Adaptation Options at the Sub-Regional Level (1st Rotation)

Group breakout exercise to discuss stakeholder feedback on proposed actions. A total of five sub regions with one LB/PE facilitator and one RU/DEP notetaker/assistant facilitator per region (see chart). Kelly/Nick/Liz will float between regions. The two rooms adjoining the Health Room will be used for this exercise. Three rectangular tables will be setup in each room accommodating 25-30 participants per room. There will be one extra table if the project team would like to display other posters/materials.

Sub-Region	Facilitator	Notetaker/Assistant Facilitator
Bayshore	Rose and Bryan	Lisa
Highlands	Bethany	Becky
Navesink	Eric	Marjorie
Shrewsbury	Sunghwan	Matt and Dianne
Sea Bright/Monmouth Beach	Niek	Stacy

10:50 – 11:00 Break

Meeting break. We will also use this time to have the stakeholders rotate to another region when returning from the break.

11:00 – 11:45 Digging into Adaptation Options at the Sub-Regional Level (2nd Rotation)

Facilitators and notetakers stay, participants rotate.

11:45 – 12:00 Report out

Facilitators summarize major takeaways from the group discussions.

12:00 – 12:25 Group Discussion on Regional Goals and Regional Adaptation Strategies

Eric will facilitate a discussion of regional themes heard within the breakout discussions.

12:25 – 12:30 Wrap-up and Next Steps

Kelly and Lisa summarize next steps. Team will work to refine scenarios based on feedback, we will provide an opportunity for stakeholders who missed the meeting to provide written feedback (within in the next 2 weeks??), and then our next meeting will be to present the costs and benefits of these approaches to the advisory groups. Comments/questions, folks should feel free to reach out. THANK GROUP for their time today.

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10:50 – 11:00 Break

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11:00 – 11:45 Digging into Adaptation Options at the Sub-Regional Level (2nd Rotation)

Facilitators and notetakers stay, participants rotate.

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Facilitators summarize major takeaways from the group discussions.

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Attendees

See sign in sheet on page 9.

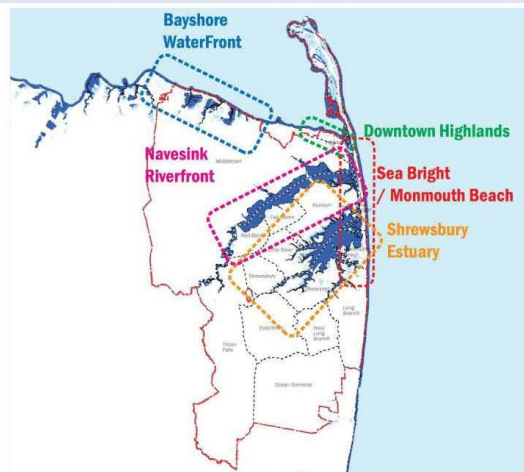
Welcome, Introductions, and Project Update

Linda Brennen with Monmouth County welcomed everyone to the facility and provided room logistics.

Kelly Pflicke with the New Jersey Department of Environmental Protection (DEP) facilitated introductions and provided an update and overview of the NJ FRAMES project. Kelly explained that the goal of the meeting would be to get stakeholder feedback on specific adaptation actions and the spatial application of those strategies, along with broader policies and concepts, for which a regional plan could be built around. Three adaptation planning scenarios were developed by the project team to facilitate this discussion.

Adaptation Actions to Address Regional Risks: An Overview Presentation

Eric Fang with Perkins Eastman provided an overview of the process that the project team used for developing draft adaptation planning scenarios around three themes: “living with the water,” “protecting our communities from the water,” and “moving away from the water.” Eric described how these scenarios were then applied at a sub-regional level for five key areas identified through the risk assessment: Bayshore Waterfront, Downtown Highlands, Navesink Riverfront, Shrewsbury Estuary and Sea Bright/Monmouth Beach (see image to the right). Examples of the different scenarios and related strategies were given for each sub region.



Digging into Adaptation Options at the Sub-Regional Level

Two group breakout exercises were then facilitated across the five sub regions to discuss stakeholder feedback on proposed actions. Participants self-selected which sub region to participate in and were encouraged to rotate to a new sub region at the break. The following are summary notes from these discussions.

Bayshore Waterfront

Facilitator(s): Rose Mary Florian, Perkins Eastman and Bryan Kiel, Louis Berger

Notetaker(s): Lisa Auermuller, Jacques Cousteau National Estuarine Research Reserve (JC NERR)

- When looking into stormwater related actions, back flow prevention devices, specifically with duck bills, are necessary to help reduce tidal flow up and into the storm drains.
- Many of the local creeks need dredging, especially post-Sandy, and help from DEP is needed to obtain permits for these types of projects. Right now, there is a sense that a project like this gets held up in permitting.
 - Beneficial reuse could be a solution for dredging and beneficial reuse of the sediment onto the marsh areas to help protect the marshes.

- Could DEP have a proforma general permit in place so that these types of projects can be done more readily? A permit like this could be structured more like the dune and beach management plans that are done on the ocean/beach front areas.
 - Could beneficial reuse help with the phragmites issues by raising up the elevation of the marshes and returning them to spartina marshes?
 - In some places so much silt is collecting that small marsh islands are forming and hindering the flow of the water.
 - Does it make sense to remove these islands? There are pros and cons.
- Because all the Two Rivers area is closed waters for shellfish, you cannot use oysters for ecologically engineered projects.
 - Oysters may settle on breakwaters naturally as is oyster spat in these areas.
 - Evidence of the vertical relief of the oyster restored areas increasing b/c the oysters are raising the level of the accretion.
 - Oyster castle project happening at Naval weapons station areas with oyster castles. They are permissible there because the onsite security acts to deter poachers.
- There is a current U.S. Army Corps of Engineers (USACE) project underway with a projected full completion by 2022. As part of this (1) pump station is already under construction by a marina. There is a 2nd pump to be built on Main street. The floodgate is completed on Port Monmouth Road and (2) more are to be completed within Middletown.
- Flood ratio ordinances are not applicable in this area b/c having vegetation requirements on properties is hard when the groundwater is already so high. Instead of this ordinance, aiming for less pervious surfaces would make more sense.
- Fishing fleet are often talking about low water at times. They are having a hard time getting out of the creeks at low tide.
- The USACE has done a Cost Benefit Analysis (CBA) for Belford and Leonardo.
 - Current USACE project is 150 million
 - House raising through USACE is too costly – 200k per house
- A Micro grid project with NWS Earle is underway.
 - Middletown submitted a proposal to the BPU to include support of many of the critical facilities along Route 36 (including the Naval Weapons Station).
 - The long-term plan is to expand the micro-grid project and supply the power along the Route 36 corridor as it is a main transportation route.
- Looking at how other places “live with the water”, the Netherlands approach is to let the water in.
 - Could something like this work here with a berm around an area and make it like an open water/lake area? Could this also be used to capture water coming down from the rivers too?
 - There is a park there adjacent to wetlands that water could be “let in there” to accommodate the water quantity. There is a similar project in the Cohansey watershed with American Littoral Society.
- In terms of “moving away from the water”, there is a question about where people would go?
 - People do not want to leave their community, especially their school system. This makes buyouts ineffective here.
 - 85% of the community is already developed. See below about more in terms of redevelopment around Belford.
 - Many of the houses in the area are being raised and will be raised in the future.

- As an example, abandoned properties are being bought up by developers and building new raised homes and selling them for much more money.
- A redevelopment plan has already been created around Belford/the ferry terminal.
 - This has already been adopted by Middletown.
 - The current plan is for development (retail uses and multifamily housing and recreational uses) to occur near the parking for the ferry terminal, which means parking is going to be an issue.
 - Would this change the CBA for the Belford area, especially because the new structures would not be at risk because they would be built to newer standards?
 - On the flip side, property values may increase in the area.
 - What about the fisherman in the area that use the Belford location?
 - How does the redevelopment plan connect with some of the other areas like Route 36 that you might want to protect? For example, do you have to propose re-grading for the main street that connects Route 36 to the redevelopment area?

Downtown Highlands

Facilitator(s): Bethany McClanahan, Louis Berger

Notetaker(s): Becky Hill, DEP

- The ferry terminal is a regional asset. If a scenario was to include methods for planned retreat over a period of time, that scenario should account for the regional need for the terminal.
- It is necessary to know what the options shown in each scenario would cost and need to understand the value that each option would provide, before being able to determine if it is a viable option.
- Options presented should include actions that can be taken in the shorter term.
- Resist structures alone present a problem because precipitation-based flooding would still occur on the landward side of the structure.
 - Even when drainage features are incorporated, there is a feeling that they do not fully serve their intended purpose. Based on the increase in the frequency of extreme rain events, and that groundwater seems to be getting higher from rising seas, resist structures seem to be even less of a viable option. This will mean that all water that accumulates on the landward side of this type of structure will now need to be constantly pumped away.
 - Residents are not protected from current every-day (flooding) events.
 - There are currently no water storage options that could be used if resist structures are put in place.
- Participants felt it would cost too much money to do anything in the area for long-term resilience. If this is the case, what can be done?
 - An idea suggested was that there need to be additional state policies put in place that provide assistance for communities/individuals to move to safer areas, but not provide assistance to rebuild.
- Community conversations about what matters most to them and a long-term plan for how they can do their best to save it is needed, if the option to stay becomes no longer viable.
 - For example, Cape May has a plan to save the history of the town (archiving) because they know it won't exist into the future.
- Over-arching theme from the discussion is the need to move away from downtown Highlands.

Navesink Riverfront

Facilitator(s): Eric Fang, Perkins Eastman

Notetaker(s): Marjorie Kaplan, Rutgers University

- After Sandy, Fair Haven was fueling location for other areas, public works upland, but areas from Sea Bright, Rumson, and other areas came to them because they were all flooded out.
 - Hospital played role in providing power
- The towns in the area work well together but it might be good to think about blue-sky planning to determine if we can improve on preparedness procedures since it was not clear the extent to which agreements or responses are formalized and may need to be at local and/or county level.
- In emergencies, need receiving areas for continuing life services and food, clothing, shelter; i.e., places where doctors and nurses can stay and where residents discharged from hospitals can go if their homes do not have power; places where residents can park cars; places to put downed trees and debris; Need coordinated regional OEM approach on short term or weekly or monthly basis.
- The towns do have some shared services, yet consolidation is not discussed.
- Sending and receiving areas - In theory it makes sense in practice many felt it does not work between municipalities, sometimes it happens naturally, Red Bank is growing, building housing, hospital expanding. Not much vacant land available for redevelopment, may work within a municipality. Nobody has had a conversation about consolidation; a very sensitive issue. The concept of establishing a resiliency district was posited or a TDR bank in the broader region even considering this area as a receiving area for other nearby areas; however, there would need to be substantial incentives to become a receiving district.
- Priorities include NJ Transit (low elevation), the Oceanic bridge (work with the county who is reviewing concept plans for the bridge); Kryllos Bridge; access to the ferries for commutation via the ocean bridge or Sea Bright; Hospital in Red Bank is very vulnerable; Fairhaven dock and boat ramp which are used for emergency access by fire and police.
- Molly Pitcher Inn and Oyster Point Hotel important assets in the region; Red Bank has significant retail/commercial/professional offices in the region.
- Noted as important to protect was the location of the pump station owned by Two Rivers authority and sanitary lines that connect infrastructure along waterfront and four pump stations in Fairhaven.
- Oceanic Bridge: Whatever future coast guard or Federal Highway Administration (FHWA) has regarding vertical clearance on the bridge should incorporate SLR into it if it's a fixed level bridge, but if it's a movable bridge maybe not as much of the structure will be impacted by SLR.
- If coast guard requires set vertical clearance of X and we need to worry about SLR we need to adapt to that rise.
- It is common sense to have coastal construction rules, regarding for example, raising a building above a certain base flood elevation to prevent additional flooding or reconstruction floor to area ratio ordinances that require parking under homes in some areas, when ordinances can prevent flooding and there should be some variance relief for compliance.
- Are there areas where shellfish beds can be installed to reduce erosion along the Navesink and perhaps develop a coordinated approach regionally that would allow oysters or other invertebrates to be used in the area such as mussels to stabilize shorelines?

Shrewsbury Estuary

Facilitator(s): Sunghwan Yoon, Perkins Eastman

Notetaker(s): Matt Campo, Rutgers University and Dianne Crilly, DEP

- After Sandy, there were several different types of infrastructure improvements and repairs that were easier and cheaper to do without the federal grant money. Given the funding coordination and grant management required, some towns decided to undertake projects without grants rather than spend money on the benefit-cost analysis and application processes required to obtain federal funds.

- Permitting processes and engineering for some homeowners to use natural shoreline techniques can take months and costs, in some cases, tens of thousands of dollars. Some residents are not properly maintaining their waterfront infrastructure (usually bulkhead) to be protective against current risk, let alone future risk, which creates hazards for the rest of the neighborhood.
- Approximately 90 - 95 % of waterfront land is private. We need to think about incentive programs to create more protective / natural shoreline infrastructure. Those programs might come in the form of regulatory relief or permit fee incentives if applicants are able to provide natural resource or coastal resilience benefits for themselves and their neighbors.
- Homeowners purchasing at the waterfront are usually comfortable or understand that there is some risk to their property. However, homeowners frequently do not understand the municipal emergency management risk when they expect to be rescued or municipal services to be restored shortly after a flood event.
- The market for waterfront properties in the community was nowhere what it is today 50 years ago
- Backflow preventers (e.g., gates or “duck bills”) work well for reducing tidal flooding on dry days. But when you have a storm/nor’easter, they act as a bathtub and only drain when the tide finally goes down.
- Experiencing frequent inundation of catch basins that were previously not inundated in West Park area of Rumson.
- Many of the islands in Shrewsbury River exist because at some point they were either created from dredging or nourished through dredge materials in the 1930s. There is a proposal from Monmouth Beach to nourish the Sedge Islands for protective benefit. If Monmouth Beach were the lead, it is possible other neighboring communities (such as Sea Bright, Rumson, and Ocean) would get involved as willing partners based on the cost of sending additional dredge material.
- Fort Monmouth would not be recommended as a sending area for at-risk residents in Little Silver and Rumson. Multi-million-dollar waterfront homes, environment and amenities could not be reproduced in that location.
- Recreational economy around the Shrewsbury River is the most critical economy that participants could identify. Individuals travel to public and private access points (marinas, boat ramps, etc.) using the community resources and visiting businesses before and after they spend a day on the water. This amenity, in turn, drives up the value of waterfront property and access to the river as an amenity.

Sea Bright/Monmouth Beach

Facilitator(s): Niek Veraart, Louis Berger

Notetaker(s): Stacy Krause, Rutgers University

- Because they are prone to flooding, large condo complexes built on slabs will continue to be an issue for owners and the municipality.
- There are no incentives for towns to retreat, as new development or redevelopment will happen with bulk headed condos with small greenspaces, when they likely should not be developed at all.
- Even if storms get more intense or happen more often, or impacts from sea level rise are seen, these towns will likely adapt to become summer destinations only, if one route in and out is maintained.
- Where bulkheads exist, water comes through the storm drains creating a bathtub effect if the pumps are not kicked on soon enough or underperform.
- Post-Sandy, Sea Bright attempted to get local businesses to buy into a whole elevated business district but there was too great a fear of losing a season. The district does not have a cohesive floodproofing plan/method. An Army Corps study indicated 2 business locations where deployable flood barriers could be used, but these 2 locations are private and would need to pay for this themselves.

- Tax payer money to protect the beach clubs, a majority of which are privately owned businesses, is not preferred, as they did not miss a summer post-Sandy and can obviously afford to rebuild and/or protect themselves, especially since members are generally residents of other towns.
- A flood gate at the Highlands may protect a larger Bayshore area but the issues become money for maintenance, impacts on the ecosystem, who on the other side may be impacted (being a good neighbor), access by boats, the aesthetic look/appeal (which is important to locals and tourists), etc. It was decided that perhaps along with other methods a flood gate may work to reduce flooding, but it alone should not be a fix-all. This could change if in the future a cost-benefit analysis determines that the price of the sea wall would be less than repairing continuous damage/loss from floods.
- A general consensus that TDR will not work for the subregion. Group said there was not only nowhere in the towns to move to, but residents did not want to move out of town, they have a personal and cultural connection to their town
- Need a cohesive business district floodproofing plan.

Report out

Facilitators and note takers summarized takeaways from the group discussions, such as:

- Total water levels should be added to the maps
- Final scenarios would need to be a combination of all alternatives
- Some towns do not have the technical capability or the appropriate guidance on how to put together a benefit cost analyses needed to inform decision-making, some communities do, but see it as a waste of time and money to spend on administration rather than actual project activities and costs.
- Backflow preventers in low lying areas of the region, such as in the Shrewsbury sub region, can work to prevent tidal flooding but not during storm events, where they act as a bathtub and drain only when the tide goes down.
- There are inconsistent standards for bulkhead design among communities. Communities that have tried to go higher were unable to get standards that are more stringent. Recommend 9ft but residents do not want that.
- There is a need to perform a complete bulkhead inventory in Sea Bright and likely other communities in the region. Sea Bright received a grant to inventory their bulkheads, but it was limited to bulkheads on public property and to ensure public access, ADA accessibility, and multi-use areas via a boardwalk on to, etc.
- Home elevations are already happening in areas of the region (e.g. Sea Bright) and will continue to occur. Homeowners unable to elevate are left with extremely high flood insurance premiums
- Municipal land use strategies should ensure that neighbors do not negatively impact each other's investments. For example, if a hard infrastructure is installed next to a living shoreline it may negatively impact those natural areas. Ensuring cross municipal and regional coordination on land use policies is important to ensure that uses do not conflict or create negative externalities for the broader region.
- Some participants were supportive of a regionally adopted real estate disclosure policy that would go beyond minimum federal disclosure requirements. Supporters felt such a policy would level the playing field and bring awareness to new residents who are still unaware of flooding issues.
- The acceptability of strategies that encouraged "moving away from water" varied among participants of each sub region. Generally speaking, at this time, there is not widespread support for taking

immediate actions to move away from the Two Rivers region. Residents have a deep connection to the local culture of living by the water and all it entails. However, there were discussions that discrete areas of the region may, over time, transition to more seasonal locations rather than host year-round residents. For example, when community tax dollars are unable to meet the demands of maintaining public infrastructure and services.

- A suite of education, technical assistance, and incentives programs are needed for the region and participating communities to adapt.
- Because the Navesink and Shrewsbury Rivers are closed waters for shellfish, you cannot use oysters for ecologically engineered projects; but there was an interest in working with all interested parties in the state to develop an approach that would allow for it.
- There was consensus among participants that there is too much sediment in all streams and channels. Groups felt that sediment could be put to good use for the benefit of the region, but it's a bureaucratic nightmare to dredge, dewater, and move the material depending on how/where it is coming from and what it is suitable for.
- Marsh restoration and the creation of marshes is not typically a function of private homeowners, however, the enhancement of nature-based features in the region could benefit homeowners.
 - There was a discussion of the need for better coordination at the state and federal levels on regional dredge material management – where there could be benefits to the use of dredge spoils to restore and create marsh areas for regional resilience benefits.
 - At a municipal or private property owner scale, setback requirements could be changed to allow for the migration of marshes. These policy changes could be paired with technical assistance and incentives for local homeowners to implement natural shoreline alternatives rather than bulkheads, which allow for migration while maintaining some protective characteristics.
 - Private waterfront homeowners have money to spend but hate spending it on an inefficient process. DEP could be very successful with incentives that leverage technical assistance, preferred permitting processes, and other "process" based incentives to transform areas that are privately held.
- After Hurricane Sandy, participants felt that it was common sense to have new coastal construction rules, which adjusted building heights to allow for raising buildings above Base Flood Elevation (BFE) to prevent additional flooding.

Wrap-up and Next Steps

Kelly summarized next steps. The project team will work to refine the draft adaptation planning scenarios based on feedback received today and will also follow up to provide an opportunity for stakeholders to submit written feedback within the next two weeks or so. The next meeting of the advisory groups and the steering committee will be to present the costs and benefits of the scenarios and the various mitigation actions in late spring. Additional outreach with the public will follow and will be used to share and receive feedback on the scenarios. If stakeholders have comments or questions, they should not hesitate to contact the project team.

Written Comments Received After the Meeting

Comments received after the meeting are included and start on page 11.

Two Rivers, One Future

New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (FRAMES)

MEETING SIGN-IN SHEET

Meeting Date: January 9, 2019
Place/Room: Red Hill Activity Center, Tatum Park, Middletown, NJ 07748

Name	Title	Organization	Email
Kelly Pflücke	Senior Planner	DEP	Kelly.pflücke@dep.nj.gov
Nick Angerme	Occup	DEP	
Loa Auermuller	JCWERR	JCWERR	auermulle@marine.rutgers.edu
Stacy Krause	Research Assoc.	RU	permaes@glb.vtgera.edu
Jack Heide	Comm. Planner	FEMA	john.heide@fema.dhs.gov
BILL KASTNIR	EXEC. DIR.	MCF	WKA@TWINRIVERS MORMOUTHCONSERVATION.ORG
Tom HERRINGTON	Assoc. DIR	UCF MORRISTOWN	therrington@mormouth.edu
CAPT M. Modjeski	Hab. REST. Program Director	Am. Lit Soc	alek@l.thualsociety.org
Murphy Kaplan	Assoc. Director	Rutgers Climate Inst	Kaplan@envsci.rutgers.edu
JOSEPH A. GIDONIS	P.M.	CME ASSOC	JGIDONIS@CMEASSOCIATES.COM
HANK KLEM	Ocean DPW		HKKlem@oceantwp.org
Tracey Berkowitz	Twp of Ocean Land Use Assist	Township of Ocean	tberkowitz@oceantwp.org

Name	Title	Organization	Email
Laura Kerr	Research Engineer	Stevens Inst. of Tech	LKerr@Stevens.edu
Erik Anderson	Mayor	Shrewsbury	eanderson@shrewsburyboro.com
Dennis Blazek	CTLO	NWS Earle	dennis.blazek@navy.mil
David Marks	Engineer	Thompson	DMARKS@THOMPSONSUNV.ORG
Sheila Hirtre	For Mng Ops	Riverview Med Ctr	Sheila.Hirtre@hackensackmeridian.org
Nicolas Poruchynsky	Engineer	Fair Haven	nporuchynsky@fhbar.net
Pete Rowe	Assoc. Dir.	NJSGC	prowe@njseagrant.org
Tony Mercantini	TWP. Admin.	Middletown	AMercanti@MiddletownNJ.org
Linda Brennen	Superior Planning	Mon. Co. Planning	Linda.Brennen@co.monmouth.nj.us
Kim Jungfer	Administrator	Little Silver	kjungfer@littlesilver.org
Peter Blair	Esq.	Clean Ocean Action	Pblair@CleanOceanAction.org
Kendall Kellen	Policy Fellow	"	KKellen11111
Glenn Carter	Planning Dir	Borough of Red Bank	gcarter@redbanknj.org
Dina Long	Mayor	Sea Bright Borough	dlong@seabrightnj.org
Mike Oppersand	Coordinator	Monmouth Co. Gen	moppersand@monmouthnj.org

Stakeholder Name	Affiliation	Advisory Group	Reference	Comment
Kempf, Brian	NJAFM	CAG		The total water level mapping has been very useful for clearly illustrating the impacts of inundation. My concern is that the permanent inundation areas shown in the posters are already mapped Special Flood Hazard Areas, and that when these areas are permanently inundated the Special Flood Hazard Area will extend further inland and upland. Adaptation measures should consider addressing future flood hazards to areas not mapped in this exercise, that is, the areas that will likely be flood zones in light of two or more feet of SLR. With the study neighborhoods facing permanent inundation by 2100, there will be a need to address mitigating flood damage to properties that are not yet in today's SFHA or 500-year zones. Today's study areas may well be the location of tomorrow's flood protection infrastructure.
Kempf, Brian	NJAFM	CAG		In a similar vein, the permanent inundation of the barrier islands will likely expose the Study Areas to direct ocean wave action and erosive impacts far beyond that which is currently experienced. To what extent beach replenishment or other protection efforts continue (if they do) should be addressed.
Kempf, Brian	NJAFM	CAG		I'm concerned with the viability of increasing bulkhead heights as a mitigation/adaptation measure. Because much of the waterfront's bayfront study area is privately owned, the replacement of bulkheads is and likely will be a piecemeal process unless a group like the Army Corps steps in. One property's increased bulkhead height can help prevent wave damage to that property but does not address inundation unless the area behind the bulkhead is elevated or the line of protection provided by the bulkheads is complete and height is consistent. Communities have a difficult time replacing bulkheads through existing funding sources (i.e. FEMA grants), partially for this reason. Provisions should be made to ensure that bulkhead replacement is holistic and provides a clear level of protection.
Kempf, Brian	NJAFM	CAG		Coastal fill is controversial but still permitted; I believe the plan should address provisions for fill- whether it be prohibited moving forward or otherwise. Individual property owners and local governments may continue to construct buildings or streets on fill and some are doing so already. Piecemeal fill may complicate larger-scale adaptation measures. Some areas may be candidates for coastal filling owing to a concentration of assets whereas others are targeted for acquisition.
Sikand, Mike	Oceanport	SC		Developed conceptual plan to protect 10 communities by extending the "shrewsbury seawall" (Sea Bright?) and tie to Highlands with a dike. Mentioned that this was adopted into the County HMP and into Army Corps plans for the region. Wants to know status of that project and also wants it reflected in NJ FRAMES scenarios. <i>(Is this reflected in the Shrewsbury Estuary - Protecting our Communities from the Water scenario?)</i>
Marks, David	Rumson	TAG	Navesink Riverfront: Page 36 of 48	1. Rumson has two Marinas near the Oceanic Bridge. They should be identified under Economic Development category.

