

Integrating economic development and climate adaptation policy in comprehensive planning: the case of Maryland, USA

Abstract

Recognizing the urgency of incorporating climate adaptation into all aspects of governance and acknowledging the often-conflicting priorities between climate adaptation and economic development, this thesis explores the policy integration of these two critical areas within comprehensive planning in the United States. By focusing on a case study within the state of Maryland, this research examines how comprehensive planning navigates these conflicts across multiple levels of governance. Furthermore, this thesis offers recommendations for planning professionals to enhance the integration of climate adaptation and economic development goals within the comprehensive planning framework.

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Preface

The journey of researching and writing this thesis has been both challenging and rewarding. The urgency of addressing climate change and the complexities of balancing climate adaptation with economic development have been driving forces behind this work. My interest in this topic stems from a deep commitment to sustainable development and a desire to contribute to the ongoing discourse on how best to integrate critical policy areas to achieve long-term resilience, without completely sacrificing other goals a city may need to achieve.

I would like to extend my heartfelt gratitude to my thesis advisor, Dr Gerrit-Jan Carsjens, whose guidance, and insights have been invaluable throughout this process. This thesis would not have been possible without the support of my family and friends, who provided me with the motivation and encouragement needed to persevere. I also wish to acknowledge the various institutions and individuals in Maryland who contributed their time and knowledge to assist with my case study research.

My time at Wageningen University and Research has been an intense and enriching learning experience, and I am profoundly thankful for the academic and personal growth I have undergone during my two years in the Netherlands. I will always cherish this period of my life, filled with valuable lessons, wonderful memories, and lasting friendships.

Key words: sustainable development, planning policy, climate adaptation, resilience, economic development, policy integration, urban environment, sustainable planning

Colophon

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1 Introduction

The world is experiencing an increased threat of severe climate change (IPCC, 2023). With growing risks of natural disasters and drastic environmental conditions, regions need to incorporate climate resiliency into their short and long-term planning (Albers & Deppisch, 2013). Climate resiliency refers to the capacity to anticipate, prepare for, respond to, and recover from the negative impacts of climate change (IPCC, 2023). This entails not only the ability to withstand climate-related stressors but also adapt to minimize vulnerability (IPCC, 2023). Resilient regions should exhibit robustness in infrastructure, adaptability to changing climatic conditions, and the ability to maintain essential functions during and after environmental disturbances (Albers & Deppisch, 2013). Social and economic dimensions are integral; thus, climate resiliency encompasses community well-being, economic stability, and equitable access to resources (IPCC, 2023). We have now reached a “tipping point” in which repercussions of climate change will not be evaded if greenhouse gas emissions persist at the same level or increase (Eichhorn et al., 2021).

Climate resilience is becoming more incorporated into political topics in the United States of America (USA). Starting during the Obama Administration, integration of environmental and climate policy began to overcome bureaucratic silos, some of which were undone in the following administration (Duffy & Cook, 2019). Led by the Biden Administration, the federal government released many policies to initiate climate resilience throughout the country such as: releasing the country’s first-ever National Climate Resilience Framework (US White House, 2023c); a mandate requiring federal agencies to prepare an “agency climate adaptation and resilience plan” (US White House, 2021b); a presidential executive order “tackling the climate crisis at home and abroad” (US White House, 2021a); and the Bipartisan Infrastructure Investment and Jobs Act which includes a \$550 billion federal investment which will partially go toward improving the countries resilience (US White House, 2021c). However, even with a new-founded emphasis on strengthening urban climate resilience, the regional and local governments still need to provide “growth,” also framed as “economic development,” which means it must be profitable for the country¹. Economic development in the United States is defined by the Economic Development Administration within the Department of Commerce as “creating the conditions for economic growth and improved quality of life by expanding the capacity of individuals, firms, and communities to maximize the use of their talents and skills to support innovation, lower transaction costs, and responsibly produce and trade valuable goods and services”². However, this can lead to trade-offs with other goals within the planning process, such as adapting to the changing climate (Chandy, 2023).

Policy integration is often used to combat this issue of conflicting policy goals. As an element of sustainable development, Environmental Policy Integration (EPI) or Climate Policy Integration

¹ US Economic Development Administration, <https://www.eda.gov/performance>, Retrieved Nov 20, 2023

² US Economic Development Administration, <https://www.eda.gov/performance/key-definitions#:~:text=Economic%20Development%3A%20creates%20the%20conditions,trade%20valuable%20goods%20and%20services>, retrieved Nov 20, 2023

(CPI) is often “promoted as a way to increase rationality and effectiveness of policy making” (Nilsson & Persson, 2003, p. 333). As regions around the world grapple with challenges that are posed by climate change, the integration of innovative solutions becomes increasingly imperative. As we explore avenues to bolster climate resilience, it becomes evident that governance goals play a pivotal role, which will be explored further in this thesis.

1.1 Societal Relevance

“Integration challenges emerge particularly when complex societal issues are confronted with traditional forms of subsystem policymaking within hierarchic governance systems” (Candel & Biesbroek, 2016, p. 212). The USA is beginning to acknowledge the importance and complex issue of climate resilience, particularly at the federal level (US White House, 2021b, 2021a, 2021c, 2023). However, translating that into policy outcomes on a local or regional level is slower, especially given the prioritization of economic development and growth in the USA³. Aylett (2015) reaffirmed this in his survey results looking at a multitude of municipalities globally, which found that “adaptation planning efforts are still at an early stage in most cities” (p 14). “While interest has broadened, actions remain shallow” (Aylett, 2013).

Additionally, if some local or regional municipalities attempt to integrate economic development goals with climate adaptation, it may be done so unbalanced, favouring one or the other. Unbalanced integration can sometimes cause negative consequences. One negative consequence can be resource allocation challenges with resources like funding or attention (Candel & Biesbroek, 2016; Grafakos et al., 2019). Another consequence can be negative environmental impact when climate adaptation goals are neglected either partly or fully (Candel & Biesbroek, 2016). Another negative consequence of unbalanced integration can cause social inequity such as development catering to one socio-economic group over another, causing gentrification or potentially leaving vulnerable communities at a disadvantage (Kuitert & van Buuren, 2022). Also, policy and regulatory conflicts often lengthen the process or pose delays (Candel & Biesbroek, 2016). Furthermore, public perception and engagement may be divided on the priorities of the project, leading to public resistance or lack of support (Eichhorn et al., 2021). Finally, unbalanced integration could also lead to short-term economic gains exchanged for long-term effectiveness of climate adaptation (Nilsson & Persson, 2003). These problems impact the overall resilience of communities. Effective climate adaptation must include collaboration across “multiple sectors of urban life carried out by a variety of actors” (Aylett, 2015, p. 6).

With varying priorities, regulations set at different levels of government, institutional silos, and lack of integration with all stakeholders can cause “implementation deficits” (Eichhorn et al, 2021, p. 2235). It can also create “problems of compartmentalization, fragmentation, competing and incoherent objectives, policy under- and overreaction, competing issue-attention, and inconsistent instrument mixes” (Candel & Biesbroek, 2016, p. 212). It may also bring to light “unavoidable trade-offs” which are inevitable even if economic, social, and environmental concerns may seem “compatible at a generic level” (Nilsson & Persson, 2003, p. 333).

