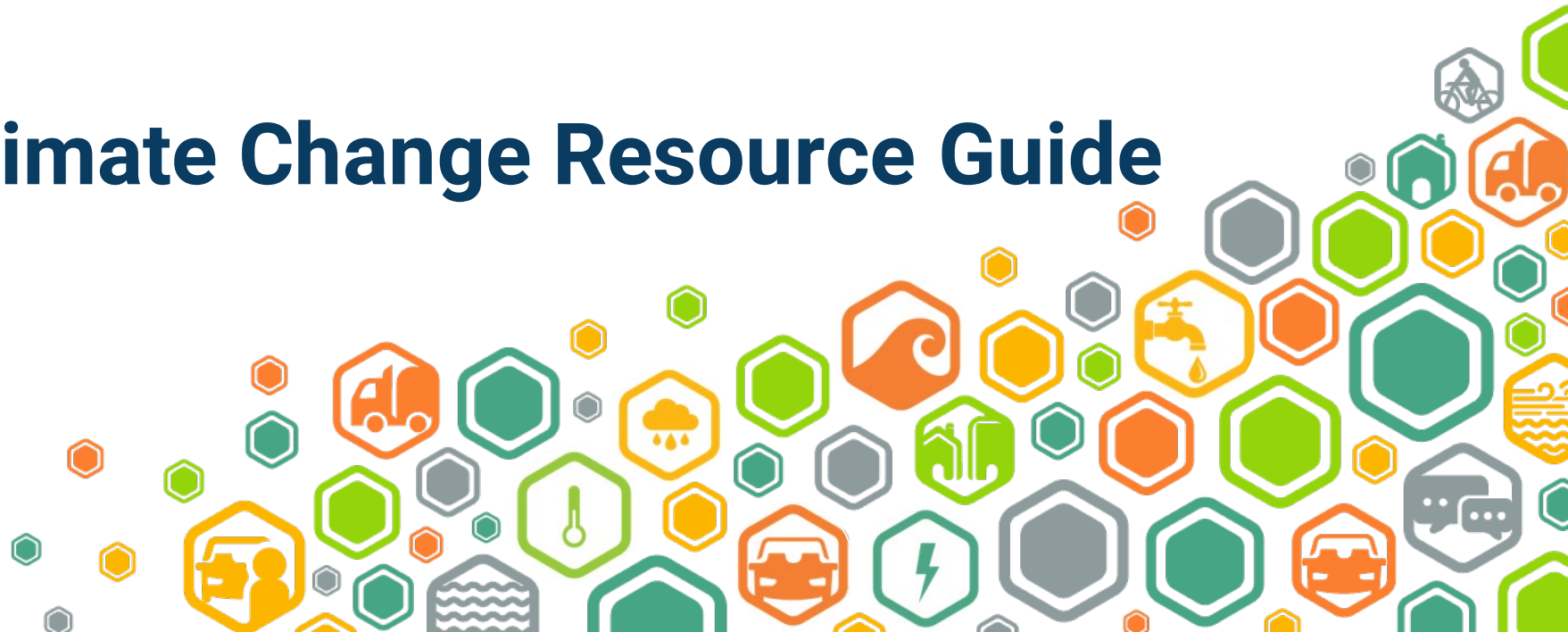
BALTIMORE METROPOLITAN COUNCIL

BRTB
Baltimore Regional Transportation Board

Overview of Climate Change Resource Guide



Presentation Overview

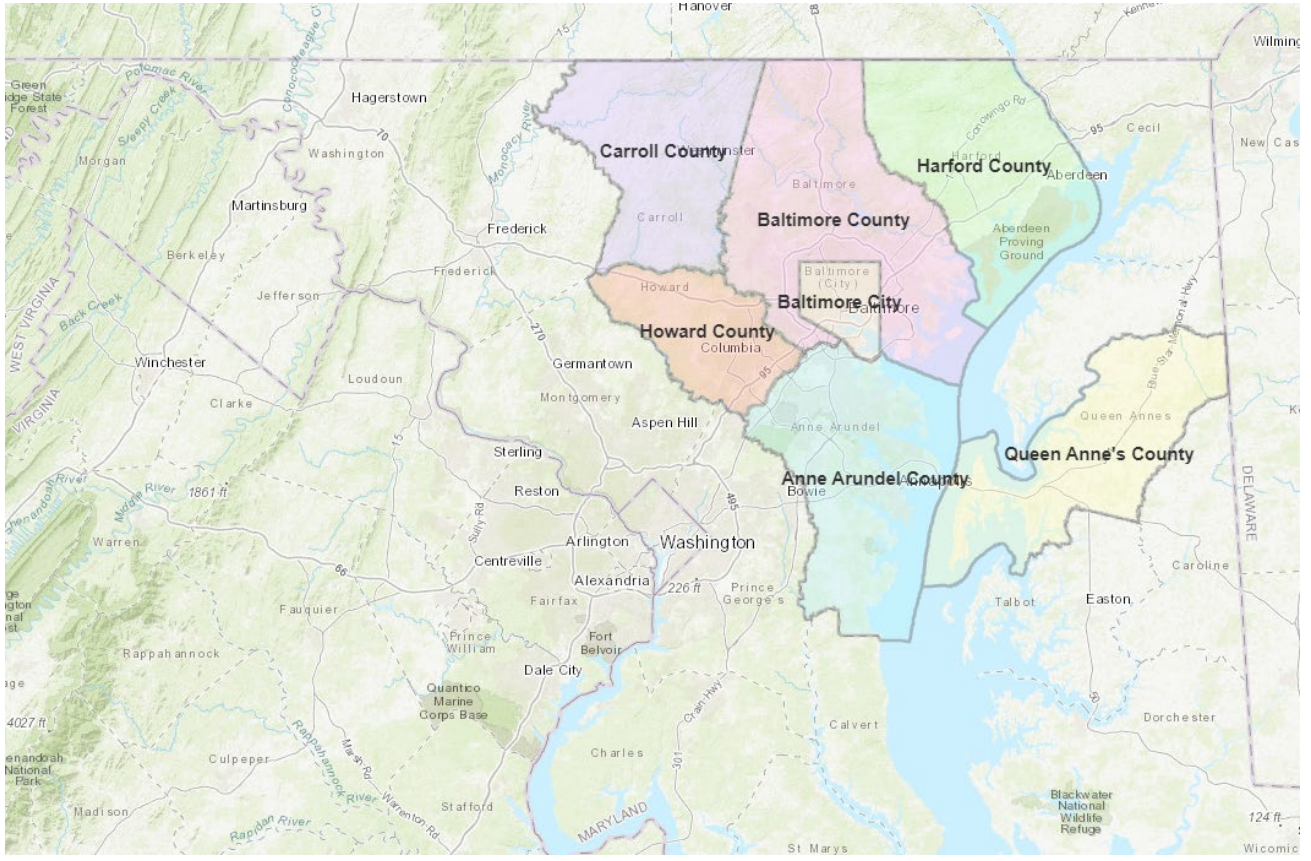
- Overview of BMC
- Overview of the Climate Change Resource Guide
- Next steps to operationalize the Guide

Overview of BMC

Overview of Baltimore Metropolitan Council

- **Private nonprofit organization committed to identifying regional interests and developing collaborative strategies through plans and programs, which will improve the quality of life and economic vitality throughout the region.**

- **Board of Directors:**
  - Mayor of Baltimore City
  - Executives of Anne Arundel, Baltimore, Harford and Howard counties, a Carroll County Commissioner, a Queen Anne's County Commissioner
  - Delegate and Senator from the State of Maryland, and a gubernatorial appointee



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Overview of Baltimore Metropolitan Council

- **Work of BMC staff includes:**
  - Transportation Planning
  - Economic and Demographic Research
  - Computer Mapping and Geographic Analysis
  - Air and Water Quality Programs
  - Cooperative Purchasing
  - Workforce Development
  - Housing
  - Rideshare Coordination
  - Emergency Preparedness

www.baltometro.org

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Overview of Baltimore Metropolitan Council

- **BMC staff provides technical support to the Baltimore Regional Transportation Board (BRTB).**

- **BRTB is the designated Metropolitan Planning Organization (MPO) for the Baltimore region.**

- **BRTB members include representatives from:**
  - Baltimore City, City of Annapolis, Anne Arundel County, Baltimore County, Carroll County, Harford County, Howard County, and Queen Anne's County
  - Maryland Department of Transportation, Maryland Department of the Environment, Maryland Department of Planning, MDOT Maryland Transit Administration, and Annapolis Transit.

