



Resilience Coordination Working Group

Meeting Summary February 28, 2023

Meeting Agenda

Welcome, Roll Call and Agenda Review

Information Sharing: Current State of Resilience in Virginia with Presentations by:

- Virginia Dept of Transportation (VDOT)
- Resilience Adaptation Feasibility Tool (RAFT)

Information sharing: Summary of Organizations' Resiliency Roles (PMG)

Summary of information provided to the Performance Management Group (PMG) by working group members including strengths and opportunities related to interagency collaboration and funding

Small Group Discussion on the Following Topics:

- Where do we see overlaps or gaps in organizations' resiliency roles?
- Which key partners are missing from the information collected so far?
- Which methods of communication have been effective in the past for interagency collaboration?

Reports From the Small Group Discussion to the Working Group

Public Comment

Next Steps and Subcommittee Topics

Adjourn

Overview of Discussion

Information Sharing: Current State of Resilience in Virginia

Angel Deem, Chief of Policy for VDOT, provided a brief overview of the first statewide transportation resiliency plan developed in November of 2022 which addresses the next 18 to 24 months. Chris Swanson, VDOT Environmental Division Director, then walked through the presentation of the plan details.

Questions regarding the presentation included:

Lewis Lawrence (MPPDC) asked about the VIMS maps and the measuring of flood levels at high tide (“mean high water”) versus low tide (“mean low water”) and the potential impact (e.g., time asset is flooded/underwater). Chris indicated VDOT will be working with VIMS on adjusting the models.

Sarah Taylor (City of Alexandria) commented on the likely need to acknowledge different definitions of resilience for different parts of the planning process (e.g., transportation versus land use versus public safety).

Jessica Whitehead followed up on the value of including end users in tool development so efficiencies can be capitalized upon and the number of tools developed is minimized. Chris Swanson indicated VDOT is working with VIMS on a potential portal and acknowledged there is a need for more external engagement for which he noted there is a strategy currently being developed.

Chris Stone (Clark Nexsen) listed some of the legislation from the current General Assembly including HB1634 which included a definition of resiliency and noted the adherence to the comprehensive plan is not mandatory. Adrienne Kotula (CBC) followed up that the definition used in this bill matches the resilient Virginia revolving fund from the previous year,

Jess Whitehead (ICAR-ODU) and Elizabeth Andrews (VCPC-WM) presented an overview of the Resilience Adaptation Feasibility Tool (RAFT).

Questions regarding the presentation included:

Martha Moore (VFB) asked about the availability of “model ordinances” and while a complete set of model ordinances does not exist, assistance is available by the RAFT team for localities looking to establish ordinances. Matt Dalon (DCR), in the chat window of the meeting, indicated the DCR has model ordinances available.

Whitney Katchmark (HRPDC) asked about staffing requirements. Elizabeth Andrews indicated state staffing was not beneficial at the scoring stage of the RAFT process but

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there is value during the implementation stage. Jess Whitehead indicated they are currently working with CZM on the long-term sustainability of RAFT and the value of involving both the local government and the community. She also noted there is a need to understand different local communities have different needs and expectations which need to be incorporated into the RAFT process.

Rachael Peabody (VMRC) wanted to know if state agencies would benefit from the RAFT process. It was discussed the RAFT tool currently does not include the necessary functionality but it could be updated (but would take additional funding). The scorecard is currently being adapted to support both federally and state recognized tribes.

Information sharing: Summary of Organizations' Resiliency Roles (PMG)

Sarah Jackson of the Performance Management Group (PMG) reviewed the charge of the workgroup and then provided an overview of the environmental scan currently being developed.

A summary of the partnerships and collaboration between the workgroup entities based upon information provided prior to the meeting was also reviewed. Members who have not yet provided the information were encouraged to do so in order for a more comprehensive representation to be developed.

There was a high-level review of the strengths and opportunities for interagency collaboration and funding opportunities based on the currently available information. This information will likely be supplemented with details provided by the working group members after the meeting.

It was discussed there is likely value in having a data collection tool (Excel, survey, etc.) for the agencies to use to easily indicate their collaboration partners. PMG will investigate options and work to provide a flexible tool for providing this information. Jay Ford (CBF) asked about possible mechanisms for identifying the quality of the relationships and it was discussed how that will be factored into the analysis. Tom Crabbs (VADA) described the need to include federal stakeholders when reviewing interagency collaboration, specifically federal entities resident in Virginia, e.g., the military, as they are both stakeholders and partners.

Speaker Pollard (HBAV) talked about the "Coastal Resilience Business Consortium" that is working on some of these issues as well as other business trade groups that are working on these issues. Lewis Lawrence (MPPDC) mentioned the need to recognize Virginia Coastal Zone Management Program and its codified responsibility to focus on coordinating interagency collaboration.

Small Group Discussion

The members of the workgroup were randomly placed in six breakout rooms to discuss the following questions:

- Where do we see overlaps or gaps in organizations' resiliency roles?
- Which key partners are missing from the information collected so far?
- Which methods of communication have been effective in the past for interagency collaboration?

Reports From the Small Group Discussion to the Working Group

Group 1 as reported by Matt Dalon (DCR)

Overlaps and Gaps: A lot of resilience happens at a program level which results in challenges of visibility regarding who is doing what and how they are doing it. This makes identifying gaps and overlaps difficult. It was discussed that there is a need for consistent missions, visions, and goals across all state agencies (not program specific or reactive as that may result in unintended consequences). Integrated guidance and high-level coordination are needed, e.g., between VRMC and DEQ, where jurisdiction exists with overlapping areas.

Missing Key Partners: Localities are missing as key partners along with ways to capitalize on those localities that are leading in efforts. This information could help those localities that have challenges developing their plans. There is a need to leverage the skills and expertise of the PDCs. Advocates for vulnerable communities are also missing as key partners.

Communication: Goals should be specific which will facilitate communication. Centralized source of information for all agencies would be ideal. In-person meetings with collaborative agendas are considered more productive than virtual meetings.

Group 2 additional insights as reported by Jess Whitehead (ICAR-ODU)

Overlaps and Gaps: The group discussed gaps in working with non-profits and noted that RISE is working in western Virginia to act as a coordinator with non-profits regarding resilience. Funding coordination is also a gap and there needs to be refinement of goals and objectives regarding ownership (state or locality). Federal agencies with funding, e.g., USDA, are not being used in rural areas. Contractors are not readily available to respond to bids in southwest Virginia. There is a need for new flood maps using hydraulic modeling so they accurately present the information. It is difficult at the local or regional level to know who is in charge and especially when there are conflicting agency rulings, e.g., moving debris when

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there is life at risk. It was discussed that additional training within the agencies is likely needed to help mitigate issues like this. It was discussed that academic focus can also overlap and there is a need to make sure the expertise is appropriately located and those involved have awareness where to find that expertise.

Missing Key Partners: Energy, rail and ports need to be strongly represented as they have significant connectivity issues during floods and disasters. Economic development should be included as projects can be developed in areas that are at flood risk.

