



PRINCE WILLIAM
COUNTY

Sustainability Commission

December 15, 2022



Citizen's Time

AGENDA

Regular Meeting

Call to Order

Citizen's Time

Old Business

- Meeting Minutes November 15, 2022
- Finalize status report to BOCS on recommendations to CESMP (45 mins)

New Business

- Discuss Sustainability Commission strategy and priorities for 2023 (60 mins)
- Presentation of CESMP Vulnerability Assessment (20 mins)

Commissioner's Time

Adjournment

Old Business

- Meeting Minutes November 15, 2022
- Finalize status report to BOCS on recommendations to CESMP

New Business

- Discuss Sustainability Commission strategy and priorities for 2023
- Presentation of CESMP Vulnerability Assessment

Summary of Draft CESMP Vulnerability Assessment Overview

Purpose of Vulnerability Assessment

- The Vulnerability Assessment provides a systematic way to evaluate the risk from a variety of natural hazards for a variety of asset categories in order to better understand where to focus adaptation measures to create a more resilient community.
- The Vulnerability Assessment focuses on:
 - Asset Exposure to Natural Hazards
 - Asset Sensitivity
 - Asset Adaptability

Status of Current Draft

- ▶ Current draft has been reviewed by the County Core Team.
- ▶ Significant coordination with Emergency Management for consistency with county's draft Hazard Mitigation Plan, currently under review by FEMA.
- ▶ Continuing to collect GIS data to fill any gaps (drinking water infrastructure data from PWCSA)

