

Montgomery County Climate Assessments for ZTAs & Master Plans



MWCOG Planning Directors Technical Advisory Committee

Montgomery County Planning Department

montgomeryplanning.org

9/16/2022

What is Bill 3-22?

- Montgomery County Council passed **Climate Assessments law** in July 2022
- Requires:
 - Office of Legislative Oversight to prepare a climate assessment for each bill
 - Planning Board **to prepare a climate assessment for each zoning text amendment (ZTA), master plan, and master plan amendment**
 - Publication of climate assessment templates.
- This law replaces existing requirements in county code to do carbon footprint analysis for master plans transmitted to Council.
- Effective dates:
 - **January 1, 2023:** Office of Legislative Oversight assessments for bills
 - **March 1, 2023:** Planning Board assessments for ZTAs and master plans

Bill 3-22: each climate assessment must include:

- The **sources of information, assumptions, and methodologies** used.
- A **description of variables** that could affect the assessment.
- If a bill, ZTA, or master plan (or master plan amendment) is likely to have no climate impact, why that is the case.
- The **potential positive or negative effects**, if any, of the bill, ZTA, or master plan upon climate change.
 - **Quantitative or qualitative evaluations** of the identified effects upon **greenhouse gas emissions, sequestration, and carbon drawdown**.
 - **Quantitative or qualitative evaluations** of the of the identified effects upon **community resilience and adaptative capacity**.
- **Amendments or other recommendations**, if any, that would reduce or eliminate any anticipated negative effects of the bill, ZTA, or master plan upon carbon dioxide removal, sequestration, drawdown, community climate resilience, and adaptive capacity.

Purpose of Climate Assessments

- For the Council to **efficiently and effectively make informed decisions** during bill, ZTA, and Master Plan review
- Inform Councilmembers of the climate change implications of their decisions
- Council already requires Economic Impact Assessments and Racial Equity and Social Justice impact statements for bills

Racial Equity and Social Justice (RESJ) Impact Statement

BILL 5-21: AGRICULTURAL LAND PRESERVATION-SOLAR COLLECTION SYSTEM-DEDICATION OF BUSINESS PERSONAL PROPERTY TAX REVENUE

SUMMARY
The Office of Legislative Oversight (OLO) expects Bill 5-21 will probably have a minimal impact on racial equity and social justice among Montgomery County residents at-large.

BACKGROUND
On January 19, 2021, the County Council introduced Bill 5-21 as a companion bill to a zoning text amendment (ZTA 20-01- Solar Collection System-AR Zone Standards)¹ introduced last year to combat climate change locally. ZTA 20-01 would allow for the construction of solar collection systems in agricultural reserve; it supports the County's effort to transition to more eco-friendly and renewable methods for providing energy to Montgomery County residents.²
Bill 5-21 allows the County to allocate a portion of tax proceeds generated from the solar collection systems to support the Agricultural Preservation Fund. The estimated amount of funding generated from this allocation is currently unknown. If enacted, the bill will:

- Dedicate business personal property tax revenue to the Agricultural Land Preservation Fund;
- Increase the land in the County preserved;
- Generally amend the law governing the preservation of agricultural land.

ANTICIPATED RESJ IMPACTS
OLO anticipates that Bill 5-21 will primarily benefit the overall funding for the County and dedicate a portion of that funding to the Agricultural Land Preservation Fund. The Office of Agriculture estimates that there about 1 percent of the County's population is in the agricultural reserve zone. The United States Department of Agriculture estimates that about 1 percent of the population in the United States disproportionately benefit from Bill 5-21 as compared to the rest of the County. Without knowledge of the es demographics are on par with the national and st impact on RESJ for residents in the County at-large.

CAVEATS
Two caveats to this racial equity and social justice legislation on racial equity and social justice is a c

Office of Legislative Oversight

Economic Impact Statement
Office of Legislative Oversight

BILL 5-21 Agricultural Land Preservation – Solar Collection System – Dedication of Business Personal Property Tax Revenue

SUMMARY
The Office of Legislative Oversight (OLO) anticipates that enacting Bill 5-21 would have an insignificant impact on economic conditions in the County.

BACKGROUND
The goal of Bill 5-21, introduced on January 19, 2021, is to raise funds to preserve agricultural land in the County.¹ If enacted, the bill would "dedicate business personal property tax revenue received for a solar collection system constructed in the Agricultural Reserve Zone for the Agricultural Land Preservation Fund," which is a fund used to purchase property interests to preserve agricultural land. Importantly, the bill would not change business personal property tax rates. Instead, it would earmark revenues generated from those taxes to the existing Agricultural Land Preservation Fund.