Communication: There was unanimous agreement in favor of in-person meetings. There is a strong need to understand who needs to be engaged (who to call) during an event. It was proposed there by “resilience rosters” at the state, regional, and local level. Long term recovery groups (LTRG) are a good model during an immediate disaster recovery as well as during “blue skies” to help regions recover when a disaster occurs. Have groups that have experienced recent disasters share their lessons learned so current information is communicated rather than a historical and possibly out of date perspective.

Group 3 additional insights as reported by James Hutzler (VACO)

Overlaps and Gaps: It was discussed that “money moving through the government systems” is likely better handled by more sophisticated/experienced localities than others. There is a lack of clarity of federal dollars and how they can be used at the state and local levels and it can be difficult finding related information to address the confusion.

Missing Key Partners: Applied practitioners, flood insurance and insurance agents

Communication: For the localities, there needs to be clear communication of the meaning of resiliency and how actively participating the processes will benefit them. There needs to be increased focus on inland communities along with coastal communities.

Group 4 additional insights as reported by Carol Considine

Overlaps and Gaps: There exists a clear funding gap as well as there is a need for clarity on statutory roles across the agencies and a map of the statutory roles would be helpful. Also, it may be of value to look at creating a “resiliency information hub” to allow agencies to easily find information on what is being done.

Missing Key Partners: Federal partners are missing giving the numbers and types of “federal residences” with 30 installations in Virginia. We should explore increasing rural representation as well as key industry business associations.

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Communication: Clear communication of the “lens of authority” of agencies needs to occur to better identify partnerships. It was suggested an “opt-in” directory of this working group be created to encourage discussion, collaboration, etc. where similar interests exist. Should also consider highlighting agencies with effective models, e.g., VDEM, that could benefit other agencies. Robbie Coates (VDEM) briefly described the Commonwealth of Virginia Emergency Operation Plan which lists the roles and responsibilities of state agencies during an emergency and could serve as a model for this working group. He also offered to share a listing of grants available to local governments and related applications as that could provide information about locality resiliency plans.

Group 5 additional insights as reported by Emily Steinhilber (EDF)

Overlaps and Gaps: There needs to be a way for localities to share best practices, e.g., Sister Cities program, across the Commonwealth. There is an opportunity to identify and improve codes and standards. As for engagement and outreach, there needs to be clarity of ownership so local governments and residents understand plans. The costs and benefits of resiliency need to be better communicated.

Missing Key Partners: TAC, Joint Subcommittee, commercial and recreational fishing representatives.

Communication: Adapt communication mechanisms to best fit the situation (sometimes virtual meetings may be appropriate). It would be valuable to have a working group “official charge” as it could serve to motivate participation and engagement.

Group 6 additional insights as reported by Chris Swanson (VDOT)

Overlaps and Gaps: Need to ensure local and PDC planning efforts are shared with DCR to increase awareness. There appears to be “similar working groups working in similar projects” and there may be an opportunity to consolidate efforts and identify appropriate ownership of those efforts. Having a data clearinghouse would likely be of value to increase awareness and consistent usage of currently available data. Should explore how other states are addressing governance issues, e.g., data, design criteria, etc. There needs to be a focus on communicating efforts and lessons learned at the locality and jurisdiction levels so others can benefit. The high level of outreach may be creating “fatigue” and people are disengaging. Matt Wells (VDCR) added it will be important to align the state plan with those agencies that have done extensive work, e.g., VDOT.

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Missing Key Partners: Commonwealth Flood Board could better bring climatologists, engineers, etc. into the process for a statewide effort. There may be benefits including Utilities in the discussion.

Communication: There is an interest for in-person meetings where decisions need to be made as virtual meetings are better suited for building awareness.

Public Comment

After the group discussions, there was an opportunity for public comment. No public comment was received.

Next Steps and Subcommittee Topics

All future working group meetings will be in-person and the next meeting will be on March 28th in Lexington, Virginia. A request was made to the members for suggestions for subcommittees to focus on specific topics if necessary.

Working Group Members and Alternates in Attendance

| Organization | Workgroup Representative | February 28 Meeting Attendance | Alternate |
|--|--------------------------|--------------------------------|-----------------|
| William and Mary - VCPC (W&M) | Elizabeth Andrews | Yes | |
| Soil and Water Conservation Board (SWCB) | Chuck Arnason | Alternate | Stephen R. Hill |
| Virginia Department of Environmental Quality (VDEQ) | Sharon Baxter | Yes | |
| Virginia Chamber of Commerce (VACHamber) | Kristin Burhop | No | |
| Home Builders Association of Virginia (HBAV) | Andrew Clark | Yes (+Alternate) | Speaker Pollard |
| Virginia Agribusiness Council (VAC) | Brad Copenhaver | Yes | |
| Secretary of Veterans and Defense Affairs (VADA) | Tom Crabbs | Yes (+Alternate) | Jordan Stewart |
| Virginia Resources Authority (VRA) | Shawn Crumlish | Yes (+Alternate) | Peter D'Alema |
| VA Department of Housing & Comm. Development (VDHCD) | Bill Curtis | Yes (+Alternate) | Lee Hutchinson |
| Virginia Department of Transportation (VDOT) | Angel Deem | Yes | |
| University of Virginia - IEN (UVA) | Tanya Denckla Cobb | No | |

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| Organization | Workgroup Representative | February 28 Meeting Attendance | Alternate |
|---|--------------------------|--------------------------------|-------------------|
| Chesapeake Bay Foundation (CBF) | Jay Ford | Yes | |
| Virginia Marine Resources Commission (VMRC) | Jamie Green | Alternate | Rachael Peabody |
| Virginia Department of Wildlife Resources (VDWR) | Becky Gwynn | No | |
| Virginia Department of Energy (VDE) | David Hawkins | No | |
| Virginia Economic Development Partnership (VEDP) | Angie Jenkins | Yes | |
| Virginia PACE Authority (VPA) | Abby Johnson | Alternate | Ellen Dickson |
| Central Shenandoah Planning District Commission (CSPDC) | Rebecca Joyce | Yes | |
| Hampton Roads Planning District Commission (HRPDC) | Whitney Katchmark | Yes | |
| Chesapeake Bay Commission (CBC) | Adrienne Kotula | Yes | |
| Middle Peninsula Planning District Commission (MPPDC) | Lewis Lawrence | Yes (+Alternate) | Curt Smith |
| Virginia Institute of Marine Science (VIMS) | Mark Lukenbach | Yes | |
| Virginia Farm Bureau (VFB) | Martha Moore | Yes (+Alternate) | Katelyn Jordan |
| Virginia Department of the Treasury | Brian Parker | Alternate | Bryan Chamberlain |
| Virginia Association of Soil and Water Districts (VASWD) | Pickett, Robert | Alternate | Kendall Tyree |
| The Nature Conservancy (TNC) | Nikki Rovner | Yes | |
| Mount Rogers Planning District Commission (MRPDC) | Aaron Sizemore | Yes | |
| Environmental Defense Foundation (EDF) | Emily Steinhilber | Yes (+Alternate) | Grace Tucker |
| Clark Nexsen | Chris Stone | Yes | |
| Virginia Tech - CCS (VT) | Wendy Stout | No | |
| Virginia Department of Emergency Management (VDEM) | Shawn Talmadge | Alternate | Robbie Coates |
| City of Alexandria | Sarah Taylor | Yes | |
| Virginia Manufacturer's Association (VMA) | Brett Vassey | Alternate | Paige Wernig |
| Port of Virginia | Cathie Vick | Alternate | Scott Whitehurst |
| Secretary of Natural and Historic Resources (SNHR) | Secretary Travis Voyles | Yes | |
| Cumberland Plateau Planning District Commission (CPPDC) | Scotty Wampler | Alternate | Debbie Milton |
| Virginia Department of Conservation and Recreation (VDCR) | Director Matthew Wells | Yes | |
| Old Dominion University (ODU) | Jess Whitehead | Yes (+Alternate) | Carol Considine |
| Agency Representative | Name | | |
| Deputy Secretary of Finance | John Markowitz | No | |