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Overview of Baltimore Metropolitan Council

- Regional transportation planning committees:
  - Baltimore Region GIS Committee
  - Baltimore Regional Safety Subcommittee
  - Baltimore Regional Transportation Board
  - Bicycle and Pedestrian Advisory Group
  - Congestion Management Process Committee
  - Cooperative Forecasting Group
  - Freight Movement Task Force
  - Interagency Consultation Group
  - Public Advisory Committee
  - Technical Committee
  - Traffic Incident Management Committee
  - Traffic Signal Subcommittee
  - **Transportation & Public Works Committee**
- Other BMC committees:
  - Baltimore Regional Cooperative Purchasing Committee
  - BMC Board of Directors
  - Energy Board
  - Executive Committee
  - Housing Affordability Preservation Task Force
  - Housing Committee
  - Regional Fair Housing Group
  - Reservoir Technical Group
  - Watershed Protection Committee
  - Food and Water Security

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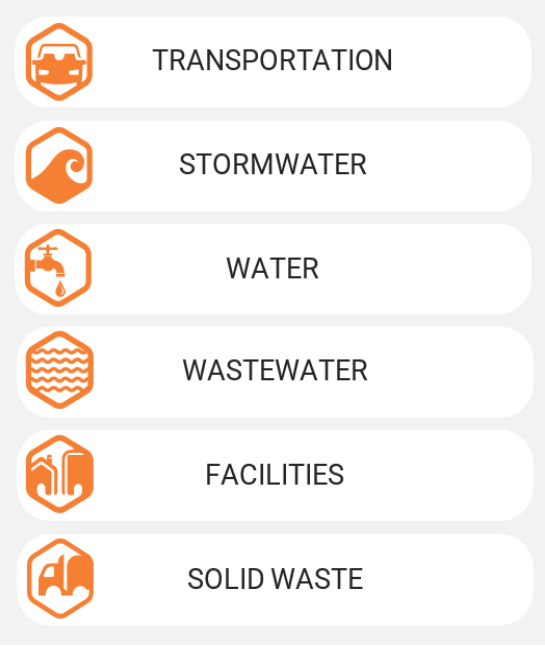
Overview of the Climate Change Resource Guide

Project Administration

Project Steering Committee		
LOCAL	Annapolis	Dept. of Transportation
	Anne Arundel Co	Dept. of Public Works
	Baltimore City	Dept. of Planning, Office of Sustainability
		Dept. of Public Works
	Baltimore Co	Dept. of Public Works & Transportation
	Carroll Co	Dept. of Public Works
	Harford Co	Dept. of Public Works
	Howard Co	Dept. of Public Works
	Queen Anne's Co	Dept. of Public Works
STATE	MDOT	Office of Climate Change, Resilience, & Adaptation
		Office of Emergency Management, Homeland Security, & Rail Safety
	MTA	MDOT Maryland Transit Administration
	SHA	MDOT State Highway Administration, OHD
		MDOT State Highway Administration, OOM
		MDOT State Highway Administration, OPPE
		MDOT State Highway Administration, OTMO
FEDERAL	FHWA	Federal Highway Administration
CONSULTANT	ICF	
	CHPlanning/Nspiregreen	

Introduction - Climate Change Resource Guide

- **Climate Change Resource Guide and Toolkit support efforts of local DPWs and DOTs to prepare for climate change**
  - Climate Change Resource Guide
    - Includes toolkit questions
  - Toolkit:
    - Writable PDF
- **Covers 6 infrastructure service areas**



KEY TERMS

There are two ways to take action on climate change:

- **Adaptation**: Measures to proactively adjust to a changing environment.

  Examples include ensuring sufficient building cooling systems given rising temperatures or siting assets outside future flood zones.
- **Mitigation**: Measures to reduce greenhouse gas emissions to slow or stop the impacts of climate change.

  Examples include transition to clean energy sources or electrification of building heating systems.

This Resource Guide and Toolkit focus on adaptation.

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Resource Guide Overview

- Ch 1: Introduction and Toolkit
- Ch 2: The Changing Climate
- Ch 3: Climate Change Impacts
- Ch 4: Policies
- Ch 5: Adaptation Options
- Ch 6: Funding and Financing
- Appendix A: Jurisdictional Climate Data
- Appendix B: Climate Science Data and Methods
- Appendix C: Toolkit Example

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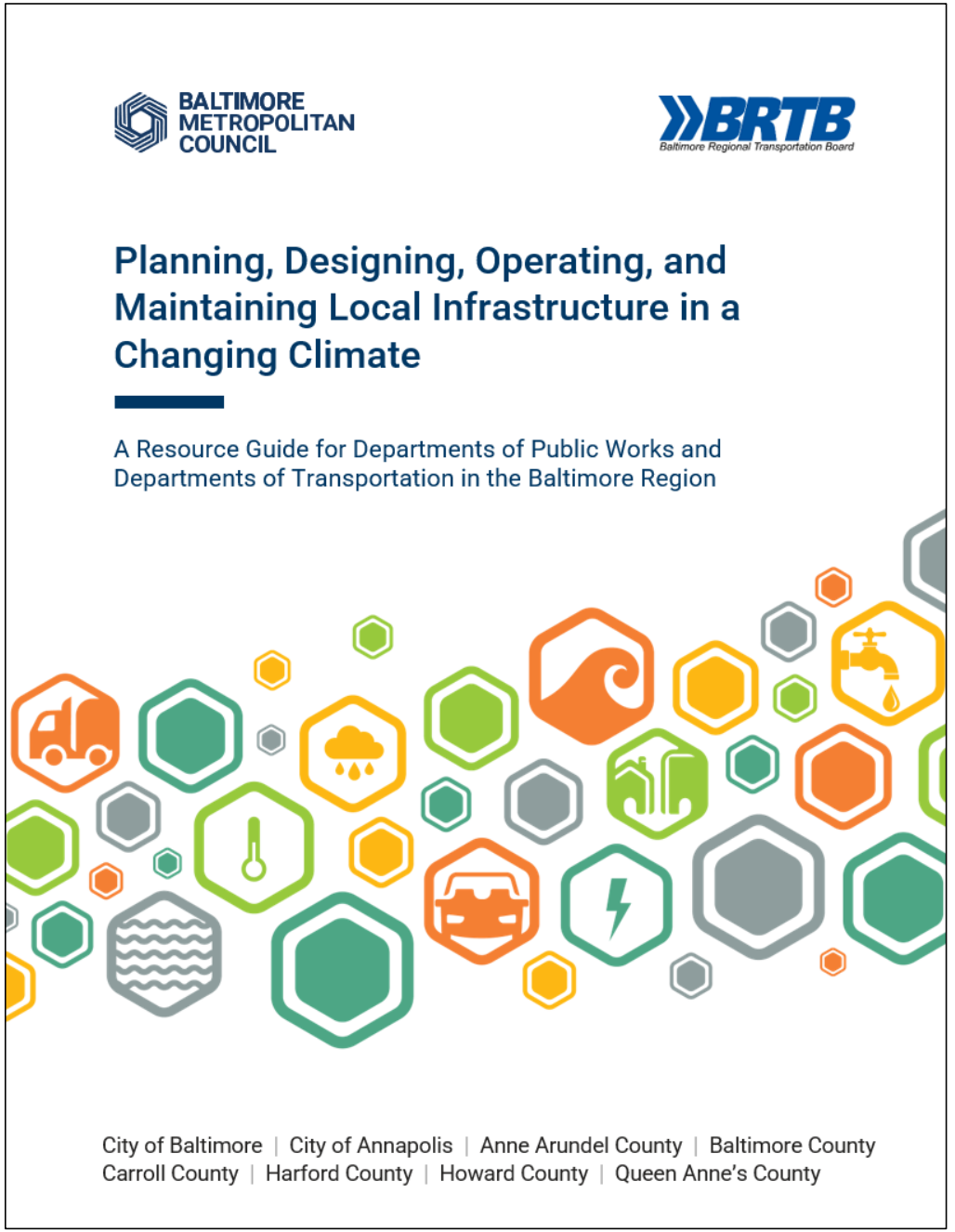