³ US Economic Development Administration, <https://www.eda.gov/performance>, retrieved Nov 20, 2023

The United States approaches the planning process mostly at the city and county level, with some guidance and facilitation from states, although this varies depending on the state organization⁴. Typically, it is expected that these local regions take a long-term and big-picture approach to the planning process through comprehensive planning⁵. This study will assess the integration and effectiveness of economic and climate adaptation policies in comprehensive planning in the United States and arrive at recommendations for more effective planning process that incorporate multiple, potentially opposing, goals. Both environmental resiliency goals and economic development goals are not going to subside. As stated by the United Nations, as far back as 1993, “environmental and developmental concerns as two sides of an interdependent process: ‘environmental protection shall constitute an integral part of the development process’” [Rio Declaration, Principle 4] (Lafferty & Hovden, 2003, p. 4).

1.2 Knowledge Gap/Scientific Relevance

The term policy integration found its origins in literature by Arild Underdal in 1980 to discuss marine policy. This gained more attention in the 1990s (Tosun & Lang, 2017), and is used as a theory in a wide range of topics and can vary depending on the context (Lafferty & Hovden, 2003). However, the definition tends to boil down to the integration of two or more (somewhat) opposing policy goals into one initiative. When used in reference to sustainable development, is often referred to as Environmental Policy Integration (EPI) or as Climate Policy Integration (CPI) but the objective remains the same: “to incorporate and, arguably, *prioritize* environmental concerns in non-environmental policy domains with the purpose of enhancing environmental policy outcomes” (Candel & Biesbroek, 2016, p. 212-213).

Policy integration is typically used as a form of “cooperation of actors from different policy domains or policy sectors” (Tosun & Lang, 2017, p. 554). Policy domains or sectors are defined as “relatively stable actor coalitions, including the institutions they installed in the pursuit of their shared interests” (Tosun & Lang, 2017, p. 554). Integrative policy addresses the “whole complexity” of a project (Eichhorn et al, 2021)

In current literature, there are plenty of empirical studies discussing policy integration with climate adaptation within a European context (Adelle & Russel, 2013; Kuitert & van Buuren, 2022; Lafferty & Hovden, 2003; Nilsson & Persson, 2003; Runhaar et al., 2009; Tosun & Lang, 2017; Uittenbroek et al., 2013; Van Straalen, 2012; Willems et al., 2021; Winker et al., 2022), but very little in the American context. Duffy and Cook (2019) discuss policy integration on a federal level in the USA and throughout various federal agencies, but there is no literature discussing this topic on a local or regional scale nor in the context of comprehensive planning. Duffy and Cook (2019) conclude that policy integration in the USA is often done through administrative pathways instead of legislative. Meaning, that integrated climate policy has the potential to be undone by the following presidential administration, as demonstrated in climate policy from Obama to Trump administrations, respectively.

⁴ State and Local Government, <https://www.whitehouse.gov/about-the-white-house/our-government/state-local-government/>, Retrieved June 18, 2024

⁵ What is Planning?, <https://www.planning.org/aboutplanning/>, Retrieved June 18, 2024

Another study conducted by Grafakos et al (2019) discusses both EU and US cities but focuses on the integration of both adaptation and mitigation strategies and through the lens of their Climate Change Action Plans (CCAP). The goal of the study was to produce a framework that supports cities when developing CCAPs in the future (Grafakos, 2019). Comparably, Lafferty and Hovden (2003) and Nilsson and Persson (2003) also create frameworks to view environmental policy integration through different lenses. Lafferty and Hovden (2003) discuss EPI along two dimensions: horizontal and vertical. If the central entity (horizontal) is not providing a strong integration framework, vertical integration will have “limited effectiveness” (Lafferty & Hovden, 2003, p. 17) This lens was aimed to provide clarification, definition, and context (Lafferty & Hovden, 2003). Analogously, Nilsson and Persson (2003) choose to look at EPI from the lens of policy networks to provide more conceptual clarification.

Tosun and Lang (2017) also attempted to clarify policy integration both academically and practically. Their lens focuses on the global governance of health, and it does so to facilitate a more inclusive scientific debate of policy integration (2017). Tosun and Lang perform a literature review to gain this perspective (2017), just as Candel and Biesbroek (2016). Their literature reviews concluded that policy integration should be viewed as a process that is dynamic and asynchronous (Candel & Biesbroek). Additionally, the study also emphasizes that lower scales are sometimes more suitable for complex issues (Candel & Biesbroek, 2016).

Aylett (2013) discusses urban climate governance through socio-institutional change and innovation through a case comparison between Durban, South Africa and Portland, Oregon, USA. Through this study, it finds that while interest is growing regarding climate adaptation, there is still a long way to go (Aylett, 2013). While this does address some climate adaptation topics in spatial planning in the USA, it does not discuss climate adaptation in the specific context of comprehensive, long-term planning against the generalized topic of economic development. In 2015, Aylett also conducted a study surveying a multitude of municipal agencies from around the world to understand the perception of integration of climate adaptation in long-range, strategic plans. While this does assess the perception of the work municipalities are doing in climate adaptation in the specific context of long-range planning, it does not assess the long-range plans themselves, but rather the perspectives of those executing those plans (Aylett, 2015).

Burch (2010) looks closely at different tools that can be used to produce and maintain actions of climate change policy through three case cities from British Colombia, Canada, stating that “most critical to progress towards achieving climate change goals... is a more ambitious, integrated climate adaptation and mitigation plan” (p. 296). This affirms the need to look closer at the long-range plans themselves.

For the promotion of policy integration, Runhaar et al (2009) focus on the processual tools versus the substance tools within planning and then they provide a third option, the ‘hybrid’ to better integrate environmental policy into spatial planning. Following along the lines of the promotion of policy integration, Kuitert and van Buren (2022) also discuss multiple-value integration into Blue-Green Infrastructure (BGI) projects, which focus on climate adaptation.

Their goals are to integrate social, sustainability, spatial, and technical values into BGI projects but discovered some barriers depending on context. Finally, Eichhorn et al (2021) focus on studying policy integration of urban infill goals with climate adaptation. Through case studies, they identify three governance aspects that are necessary for promoting joint implementation (Eichhorn et al, 2021).

Grafakos et al (2019), Kuitert and van Buren (2022), and Eichhorn et al (2021) all discuss the integration of opposing policy goals with environmental policies or climate policies, but none incorporate the larger topics of economic development. In an essay by Laurence Chandy for the Carnegie Endowment for International Peace, Chandy discusses how climate change and the pursuit of the “climate agenda” alters countries' approach to economic development, confirming some elements of conflict between climate adaptation and economic development (2023). While it discusses how they conflict, it does not discuss how to integrate the two properly, but instead how it affects global politics (2023).

There is a lack of empirical research focusing on the success of climate adaptation policy integration within the United States. **More specifically, there is a knowledge gap in how policy integration of both economic development goals and climate adaptation goals impacts comprehensive planning policy of regional municipalities, a combination of policy goals that cannot be ignored, as mentioned in the previous section.**

1.3 Research Objective and Questions

The objective of this thesis is to investigate how the integration of economic development objectives and climate adaptation goals impacts the comprehensive planning process of planning policy. Below are listed the general research question and three sub-questions. These questions are framed by the three aspects of integrated governance as discussed by Eichhorn et al (2021). This is discussed further in the following section (2).

General Research Question: How are economic development and climate adaptation policy goals integrated in comprehensive plans in the USA?

Sub-Question (1): How does the organization of the government structure influence the integration of both policy goals in comprehensive planning?

Sub-Question (2): How do the instruments used to implement the planning process influence the integration of both policy goals in comprehensive planning?

Sub-Question (3): How does interaction between relevant actors influence the integration of both policy goals in comprehensive planning?