Stakeholder Name	Affiliation	Advisory Group	Reference	Comment
Marks, David	Rumson	TAG	Navesink Riverfront: Page 36 of 48	2. The business district on West River Road should be identified in Rumson under the Economic Development Category. They are important to the community.
Marks, David	Rumson	TAG	Navesink Riverfront: Page 36 of 48	3. Victory Park should be identified in Rumson. It is an important recreation asset to the community.
Marks, David	Rumson	TAG	Navesink Riverfront: Page 37 of 48	4. Replacement of Monmouth County Bridge S-31 (Oceanic Bridge) should consider sea level rise scenarios over the life of the structure. This should include approach roadways in both Rumson and Middletown. I defer to Monmouth County for further comment.
Marks, David	Rumson	TAG	Navesink Riverfront: Page 37 of 48	5. Before we discuss elevating roadways (at least in Rumson), we need to better understand the area's topography, stormwater drainage system, private property constraints, and environmental permitting obstacles. The streets/areas may be identified, but qualifiers need to be put in place for any recommendations. The general public will not understand the mechanics behind elevating a roadway and could demand the municipality take action on something that is unfeasible due to physical constraints or cost.
Marks, David	Rumson	TAG	Navesink Riverfront: Page 37 of 48	6. Barley Point Road in Rumson is a private road that serves the Barley Point Island community. Please add an identifier that its private. It currently has an orange number 1.
Marks, David	Rumson	TAG	Navesink Riverfront: Page 37 of 48	7. The Rumson Municipal Boat Launch should get an infrastructure number designation. I am working with ACOE and Monmouth University on flood proofing improvements. Email to USACE is attached. No response yet from the Corp. [See email attached to transmission of comments]
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 39 of 48	8. What do the purple housing regions represent? I understand they are housing, but why are the regions not consistent with SFHA? Are they tied into an inundation level?
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 39 of 48	9. The main sewer pump station for Rumson is located at the eastern end of Grant Avenue. We pump upwards of 1.9MGD of sewage to Two River Water Reclamation. I'm sure other towns have similar critical infrastructure facilities.

Stakeholder Name	Affiliation	Advisory Group	Reference	Comment
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 39 of 48	10. I don't think the Rumson Country Club should be identified as a natural Resource, let alone a park. It is a private Country Club. Maybe it could be considered Economic Development...
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 39 of 48	11. I recommend the Sedge Island identified be revised to read "Sedge Islands" and include Gunning Island south of Rumson.
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 39 of 48	12. Rumson Road is an evacuation route. It should be identified as an asset.
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 39 of 48	13. The bridge labeled "Monmouth Boulevard Bridge" is actually "Pleasure Bay Bridge". It is one of the MC bridges connecting Oceanport to Long Branch.
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 40 of 48	14. What do the orange dots along portions of the waterfront represent?
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 40 of 48	15. I don't think we can include the Rumson CC in an open space/recreation plan. It is a private CC.
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 40 of 48	16. The Sedge Islands and Gunning Island should be included in a Green Infrastructure Plan
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 40 of 48	17. For Rumson, there aren't any roads identified for elevation... The West Park neighborhood, Shrewsbury Drive, Oyster Bay Dr, generally anything south of Rumson Road should be included. That said, as I noted above, before we discuss elevating roadways, we need to better understand the area's topography, stormwater drainage system, private property constraints, and environmental permitting obstacles. The streets/areas may be identified, but qualifiers need to be put in place for any recommendations. The general public will not understand the mechanics behind elevating a roadway and could demand the municipality take action on something that is unfeasible due to physical constraints or

Stakeholder Name	Affiliation	Advisory Group	Reference	Comment
				cost. I think this would hold true for Monmouth Beach, Oceanport, Little Silver... That should be vetted with those towns.
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 40 of 48	18. Maybe elevating the roads is not the answer, maybe flood proofing with Stormwater pumping is more cost effective...
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 40 of 48	19. Seven Bridge Road floods regularly at a number of locations. I know Little Silver is working with Monmouth County. I think the those areas should be identified.
Marks, David	Rumson	TAG	Shrewsbury Estuary: Page 40 of 48	20. The south waterfront of Rumson is a combo of bulkheads and natural waterfront. Sections could be good candidates for a green infrastructure plan. Generally all are private residential property.
Marks, David	Rumson	TAG		That's about it for now. If you want to have a break-out discussion on these items, please let me know. I'd be happy to provide my insights from a technical/everday side of things... I'd also be curious to know what other towns have to say. Some of those ideas could be helpful throughout the region.
Comi, Meredith	NYNJ Baykeeper	CAG		Great presentation-very clear. For the Bayshore plan I'd love to see as much living shoreline/green infrastructure as possible in the areas that aren't already slated for ACOE projects. Has any thought been given to outfitting walls, etc. with fish huts and other enhancement units such as rock pools? Biohabitats and Stevens has done a lot of this work. Residents along the Baykeeper often express their desire for greener options.
Comi, Meredith	NYNJ Baykeeper	CAG		Also I'm curious about retreat-I believe in some places this is the only answer. Is the Blue Acres program still a thing at DEP? I'm sort of out of the loop on that stuff.
Gonzales, Kim	Highlands	SC	Highlands: Page 34 of 48	Notes included in presentation: Under Infrastructure, added: bulkheading, improvement to the coastal evacuation route Bayside Drive, Pump/outfall improvement, replacement of current bulkheading (see map for location of infrastructure suggestions).
Gonzales, Kim	Highlands	SC	32 of 48	Make sure to change all references of "Highland" to "Highlands" throughout presentation

Two Rivers, One Future

Resiliency Planning Open House

Wednesday, July 10th
4:00 pm - 7:00 pm

Middletown Arts Center
36 Church St
Middletown, NJ 07748

🕒 Stop in any time between 4 pm and 7:00 pm

☕ Refreshments will be served.

👨👩👧👦 This event is family-friendly, so bring the kids!

💧 NJ FRAMES is working with the 15 towns surrounding the Navesink and Shrewsbury Rivers to identify ways to reduce the risks and the impacts of future flooding.

Come learn about the project and how you can help make the future of your community more resilient!

New Jersey Fostering Regional Adaptation through
Municipal Economic Scenarios (NJ FRAMES)

www.nj.gov/dep/oculp/njframes.html

🐦 #TwoRiversOneFuture

✉ njframes@dep.nj.gov



NJ FRAMES July 2019 Public Open House
Event Plan

Date and Time

July 10, 2019
4:00 pm to 7:00 pm

Location

Middletown Arts Center Gallery
36 Church St
Middletown, NJ 07748



Figure 1 Middletown Arts Center Gallery in Middletown, NJ

Goal

Collect qualitative and quantitative feedback from stakeholders and residents to inform the steering committee's final scenario selection.

Objectives

1. Increase awareness of the project;
2. Reaffirm or adjust understanding of resident perspectives and values on a resilient Two Rivers region;
3. Collect reactions to the scenarios;
4. Gather feedback on critical tradeoffs within/between scenarios;
5. Gather information on any critical missed opportunities or projects;
6. Communicate remaining timeline and opportunities for public participation; and
7. Inquire about feedback on how the scenarios and/or strategies should be implemented; timewise and process-wise

Open House Stations

Welcome Table: Upon entering the open house, guests will sign in at the welcome table. We will ask for name, township of residence or work location, email address, and whether they are stakeholder or general public. After signing in, attendees will receive an information packet that will guide them through the format of the open house and help them to understand the three scenarios that they will explore in subsequent stations. The packet will:

- List the open house stations
- Summarize the importance/context of the project
- Summarize the sea level rise and flooding projections
- Summarize the three scenarios
- List the project goals
- Define unfamiliar terms used in the project maps
- Point attendees to an online comment option

Materials	Who is responsible?
Sign-in sheet	RU-POET
Table	Venue
Table cover (branded)	JC NERR
Pens	DEP
Information packets	RU-POET
Name tags for event staff	RU-POET
Sharpies	RU-POET
Informational signage re photography at event	Rutgers-POET
Staff	Miriam Salerno

Station 1: Background Information and Project Overview (Objectives 1,6)

This station will provide background information about the NJ FRAMES project, including the project timeline and project goals. Project team staff will be on hand to answer questions and give participants a quick orientation to the rest of the activities in the room. Project staff can remind attendees that they also can give feedback online.

Materials	Who is responsible?
Large printed map of TR region	DEP
Presentation with background info, goals, and engagement schedule	DEP
"Station 1" Poster or sign	Rutgers-POET
Easels (2)	JC NERR
Table	Venue
Table cover	DEP
Laptop (with overview presentation on loop)	WSP (DEP to bring presentation)
Staff	Kelly Pflicke/Lisa Auermuller/Becky Hill

Station 2: What's at Risk? (Objectives 2,3)

Station 2 will display information on sea-level rise and flood projections, as well as how projected water levels will impact important assets in the region (incorporating findings from the no action scenario

where possible). Those interested in learning more about the Map what Matters asset collection will be able to view detailed asset maps on a laptop.

Materials	Who is responsible?
3 Flood Maps (2030, 2050, 2100)	WSP
Laptop computer (with online Asset Mapper)	Matt Campo
Clipboard	Rutgers-POET
"Station 2" Sign	Rutgers-POET
Easels (3)	Rutgers-POET
Café Table	Venue
Staff	Matt Campo/Jessica Jahre

Stations 3, 4, 5: 2030, 2050, 2100 Scenarios (of Living with the Water, Protecting from the Water, and Moving Away from the Water) (Objectives: 2,3,5)

This area will include three stations where each of the scenarios will be displayed for feedback. Each scenario station, grouped by decade (2030, 2040, 2050), will have three maps: one for Living With, one for Protecting From and one for Moving Away. If possible, Rutgers will compile (1) binder with precedent photos of sample strategies to be deployed (e.g. photo of living shoreline) for reference with participants. Participant's welcome packet will also include descriptions of these scenarios and information on key features/strategies to be deployed for each scenario.

Two to three project team members will be present at each station to manage discussion and answer questions. At least one team member should capture notes of large takeaways.

Feedback Question: Are the future Two Rivers region community places that you would want to live in the future?

1. Why / Why not?
2. Encourage discussion of specific comparisons and trade-offs between the alternative future visions for the region.
3. Do you have any areas for confusion / clarification from the project team?
4. For technical attendees
 - a. Do you think this is technically feasible? What are the major enablers / barriers?
 - b. Do you think that regulations would allow something like this? What are the major enablers / barriers?

Feedback Collection Method: At each station, participant can fill out a comment card with:

- a question or comment on a scenario
- Project staff at each station should hand individuals comment cards as they approach the station, that way attendees can write as they are speaking to our staff (if they wish).
- Project staff will use the prompts above to drive individuals to write their thoughts down on the cards. The most important question to have covered by each attendee are the top 3.
- If they DON'T live in the region, it is likely that they may be on one of our advisory committees, from a visiting agency, or a host of other places. In those cases, staff should focus on the topics of technical feasibility, regulatory feasibility, project barriers or enablers, etc. These prompts are ONLY for those that attend that we assess can speak to them.

Ballot boxes will be provided for each scenario station to collect comments/suggestions/questions.

Comment cards will be assigned with a specific color for each year, attendee could carry their 2030 and 2050 cards around with them to the 2100 discussion and place them all in that box without us having to worry about it when we empty the boxes.

Materials	Who is responsible?
Sub-regional alternatives poster boards (9 total – 3 scenarios, 3 maps each)	WSP
Clipboards (3)	Rutgers-POET
Comment cards	WSP
Pens	DEP
Ballot boxes	Rutgers-POET
Markers	Rutgers-POET
“Station 3, 4, 5” Posters	Rutgers-POET
9 Easels	Rutgers-POET (5) WSP (4)
6 Staff (2-3 staff required for each, 1 being a designated notetaker)	WSP/PE + DEP
Station 3: 2030 (live with, protect from, move away)	Bryan Kiel + Kate White
Station 4: 2050 (live with, protect from, move away)	Jonathan Carey, Sunghwan + Alexis Taylor
Station 5: 2100 (live with, protect from, move away)	Rose Florian + Michael Kolber
Floater	Rob VonBriel
Floater	Debbie Voelbel

Station 6: Wrap up

The purpose of this station is to provide participants with information on next steps in the NJ FRAMES project, when to expect a final plan document and further opportunities to participate in the process. This station will also provide information on how to give input online and who to contact for more information.

Materials	Who is responsible?
“Station 6” sign	Rutgers-POET
Fun coastal backdrop	JC NERR
Additional copies of participant information packets	Rutgers-POET
Project team business cards/contact information	DEP, RU, WSP/PE
Table	Venue
Table cover	DEP
Magnets	DEP
Staff	Sarah Tomasello + Marjorie Kaplan

Press Contact: All inquiries from the press must be directed to Nick Angarone, who will be a floater at the event.

Timing and set up: DEP general services staff will support set-up and break-down of the event stations. Project team staff will also be on hand to assist with event set-up and should plan to arrive no later than 3:15 pm.

Kids' corner: Simple kids' activities will be provided for those participants that attend with children. Rutgers-POET will provide coloring pages, activity sheets, and crayons.

Materials	Who is responsible?
Table	Venue
Table cover	DEP
Coloring books	Rutgers-POET
Crayons	Rutgers-POET
Staff	Marc Rogoff + Lisa Avichal

Refreshments: Because the open house is in the evening, the event will include light refreshments for participants and stakeholder advisory committee members. A local restaurant, Florentinos in Middletown, can provide the following at a reasonable cost:

- Cheese Platter - \$60
- Crudit  - \$39
- Mozzarella Platter - \$48
- Fruit Platter - \$55
- 2 Stuffed break platters - \$80 each

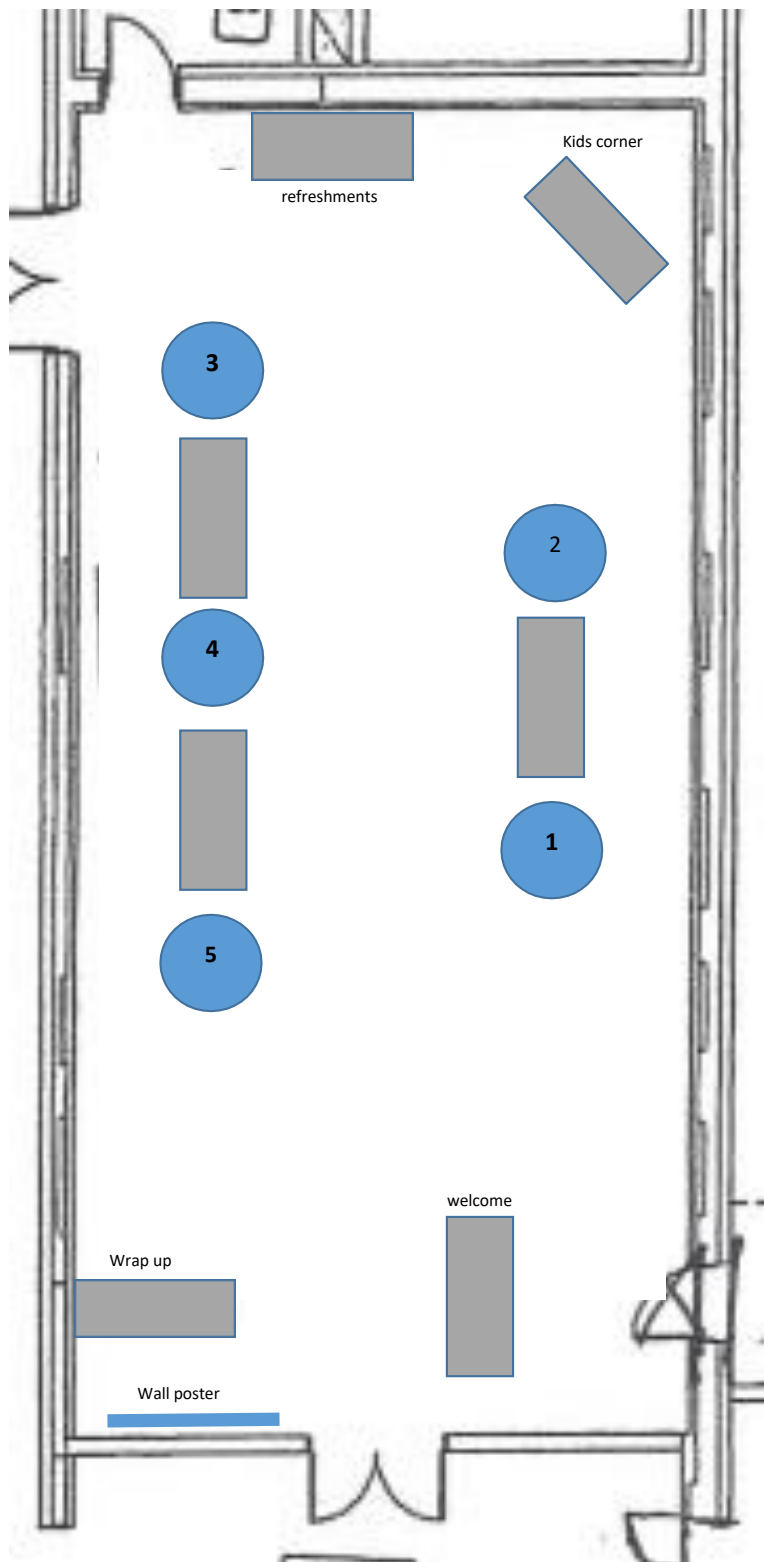
The restaurant's full menu is available here: http://www.florentinos.com/pdf/complete_menu.pdf).

Materials	Who is responsible?
Table	Venue
Staff	Stephanie McAlary

Staff List:

STAFF NAME	ASSIGNMENT
Nick Angarone	Floating/Press Contact
Stephanie McAlary	Floating/refreshments
Lisa Avichal	Kids' Corner
Marc Rogoff	Kids' Corner
Kelly Pflicke	Station 1 – Background/Floater
Becky Hill	Station 1 - Background
Lisa Auermuller	Station 1- Background/Floater
Matt Campo	Station 2 – What's at Risk
Jessica Jahre	Station 2 – What's at Risk
Rob VonBriel	Station 3, 4, 5 - Floater
Debbie Voelbel	Station 3, 4, 5 - Floater
Bryan Kiel	Station 3 - 2030
Kate White	Station 3 – 2030
Jonathan Carey	Station 4 – 2050
Sunghwan Yoon	Station 4 – 2050
Alexis Taylor	Station 4 – 2050
Rose Florian	Station 5 – 2100
Michael Kolber	Station 5 – 2100
Sarah Tomasello	Station 6 – Wrap up
Marjorie Kaplan	Station 6 – Wrap up
Miriam Salerno	Welcome/Sign-in

Room Layout:



Two Rivers, One Future



Open House Information Guide

July 10, 2019
Middletown Arts Center Gallery

NJ FRAMES Project: Fostering Regional Adaptation through
Municipal Economic Scenarios

Open House Information Stations

Station #1: Project Background

Get an overview of resilience planning in the Two Rivers region.

Station #2: What's at Risk?

Learn about sea-level rise and future flooding levels; see what places and infrastructure are exposed.

Station #3: 2030 Scenarios

View maps and ask questions about 3 scenarios for regional resilience in 2030.

Station #4: 2050 Scenarios

View maps and ask questions about 3 scenarios for regional resilience in 2050.

Station #5: 2100 Scenarios

View maps and ask questions about 3 scenarios for regional resilience in 2100.

Station #6: Wrap Up

Learn about other opportunities for giving feedback.

Give your feedback online!

Staff will be collecting your comments during the open house, but you can also give feedback online. Visit:

www.tworiversonefuture.nj.gov

About the Project

The NJ FRAMES (Fostering Regional Adaptation through Municipal Economic Scenarios) project is a regional and collaborative effort to understand and address our future flood vulnerability. The result of the project will be a long-term resilience plan for the 15 municipalities surrounding the Navesink and Shrewsbury rivers. This plan will identify ways our communities can reduce risks and impacts together.

The New Jersey Department of Environmental Protection Coastal Management Program leads the program in cooperation with the Two Rivers Council of Mayors. NJ FRAMES is funded by a grant from the National Oceanic and Atmospheric Administration (NOAA).

What is resilience?

Resilience is our community's ability to return to normal after a flood. We can reduce damage from future coastal floods and allow our communities to quickly return to normal by making changes and preparing for the future. Making our communities more resilient also reduces the inconvenience and impacts from chronic tidal flooding.

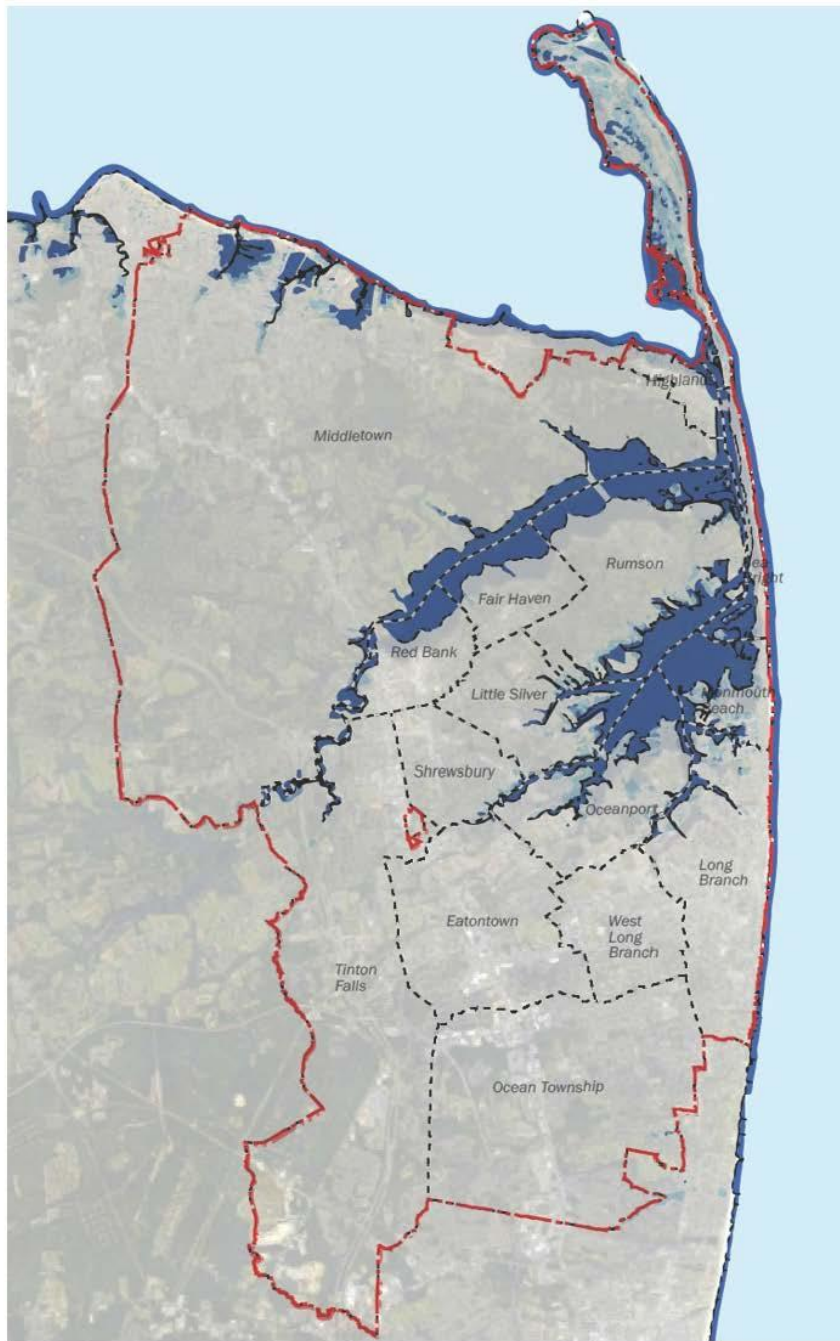
Why plan for resilience?

