VFPMP 3.4 Prioritization of Gaps Workshop

Meeting Summary

Prioritization of Gaps Workshop Agenda

- Welcome & Planning Team Introductions
- Presentation
    - o Vision Statement, Goals, and Objectives Update
    - o Virtual Feedback Session & Survey Review
- Break
- Small Group Exercise
    - o Prioritization of Gaps Exercise
- Wrap Up & Next Steps

Presentation

The Arcadis team delivered a presentation to Virginia Flood Protection Master Plan (VFPMP) Core Stakeholders during an in-person workshop held on January 14th, 2025, to 1) update Core Stakeholders on the development of the VFPMP and 2) to facilitate an activity on the gaps related to flood resilience strategies that will be addressed in the final VFPMP documents.

The VFPMP development update included sharing the final versions of the Vision Statement, Goals, and Objectives of the VFPMP that Core Stakeholders provided feedback on at the previous workshop held on November 20th, 2024. The finalized language is provided on the next page.

The Arcadis team then transitioned to a presentation of the gaps to be addressed in the VFPMP and how they were evaluated against the plan's Vision Statement, Goals, and Objectives. The gaps discussed were derived from an analysis the Arcadis team conducted to identify gaps in resources and capacities among Virginia state agencies and their ability to effectively implement flood resilience strategies. This analysis included extensive review of existing Virginia state agency flood resilience planning documents, websites, resources, as well as conversations with Core Stakeholders through previous engagement points and interviews.

This process resulted in a list of 26 gaps categorized within 8 key mechanisms. For the purposes of the VFPMP, "key mechanism" is defined as "the overarching categories of flood resilience strategies that can be implemented within a Virginia state agency's scope." Arcadis provided a general overview of each gap and key mechanism to Core Stakeholders and explained the process by which gaps were prioritized by the plan development team. The full list of key mechanisms and gaps, as well as the Core Stakeholders feedback on them, can be found on the following pages.

FINAL VERSIONS OF THE VISION STATEMENT, GOALS, AND OBJECTIVES

Vision Statement: A thriving Commonwealth proactively addressing flood risks to further strengthen the resilience of communities, the economy, and the environment now and into the future.

Goal A: Mitigate current and future flood risks statewide.
Objectives:
1. Reduce negative effects on human health from flooding.
2. Reduce negative impacts to vulnerable populations from flooding.
3. Reduce flood damage to buildings and infrastructure.
4. Reduce economic disruptions and losses from flooding.
5. Reduce negative effects to natural and cultural resources from flooding.

Goal B: Advance lasting and unified strategies to address flood risks.
Objectives:
1. Increase understanding of current and potential future flood risks.
2. Strengthen the ability to prepare for and manage flood risks.
3. Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.
4. Increase the return on public investments in flood resilience.
5. Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

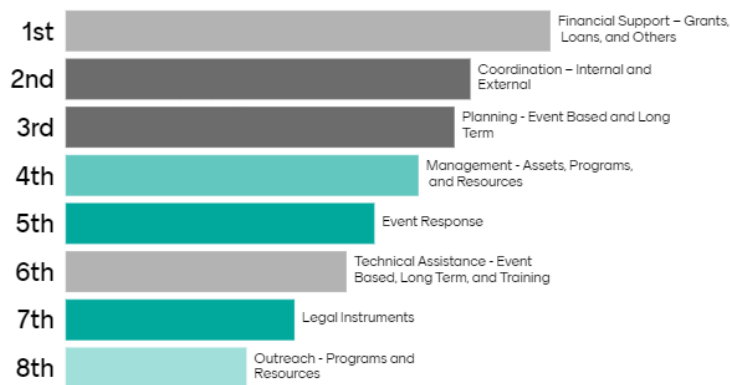### Goal C: Capture additional benefits through flood resilience.
Objectives:
1. Improve health and quality of life through flood resilience.
2. Boost the economy through flood resilience.
3. Enhance the natural environment through flood resilience.

Small Group Exercise

Arcadis kicked off the small group exercise portion of the workshop by asking Core Stakeholders to rank the importance of the 8 identified key mechanisms in relation to achieving the Vision Statement of the VFPMP via a Menti polling exercise. The results of that exercise are included in the image below.

To achieve the objectives of the VFPMP, which order would you address these key mechanisms in?

1st	Financial Support – Grants, Loans, and Others
2nd	Coordination – Internal and External
3rd	Planning - Event Based and Long Term
4th	Management - Assets, Programs, and Resources
5th	Event Response
6th	Technical Assistance - Event Based, Long Term, and Training
7th	Legal Instruments
8th	Outreach - Programs and Resources

After this exercise, stakeholders were split into four small groups to participate in a prioritization of gaps activity.

IDENTIFIED KEY MECHANISMS & GAPS

Core Stakeholders were provided with the following list of key mechanisms and corresponding gaps and asked to select 3 gaps out of the full list of 26 that would be the most pertinent to achieving each of the plan's Objectives. By evaluating gaps based on how they impact each of the plan's Objectives, the gaps—and later, the strategies to address gaps — remain centered on the Vision Statement and Goals of the plan. The full list of key mechanisms and their associated gaps are provided in the table below. Each gap was also labeled with a letter of the alphabet (A-Z) so they could be easily referenced during discussion.

	Key Mechanisms	Gaps
A	Coordination - Internal and External	Coordination among state agencies to streamline flood resilience strategies and reduce redundancies.
B	Coordination - Internal and External	Staff capacity to support improved coordination between federal, state, and local agencies required for appropriate event responses.
C	Event Response	Staff capacity and data management resources for coordination between federal, state, and local agencies during events to ensure targeted event response.
D	Financial Support - Grants, Loans, Other	Funding resources for long term resilience planning and disaster response to address state and local needs.
E	Financial Support - Grants, Loans, Other	Staff capacity and funding resources for additional grant application and management support to local governments.
F	Financial Support - Grants, Loans, Other	Flexibility in allocating state funding to support the breadth of needs, local needs in particular, required to build local flood resilience including use for personnel or overhead costs.
G	Financial Support - Grants, Loans, Other	Dedicated, recurring hazard mitigation/recovery funding resources for flood resilience work affecting long-term strategy implementation.
H	Management - Assets	Up-to-date data resources on state-owned assets and their associated flood risk.
I	Management - Assets	Funding resources for asset maintenance
J	Management - Assets	Staff capacity to support coordination between state agencies and local governments in managing flood risk to assets.
K	Management - Programs	Staff resources and high turnover rates impacting effective management of flood resilience programs.
L	Management - Programs	Staff resources affecting real-time information intake during disaster events, thereby influencing response efforts.
M	Management - Programs	Staff capacity to train on new resilience tools and integrate flood resilience policies effectively.
N	Management - Programs	Reliance on non-permanent federal funding posing challenges in sustaining flood resilience programs.
O	Management - Resource	Data resources (data collection and data management) to support flood resilience planning

	Key Mechanisms	Gaps
P	Management - Resource	Staff capacity and resources for interdepartmental data aggregation and coordination for comprehensive flood risk assessments
Q	Outreach - Program	Public awareness to empower communities in taking proactive steps to reduce vulnerability to flooding
R	Outreach - Resource	Publicly available information resources about flood resilience.
S	Outreach - Resource	Staff capacity hindering collaboration, technical assistance provision, and funding outreach efforts
T	Planning - Event Based	Access to up-to-date data resources, particularly riverine data, for making resource allocation decisions
U	Planning - Long Term	Staff capacity for integration of flood resilience tools
V	Planning - Long Term	Robust decision-making framework resources necessary for resource allocation and prioritization to facilitate long-term planning efforts
W	Legal Instruments	Staff capacity to address and assist with federal and state regulations
X	Technical Assistance - Long Term	Staff capacity and resources to coordinate technical assistance for funding and program initiatives to address long-term flood resilience goals
Y	Technical Assistance - Event Based	Staff capacity to collaborate with localities and communities for effective technical assistance provision for flood resilience planning and mitigation
Z	Technical Assistance - Training	Staff capacity for, and training resources on, available online and modeling tools to support complex and large-scale flood mitigation projects

To complete this activity, each group was provided with a tabletop posterboard and materials to create a framework to prioritize and select the top three gaps for each plan Objective. Groups were provided the 3 gaps the Arcadis team had selected as the most pertinent to achieving each plan Objective as a starting point for discussion. Stakeholders were asked to evaluate these initial selections and modify them if they believed necessary. The exercise was split into three segments – one segment for each goal. Each group's selections and their summarized feedback on the gaps are provided below.