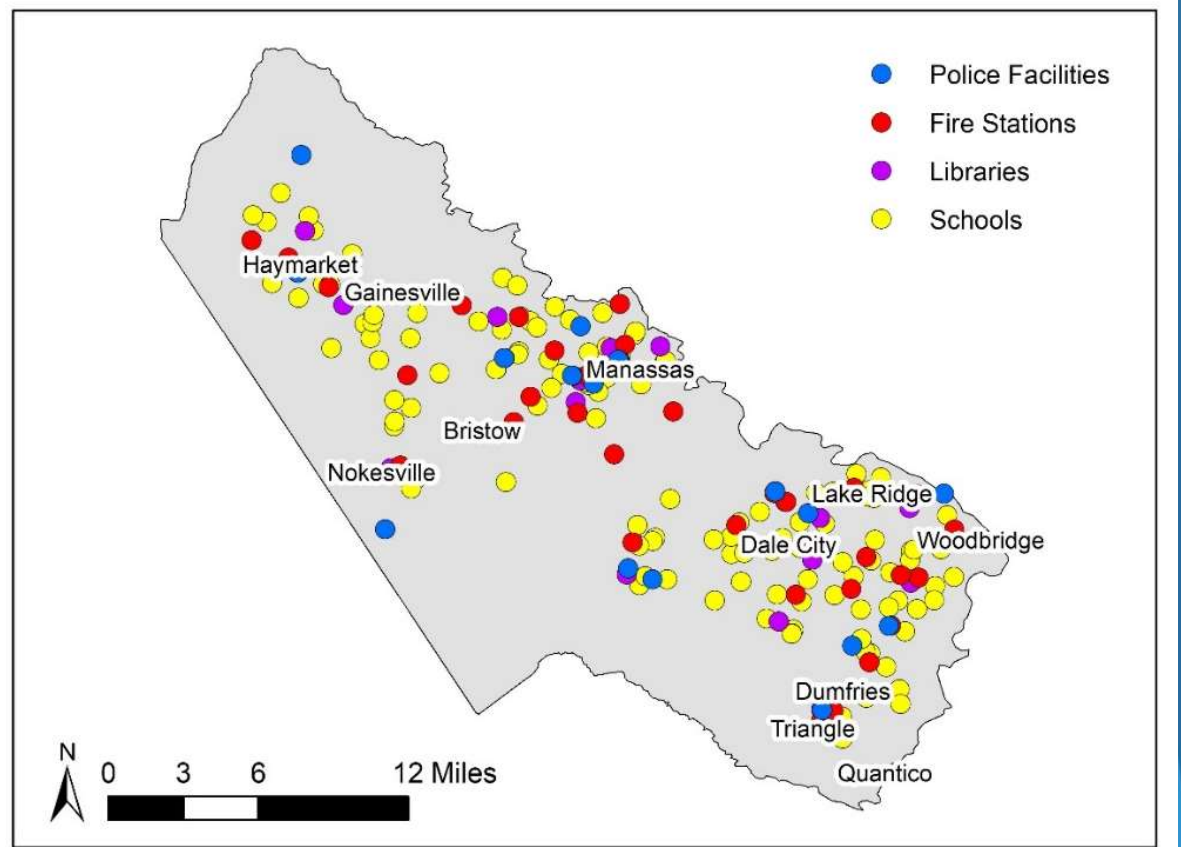
County Assets

1. Safety & Security
2. Food, Water & Shelter
3. Health & Medical
4. Communications
5. Transportation
6. Energy & Hazardous Materials
7. Natural Resources