METHODOLOGIES, ASSUMPTIONS, AND UNCERTAINTIES
Because it would not change business personal property tax rates, OLO does not anticipate that enacting Bill 5-21 would result in direct economic impacts to private organizations or residents in the County.
No methodologies were used in this statement. The claims made in subsequent sections are based on the judgment of OLO analysts.

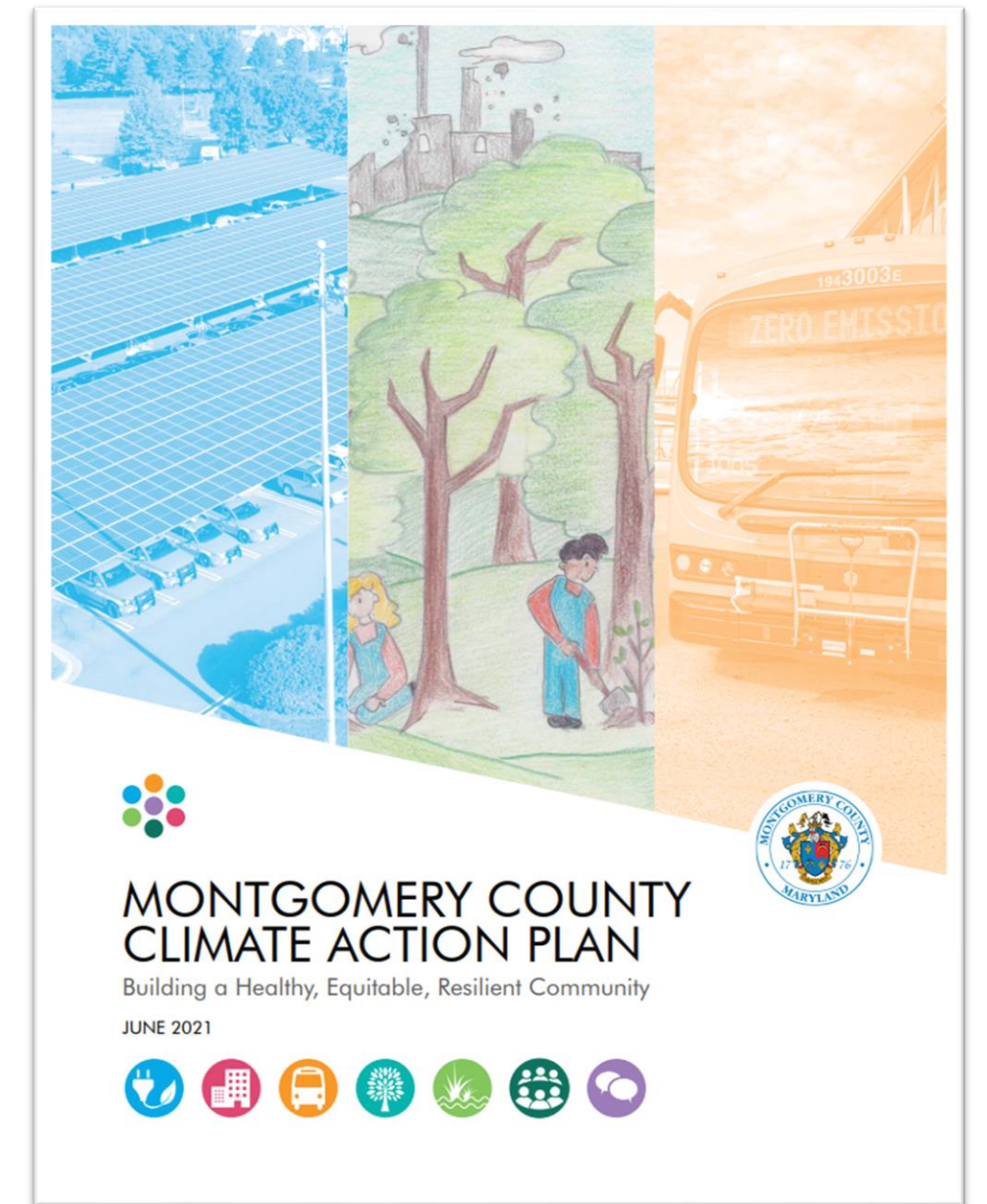
VARIABLES
Not applicable.