GROUP 1

Facilitator: Katya Wowk

Note Taker: Heidi Hahn

Group Members:

First Name	Last Name	Title	Organization
Sharon	Baxter	Dir, Division of Environmental Enhancement	DEQ
Robbie	Coates	Director - Grant Management and Recovery	VDEM
Jitender	Ramchandani	Statewide Transportation Planning Manager	OIPI
Katie	Vugdalic	Hazard Mitigation Grants Manager	VDEM
Gabrielle	Rosario	VASG Coastal and Marine Policy Fellow	DCR

Discussion on Goal 1 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Mitigate current and future flood risks statewide.	Reduce negative effects on human health from flooding.	D	G	Q
	Reduce flood damage to buildings and infrastructure.	W	H	I
	Reduce economic disruptions and losses from flooding.	D	N	S
	Reduce negative effects to natural and cultural resources from flooding.	D	F	T
	Reduce negative impacts to vulnerable populations from flooding.	Y	Q	A

Discussion:

Objective 1: Reduce negative effects on human health from flooding.
- Funding is universal; could apply to every objective
- The plan is missing a public information and outreach gap.
    - Gaps Q and R are important to consider here a well
    - Giving autonomy to the people (human health) is important, empowering them with information that can lead to action

Objective 2: Reduce flood damage to buildings and infrastructure.
- One of the gaps is legal instruments (W), but a gap is not the ability to do this, it's the clear directive from the legislature. Even though there is language written in laws, the interpretation by agencies or by people can vary.
- Often, plans are based on what the staff can currently do. Often what is missing is the staff going to the legislature and getting the direction and authority to do things. Can the legislature provide that direction?
    - If staff develops a plan; then the legislature will think that the staff will have sufficient guidance from these plans.
    - Should state agencies be telling the legislature what is needed?
    - We are chasing development in risk-prone areas.

Objective 3: Reduce economic disruptions and losses from flooding.
- Consider adding gap N because there are limitations for what the federal government can provide after a disaster.
    - Funds that are more flexible can allow for more creativity.
    - The existing gap I may not be as appropriate.

Objective 4: Reduce negative effects to natural and cultural resources from flooding.
- The existing gap R may not be the most appropriate because people who care or know about cultural resources probably already know the issues and see them every day (such as SLR). Consider replacing it with N because there isn't funding to address these things.
    - Consider gap T to replace gap S

Objective 5: Reduce negative impacts to vulnerable populations from flooding.
- Consider replacing R with Q. This is because vulnerable populations can most benefit from public awareness.
- A lot of the gaps are post-event, not as many for mitigation.
- Consider replacing C with A because it's more about mitigation and post-event. This emphasizes pre and post-resilience activities.
- Consider switching Y with Q. A lot of vulnerable communities may not have the capacity to complete things, and technical assistance can help with this.

Discussion on Goal 2 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Advance lasting and unified strategies to address flood risk.	Increase understanding of current and potential future flood risks.	P	Q	Y
	Strengthen the ability to prepare for and manage flood risks.	P	J	F
	Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.	V	N	O & M
	Increase the return of public investments in flood resilience.	D	G	T
	Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.	E & F	P	S

Discussion:

Objective 1: Increase understanding of current and potential future flood risks.
- We don't need R and Q. Consider removing R.
  - Suggest adding S in place of R? More actionable.
- What about instead Y because it is important to coordinate with the localities.

Objective 2: Strengthen the ability to prepare for and manage flood risks.
- How does the group feel about gap J? It has similar language and is getting more to the unified. It's about building capacity.
  - J is very similar to P and X, so maybe J does belong as a top priority.
  - I would like to broaden it by adding J. J is about managing flood risk which is general.
  - Replace X with J because it is more important to highlight data aggregation.

Objective 3: Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.

- I see a lot of good things about U with V
    - General sense that V should be in the top three.
- M should also be in the top three. Training is very important. Gap M should replace gap N
- N is important because we can't always depend on the reliability of funding.
- At first, I wanted to replace O but think it makes sense.
- M and N are similar and in the same category. Should these be bunked together?
- Keep gap N. For example, if you have non-federal funding for flood buyouts, it could take less time. Relying on federal funding can take a long time.
- The group decided to prioritize four gaps because they had a hard time choosing three because of the importance of all of these.
- The fact that we can't resolve this proves that this objective is very important.

Objective 4: Increase the return of public investments in flood resilience.

- ROI is driven by informed decisions on the front end. T belongs in the conversation. U is very general and maybe should be taken out in its place.
- The group agreed.
- Gap G is important to consider.

Objective 5: Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

- What are the resources referred to in the objective?
    - Resources is defined as the financial, physical, and technological tools utilized by a state agency to prepare for, respond to, and recover from flood events.
- E and F are similar and in the same category, so they're bunked together.
- Should be considered because of the importance of "all Virginians".

General gaps recommendations:

- In creating the strategies, we need to consider that anything that highlights staff capacity or funding needs may be taken with a degree of skepticism because of the likelihood of the legislature to actually filling these gaps.
- Perhaps in the strategies we can think about leveraging existing resources, or for example, the strategies can be more innovative and creative rather than just needing more money and people.
- Some of the gaps are high level, and some are very specific.
- For example, staff capacity may need to be more concrete, such as the number of hours.
- Think about it as a work structure.

Discussion on Goal 3 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Capture additional benefits through flood resilience.	Improve health and quality of life through flood resilience.	A & P	Q	G & F
	Boost the economy through flood resilience.	D, G, & X.	A	Q & F
	Enhance the natural environment through flood resilience.	T & O	Q	A & F

Objective 1: Improve health and quality of life through flood resilience.
- Need planning and coordination for all of these. Gap A is included in objectives 2 and 3, but not in objective 1.
  - The reduce redundancies part of A is valuable.
  - All of the gaps are really different.
- Maybe bunk P with A because of the coordination part of it.
- Group – Gap Q is also good.

Objective 2: Boost the economy through flood resilience.
- We need funding for all of these gaps, it will be at the top of the list every time.
- What about adding Q here too? If the private sector invests in resilience, then assets may not be hit as hard.
- Technical assistance – Jobs may not be hit as hard or adding new jobs for flood resilience may boost the economy, such as construction or workforce.
  - Consider adding X but with a note for new jobs specifically.
- We could bunk D and G and then add Q.
- Consider R instead of Q.
  - R is beneficial because of the empowering part of it.
- All of these are important.
- The group decided to bunk D, G, and X as one major gap to be addressed.
- Agencies need flexibility in funding.
  - We want agencies to look at funding and think about other areas it can benefit.
  - The flexibility of funding could be important to track these co-benefits.
  - This may help people in agencies to think bigger.

Objective 3: Enhance the natural environment through flood resilience.

- Make sure it does not contrast with the previous goal/objective about cultural resources.
- A works well here. If we're thinking about co-benefits, we need to coordinate across state agencies.
- What about R? Need to inform so localities can implement and act on this information (such as living shorelines).
- The group grouped gaps O and T together and added F and A as overall gaps for the whole goal because they are important for all of the objectives.

GROUP 2

Facilitator: Colleen McHugh

Note Taker: Keesler Morrison

Group Members:

First Name	Last Name	Title	Organization
Daniel	Johnson	State Hazard Mitigation Planner	VDEM
Jenn	Peterson	Hazard Mitigation Grants Administrator	VDEM
Becky	Gwynn	Deputy Director	DWR
Peter	D'Alema	Director of Program Management	VRA
Chris	Berg	Director of Sustainability	VDOT
Matt	Dalon	Program Manager	DCR

Discussion on Goal 1 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Mitigate current and future flood risks statewide.	Reduce negative effects on human health from flooding.	G & D	Q	C
	Reduce flood damage to buildings and infrastructure.	W	H	I
	Reduce economic disruptions and losses from flooding.	D	I	B
	Reduce negative effects to natural and cultural resources from flooding.	D	F	V
	Reduce negative impacts to vulnerable populations from flooding.	Y	Q	B

Discussion:

Objective 1: Reduce negative effects on human health from flooding.

- On the current Placement of the gaps:
  - Gap D - Funding is appropriate to include in this one. This is likely the biggest gap
  - Giving autonomy to the people (human health) is important
  - Some gaps are similar, like all funding could be categorized together. Those will tend to rise to the top
  - Outreach could be incorporated into human health
    - The funding ones go together and are relevant
  - General agreement on outreach or coordination
- Gap Q speaks most closely to this objective
  - We are not going to be able to stop all water from flooding people, but we can allow people the opportunities to increase their own resilience and/or reduce their own impact
    - Public Outreach is needed to achieve this
  - Gap Q is the action, not just making information. Seems more actionable and relevant to all of these.
  - If we can reduce the people's impact, you'll need less funding
  - Gaps D and G go together – Gaps Q and C should be included as well
    - *"D and G are cousins"*
  - Funding and outreach are the most essential as part of this one
- Gap C, staff capacity, is always an issue, this one is important as well

Objective 2: Reduce flood damage to buildings and infrastructure.

- W is good, infrastructure and building codes are important here.
- All agreed – W, H, I

Objective 3: Reduce economic disruption and losses from flooding.

- Disruptions happen, it is not going to be perfect
- How can we do what we can upfront, and when it happens, be coordinated and respond well?
  - B or C is likely to be included here
  - S is the weakest of the current options
- C is also important
  - During Helene, not having access to updated data was an issue. This is still getting updated.
- Final: D, I, B

Objective 4: Reduce effects to natural and cultural resources from flooding.

- A lot of the gaps are post-event, not as many for mitigation.
- Consider replacing C with A because it's more about mitigation and post-event. This emphasizes pre- and post-resilience activities.
- I prefer Gap Q over R – Q requires R. It is inherently higher priority because its actionable
- State-managed resources – does the public have a role here?
    o We need to have a plan on how to manage this
- Have we considered management gaps?
- Consider endangered species here.

Objective 5: Reduce negative impacts to vulnerable populations from flooding.