2 Theoretical Framework

Constantly reiterated in literature, there are two approaches to policy integration: (1) the outcome and (2) the process (Candel & Biesbroek, 2016; Lafferty & Hovden, 2003; Nilsson & Persson, 2003; Runhaar et al., 2009). Some literature can refer to the outcome as “substantive” (Tosun & Lang, 2017) or “static” (Candel & Biesbroek, 2016) or “state of affairs” (Lafferty & Hovden, 2003) or “outputs” (Nilsson & Persson, 2003), mentioned in contrast to the processual approach.

Candel argued that looking at policy integration in a “multi-dimensional and ‘ongoing process’” can show that several aspects may move at different paces (Candel & Biesbroek, 2016, p. 213), rather than the “static approach”. Nilsson and Persson (2003) state that understanding policy integration through the processual lens focuses “on policy co-ordination between agencies, intra-governmental relations, communication processes and systems for issue mainstreaming” and when understanding policy integration through outcomes, focus is placed on “the statements, objectives, strategies, actions, and regulatory instruments put in place” (p. 335). Runhaar, Driessen, & Soer (2009) also suggest a combination of both outcome and process that combine elements of local orientation and consensus as a new “hybrid” (Runhaar et al., 2009). For this thesis, policy integration is looked at through the lens of the “hybrid” provided by Runhaar, Driessen & Soer (2009), as well as framed through integrative governance provided by Eichhorn et al (2021).

2.1 Analytical Framework

2.1.1 Climate Adaptation

Grafakos et al (2019) discuss the policy integration of both climate mitigation and adaptation. Below is a table from Grafakos’ team discussing the differences between mitigation and adaptation (2019) (Table 1). The main difference between mitigation and adaptation is that mitigation reverses climate change by reducing greenhouse gas (GHG) emissions, whereas climate adaptation changes an area to cope with a changing climate and make it more resilient depending on the climate threats (Grafakos et al, 2019). It is important to understand the differences between the two, which is why the table is provided below, however, this research will only be focusing on climate adaptation. The Intergovernmental Panel on Climate Change (IPCC) defines climate adaptation as an “adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts...to reduce the vulnerability of communities, regions, or activities to climactic change and variability⁶.” For this research, this will be the definition used to define climate adaptation. Additionally, climate adaptation will be used interchangeably with climate resilience. Terms such as sustainability will also be used as an umbrella term, but climate adaptation techniques and strategies must be present.

⁶ IPCC,
<https://archive.ipcc.ch/ipccreports/tar/wg2/index.php?idp=643#:~:text=Adaptation%20is%20adjustment%20in%20ecological,and%20their%20effects%20or%20impacts>, Retrieved Dec 12, 2023

Table 1: Adaptation versus mitigation (Grafakos et al, 2019, p.2).

	Mitigation policy	Adaptation policy
Sectoral focus	All sectors that can reduce GHG emissions	Selected ones related to particular climate impacts
Geographical scale of effect	Global	Local, regional
Temporal scale of effect	Long term	Short to medium term
Level of governance	International, national	Regional, local
Effectiveness	Certain (with regard to the reduction of GHG emissions)	Less certain
Ancillary benefits (or co-benefits)	Multiple ancillary benefits that can be accrued	Often ancillary benefits accrue even in the absence of climate impacts
Actor benefits	Through ancillary benefits	Almost fully through reduction of climate impact and ancillary benefits
Polluter pays	Yes	Not necessarily
Monitoring	Relatively easy (measuring the reduction of GHG emissions)	More complex (measuring the reduction of climate risk)

2.1.2 Economic Development

Economic Development is a broad and fuzzy term. It can often mean different things depending on the context. The state of Maryland’s Department of Commerce and Economic Development Commission looks at economic development as a way “to support the creation, attraction, and retention of businesses and jobs⁷.” This does slightly vary when focused in on regional or localized definitions, but the definitions remain similar. (See more about this in Annex 4).

For this thesis, the comprehensive definition of economic development will be *to strengthen an inclusive and equitable economy through retaining and expanding businesses, investments, a skilled workforce, tourism, grants, and initiatives*. In other words, economic development is to increase a city’s revenue by attracting residents through jobs and business opportunities.

2.1.3 Policy Integration in Comprehensive Planning

Using the literature described above and in previous sections, a comprehensive definition of Policy Integration used for this thesis will be *the incorporation and prioritization of two (opposing) policy goals that have the ability to address a complex problem holistically across multi-dimensional institutions*. In the context of this research, the complex problem is the need to achieve both economic development and climate adaptation in comprehensive planning in all levels of government.

Aylett (2013) finds that effective climate adaptation must include “innovative responses that span departmental divisions” to challenge siloed offices within local governments "embedded in their

⁷ Maryland Department of Commerce, Maryland Economic Development Commission, <https://commerce.maryland.gov/commerce/boards-and-commissions/economic-development-commission>, Retrieved Dec 7, 2023

own organisational cultures and technical practices" (p. 1386). Overcoming this requires communication, innovation, collaboration, and the "use of an open network structure" (Aylett, 2013, pp. 1400-1401).

In 2015, Aylett surveyed various municipal agencies worldwide and found that while interest in climate adaptation planning is growing, it remains an emerging topic just beginning to be "mainstreamed" into "long-range sectoral planning within local government" (p. 14). He notes that "adaptation planning and implementation varies greatly across municipal agencies" and is "highly uneven" (2015, p. 14). Aylett reiterates his 2013 findings, emphasizing that "internal institutional networks of governance are inextricably linked to efforts to address a problem like adaptation, which does not fit neatly into individual silos" (2015, p. 4). He defines integrative governance as involving local municipal stakeholders across multiple government levels and sectors, including governmental, community groups, and the private sector (Aylett, 2015).

However, Aylett's 2015 findings show that environmental and planning departments are primarily "engaged with adaptation planning," while "critical local government agencies...are still largely at the margins of urban adaptation efforts" (p. 14). To combat this, he suggests that "the most effective tactics...focus on building collaborative networks between multiple municipal agencies" (Aylett, 2015, p. 14)

Burch emphasized the critical importance of long-range plans for the success of achieving climate change goals (2010). She further explained that a "cohesive" long-range plan "might help to strategically unite the activities of all departments... and embed common goals in day-to-day activities of municipal staff" (2010, p. 296). Additionally, "strong leadership may both drive innovation and assure technical staff that climate change priorities will not suddenly evaporate in the face of other pressing concerns" and should also involve regular and inclusive public involvement (2010, p. 296). Reinforced in 2018, Chu emphasizes that policy integration of climate adaptation "is neither a 'top-down' nor 'bottom-up' process, but instead should be considered as an interaction between the municipality and the community" (pp. 1777 – 1778).

The examples from Aylett, Burch, and Chu support the importance of policy integration and integrative governance by illustrating how effective integration relies on breaking down departmental silos, mainstreaming and prioritizing into long-range planning, and fostering collaborative networks. These insights collectively demonstrate that policy integration and integrative governance within comprehensive planning is essential for creating effective, coordinated, and sustainable governance frameworks.

2.1.4 Indicators

To break down the general question, indicators to understand integrative governance from Eichhorn et al (2021) are used (see Figure 1). Eichhorn et al (2021) used these aspects to understand the policy integration of urban infill development and climate adaptation. The study's focus was on "how governance structures changed and adapted in terms of organisation, planning procedures, actors, and participation" (p. 2238). They originally identified three: organization, instruments, and interactions. These three aspects were identified as "aspects of

urban governance that mattered most in the context of climate policies and densification” (p. 2238) from theoretical discussion. After conducting interviews, they were able to further subdivide these aspects into six more indicators, as displayed in Figure 1. The first three aspects identified by Eichhorn et al (2021) are the premise of the three sub-questions. The six other subdivided indicators will be used to break down these sub-questions further within the interviews.