Toolkit Overview

- The Toolkit, within the Resource Guide, is a worksheet that makes the content from each chapter actionable for users, by including questions to consider
- Completed Toolkit example is included in Appendix C

Toolkit Questions	Enter Your Responses
Climate science: Chapter 2 and Appendix A	
1. What climate hazards are relevant to your work or project? Use the information about current and future climate change in Chapter 2 (regional summary) and Appendix A (jurisdictional data) to determine relevant climate hazards. For each climate hazard, certain variables may be highly relevant to your service area or project (e.g., number of days above 90°F for worker safety; heating/cooling degree days for facilities; freeze/thaw days for transportation). Review the list of climate variables in Appendix A to identify variables particularly relevant to your work.	**Climate hazards** ☐ Temperature ☐ Precipitation ☐ Sea level rise and storm surge ☐ Other extreme weather **Climate variables**
2. For each of the climate hazards: What are the historical climate conditions? How are the climate conditions changing in your jurisdiction? Use the information about current and future climate change in Chapter 2 (regional summary) and Appendix A (jurisdictional data) to evaluate how the climate hazards are changing. Consider your planning timeframe or asset's useful life when reviewing the projected climate conditions. For example, decisions about maintenance or replacement of facility mechanical components should consider medium-term projections (centered around 2050), while decisions about construction of new long-lived infrastructure should consider long-term projections (end of century and beyond).	**Historical climate conditions** **Projected climate conditions**

Toolkit Questions	Enter Your Responses
Climate impacts: Chapter 3	
3. Given changing climate conditions, what are anticipated impacts to your service area or project? Consider impacts that your service area or project has recently experienced, and use the climate projections from Question 2 along with the information and examples from Chapter 3 to determine projected climate impacts. Which anticipated impacts are priorities to address? Consider prioritizing impacts based on potential damage, disruption of public services, and cost of repair.	**Projected climate impacts**
4. Have climate impacts to your service area or project disproportionally affected vulnerable populations? Review the a) BMC Vulnerable Populations Index, b) Maryland Commission on Climate Change Adaptation and Resiliency Work Group's Justice, Equity, Diversity, and Inclusion Strategic Framework, and c) information on climate impacts from Chapter 3 to consider the uneven impacts to vulnerable populations who may face elevated climate risks. Are there areas where infrastructure investments could both reduce climate impacts and enhance social equity?	
Policies: Chapter 4	
5. Are there state and local policies on climate impacts that affect your work or project? Use the information from Chapter 4 to determine relevant climate policies. Are there policies that would help facilitate climate adaptation measures if approached from a climate perspective? For example, environmental justice policies may help show progress or build support when addressing climate. On the flipside, are there policy or planning barriers that limit your ability to address climate impacts?	
Adaptation options: Chapter 5	
6. Given the projected climate impacts, what are potential adaptation strategies within your service area or for your project, across relevant functions (e.g., design, maintenance)? Use the information and examples from Chapter 5 to begin to identify potential adaptation strategies. What adaptation options are no-regrets (i.e., generate benefits regardless of future climate) and/or could be implemented in the near-term? What adaptation options are no or low cost?	
Funding and financing: Chapter 6	
7. What funding and financing sources are available to help implement the adaptation options? Use the information and examples from Chapter 6 to begin to identify potential funding and financing strategies for adaptation.	
Next steps	
8. What are your next steps to address these climate impacts and plan for these adaptation options? For the selected adaptation strategies, would there be implications to other service areas? Are there other agencies or departments (inside or outside your jurisdiction) your DPW or DOT should coordinate with?	

Ch 2: The Changing Climate in the Baltimore Region

- Provides a common reference for historical climate trends and climate projections

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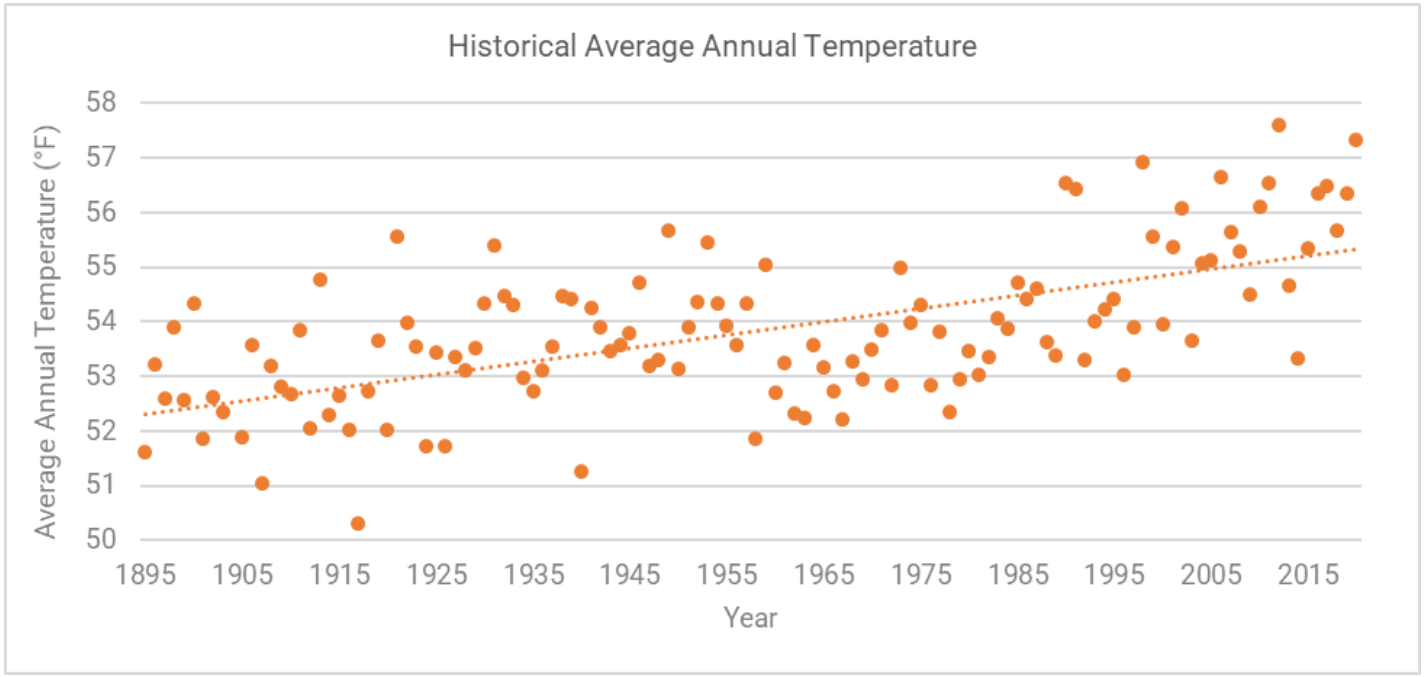
Ch 2: The Changing Climate in the Baltimore Region

- **Climate has been changing in the Baltimore region over the past century**
  - **Upward trend** in annual **temperature** (+0.2°F per decade)
  - Slight **increase** in annual **precipitation**, particularly falling in intense storms
  - **Sea level rise** in the Chesapeake Bay and tributaries (+1.22 ft since 1928) and **increase** in **nuisance flooding**



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Ch 2: The Changing Climate in the Baltimore Region