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| Organization | Workgroup Representative | February 28 Meeting Attendance | Alternate |
|---|--------------------------|--------------------------------|---------------|
| Deputy Secretary of Higher Education | Sarah Spota | No | |
| Deputy Secretary of Transportation | John Lawson | Yes | |
| Virginia Association of Counties (VACO) | Joe Lerch | Yes (+Alternate) | James Hutzler |
| Virginia Association of Planning District Commissions (VAPDC) | David Blount | No | |
| VCU Performance Management Group Facilitators | | | |
| | Gina Barber | Yes | |
| | Sarah Jackson | Yes | |
| | Wheeler Wood | Yes | |

An aerial photograph of a river with turbulent, white-water rapids. A large, dark rock formation is visible in the center-left, with water cascading over it. The surrounding water is a mix of brown and white, indicating strong currents and turbulence.

Interagency Collaboration and Coordination

Resilience Coordination Working Group
February 28, 2023



Performance Management Group
L. Douglas Wilder School of Government and Public Affairs

Gina Barber, MPA

Sarah Jackson, MPA

Wheeler Wood, MS

Resilience Coordination Working Group

Working Group Charge

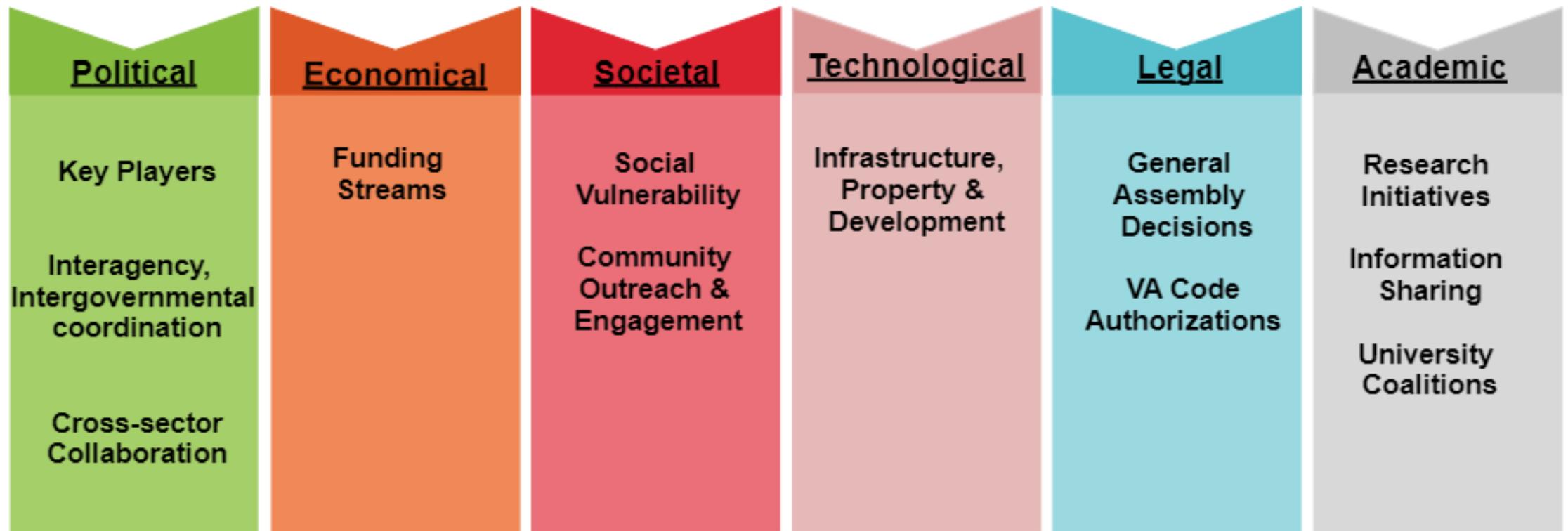
This Working Group is being established by the Chief Resilience Officer in furtherance of Governor Youngkin's goal of addressing challenges related to flooding and resilience, and in the spirit of engaging collaboratively with the General Assembly on this important issue. The Working Group will have the following purposes:

- To consider and assess strategies and policies for the Commonwealth to improve **intergovernmental and interagency coordination**; and
- To maximize the procurement of federal and private **funding opportunities** in planning for and implementing flood resilience throughout the Commonwealth.

Virginia Flood Resilience Coordination

Environmental Scan

Strengths, Weaknesses, Opportunities, Threats related to 1) Funding and 2) Coordination.





Information Sharing

Collaborations and Partnerships- Draft

Resilience Coordination Working Group

Member Representation

| | |
|--|------------------------------------|
| Government | Nonprofit |
| <i>Local, State</i> | <i>Public, Private</i> |
| 25 | 6* |
| Academic | Industry, Industry Adjacent |
| <i>Research Institutes, Affiliates</i> | <i>Private, Public</i> |
| 5 | 5* |

*Nonprofit-Industry overlap: Virginia Farm Bureau, Virginia Manufacturer's Association, Virginia PACE Authority