¹Montgomery County Council, Bill 5-21, Agricultural Land Preservation – Solar Collection System – Dedication of Business Personal Property Tax Revenue, introduced on January 19, 2021, Montgomery County, Maryland. See bill in Introduction Staff Report, https://apps.montgomerycountymd.gov/cclim/DownloadFilePage?PageTitleName=2695_1_13181_Bill_5-2021_Introduction_20210119.pdf.

Montgomery County (MD) Council 1

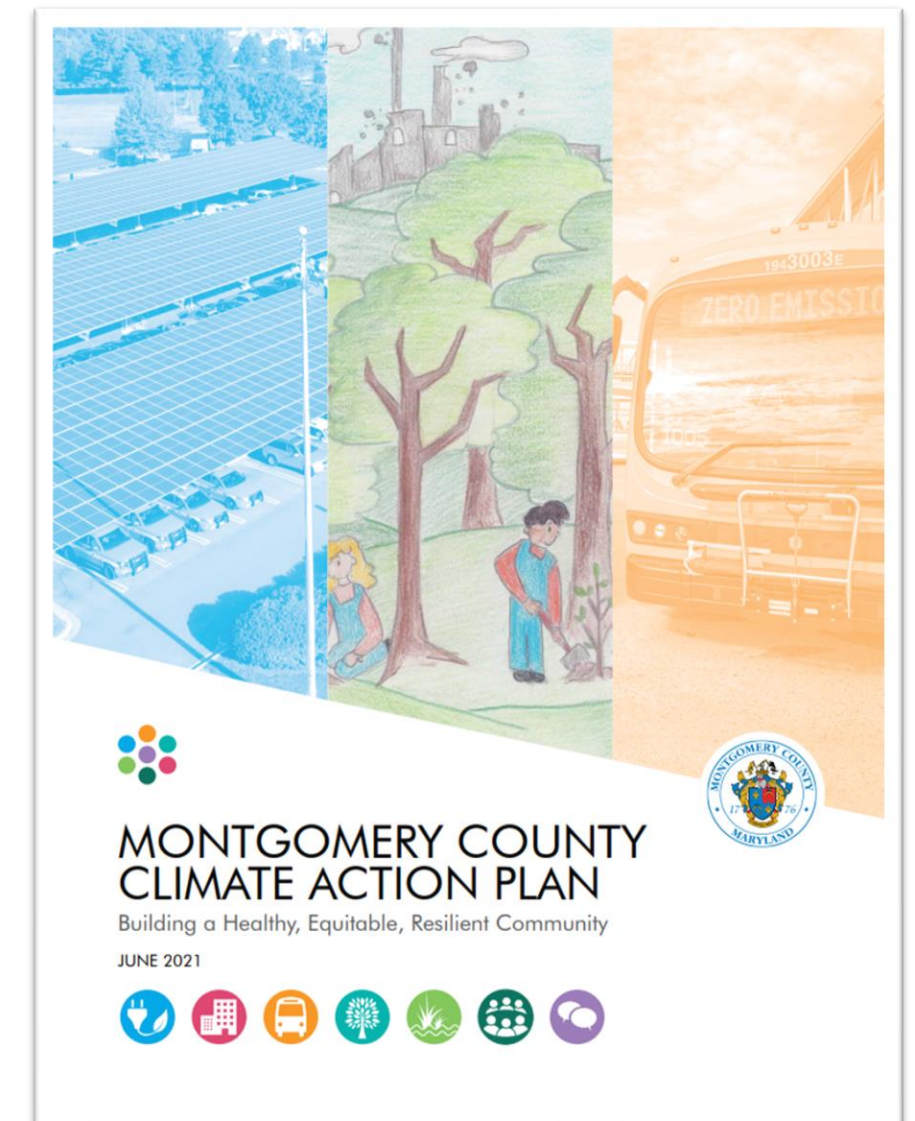
Climate Action Plan (CAP)

- Describes actions to help the County cut GHG emissions 80% by 2027 and 100% by 2035 compared to 2005 levels



Thrive Montgomery 2050

- Montgomery County's updated general plan governing future land use development (*currently under Council review*)
- Thrive Montgomery 2050 was developed in coordination with the county's Climate Action Plan (CAP).
- Establishes land use goals related to economic health, equity, and environmental resilience to be met in the next 30 years.