- **Climate in Maryland will continue to change**
  - The Baltimore region is expected to experience **changes with temperatures, rainfall patterns, sea levels, and extreme weather events**, mostly due to an increase in greenhouse gases

- **Resource Guide provides regional & jurisdictional climate projections**
  - Across three time horizons: **near-term (2030s), medium-term (2050s), and long-term (2090s)**
  - Uses scenario that projects high greenhouse gas emissions with little reduction (RCP 8.5)
    - scenario is recommended by FHWA
  - Climate **variables** that may be **useful for infrastructure planning and design**. For example:
    - Number of days above 90°F for worker safety
    - Heating/cooling degree days for facilities
    - Daily freeze/thaw cycle for transportation

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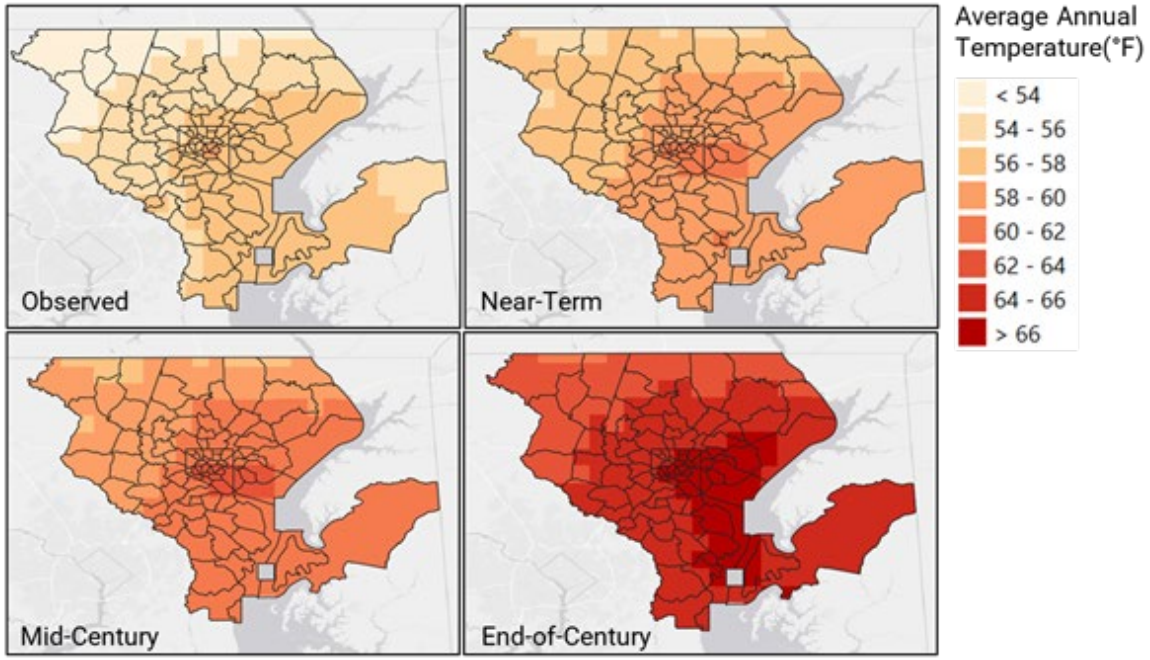
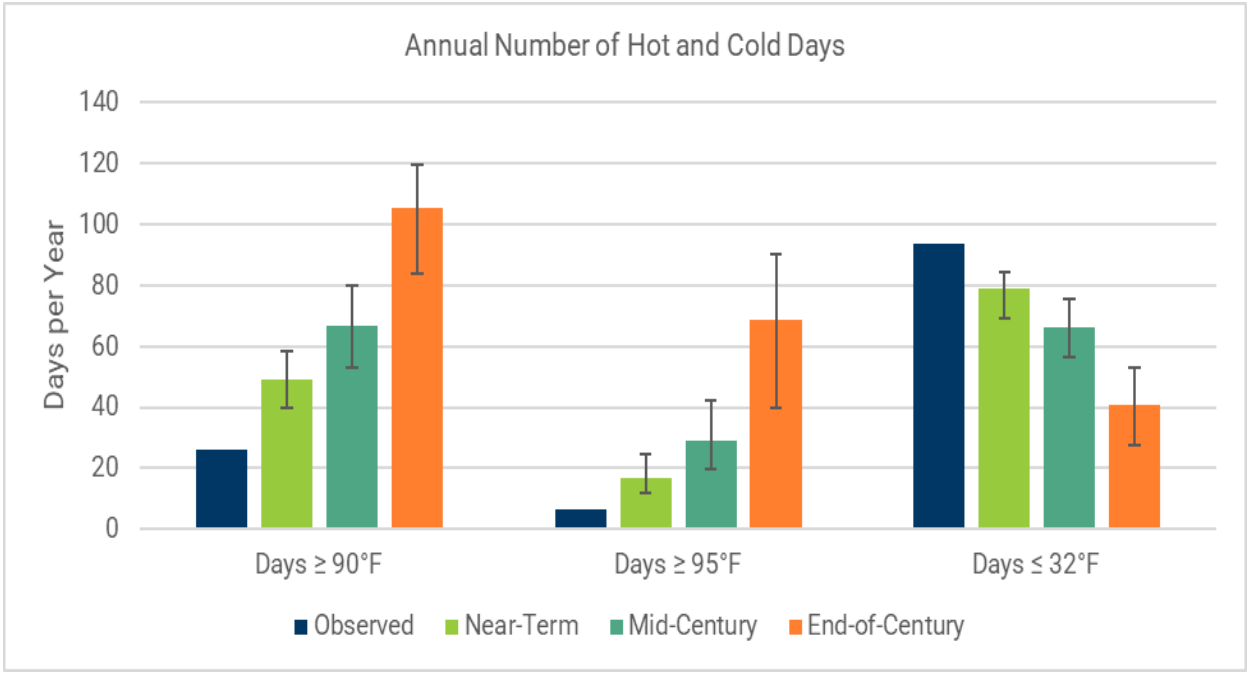
Ch 2: The Changing Climate in the Baltimore Region: Temperature

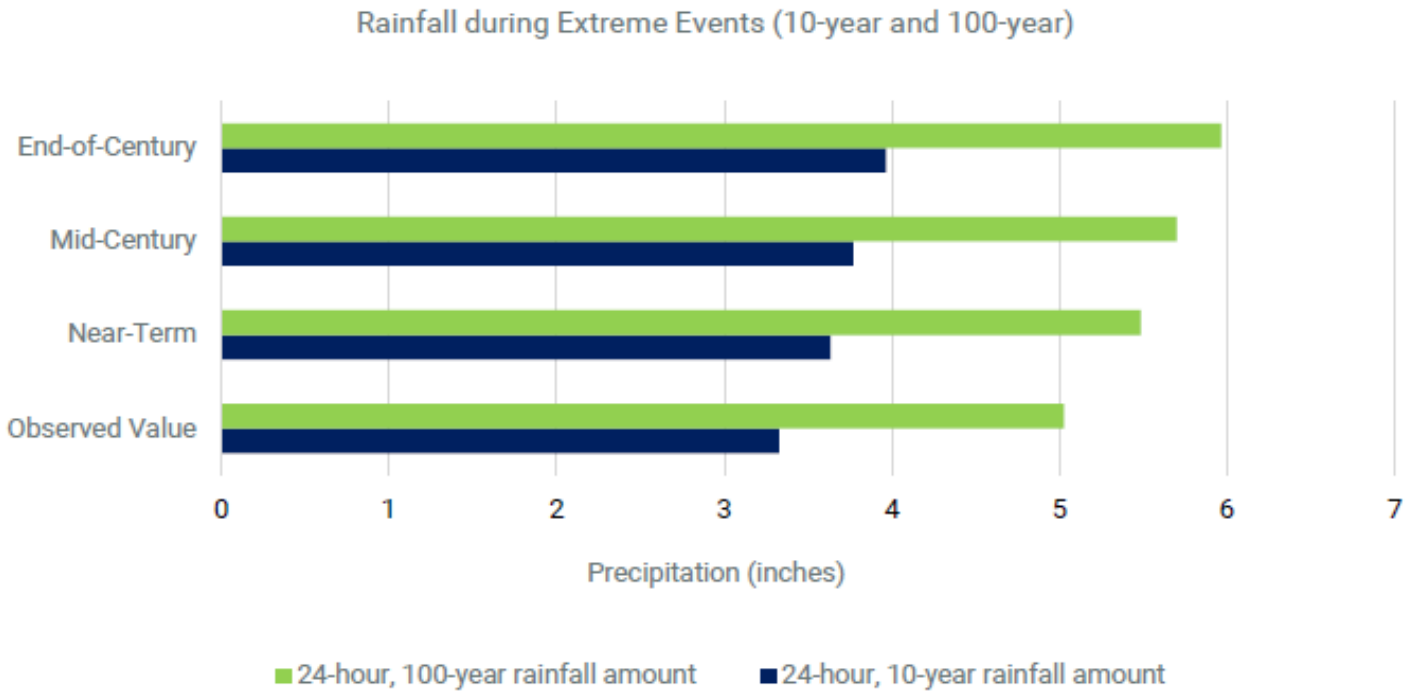
- **Temperatures will dramatically increase**
  - **Increase** in **average temperatures**
    - Historical annual average temperature of 56°F is projected to reach 65°F by 2090s
  - **Increase** in number of **extreme heat days** (above 90°F, 95°F) and number of **heatwaves**