8. Socially Vulnerable Populations

Safety & Security Assets

▶ Includes:

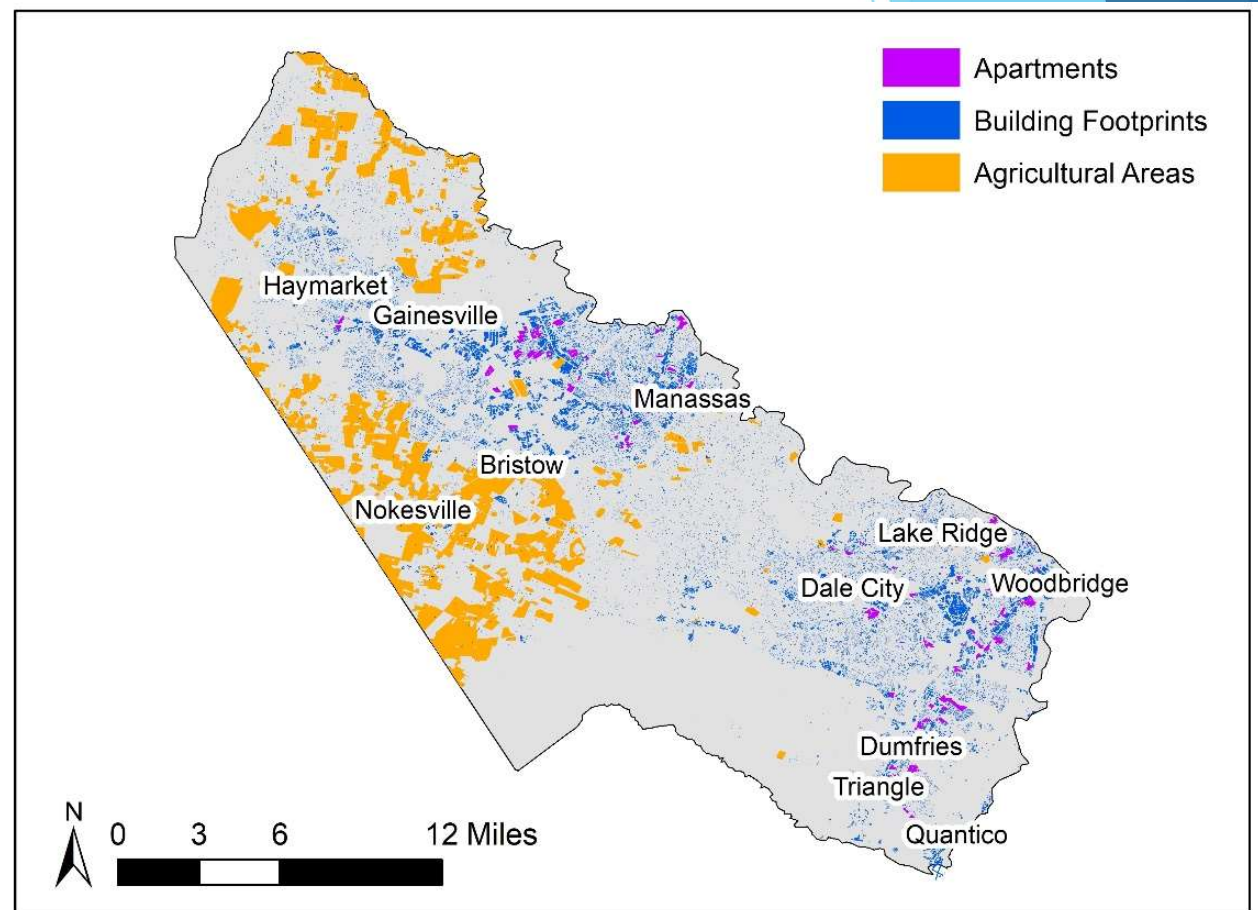
- ▶ Police stations
- ▶ Fire stations
- ▶ Schools
- ▶ Libraries
- ▶ Other Government Buildings