Thrive Montgomery 2050 & Climate Action Plan

*“**Thrive Montgomery 2050** addresses where and how land will be conserved or developed for housing, office buildings, parks, agriculture, recreation, transportation, and other types of public and private infrastructure - decisions that have a major influence on greenhouse gas emissions, carbon sequestration, and adaptation to climate change. The **CAP**, on the other hand, focuses on specific near-term actions to eliminate greenhouse gas emissions by 2035 and mitigate or adapt to the effects of increased heat and flooding, high winds, and drought. Thrive Montgomery 2050’s climate change-related recommendations will be implemented in concert with the CAP.”*

Conclusion chapter, page 83, PHED Committee Draft of Thrive Montgomery 2050

Master Plans in Montgomery County

Types of master plans:

General Plan—provides broad policy guidance for the entire county over 30+ years

Functional Plan—provides policy recommendations for countywide systems such as housing, transportation, & historic preservation

(Area) Master Plan—defines land use & community goals for a specific geographic area; sets a vision for the future with specific recommendations for that area

Sector Plans—master plans for a small area such as a Metro Station area

Minor Master Plans—encompass small cluster of properties; can be prepared in a shorter timeframe than a master or sector plan due to limited scope

Master Plan Amendments:

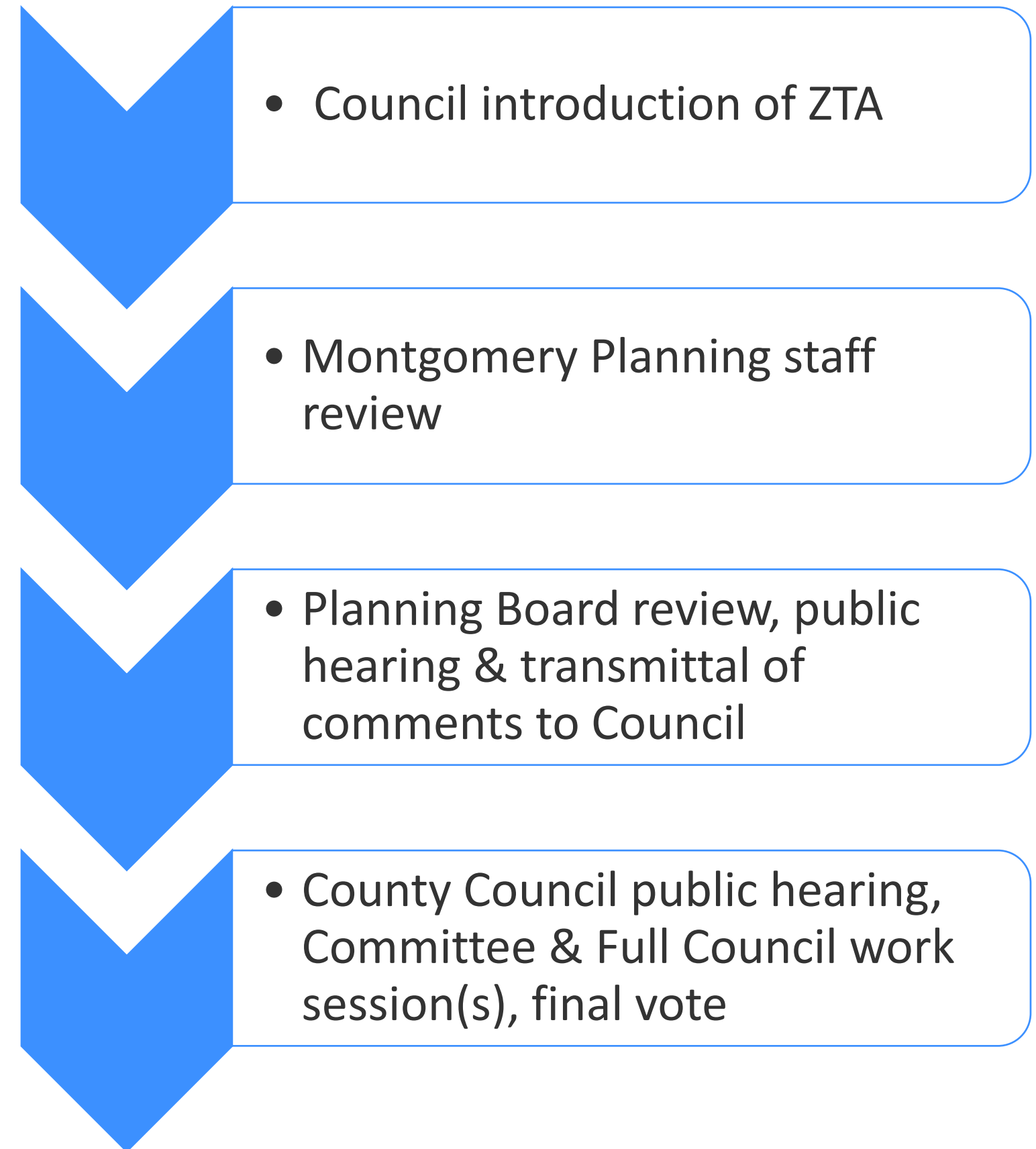
Comprehensive Amendment—comprehensively amends/replaces current master plan or functional master plan