Ch 2: The Changing Climate in the Baltimore Region: Precipitation

- **Precipitation will fall in heavier events**
  - **Increase** in **rainfall during extreme events**
    - Increase in the amount of precipitation in 24-hour, 10-year and 100-year rainfall events
  - **Average annual precipitation** is **not projected to increase** notably



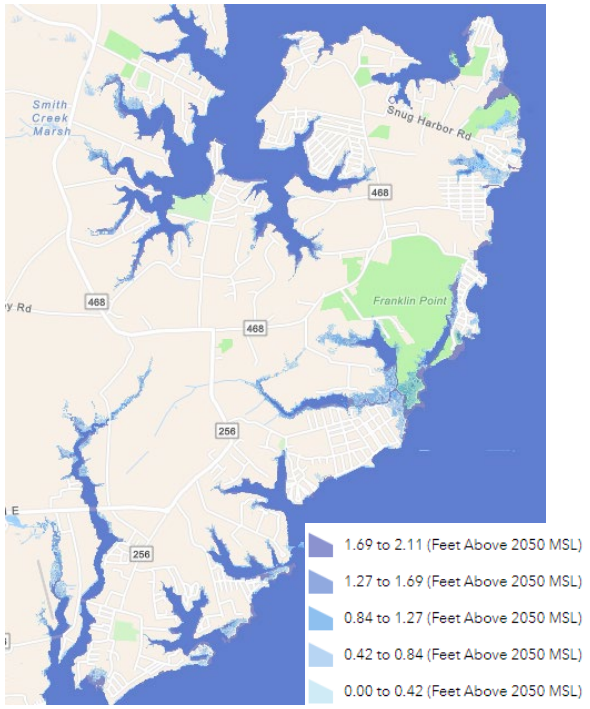
* All projections are shown for RCP 8.5.

Ch 2: The Changing Climate in the Baltimore Region: Sea Level Rise and Coastal Storm Surge

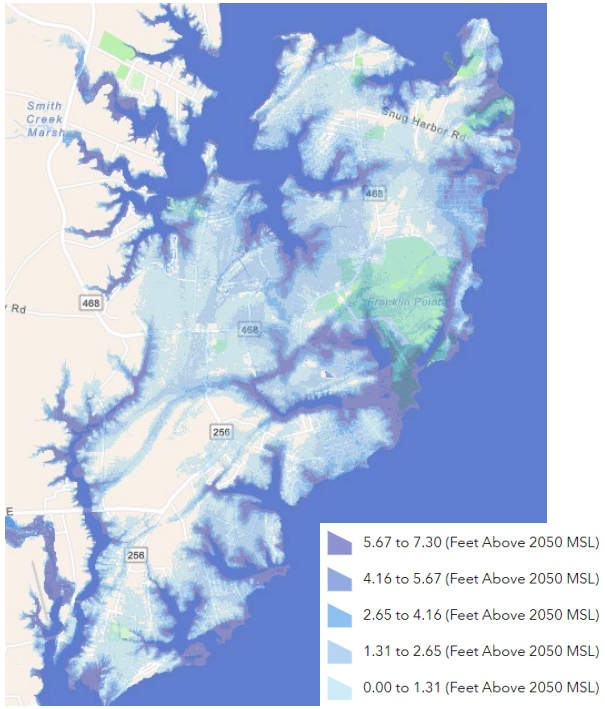
- **The Baltimore region shoreline will experience increases in coastal flooding from sea level rise and storm surge**
  - **Sea level** is projected to **rise over 1ft** by 2050 and **over 2ft** by 2100
  - **Storm surges** will become more severe, due to sea level rise and more intense storms

Source: MDOT SHA Climate Change Vulnerability Viewer (https://www.arcgis.com/apps/webappviewer/index.html?id=86b5933d2d3e45ee8b9d8a5f03a7030c)

Sea level rise inundation depths by 2050 in Anne Arundel



Flood depths during a 1% annual chance flood by 2050 in Anne Arundel



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Ch 2: The Changing Climate in the Baltimore Region: Extreme weather

- **Extreme weather events will increase in both frequency and intensity**
  - **Increase** in the **strength** and **volume** of **thunderstorms and derechos**, due to warming atmospheric temperatures
  - **Increase** in the number of **hurricanes** identified as Category 3 or stronger through 2050
- **Extreme cold snaps due to weakened "polar vortex" events**
  - This could lead to **more frequent cold** weather outbreaks in the northern and northeastern US
- **Although currently no quantitative estimates for these changes in extremes, a shift towards more extreme weather should be expected**

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Toolkit Questions: The Changing Climate

Toolkit Questions	Enter Your Responses
Climate science: Chapter 2 and Appendix A	
1. What climate hazards are relevant to your work or project? Use the information about current and future climate change in Chapter 2 (regional summary) and Appendix A (jurisdictional data) to determine relevant climate hazards. For each climate hazard, certain variables may be highly relevant to your service area or project (e.g., number of days above 90°F for worker safety; heating/cooling degree days for facilities; freeze/thaw days for transportation). Review the list of climate variables in Appendix A to identify variables particularly relevant to your work.	**Climate hazards** ☐ Temperature ☐ Precipitation ☐ Sea level rise and storm surge ☐ Other extreme weather **Climate variables**

Toolkit Questions	Enter Your Responses	
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Ch 3: Climate Change Impacts to Local Public Works and Transportation Departments

- Summary of climate impacts experienced by local DPWs/DOTs

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Ch 3: Climate Change Impacts

- **Jurisdictions are already seeing impacts from hazards across infrastructure service areas**
  - Impacts include **infrastructure damage**, **increased maintenance and costs**, and **operational impacts**
  - Impacts can be felt **disproportionately** by **vulnerable populations**, including people of color, those who are low-income or have disabilities, children, and the elderly
  - Across the region, **heavy rain** has been perceived are the **most impactful hazard**

	Climate Impacts			
Service Area	Heavy Precipitation and Inland Flooding	Sea Level Rise and Coastal Flooding	Extreme Heat	Other Extreme Weather
Transportation	Erosion, washouts, and heavy precipitation affect the integrity of pavement by reducing strength of pavement, leading to further deterioration. Inundation and erosion affect the structural integrity of bridges and rail infrastructure. Flooded roadways can cause detours or delays. Heavy precipitation and flooding can result in transit/rail service delays.	Coastal roads already experiencing nuisance flooding will flood more frequently and potentially permanently. Low-lying coastal roads that are further inland may flood. Flooded roadways can cause detours or delays. Sea level rise with storm surge will decrease clearance levels and damage bridges. Flooding and erosion along coastal routes will affect the ability to safely continue transit service. Waterfront facilities supporting ports and other transportation services may be impacted by sea level rise, flooding, and strong storms.	Extreme heat can cause buckling or softening of surface pavement materials. Road crews are impacted by extreme temperatures, thus affecting worker safety. Public health impacts can result as transit riders wait for the bus/train during extreme heat days. Extreme heat can cause buckling and damage to rail lines and runways, and can stress bridge integrity.	Downed trees or power lines from storms can cause roadway closures. Extreme weather compounds damage to aging transportation infrastructure. Wide temperature swings can damage roadways and transportation infrastructure when ice expands in cracks during freeze/thaw days. High winds can result in bridge closures.
Stormwater	More frequent and intense storms can increase flooding, stormwater runoff, and erosion. Heavy rainfall can overwhelm stormwater capacity.	Gravity-fed systems may no longer function as designed if outfalls are submerged. Coastal flooding at outfalls could drive backflow into the system. Groundwater levels may increase, reducing the soil's ability to absorb stormwater and increasing runoff.	Limited documented impacts exist for this service area.	Storms could introduce debris that can clog storm drains, pipes, and outfalls.