The subdivision of the *organization* into internal and external is to help clearly define what are the influences of the administration itself or the influences of the knowledge from external stakeholders (Eichhorn et al, 2021). *Instruments* were subdivided into analytical tools and policy and planning instruments. Analytical tools are to identify the instruments used that are technical “to measure, map, and assess the development plans” (p. 2243), whereas the policy and planning instruments are “to support synergetic implementation of policy fields” (p. 2243). Examples of these policy and planning instruments can be diverse. Some examples from Eichhorn et al are: climate databases; strengths weaknesses, opportunities, and threats (SWOT) analysis; content-thematic frameworks; financial incentives (2021, p. 2245). Finally, *interaction* was subdivided into communication and participation. Communication looks at how internal and external stakeholder knowledge is communicated and incorporated into the development project for both policy goals. Participation looks at how internal and external stakeholders are directly involved in the process. Eichhorn et al. often refer to communication as “raising awareness of stakeholders” (p. 2246). This could look like notifying people that may be affected by planning measures; maps and results of analysis used as support for reasoning of plans. Communication and participation summarize the interaction between the internal and external stakeholders (Eichhorn et al, 2021).

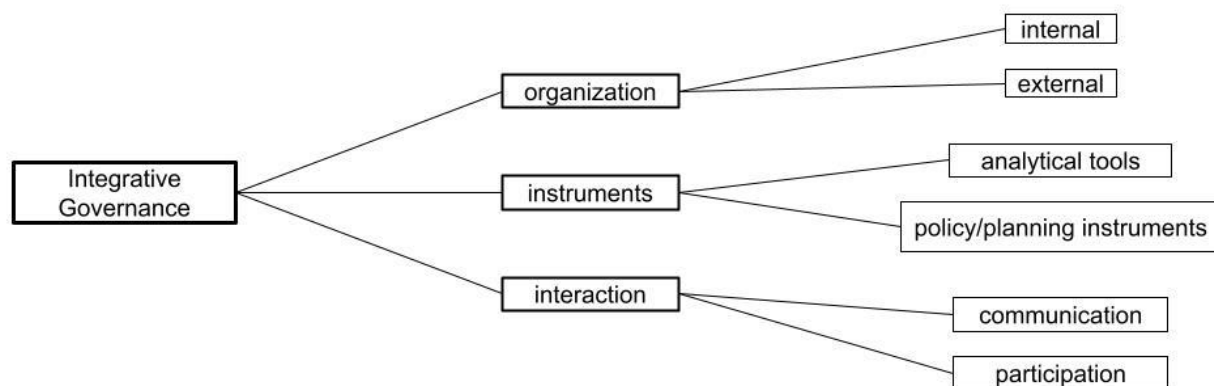


Figure 1: Operationalization of sub-questions based on indicators from Eichhorn et al, 2021.

3 Methodology

3.1 Research Strategy

This research has been conducted through qualitative methods. Qualitative methods are necessary for this thesis because the data collected must reflect the perspectives of the stakeholders involved in the planning process (Silverman, 2014). With a combination of qualitative methods, data collection will give me access to the “development, implementation, and evaluation of public policy” (Silverman, 2014, p. 141).

3.2 Case Study Approach

The main qualitative approach selected to perform this research was a case study. Analysing multiple governmental levels within a state boundary allows for a comparative analysis between different local and regional municipalities within the same region of the United States. The ability to compare these governmental levels provides multiple sources of information that highlight patterns and local differences within the region. Additionally, some external stakeholders were analyzed to understand the relationship between local and regional governments, as well as third-party organizations which might influence local and regional policy within the specified region.

Due to practical limitations, it is difficult to get a sample size that is representative of the United States and its cities. Therefore, all territories within this study were selected within the state boundaries of Maryland. Furthermore, the state of Maryland does have significant climate vulnerability, due to its proximity to the rising ocean⁸ and vulnerable environments such as the largest estuary in the country, the Chesapeake Bay⁹, making climate adaptation necessary within the planning field. Additionally, there is no empirical evidence coming from the state of Maryland regarding CPI, therefore making it the selected territory for the case study.

The state of Maryland is already somewhat of a climate-conscious state¹⁰. Therefore, the baseline for the regional municipalities is already strong. Because of the state regulation requiring all cities and counties to produce an updated comprehensive plan every ten years, these regional municipalities can follow their own development and change that often provides continuity over the years as governments and administrations change¹¹. Even still there is a lot of political influence over what is achieved, but in the cities studied here, most go beyond the basic requirements mandated by the state. Selecting Maryland as the case study represents a state with

⁸ University of Maryland Extension, The Effects of Climate Change in Maryland, <https://extension.umd.edu/resource/effects-climate-change-maryland>, Retrieved Dec 7, 2023

⁹ Maryland Department of the Environment, Our Treasured Ecosystem, <https://mde.maryland.gov/programs/water/TMDL/TMDLImplementation/Pages/what-is-the-bay.aspx>, Retrieved Dec 7, 2023

¹⁰ The Office of Governor Wes Moore, <https://governor.maryland.gov/news/press/pages/governor-moore-announces-90-million-to-support-mooremiller-administration%E2%80%99s-climate-agenda.aspx#:~:text=The%20Moore%20Miller%20Administration's%20FY2025%20budget%20proposal%20includes%20more%20than,%E2%80%8B%25%20clean%20energy%20by%202035.,> Retrieved July 1, 2024

¹¹ Maryland Department of Planning, <https://planning.maryland.gov/Pages/OurWork/compplans/ten-year.aspx>, Retrieved July 1, 2024

a good foundation for inclusion of both climate adaptation and economic development topics compared to other states which may be more ahead or behind in these sorts of topics.

3.2.1 Territory Selection

The initial intention was to select multiple city governments and their regional governments to accurately depict the diverse sizes. To do so uniformly, specific criteria are used to identify three case studies within three different scales: large, medium, and small. These scales are necessary to understand the differences in which larger cities might address integration compared to smaller cities (see table 2). Once those cities were identified, their regional governments (county) would also be analyzed to get a full understanding of the context. However, there was extreme difficulty in getting responses for interviews, therefore only one regional government was analyzed. To provide further context, the state government's planning department was interviewed, and a third-party organization was also analysed as they worked very closely with a city government and external region.

Maryland is found in the mid-Atlantic region of the East Coast, USA, right beside Washington, DC, the nation's capital (figure 2). For future research, this study can be replicated in other states to get a more representative research sample of the entire country of the USA.



Figure 2: Map of the Mid-Atlantic States¹²

To identify the different scales, the criteria are shown below in Table 2.

Table 2: Scales of city sizes based on population in 2020¹³

¹² Mid-Atlantic (United States, <https://www.worldatlas.com/geography/mid-atlantic.html>, Retrieved Dec 7, 2023

Scales	Population	Characteristics
Large City	>110,000	Urban
Medium City	10,000 to 110,000	Peri-Urban
Small City	< 10,000	Suburban and/or Rural

Small-sized cities are less than 10,000 people and large cities are more than 110,000 people. Medium cities are between 10,000 and 100,000 people. These sizes are based on all the represented cities in the state of Maryland, as there is some drastic variation between the population sizes. When listing the largest cities in this state by population, Baltimore City is the largest by a huge margin¹⁴, clearly representing the unique distinction of a large city by comparison. The following cities decrease in more similar increments, making it easier to divide into the medium and small scales. Therefore, these divisions were made to clarify those distinctions. The small cities are characterized as “suburban and/or rural” to show they are an area with slower urbanization and development. The medium cities are characterized as peri-urban to represent the current or potential transition from rural to suburban to urban areas. The large city is characterized as urban to represent that it is an urban hub.