- We can't do all this at the state level – the data doesn't tell the whole story
- Consider switching P for B
    o Need staff capacity to coordinate
- Why not Gap Y?
    o General agreement that Gap Y is relevant
- The group likes aspects of B and Y separately
- Some group members like Gap Q more than R – R is flat, Q is more actionable
- B and C could be a coin flip
- Group Final Decision: Y, Q, B

Discussion on Goal 2 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Advance lasting and unified strategies to address flood risk.	Increase understanding of current and potential future flood risks.	Q	P	Y
	Strengthen the ability to prepare for and manage flood risks.	P	X	G
	Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.	U & V	N	F
	Increase the return of public investments in flood resilience.	S & A	J	F
	Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.	F	P	E & Q

Discussion:

Objective 1: Increase understanding of current and potential future flood risks.
- P feels appropriate – we don't need both Q and R (All agree)
- Don't think we ever need R; part of R is baked into Q
- But how good is public awareness? Do we need to prioritize this?
- Would need to be heavily data-focused
- Should we consider gap Y or technical assistance?
- Collaborating with localities
- Have we considered gap J?
- The group considered U, V, X, & Y
- There must be some type of knowledge sharing across state agencies.
- Swap R for Y

Objective 2: Strengthen the ability to prepare for and manage flood risks.
- Consider gap V, at least one gap out of planning seems appropriate
- Gap P is data – that is a good one, probably leave it
- In planning, F is flexibility, but G speaks more about having dedicated funding
    - Planning for future risks allows for more work to be done
- Group – Could place P and V together and then include planning and funding
- Final: P, X, G

Objective 3: Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.
- Swap F for O?
- Does V relate here?
- Yes, the decision framework allows for an increase
- Capacity to integrate is good, but once you integrate you need the decision framework – marry U & V together
- Final: U & V, N, F

Objective 4: Increase the return of public investments in flood resilience.

- Gaps D & G are related
- Gap A is actionable for this one
- Increasing the return means you already have funding; efficiently using money assumes we have the money to spend. Gap J feels like it plays in to this concept as a complement.
- S and A go together. This speaks to collaboration efforts.
- I am not sure D and G go on this one
- If you want to do something financial here, you should do F
- Gap U is good - more or less on the integration. Gap U feels like the way we perceive R – not as actionable.

Objective 5: Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

- This feels like gap Q's "shining moment"
  - Agreement from the table
- There is consensus that gap E seems important
- Gap Q is potentially important
- Gap P is staff capacity again, which is always important
- Gap Q is also important, but gap P would be the odd one out if absolutely necessary
- The group nominates P to be replaced but still think it's important.

Discussion on Goal 3 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Capture additional benefits through flood resilience.	Improve health and quality of life through flood resilience.	Y	Q	G
	Boost the economy through flood resilience.	D, G, & F	A	V
	Enhance the natural environment through flood resilience.	D, G, & F	X	W

Discussion:

Objective 1: Improve health and quality of life through flood resilience.
- Gap Q is appropriate.
- Gap S feels holistic, but it is not a priority over the ones already mentioned
- Gap P is also about staff capacity, but it is more focused on data
  - Data on health and quality of life is subjective – thinking gap Y over P
- Gap G is money – it is good and makes sense here
- Final: Y, Q, G

Objective 2: Boost the economy through flood resilience.
- D and G seem appropriate and should still be there
- Consider adding F as well
- Make sure if we have funding, we have the flexibility
- Prioritize help to local government
- X speaks to flexibility more – we could also include it
- E, X, or Y are also options to consider
- We could also consider gap V
- Final: D & G & F, A, V

Objective 3: Enhance the natural environment through flood resilience.
- Gaps O and T seem the same and not necessary
- For nature-based solutions, we need the funding
- Gap W – The legal issues are relevant here for permitting issues
- Gap G would be important. F could go with it
- Gaps O and T are identical
- Gap W needs to be inserted
- Gap A doesn't mean a whole lot here – just a statement
- Funding, legal, and planning work best here
- Need funding, capacity, and legal help

GROUP 3

Facilitator: Rebekah Cazares

Note Taker: John Millspaugh

Group Members:

First Name	Last Name	Title	Organization
Jacob	Compton	Dam Safety Project Manager	DWR
Raka	Goyal	State Review Civil/Structural Engineer	DGS
Maria	Mutuc	Resilience Program Manager	VDOT
Jessica	Scott	Hazard Mitigation Grants Manager	VDEM
Madison	L'Heureux	Hazard Mitigation Grants Manager	VDEM
Carolyn	Heaps-Pecaro	Resilience Planner	DCR

Discussion on Goal 1 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Mitigate current and future flood risks statewide.	Reduce negative effects on human health from flooding.	D	G	C & L & Y
	Reduce flood damage to buildings and infrastructure.	W	H	I
	Reduce economic disruptions and losses from flooding.	D	I	S
	Reduce negative effects to natural and cultural resources from flooding.	D	F	R
	Reduce negative impacts to vulnerable populations from flooding.	Q	S	C

Discussion:

Objective 1: Reduce the negative effects on human health from flooding.

- Funding is the biggest gap in general – specifically, federal funding is lacking. The state has done well with matching. We go out to undeveloped communities, like currently in SW VA where there were the greatest Hurricane Helene impacted areas. Communities have great ideas, but they don't have the technical resources (engineers etc., grant writers, etc.) to develop plans or develop apps or matching funds.
    - Could see benefit in pivoting towards state-federal match instead of local-federal match, especially in underserved areas. Acquisition and elevations are examples of state-covered work.
    - The group came to consensus that D was a top gap.
    - C and L are very inter-related; can the gaps be combined/merged? At least they are closely related. Agrees with D and feels like D and G have overlap.
- X, Y, Z are focused on technical assistance. If you wanted to manage the event, something with real-time coordination is needed. It would be helpful to have something with specific items to leverage, so consideration of Y would be good for this objective.

Objective 2: Reduce flood damage to buildings and infrastructure.
- A major cause of damage is non-compliance or being up to date.
- On the residential side, there is agreement; however, from public infrastructure, noted that it is less of a matter of non-compliance but a need to have updated design guidance to follow. Therefore, this gap depends on the type of infrastructure.
- Southwest VA (Helene) had roads washout and impacts to buildings. I agree with H but need to parse out between infrastructure types. This gap comes across all encompassing. Gap H is one of the gaps because we haven't identified the state-owned assets at risk of flooding. We've been making strides to identify vulnerable infrastructure, but still gap I is at the top. With funding, you can do anything and everything. Funding is primarily for maintenance; the first thing is maintaining assets, for example, which could include elevating.
- If we are talking about funding for reducing flood damage to buildings, then we could say we need funding to achieve H. If we don't think buildings are compliant, then funding would be needed to become compliant. Gap H is very targeted to state-specific assets. I don't think gap H should be removed.
- H and I are very pertinent as we think about schools for shelters, so we need them to be resilient, so in thinking about short-term, these should be prioritized.
- Gap H – we are looking to mind the gap of flood risk. Table suggests that public infrastructure be brought into this be considered. Types of infrastructure need further refinement for best fitting in and defining the gap more clearly to the objective.

Objective 3: Reduce economic disruptions and losses from flooding.

- Funding is the biggest. We have 39 dams, and many are reaching the end of their life cycle and need to be repaired/replaced. We can get funding for high hazards, but low and significant are harder to get funding for.
- Gaps H and O may be prioritized. We need the data/input to make the decisions. A data update is needed. These would be necessary to support, but not to replace I on the list of prioritized gaps.

Objective 4: Reduce negative effects to natural and cultural resources from flooding.

- General consensus around F being the top gap.

Objective 5: Reduce negative impacts to vulnerable populations from flooding.

- Group did not have time to discuss this Objective.

Discussion on Goal 2 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Advance lasting and unified strategies to address flood risk.	Increase understanding of current and potential future flood risks.	O & H & P	R & Q	M & K
	Strengthen the ability to prepare for and manage flood risks.	P & A	X	V & F
	Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.	U	N	O & W
	Increase the return of public investments in flood resilience.	G & D	N	V & Z
	Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.	F	Q	E & Y

Discussion:

Objective 1: Increase understanding of current and potential future flood risks.

- Can we combine gaps Q and S? They are both are about raising public awareness. To empower the public, you would have to give them the knowledge.
- Q covers R.
- Information sharing is highlighted to empower communities. There are other things as an aside besides the information to empower communities though.
- Gaps P and H could be combined and put up as priority.
- Gap H talks about state-owned assets; O is broader, so O should be prioritized. DGS needs data, so we don't want to lose a gap, but gap O is needed. Gaps Q and R feed into each other.
- Gaps H or P: One with public info, one with data and then staff capacity is already there.
- A training aspect is needed to increase capacity – gaps Z and M seem to be the potential gaps that speak to this. Gap M fits better.
- Clarified this gap is relevant to build staff capacity to track with tools to address flood risks.
- I would further describe gap K with turnover rate as an additional challenge/gap.

Objective 2: Strengthen the ability to prepare for and manage flood risks.

- For F, I don't like to just to say state funds. There are federal funds out there that address flooding.
- Could gap A be added to reduce redundancy? Could it be coupled with P?
- What do you mean by gap Z projects? Clarification via example that scale would include large number of properties (e.g. Norfolk CSRM)
- We do have data about where flooding is occurring and for this plan and where in the future, so don't think data is the heart of the problem. It is about doing something in response to the data. Do we have the funding and support from leadership to address the risks through our programs? Gap V speaks to this. Potentially couple gaps F and V. This needs to speak to both local and state scales.

Objective 3: Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.