Minor Amendment--does not replace the previous master plan but amends one or more specific recommendations of the current master plan.

Note: For the purposes of this project, master plan means all kinds of master plans and master plan amendments.

ZTAs in Montgomery County

- Zoning Text Amendment of Zoning Ordinance (Chapter 59 of Montgomery County Code)
- Frequently drafted by Council staff or external stakeholders
- Occasionally drafted by Montgomery Planning for implementation of master plans or special planning initiatives
- Council public hearing typically scheduled 30 days after introduction



Montgomery Planning Timeline for ZTA Review & Master Plan Development

	Zoning Text Amendment (ZTA)	Master Plan
Timeline	2-3 weeks	~2 years

Consider how these timelines may affect the depth and breadth of climate assessments that Montgomery Planning can develop for ZTAs vs. Master Plans.



Climate Assessment Tools for ZTAs and Master Plans

Consultant Scope Overview

- Montgomery Planning engaged ICF Consulting, Inc. to provide:
 - I. Research into existing methods, approaches, and tools for conducting climate assessments.
 - II. Insights into whether master plans and ZTAs should be addressed together through one approach or distinct, but potentially related approaches.
 - III. Recommendations on one or a set of methods, approaches, or tools the County can use when assessing climate impacts of master plans and ZTAs.
 - IV. Guidance on how to incorporate climate assessments into the master plan development process to identify alternatives during development of master plan recommendations.

*NOTE: Montgomery Planning's scope does **not** include development of OLO's template for climate assessments of bills, which is separate effort.*

Purpose of the Literature Review

- The goal for this review was to **identify potentially useful or applicable methods, tools, or approaches** that the Montgomery County Planning Department can use or build upon to comply with Bill 3-22 requirements moving forward
- Desktop scan to identify governments in the U.S. and Canada that have similar requirements as Bill 3-22
- Compiled a list of relevant examples of policies/requirements and assessment tools related to GHG emissions calculations and screenings, and community resilience and adaptive capacity

Definitions

- While Bill 3-22 uses the following terms, it does not provide specific definitions.
- Using the following working definitions to inform tool development:
 - **Carbon dioxide removal:** Anthropogenic activities removing CO₂ from the atmosphere and durably storing it in geological, terrestrial, or ocean reservoirs, or in products.
 - **Carbon dioxide drawdown:** is usually used as a synonym for carbon removal. It sometimes refers specifically to the use of carbon removal to reduce the atmospheric concentration of carbon dioxide, as opposed to simply slowing its increase.
 - **Carbon dioxide sequestration:** the process of capturing and storing atmospheric carbon dioxide.
 - **Community resilience:** The sustained ability of a network of people to use available resources to withstand, respond, recover, and adapt to future climate hazards.
 - **Adaptive capacity:** The capacity of people, systems, and a network of assets to cope with a climate hazard.