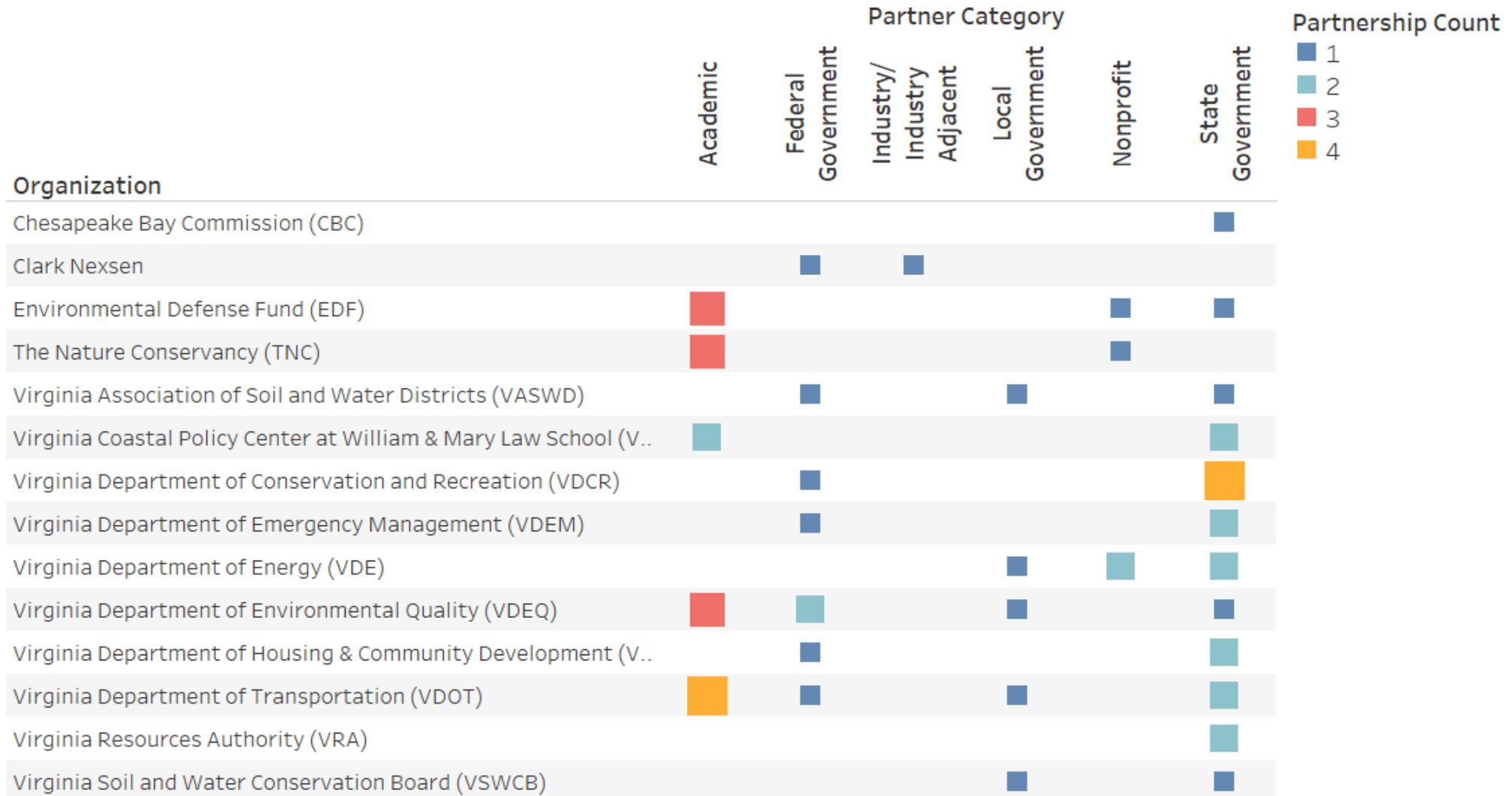
Workgroup Member Partnerships

| Organization | Partner | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------|------|-----|------|------|-------|-------|------|-------|-----|------|------|-------|------|-----|-------|-------|-------|------|-----|-----|-----|---------|----------|---------|---------|------|
| | FEMA | FHWA | HUD | NOAA | NCRS | USACE | VA GA | VDCR | VDHCD | VDE | VDEM | VDEQ | VDNHR | VDOT | VRA | VSWCB | VAPDC | VASWD | ASCE | EDF | TNC | VPA | OTHERNP | ICAR-ODU | IEN-UVA | VCPC-WM | VIMS |
| Chesapeake Bay Commission (CBC) | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | |
| Clark Nexsen | | | | ■ | | | | | | | | | | | | | | | ■ | | | | | | | | |
| Environmental Defense Fund (EDF) | | | | | | | | ■ | | | | | | | | | | | | | ■ | | | ■ | ■ | ■ | |
| The Nature Conservancy (TNC) | | | | | | | | | | | | | | | | | | | | | ■ | | | ■ | ■ | ■ | |
| Virginia Association of Soil and Water Districts (VASWD) | | | | | ■ | | | | | | | | | | | ■ | ■ | | | | | | | | | | |
| Virginia Coastal Policy Center at William & Mary Law School (V..) | | | | | | | | | | | | ■ | | ■ | | | | | | | | | | ■ | ■ | | |
| Virginia Department of Conservation and Recreation (VDCR) | | | | | | ■ | | | ■ | | ■ | | ■ | | ■ | | | | | | | | | | | | |
| Virginia Department of Emergency Management (VDEM) | ■ | | | | | | | ■ | | ■ | | | | | | | | | | | | | | | | | |
| Virginia Department of Energy (VDE) | | | | | | | | | | | ■ | ■ | | | | | | ■ | | | | ■ | ■ | | | | |
| Virginia Department of Environmental Quality (VDEQ) | ■ | | | ■ | | | | | | | | | | ■ | | | ■ | | | | | | | ■ | ■ | ■ | |
| Virginia Department of Housing & Community Development (V..) | | | ■ | | | | | ■ | | | ■ | | | | | | | | | | | | | | | | |
| Virginia Department of Transportation (VDOT) | | ■ | | | | | | ■ | | | ■ | | | | | | ■ | | | | | | | ■ | ■ | ■ | ■ |
| Virginia Resources Authority (VRA) | | | | | | | | ■ | | ■ | | | | | | | | | | | | | | | | | |
| Virginia Soil and Water Conservation Board (VSWCB) | | | | | | | | ■ | | | | | | | | | | ■ | | | | | | | | | |

Partner Category

- Academic
- Industry/Industry Adjacent
- Nonprofit
- Federal Government
- Local Government
- State Government

Partnerships At-A-Glance



Preliminary Findings

Strengths

- Nonprofit and Academic collaboration
- Intergovernmental and agency partnerships
- Funding available at local, state, and federal levels

Opportunities

- Collaboration with local governments
- Integration of research tools
- Industry partnerships

Discussion

For intergovernmental coordination, what are additional opportunities for collaboration with:

- Industry partners
- Academic partners
- Non-profits



VCU L. Douglas Wilder School of
Government and Public Affairs



Contact Us

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VCU

Performance Management Group
L. Douglas Wilder School of Government and Public Affairs

VDOT RESILIENCE PLAN

Resilience Coordination Working Group – Meeting #2

 Chris Swanson, Environmental Division Director

2/28/2023

Changing Environmental Conditions

Hazards and Threats

- Temperature
- Sea Level Rise
- Increased Precipitation
- Extreme Weather Events
- Rockfalls, Mudslides and Slope Failures

Impacts

- Asset deterioration and failure
- Operational, maintenance and emergency management challenges
- Need to identify cost-effective solutions
- Shifting migration patterns, habitat, etc.