Ch 3: Climate Change Impacts

See more examples of climate change impacts in Chapter 3 of the Guide

Transportation Impacts

The transportation service area within this Resource Guide includes infrastructure managed by local DOTs.[15] Transportation assets include roadways, highways, buses, trains, and a supporting network of infrastructure.

Heavy Precipitation, Inland Flooding, and Coastal Flooding

- All types of flooding (caused by heavy rains, coastal storms, high tides) affect transportation infrastructure, operations, and travel efficiencies.
  - Temporary inundation of roadways, highways, bridges, and tunnels have been observed to occur more frequently over recent years, causing damage and travel delays.
    - » In-kind replacements—especially with bridges—are often washed out just as quickly as the initial asset.
  - Roadway washouts from heavy rains are becoming more frequent. In some jurisdictions, soil remediation work is necessary to ensure health and safety on aging roads, bridges, and culverts.
  - Slow-downs and detours cost travelers time and money when flooding results in delays and/or when damage to roadways prevents access to the most efficient travel route, which especially affects transit service delays.

A flash flood in northern Harford County caused major damage to approximately 20 roads and culverts, as streams rose 11 feet above normal water levels on August 31, 2018.

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Ch 3: Climate Change Impacts

- **Climate change will also impact the availability of financing sources for local governments**
  - Credit rating agencies are now considering potential impacts of the changing climate (which could affect local governments' ability to repay)
- **Climate adaptation can help:**
  - Ensure credit ratings are not downgraded
  - Maintain/improve a bond rating
  - Save $ for taxpayers
  - Increase financing source availability for local infrastructure projects

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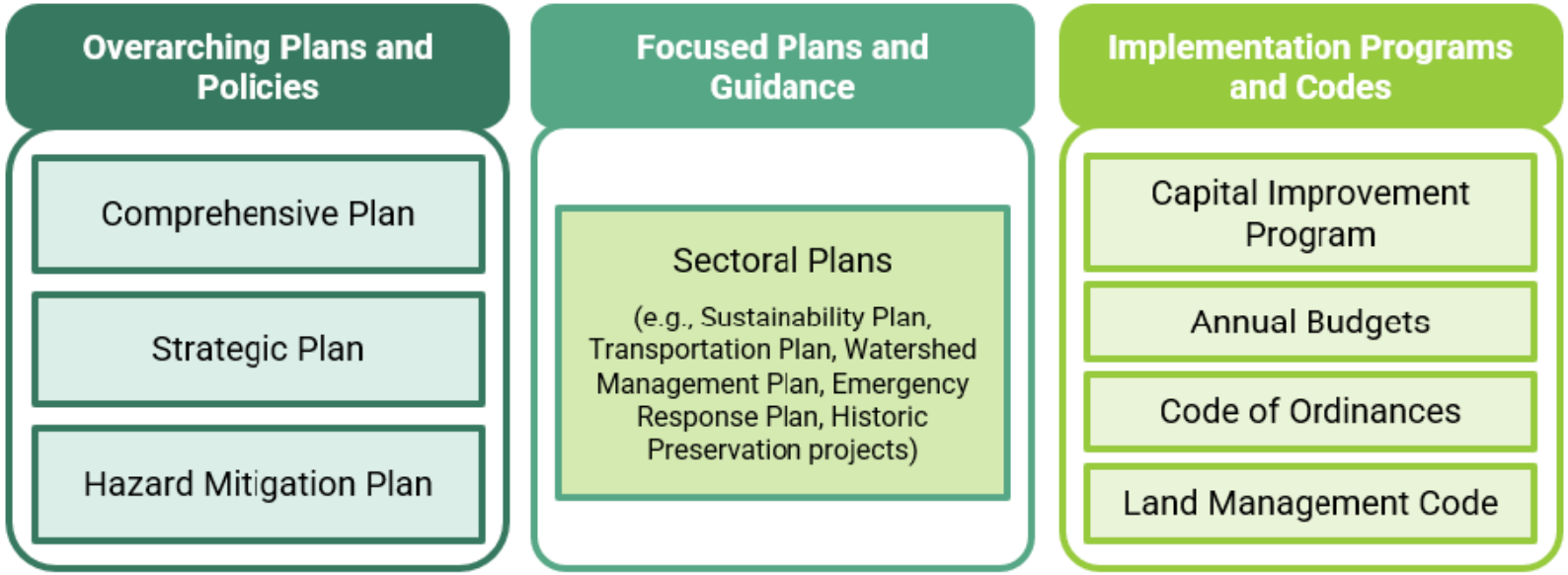
Toolkit Questions: Climate Change Impacts

Climate impacts: Chapter 3	
3. Given changing climate conditions, what are anticipated impacts to your service area or project? Consider impacts that your service area or project has recently experienced, and use the climate projections from Question 2 along with the information and examples from Chapter 3 to determine projected climate impacts. Which anticipated impacts are priorities to address? Consider prioritizing impacts based on potential damage, disruption of public services, and cost of repair. 4. Have climate impacts to your service area or project disproportionally affected vulnerable populations? Review the a) BMC Vulnerable Populations Index, b) Maryland Commission on Climate Change Adaptation and Resiliency Work Group's Justice, Equity, Diversity, and Inclusion Strategic Framework, and c) information on climate impacts from Chapter 3 to consider the uneven impacts to vulnerable populations who may face elevated climate risks. Are there areas where infrastructure investments could both reduce climate impacts and enhance social equity?	**Projected climate impacts**

Ch 4: Relevant Policies

- Provides context for relevant state and local policies affecting the work of local DPWs/DOTs

Figure 18. Examples of local policies, plans, and programs that could be affected by climate change.



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Ch 4: Relevant Policies

State-level policies

- Existing environmental regulations administered by the state should be adhered to, though note they are based on historical climate data
  - Such as: Maryland Department of the Environment's (1) dam safety regulations and (2) stormwater management regulations
- Local governments are authorized to establish a Resilience Authority to fund large-scale infrastructure projects
  - (Senate Bill 457, 2020)
  - E.g., Anne Arundel County and the City of Annapolis partnered to establish a Resilience Authority

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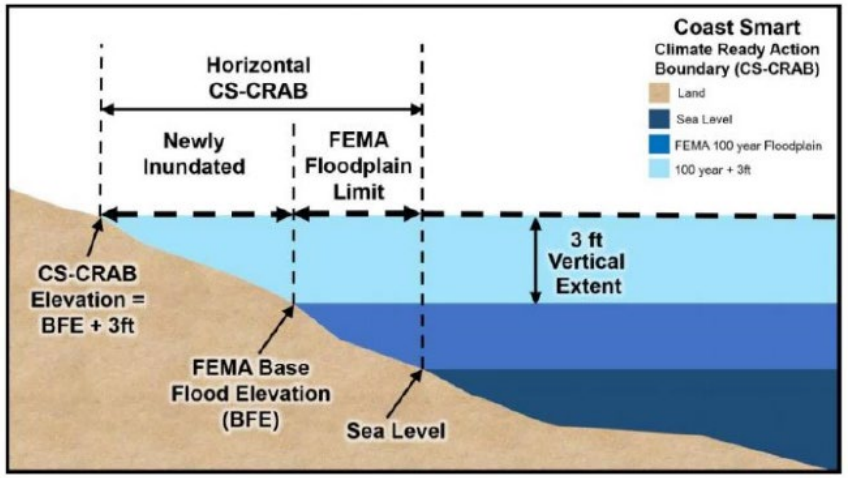
Ch 4: Relevant Policies