Based on this criteria, the selected cities are shown in Table 3. The following table lists external stakeholders and their population coverage. Being that the Maryland Coastal Bay Program (MDCBP) is a non-profit organization, the population is listed of the territory the program covers, which is along the eastern shore, covering the 9 counties that include the coastal bay watershed of five bays: Newport Bay, Assawoman Bay, Chincoteague Bay, Isle of Wight Bay, and Sinepuxent Bay¹⁵.

Table 3: Selected cities and their population as of 2020.

Large City	Population	Medium City	Population	Small City	Population
Baltimore ¹⁶	585,708	Frederick ¹⁷	78,171	Ocean City ¹⁸	6,844
-	-	Annapolis ¹⁹	40,812	-	-

¹³ US Census Data, <https://www.census.gov/data/tables/2023/dec/2020-census-demographic-profile.html>, Retrieved Nov 28, 2023

¹⁴ Maryland Cities by Population, https://www.maryland-demographics.com/cities_by_population, Retrieved Nov 28, 2023

¹⁵ Maryland Coastal Bays Program, <https://mdcoastalbays.org/the-coastal-bays/>, Retrieved July 1, 2024

¹⁶ US Census Quick Facts, <https://www.census.gov/quickfacts/fact/table/baltimorecitymaryland/PST045222>, Retrieved Nov 28, 2023

¹⁷ US Census Quick Facts, <https://www.census.gov/quickfacts/fact/table/frederickcitymaryland/PST045222>, Retrieved Nov 28, 2023

¹⁸ US Census Quick Facts, <https://www.census.gov/quickfacts/fact/table/oceancitytownmaryland/PST045223>, Retrieved April 20th, 2024

¹⁹ US Census Quick Facts, <https://www.census.gov/quickfacts/fact/table/annapoliscitymaryland/PST045223>, Retrieved April 20th, 2024

Table 4: Selected external stakeholders and their related populations.

External Stakeholders	Population Coverage
Maryland State Planning Department	6.1 million ²⁰
Frederick County	271,710 people ²¹
Maryland Coastal Bay Program	456,815 people (Maryland Department of Planning, 2021)

The selection of cities is also spaced across the state in a way that it has some elements of regional representation. For example, Frederick City and its county is found in the western region of the state, characterized by the Appalachian Mountains. Ocean City is representative of the coastal and rural eastern shore of the state stuck between the Chesapeake Bay and the Atlantic Ocean, along with the external stakeholder, MDCBP, which encompasses the upper and lower counties of the eastern shore (Maryland Department of Planning, 2021). Annapolis is located more southern, characterized by the tributaries of the Chesapeake Bay, and located along the Severn River. Finally, Baltimore is located centrally, with the Patapsco River at its core. For geographical reference, see the map in figure 3 below. To understand the context and background of all selected territories, please see Annex 4.

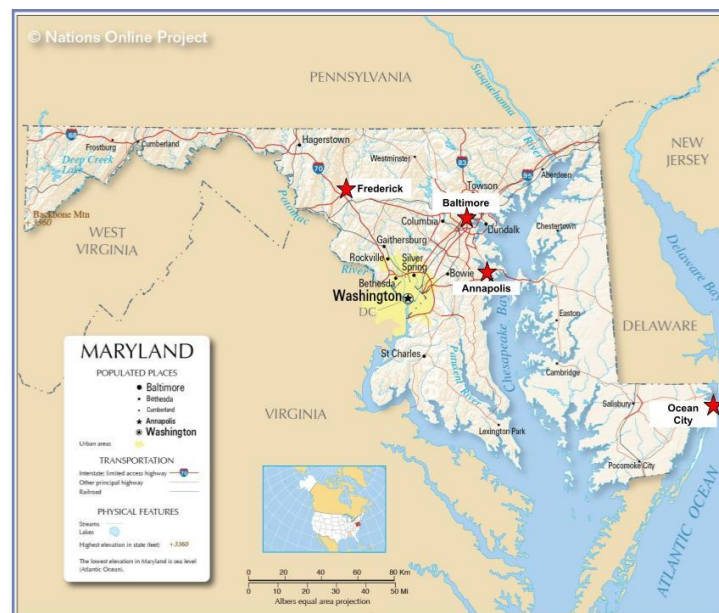


Figure 3: Map of cities in Maryland²² (with minor edits to make case study selection stand out).

²⁰ Maryland: 2020 Census, <https://www.census.gov/library/stories/state-by-state/maryland-population-change-between-census-decade.html>, Retrieved June 24, 2024

²¹ US Census Quick Facts, <https://www.census.gov/quickfacts/fact/table/frederickcountymaryland/BPS030222>, Retrieved June 24, 2024

²² Maryland Map, https://www.nationsonline.org/oneworld/map/USA/maryland_map.htm, Retrieved Dec 4, 2023

3.3 Data Collection

Data collection occurred through two different approaches: semi-structured interviews and document analysis. This combined approach of qualitative methods will provide a full picture of “observable elements of a physical environment...observations of what people do in those environments, and records of what people say about them” (Silverman, 2014, p. 141). Due to challenges in securing enough interviews within the allocated timeframe, the data collection process faced constraints. To address this limitation and ensure the robustness of the study, additional emphasis was placed on the analysis of policy documents pertaining to the research topic. While acknowledging the inherent differences between interview-based data and document analysis, this approach allowed for a comprehensive exploration of the policy landscape surrounding the research area, enriching the depth of analysis, and contributing to the overall rigor of the study.

3.3.1 Semi-Structured Interviews

To collect in-depth perceptions from relevant stakeholders on the organization, instruments, and interaction of long-term planning within cities, semi-structured interviews were conducted. In contrast to informal or formal interviews, semi-structured interviews allow for natural conversation while also focusing the conversation to identify relevant themes (Silverman, 2014). Open-ended questions were pre-determined to guide the conversation based on these thematic trends, but the nature of the questions will happen in a natural conversational way (Silverman, 2014). In the case of this study, the interview will be guided by the three indicators of CPI identified by Eichhorn et al (2021) (see figure 1), as this will identify answers to the sub-questions. For more on detailed interview questions and protocol, see Annex 1.

There are three identified “sectors” that were attempted to be represented in expert interviews and within policy documents. These sectors are: (1) planning; (2) economic development; (3) sustainability and/or resilience. See the flexible definitions of these sectors in Table 4. These definitions are considered flexible, as they may slightly vary from city to city, but they should generally fit the mould. However, due to difficulty securing interviews, all three sectors were not represented in the interviews, however it was used as a guideline on who to contact.

Sector 1, “planning”, was chosen because this is the office or department that typically integrates other offices into the larger city plans, such as comprehensive master plans. It is this department that will execute the integration of both policy goals. Sector 2, “economic development”, is the department or office which oversees the execution of economic development and growth. They will have individual goals they wish to see completed within comprehensive planning. Sector 3, “sustainability and/or resilience” was chosen because, in the USA, climate adaptation goals typically fall under a department, office, or initiative with this form of title. This sector will often be integrated to contribute to the planning department’s comprehensive planning to achieve certain climate adaptation goals.