Food, Water, and Shelter Assets

- ▶ Includes:
 - ▶ Agricultural Areas
 - ▶ Housing units
 - ▶ Drinking water support infrastructure
 - ▶ Wastewater pump stations

(Will include call-out box on effects of climate change on food supply chains)

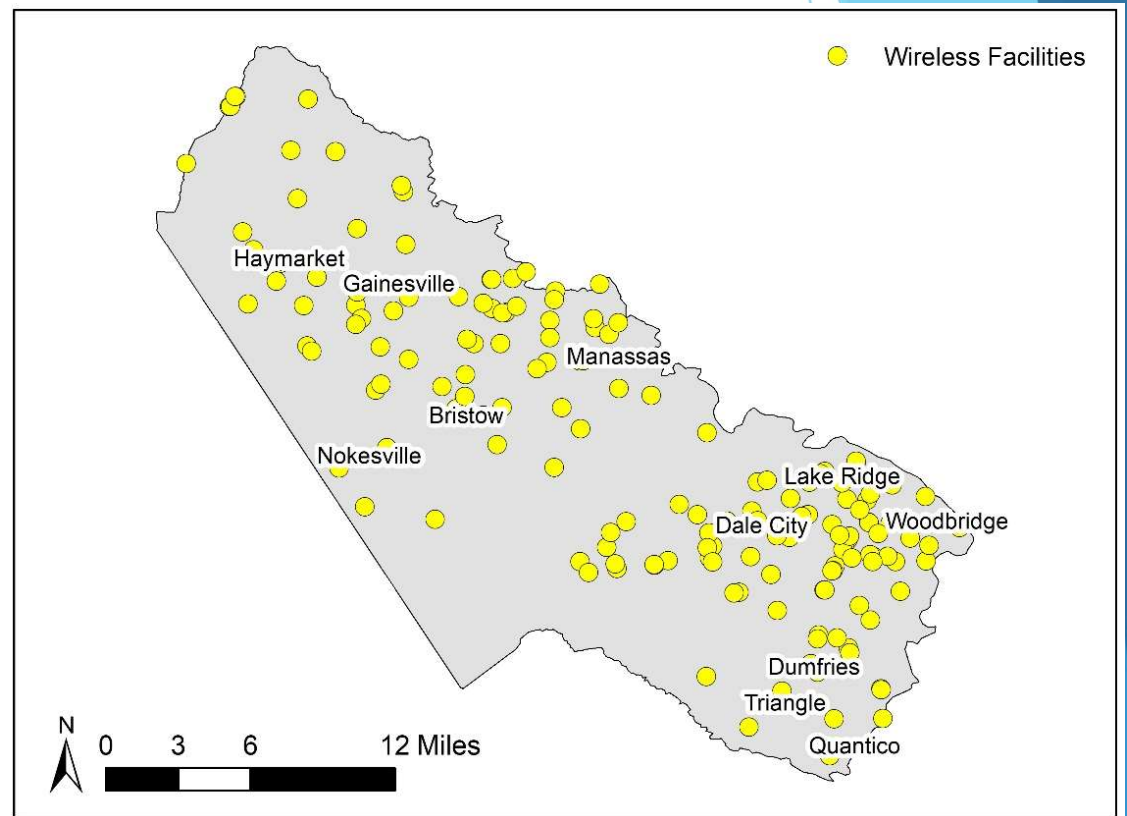


Health and Medical Assets

- ▶ Includes:
 - ▶ Hospitals
 - ▶ Other Medical Centers
 - ▶ Long-Term Care Facilities
 - ▶ Dialysis Centers
 - ▶ Pharmacies