<https://wtop.com/virginia/2022/07/crews-still-searching-for-17-people-after-virginia-flooding/>



<https://www.delmarvanow.com/story/news/local/maryland/2021/10/29/flooding-high-surf-forecasted-maryland-virginia-eastern-shore/6190651001/>

Virginia Planning Efforts

Commonwealth Planning

- Virginia Coastal Resilience Master Plan
- Virginia Flood Protection Master Plan
- Virginia State Hazard Mitigation Plan
- Resilience Coordination Working Group

Local Planning

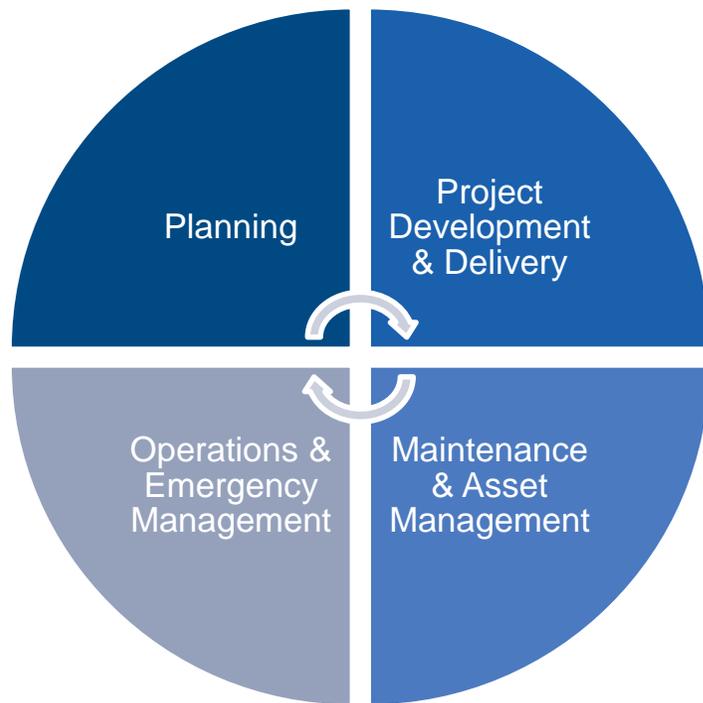
- Fairfax, Norfolk, Virginia Beach
- NVRC, HRPDC, MPPDC

➤ **VDOT plan was needed to inform and align agency, local planning efforts**



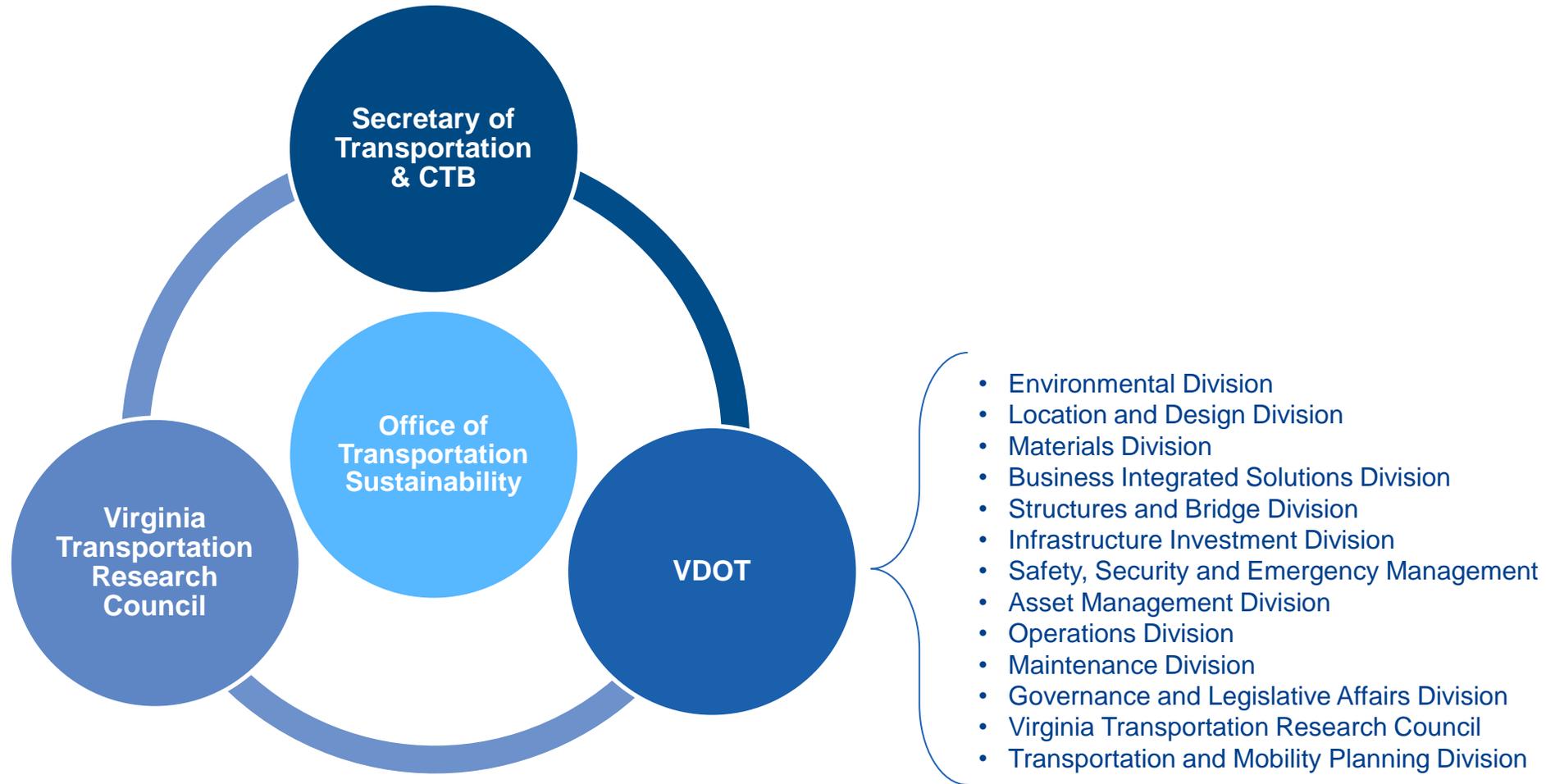
Need for Transportation Resilience

Resilience is the capability of a transportation project or strategy to anticipate, prepare for, respond to, or recover from significant multi hazard threats with minimum damage and disruption to the transportation network, while preserving and incorporating natural and built infrastructure that helps to mitigate these threats.



Incorporate resilience into existing business practices

Organizational Support for Resilience Efforts



Resilience Plan Objectives

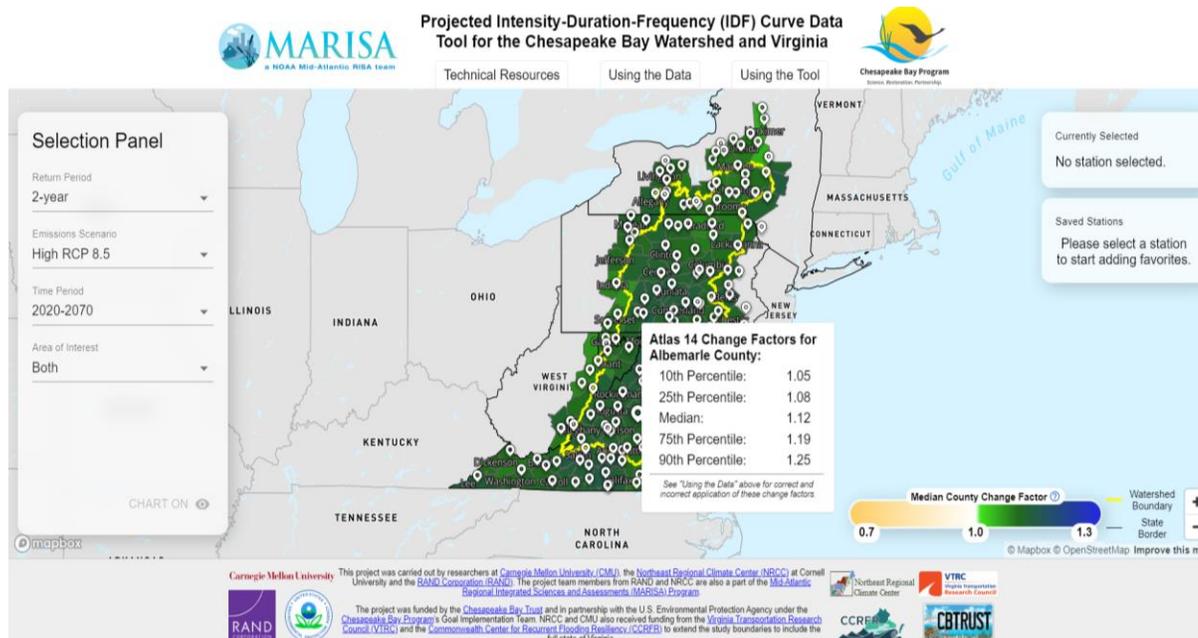
Anticipated 2-year timeframe to gather data, develop tools, and implement strategies