- With adaptability, you run up against structural constraints of what can and can't be done in adapting. When we speak about adaptability, the existing structures can be a challenge to adapt due to regulations and permitting. This may fit with the "additional" gap of interpreting legislation (Jitender brought up). This may be less of a gap but a barrier. Proactive strategy to overcome this barrier. Gap W may be the closest fit to this.
- Re: gap N, we are relying on BIL/Protect funding, so I would agree.

Objective 4: Increase the return of public investments in flood resilience.

- In agreement with gap D and to stack with gap G
- like to have something beyond funding like looking at ways to know the effectiveness of the investment in achieving the outcomes.
- Gap V speaks more to prioritizing. Replace gap U with V. Don't really understand U. We are thinking a lot about grant funding, but are there other financial strategies that exist? I wonder if there is an additional gap for other financial tools for sustainment. Gap N to be added to, so it is not just "Federal non-permanent funding" but other potential non-permanent funding ideas.
- Gap Z to use the modeling tools. To maximize return on investment, need to be able to put inputs and outputs to know if it will function as anticipated.
    o Monitoring is needed as well to understand what works to inform what actions will prove effective.

Objective 5: Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

- Considering public teaching and reaching, proposing gaps Q and R. This applies to objectives 4 and 5. Everyone agrees with Q and R
- Don't think P fits. Gap P was removed for Q and R paired.
- Something to be said – information is coming from multiple places and messaging isn't the same.
- Consider gap Y in place of Q.
- E and Y have a lot of overlap, so stack these two.

Discussion around potential places in agency to address these gaps

- More outreach with local government, for example - Helene. We need something like a Quarterly/Annual reminder to localities looking at risks and how to mitigate. Having a unified collaboration with other agencies is necessary for this. Bring everyone to the table, including consultants, to do this.
- We are already reviewing the projects. We are relying on the data we have and all the standards, so we need these two (data and standards) to be done well to perform our role well.
- Could play a role in other finance mechanisms. The political will is a big barrier. Raising taxes wouldn't be popular.
- Coordination and sharing of information. Being sure it is consistent across agencies. Outreach – we could consolidate more to avoid fatigue.
- Interagency coordination is added info to address Objective 5

Additional Notes
- A potentially coupled with P for Objective 2
- Consider federal funds with "F" for Objective 2
- Gap W is a barrier to Objective 3
- Need monitoring on Objective 4 to be able to know what our ROI is or broader funding mechanism regarding gap N for Objective 4
- Inter-agency coordination for R for Objective 5
- Pursue other funding mechanisms in general for the goal
- Need more outreach by local government in general for the goal
- Coordination and sharing info consistently in general for the goal

Discussion on Goal 3 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Capture additional benefits through flood resilience.	Improve health and quality of life through flood resilience.	B	Q	G & F
	Boost the economy through flood resilience.	D & G	B & A	T & V
	Enhance the natural environment through flood resilience.	T & O	P & A	W

Discussion:

Objective 1: Improve health and quality of life through flood resilience.
- Thinks F is more aligned, as this allows using funding to achieve the additional benefits to be able to prove to the funder that is worth inclusive measures that capture the additional benefit.
- Consider linking F and G. F is the driving the topic of funding need.
- Consider Q and R in agreement as stacked.
- Looking at outcomes and overcome silos to achieve shared outcomes.
- Gap P is removed. Gap B is better but remove the "event response" focus of this gap because it is not just specific to "event response". We want the coordination to identify how the additional benefit would be effective in how they could leverage everything that they have to have a better outcome for them.
- General objective, while we achieve others.

- We may need to make tradeoffs; Goal C is to help make sure we don't neglect these other things while achieving Goal A. Goal A Objective 1, and Goal B Objective 1 are most similar.
- 4 and 2 and 4 and 3 also.
- The strategies to reduce negative impacts on the natural environment may be different than other impacts.
- To make robust decision-making, we need to align on what we care about and how do we integrate them. S feels holistic, but not over the ones already mentioned.
- Remove Gap Q. B is better but remove the "event response" focus of this gap, not just specific to "event response". Want the coordination to identify how the additional benefit would be effective in how they could leverage everything that they have to have a better outcome for them.
- Combine gaps Q & S
- F is paired with G, as it is more about being able to prove to the funder that project is worth investing in.

Objective 2: Boost the economy through flood resilience.
- D and G combined (stacked) to make space for another priority gap.
- W added. Here stacking T to be able to perform Benefit cost analysis.
- Something about state agency is relevant to all of these.
- Is intergovernmental coordination a gap and not just inter-state agency. Stack A and B
- D&G combined similar to prior rounds
- B stacked with A
- T&V paired

Objective 3: Enhance the natural environment through flood resilience.
- When we do nature-based solutions, several state and federal approvals are needed, so consider W, as this is a barrier as there are additional items that need review.
  - For example – wildlife corridor legislative proposal. If you are already doing resilience, go ahead and help make sure other goals are being achieved. To be able to add wildlife corridor, we would need data, so I agree with gap O.
- Need data to be able to do the evaluation, so agree with T to do the assessment.
- P may be better than O. This also gets to A to provide the data sharing, so let's do P and A
- There are some legislative gaps for promoting nature-based solutions, so this is both a barrier and a gap to be addressed, so potentially expound the gap with this in mind.
- Discussion around funding for NBS and the need for additional funding
- Added W but noting it is also a barrier
- T&O stacked and P&A. It's important in BCA to be able to quantify long-term benefits, and we need to have the data to do that.

Discussion on what agencies could do to address any of these gaps:

- We are developing a cost analysis for nature-based solutions specifically for transportation projects, this could be shared with other agencies.
- NBS usually increases costs.
- Is the tradeoff losing something in the natural environment?
- We try to include in all projects but budget constraints limit our ability. There needs to be a funding mechanism that recognizes these costs more.
- This is where the BCA comes in. Need to understand how it may decrease maintenance costs.

GROUP 4

Facilitator: Dave Hirschman

Note Taker: Sarah Girard

Group Members:

First Name	Last Name	Title	Organization
Mark	Killgore	Lead Dam Safety Engineer	DCR
Rachel	Slotter	Strategic Planning Branch Manager	VDEM
Andrew	Hammond	Sr. Resiliency Engineer	VDOT
Will	Isenberg	Coastal Planner	DEQ
Ellie	Plisko	DCR Fellow	DCR

Discussion on Goal 1 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Mitigate current and future flood risks statewide.	Reduce negative effects on human health from flooding.	D & G	C	L
	Reduce flood damage to buildings and infrastructure.	G	H	I
	Reduce economic disruptions and losses from flooding.	D	I	S
	Reduce negative effects to natural and cultural resources from flooding.	D	F	J
	Reduce negative impacts to vulnerable populations from flooding.	P	R	C

Discussion:

Objective 1: Reduce the negative effects on human health from flooding.
- Gap G is focused on event response and gap D is general funding.
  - Consider making D and G equivalent.
    - Emphasize G due to its high need.
- C is relevant to B and L. L is essential for this objective.
  - B and C may be redundant.
- D and G are interdependent; all require funding for planning, implementation, and response.

- o Include examples with each gap.
  - ▪ Gaps are becoming increasingly intertwined as we discuss.
  - o Funding for resilience is essential for all three (D, G, L).
  - o Distinguish between funding for staff vs. agencies.
- Focus may be at the regional level.
  - o Consider local and county levels.
- Suggestion - Combine D and G; include C and L.
- V seems closely related to L.
  - o V likely to be addressed by upcoming general assembly funding and not needed in 5 years.

Objective 2: Reduce flood damage to buildings and infrastructure.
- Funding is the top priority.
- Does J matter to this objective?
- Gap W likely addresses technical aspects, given I addresses funding.
  - o Consider Executive Order 45 and building code implications.
  - o Question on the placement of W in this objective.
- Expand beyond building code considerations.
  - o Resources, gap I, refers to personnel for oversight and management, not just funding for work.
  - o Include federal, state, and local ordinance requirements.
- Cross-dependencies are crucial (e.g., new buildings meeting standards).
- Gap G relates to implementation for D and G.
- Suggestion - Replace W with D/G.

Objective 3: Reduce economic disruptions and losses from flooding.
- Notes were not provided for this objective.

Objective 4: Reduce negative effects to natural and cultural resources from flooding.
- Gap R may be redundant; consider J instead.
- J may be too limiting in its current phrasing.
- Define "assets" more clearly (e.g., "state assets").
  - o If "assets" is clarified, R may be more suitable.
- J requires strong management support.

Objective 5: Reduce negative impacts to vulnerable populations from flooding.
- Notes were not provided for this objective.

Discussion on Goal 2 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Advance lasting and unified strategies to address flood risk.	Increase understanding of current and potential future flood risks.	P & S	O	Q & R
	Strengthen the ability to prepare for and manage flood risks.	P	X	F
	Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.	U	N	O & A
	Increase the return of public investments in flood resilience.	G	D	A & U
	Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.	F & E	P	Q

Discussion:

Objective 1: Increase understanding of current and potential future flood risks.
- Should Q and R be stacked?
  - Table agrees with combining them.
- Why is S not part of the gaps for this objective?
- I would be upping for O - what about data resources needed for understanding and planning purposes? Not downplaying public awareness - tools may not have granularity of understanding what happens in the field at any location + event.
- Adding S is a mirror image of P. Could we stack P & S? O should be included as well in this gaps list.
- Major topics these all fall under - for this objective should we think of something like coordination among state agencies, etc.?

Objective 2: Strengthen the ability to prepare for and manage flood risks.
- P, X, and F - I like them all.