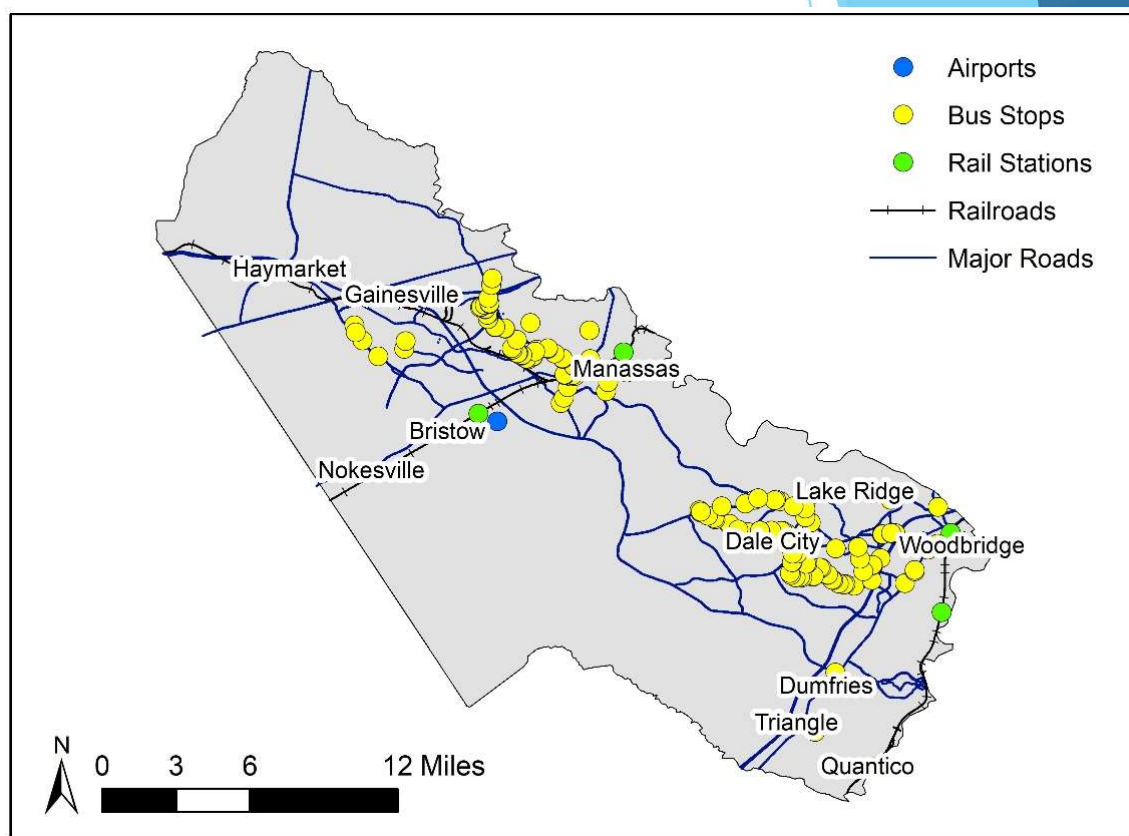
Communication Assets

- ▶ Includes:
 - ▶ Wireless Facilities
 - ▶ Cable Systems
 - ▶ Radio Towers
 - ▶ Data Centers
 - ▶ Financial Service Locations
 - ▶ Broadcast Facilities