Resilience Plan Objectives

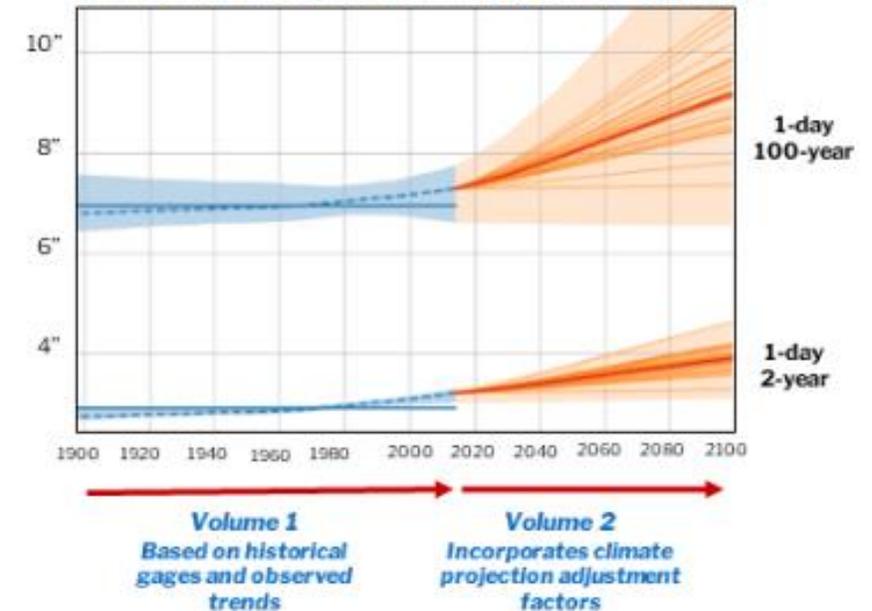
1. Promote Data Driven Decisions

- Authoritative Datasets
- Identify research and data needs and gaps
 - Resilience Research Committee



NOAA Atlas 15

National Precipitation Frequency Update



Resilience Plan Objectives

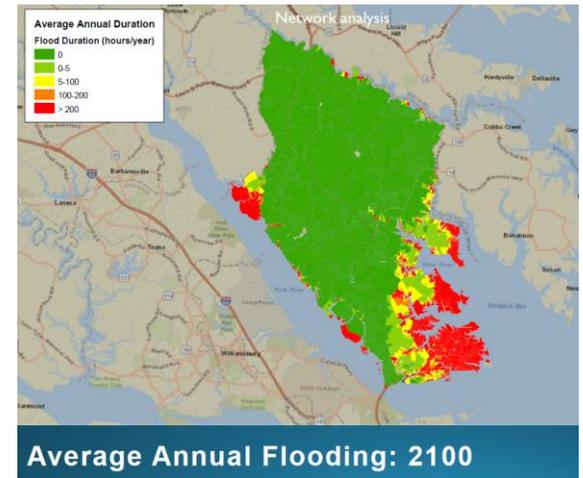
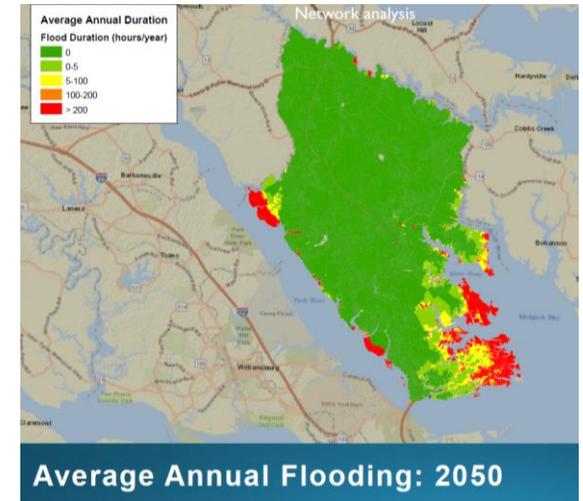
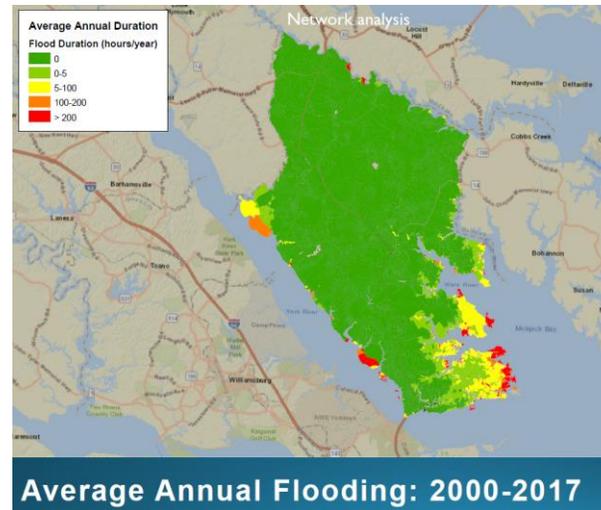
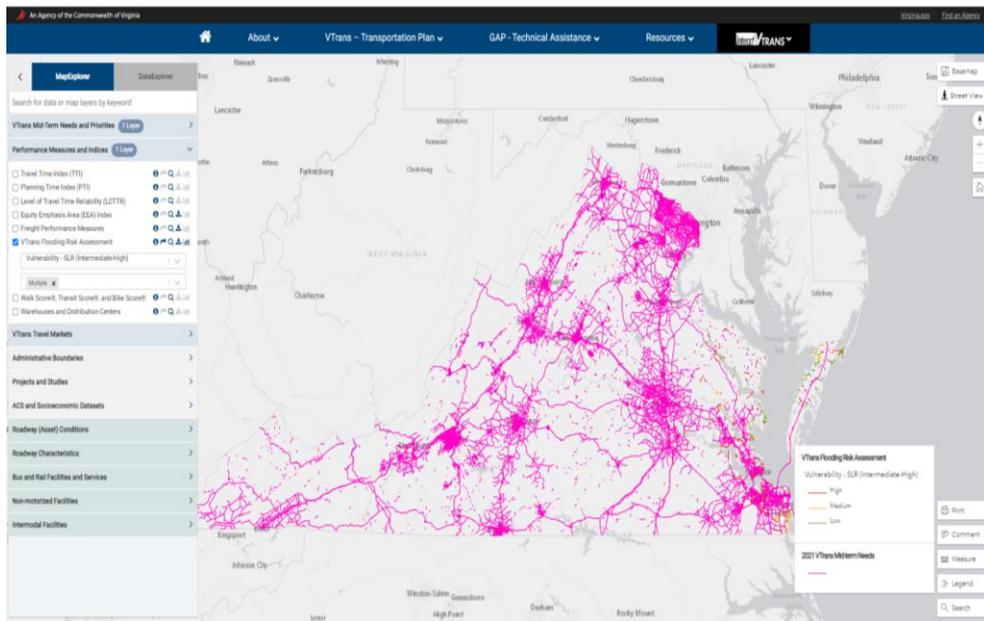
2. Engage & Coordinate with Stakeholders