Table 5: Identified sectors and their flexible definitions.

Sector	Flexible Definition
Planning	The department or office involved in the long-term spatial planning of the city, ranging from comprehensive master plans to transportation plans, development plans, infrastructure plans, and more.
Economic Development	The department or office involved in the growth and revenue of the city.
Sustainability and/or Resilience	The department, office, or initiative involved in the sustainability and resilience of a city.

As mentioned above, there was difficulty in receiving responses for these interviews, so while every sector is represented evenly throughout the overall data, they are not necessarily represented in each territory where interviews were conducted.

Furthermore, the data collection allowed for “snowballing,” meaning should something come up in an interview that indicates there should be an interview with someone else, there is the ability to do so (Parker et al., 2019). Snowballing is often used in qualitative research, characterized by networking and referrals from initial research participants (Parker et al., 2019). This method allows for an increasing amount of participants to reach the point of saturation, which means no new information is being discovered (Parker et al., 2019). This allowance was valuable due to the limitation finding interviews. Snowballing allowed for a wider range of stakeholders that were reached out to provide insights through interviews.

During the study, two significant factors influenced the trajectory of the research. Firstly, the challenge of limited responses to interview requests necessitated a shift in the data collection strategy towards a heavier reliance on the analysis of policy documents, as detailed in the methodology section. Secondly, the investigation uncovered a notable interdependency between municipalities and higher-level governmental entities, as well as occasional involvement of external stakeholders such as non-profit organizations in the formulation and implementation of planning policies.

To address this newfound aspect of intergovernmental relations, additional interviews were conducted with key stakeholders identified through initial engagements with municipal authorities. Specifically, interviews were undertaken with the planning departments of one regional government entity strongly associated with a city, the State of Maryland's planning department, and a relevant non-profit organization exerting influence over planning policy within a specific region of the state. These supplementary interviews were facilitated through a snowballing effect initiated by the initial interviews with municipalities.

Below is a list of all interviews conducted, with a total of eleven expert interviews (table 5). Due to constraints in time and resources, the scope of the study was limited to these selected entities.

Table 6: List of Interviews and their codes that will be used as a reference throughout the rest of this thesis.

Stakeholder	Type	Position	Date, 2024	Code
Annapolis	City Gov	Economic Development, Manager	27 Mar	A01
Baltimore	City Gov	Business & Neighbourhood Development, Managing Director	31 Jan	B01
Baltimore	City Gov	City Planning, Assistant Director - Retired	15 Feb	B02
Frederick	City Gov	Sustainability, Manager	22 Jan	F01
Frederick	City Gov	Economic Development, Director	31 Jan	F02
Frederick	City Gov	Community Planning and Urban Design, Division Manager	8 Mar	F03
Ocean City	City Gov	Planning and Community Development, Planner	14 Feb	OC01
Ocean City	City Gov	Planning and Community Development, Environmental Planner	14 Feb	OC02
Frederick County	County Gov	Comprehensive Planning, Environmental Planner - Retried	10 Mar	FC01
Maryland State Planning	State Gov	Maryland Department of Planning, Resource Conservation Planner	26 Mar	MS01
Maryland Coastal Bay Program	Non-Profit	Maryland Coastal Bays Program, Executive Director	1 Apr	CB01

3.3.2 Document Analysis

The policy documents analyzed are comprehensive documents that have a holistic representation of the city's most recent planning policy. Based on the requirements by the State of Maryland, each city and regional planning jurisdiction must provide a comprehensive planning document every ten years to reflect the current state and long-term plan of the jurisdiction²³. These plans are not only reviewed by the State of Maryland but also required to be public information and accessible online²⁴. Therefore, each jurisdiction's comprehensive plan was analyzed to understand their current state and long-term planning policies. Additionally, policy documents from external stakeholders were analyzed to add further context. However, the State of Maryland does not produce a comprehensive plan, therefore it does not have a corresponding policy document to which it was analyzed. To get a full understanding of the background and context of the policy documents, please refer to Annex 5.

Policy document analysis is important because it shows how a city or jurisdiction wants to represent themselves, not only to the state government, but also to the public. It is the best version of themselves and shows what they want to achieve but may not be representative of

²³ Maryland Department of Planning, <https://planning.maryland.gov/Pages/OurWork/compplans/ten-year.aspx>, Retrieved July 1, 2024

²⁴ Maryland Department of Planning, <https://planning.maryland.gov/Pages/OurWork/compplans/citizenparticipation.aspx>, Retrieved July 1, 2024

what is occurring in real life. In summary, cities of Annapolis, Baltimore, Frederick, and Ocean City had their most recent, published comprehensive plan selected for analysis (see table 6). However, due to Baltimore's most recent comprehensive plan being somewhat outdated, two additional documents that are more recent were selected complement the older document with additional, up-to-date information from their economic development sector and their sustainability sector (see table 6). Additionally, through the "snowball" strategy during interviews, Frederick County and the Maryland Coastal Bay Program (MDCBP) were identified as important external stakeholders that would provide helpful context, to Frederick City and Ocean City, respectively. For MDCBP, two documents were analyzed to represent both the economic development and sustainability sectors, which provided balance with all the planning sector's comprehensive plans from other territories.

Table 7: Policy Documents and their codes that will be used as a reference throughout the rest of the thesis.

Stakeholder	Sector	Doc Title	Link	Code
City of Annapolis	Planning	Comprehensive Plan: Annapolis Ahead (2023 DRAFT)	https://www.annapolis.gov/DocumentCenter/View/28852/Annapolis-Ahead-2040-December-2023-Update	ACP01
City of Baltimore	Planning	Comprehensive Master Plan (2006)	https://www.baltimorecity.gov/sites/default/files/070909_CMP_fullplan.pdf	BCP01
City of Baltimore	Economic Devt.	Baltimore Together: Economic Development Strategy (2022)	https://renewbaltimore.org/wp-content/uploads/Baltimore-Together-Final-Report-11122.pdf	BCP02
City of Baltimore	Sustainability/ Resilience	Sustainability Plan (2019)	https://www.baltimoresustainability.org/wp-content/uploads/2021/04/SustainabilityPlan_03-02-20-Compressed.pdf	BCP03
City of Frederick	Planning	Comprehensive Plan (2020)	https://www.cityoffrederickmd.gov/DocumentCenter/View/18902/2020-Comprehensive-Plan-Adopted	FCP01
Frederick County	Planning	Comprehensive Plan: Liveable Frederick (2019)	https://www.frederickcountymd.gov/DocumentCenter/View/319126/Livable-Frederick-Master-Plan---Adopted-Plan?bidId=	ES01
Town of Ocean City	Planning	Comprehensive Plan (2017)	https://oceancitymd.gov/oc/departments/planning-community-development/comprehensive-plan/	OCCP01
Maryland	Sustainability/	Our Path	https://mdcoastalbays.org/app/up	ES02

Coastal Bay's Program	Resilience	Forward: Comprehensive Conservation Management Plan (2015)	loads/2020/05/2015-comprehensive-conservation-and-management-plan.pdf	
Maryland Coastal Bay's Program	Economic Devt	Economic Value of MD Coastal Bays Watershed – Report (2018)	(University of Delaware, Water Resources Center, 2018)	ES03

3.4 Data Analysis

The semi-structured interviews have been transcribed in full. Then both interviews and policy documents were coded for thematic analysis. First, open coding was conducted to do a line-by-line assessment followed up by focused coding, which compared results from open coding to synthesize information and construct thematic categories for the data (Silverman, 2014).