Objective 3: Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.

- Add A?
- N and U can somewhat be lumped. N is a part of U - staff capacity in general is hindered by funding.
- A instead of O?
    - A with O?
    - Given funding, N is a bit specific. Need to develop strategy before knowing what to fund…
- Suggestion - U, N, O, A

Objective 4: Increase the return of public investments in flood resilience.

- Thinking this is about redundancy…
    - Then this one needs A.
    - Coordination to ensure agencies are spending wisely + multiple benefits from investments.
- Dedicated funding + continued effort are very important
- Increase return "on" (add the word "on") for this objective
- Suggestion – D + G, A, U

Objective 5: Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

- Should this have Q added.
    - Like F for this one too (keeping it). Liking the flexibility
- E makes sense here too.
    - Talks about relationship for local governments
- Suggestion - Q, F, P, E
- We do have P twice in these…
    - It is important for each objective that has P
    - None of the objectives are in a vacuum - clearly P needs to be addressed due to repetition. Addressing P would fix challenges in at least 3 categories.
- Maybe could stack F and E ONLY for objective 5. Its grant applications and management + state funding application…
- Suggestion - Q, P, F + E

Discussion on Goal 3 Gaps:

Rankings:

Red letters indicate gaps stakeholders prioritized that differ from Arcadis's original rankings.

Goal	Objective	Top Three Gaps Per Objective		
Capture additional benefits through flood resilience.	Improve health and quality of life through flood resilience.	Q	V	G
	Boost the economy through flood resilience.	D	A	G
	Enhance the natural environment through flood resilience.	O & T & V	A	Q

Discussion:

Objective 1: Improve health and quality of life through flood resilience.
- Why is the word "safety" not in any of these? Health AND safety.
- Adding safety to the objective sentence.
- Wondering why F isn't in here
- Likes inclusion of Q
  - Table agrees. Maybe the only one that directly hits the objective. I am struggling with the prioritization... thinking the other gaps make sense, but could we add in more important ones?
    - To boost economy through flood resilience à work force. A is good for that... but that isn't necessarily 'BOOSTING' the economy...
- Health + quality of life; Consider adding V?
- G makes sense there as well - direct benefits (recovery funding...etc.)
- Taking P out of objective 1
- Suggestion - Q, V, G

Objective 2: Boost the economy through flood resilience.
- Group - Instead of "boost," maybe use "maintain level" or something that implies not letting a lack become a problem.
  - interpretation of the objective wording
- Keeping: D, A, G

Objective 3: Enhance the natural environment through flood resilience.

- What is the definition of flood resilience?
- What about Q for this objective?
    - o Because a lot of these decisions would be local?
    - o I see that, but maybe adding V there? Need a decision-making framework due to the tradeoffs of the decisions... maybe add T and V?
- T, V, & P? Then we could possibly add Q.
    - o Would want the public awareness and empowerment for that community's decision-making process
        - ▪ Replace A with Q, then put V on its own?
            - • I liked A - would be wise for the coordination
    - o I think bunking T, V, O works as well.
        - ▪ W is making use of that data for decision-making frameworks.
- Suggestion – O + T + V, A, Q

Wrap Up Discussion

Following the small group discussions, each group reported out on their conversations and prioritization rankings of the gaps.

The Arcadis team explained to the group that feedback provided by the Stakeholders at the workshop will be used to help refine and prioritize the gaps that will be addressed through the VFPMP.

To conclude the workshop, Arcadis informed Stakeholders about upcoming opportunities for engagement in the identify solutions and implementation planning phases of plan development.

Prioritization Gaps to Address

In-Person Workshop <u>Objectives</u>

1. Understand the purpose, scope, and process of the Virginia Flood Protection Master Plan

2. Understand how the gaps identified will drive the identification of flood resilience strategies to address them

3. Review and provide input on draft identified gaps

4. Understand how and when you can participate in the plan development process and how your input will be incorporated

Meeting Agenda

- Welcome & Introductions

- Plan Overview

- Vision Statement, Goals, and Objectives Update

- Virtual Feedback Session & Survey Review

- Break

- Prioritization of Gaps Exercise

- Wrap Up & Next Steps

DCR Office of Resilience Planning

Planning for a flood resilient future.

Matt Dalon
Program Manager

Carolyn Heaps-Pecaro
Resilience Planner

Arthur Kay
Resilience Planner

Ellie Plisko
VCU Wilder Fellow

Gabrielle Rosario
VASG Coastal and
Marine Policy Fellow

Our mission is to distribute knowledge and coordinate action to achieve a flood-resilient future for Virginia through informed planning and proactive, intergovernmental solutions.

VIRGINIA
FLOOD
PROTECTION
MASTER PLAN

How We Approach Resilience

Principle 1: We are committed to addressing challenges relating to flooding and resiliency
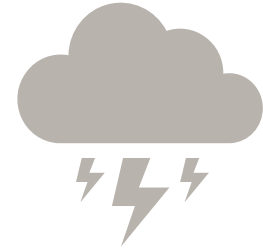
Principle 2: We must address these challenges with programs that work for all impacted parts of Virginia

Principle 3: The programs we implement must work together as parts of comprehensive, cohesive plans

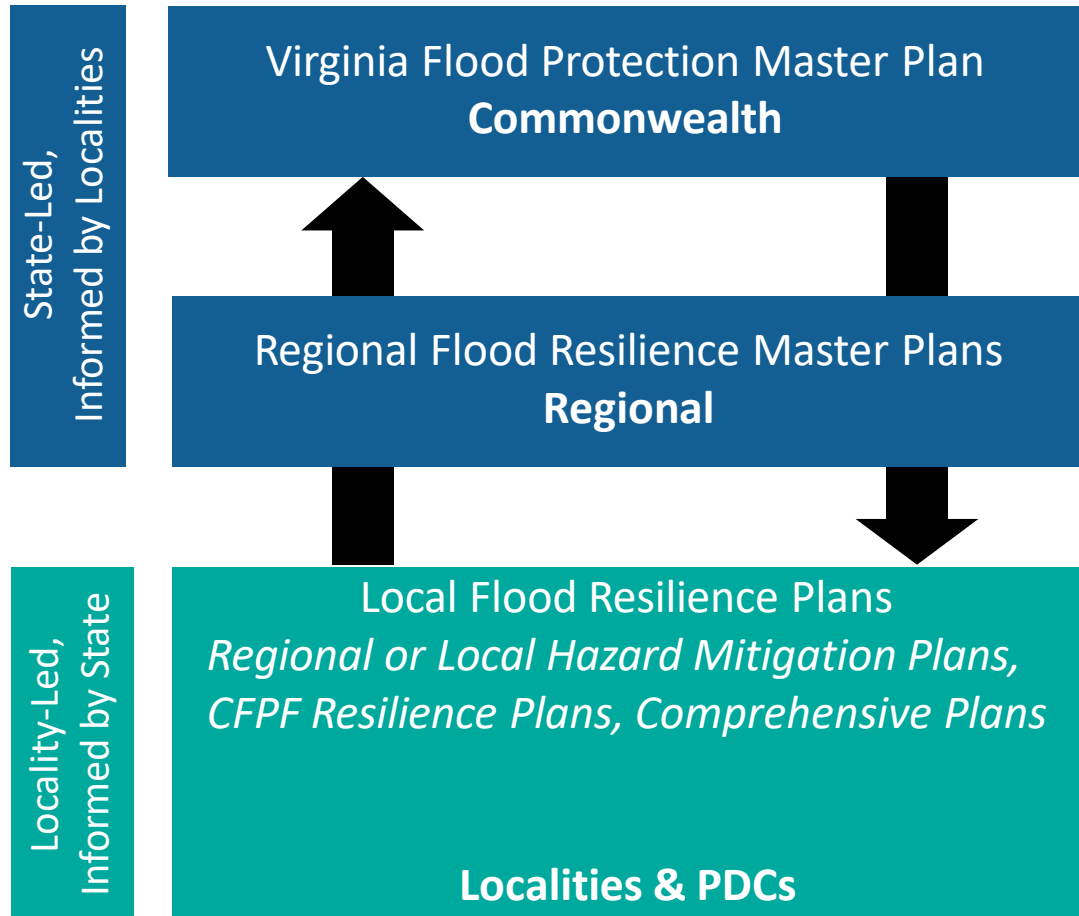Principle 4: These programs and plans must be developed and implemented with transparency and input from the public

Planning Team

The Virginia Flood Protection Master Plan (VFPMP) will be **an actionable plan** for the Commonwealth to use in crafting policies and programs to mitigate the impacts of flooding on people, the economy, and the environment.