- Department of Conservation and Recreation – VA Coastal Resilience Master Plan Technical Advisory Committee
- Hampton Roads Planning District Commission Working Group
- Northern Virginia Regional Commission Working Group
- Fairfax Infrastructure Advisory Group
- Transportation Research Board Working Group
- State Hazard Mitigation Plan Technical Advisory Committee and Working Group
- FHWA
- Other State Agencies
- Other MPOs and Localities
- Universities
- NGOs and Advocacy Groups
- Public

Resilience Plan Objectives

3. Identify At-Risk Infrastructure and Prioritize Needs

- Exposure + Sensitivity + Criticality
- Network Analysis



Resilience Plan Objectives

4. Finalize Resilience Measures

I. Adaptive Design Criteria

– Enhance Criteria for Identified At-Risk Infrastructure, incorporating forward looking conditions

- Structure and Bridge
 - Chapter 33: Consideration of Climate Change and Coastal Storms (Feb 2020)
- Hydraulics, VDOT Drainage Manual
- Materials, Manual of Instruction

II. Other Physical Enhancement Measures

- Flood Barriers

III. Natural and Nature-Based Solutions

- FHWA Coastal Natural and Nature Based
- FHWA Riverine Natural and Nature Based

IV. Operational, Maintenance, and Emergency Management

- Early Warning Devices (Sensors)
- Evacuation Routes
- Damage Assessments
- Floodcast (NCHRP)

V. Administrative and Policy Measures

Resilience Plan Objectives

5. Feasibility and Cost Benefit Analyses

- Feasibility Analysis
- Benefit Cost Analysis (BCA)
- Lifecycle Cost Analysis (LCCA)

Resilience Plan Objectives

6. Funding Opportunities

- BIL/IIJA (PROTECT)
- Building Infrastructure Resilient Communities (BRIC) Grants, FEMA

PROTECT Program

(Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation)

- Planning Activities, including Resilience Improvement Plan (RIP) development
 - Vulnerability assessments, technical capacity building, evacuation planning
- Resilience Improvements
 - Flood mitigation, drainage improvements, roadway realignment
- Community Resilience
 - Evacuation route improvements
- At Risk Coastal Infrastructure
 - Strengthening, stabilizing, hardening, elevating, and relocating infrastructure

Next Steps

- Continue coordination with Federal, State, and local agencies, MPOs
- Continue coordination with counterpart DOTs
- Outreach and engagement with communities, stakeholder groups
- Continue strategy development and implementation
 - Data and research
 - Identification of at risk infrastructure
 - Resilience measures
 - Planning
 - Design
 - Operations and maintenance
 - Emergency management
 - Benefit Cost and Life Cycle Analyses

The RAFT

Resilience Adaptation Feasibility Tool

PRESENTED BY:
Elizabeth Andrews, VCPC
Jessica Whitehead, ODU



THE RAFT TEAM



Multi-disciplinary academic partnership

Core Team:

University of Virginia

Institute for Engagement & Negotiation

William & Mary Law School

Virginia Coastal Policy Center

Old Dominion University

Institute for Coastal Adaptation and Resilience

THE RAFT GOAL

To help Virginia's coastal localities improve resilience to flooding and other coastal storm hazards while striving to thrive both economically and socially.



THE RAFT VALUES



- Community in the driver's seat
- Community-driven strategies
- Adapt support to each locality's needs
- No cost to community (funded by grants)

Because of the RAFT's impact, the VA Coastal Resilience Master Plan adopted Goal 4 of VA's broader coastal resilience strategy that ***"aims to have all coastal localities engaged in the RAFT process."***

THE RAFT FUNDING

Jessie Ball duPont Fund

Virginia Environmental Endowment

Virginia Coastal Zone Management Program

General staff funding:

- Commonwealth Center for Recurrent Flooding Resiliency
- UVA Institute for Engagement & Negotiation
- Virginia Sea Grant



Virginia Coastal Zone
MANAGEMENT PROGRAM



Virginia
Environmental
Endowment

THE RAFT SUPPORT



- ✓ 2015-16 Research, development of The RAFT
- ✓ 2017-18 3 Pilot Localities (Town, City, County)
- ✓ 2018-19 Eastern Shore of Virginia – 7 localities
- ✓ 2019-21 Northern Neck – 8 localities
- 2022 Middle Peninsula – 6 localities
- Started: Hopewell and Petersburg
- Beyond: Inland Riverine Communities + Virginia Tribes

RESILIENCE



The Resilience Cycle



From: California adaptation forum
<https://www.californiaadaptationforum.org/2018caf/equity/>

Adapted from: NOAA Coastal Community Resilience Indicators and Rating Systems, 2015

THE RAFT PROCESS

3 Step Process

1. ASSESSMENT

- The RAFT Resilience Scorecard
- Interviews & Focus Groups with Community Service Providers

2. SETTING PRIORITIES

- Resilience Action Workshop
- 1-Yr Resilience Action Checklists
- Locality Implementation Teams

3. IMPLEMENTATION

- Ongoing Support & Assistance



STEP 1: THE RAFT SCORECARD

1. **POLICY, LEADERSHIP, AND COLLABORATION:** policies, coordination, and access to data
2. **RISK ASSESSMENT AND EMERGENCY MANAGEMENT:** risk assessments, vulnerable populations, and plans for disaster preparedness
3. **INFRASTRUCTURE RESILIENCE:** stormwater, critical infrastructure, and natural and nature-based features
4. **PLANNING FOR RESILIENCE:** comprehensive plan, zoning ordinance, building and development incentives, and green infrastructure
5. **COMMUNITY ENGAGEMENT, HEALTH, AND WELL BEING:** residents, social equity, health and wellness

WHAT DOES THE SCORE MEAN?

Low Resilience: Less than 50

There are plenty of opportunities for improvement. The locality should decide whether it will be more beneficial to achieve the least difficult improvements first, or to tackle more challenging problems. The key is to decide which of these approaches makes the most sense, as the locality develops their Resilience Action Checklist.

Moderate Resilience: 50-74

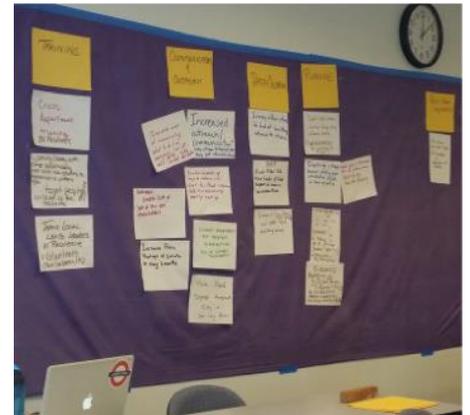
The locality is actively involved in coastal resilience planning and has achieved some success. There are still opportunities for strengthening resilience. The Resilience Action Checklist should focus on weak categories and anticipate moderate to difficult improvements.