Changes that improve our community's resilience to floods and sea-level rise take a long time to implement. The first steps include learning where our community is most vulnerable to flooding now and in the future, and planning for ways that we can reduce the risk of flood damage or floods that harm our communities.

Why plan at the regional level?

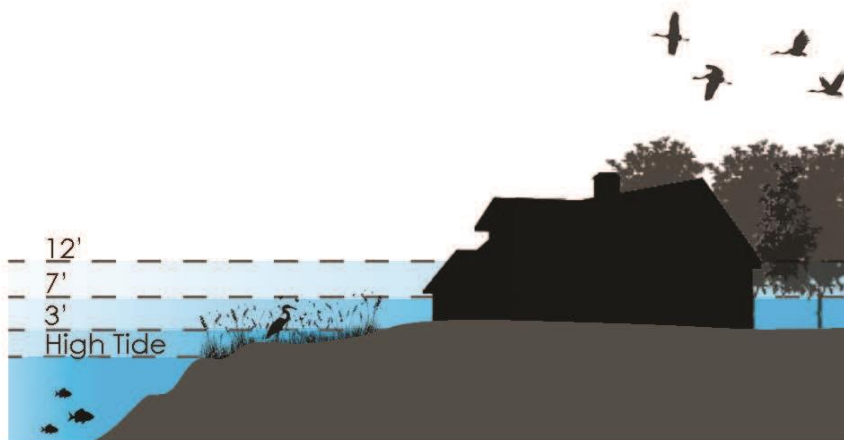
Floods don't pay attention to municipal boundaries. A regional plan will coordinate engineering, planning, land use, conservation, and economic development in ways to improve flood resilience.

NJ FRAMES Project Area Map



Future Water Level Projections

The NJ FRAMES project is assessing vulnerability by examining how the combined impacts of flooding from sea-level rise and storm events will affect the Two Rivers region. Researchers are using 3 feet, 7 feet, and 12 feet above mean higher high water as part of the planning. By planning and preparing now for these water levels, we can become more resilient to future storms and flooding while reducing future recovery costs.



Scenario Planning in the Two Rivers Region

What is scenario planning?

Scenario planning is a tool used to develop a suite of options, or scenarios, for communities to consider when planning for the future. The process often begins by defining present-day conditions, collecting information about possible future conditions and concluding with a presentation of various future outcomes. When reviewing these options, planners may then develop a series of projects or policies to support part or all of the presented scenarios.

In the NJ FRAMES project, the three scenarios developed are specific to the Two Rivers region and include regional and municipal actions for flood risk reduction. The three scenarios are:

LIVING WITH WATER

**PROTECTING OUR COMMUNITIES
FROM THE WATER**

MOVING AWAY FROM THE WATER

SCENARIO: MOVING AWAY FROM THE WATER

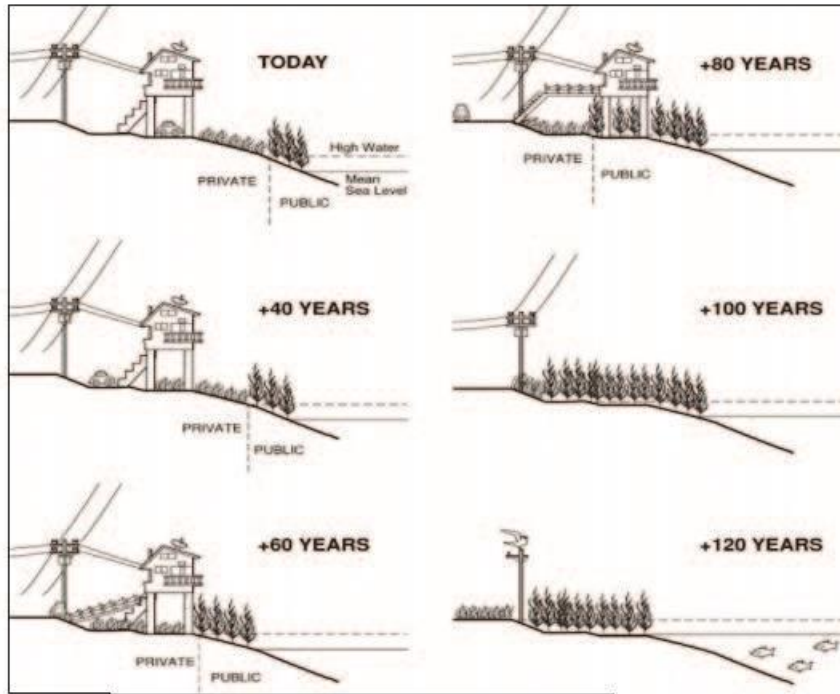
One way to respond to rising seas and more frequent flooding is to encourage property owners to not build in or relocate away from vulnerable areas through regulatory measures or incentive programs. Public facilities and infrastructure are relocated as well. Moving away is difficult, but there are policy and planning tools that can make the process of moving away from water fair and orderly. These include:

Intergenerational Transition The transition away from vulnerable coastal areas would occur over time, or intergenerationally. For example, when a family living in a vulnerable area decides to move away, or if a homeowner passes away, the family would have the option to transfer/sell their property to a public authority or not-for-profit entity for the purpose of conserving the land. Governments can use rolling easement policies to gradually transfer land from private to public ownership as the land becomes submerged over time.



Natural habitat elements like sea grass are planted to develop a living shoreline.

Back to Nature The public authority would facilitate the conversion of vulnerable, developed areas to different uses. The land may be converted to a living shoreline composed of natural habitat elements that can absorb the impacts of flooding and erosion caused by future storms. The land may also transition to a more passive or recreational space as the waterfront shifts inland.



This graphic illustrates how a rolling easement policy works over time to gradually transfer submerged land from private to public ownership.

Moving to Higher Ground The region would work together to identify areas ready to accommodate more development and higher densities, through the designation of “receiving districts,” for residents who would like to move away from vulnerable areas but stay within the region. Governments can use planning tools, such as Transfer of Development Rights, to transfer the development density allowed in a vulnerable coastal area to another, pre-designated area. These pre-designated areas would be identified and planned well before any residents move.

SCENARIO: LIVING WITH WATER

In this scenario, communities strive to keep residents on their properties by using strategies that adapt buildings and public infrastructure to rising seas and frequent flooding. Communities would implement strategies that prioritize building and infrastructure raising and green infrastructure to adapt to frequent water events.



This rendering illustrates a possible design for a raised sidewalk.

Raise buildings, utilities, and infrastructure Towns would encourage property owners in vulnerable areas to raise their homes or commercial properties to heights above projected total water levels. Towns would work with county and state officials to raise roads and sidewalks that could be exposed to a 7' flood event where needed. The NJ Department of Transportation would work with the county to evaluate raising bridges that span the region's many waterways to protect infrastructure exposed to a 12' flood event. NJ TRANSIT would

consider raising the rail bridges that carry the North Jersey Coast Line in a similar manner.

Green infrastructure Green infrastructure enhances and restores the natural flow of water through an ecosystem. Green infrastructure strategies include the expansion of wetlands in the Bayshore, implementation of living shorelines, and land conservation policies and practices that encourage natural use of lands.

Harden public utilities Utility authorities would study how their critical systems are vulnerable to sea-level rise and flooding. These authorities would implement strategies to harden their systems by modifying or replacing existing equipment and by raising facilities such as power substations above projected future water levels.

Changing recreation areas Actions would be taken to preserve the coastal recreation areas that are prized by regional residents and visitors. Communities would envision how changes to the landscape, such as the permanent inundation of barrier islands and the appearance of new ones, may create new or different recreation opportunities.



Green infrastructure restores and enhances the natural flow of water through the landscape.

SCENARIO: PROTECTING OUR COMMUNITIES FROM THE WATER

In this scenario, residents remain on their properties and coastal infrastructure such as levees, bulkheads, and sea walls would be built to keep the water out. Existing sea walls and bulkheads will be fortified and new systems built. Structures that cannot be adequately protected by this infrastructure would be raised.



Bulkheads, such as the structure pictured above, are built to prevent erosion caused by high tide flooding.

Coastal protection infrastructure The various systems of sea walls, bulkheads, levees, and other infrastructure that currently protect the Two Rivers Region from flooding would be greatly expanded and fortified. Existing sea walls, bulkheads and levees would be raised to meet future sea-level rise and flooding projections. Future protective needs would be studied and new infrastructure built in areas that will see increased vulnerability.



Sea walls, such as the structure in Sea Bright (pictured above), would be raised. Walking paths can be placed on top of raised sea walls (pictured right).



Incentives for property owners Towns would create programs to incentivize coastal property owners potentially exposed to 7' flood events to build bulkheads or fortify existing bulkheads to protect against damage from future flood events.

Continued fortification Coastal protection infrastructure built mid-century will need to be further fortified by 2100 as sea-level rises to 5.3 feet and the probability of at least one 7' flood event occurring in a given year becomes virtually certain. In addition, critical transportation infrastructure that will not be adequately protected by this infrastructure, such as the North Jersey Coast Line and portions of Route 36, would be raised.

Glossary of Project Terms

Berm: A raised strip of land constructed along a waterway, using natural materials such as soil and planted grass or other materials such as wood beams or gravel, in order to prevent flooding.

Bulkhead: A structure lining bay and harbor coastlines designed to prevent the loss of sediment due to high tide flooding. Bulkheads are usually not found along the ocean because they are not designed to withstand direct wave attack.

Conservation overlay ordinance: An overlay is a mapped zone applied over an existing zoning district, establishing an additional "layer" of standards. An overlay could relate to conservation of natural resources.

Critical facility retreat plan: A plan that identifies critical facilities at risk of permanent inundation or storm surge, as well as nearby parcels that are not at risk that can accommodate these facilities. For the purposes of this project, critical facilities are identified as Essential Facilities from FEMA's Hazus model, namely police stations, emergency operation centers, schools, hospitals, and fire stations.

Development fees in vulnerable areas: One-time charges imposed on new development projects by local governments, usually to cover costs for the infrastructure needed to support that development.

Ecological reserve: Areas selected to protect representative and special natural ecosystems, plant and animal species.

Floodable development: Structures designed to withstand or retain stormwater. They can be designed to resist damage by occasional or periodic flooding or as a backup strategy in case other infrastructure fails. They can also be water retention areas during ocean surges or heavy rainfall.

Floodgate: A device situated in a waterway that can be opened or closed depending on risk of water level rise due to high tide or a storm in order to prevent flooding within a coastal community.

Floodwall: An artificial barrier designed to temporarily contain a waterway that may rise to unusual levels during seasonal or extreme weather events.

Green infrastructure: Landscape design that incorporates features that enhance and restore the natural flow of water throughout an ecosystem.

Harden: Physically changing the infrastructure to make it less susceptible to damage from extreme wind, flooding, or flying debris.

Inland coast: The long-term development of publicly accessible land that would be adjacent to the coastline after sea-level rise. An inland coast plan attempts to develop land inland that is not currently adjacent to the coast so that it may be prepared to act as a coastal community.

Landscaping and vegetation ordinance: An ordinance that restricts the clearing of vegetation and preserves and manages the character of vegetation within a community by setting requirements prior to issuance of a building permit. Vegetation and mature trees trap sediment and prevent erosion, stabilize slopes, dissipate the force of strong winds, and capture stormwater runoff.

Levee: An embankment designed to prevent the overflow of a certain amount of floodwater onto the land beyond.

Living shoreline: The use of natural habitat elements, such as tall grasses and wetlands, to increase the resilience of a shoreline to coastal flooding and erosion. Wetlands hold soil in place, absorb wave energy, break up the flow of riverine currents, and absorb storm surges. A living shoreline is an alternative to "hard armoring," such as concrete and other artificial barriers, which can divert flooding to other coastal areas and increase erosion.

Lot size averaging ordinance: A planning technique that allows the lot size of a parcel of land to vary, while the density or number of permitted uses stays constant. This technique may allow for greater clustering of development while preserving land with no cost to the public or reduced profitability of development.

Non-contiguous parcel clustering: A planning tool that allows a parcel of land to be permanently preserved while its development right density is transferred to a non-adjoining parcel. This can result in scattered preserved areas, but can also shift development away from flood-prone locations to those more suitable for development, but without the associated costs of acquisition.

Outfall: Point at which a stormwater drain or sewer discharges into a body of water.

Residential cluster development ordinance: Clustering residential development maintains the same overall built density but configures the development pattern so that the amount of infrastructure needed to service the development is reduced. This ordinance can result in open space and habitat preservation, as well as shifting of development from high-hazard areas.

Road raising: A construction process that elevates a road to be higher than the surrounding terrain. When the elevation of the road is lower than the surrounding terrain, water cannot drain from the road.

Rolling easement: A policy that allows the landowner to continue use of the property until the land becomes submerged, at which time the land transfers to the state under wetland or public doctrine rules. Can be used in combination with Transfer of Development Rights.

Sea groin: A structure of boulders or wood pilings that is built perpendicular to the shoreline, usually in a series, to capture sand that would otherwise be eroded by ocean currents.

Seawall: A structure designed to protect the land behind it from direct wave attack.

Shore protection overlay zone: A regulatory approach to protecting shorelines by designating land around a water body limited to conservation-based development.

Shoreline replenishment: The placement of large quantities of sand on an eroding beach to advance the shoreline forward, increase its elevation, and construct dunes. A wider beach can act as a barrier against wind and waves and absorb storm energy before reaching buildings and infrastructure.

SLR (sea-level rise): The rise of the ocean surface measured from the center of the earth.

TWL (total water level): A forecast of future water levels that accounts for sea-level rise, flooding caused by storms, and high tide.

Tide gate: A mechanism that controls the flow of water between a tidal area (such as a wetland) and a drained area behind a levee or dike. A tide gate allows water to flow freely through an opening in a levee or dike at low tide, but closes automatically at high tide to limit the flow of water.

Transfer of Development Rights (TDR): Similar to non-contiguous parcel clustering, but different in that TDR requires development of planned “sending” and “receiving” areas, which restrict where the development density can be transferred within a municipality or region. Advantages include reduction of asset exposure to floods, reduced impervious surface coverage, increased open space and preserved farmlands, and reduced public service area and infrastructure needs.

USACE (United States Army Corps of Engineers): A U.S. federal agency under the Department of Defense that provides engineering, design, and construction management services associated with public waterways.

Notes

Two Rivers, One Future

NJ FRAMES: A collaborative effort to address the
Two Rivers region's future flood vulnerability.

tworiversonefuture.nj.gov
#TwoRiversOneFuture





From: [Pflicke, Kelly](#)
Cc: [Pflicke, Kelly](#); [Angarone, Nick](#)
Subject: NJ FRAMES: Adaptation Actions Scenarios Available Online!
Date: Friday, July 12, 2019 12:16:18 PM

Dear Steering Committee and Advisory Group Members,

Thank you for attending the public open house or sending staff on behalf of your community, county or organization.

We have posted the Adaptation Action Scenarios to the project website, which can be accessed via the homepage here: <https://www.nj.gov/dep/oclup/docs/njframes-adaptation-actions-scenarios.pdf>

We are very much interested in your feedback on these ideas and have developed a survey for you and the public to provide comments via this link: <https://tinyurl.com/NJFRAMEScomments> Comments on the scenarios will be accepted through **August 10, 2019**.

From our meeting with you in August 2018, where we worked to identify [general preferences for actions](#), to our meeting earlier this year in January, to understand the unique challenges in key subregions and [identify appropriate actions](#) that could address them, we have been working towards offering distinct actions within broader scenarios that the region could take to reduce risk and form an overall regional resilience strategy and action plan.

It is now critical that we hear from you on these ideas. Please share broadly with your municipal leadership, colleagues, constituents and residents. We would encourage you to share this information on your respective websites and/or social media accounts.

We will be in touch in the coming week with next steps for the project and future meetings.

As always, please do not hesitate to reach out to me with any questions or comments.

Thank you,
Kelly

Kelly Pflicke, AICP
Senior Planner
Bureau of Climate Resilience Planning
Climate & Flood Resilience Program
New Jersey Department of Environmental Protection

(609) 292-3246 | kelly.pflicke@dep.nj.gov

From: Pflicke, Kelly

Sent: Tuesday, July 9, 2019 3:48 PM

Cc: Pflicke, Kelly

Subject: Reminder: NJ FRAMES Open House is TOMORROW - July 10, 2019

Reminder: You are invited to NJ FRAMES (Two Rivers, One Future) Open House

Wednesday: July 10, 2019

4:00PM – 7:00PM

Location: Middletown Arts Center

36 Church Street

Middletown, NJ 07748

NJ FRAMES is working with the 15 towns surrounding the Navesink and Shrewsbury Rivers to identify ways to reduce the risks and the impacts of future flooding.

Come to the open house to learn about progress made on the project and how you can help make the future of your community more resilient!

The open house will feature:

- Background information on the scope and goals of the project, along with information about what is at risk locally with current and future flooding.
- Information stations on actions that can be taken for the Two Rivers region. These options will be presented within the framework of three different approaches: Living With Water, Moving Away from Water, and Protecting Our Community From Water.
- Opportunities for participants to provide feedback and comments on their resilience action preferences.
- A "Kids Corner" featuring the DEP Education and Outreach team, who will engage children on the basics of ecology and resiliency of the region.
- Refreshments!

Please mark your calendars (and share with your colleagues and neighbors) so that you can join us! Please feel free to share this [Eventbrite link](#) for the event.

If you have any questions, please do not hesitate to reach out.

Thank you,
Kelly

Kelly Pflicke, AICP

Senior Planner

Bureau of Climate Resilience Planning

Climate & Flood Resilience Program

APPENDIX L: STAKEHOLDER WORKING GROUP, CONSTITUENCY ADVISORY GROUP, AND TECHNICAL ADVISORY GROUP MEETING #7: PRESENTATION OF FINAL PLANNING SCENARIOS



September 4, 2019 Webinar

11:00 am- 1:00 pm

Steering Committee, Constituency Advisory Group, Technical Advisory Group

11am – Introductions, Webinar Housekeeping Review, Roll Call – Lisa Auermuller, JC NERR

11:15am – Thank you from NJ DEP and Project Timeline Review – Nick Angarone, NJ DEP

11:20am – Review of “No Action Risk Assessment” Results and Takeaways – Bryan Kiel, BRS

11:30am – Introduction of Scenario Review Process – Lisa Auermuller, JC NERR

11:35am – Living with Water Scenario

- Review Scenario, Bryan Kiel, BRS
- Review Comments Received: Open House, online and other comments – Lisa Avichal, NJDEP
- BCA will be discussed - Bryan Kiel, BRS
- Review of Project Goals and Scenario Score - Bryan Kiel, BRS
- Facilitated discussion
 - Do you have enough info to give feedback?
 - What additional info would be helpful to you?
 - Pros and Cons of this scenario.

12:00pm – Protecting Our Communities from the Water Scenario

- Review Scenario, Bryan Kiel, BRS
- Review Comments Received: Open House, online and other comments – Lisa Avichal, NJDEP
- BCA will be discussed - Bryan Kiel, BRS
- Review of Project Goals and Scenario Score - Bryan Kiel, BRS
- Facilitated discussion
 - Do you have enough info to give feedback?
 - What additional info would be helpful to you?
 - Pros and Cons of this scenario.

12:25pm – Moving Away from the Water Scenario

- Review Scenario, Bryan Kiel, BRS
- Review Comments Received: Open House, online and other comments – Lisa Avichal, NJDEP
- BCA will be discussed - Bryan Kiel, BRS
- Review of Project Goals and Scenario Score - Bryan Kiel, BRS
- Facilitated discussion
 - Do you have enough info to give feedback?
 - What additional info would be helpful to you?
 - Pros and Cons of this scenario.

12:50pm – Wrap Up and Next Steps – Nick Angarone, NJ DEP

1:00pm – Conclude

Summer is ending. I feel....

Mentimeter



26

Living with Water. What additional information would improve your understanding of this scenario?

Mentimeter

2030 planning - what local agencies are identified to be included - such as municipalities or faith-based, and other NGO's like United Way, Catholic Charities, Red Cross, etc as in Sandy after-disaster planning and NJ Transit through out the state?

Does the expansion of Gateway into Seabright and Monmouth mean residential retreat?

Curious about Sandy Hook as it appeared in an earlier slide that by 2100 the Hook would be under water which would open up highlands and bayshore waterfront to full on ocean swell and conditions?

Also, when addressing marsh expansion does that include raising marsh?

Maybe on Social Side - a good PR firm? Then maybe you can gain public support for reg changes - creating a win-win by illustrating the entire change over time - for entire communities to see need for regulations in living with the water strategies

how the sea level increases were derived

Elevation of streets in Oceanport and funding

None

CBA Numbers

28

Living with Water: What additional information would improve your understanding of this scenario?

Mentimeter

Maintenance/hardening of utility infrastructure

I would like more detail (mapping?) of what is at risk at each planning period

None.

How would the municipality go about the displacement of residents? Has the loss of tax revenue been taken into consideration

Detailed impacts, number of buildings in each town that would be raised, acquired, damaged

Change over time map that is animated

Please provide the specific comments submitted. How many comments were received?

What coordination/outreach is going on with agencies regarding these scenarios.... ie USACE, NJDEP, County, National Park System etc?

How were the score cards developed?

28

Living with Water: What additional information would improve your understanding of this scenario?

Mentimeter

Cost benefit analysis

Has Sea Bright been specifically contacted for their input? County or State regarding raising bridges and / or roads?

The actions should identify what actions would reduce the economic impacts under this scenario in a phased process

With the raising of roadways and railroads, does that take into consideration potential habitat fragmentation?

-Elevate homes - How Many?, What is BFE?, What is Cost?, BCR? -Elevate roads, bridges, utilities - Have you communicated w/ Mon Cty, NJT, DOT, JCP&L, NJNG, NJAW, Etc?, What is Cost, BCR? - Floodproofing for nuisance floods - What is BFE?, Cost?, BCR?

Where are the flooding and storm frequency predictions coming from?

Rhos should show some phased actions that could be done to reduce the economic impacts under this scenario so that communities could work towards ability to live with at this year

There is a lot here to be asked for immediate feedback. Can this presentation be printed out for further review and subsequent comment?

What are the funding sources? Is there a time frame of when a municipality can apply for funding?

28

Living with Water: What additional information would improve your understanding of this scenario?

Mentimeter

Plans that show what and where



28

Living with Water: What do you like about this scenario?

Mentimeter

continuation of existing uses, retreat from very vulnerable areas

It is simple and easily understandable.

It makes sense. You cannot fight nature.

it does not drastically change the landscape that the communities value

Bringing together stakeholder parties from different areas of interest

Return to natural environment

Easy to understand- well done

It seems like a compromise for everyone

Don't have enough info to provide feedback. Really need to understand where the truly affected municipalities feel.