Transportation Assets

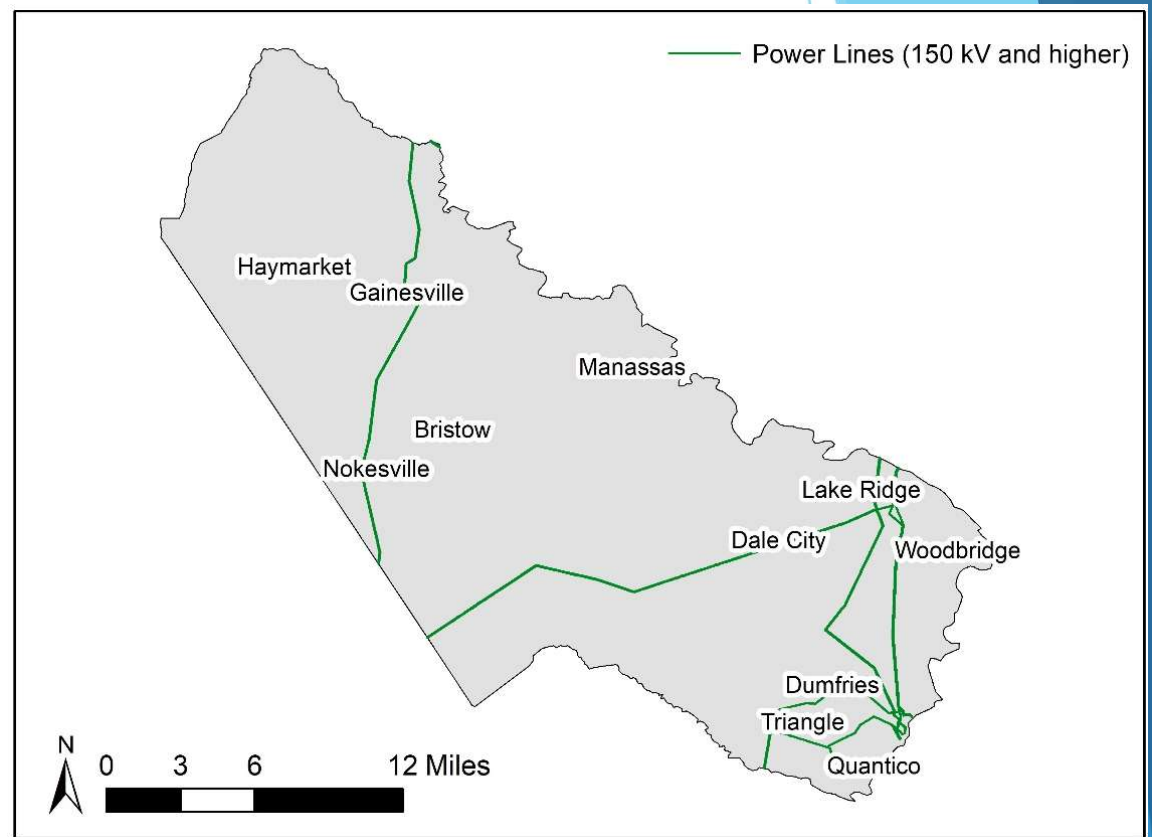
- ▶ Includes:
 - ▶ Roads
 - ▶ Mass Transit
 - ▶ Railways
 - ▶ Airports
 - ▶ Port Facilities
 - ▶ Pedestrian
 - ▶ Heliports



Energy and Hazardous Materials Assets

- ▶ Includes:
 - ▶ Electrical Lines
 - ▶ Power Generation Plans and Substations
 - ▶ County-run Fuel Distribution Centers
 - ▶ Natural Gas Pipelines
 - ▶ Hazardous Materials Storage Sites

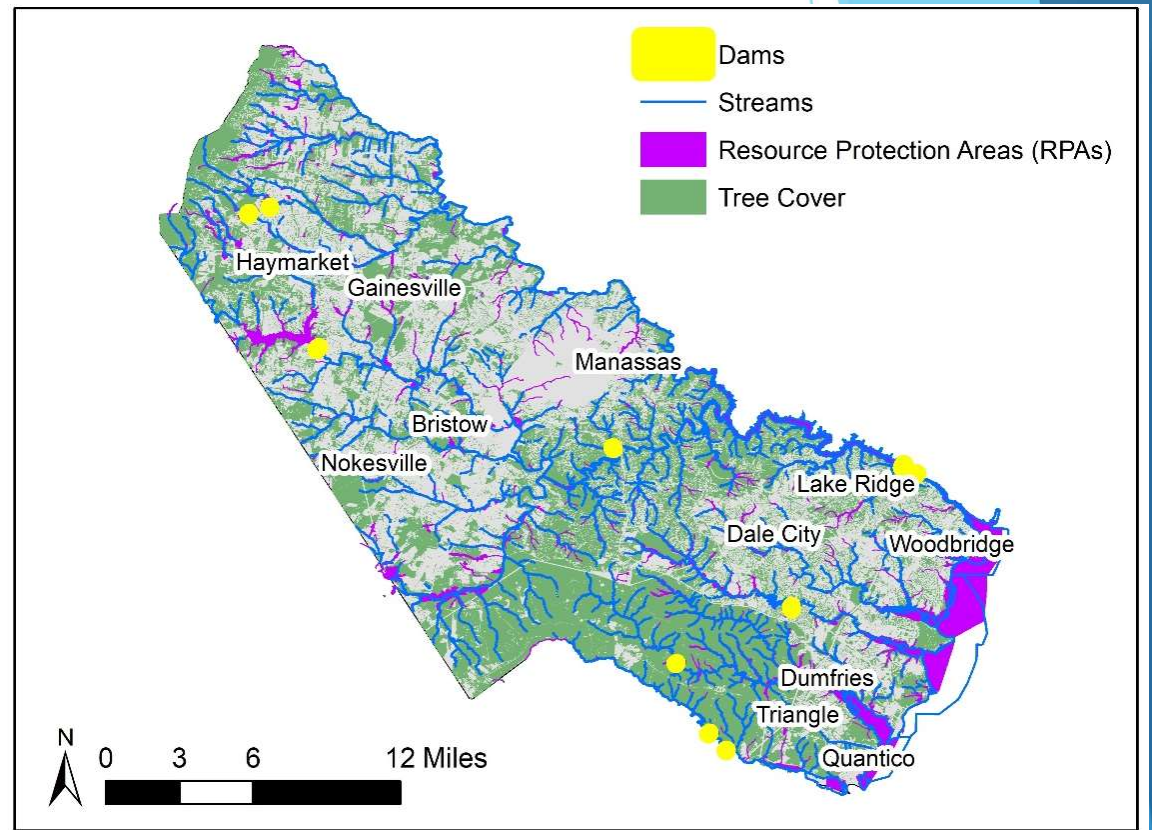
(Explanation of what makes a resilient energy supply to be included in adaptation actions and CESMP)