High Resilience: 75 or More

Locality is well prepared! There may still be room for resilience and the Resilience Action Check list may focus on ways to improve resilience and further engage residents. Examples of locality policies, plans, and activities may assist other localities in the region and beyond.

STEP 2: SETTING PRIORITIES

- **Resilience Opportunity List, created from:**
 - Scorecard gaps
 - Hazard Mitigation Plan
 - Regional Social Equity Focus Groups and Interviews (50+ organizations represented)
- **Community Workshop**
 - Develops 5 Priority One-Year Actions – the "Resilience Action Checklist"
 - The Resilience Action Checklist is ground-truthed, refined, and implemented over the next year



STEP 3: IMPLEMENTATION – WITH ASSISTANCE FROM THE RAFT TEAM

- **Monthly support meetings** for Implementation Team with The RAFT Core Team
- **Technical Assistance over 1 year** in implementing Resilience Action Checklist, e.g.,:
 - Development of **communication products**
 - **Law and policy** analysis
 - Development of **model ordinances and Comprehensive Plan language** incorporating resilience
 - **Mapping:** GIS mapping, asset mapping, vulnerable infrastructure mapping
 - Connection to needed **experts** (e.g., engineers or planners; state agencies)
 - Facilitation, presentations, **community engagement**, surveys
 - Development of **small business emergency preparation programs**

EXAMPLES OF TECHNICAL ASSISTANCE & TOOLS FROM THE RAFT TEAM

Onancock Warnings & Information

Radio Stations
WESR – 103.3FM, 1330AM
WCTG- 96.5

Television Channels
WVEC, WTKR, WAVY, WBOC, WMDT

Facebook: Town of Onancock
Website: www.onancock.com
Eastern Shore of Virginia 911 Center

Sign up for emergency alerts
Go to the Accomack County
Website to sign up with **CodeRED**

CodeRED

FOR ALL EMERGENCIES DIAL 9-1-1

| Non-Emergency Contact Information | |
|--|--------------|
| Onancock Police Department | 757-787-8577 |
| Emergency Management Coordinator Accomack County (Charles Pruitt) | 757-789-3610 |
| Accomack County Non-Emergency Number | 757-787-1131 |
| Town of Onancock | 757-787-3363 |

What do you need in an Emergency?

- Food:** 3-7 gallon per person, per day, for 3-7 days
- Water:** 1 gallon per person, per day, for 3-7 days
- Special **dietary items** and **special needs items** (for infants and/or elderly)
- First aid kit, **medications**, prescriptions and/or elderly)
- Important documents: **picture ID**, insurance policy
- Cell phone** with **chargers** and **back up battery**
- Vehicle full of **fuel, keys**, and **cash** in small denominations
- Flashlight** and extra **batteries**
- Battery-powered radio** with NOAA weather
- Clothing**, personal hygiene supplies
- Cleansing wipes, **sanitizer**

**Consider your pets' needs (please do not leave them behind!)*

<https://raft.org>

PREP Tool

Planning for Resilience:
Evaluation and Prioritization



AN EVALUATION & PRIORITIZATION TOOL FOR LOCAL GOVERNMENTS IN VIRGINIA'S COASTAL REGION

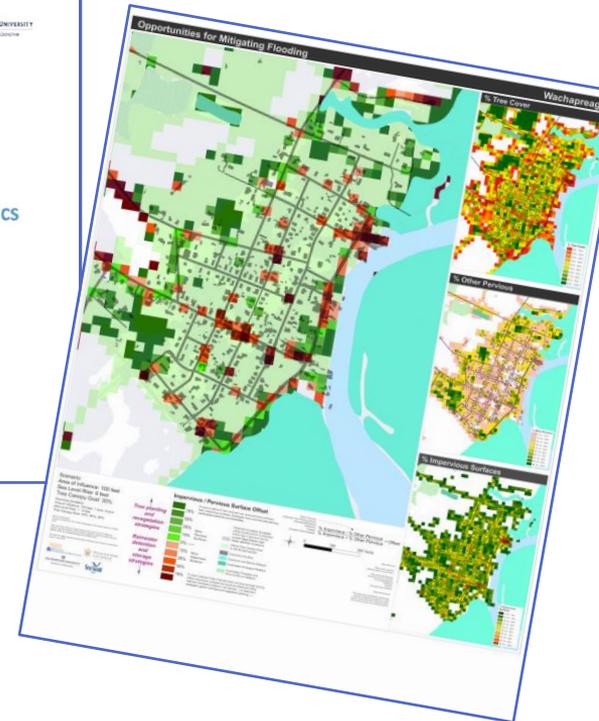
THE RAFT
RESILIENCE ADAPTATION FEASIBILITY TOOL

Beach Relocation Economics
Accomack County, VA

2019

Authored by The RAFT Partners

Logos for University of Virginia, Williams of Mary, Old Dominion University, and the Virginia Coastal Policy Center are visible at the top.



THE RAFT'S UNIQUE VALUE

- Generates **community-wide discussion and common understanding about recurrent flooding and community resilience**
- Builds a strong **network of support and access and resources** with state agencies, university expertise, NGOs, and service providers
- **Transcends silos of resilience**, locally and regionally, bringing together groups that address different aspects of resilience but have never worked together
- Offers the only **structured long-term process for community-based and community-driven resilience planning** in Virginia
- Provides **technical assistance and resources** such as studies, planning documents, mapping, tools for business planning, surveys, facilitation, and more
- Supports community implementation teams with facilitated meetings for a year of implementation – a total of **18 months+ of engagement with each community**

From that first meeting we developed our action checklist. First was our comprehensive plan. The next was to work on a resilient waterfront, and then to educate and do outreach to the community. **[The RAFT] has been such a valuable thing for our community.**

Council Member, Town of Onancock

RAFT opened our eyes to a predetermined future. I **recommend the RAFT** and they are to be commended for a job well done. We would advise any town committee or council to listen to their predications and potential remedies.

*Town of Onancock
Waterfront Committee*

Making a Difference on the Ground

After reading the RAFT Scorecard for our community, the Saxis team immediately **knew where it could improve to prepare for [hurricane]** Florence – getting a count of who was staying, who was evacuating, providing transport to shelters, creating a master communication list, etc.

Council Member, Town of Saxis

The RAFT really **turned the tide in Warsaw.** During a pandemic, when the world shut down, Warsaw continued to grow.

*Town of Warsaw
Chamber of Commerce*

Building Connections

The RAFT has **eliminated the feeling of being siloed in the trends and issues affecting our community**, thus highlighting we are a team and “one community” working together to address the overall needs of our citizens.

*Director, Richmond County
Department of Social Services*

One of the fundamental benefits of RAFT is its **ability to bring together public and private entities** to ensure the needs of the communities are highlighted and addressed.

*Pastor, First Baptist
Church of Tappahannock*

A Community Approach to Resilience

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