The three aspects (organization, instruments, and interaction), and the six indicators (internal, external, analytical tools, policy instruments, communication, and participation) from Eichhorn et al (2021), were used as initial code for the open coding step and further categorized through themes in focused coding (see table 7).

The codes identified through deductive reasoning were: climate adaptation; economic development; instruments, subdivided into the indicators of analytical tools and policy planning tools; interaction, subdivided into the indicators of communication and participation; and organization, subdivided into the indicators of external and internal. This was to outline the theoretical framework and ensure that the question and sub-question were answered. However, throughout the process, more codes were identified through inductive reasoning. To see the breakdown of all the codes identified through both deductive and inductive reasoning, please see tables 7 and 8 below.

Table 8: Codes used in Data Analysis shaped by Theoretical Framework (Deductive Reasoning).

Code	Definition
Organization: External	Any mention of external organization/exchange
Organization: Internal	Any mention of internal organization/Exchange
Instruments: Analytical Tools	Any mention of analytical tools such as studies, monitoring initiatives, or analyses of a region.
Instruments: Policy and Planning	Any mention of policy or planning strategy, initiative, program, or approach.
Interaction: Communication	Any mention of interactions involving communication.
Interaction: Participation	Any mention of interactions involving participation.
Climate Adaptation (CA)	Any mention of climate adaptation
Economic Development (ED)	Any mention of economic development

After identifying the key concepts for my research questions, some reoccurring indicators came up throughout the analysis. These were then identified as new codes used throughout the process. For example, both climate adaptation and economic development had to be further subdivided into common themes throughout all the documents. This was because when analysing the policy documents, specific terms like “climate adaptation” or “economic development” was not always used. Instead, themes related to these concepts were mentioned. Therefore, common themes were identified and highlighted across all the policy documents to understand the types of climate adaptation and economic development being addressed and prioritized. Furthermore, some important external stakeholders were identified to bring attention to their unique relationships. For example: citizens, residents, and communities of the region were coded as “community;” public private partnerships were coded as “PPP;” and any relationship with external governments was coded as “regional/state/federal partnerships.”

Table 9: Codes Identified through Analysis (Inductive Reasoning).

Code	Definition
CA: Disaster	Highlights natural disasters caused by climate change
CA: Energy	Highlights renewable and sustainable energy efforts.
CA: Environmental Quality	Highlights the quality of natural ecosystems for both humans and animals.
CA: Growth	Highlights approaches to handling growth in a sustainable manner.
CA: Public Open Space	Highlights discussions around public, natural, open, space like parks and natural preservations.
CA: Quality of Life	Quality of life that relates to climate change and sustainability.
CA: Resiliency	Resiliency that is specifically mentioned in relation to climate change.
CA: Conservation	Highlights efforts for restoration and preservation of natural spaces.
CA: Sustainability	Discussing general topics within sustainability.
CA: Transportation	Highlights alternative transport that is more sustainable and unrelated to automobile transportation.
CA: Tree Canopy	Highlights efforts to incorporate more trees into a region.
CA: Waste	Highlights sustainable waste management, specifically related to plastic and recycling.
CA: Water	Highlights water resources, which became a major topic for these regions.
Community	Discussions around community, residents, citizens, and their involvement in the comprehensive planning process.
Compromise/Balance	Highlights when compromise of balance between climate adaptation and economic development has been reached.
Conflict	Highlights when there is conflict between two ideas.
ED: Business	Highlights business community, such as retail, restaurants, and entertainment.

ED: Economic Development	Discusses general economic development topics.
ED: Growth	Highlights topics of growth through the lens of economics and finances.
ED: Housing	Highlights discussions around housing.
ED: Industry	Highlights discussions around industry, such as product manufacturing, technology, and pharmaceutical industries.
ED: Infrastructure	Highlights discussions around urban and rural infrastructure.
ED: Quality of Life	Quality of life through the lens of economics and finances.
ED: Tourism	Highlights discussions around tourism and its relation to economic development.
ED: Transportation	Highlights anything related to automobile transportation.
ED: Workforce	Highlights discussions around workforce and labour.
ED: Zoning/Land Use	Highlights discussions around zoning and land use.
Funding	Highlights sources of funding
Intertwined Interests	Highlighting intertwined interests between stakeholders.
Political/Administration Influence	Highlighting any political administration influence on local/regional government choices.
PPP	Highlighting public private partnerships.
Regional/State/Federal Partnership	Highlighting higher-level government relationships and partnerships.

It is to be noted that Frederick County will sometimes be compared and analyzed along side the other cities as they have similar contexts and structures. However, the State of Maryland will not be compared as it is more of a supervisory level compared to smaller jurisdictions like counties and cities. Additionally, MDCBP is more of a third-party and cannot be compared or analyzed along side the cities. Therefore, the interviews of the State of Maryland and the interviews and policy documents of MDCBP will be analyzed as supplemental material to provide context to the smaller jurisdictions.

3.5 Trustworthiness and Validity

Qualitative research uses many techniques and procedures to improve the trustworthiness and validity of the research including but not limited to: triangulation, researcher reflexivity, and peer reviews (Creswell & Miller, 2000). This research employed all three procedures to strengthen the study's validity.

Triangulation, meaning to use multiple methods and data sources, helps decrease the researcher's bias to let go of any other possibilities and a truthful statement about a "social phenomenon can be made" (Mathison, 1988, p. 13) To incorporate triangulation into this thesis, interviews were conducted in combination with analysing policy documents which both were coded the same to correlate any consistent themes.

A researcher's positionality inevitably leads to some kind of bias (Male, 2016). Researcher reflexivity is where the researcher(s) “self-disclose” their biases that may shape their findings (Creswell & Miller, 2000). This disclosure should happen early on in the research process to acknowledge them from the beginning and bring awareness throughout the whole research process to self-regulate and minimize bias (Creswell & Miller, 2000) The researcher of this thesis was born and raised in the United States of America, specifically in the state of Maryland where in which this study is taking place. It is to be acknowledged that this case study was partially selected due to personal interest within this state. However, to minimize bias in the results of this research a rigorous and transparent methodology was implemented for collecting and analysing data.

4 Results

This chapter displays the results of the data collection and analysis of this thesis. The first section provides general results from the overall data while also highlighting one of the more unique cases. The following sections are separated by the indicators found in section 2.1. Evidence from interviews and policy documents will be presented through quotations and summaries (please see coding from section 3.3 for referencing). The interviews will be linked to the policy documents, either to reiterate or contradict information from the comprehensive plans. For more in-depth discussion, see section 5.

4.1 General Results

The analysis indicates that Maryland territories lack a foundational prioritization for climate adaptation in balance with economic development, leading to an overall deficiency in policy integration within official comprehensive plan. The study found that the territories examined exhibit poor integration primarily due to a lack of prioritization, organizational silos, and inadequate interaction between departments.

Figure 4 shows the various levels of prioritization given to climate adaptation and economic development within each territory. Annapolis, Frederick County, and Ocean City are the most balanced prioritization and Frederick City has the largest disparity between the two.