15

Living with Water: What do you like about this scenario?

Mentimeter

Could be low cost. Could be least disruptive to property owners. Lowest hanging fruit solution
Could have low BCR...

Living with water scenario would incorporate some of the successes and results from engineered design overseas and provide some applicability to our coastline

This is probably an action that will be digestible amongst all at this point

Seems like public would understand and agree with this

This approach seems to focus on preserving and protecting what we have in place now, which was the original intent of the project. Seems on the right track.

Visual display is easy to understand

15

Living with Water: What do you dislike about this scenario?

Mentimeter

None.

funding sources are likely insufficient

back to webinar from mentimeter

Flood risk is still present during the implementation.

Nothing

It seems like the natural choice. I am not sure however the smaller towns would survive.

Impacts to communities and property owners to relocate needs to be better understood and funded

Need to understand how the residents and municipalities feel.

Not clear to public... Feedback after Open House was that entire area would be underwater by 2030...

15

Living with Water: What do you dislike about this scenario?

Mentimeter

Not sure yet. Seems like a pretty good scenario but unsure of the social and economic ratings being so low.

Is it viable when you also consider rainfall?

Funding unlikely

Nothing.

Zoom on map presentation covers the legend so if I didn't hear, I would not understand the colors used - but the info is great

Project team needs to reach out to the adversely affected entities before recommending changes to their communities and/or their facilities.

15

Protecting Our Communities from the Water: What additional information would improve your understanding of this scenario?

Mentimeter

None.

How long does type of project take?

For this scenario, is it open ended or does a point of diminishing returns exist? In other words, does it make less sense at some point (perhaps beyond 2100). Answer the question in the the old song "Will you still love me tomorrow?"

Provide some phased actions that could be implemented over the course of years so that at some point the communities could have possibly an acceptable level of protection

Historical Context of the future impacts of impact in relation to known precolonial and predevelopment maps going back a century or more.

More detail for each year as to projected effect in each of the Shrewsbury River towns.

Why raise bulkheads and levees when the property being supposedly protected would still be vulnerable if structure breached.

Cost for initial 7' bulkhead but additional costs for maintenance and re-raising should be assessed vs. natural strategies.

How rainfall would still perpetuate risk in the region

25

Protecting Our Communities from the Water. What additional information would improve your understanding of this scenario?

Mentimeter

Who owns floodgate?

What about Stormwater pump stations w/flood gate?

What is desired bulkhead elevation?

What regulations would be needed for levee opening during storm surge - when and notification for outlying areas?

The Army Corps is using a temporary floodwall elevation of +11.2 NAVD88 for Sea Bright

Has the work being performed by USACE been incorporated into the scenario?

What are the barriers to implementation (e.g. land ownership, easements, regulations)?

Who would own/maintain/operate the flood gate?

Real estate acq. cost for shore protection projects; funding commitments (or plan for funding commitments- including legislation); schedule of proposed projects with anticipated water levels; which projects can act as standalone "complete solutions"



25

Protecting Our Communities from the Water. What additional information would improve your understanding of this scenario?

Mentimeter

Who would own/operate/maintain the stormwater pump stations associated with the floodgates?

What are the trade offs between elevating bulkheads in the short term and constructing larger levees/sea walls and gates to protect out to 2100

How will it be funded? If the municipalities do not agree, would their future federal/state funding potentials be impacted?

Raising bulkheads to 7' or 11.2' would greatly restrict waterfront access. Would NJDEP allow? Add'l docks, piers, gangways would be required? Would NJDEP allow the additional infrastructure to allow access?

What if Sandy Hook is breached, making Highlands much more vulnerable?

Illustrated Timeline scale of cost benefit structure (line graph maybe?)

What is BCR on bulkhead raising? Who pays for raising privately owned bulkhead infrastructure?



25

Protecting Our Communities from the Water: What do you like about this scenario?

Mentimeter

Fairly comprehensive.

It seems possible if a more direct timetable can be given for the actual project

Infrastructure upgrades

Incorporation of Living shorelines

Good focus on protection

I believe the municipalities would benefit with a bulkhead that is raised

Does not fully retreat from water. Reduces risk via hardening structures to areas that have the highest cost effectiveness for saving

Communities are part of the fiscal discussion

It reduces flood risk for most of the region



11

Protecting Our Communities from the Water: What do you like about this scenario?

Mentimeter

Preserves property value.

Communities do not have to change inside of the shoreline



11

Protecting Our Communities from the Water: What do you dislike about this scenario?

Mentimeter

None.	I am not sure that this would beba sell for the residents	none
Raising Highlands bridge? Was current new bridge already raised to sufficient level?	Too much hard structure	Are dunes a consideration?
The high economic benefit should not be confused with affordable	Municipalities would need assistance for the maintenance of floodgates and bulkhead	Too many unknown engineering issues

▼

13

Protecting Our Communities from the Water: What do you dislike about this scenario?

Mentimeter

scenario needs to address land use changes. Do not believe that 100% hardening is feasible without planning for land use/zoning/regulatory changes that reduce risk non-structurally	Commercial real estate property owners versus residential responsibilities	It will fundamentally change the future landscape of the two rivers region
Costly to build and maintain		

▼

13

Moving Away from the Water: What additional information would improve your understanding of this scenario?

Mentimeter

I am not sure this would be a sell to the residents

What the economic impact in regards to tax ratables this would allow for planning

Indirect impact to environment from road raising, bulkheading, and changing hydrology through those structures would be more than neutral.

Hard to gauge effectiveness of raising private property bulkheads and levees. Seems piecemeal. Also it's impossible to get a permit to put in a bulkhead now, much less raise one.

A clear chart that shows relative economic benefits in total and by town.

costs of implementing construction and Permitting obstructions?

Cost.....

Have floodgates been proven effective?

The O&M costs over time would be significant.



27

Moving Away from the Water: What additional information would improve your understanding of this scenario?

Mentimeter

Still vulnerable to larger storms and rainfall flooding

Hi-resolution aerial/drone survey is needed to fully understand extent of inundation and to develop solutions.

Would residents and businesses be relocated using federal/state funding?

Does the entire region need to move away? Or could some choose to move and some choose to live with the water?

What shore protection elements are proposed in the overlay zones?

Maybe consider other scenarios for 2030 and 2050 as preferred solution and consider moving away for 2100 and provide a step by step on how to proceed through the years.

Need to understand economic impact especially loss of property tax revenue.

More information on what is contemplated by zoning changes and easements.

How many residents are anticipated to move?



27

Moving Away from the Water: What additional information would improve your understanding of this scenario?

Mentimeter

Continuing to stress the long term nature of this scenario.

This seems to require a statewide policy change with respect to zoning and waterfront use. Wouldn't work on a small regional level.

Who's staying, who's going? What are the anticipated ratable impacts on 5, 10, 15 year scale? What are anticipated rates of avulsion? Will threat of "no protection" immediately tank real estate prices- if so what are political/practical impacts?

How will we protect against breaching of the coast between Monmouth Beach and Sandy Hook? That will increase floss risk

Need more info on how rolling easements could work in a developed area and how could they cross municipal boundaries

Timeline illustration of strategies

We would need to know the impact on the community, the resident, the municipality and the county.

Who would enforce the moving away? And who would pay for the costs involved?

You'd need to take a sample residential, sample public use, and sample commercial property and work through exactly how the moving away would be implemented. It's a sprawling proposal that reverses two hundred years of policy.

27

Moving Away from the Water: What do you like about this scenario?

Mentimeter

I need more information of the project

expansion of floodplain and living shorelines

Potentially protects a large area with a single project.

preserves property value

reduces nuisance flooding and provides storm surge protection

Could you define shore protection overlay zones?

It does bring the 15 municipalities together to think and decide collectively for the region as a whole

I like the return of abandoned area back to a more natural setting. Just a 50 foot swath of marsh can reduce impact from storm and flood by up to 50%

Significantly reduces vulnerability to flood damage and loss

14

Moving Away from the Water: What do you like about this scenario?

Mentimeter

It is a long term view needs long-term planning at the municipal and county level.

Restores the natural environmental features in the region and provides water access

Directly addresses catastrophic water levels

Community-based regional approach

This seems realistic and an approach that people can realistically comprehend

14

Moving Away from the Water: What do you dislike about this scenario?

Mentimeter

It is not equitable to all residents in a community

Overtime, the flood risk may actually increase due to changes in the natural features with SLR

Moving away creates a huge tax revenue burden to the municipalities

The proposed time frame is too long for municipal governments to act in any consistent long term way.

Bring in other County Resource agencies and NGOs and areas outside of 2-river areas effected, especially when looking at economics

The loss of tax revenue

Removing people from their homes is a cost

7

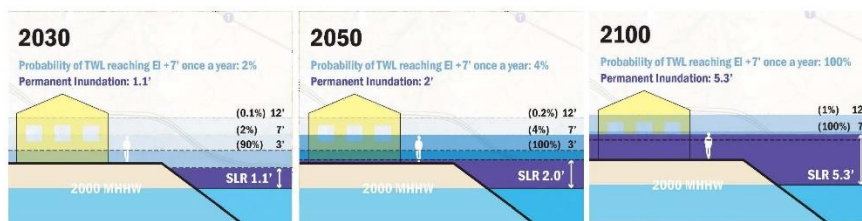
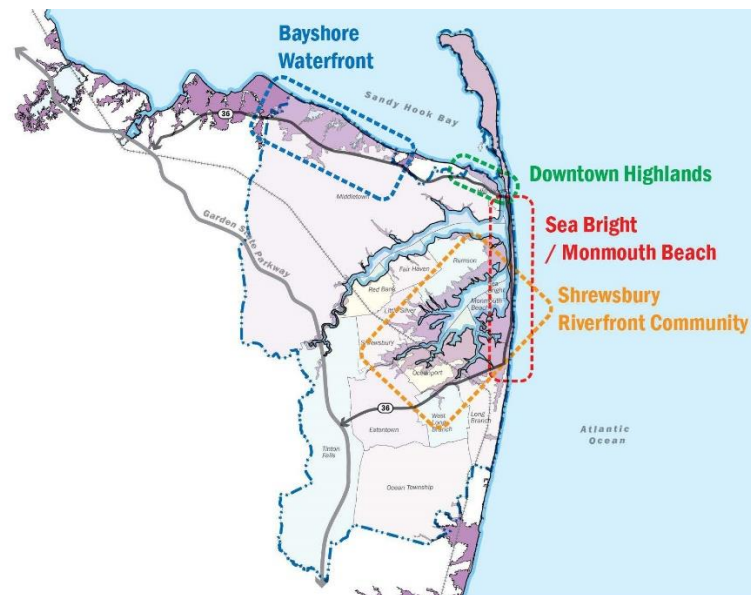
APPENDIX M: DECISION PHASE: INDIVIDUALIZED, IN-PERSON MEETINGS WITH ANY INTERESTED STEERING COMMITTEE, GROUP MEMBERS

NJ FRAMES Steering Committee Strategy Selection Individual Meeting Participants

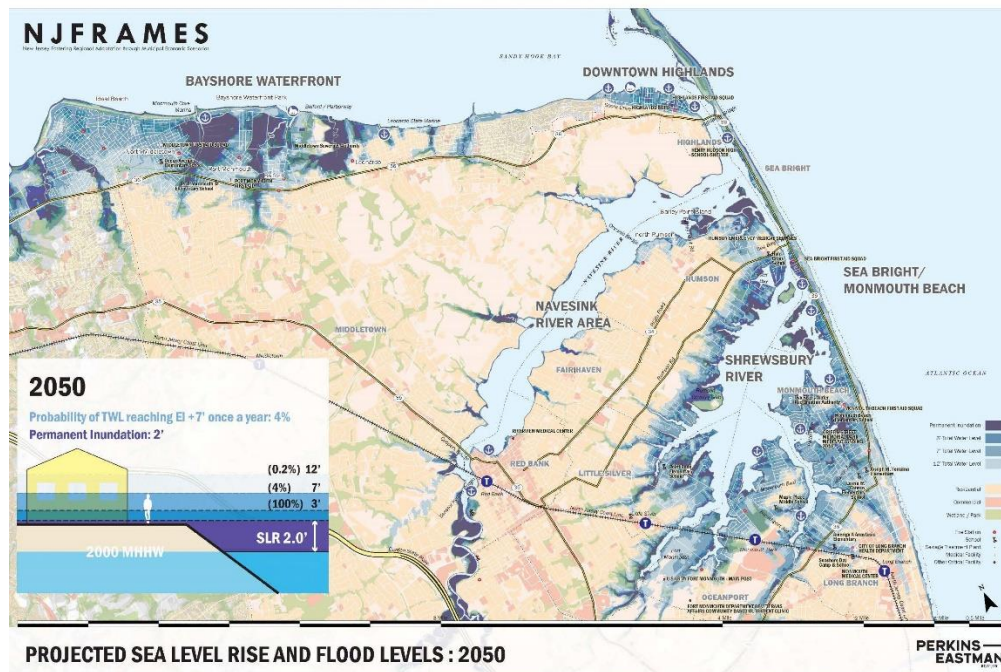
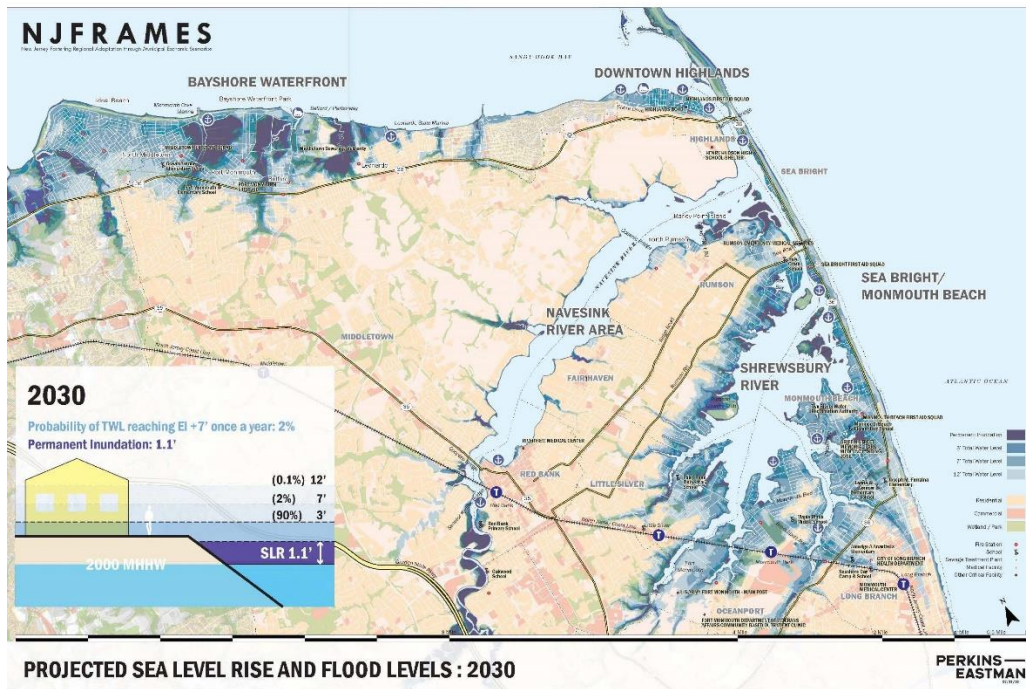
Name	Affiliation
Kelli O'Brien	Riverview Medical Center - Red Bank
Thomas Herrington	Monmouth University
Laurie Velisek	Riverview Medical Center, Hackensack Meridian Health - Red Bank
James Neff	Riverview Medical Center, Hackensack Meridian Health - Red Bank
Sheila Hintze	Riverview Medical Center, Hackensack Meridian Health - Red Bank
Kimberly Gonzales	Highlands
David Milmoie	Highlands
Amber Mallm	Monmouth County
Linda Brennen	Monmouth County
Michael Oppegaard	Monmouth County
Debby Dejong	Monmouth County
Inkyung Englehart	Monmouth County
Robert Neff	Little Silver
Kimberly Jungfer	Little Silver
Greg Blash	Little Silver
Ted Maloney	Middletown

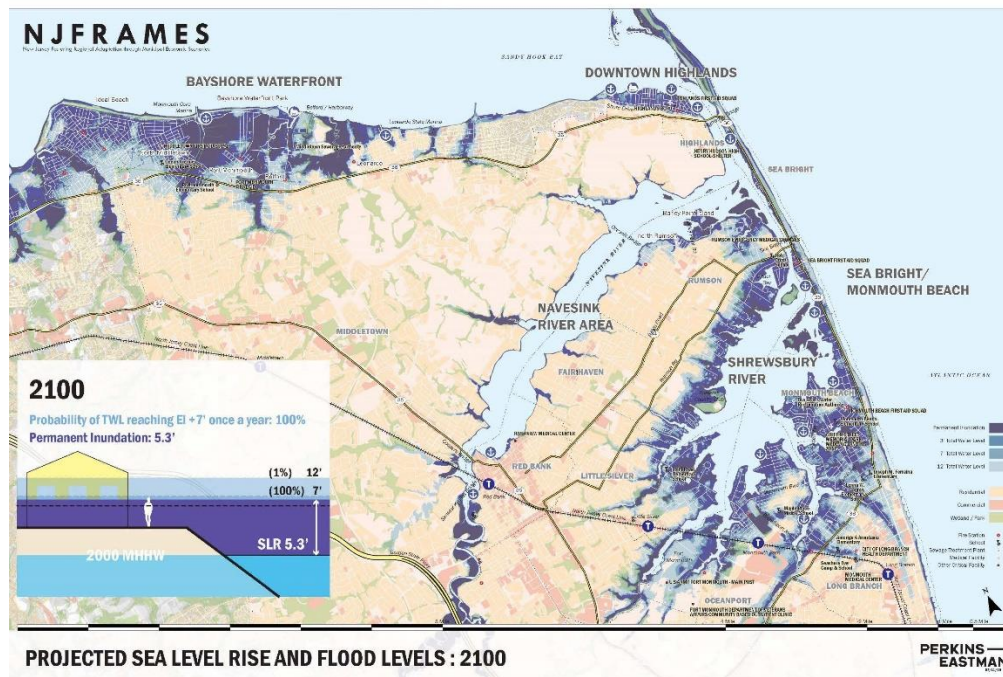
Anthony Mercantante	Middletown
Captain Al Modjeski	American Littoral Society - Highlands
Tim Dillingham	American Littoral Society - Highlands
Judith Wilson	Monmouth Beach
Susan Howard	Monmouth Beach
Brian Kelly	Sea Bright
David Bahrle	Sea Bright
Nicholas Poruchynsky	Fair Haven
Thomas Rogers	Rumson
David Marks	Rumson

Informal Presentation



- Storm Surge is analyzed at three different water levels, all at a baseline of 0' Mean Higher High Water (MHHW): Water Level +3', +7', and +12';
- Permanent inundation from sea level rise (SLR) is based on 2000 sea levels at MHHW and is assumed to be the following heights in future analysis years: +1.1' MHHW in 2030, +2.0' MHHW in 2050, and +5.3' in 2100;



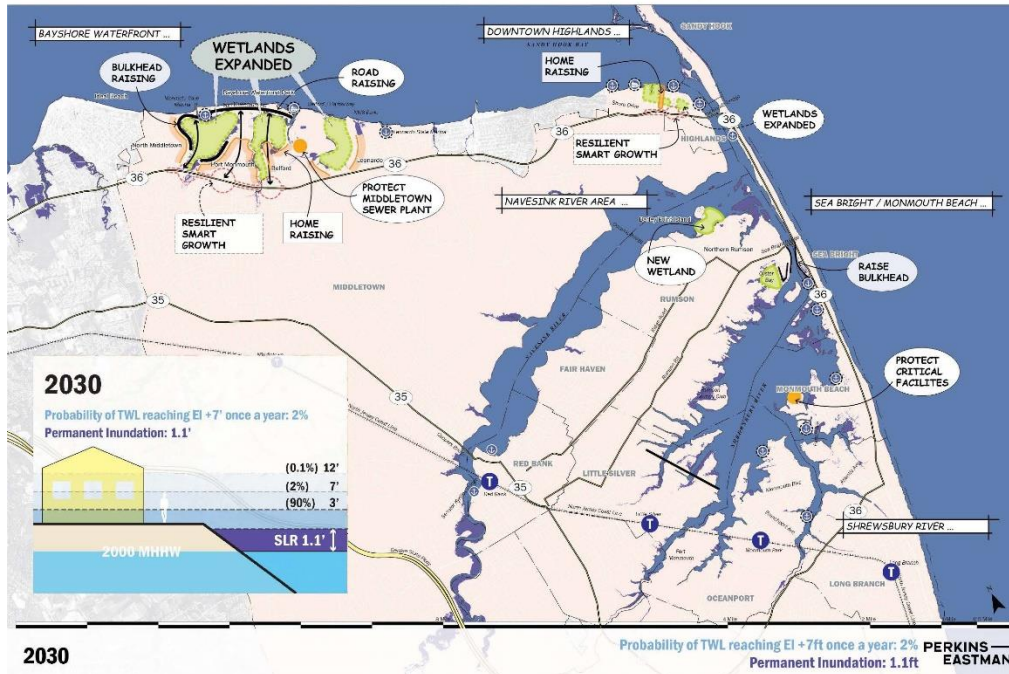


STRATEGIES

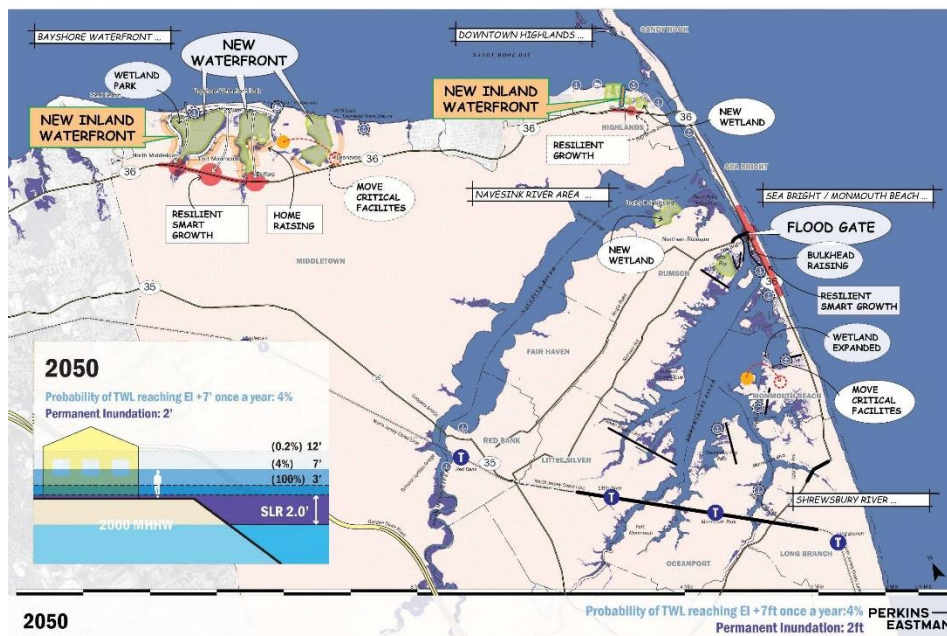
- 1 Bayshore and Estuary Restoration and Green Infrastructure Development
- 2 Critical Facility Short-term Protection and Long-term Planning and Sustainability
- 3 Retrofit Waterfront Assets
- 4 Floodgate at the Rumson-Sea Bright Bridge
- 5 Storm Surge and Flood Protection in the Near Term
- 6 Permanent Inundation Master Plan – 5.3' of Permanent Inundation and Socioeconomic Planning
- 7 Permanent Inundation Master Plan – Inland Shore and Extension of Recreation Area
- 8 Permanent Inundation Master Plan – Sustainable Development
- 9 Home Raisings
- 10 Targeted Road Raisings
- 11 Regional Planning Body