State-level policies, for coastal jurisdictions

- The State updates sea level rise projections every 5 years
  - (House Bill 0514/Senate Bill 0258, 2015)
  - Most recent report, *Sea-level rise: Projections for Maryland 2018*, available to support jurisdictions
- Coast Smart Construction Program, providing guidance on siting and design of capital projects based on sea level rise and coastal flooding
  - (House Bill 615, 2014; House Bill 1350/Senate Bill 1006, 2018; House Bill 1427, 2019)
  - Defines a new coastal flooding planning areas, called the Coast Smart Climate Ready Action Boundary (CS-CRAB)
- Develop a local nuisance flood plan and update every 5 years
  - (House Bill 1350/Senate Bill 1006, 2018; House Bill 1427, 2019)
- Require the use of living shorelines in tidal wetlands to address shore erosion impacts from sea level rise
  - (House Bill 973)

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Ch 4: Relevant Policies

Local-level policies

- Jurisdictions in Baltimore region have already been taking action to address climate impacts, such as by developing climate adaptation plans
- Though climate adaptation has not been represented in local policies in a codified way
  - **Local codes and standards should be updated** to ensure that infrastructure is able to withstand these changing conditions; could use information from climate projections
  - These updates may apply to include local codes and standards such as:
    - Local design standards and specifications
    - Local development or floodplain regulations
    - Worker safety protocols

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Toolkit Questions: Policies

Policies: Chapter 4	
5. Are there state and local policies on climate impacts that affect your work or project? Use the information from Chapter 4 to determine relevant climate policies. Are there policies that would help facilitate climate adaptation measures if approached from a climate perspective? For example, environmental justice policies may help show progress or build support when addressing climate. On the flipside, are there policy or planning barriers that limit your ability to address climate impacts?	

Ch 5: Climate Adaptation Options for Local Public Works and Transportation Departments

- **Menu of climate adaptation options**
  - by hazard

  and
  - across service areas

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Ch 5: Climate Adaptation Options

- **A multi-faceted approach to adaptation spans functions:**
  - Planning
  - Design/Construction
  - Maintenance/Operations/Worker Safety

See more examples of adaptation strategies in Chapter 5 of the Guide

Changes in Temperature Strategies

Adaptation Strategy	Service Areas	Function	Examples
Adjust and expand worker safety plans		Planning Design/Construction ✓ Maintenance/ Operations/Worker Safety	In Austin, TX, the Climate Resilience Action Plan suggested expanding staff safety plans to adjust work schedules and safety policies for fieldworkers during extreme heat days, poor air-quality days, and other climate-related health risk days.
Plant more trees and vegetation to provide shading and lower ambient temperatures		✓ Planning ✓ Design/Construction Maintenance/ Operations/Worker Safety	**Baltimore County's** Climate Action Plan calls to increase the urban tree canopy, targeting areas with urban heat island impacts. Philadelphia, PA, is developing an Urban Forest Strategic Plan, prioritizing equity and environmental justice in service delivery, so that that the most vulnerable and underserved communities can benefit from healthy tree canopy.
Incorporate **shading into street and building code standards**		✓ Planning ✓ Design/Construction Maintenance/ Operations/Worker Safety	Phoenix, AZ, incorporated shade standards, such as requiring a minimum of 75% of public sidewalks be shaded, into the municipal code
Incorporate bus shelters, shading, and seating for transit riders and workers		✓ Planning ✓ Design/Construction ✓ Maintenance/ Operations/Worker Safety	Tacoma Park, MD, committed by resolution to develop a bus shelter prioritization plan and identified the need to make improvements to bus stops as a means of enhancing alternative transportation options. In Los Angeles, CA, *StreetsLA* is expanding street furniture and administering a program to install new bus shelters to thousands of bus stops in the region to protect riders from heat and maintain ridership.
Use cooler pavement mixes (e.g., light-colored aggregate) to reduce surface temperatures		Planning ✓ Design/Construction Maintenance/ Operations/Worker Safety	Chicago, IL's Green Alley program is repaving alleys in the city with permeable, high-albedo pavement, a lighter-colored surface that reflects sunlight instead of absorbing it. Chula Vista, CA's Climate Action Plan adaptation strategies include installation of cooler paving products, intended to incorporate reflective paving into all municipal projects (parking lots and streets).

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Ch 5: Climate Adaptation Options

Read the details of these case studies in Chapter 5 of the Guide

- Adaptation Case Studies

Case Study:Preparing Facilities for Climate Change

Ensure that facilities are prepared to withstand the impacts of climate change via design, construction, and maintenance, as well as emergency protocols and preparedness.

Crosscutting Strategy: Resilience in Capital Improvement Programs

Ensure that municipal capital investments can continue to deliver infrastructure services in the face of climate change by identifying resilience design modifications for proposed capital projects.

Case Study: Protecting Wastewater Facilities from Flooding

Ensure that wastewater facilities can continue maintaining clean waterways in the face of flooding and sea level rise.

Crosscutting Strategy: Climate Resilience Design Guidelines

Climate resilience design guidelines ensure that new infrastructure is designed and existing infrastructure is retrofitted, using data on future climate conditions.

Case Study: Installing Green Infrastructure When Upgrading Road and Stormwater Infrastructure

Reduce stormwater runoff and temperatures while gaining other community co-benefits

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Toolkit Questions: Climate Adaptation Options

Adaptation options: Chapter 5

6. Given the projected climate impacts, what are potential adaptation strategies within your service area or for your project, across relevant functions (e.g., design, maintenance)? Use the information and examples from Chapter 5 to begin to identify potential adaptation strategies.

What adaptation options are no-regrets (i.e., generate benefits regardless of future climate) and/or could be implemented in the near-term? What adaptation options are no or low cost?