VIRGINIA
FLOOD
PROTECTION
MASTER PLAN

DCR
Virginia Department of Conservation & Recreation

ARCADIS
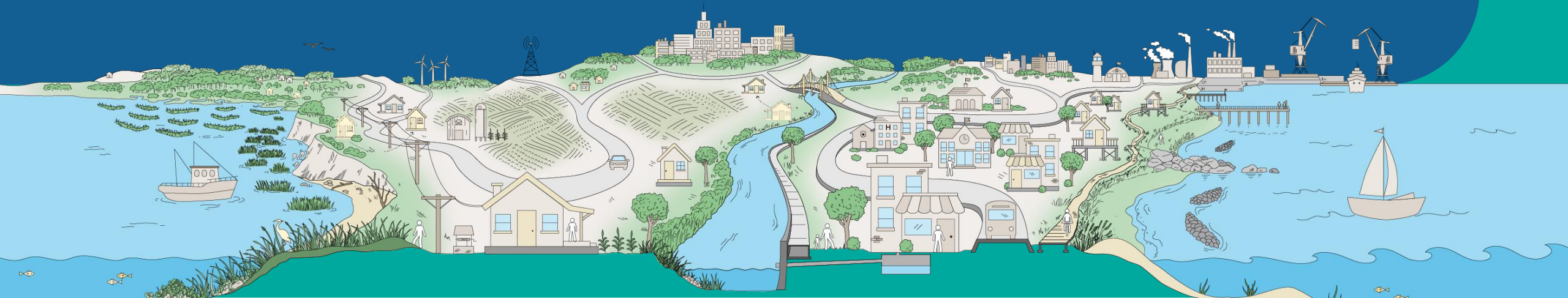
Role of the VFPMP & Stakeholder Engagement Groups

State-Led, Informed by Localities

Virginia Flood Protection Master Plan
Commonwealth

Regional Flood Resilience Master Plans
Regional

Locality-Led, Informed by State

Local Flood Resilience Plans
Regional or Local Hazard Mitigation Plans, CFPF Resilience Plans, Comprehensive Plans

Localities & PDCs

VFPMP Stakeholder Engagement Groups

Planning Team and Flood Committee

Core Stakeholders

Supporting Stakeholders

General Public of the Commonwealth

VFPMP Final Products

📄	**Written PDF Plan**	The full plan document designed for state leadership, and appendices designed for use by practitioners.	Audience: Governor & GA
📋	**Implementation Guide**	A summary of the policy and program strategy designed for quick reference.	Audience: State Agencies
🗺️	**StoryMap & Data Viewer**	A summary of the major plan elements that allows for interactive engagement.	Audience: Public
🖥️	**VFPMP Webpage**	General plan information (purpose, process, & results). Periodically updated with progress/metrics tracking.	Audience: Public

VIRGINIA
**FLOOD
PROTECTION**
MASTER PLAN

Key Points in Collaboratively Developing the VFPMP

Stage Setting

Determine Vision, Goals & Objectives

Prioritize Gaps to Address

Identify Flood Resilience Strategies

Develop Implementation Roadmap

Identify past and current flood resilience successes and challenges to inform the develop of initial VFPMP goals.

Define clear desired outcomes to guide the Virginia Flood Protection Master Plan.

Identify and prioritize data, resource, and capacity gaps in statewide management of flood risk.

Identify statewide actions that can be taken within the next five years to address gaps and strengthen Virginia's flood resilience.

Outline mechanisms, timelines, responsible parties, required resources, and success metrics to guide implementation.

Overview of VFPMP Development Schedule & Engagement Points
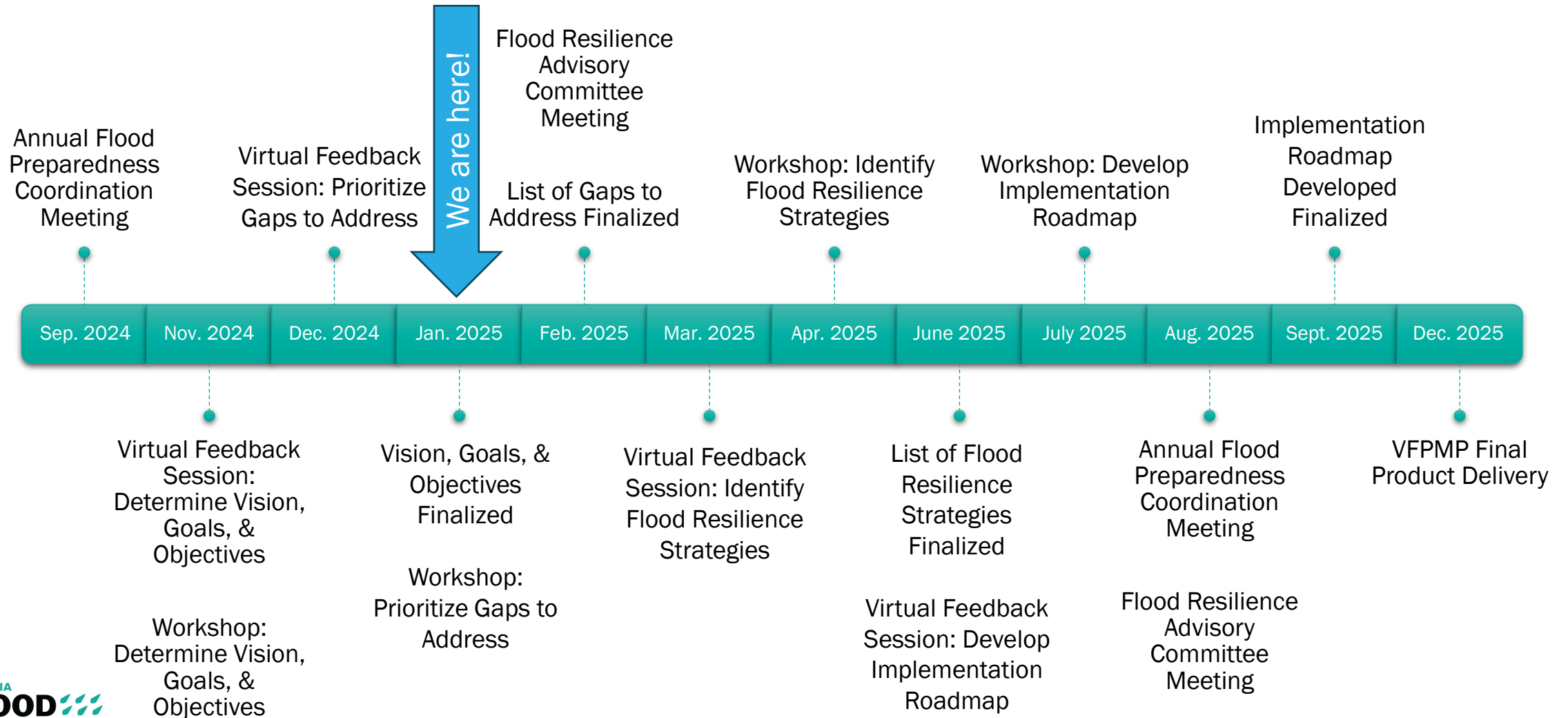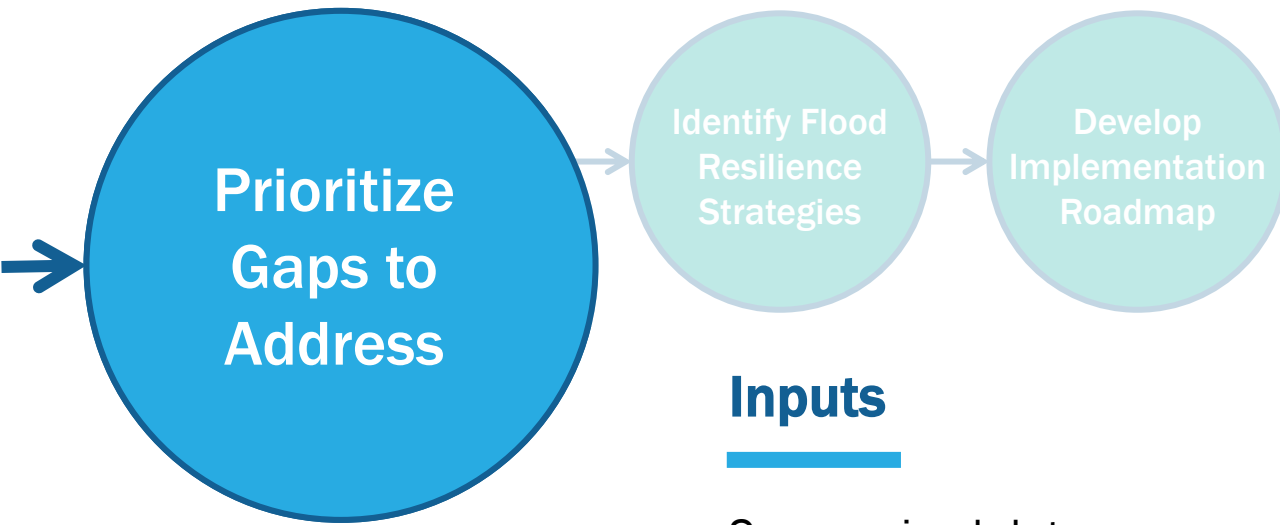
Prioritize Gaps to Address

Identify Flood Resilience Strategies

Develop Implementation Roadmap

Identify and prioritize data, resource, and capacity gaps in statewide management of flood risk.

Inputs

Summarized data, resource, and capacity gaps that emerge from a review of existing documentation and developed a prioritization matrix **grounded in the established Objectives** and use those to evaluate gaps.

Virtual Feedback

Review identified gaps and their anticipated consequences to plan objectives.

Supporting and Core Stakeholders provide feedback on identified gaps in relation to their impact on plan objectives.

Workshop

Discuss trade-offs, dependencies, agency roles, and list of recommended gap priorities based on findings.

> **Clarity on priority data, resource, and capacity gaps** to address through flood resilience strategies.