Region-wide Actions Region-wide Policies Sub-region Actions

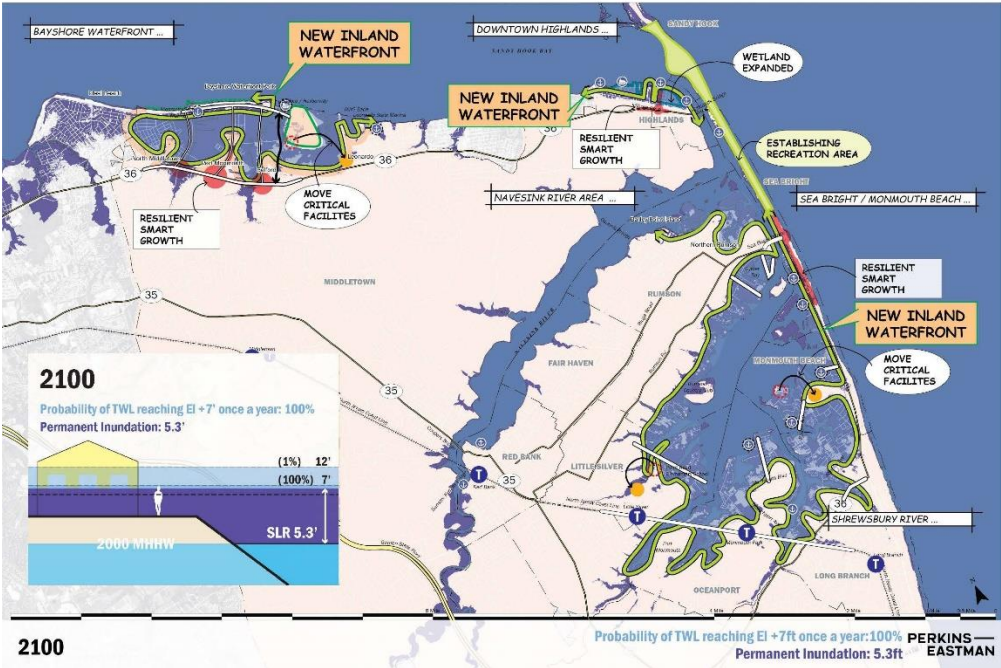
2030 Selective Adaptation



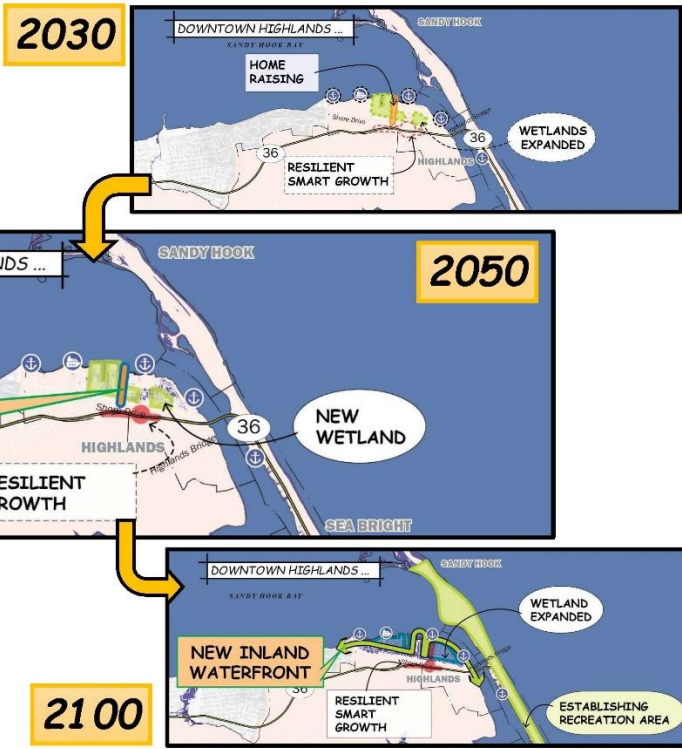
2050 Resilient Growth



2100 Resilient Region



Downtown Highlands



Downtown Highlands



- New waterfront programming and amenities
- Smart resilient growth along Rt. 36
- Expansion of recreational park



Region-wide Actions

- 3 Retrofit Waterfront Assets
- 7 Inland Shore and Establishing of Recreation Area

Region-wide Policies

- 6 Permanent Inundation Master Plan
- 8 Resilient Smart Growth
- 9 Home Raising

Sub-region Actions



Region-wide Actions

- 3 Retrofit Waterfront Assets
- 7 Inland Shore and Establishing of Recreation Area

Region-wide Policies

- 6 Permanent Inundation Master Plan
- 8 Resilient Smart Growth
- 9 Home Raising

Sub-region Actions



Region-wide Actions

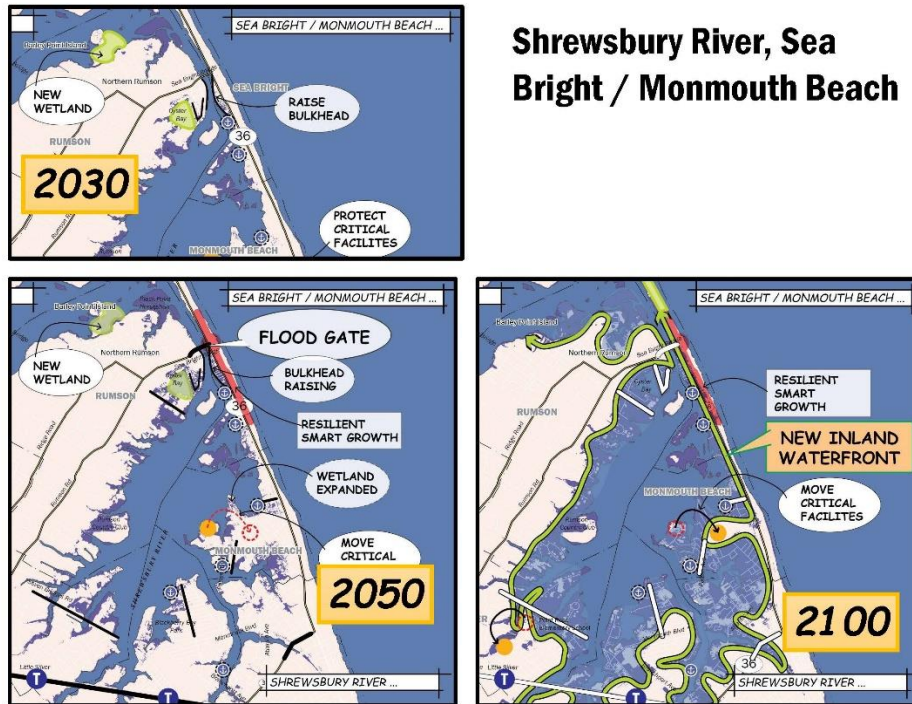
- 1 Bayshore and Estuary Restoration and Green Infrastructure Development
- 3 Retrofit Waterfront Assets
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Region-wide Policies

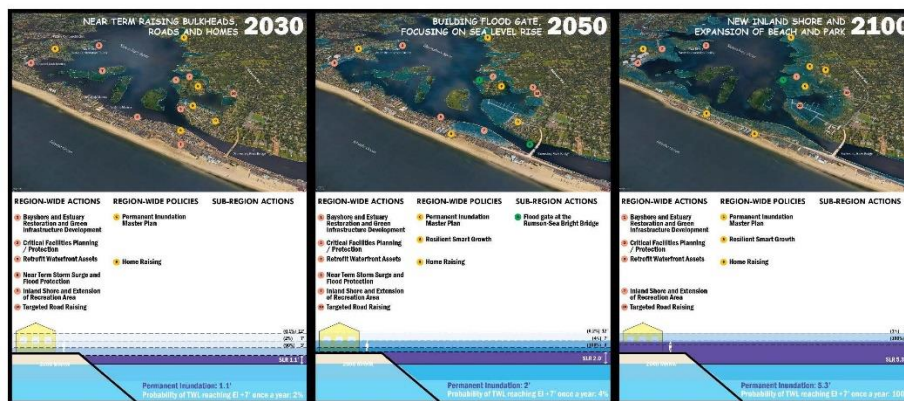
- 6 Permanent Inundation Master Plan
- 8 Resilient Smart Growth
- 9 Home Raising

Sub-region Actions

Shrewsbury River, Sea Bright / Monmouth Beach



Shrewsbury River, Sea Bright / Monmouth Beach



- Resilient waterfront with the new flood gate
- New waterfront programming and amenities
- New waterfront community

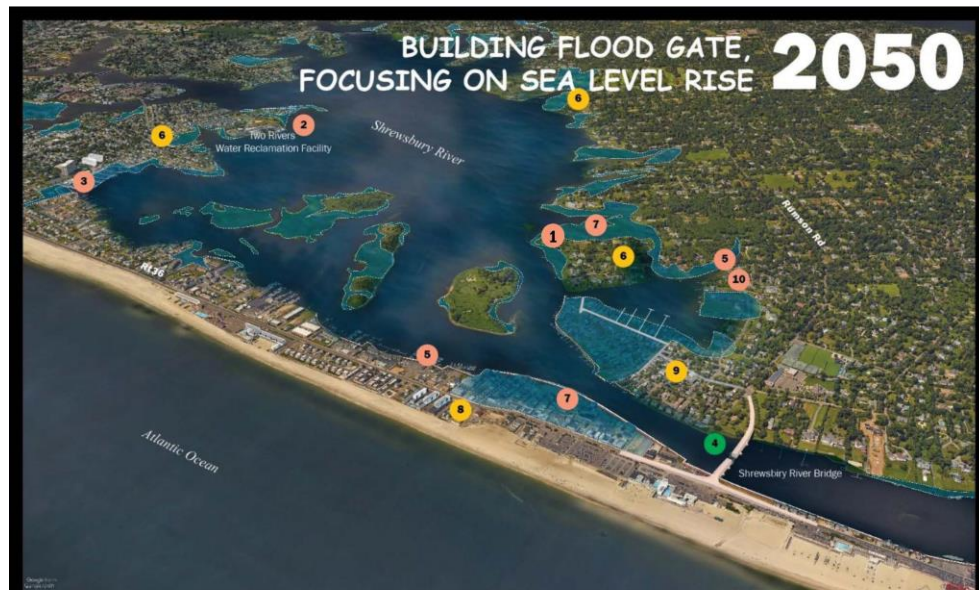


Region-wide individual Actions

- 1 Bayshore and Estuary Restoration and Green Infrastructure Development
- 2 Critical Facilities Planning / Protection
- 3 Waterfront Assets Retrofitting
- 4 Near Term Storm Surge and Flood Protection
- 5 Inland Shore and Establishing of Recreation Area
- 6 Targeted Road Raising

Region-wide Policies

- 7 Permanent Inundation Master Plan
- 8 Home Raising



Region-wide Actions

- 1 Wetland Restoration and Green Infrastructure Development
- 2 Critical Facilities Planning / Protection
- 3 Waterfront Assets Retrofitting
- 4 Near Term Storm Surge and Flood Protection
- 5 Inland Shore and Establishing of Recreation Area
- 6 Targeted Road Raising

Region-wide Policies

- 7 Permanent Inundation Master Plan
- 8 Resilient Smart Growth
- 9 Home Raising

Sub-region Actions

- 10 Flood gate at the Rumson-Sea Bright Bridge



Region-wide Actions

- 1 Wetland Restoration and Green Infrastructure Development
- 2 Critical Facilities Planning / Protection
- 3 Waterfront Assets Retrofitting
- 7 Inland Shore and Establishing of Recreation Area
- 10 Targeted Road Raising

Region-wide Policies

- 6 Permanent Inundation Master Plan
- 8 Resilient Smart Growth
- 9 Home Raising

Lower Navesink



- Wetland Development and Living Shorelines
- Long Term Visioning for Permanent Inundation



Region-wide individual Actions

- 1 Bayshore and Estuary Restoration and Green Infrastructure Development
- 3 Waterfront Assets Retrofitting

Region-wide Policies

- 6 Permanent Inundation Master Plan
- 9 Home Raising



Region-wide Actions

- 1 Wetland Restoration and Green Infrastructure Development
- 7 Inland Shore and Establishing of Recreation Area

Region-wide Policies

- 6 Permanent Inundation Master Plan
- 9 Home Raising



Region-wide Actions

1 Wetland Restoration and Green Infrastructure Development

7 Inland Shore and Establishing of Recreation Area

Region-wide Policies

6 Permanent Inundation Master Plan

8 Resilient Smart Growth



Region-wide individual Actions

1 Bayshore and Estuary Restoration and Green Infrastructure Development

10 Targeted Road Raising

Region-wide Policies

9 Home Raising



Region-wide individual Actions

- 1 Bayshore and Estuary Restoration and Green Infrastructure Development
- 2 Protect Critical Facilities

Region-wide Policies

- 6 Permanent Inundation Master Plan



Region-wide individual Actions

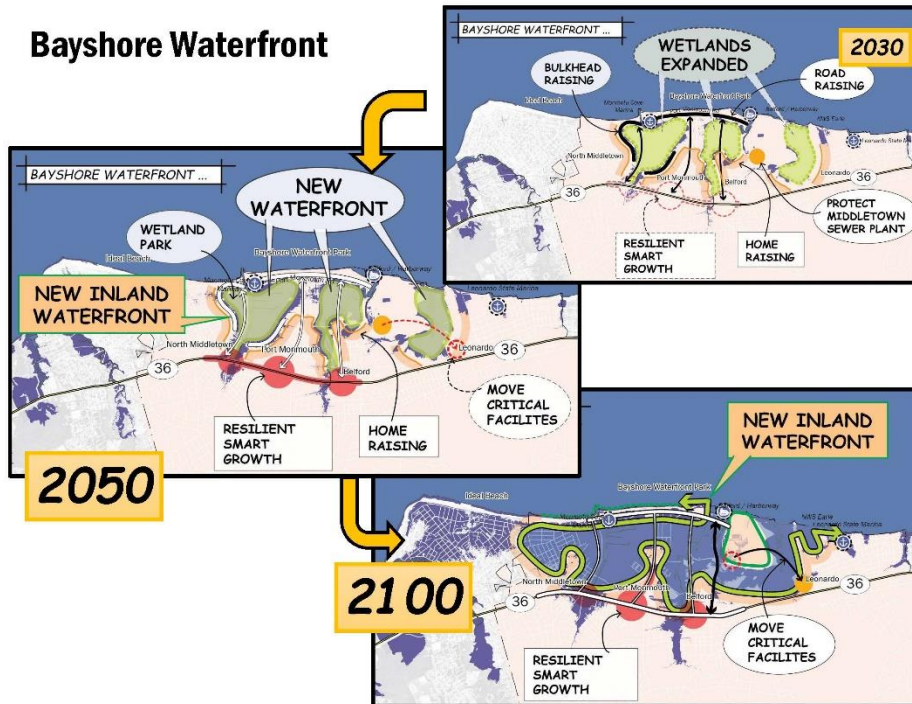
- 1 Bayshore and Estuary Restoration and Green Infrastructure Development
- 7 Inland Shore and Land Use

Redevelopment

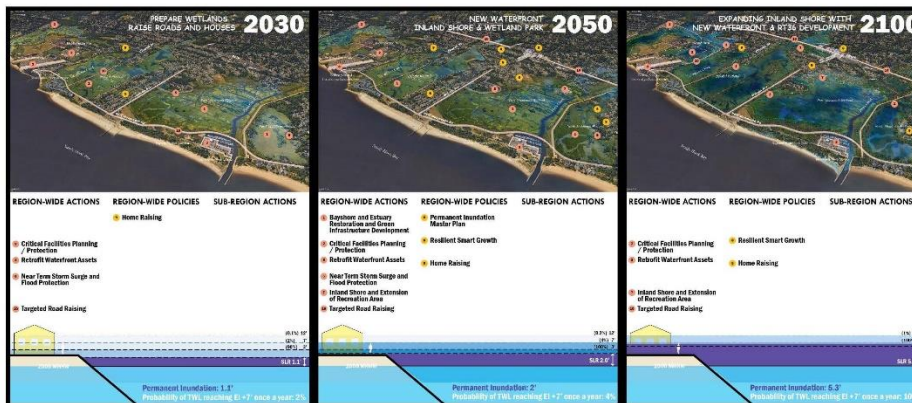
Region-wide Policies

- 8 Smart Resilient Growth

Bayshore Waterfront



Bayshore Waterfront



- Expansion of wetland and new inland waterfront park
- Smart Resilient Growth along Rt. 35



Region-wide Actions

- 1 Bayshore and Estuary Restoration and Green Infrastructure Development
- 2 Critical Facilities Planning / Protection

- 3 Waterfront Assets Retrofitting
- 5 Near Term Storm Surge and Flood Protection
- 10 Targeted Road Raising

Region-wide Policies

- 9 Home Raising
- Sub-region Actions



Region-wide individual Actions

- 1 Bayshore and Estuary Restoration and Green Infrastructure Development
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Region-wide individual Actions

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- 2 Critical Facilities Planning / Protection
- 3 Waterfront Assets Retrofitting
- 7 Inland Shore and Establishing of Recreation Area
- 10 Targeted Road Raising

Region-wide Policies

- 8 Resilient Smart Growth
- 9 Home Raising

Next Steps – NJ FRAMES

1. Development of Preferred Scenario and Action Plan – Dec. 2019
2. Determine priorities for planning and opportunities for 2020.

Next Steps – Regional Resilience Planning

1. Creation of an informal regional resilience planning body
2. Integration of strategies into current regional planning initiatives
3. Continued outreach

Summarized Discussion Comments.

Comments	Category
How will the backup of water when closed affect the Navesink?	Flood gate
Will only be closed at large events, so still will be impacted and areas aren't going to be connected in lower events.	Flood gate
Water being funneled through waterbody is very dynamic and needs to be studied. ACOE could take decades to study this so 2050 may not be a realistic date. Need 20 years? Very significant bulkheading will be needed on the back of Sea Bright to stop the water from cross the barrier island.	Flood gate
Providing time to do more buyouts? Would money be better spent to buy-out homes now?	Flood gate
Currently, no hydrodynamic model for the Shrewsbury and Navesink, which would inform the design of large barriers. Need to understand the circulation so we know how it will be impacted. > Region would need to come together to push this. >Need min standard for the system in the meantime to at least move in the right direction.	Flood gate
NEPA review process for a floodgate will be extensive.	Flood gate
What will happen with the Middletown plant?	Critical Infrastructure
Monmouth Medical Center - considering moving to Fort Monmouth. Good idea from a perspective of 5/3' Pl.	Critical Infrastructure
Middletown STP outflow pipe runs along the coast to Sandy Hook. This is an opportunity to protect that.	Critical Infrastructure
30-yr mortgage make sense to talk about. Homes are not just at risk, so are the roads.	Elevations
Major problems in old sewer lines.	Infrastructure
Critical because the region needs to think about how to handle the strategies in the long-term. How do you get 100's of individuals to do what is suggested, vs required to do? How much teeth can you put behind a planning body? This work needs to sustain. > 501@3 - knowledge sharing body that can act through existing entities like OEM. Coordinate through existing orgs. Can be implemented. > Planning body - create a new governing body. Watershed quality groups, a new governance structure. Fees collected to accomplish tasks.	Planning Body
Need adaptation plans so they can pace with SLR.	NBB
Policy wise does not allow you to infill the bottom of rivers and bays.	NBB
Not a shellfish area so will not be impacted.	NBB
Would need to balance use (open water vs wetlands).	NBB
Not a non-starter.	NBB
Would need policy changes.	NBB

Need to determine policies on beneficial reuse - co-benefits with navigation.	NBB
Very likely Sandy Hook is going to migrate west and could be connected to the Highlands as it was in the past.	NBB
Need to consider public health impacts from infrastructure.	General
Hospital does drill to prevent public health impacts.	General
Does the barrier island go away with 5.3' of sea level rise?	General
There are winners and losers based on the strategies selected.	General
Riverview will be impacted by number and change in demographics that will occur based on neighborhoods going away.	General
Short-term we could start moving to implement.	General
Identify when certain strategies need to start, how long the study/prep phase takes, to be completed by what time.	General
Important to start having people talk about the fact that the waterfront will be different, how do we embrace it to meet the region's needs.	General
What are the costs associated with the strategies?	General
Roads around Oyster Bay are frequently flooded.	General
Municipalities wanted projects by this project is detailed about their long-term risk to decide their future.	General
Need a communications plan as an outcome of the Action Plan. > Need to continue communication of what risk will look like short, mid and long-term. Maybe this could be an organization like Sea Grant.	Post Plan
Municipalities need to take ownership.	Post Plan
Need to plan to no just go on a shelf.	Post Plan
Link to other plans and processes to connect to. >County HMP - adopted county MP projects. >Naval Station Earle >County MP	Post Plan
Fiscal analysis vs CBA	Post Plan
Use relocation not "retreat".	American Littoral Society
Seeing loss of low marsh	American Littoral Society
CAFRA established water dependent uses, get ruled over. Better implementation of these established policies would allow continued use of the coast. House vs marina damage	American Littoral Society
Edu and outreach are needed to people understand why we need to act and what the benefits are for non vs structural.	American Littoral Society
Need examples of living with water - example Containment basins	American Littoral Society
Identify if strategy is living with, protection, or moving away from water	American Littoral Society
Criterial and qualifications for resilience officers and resilience plans	American Littoral Society

Including the floodgate in the plan almost looks like DEP is endorsing a flood gate even if the ecological review is a non-starter. > Dep has legal obligations to protect the shoreline so how can we wholly defer to muni?	American Littoral Society
Current rules are not enforced to their full ability to stop from hardening the coast.	American Littoral Society
how do you deal with impact to surrounding ecological systems?	Road Elevations
Need ecologists, economists, not just political leaders, public	Regional Planning Body
Like TAC for the Earle project	Regional Planning Body
County good at running the process (HMP), but is there actual change and implementation?	Regional Planning Body
Need super local interest - someone beyond a muni needs to take it on and get buy-in	Regional Planning Body
Not sure if County could do it by themselves	Regional Planning Body
Need to coordinate state and county actions	Regional Planning Body
Eventually to get things done, a state authorized body will need to be created - No one wants to go there until it's a critical point	Regional Planning Body
Does moving a plant really mean a rebuilding of the plant	Critical Infrastructure
Possibly have mobile small plants	Critical Infrastructure
Need tertiary dune systems in areas were development retreats	Ecological
Enhance beaches with plantings to create maritime forest, etc.	Ecological
Without funding from the state cannot help supporting state or muni efforts	American Littoral Society
Interested and willing to participate but not as agents for muni. They'll talk about what is best to be done	American Littoral Society
DEP needs to decide to involve other voices	American Littoral Society
Asked public to comment on scenarios at a public meeting.	Highlands
At least every quarter need to evacuate cars.	Highlands
NE wind + high tide; full moon tides are a problem.	Highlands
Stormwater from the higher areas flood the downtown.	Highlands
<p>Their pumps are pumping almost continuously.</p> <p>>Barbarey pump along Shore Drive</p> <p>>North Street by water edge, runs continuously at high tide</p> <p>>Valley street pump, drainage program 1 mil pumping system in ground to retain water.</p> <p>>Earle study found 2 additional pumps are needed - Jones Creek at Snook Harbor Beach (dredge neighboring creek and put submerged pump) and a Jackson Street consider Vets Park also because it floods out to Bay Ave which is near the sewage treatment plant outfall.</p> <p>>Retention basin and pumps at Vet's Park.</p>	Highlands