Example from Literature Review

Jurisdiction	Required		Scope			Methods, Approaches, Tools
	Voluntary	Mandator	Master Plans	ZTAs	Other	
GHG Emissions Assessment Examples						
King County, Washington		X			X	Green Building and Sustainable Infrastructure Guidelines – Carbon Calculators and Mitigation Strategies : These guidelines and calculators aid capital project managers in meeting the requirements of Green Building Ordinance (GBO) 16147. GBO 16147 requires measuring GHG emissions of capital projects and taking steps to mitigate GHG emissions impacts.
British Columbia, Canada		X			X	GHG Assessment Methodology Guidance : This document provides guidance for GHG estimates required to be developed as a part of the application process for project seeking funding from the CleanBC Communities Fund (CCF). The guidance recommends addressing both direction and indirection emissions and allows for judgement if the quantification would require considerable efforts and onerous data collection procedures that could render the preliminary assessment to be prohibitively costly.
Community Resilience and Adaptive Capacity Assessment Examples						
National Academies of Sciences, Engineering, and Medicine	n/a				X	Building and Measuring Community Resilience: Actions for Communities and the Gulf Research Program This synthesis report found that six types of community resilience dimensions are most commonly used across 33 existing frameworks to measure community resilience: natural (or environmental), built (infrastructure), financial (economic), human and cultural, social, political (institutional or governance).
Maryland	X				X	Coastal Adaptation Report Card This example assesses adaptation progress using both qualitative and quantitative socioeconomic, ecosystem, flooding, and planning indicators. Each indicator receives an individual rating, which results in an overall letter grade score. The results are presented visually in a public-friendly summary graphic.
Cambridge, MA	X		X			Climate Resilience Zoning Task Force This is one example of a city using its climate vulnerability assessments to inform new resilient zoning standards to adapt to projected changes in flooding and extreme heat. The city also qualitatively reviewed and adjusted current zoning standards to remove obstacles that prevent or discourage resilience measures.

Existing Montgomery County Carbon Footprint Analysis Requirement for Master Plans

- Since 2008 and until March 1, 2023, Montgomery County Code Section 33A-14 requires the Planning Board:
 - To assess a master plan's potential impact on greenhouse gas emissions in the County, including a carbon footprint analysis;
 - To consider ways to reduce vehicle miles traveled (VMT) & to consider options that would minimize greenhouse gas (GHG) emissions.
- Planning Board includes a carbon footprint analysis & recommendations for reducing VMT and GHG emissions in each master plan transmitted to County Council.
- Carbon footprint analyses are conducted *after* the master plan's development.
 - Bill 3-22 also only requires that assessments be conducted *after* bill, master plan, or ZTA development, but Montgomery Planning strives to incorporate assessments *during* the master plan development process to further mitigation and adaptation potential.

King County, WA Model for GHG Emission Estimates

- Planning Staff currently use GHG emissions modeling spreadsheet created by King County, WA & adjusted for use in Montgomery County for carbon footprint analysis.
- The model estimates GHG emissions from embodied energy, building energy use & transportation used by residents/workers in the master plan area.
- Compares estimated emissions from master plan recommendations for land use, zoning, development density & transportation systems against a baseline estimate using existing conditions.

Key Takeaways — GHG Emissions

- There are **no examples of other jurisdictions requiring directly comparable climate assessments for master plans and ZTAs**, but some examples exist that provide potential approaches to developing the climate assessment tool.
 - A **combination of applicable approaches will likely need to be used**; there is no one existing approach, method or tool that achieves these objectives.
- Some calculation requirements are more specific than others.
- Most methods/tools reviewed require data collection & modeling—can be time intensive activities & may not work for ZTA assessments specifically.
- It is common to allow for a mix of quantitative & qualitative GHG assessment methods depending on available data, emission factors, & tools.

Key Takeaways — Resilience

- Again, **no examples of governing entities with legislation similar to Bill 3-22.**
- Many examples of guidance on how to integrate resilience into planning and zoning decisions, but **not on how to evaluate the impact of planning and zoning decisions on resilience goals.**
- Many (mostly qualitative) approaches to assessing vulnerabilities, risks, community resilience, and adaptive capacity. These approaches offer insight into:
 - different components of community resilience
 - approaches to measuring adaptation progress
- There are many ways to approach community resilience and adaptive capacity, giving Montgomery Planning flexibility to **build a tailored approach that will likely be qualitative.**

Key Considerations for Development of Climate Assessment Tools for ZTAs & Master Plans

- When to apply qualitative vs. quantitative approaches
- How to efficiently and transparently determine ‘no impacts’ (esp. for ZTAs)
- How to define approaches/template that will work within the relevant processes (e.g., 2-3 week review turnaround for ZTAs, and multi-year process/opportunity to embed assessments within the master planning process)

Next Steps

	July 22	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23
Bill 3-22 passed	★								
ICF background research									
Stakeholder meeting #1 – Listening session			9/12						
ICF draft recommendations									
Stakeholder meeting #2 – discuss draft recommendations				10/10					
ICF update recommendations									
Stakeholder meeting #3 – present final recommendations					11/14				
ICF finalize recommendations									
Present final ICF recommendations to Planning Board						12/1			
<i>Effective date of assessments</i>									3/1

Connect

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