VIRGINIA **FLOOD PROTECTION** MASTER PLAN

Gap Identification

| Collection of state agency plans, resources, programs, and policies | Cross-analysis between documents and plan Objectives to identify initial gaps | Interviews with select Core Stakeholders to verify and complete gaps analysis | In-person workshops and virtual feedback sessions with stakeholders | Synthesis of input into draft Prioritization Gaps |

Input during today's workshop will help finalize gaps to address.

Status Update

Vision, Goals, & Objectives Development

FINALIZED VISION STATEMENT

Previous Vision Statement

A thriving Commonwealth proactively managing flood risks to strengthen the resilience of communities, the economy, and ecosystems now and into the future.
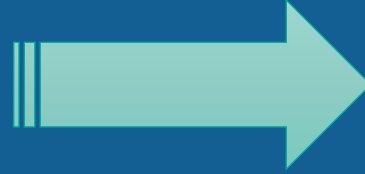
Final Vision Statement

A thriving Commonwealth proactively addressing flood risks to further strengthen the resilience of communities, the economy, and the environment now and into the future.
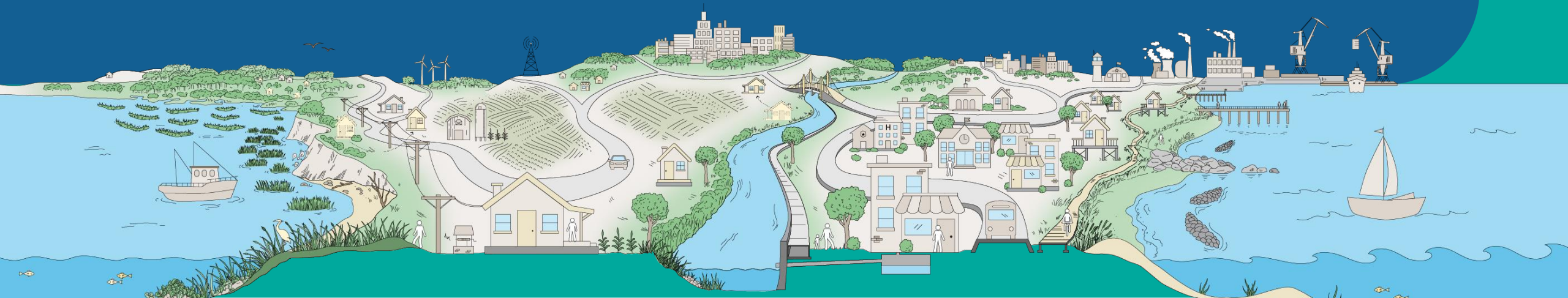
Finalized VFPMP Goals

Mitigate the adverse effects of current and future flood risks on people, infrastructure, the economy, and the environment statewide.

Advance a unified approach to flood risk management that promotes a collective understanding of risks and lasting strategies to address them.

Leverage flood resilience strategies and investments to provide co-benefits to communities, the economy, and the environment.

Mitigate current and future flood risks statewide.

Advance lasting and unified strategies to address flood risk.

Capture additional benefits through flood resilience.

VIRGINIA
FLOOD
PROTECTION
MASTER PLAN

Goal

Mitigate current and future flood risks statewide.

Draft Objectives

a. Reduce negative effects on human health from flooding.

b. Reduce negative impacts to vulnerable populations from flooding.

c. Reduce flood damage to buildings and infrastructure.

d. Reduce economic disruptions and losses from flooding.

e. Reduce negative effects to natural and cultural resources from flooding.

17

Goal

Advance lasting and unified strategies to address flood risk.

Draft Objectives

a. Increase understanding of current and potential future flood risks.

b. Strengthen the ability to prepare for and manage flood risks.

c. Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.

d. Increase the return of public investments in flood resilience.

e. Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.

Goal

Draft Objectives

Capture additional benefits through flood resilience.

a. Improve health and quality of life through flood resilience.

b. Boost the economy through flood resilience.

c. Enhance the natural environment through flood resilience.

Using the Objectives to Help Prioritize Gaps to Address

Most Impactful → Less Impactful

	1st	2nd	3rd	4th	5th
Objective 1a	1st	2nd	3rd	4th	5th
Objective 1b	1st	2nd	3rd	4th	5th
Objective 1c	1st	2nd	3rd	4th	5th
Objective 1d	1st	2nd	3rd	4th	5th
Objective 1e	1st	2nd	3rd	4th	5th
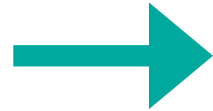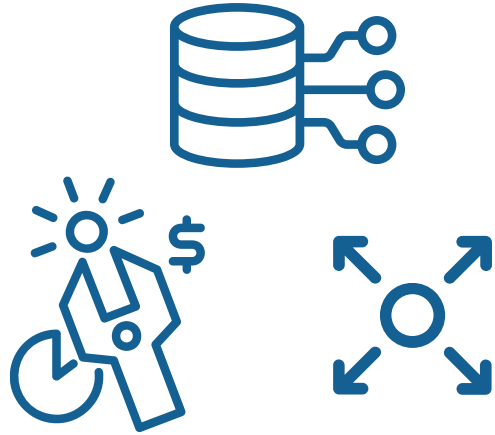
Arcadis Team identified a list of potential **data, resource, and capacity gaps** in statewide management of flood risk.

Arcadis Team evaluated Gaps based on their **impacts to each of the Objectives** to guide discussions on priorities.

How this will support decisions on what gaps to address in the VFPMP

- By evaluating gaps based on how they impact each of the plan's objectives, the gaps—and later, the strategies to address gaps — remain **centered on the vision and goals of the plan**.

- Evaluating objective-by-objective helps to identify and discuss **tradeoffs** between gaps to prioritize.
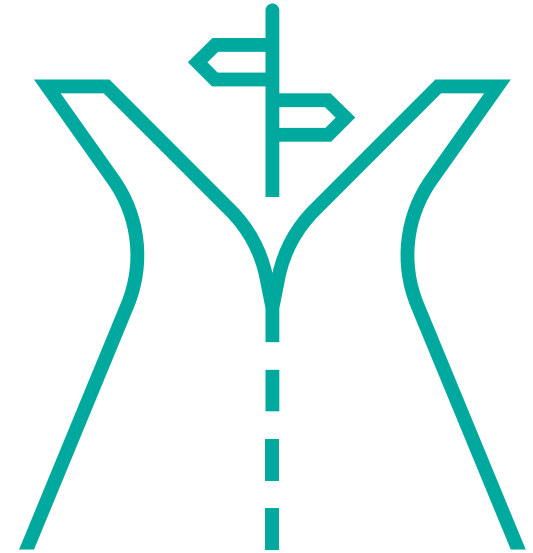
Gaps to be Addressed

Key Mechanisms and Gaps

In the context of this analysis, "gap" is defined as a practice that is not effectively being implemented across and/or within Virginia state agencies which in turn limits the Commonwealth's ability to successfully execute flood resilience strategies statewide.

Each identified gap has been grouped into a category called a "Key Mechanism"

Key Mechanisms

The overarching categories of flood resilience strategies that can be implemented within a Virginia state agency's scope.

Other Considerations:

Resources: The financial, physical, and technological tools utilized by a state agency to prepare for, respond to, and recover from flood events.

Capacities: The abilities and skills that state agencies possess or need to develop to effectively use their resources for flood resilience. This includes the dedicated staff, time, knowledge, expertise, organizational structures, and processes that enable agencies to plan, implement, and manage flood resilience activities.

Current Practice: The various flood resilience strategies that are currently implemented by Virginia state agencies.

Key Mechanisms

Coordination – Internal and External

Event Response

Management – Assets, Programs, and Resources

Financial Support – Grants, Loans, and Others

Outreach – Programs and Resources

Planning – Event Based and Long Term

Legal Instruments

Technical Assistance – Long Term, Event Based, and Training

Top gaps based on all objectives

1 Funding resources for long term resilience planning and disaster response to address state and local needs. **(Financial Support - Grants, Loans, Other)**

2 Dedicated, recurring hazard mitigation/recovery funding resources for flood resilience work affecting long-term strategy implementation. **(Financial Support - Grants, Loans, Other)**

3 Flexibility in allocating state funding to support the breadth of needs, local needs in particular, required to build local flood resilience including use for personnel or overhead costs. **(Financial Support - Grants, Loans, Other)**

4 Public awareness to empower communities in taking proactive steps to reduce vulnerability to flooding **(Outreach - Program)**

5 Robust decision-making framework resources necessary for resource allocation and prioritization to facilitate long-term planning efforts **(Planning - Long Term)**

6 Staff capacity hindering collaboration, technical assistance provision, and funding outreach efforts **(Outreach - Resource)**

7 Staff capacity to collaborate with localities and communities for effective technical assistance provision for flood resilience planning and mitigation **(Technical Assistance - Event Based)**

8 Staff capacity and resources for interdepartmental data aggregation and coordination for comprehensive flood risk assessments **(Management - Resource)**

9 Coordination among state agencies to streamline flood resilience strategies and reduce redundancies. **(Coordination - Internal and External)**

10 Data resources (data collection and data management) to support flood resilience planning **(Management - Resource)**

11 Staff capacity and resources to coordinate technical assistance for funding and program initiatives to address long-term flood resilience goals **(Technical Assistance - Long Term)**

VIRGINIA
FLOOD
PROTECTION
MASTER PLAN

Example of gaps that rank highly for individual objectives, but not overall

14 Publicly available information resources about flood resilience. **(Outreach - Resource)** → Increase understanding of current and future flood risks.