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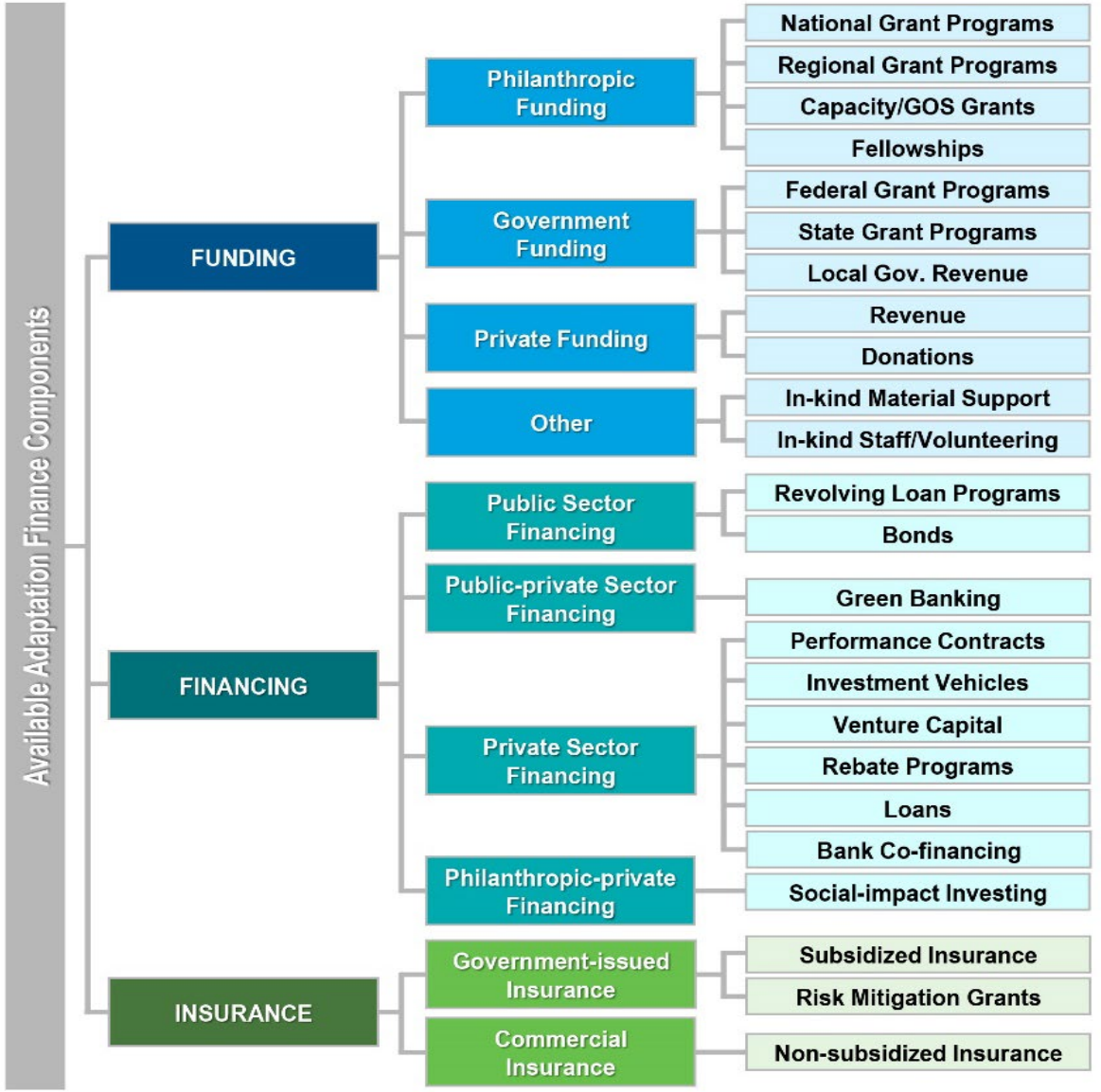
Ch 6: Funding and Financing Sources

- Summarizes potential sources of funding and financing



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Ch 6: Funding and Financing Sources

See more examples of funding sources in Chapter 6 of the Guide

Service Area	Agency and Program	Purpose of Funds	Amount of Available Funds	Eligible Applicants	Application Frequency
Water, wastewater, stormwater	U.S. Environmental Protection Agency (EPA), Clean Water State Revolving Fund	Low-cost loans to support a wide range of water quality and wastewater infrastructure projects, including those dealing with stormwater and green infrastructure.	No Federal statutory maximum exists for eligible activities. Cost share: Loans have to be repaid 100%.	Municipality or intermunicipal; interstate or state agency; public, private, or nonprofit entity	Annual
Water, wastewater, stormwater	EPA, Water Infrastructure Finance and Innovation Act (WIFIA) Program	Low-cost loans to upgrade aging water and wastewater infrastructure and manage stormwater to enhance resilience to flooding.	$5 million minimum for small communities (i.e., less than 25,000 people) $20 million minimum for all other communities Cost share: Up to 49% Federal/51% local	Local, state, tribal, and Federal government entities	Not specified
Water	EPA, Drinking Water State Revolving Loan Fund	Low-cost loans for projects aimed at preserving the availability of clean drinking water. Funds could be leveraged to incorporate resilience measures, such as modifications to ensure system capacity during flooding and water quality treatment adjustments due to sea level rise	No Federal statutory maximum exists for eligible activities. Cost share: Loans have to be repaid 100%	Includes existing publicly owned community water systems.	Not specified

Toolkit Questions: Funding and Financing Sources

Funding and financing: Chapter 6	
7. What funding and financing sources are available to help implement the adaptation options? Use the information and examples from Chapter 6 to begin to identify potential funding and financing strategies for adaptation.	

Toolkit Questions: Next Steps

Next steps	
8. What are your next steps to address these climate impacts and plan for these adaptation options? For the selected adaptation strategies, would there be implications to other service areas? Are there other agencies or departments (inside or outside your jurisdiction) your DPW or DOT should coordinate with?	

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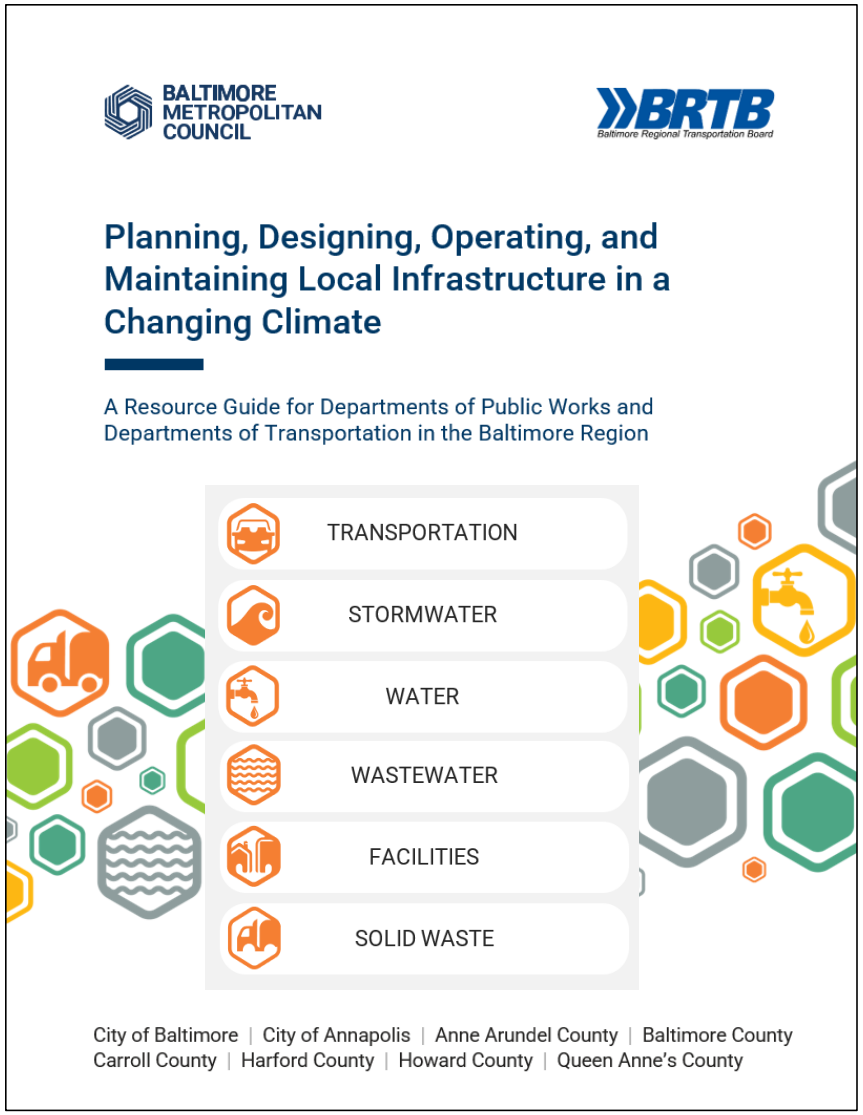
Next Steps to Operationalize the Guide

Next Step: Enhancing Climate Resilience and Interjurisdictional Coordination



Next Step

Further operationalize Guide by developing more detailed guidance and considering recommendations to institutionalize ongoing interjurisdictional coordination for three service areas

[Climate Resilience Guidance for Local Jurisdictions]

[Recommendations for Interjurisdictional Coordination on Climate Resilience]

For More Information

Eileen Singleton, P.E. | Principal Transportation Engineer

410-732-0500 x 1033 | esingleton@baltometro.org | www.baltometro.org

Climate Change Resource Guide:
https://baltometro.org/environment/planning-areas/climate-change-resilience

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