Natural Resources Assets

- ▶ Includes:
 - ▶ Streams
 - ▶ Resource Protection Areas
 - ▶ Tree Cover
 - ▶ Dams

(Included call-out box for urban heat island effect)

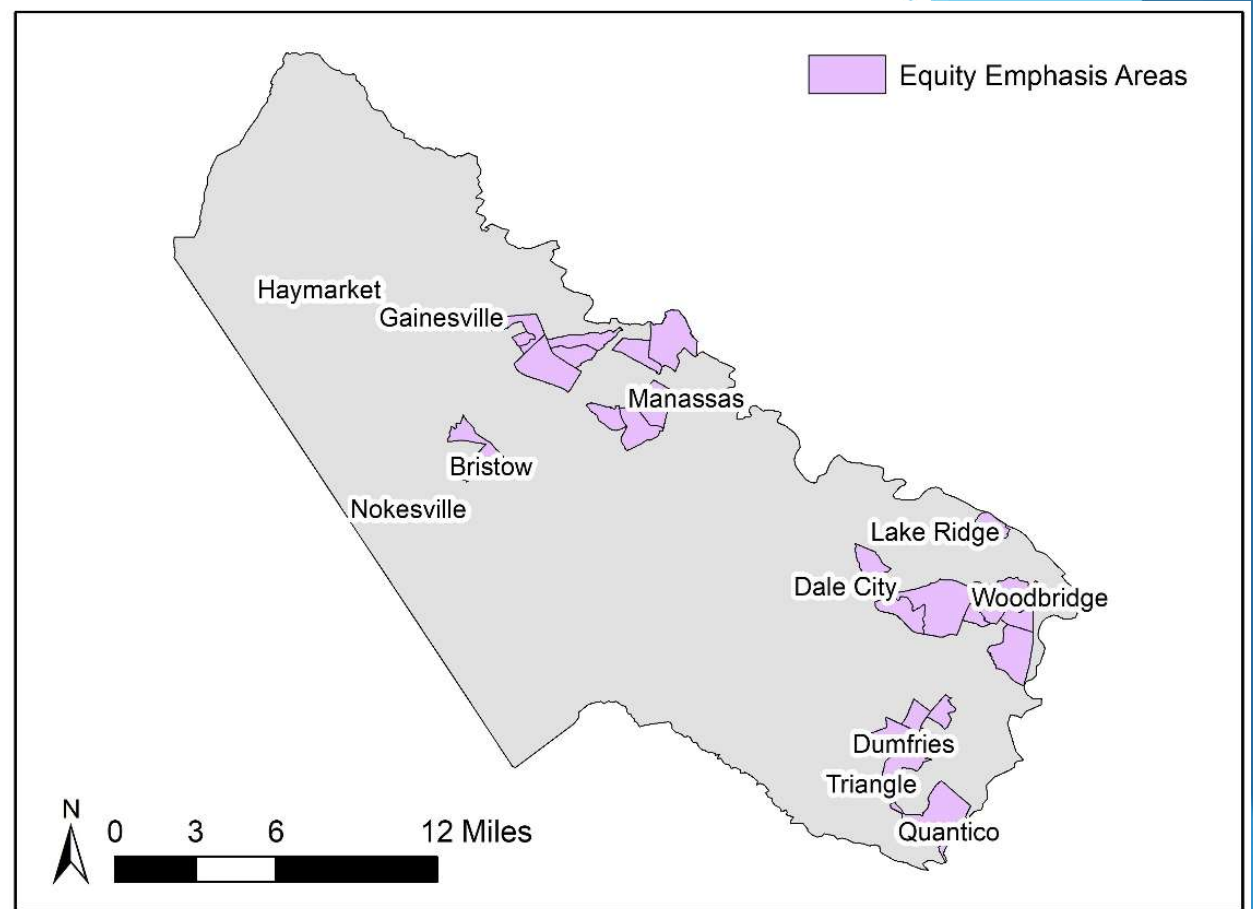


Socially Vulnerable Populations Assets

Includes:

- Equity Emphasis Areas

Methodology for Equity Emphasis Areas was adopted by the National Capital Region TPB. Tract-level Census data is used to identify communities that have significant concentrations of low-income and/or minority populations.



County Climate Hazards

- ▶ High Wind/Severe Storm
- ▶ Winter Weather
- ▶ Flood/Flash Flood
- ▶ Tornado
- ▶ Earthquake
- ▶ Drought
- ▶ Extreme Temperatures
- ▶ Wildfire
- ▶ Landslide
- ▶ Karst/Sinkhole

Vulnerability Assessment Methodology

- ▶ Exposure
 - ▶ Low, Medium, or High based on exposure to the hazard
- ▶ Sensitivity
 - ▶ Low, Medium, or High based on a qualitative assessment of how sensitive assets are to the hazard
- ▶ Adaptive Capacity
 - ▶ Called “Vulnerability Rating for Adaptive Capacity” to try to avoid confusion because:
 - ▶ Low = Low vulnerability due to high adaptive capacity
 - ▶ Medium = Medium vulnerability due to medium adaptive capacity
 - ▶ High = High vulnerability due to low adaptive capacity

Climate Hazards - Forecasting Local Extremes (FLEx) Tool

- ▶ FLEx Tool efficiently condenses data from general circulation models (GCMs) into a few key indicators that describe future hazard exposure for a local area
- ▶ The FLEx Tool was applied to analyze precipitation, extreme temperature, and drought

Vulnerability Assessment Results

Climate Hazard	Asset Category															
	Safety and Security		Food, Water, and Shelter		Health and Medical		Communications		Transportation		Energy & Hazardous Materials		Natural Resources		Socially Vulnerable Populations	
	2050	2075	2050	2075	2050	2075	2050	2075	2050	2075	2050	2075	2050	2075	2050	2075
Precipitation	L	L	M	M	M	M	L	L	H	H	M	M	H	H	H	H
Extreme Temperature	M	M	M	H	M	M	M	M	M	H	M	M	M	H	H	H
Drought	L	L	M	M	M	M	L	L	M	M	M	M	M	M	M	H
Storm Surge and SLR	L	L	M	M	M	M	L	L	M	M	M	M	M	M	M	M
Earthquakes	L	L	M	M	M	M	L	L	M	M	M	M	M	M	M	M
Strong Winds/Tornadoes	L	L	M	M	M	M	L	L	M	M	M	M	M	M	M	M

Vulnerability Assessment by County Asset

Asset Category	Combined Vulnerability Rating	
	2050	2075
Safety and Security	L	L
Food, Water, and Shelter	M	M
Health and Medical	M	M
Communications	L	L
Transportation	H	H
Energy & Hazardous Materials	M	H
Natural Resources	H	H
Socially Vulnerable Populations	H	H

Next Steps:

- ▶ This analysis will be used to inform development of draft adaptation actions.
- ▶ Sustainability Commission will review a draft list of adaptation actions in February, and provide recommendations.
- ▶ BOCS approved Emergency Management to receive \$950k ‘earmark’ sponsored by Congressman Connolly. These projects will include:
 - ▶ \$600,000 - PWC Flood Analysis Study
 - ▶ \$115,000 - Localized flood resiliency plan for Protecting Vulnerable Flood-Prone Areas identified in the Flood Analysis Study
 - ▶ \$235,000 - Expand flood detection and rainfall data collection capabilities

Commissioner's Time

Adjournment