21 Staff capacity to train on new resilience tools and integrate flood resilience policies effectively. **(Management - Programs)** → Increase the adaptability and strength of flood resilience strategies to different potential future conditions and regional interests.

VIRGINIA FLOOD PROTECTION MASTER PLAN

Virtual Feedback Session & Survey Review

Stakeholder Feedback on Gaps – Virtual Engagement

Virtual Feedback Themes & Takeaways:

- Gaps are interconnected across Key Mechanisms

- Gaps present differently across different scales (e.g., watershed, local jurisdiction, etc.)

- Gaps related to state agency coordination and funding assistance were identified by respondents as the highest priority in achieving objectives of VFPMP

- For consideration: sequencing of priority for 1) coordination amongst state agencies and 2) addressing staff capacity needs within state agencies

Break

Please pick up your stakeholder packet & group assignment!

Vision and Goal Development

In-Person Workshop: <u>Ground Rules for Collaboration</u>

- **Share Valuable Work**

- **Ensure Equal Speaking Opportunities**

- **Welcome Ideation**

- **Contribute with Focused Discussions**

- **Collaborate Through Centralized Decision-Making**

- **Engage with High Social Sensitivity**

- **Practice Respectful Group Etiquette**

Prioritize Gaps to Address – *3 ways to join!*

Join at menti.com | use code **85 93 42 7**

Or Visit: https://www.menti.com/al9uhhq82muz

Bring the power of Mentimeter to PowerPoint

❌ Seamlessly embed your favorite Menti slide without changing windows.

◣ Edit and do a lot more on Mentimeter.com and sync in real-time.
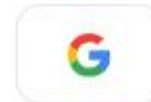
Log in
to use Mentimeter

Work email

Your password

Log in

Forgot password   Log in with SSO

or

Don't have an account? **Sign up**

Prioritization of Gaps Exercise

Goal 1

Mitigate current and future flood risks statewide.

Prioritization of Gaps Exercise – Goal 1

Goal	Objective	Top Three Gaps Per Objective		
Mitigate current and future flood risks statewide.	Reduce negative effects on human health from flooding.	D	G	C
	Reduce flood damage to buildings and infrastructure.	H	I	J
	Reduce economic disruptions and losses from flooding.	D	J	T
	Reduce negative effects to natural and cultural resources from flooding.	D	F	S
	Reduce negative impacts to vulnerable populations from flooding.	Q	S	C

VIRGINIA
FLOOD
PROTECTION
MASTER PLAN

Report Out – Group 1

Goal	Objective	Top Three Gaps Per Objective		
Mitigate current and future flood risks statewide.	Reduce negative effects on human health from flooding.			
	Reduce flood damage to buildings and infrastructure.			
	Reduce economic disruptions and losses from flooding.			
	Reduce negative effects to natural and cultural resources from flooding.			
	Reduce negative impacts to vulnerable populations from flooding.			

Report Out – Group 2

Goal	Objective	Top Three Gaps Per Objective		
Mitigate current and future flood risks statewide.	Reduce negative effects on human health from flooding.			
	Reduce flood damage to buildings and infrastructure.			
	Reduce economic disruptions and losses from flooding.			
	Reduce negative effects to natural and cultural resources from flooding.			
	Reduce negative impacts to vulnerable populations from flooding.			

Report Out – Group 3

Goal	Objective	Top Three Gaps Per Objective		
Mitigate current and future flood risks statewide.	Reduce negative effects on human health from flooding.			
	Reduce flood damage to buildings and infrastructure.			
	Reduce economic disruptions and losses from flooding.			
	Reduce negative effects to natural and cultural resources from flooding.			
	Reduce negative impacts to vulnerable populations from flooding.			

VIRGINIA
FLOOD
PROTECTION
MASTER PLAN

Report Out – Group 4

Goal	Objective	Top Three Gaps Per Objective		
Mitigate current and future flood risks statewide.	Reduce negative effects on human health from flooding.			
	Reduce flood damage to buildings and infrastructure.			
	Reduce economic disruptions and losses from flooding.			
	Reduce negative effects to natural and cultural resources from flooding.			
	Reduce negative impacts to vulnerable populations from flooding.			

Goal 2

Advance lasting and unified strategies to address flood risk.

Prioritization of Gaps Exercise – Goal 2

Goal	Objective	Top Three Gaps Per Objective		
Advance lasting and unified strategies to address flood risk.	Increase understanding of current and potential future flood risks.	Q	R	S
	Strengthen the ability to prepare for and manage flood risks.	Q	X	F
	Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.	V	O	P
	Increase the return of public investments in flood resilience.	D	G	V
	Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.	F	Q	E

VIRGINIA
FLOOD
PROTECTION
MASTER PLAN

Report Out – Group 1

Goal	Objective	Top Three Gaps Per Objective		
Advance lasting and unified strategies to address flood risk.	Increase understanding of current and potential future flood risks.			
	Strengthen the ability to prepare for and manage flood risks.			
	Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.			
	Increase the return of public investments in flood resilience.			
	Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.			

Report Out – Group 2

Goal	Objective	Top Three Gaps Per Objective		
Advance lasting and unified strategies to address flood risk.	Increase understanding of current and potential future flood risks.			
	Strengthen the ability to prepare for and manage flood risks.			
	Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.			
	Increase the return of public investments in flood resilience.			
	Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.			

VIRGINIA
FLOOD
PROTECTION
MASTER PLAN

Goal	Objective	Top Three Gaps Per Objective		
Advance lasting and unified strategies to address flood risk.	Increase understanding of current and potential future flood risks.			
	Strengthen the ability to prepare for and manage flood risks.			
	Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.			
	Increase the return of public investments in flood resilience.			
	Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.			

Report Out – Group 4

Goal	Objective	Top Three Gaps Per Objective		
Advance lasting and unified strategies to address flood risk.	Increase understanding of current and potential future flood risks.			
	Strengthen the ability to prepare for and manage flood risks.			
	Increase the adaptability and effectiveness of flood resilience strategies to potential future conditions and regional interests.			
	Increase the return of public investments in flood resilience.			
	Increase the accessibility of flood resilience resources, opportunities, and information for all Virginians.			

Goal 3

Capture additional benefits through flood resilience.

Prioritization of Gaps Exercise – Goal 3

Goal	Objective	Top Three Gaps Per Objective		
Capture additional benefits through flood resilience.	Enhance the natural environment through flood resilience.	U	P	A
	Boost the economy through flood resilience.	D	A	G
	Improve health and quality of life through flood resilience.	Q	R	G

Report Out – Group 1

Goal	Objective	Top Three Gaps Per Objective		
Capture additional benefits through flood resilience.	Enhance the natural environment through flood resilience.			
	Boost the economy through flood resilience.			
	Improve health and quality of life through flood resilience.			

| Goal	Objective	Top Three Gaps Per Objective		
Capture additional benefits through flood resilience.	Enhance the natural environment through flood resilience.			
	Boost the economy through flood resilience.			
	Improve health and quality of life through flood resilience.			

Goal	Objective	Top Three Gaps Per Objective		
Capture additional benefits through flood resilience.	Enhance the natural environment through flood resilience.			
	Boost the economy through flood resilience.			
	Improve health and quality of life through flood resilience.			

Goal	Objective	Top Three Gaps Per Objective		
Capture additional benefits through flood resilience.	Enhance the natural environment through flood resilience.			
	Boost the economy through flood resilience.			
	Improve health and quality of life through flood resilience.			

How this will support decisions on what gaps to address in the VFPMP

- By evaluating gaps based on how they impact each of the plan's objectives, the gaps—and later, the strategies to address gaps — remain **centered on the vision and goals of the plan**.

- Evaluating objective-by-objective helps to identify and discuss **tradeoffs** between gaps to prioritize.
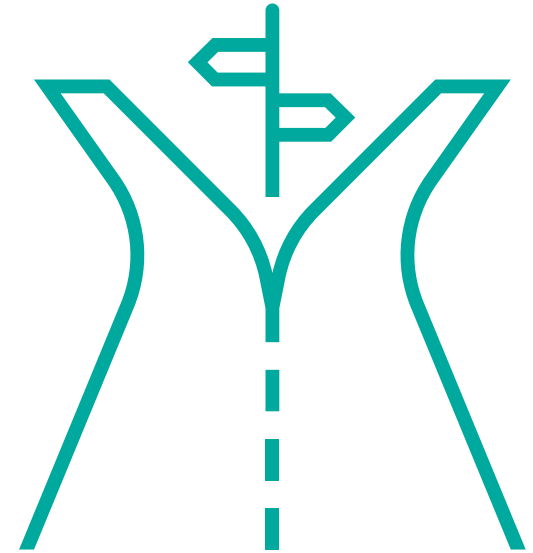
Next Engagement Opportunities

Topic: Identify Flood Resilience Strategies

- Virtual Feedback Session: March 26th, 2025, 10:00 – 11:30 AM
- In-Person Workshop: April 22nd, 2025, 9:00 AM – 12:00 PM

Topic: Develop Implementation Roadmap

- Virtual Feedback Session: June 25th, 2025, 10:00 – 11:30 AM
- In-Person Workshop: July 22nd, 2025, 9:00 AM – 12:00 PM

John Millspaugh

john.millspaugh@arcadis.com

Web dcr.virginia.gov/resilience-planning

Newsletter dcr.virginia.gov/signup

Email flood.resilience@dcr.virginia.gov