Slump slopes are also an issue.	Highlands
Not to road elevations because can't see how it would be done. Currently, having utility line issues because of inundation and line disconnects.	Highlands
Sanitary pump station at Waterwich and Bay Street (NEED TO ADD TO THE MAP)	Highlands
Pre-Sandy bungalows 250k, now going for 600-700k. Now people must put in a lot of investment will be even harder to move.	Highlands
Highlands has a large percentage of homes that have flood insurance because they flood so frequently.	Highlands
Clam plant, town owned, and 30-year lease.	Highlands
Wall/bulkhead on marine place rotting through and failing. 25-28 years old, no maintenance plan and maintenance on the borough which wasn't financially prepared to deal with it.	Highlands
Tax base has significantly increased. 700 mil this year, pre-Sandy 580k.	Highlands
Highways flooded 16x this past year. Rt. 36 shut off a Middletown and Sandy Hook.	Highlands
Jones Creek, 6' basin, overflows from stormwater from the Highland.	Highlands
Backup documentation for other grant applications.	Plan
They need cost information from past storms which was lost in Sandy Planning Body.	Plan
Agrees that a regional champion to continue the conversation is needed. >Should be a new group. >Not part of the Two Rivers Council of Mayors.	Plan
Some residents are very interested others are not.	NBB
Working together regionally will allow a stronger application for funding.	General
Regional planning is important because it brings everyone together around the same idea.	General
Figure out the reality we want and what we want to be, and then figure out how to get there.	General
Build high rises on the high areas and do a swap.	General
The hardest part will be getting the political will with individual towns, let alone a group of towns, to decide the areas that will not be developed and more and will move everything inland.	General
Captains Cove: DEP wouldn't allow it to fill-in. > Planned to dredge the cove and fill in from the roadway to the water and develop. Wanted to put bulkhead to ACOE study height for bulkhead (3' higher than what DEP allows).	General
Residential around the Sea Streak Ferry and Vet's park do not want to see any bulkheading. They've raised home and now have million-dollar homes.	General
Mid downtown okay with green infrastructure and living shorelines, okay with innovative ideas.	General

They have non-partisan elections	General
Town voted down ACOE feasibility study because residents are so against losing any potential waterfronts.	General
Flooding mostly occurring through basis, so those directly along the waterfront along the bay are not flooded first because of the seawall.	General
Development downtown is maxed out, so not even sure where they would put green infrastructure in town.	General
ACOE also did address the need for additional pump stations to mitigate precipitation.	General
A municipal study is needed for additional pump stations to mitigate precipitation.	General
Did not mind the idea of the sea wall like in Charleston. Sea Bright's seawall is nicer looking than concrete, but Highlands is artsy so murals would be good. The administrator was VERY supportive.	General
A public meeting/presentation would be a great idea.	General
DEP should consider where sea level rise will be when allowing development to go in.	Regulation
Why is the floodgate a sub-region action when all the other strategies are region-wide?	General
Strategy 1 should be retitled to remove "Bayshore and" because Bayshore means just the area long the Sandy Hook and Raritan Bay.	General
Currently, it's almost impossible to get the necessary state permits to elevate roadways. Is there a plan to make this action feasible? Flood Hazard requires bridge review in non-tidal (fluvial) Current condition and do not allow for you to plan for future conditions. Requires many adjustments and time and doesn't even cover future.	Road Elevations
Most sensible outcome of this project.	Regional Planning Body
Absolutely needed or none of the other strategies will happen going forward.	Regional Planning Body
People, even though involved and especially political representatives, are ready to talk about permanent inundation.	Regional Planning Body
Through resolutions, state requirements, and legislation.	Regional Planning Body
If County should be the body, then the County Planning Act needs to change to give the County decision making authority. If the County will act as a convener of a group, the Act might not need to be changed.	Regional Planning Body
Home rule will always be a problem unless the body has the authority of a Pinelands/Highlands Council.	Regional Planning Body
How do we keep this momentum going once the project is over? How do we continue to drive the need for this group?	Regional Planning Body
Continuation of Steering Committee has no driving force.	Regional Planning Body
How much authority should this group have?	Regional Planning Body
How does the conversation continue? Who leads the group?	Regional Planning Body

Need a local champion so the drive isn't coming out of the state.	Regional Planning Body
Regional municipal planning board possible? Example, the two Princeton's before they merged.	Regional Planning Body
Counties could identify a Resilience Officer.	Regional Planning Body
Sate has delegated different authorities in the past (wastewater). Stormwater Technical Advisory committee. Consider these as models.	Regional Planning Body
Progression/processes for the next 20 years and so on = stepped approach.	Overall
The region can have boots on the ground getting ideas out there and trying to implement projects that will increase resilience, but DEP stops it's because of regulations.	Overall
Putting in sidewalk, needs curb to protect pedestrians. No new impervious cover but because they're putting in a new curb. LUR counts it as a new roadway. In C1 so need to mitigate.	Overall
Do we have depth of PI? Important to provide this information especially along the "new inland shore" so there is an understanding of future use of property - can the area become a marina?	Overall
Acknowledge Earle study in this action plan - most of those actions are short-term. Specifically, the mention that the FRAMES plan calls for strategy 1 in the Bayshore and the Earle study is providing specific green infrastructure projects in this area in the near term.	Overall
Share information with affordable housing to inform where units are being developed. Do towns that will be significantly impacted by PI still have fair share numbers? Military bases are considered undeveloped land that must be counted as developed when calculating fair share numbers.	Overall
Make it clear the areas being developed/focused on within the sub-regions are examples of where the activities could occur.	Overall
Keeping density within municipalities is probably more palatable for muni than rolling easements or TDR.	Overall
Concerned this will target the current Rumson-SB bridge project because they are going through final approval and comment period.	Flood gate
Remove "Rumson-SB bridge" from the title of Strategy 4, maybe change the color.	Flood gate
Maybe show the floodgate could be anywhere along the waterway.	Flood gate
<p>Little Silver specific critical infrastructures:</p> <ul style="list-style-type: none"> - Two Rivers Sewage Authority gave Little Silver Council presentation on upgrades they're doing. Little Silver is one of the members of the Authority. The Authority is spending a lot of money on upgrades. Upgrades (pump station, structural fixes) not specific to flooding and mitigation. 5 or 6 member towns, but other service towns. - JCPL substation by public works. - Pump stations 	Critical Infrastructure

Need to consider the impacts of the towns on the other side of the flood gate that will see more water when the gate is closed.	Flood gate
LS is favorable of the flood gate because it protects the entire estuary including LS.	Flood gate
Will increase LS's rec areas along the water	Overview
If LS wants to let bulkheads be raised by 12' to protect its areas that are most impacted, if the flood gate doesn't happen. Will DEP allow this?	Overview
Waterfront is private residences. DEP would say no to bulkhead replacements. Residents were told to put in bio-logs, which did not hold up during Sandy. 95% of properties are not bulk headed. There are currently significant floodplains along the rivers which currently provide protection to residence. But as sea level rises, that floodplain goes away and the protection that is currently provided. A bulkhead is the only way to protect LS. All homes, except 1 along the waterfront are elevated to 12'.	Bulkheads
Tidelands Resource Council, riparian grants - concern is state government will reverse the state's stance on riparian grants and want to back development off the coastline. That policy reversal would be detrimental to towns like LS.	Bulkheads
Would like to see a bullet that LS should be protected by bulkheads.	Bulkheads
The discussion absolutely must keep going on a regional basis	Regional Planning Body
County might be the best to do it, could be Two Rivers Council of Mayors, could be the DEP	Regional Planning Body
Muni professionals most important to be involved, elected officials	Regional Planning Body
Should keep politics out of it, but can't	Regional Planning Body
Every few years an effort happens to have a regional board/council/etc. Happened a few years ago out of Rumson - got a good email list together and tried for a few years, but the governing bodies all have to be involved, and the feds (Sandy Hook), State Police (patrol rivers), coastal entities, Coast Guard, ACOE, Bay Keepers. So many people that gets unruly.	Regional Planning Body
County is thinking about raising Seven Bridges Road because it's an evac route that currently floods frequently.	Road Elevations
Need reg changes to allows for road elevations	Road Elevations
What format will the plan take? Will it be distributed to the GO and legislature	General
Mayor supports planning on a regional basis and thinks our Council would say the same. They want to be able to protect and preserve what they have. The more suggestions and proposals we can give them, the better. It's more to consider.	General
Supports all strategies conceptually. Need to be sensitive of identifying locations that need to move away. It will affect property values.	General

Support protecting what they have. They are not interested in a state-level policy to retreat because until that point when people cannot stay, they need options for how to protect what they have now.	General
Flood control projects would change how sea-level rise impacts areas around those projects. -Route 36 is elevated out past Church Street - East of Wilson Ave is elevated - All the areas in between those areas will be the protected area	Middletown
The Middletown Stormwater Treatment Plant is not much above sea level.	Critical Infrastructure
The tanks are 6' above sea level.	Critical Infrastructure
The town may not look at new locations for the stormwater treatment plant favorably because no one wants it in their back door.	Critical Infrastructure
Belford Ferry Terminal Comments -The terminal is part of the town's redevelopment plan, which now has a developer identified. -Site planning and permitting with begin in 2020. -It would be up to the town, county, and redeveloper for planning for some sea level rise. -New York waterways lease the property from Monmouth County. -Approximately 10 acres of the site is used for lead composting. -This would affect the seafood co-ops because they are part of the redevelopment area. When elevations could change, this would change the elevations of the buildings along the creek where boats unload fish. ->Can the buildings be elevated? This needs to be taken into consideration. -The County is potentially doing a solar field in the old landfill site.	Critical Infrastructure
Potential source of funding can come from flood insurance.	Home Raisings
If the state and insurance companies allow homeowners to initiate the elevation of their homes before being damaged this could lead to a payout of \$50,000. -However, going through FEMA would be twice the payout. ->This would require congressional action.	Home Raisings
The champion of doing something like this should come from a County level.	Regional Planning Body
Currently, County planning boards can only touch the edges of projects. This would give them more impact. -There already exists some staff and data collection. -Local elected officials tend to have a county freeholder.	Regional Planning Body
The option to allow county planning board to take this on is favorable, as well as, possibly an independent group.	Regional Planning Body
Towns like regional bodies until they start telling towns what to do. Municipalities also do not want to give up their decision-making powers.	Regional Planning Body
It is not the best idea to do this at the DEP level; it will not be received well.	Regional Planning Body

Counties with less capacity could combine into one regional body. For example, Salem and Cumberland.	Regional Planning Body
In order to make this happen and to keep the conversation going there needs to push coming from some sort of mandate, such as from the state.	Regional Planning Body
In order to create public support, community members who are passionate about resiliency issues could come together and start talking and get others in the community excited.	Regional Planning Body
There is a need to be allowed to take out phragmites if the municipalities are willing to use their own manpower. However, the DEP does not allow this because it could lead to disturbing and possibly destroying established habitat.	Ecological
Wilson Ave and Main Street currently flood but will be protected once levee system is in place.	Road Elevations
Church Street has recently been elevated from coastline to halfway to Rt. 36.	Road Elevations
It is the government's responsibility to protect people from elements, such as nature.	General
Allow affordable housing for residents that need to move out of areas at risk.	General
Permanent inundation means the MB elementary school will be wet every day and it this goes into the park	Critical Infrastructure
It is difficult to explain MHHT to the community -provide supplemental information to show correlation between MHHT and sea level. - Be able to say 2 1/2 difference	General
If we see ugly tide regularly, the community is still able to get in and out	General
If we want action, we need clear words	General
Currently have bulkheads at 6' which is where high tide is	Bulkheads
People are complaining about flooding on Monmouth parkway due to bulkhead being too low.	Bulkheads
Sea Bright's bulkheads will go to 7'. How did they get that/there? And why doesn't MB's?	Bulkheads
Sewage Treatment Center has 13 service areas/towns -under the impression it cannot be relocated	Critical Infrastructure
This will only protect from storm surges and not permanent inundation	Home Raisings
There is a need to regionalize planning - one towns construction impacts the traffic flow, which impacts the entire region	Regional Planning Body
Should have land use as a planning body	Regional Planning Body
We shouldn't have one OEM per town, but County OEM should champion this and be responsible for staffing the body. - then have representatives that communicate to the towns	Regional Planning Body

Does not like the idea of having a Chief Resilience Officer because then all 53 towns will want one.	Regional Planning Body
USGS states that development should have never been built on the barrier islands in the first place	General
Mayor wants words for the renderings that lists what is shown	General
There should be a plan to provide the opportunity to buy-out when residents move. They can be given the money, but don't have to move right away. -something in place you can't turn over	General
Wants the one from Sandy Hook to NY	Flood gate
Would help with storm surge, but not so much with permanent inundation	Flood gate
Also is okay with the one from Rumson	Flood gate
We are seeing enough of the nuisance flooding to not be having this conversation	General
Wants a write up for communication purposes	General
Needs to know the numbers upfront	General
It is time to be radical, practical, and technical and not use scare tactics	General
The projections are still just projections -they will happen, but just maybe not as fast as assumed	General
Could rebuild bulkheads to where they were before, but a Sandy level storm would come above that	Bulkheads
The pump control panels are raised already 8' - which help against surges - water wicked through the pumps	General
Wall in Sea Bright will be raised	General
Is the government going to buyout when it comes to that point - more flooding means home values will decrease	General
At some point SB wants to connect bulkheads together to help protect residents	Bulkheads
SB likes the flood breaks	Flood gate
Likes the Sandy Hook to NY flood gate - if they put that in, we wouldn't need the flood gate if the barrier islands are maintained	Flood gate
Consider the new bridge that is being places currently, retrofit into the design	Bridge
After Sandy, some people no longer want to live near the coast	General
Targeted road raisings affect every utility; if raise all roads which is not feasible --> affects evacuation routes and how do we get out?	Road Elevations
OEM directors is a good start - tether OEM together	Regional Planning Body

SB's "best interest" is to know what works, what doesn't work, and what might work.	Regional Planning Body
States involvement = tied to state OEM - County is another good player	Regional Planning Body
Bigger planning is needed --> maps for counties	Regional Planning Body
Minimum requirements need to be set for the champion OEM	Regional Planning Body
Have coastal engineers involved - mix of professionals - not political heavy	Regional Planning Body
Community tends to be reactive and has short term memory (meaning if the issue isn't constantly talked about, it's no longer on the community's mind)	Regional Planning Body
improve how SB relays emergency messages and keeping the community aware of everything that occurs	Sea Bright
Some parts of the community did not like the idea of segmented bulkhead - some flooding still occurs	Bulkheads
What will the flood gate do to the nearby surroundings? - Feasibility study	Flood gate
What's the idea regarding recreation areas? Beach?	General
Look at BCA - what are the economic benefits	General
The town will be unhappy If you call out specific areas, but if you plan in stages; don't use scare tactics	General
Make sure different options are out there in order to be effective	General
Add case studies and models and success stories, specifically of sea walls	General
DEP should push down to home rule level for these strategies -County should be helping / be a bit more involved, however, they are proactive	General
Some strategies don't consider rainfall --> which will impact this/these levels even more.	General
Difficult to vision / plan for future events until there is an emergency.	General
Navesink was historically an inlet - restore natural habitat	General
Barrier island will stay protected as a first line of defense	General
How are these strategies compared to Army Corps plans	General
County instead of mayors due to politics	Regional Planning Body
FH is uniquely involved due to being on a coastal bluff and don't experience so much inundation, but act as a receiving zone for more impacted regions/municipalities	Fair Haven
County, not separate regions - County should champion the planning body	Regional Planning Body

2 Rivers Council of Mayors can be involved, but not lead	Regional Planning Body
Counties have a better understanding of the politics and community involved vs the state. The state should support, but not lead	Regional Planning Body
There needs to be a huge incentive for people to sell land to state/ etc.	General
Everything the DEP proposes makes sense from an engineering standpoint but economically that's a different story. -Individual property is very personal	General
Main impact with the sewage plant to make sure that it is in a viable place (relocation) - -> build out scenario - economic analysis would need to be done.	Critical Infrastructure
Plans like this impact the region not just the parts	General
Shrinking population near coast - growing population everywhere else	General
reconcile MHHW and SLR and that this plan does not use NAVD88 and these levels vary across the region	General
When is this done?	General
What is the deliverable to the towns?	General
Will the towns have to recognize/adopt the final plan?	General
Will DEP provide examples of the strategies? - What if the example doesn't exist?	General
Have we thought about a matrix/ schedule. - example: short, middle, and long-term timeline	General
How do we modify our next master plan, next floodplain management plan, and prepare for disaster	General
County level should champion - we need a planning body and one doesn't exist	Regional Planning Body
Challenge is that the group will need to hire professionals - and need a funding mechanism	Regional Planning Body
Chief Resilience Officer at County level may help speed up the process but may not be the most effective.	Regional Planning Body
It difficult to get people to volunteer for the government	Regional Planning Body
non-profit organizations may be driven by their own goals - and would not be the best champions for this	Regional Planning Body
Find a way and protect assets and the community	General
Should include best management practice for resiliency from the DEP? - Checklist from the Governor's Office? - Financial incentive	General
Mention that it is on-going and not just needs to be for the future	Home Raisings
Explain why you picked the region you did	Flood gate
There are a lot of lowlands north of Rumson, possibly make it into an island	Flood gate

Need access to bring water into Shrewsbury River and not all through the Navesink River area	Flood gate
Be prepared for the connection regarding North of Rumson and County's new bridge	Bridge
Flood gate gives false sense of security	Flood gate
West Park - homes have been raised since Sandy but flooding is inevitable	General
Beach Clubs on barrier island are resistant to adding a sea wall	General
Do you think the department (land use) will approve thin lift deposition for dredge material for/from Barrier Island	General
Sewage Treatment Plants are normally built at lower lands because of gravity and how the system works. - if you raise the plant, you must find a way to reverse the system.	Critical Infrastructure
Do you think we will meet the expected results in the Grant document?	General

APPENDIX N: WEBINAR WITH STEERING COMMITTEE, CONSTITUENCY ADVISORY GROUP, AND TECHNICAL ADVISORY GROUP MEMBERS TO PRESENT DRAFT RRAAP COMBINED WITH COMMUNITY EVENT #5: PRESENT DRAFT RRAAP

Social Media Push for Webinar

Two Rivers, One Future

New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (FRAMES)

NJ FRAMES Final Engagement Webinar

Tuesday, December 17th
10:00 am – 11:00 am



Join this Webinar by computer, tablet or smartphone.



For audio, you can also dial in using your phone.

Connect via  Webex

<https://bit.ly/38swlYB>

Password	Access Code	Join by phone
NJFRAMES	792 341 870	+1-650-429-3300

#TwoRiversOneFuture

 njframes@dep.nj.gov

<https://www.nj.gov/dep/bcrp/njframes.html>



Email reminder for Webinar to Stakeholder/Steering Committee Members.

From: [Angarone, Nick](#)
Cc: [Hill, Rebecca](#); [Arichal, Lisa](#)
Subject: *REMINDER* NJ FRAMES - Final Engagement Webinar
Date: Monday, December 16, 2019 4:49:19 PM
Attachments: [Final Webinar Agenda.docx](#)
[FRAMES Webinar 12.17.19 Version 2.1.png](#)

Hello,

This is a reminder that tomorrow, December 17th, from 10:00 – 11:00 am will be the final webinar for the “Two Rivers, One Future” ([NJ FRAMES](#)) project. The agenda is attached.

Webinar Details:

Meeting number: 792 341 870

Password: NJFRAMES

<https://rutgers.webex.com/rutgers/j.php?MTID=m5c2120444678da7ee2ea1bbe3eb8b74a>

Join by video system

Dial [792341870@rutgers.webex.com](tel:792341870)

You can also dial 173.243.2.68 and enter your meeting number.

Join by phone

+1-650-429-3300 USA Toll

Access code: 792 341 870

Please share this appointment with anyone you think would be interested, including your followers on Facebook or other social media platforms.

Facebook/Instagram: For your convenience, we have attached an image for your use on Facebook and/or Instagram. We will be posting this information to our @njcoastalmanagement account with the following caption:

The [#TwoRiversOneFuture](#) (NJ FRAMES) project is coming to an end!! [#NJDEP](#) invites residents and stakeholders of the Two Rivers region of [#MonmouthCounty](#) to join us in a [#NJFRAMES](#) 1-hour webinar on Tuesday, December 17th at 10AM to learn about and provide input on the [#resilience](#) plan that has been developed for the region over the past three years.

Connect via @webex: <https://bit.ly/38swlYB>

Password: NJFRAMES

Access Code: 792 341 870

Join audio by phone: +1-650-429-3300

For Twitter:

[#NJDEP](#) invites residents and stakeholders of the Two Rivers region of [#MonmouthCounty](#) to join us in a [#NJFRAMES](#) webinar on Tuesday, December 17th at 10AM to learn about and provide input on the developed [#resilience](#) plan for the region. [#TwoRiversOneFuture](#) | Link: <https://bit.ly/38swlYB>

Nicholas Angarone, PP/AICP

New Jersey Department of Environmental Protection

Bureau of Climate Resilience Planning

401 East State Street | P.O. Box 402 | Trenton, NJ 08625

Tel. 609 984-0058 | Email: nick.angarone@dep.nj.gov

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Agenda for Webinar

Two Rivers, One Future

New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (FRAMES)

NJ FRAMES Webinar

A Review of the Two Rivers Regional Resilience Adaptation Action Plan

Tuesday, Dec 17, 2019 10:00 am | 1 hour | (UTC-05:00) Eastern Time (US & Canada)

Meeting number: 792 341 870

Password: NJFRAMES

<https://rutgers.webex.com/rutgers/j.php?MTID=m5c2120444678da7ee2ea1bbe3eb8b74a>

Join by video system

Dial [792341870@rutgers.webex.com](tel:792341870)

You can also dial 173.243.2.68 and enter your meeting number.

Join by phone

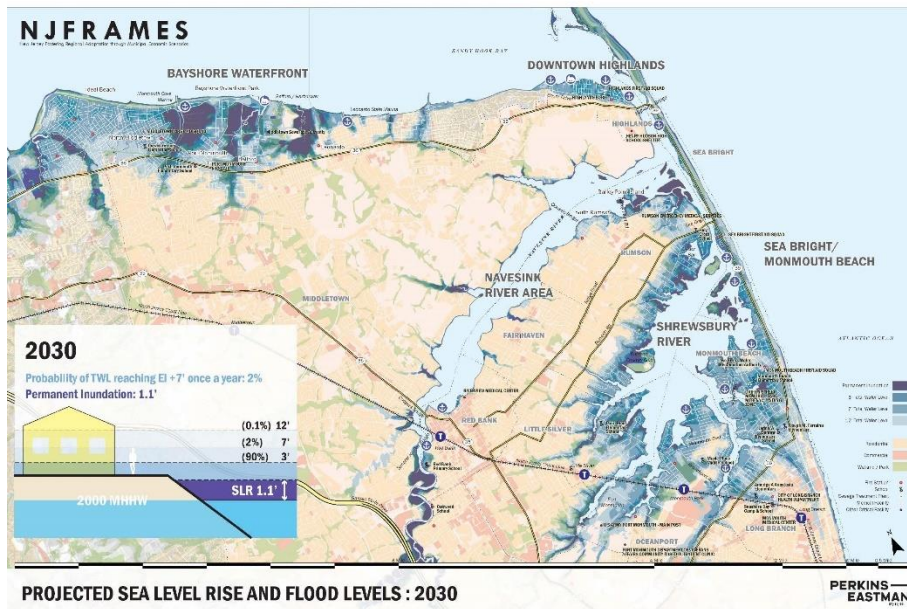
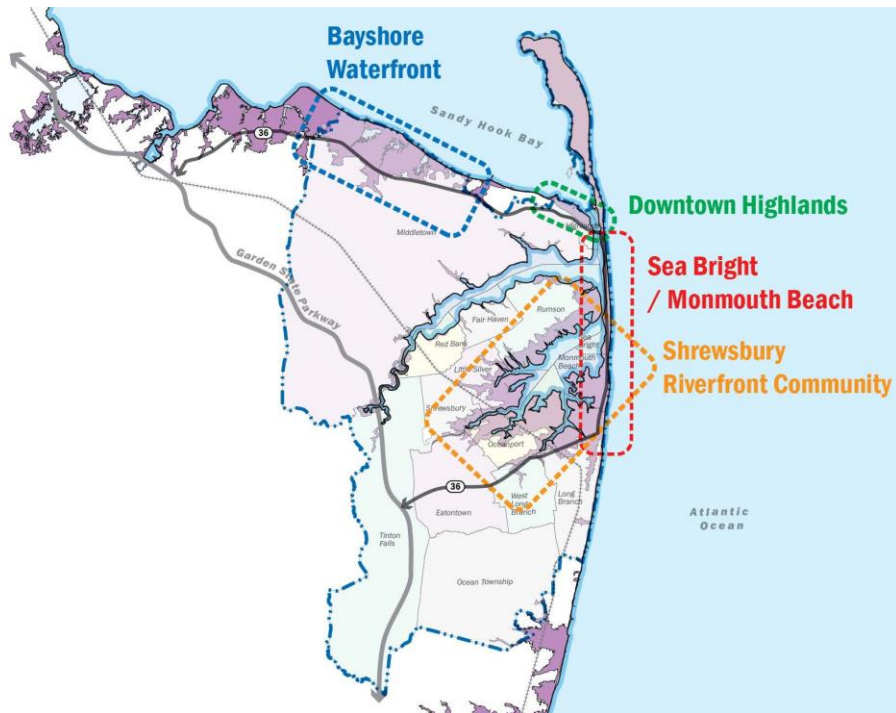
+1-650-429-3300 USA Toll

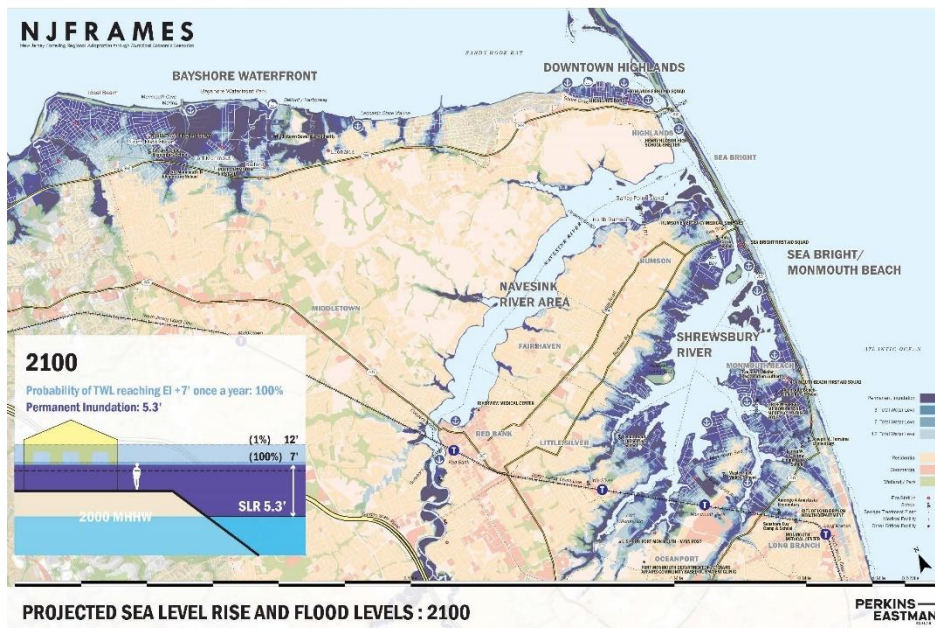
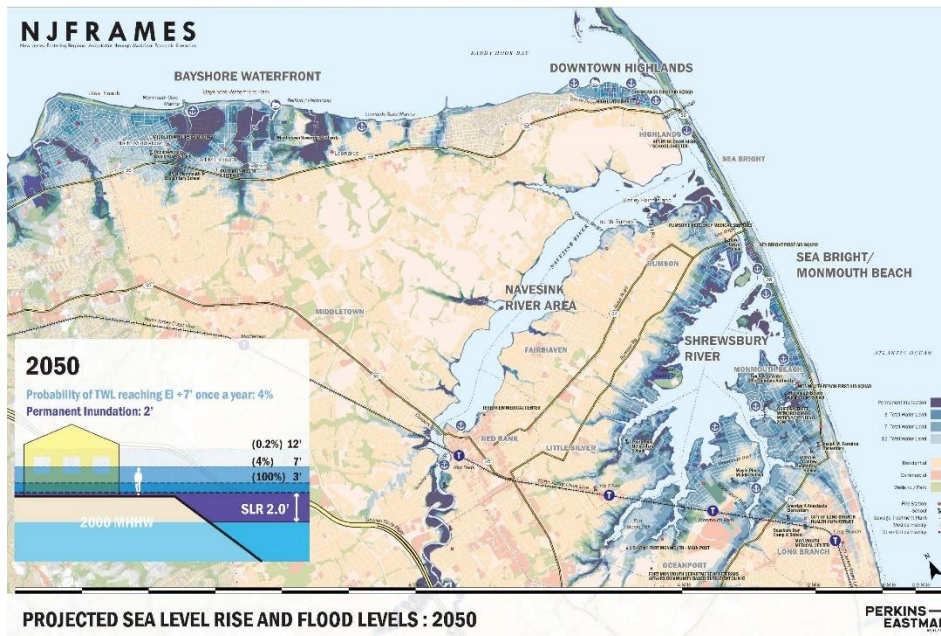
Access code: 792 341 870

Agenda

- | | |
|----------|---|
| 10:00 am | Welcome and Introductions
<i>Nick Angarone, NJ DEP Bureau of Climate Resilience Planning</i> |
| 10:05 am | Review the Two Rivers Regional Resilience Adaptation Action Plan
<i>Bryan Kiel, WSP</i> <ul style="list-style-type: none">• Thinking about the future (2030, 2050, 2100):<ul style="list-style-type: none">○ What is at risk?○ What needs to be planned for?○ What are the strategies? |
| 10:40 am | Moving forward: Next Steps for the Two Rivers Region
<i>Lisa Auermuller, JC NERR</i> <ul style="list-style-type: none">• Opportunity for participation and feedback |
| 11:00 am | Conclude |

Presentation for Webinar





Flood Event	Average Annual Frequency	Total Impacts (2017 USD)	Annualized Losses (2017 USD)	Permanent Loss (Absolute Loss)
2020				
MHHW + 3'	72%	\$256,350,519	\$184,572,374	N/A
MHHW + 7'	1.5%	\$1,650,305,499	\$24,754,582	N/A
MHHW + 12'	.10%	\$4,984,228,820	\$4,984,229	N/A
2030				
MHHW + 3'	90%	\$144,036,395	\$129,632,755	\$232,121,024
MHHW + 7'	2%	\$1,548,155,923	\$30,963,118	\$232,121,024
MHHW + 12'	.10%	\$4,875,848,873	\$4,875,848	\$232,121,024
2050				
MHHW + 3'	100%	\$80,240,583	\$80,240,583	\$458,048,822
MHHW + 7'	4%	\$1,516,538,989	\$60,661,560	\$458,048,822
MHHW + 12'	.20%	\$4,812,846,944	\$9,625,694	\$458,048,822
2100				
MHHW + 3' ¹	100%	\$0	\$0	\$886,114,195
MHHW + 7'	100%	\$683,415,441	\$683,415,441	\$2,597,858,119
MHHW + 12'	1%	\$4,133,838,642	\$41,338,386	\$2,597,858,119

Loss Type	MHHW + 3' (%)	MHHW + 7' (%)	MHHW + 12' (%)
2030			
Building Losses	74.1%	77.1%	78.0%
Essential Facility Loss	0.9%	0.7%	1.7%
Vehicle Losses	11.7%	13.5%	9.3%
Socio-economic Impacts	1.0%	0.4%	0.3%
Asset Specific Losses	4.6%	5.5%	8.5%
Impacted Recreational Utility of Marinas	0.1%	0.0%	0.0%
Impacted ecosystem services	6.9%	1.7%	0.8%
Incurred mental health treatment costs	0.1%	0.2%	0.3%
Lost productivity from mental health issues	0.4%	0.6%	0.9%
Lost Value of Time from road closure/travel disruptions	0.1%	0.1%	0.2%
Lost productivity from power outages	0.1%	0.1%	0.1%
2050			
Building Losses	71.5%	77.6%	78.0%
Essential Facility Loss	1.4%	0.7%	1.7%
Vehicle Losses	12.2%	13.3%	9.2%
Socio-economic Impacts	1.2%	0.4%	0.3%
Asset Specific Losses	6.4%	5.6%	8.6%
Impacted Recreational Utility of Marinas	0.1%	0.0%	0.0%
Impacted ecosystem services	6.6%	1.5%	0.7%
Incurred mental health treatment costs	0.1%	0.2%	0.3%
Lost productivity from mental health issues	0.4%	0.6%	0.9%
Lost Value of Time from road closure/travel disruptions	0.1%	0.1%	0.2%
Lost productivity from power outages	0.1%	0.1%	0.1%

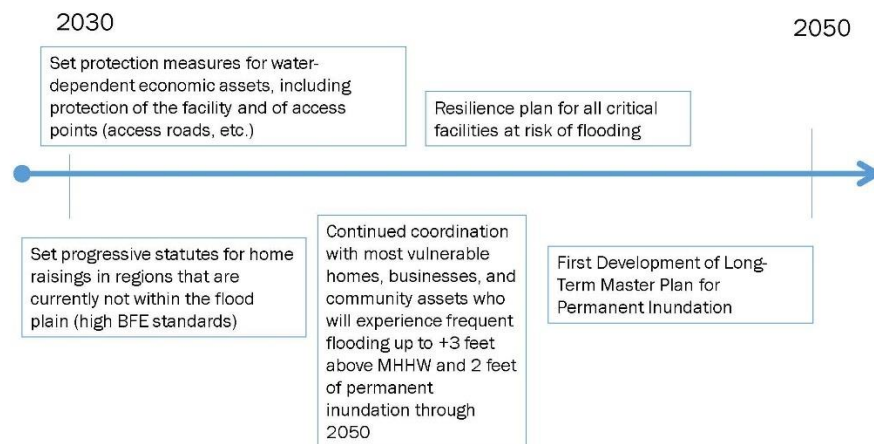
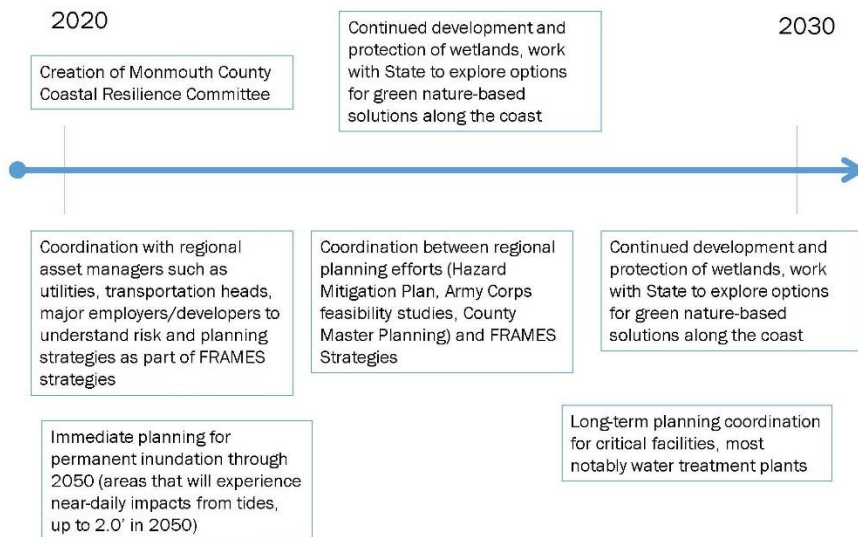
2100				
Building Losses		N/A	75.6%	78.4%
Essential Facility Loss		N/A	0.0%	1.8%
Vehicle Losses		N/A	15.7%	8.5%
Socio-economic Impacts		N/A	0.3%	0.2%
Asset Specific Losses		N/A	6.2%	9.0%
Impacted Recreational Utility of Marinas		N/A	0.0%	0.0%
Impacted ecosystem services		N/A	0.7%	0.4%
Incurred mental health treatment costs		N/A	0.3%	0.3%
Lost productivity from mental health issues		N/A	0.9%	1.0%
Lost Value of Time from road closure/travel disruptions		N/A	0.2%	0.2%
Lost productivity from power outages		N/A	0.1%	0.1%

Permanent Inundation

Loss Type	2030 1.1' SLR	2050 2.0' SLR	2100 5.3' SLR
Building Losses	68.2%	70.2%	67.0%
Essential Facility Loss	0.0%	0.6%	0.5%
Vehicle Losses	10.7%	9.1%	8.8%
Socio-economic Impacts	0.8%	0.9%	0.5%
Asset Specific Losses	5.3%	5.2%	11.4%
Impacted Recreational Utility of Marinas	0.0%	0.0%	0.0%
Impacted ecosystem services	5.2%	3.6%	1.3%
Incurred mental health treatment costs	1.7%	1.8%	1.8%
Lost productivity from mental health issues	6.1%	6.4%	6.4%
Lost Value of Time from road closure/travel disruptions	1.2%	1.4%	1.5%
Lost productivity from power outages	0.8%	0.8%	0.8%

STRATEGIES FOR THE REGIONAL ACTION PLAN

- 1 New Coastal Protection Infrastructure
- 2 Protect Critical Facilities
- 3 Harden and Plan for Future of Water-Dependent Assets
- 4 Neighborhood-Level Adaptation Measures
- 5 Long-term vision and master planning for permanent inundation
- 6 Monmouth County Coastal Resilience Committee



2050

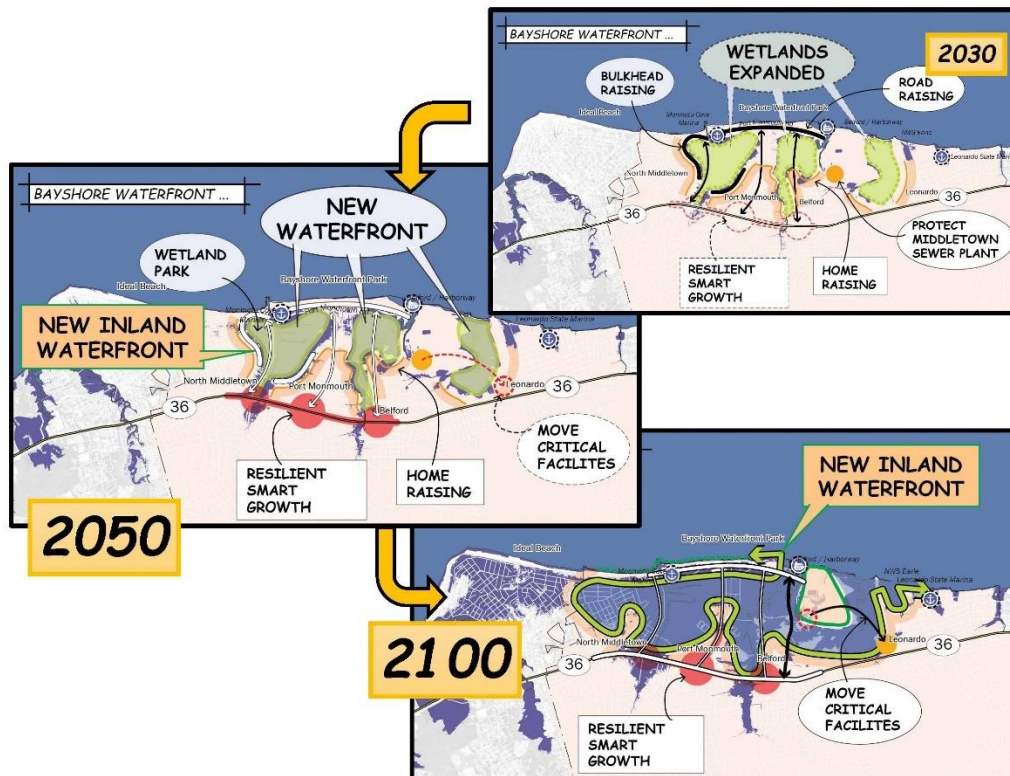
2100

Development of storm surge barrier near Rumson and Sea Bright

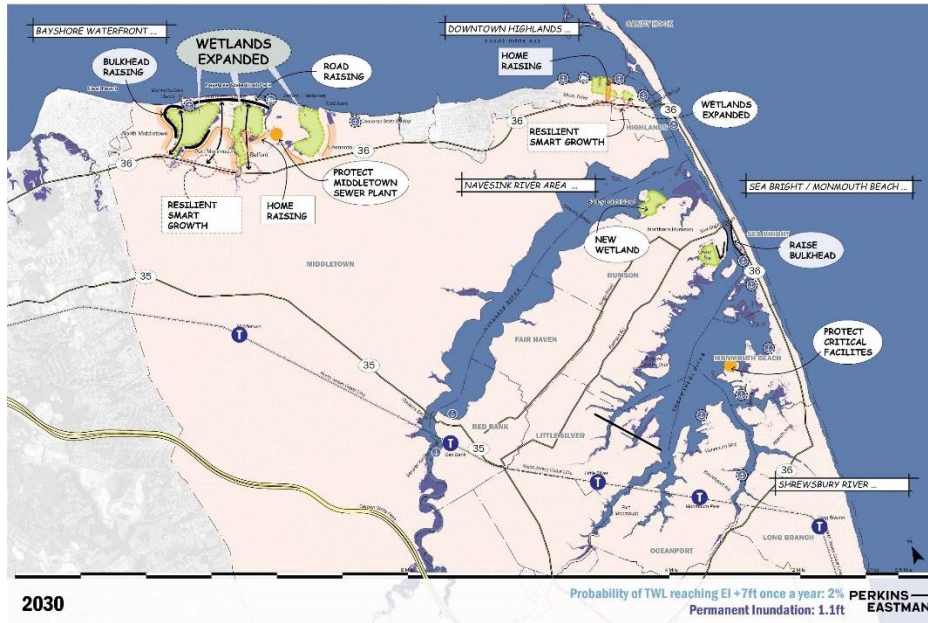
Implementation of Long-term Permanent Inundation vision, with expansion of wetlands and open space around the coast

Periodic updates to the Permanent Inundation Master Plan

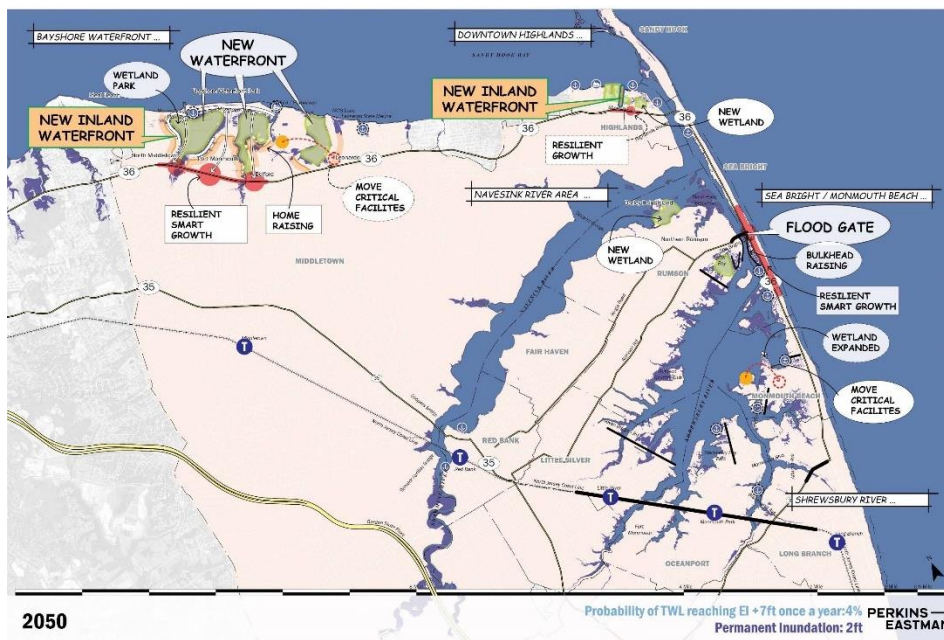
Protection of assets at higher elevations that are now within the 100-year floodplain, including the train line, critical facilities, and residential neighborhoods that are at a higher elevation but within +12 feet above MHHW



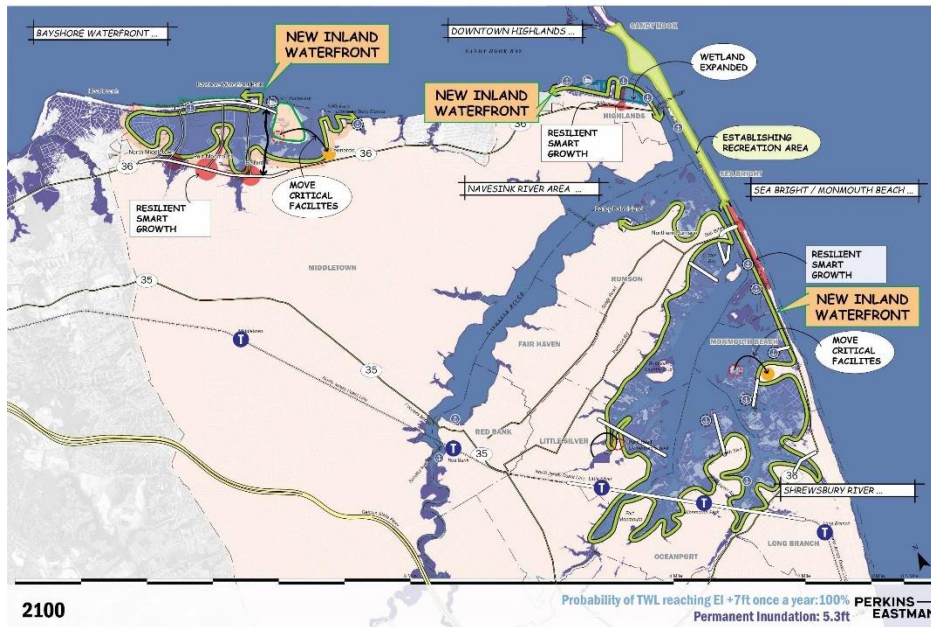
2030 Selective Adaptation



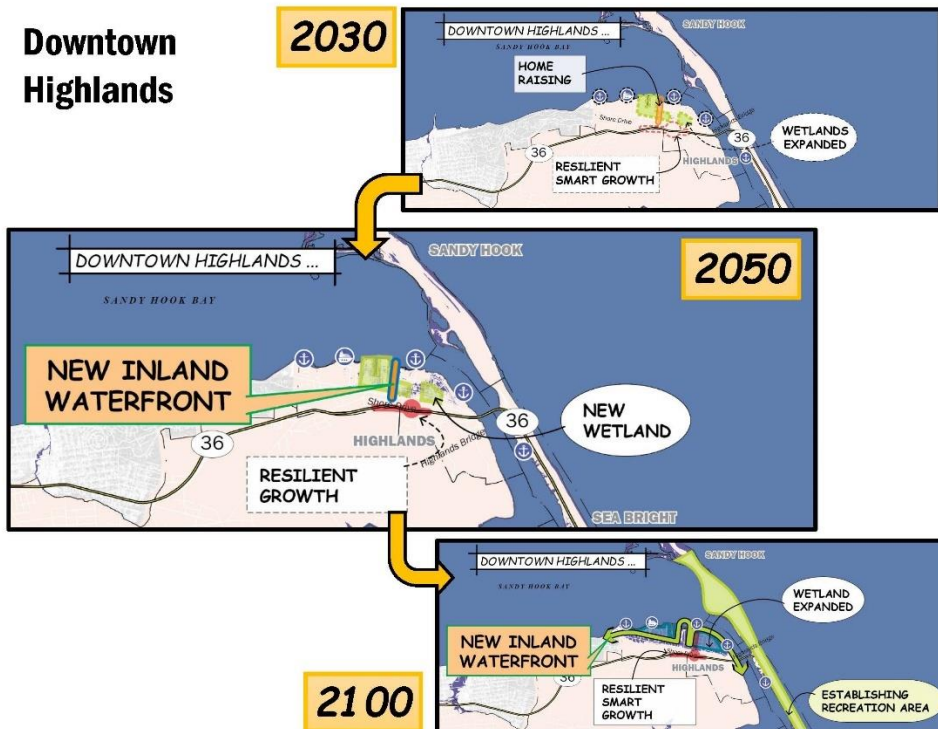
2050 Resilient Growth



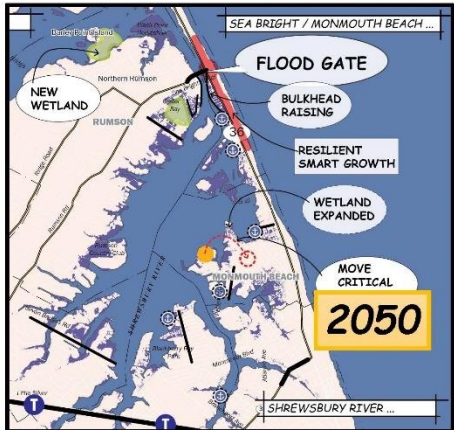
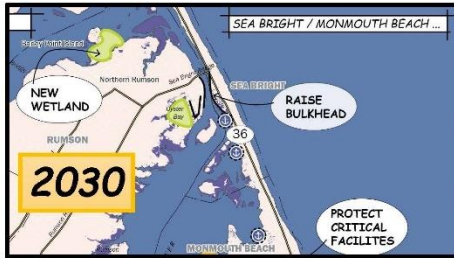
2100 Resilient Region



Downtown Highlands



Shrewsbury River, Sea Bright / Monmouth Beach



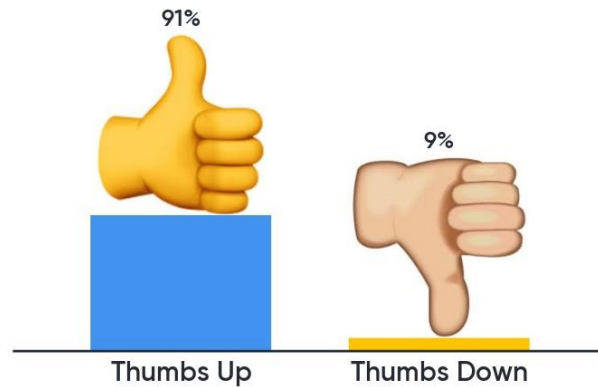
Next Steps: Implementing Regional Resilience

	Near-Term Option	Start Date	Potential Implementers	Time to Completion	Other stakeholders
1	A team of county leaders and select municipal and non-profit and academic leaders will determine the roles and responsibilities of the Monmouth County Coastal Resilience Committee	January 2020	Monmouth County Planning, Two River Council of Mayors	1 year	Current Stakeholder members
2	Coordination with waste water and sewage treatment plants to understand risk and development plans	Spring 2020	Municipal officials, Two Rivers Council of Mayors	Ongoing	Sewer/wastewater customers beyond the Two Rivers region
3	Presentation of regional strategies for consideration in Army Corps project planning and feasibility studies	2020	County, DEP Coastal Engineering	Ongoing	USACE, Baykeeper, American Littoral Society, waterfront residents and building owners
4	Consideration of regional strategies for residential, commercial, and open space development (enforceable by planning boards and municipality/county plans)	2020	County, Municipal Leaders	Ongoing	Waterfront property and asset owners
5	Adaptation of progressive home raising measures for each municipality	2020	Municipal Leaders and Zoning Boards	Ongoing	Individual residential property owners
6	Coordination with regional transportation entities to understand long term risk	2020	Monmouth County Office of Emergency Management, Monmouth County Planning	Ongoing	NJ DOT, Monmouth County Engineering, NJ Transit, municipal leaders

Mentimeter Feedback during the Webinar

A team of county-wide leaders will determine the roles and responsibilities of the Monmouth Co. Coastal Resilience Committee.

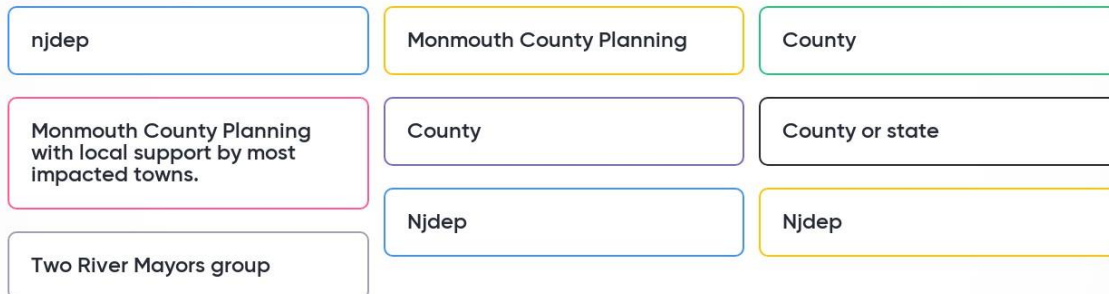
Mentimeter



23

Who or what entity would be the best to champion this next step?

Mentimeter



23

Who or what entity would be the best to champion this next step?

Mentimeter

County Planning	Monmouth County economic development	County sheriffs office ir other first response teams
Njdep	Joe Barris MC	Any organization that will ensure transparent civil society participation in the process.
Committee of county and two river municipal representatives	Monmouth county planning	Monmouth county planning

23

Who or what entity would be the best to champion this next step?

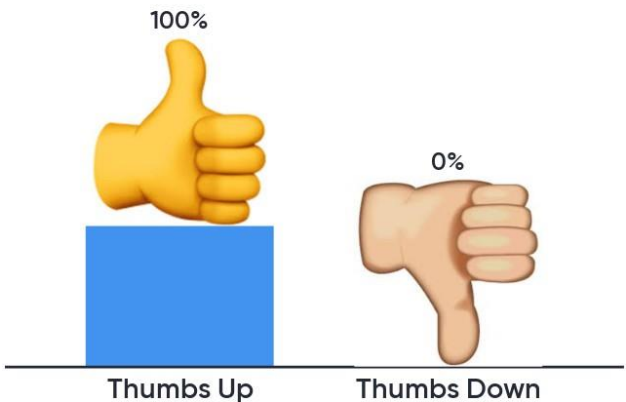
Mentimeter

County Freeholders	Homeowners and environmental Committee and waterfront businesses	NJ State Planning Commisson
County and Municipal leaders	Monmouth county planning	

23

Coordination with wastewater and sewage treatment plants to understand risk and development plans.

Mentimeter



23

Who or what entity would be the best to champion this next step?

Mentimeter

Njdep	Dep	I don't know. Perhaps NJDEP.
County and NJDEP	NJDEP	Njdep
Mayors	Linda Brennan MC Planning	State and county

21

Who or what entity would be the best to champion this next step?

Mentimeter

County planning and DEP

Two River mayors

MC Freeholders through the WQMP process

DEP

Sewer operators

NJ DEP

The County Council thingy

Njdep

Borough environmental commissions

21

Who or what entity would be the best to champion this next step?

Mentimeter

NJDEP

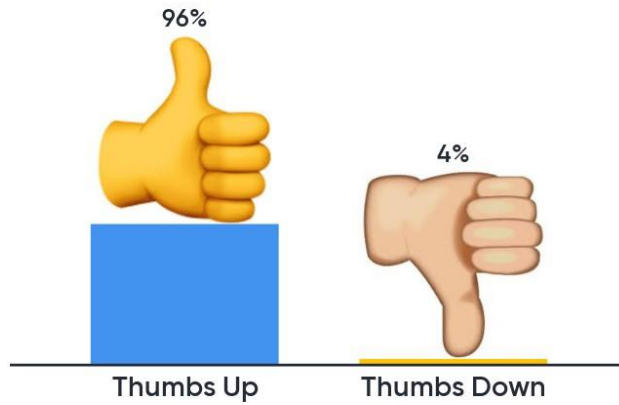
Dep

njdep

21

Presentation of regional strategies for consideration in Army Corps project planning and feasibility studies.

Mentimeter



25

Who or what entity would be the best to champion this next step?

Mentimeter

DEP	Dep	County committe
acoe	MC Engineering	Monmouth County OEM
Njdep	NJDEP	DEP

23

Who or what entity would be the best to champion this next step?

Mentimeter

USACE office in Middletown

Njdep

Nj dep. they can have fun with the corps

NJ DEP

Dep

Anyone who can keep the process transparent with civil society input.

DEP and engineer team

Njdep and Mayors

NJDEP

23

Who or what entity would be the best to champion this next step?

Mentimeter

NJDEP and MC Planning and Engineering

NJDEP and State Planning

Team of fed, state, and non pros in region

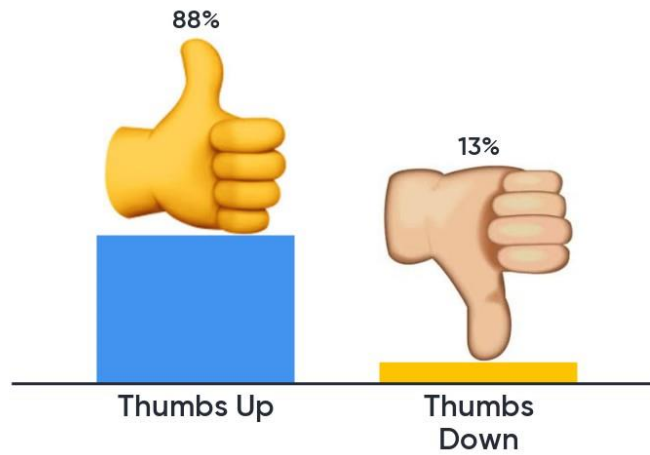
Borough OEMs

Njdep & academia & engineering consultants

23

Consideration of regional strategies for residential, commercial, and open space development (enforceable by planning boards and muni/co plans).

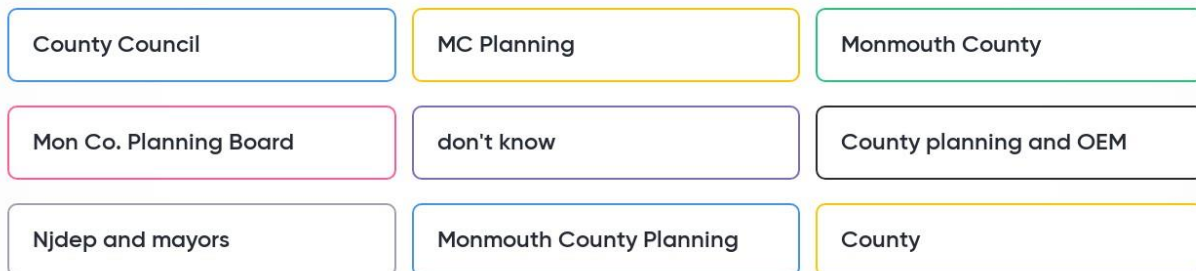
Mentimeter



24

Who or what entity would be the best to champion this next step?

Mentimeter



19

Who or what entity would be the best to champion this next step?

Mentimeter

Local towns with county durement	County Planning & Parks departments with municipal input	Borough environmental commissions
Monmouth County Planning with OEM	Monmouth county	County council
Dep and county planners	Monmouth county planning	Dep

19

Who or what entity would be the best to champion this next step?

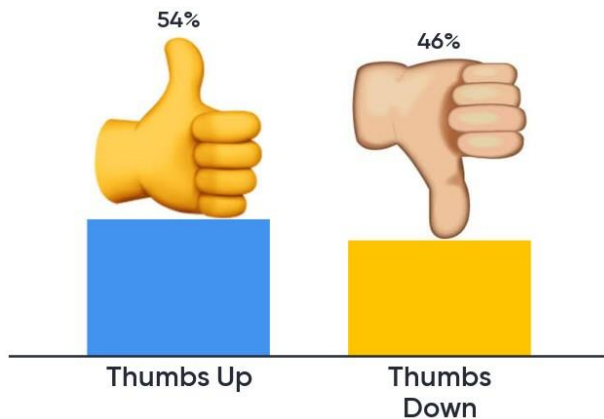
Mentimeter

county

19

Adaptation of progressive home raising measures for each municipality.

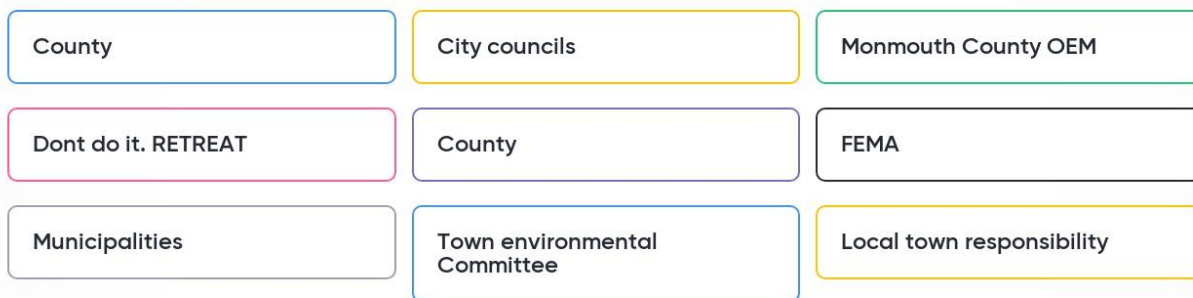
Mentimeter



24

Who or what entity would be the best to champion this next step?

Mentimeter



15

Who or what entity would be the best to champion this next step?

Mentimeter

County

Mayors using proceeds from the NJRGGI energy auction in March 2020.

Real estate agents. A conflict of interest

County and municipalities

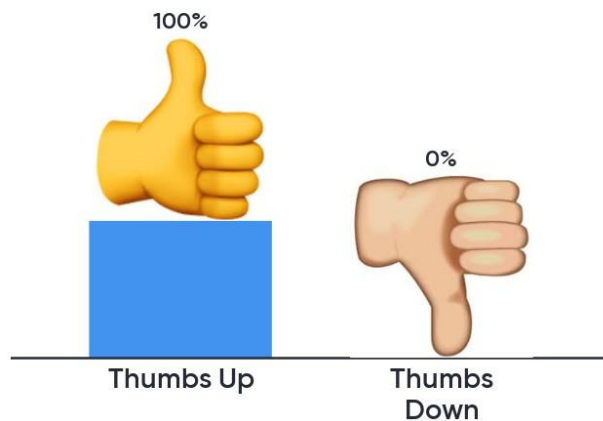
Local construction official & fema should not allow destroyed houses rebuild

County

15

Coordination with regional transportation entities to understand long term risk.

Mentimeter



21

Who or what entity would be the best to champion this next step?

Mentimeter

NJDEP	NJDOT	Njdot
Njdot & nj transit	State and county	NJDOT and/or RPA
county	NJDEP Coastal Resilience	Njdep and railroads

▼

21

Who or what entity would be the best to champion this next step?

Mentimeter

Njdep	County and DOT	NJDOT
Monmouth County Planning	Dot.	Njdot and nj transit
County/NJDOT/NJDEP/NJTRANSIT	NJDOT and NJTRANSIT and NJTPA	NJ transit needs a liaison

▼

21

Who or what entity would be the best to champion this next step?

Mentimeter

Njdot

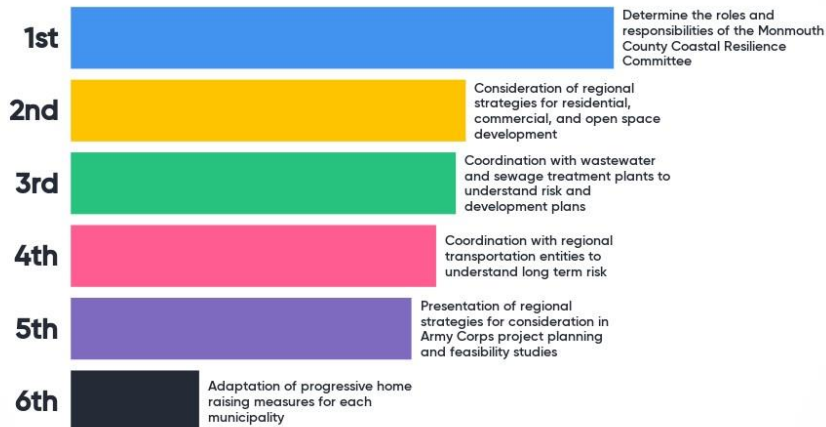
Njdep and dot

1 3 2 4 6 5

21

Rank the next steps in the order they should be prioritized to implement resilience for 2030.

Mentimeter



22

What additional comments/thoughts do you have regarding these next steps? You can respond verbally or by typing them in.

Mentimeter

funding sources will be an initial first step hurdle

I liked seeing the emphasis on nature-based solutions. However, many of these solutions would require moving people out of their homes. Who would handle this part of the process? How much feedback from the communities impacted would be incorporated?

What is the role of the building community?

Start now with published steps individual home owners can take to grade property build berms and retaining walls now. Hopefully that can be adopted by building officials in 2020

Thank you for this great effort for this project!

Who would implement this program

Dept of defense grant was given to county division of planning to work with NWS Earl and Bayshore communities on "monmouth county raritan/sandy hook coastal resilience planning study". THIS MUST BE INCLUDED IN PLANNING!



7

Post Webinar Follow Up Email

From: [Angarone, Nick](#)
Subject: NJ FRAMES - Final Engagement Webinar Follow-up
Date: Wednesday, December 18, 2019 10:55:40 AM

Hello All,

Thank you to everyone who was able to participate in our NJ FRAMES Final Engagement Webinar. For those who were unable to join us, you can watch the recording of the webinar [here](#) by entering password **NJFrames123**.

We also invite you to complete the online [survey](#) to provide feedback on the content of the Draft Regional Resilience and Adaptation Action Plan (Regional Action Plan). The survey will only be available for one week so **please complete the short survey before 12/24/2019**.

On the [NJ FRAMES website](#) you will also be able to find:

- The Draft Regional Action Plan
- A link to the survey
- A link to the recorded webinar and the Mentimeter results from today

In addition to filling out the survey, please provide us with any feedback you may have. Also, **please share this information with anyone that would be interested**.

As always, we truly appreciate your continued participation in the project and please contact Rebecca Hill, the project manager, at (609) 292-4612, if you have any questions.

Hope that you all have a peaceful holiday season and a happy new year!

Nick


Nicholas Angarone, PP/AICP

New Jersey Department of Environmental Protection
Bureau of Climate Resilience Planning
401 East State Street | P.O. Box 402 | Trenton, NJ 08625
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NJ FRAMES Website Front Page with Links to Draft RRAAP and Comment Survey

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
CLIMATE AND FLOOD RESILIENCE PROGRAM



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Coastal Management
Program

Coastal Hazards of NJ

NJ Coastal Data

Coastal Atlas

Links

Contact BCRP

Two Rivers, One Future


New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (FRAMES)

Home Project Area Community Engagement Project Documents


The NJ FRAMES project is a regional and collaborative effort in coastal Monmouth County, NJ that seeks to understand and begin to address our future flood vulnerability. The end result will be a long-term Regional Resilience and Adaptation Action Plan that will identify ways our communities can reduce risks and impacts together.

What's New


- ▶ [Draft Action Plan](#)
- ▶ [Draft Action Plan-Public Comment Survey](#)
- ▶ [View the Adaptation Actions Scenarios](#) (pdf, 68 Mb)
- ▶ [DEP Invites Public To Open House](#)
- ▶ [7/10/19 – Public Open House at Middletown Arts Center](#) (pdf)
- ▶ [1/9/19 – Advisory Group Meetings Summary Notes](#) (pdf)
- ▶ [1/9/19 – Advisory Group Meetings Presentation](#) (pdf)
- ▶ [1/9/19 – Advisory Group Meetings Posters](#) (pdf)
- ▶ [NJ FRAMES Fall 2018](#) (pdf)
- ▶ [Find a Way to Get Involved!](#)



[Project Area](#)

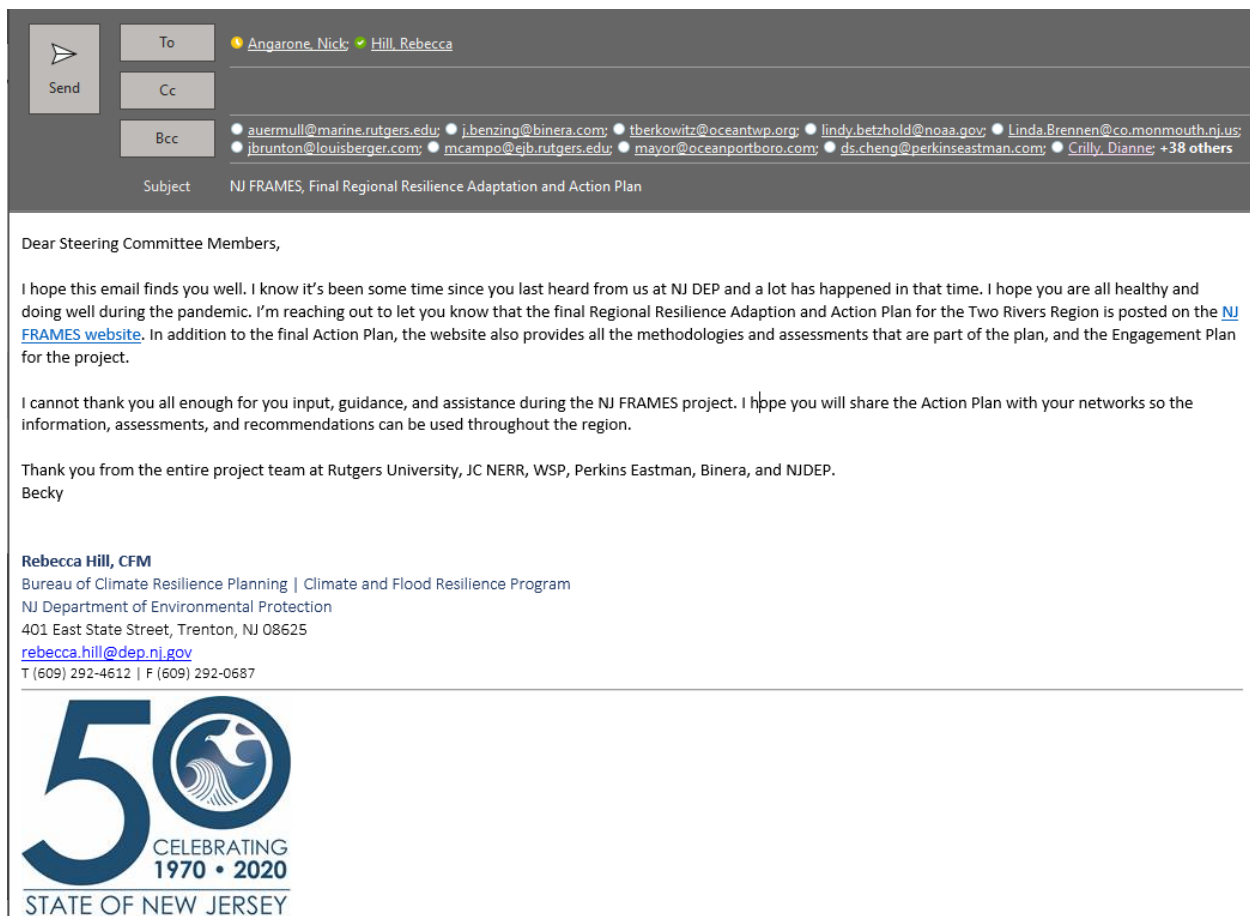


[Stakeholders and
Community Engagement](#)



[Project Documents](#)

#TwoRiversOneFuture



Email notifying project stakeholders that the Final RRAAP has been posted.

Send	To	✓ Hill, Rebecca; 🟡 Angarone, Nick
	Cc	
	Bcc	Mark.Jaworski@Jacobs.com; aberaouz100@gmail.com; abrockwell@monmouthconservation.org; acinquegrana@fhboro.net; aelefante@lsmnj.org; alison@newjerseyop.org; Allison.McLeod@dep.nj.gov; amacdona@monmouth.edu; amber.mallm@co.monmouth.nj.us; +180 others
Subject		NJ FRAMES Website Update

Dear NJ FRAMES stakeholders,

I hope this email finds you well. I know it's been some time since you last heard from us at NJ DEP and a lot has happened in that time. I hope you are all healthy and doing well during the pandemic. I'm reaching out to let you know that the final Regional Resilience Adaption and Action Plan for the Two Rivers Region is posted on the [NJ FRAMES website](#). In addition to the final Action Plan, the website also provides all the methodologies and assessments that are part of the plan, and the Engagement Plan for the project.

Thank you for your input during the NJ FRAMES project. I hope you will share the Action Plan with your networks so the information, assessments, and recommendations can be used throughout the region.

Thank you from the entire project team at Rutgers University, JC NERR, WSP, Perkins Eastman, Binera, and NJDEP.
Becky

Rebecca Hill, CFM

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