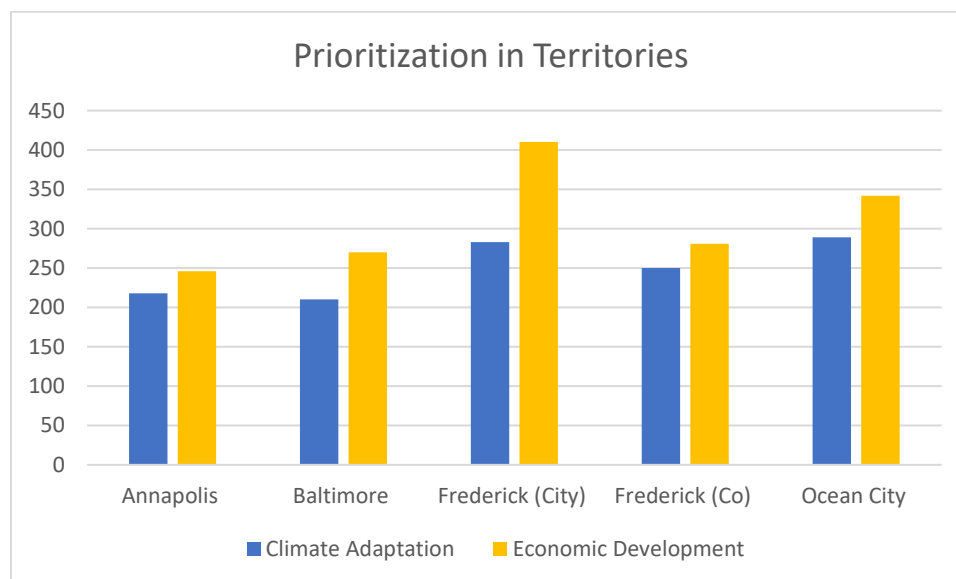


Figure 4: This bar graph depicts the various levels of priority given two topics of climate adaptation and economic development within each territory. This data is provided from both interviews and comprehensive plans through the amount of times “economic development” and “climate adaptation” codes occurred in the transcripts and policy document text (see annex 6).

Figure 5 represents how much integration occurred within each territory. Ocean City had the most significant integration, which correlates with its higher level of balanced priorities, also followed by Annapolis and Frederick County. Conversely, Frederick City had the most unbalanced prioritization, however it does have decent integration considering.

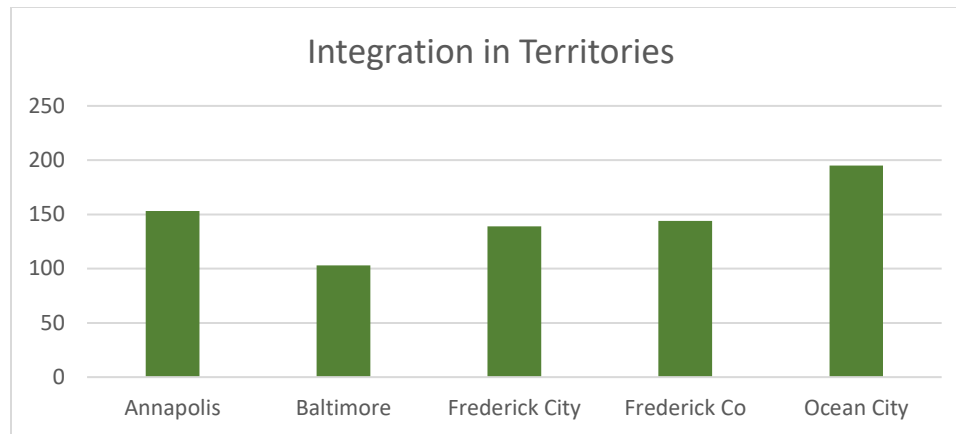


Figure 5: Bar graph depicting integration in each territory. This was done through a co-occurrence analysis of when economic development codes occurred simultaneously with climate adaptation codes.

While it is important to compare integration within each city, it is also necessary to provide that information within some context. Figure 6 below shows those levels of integration within the total amount that economic development and climate adaptation occurred, whether together or not. This figure shows a more detailed picture of the actual amount of integration that is occurring with these territories. While there is some integration occurring, there is not a significant amount occurring overall.

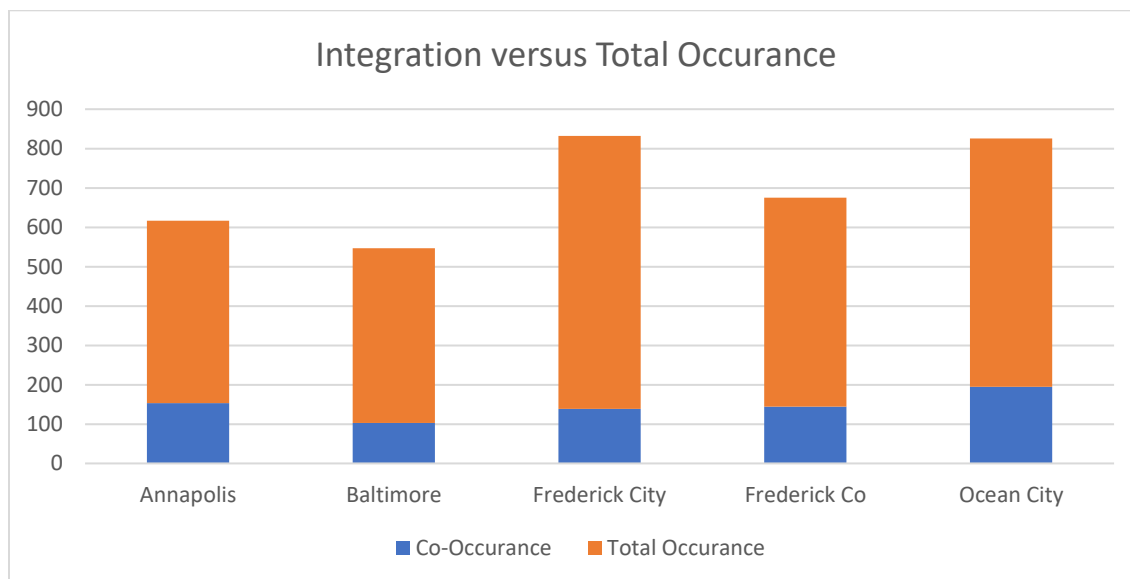


Figure 6: Bar graph depicting integration within each city compared to the total occurrence of both climate adaptation and economic development.

One of the more unique cases that stood out was Ocean City. Ocean City is the beach town destination for the residents of Maryland and other surrounding states (OCCP01). During the off-

season, the year-round population is around 7,000 people²⁵. However, in the summer season, there is estimated to be a peak of 230,000 people as vacationers and seasonal workers (OCCP01, p. 1 - 11), which puts a strain on their resources and natural environment. However, tourism accounts for most of the city's economy, making tourism a top priority. Due to this paradox, they are also forced to consider environmental quality and environmental conservation to protect the beach tourism of the area (OC02). Due to the economic dependence of healthy ecosystems and environments for beach tourists to enjoy, this caused Ocean City to start considering sustainability strategies long ago (OC02). Add growing pressures of hurricanes, natural disasters, and rising sea level stemming from climate change, climate adaptation has become a much more important topic (OC02).

One interviewee described the relationship between tourism and the environment in Ocean City as “*yin and yang*,” that one cannot survive without the other (OC01). The beautiful environment brings tourism to the city. The city then makes money from tourism, but to protect the reason people are visiting and enjoying themselves, they must spend that money on protecting the beautiful environment, so more tourism is attracted (OC01). This cyclical relationship reflects the reason why economic development issues relating to tourism are such a large part of their policy documents, while even still, climate adaptation and resiliency conversations are also considered, especially in regard to external stakeholders involved like the Maryland Coastal Bays Program (MDCBP) and the State of Maryland's Department of Natural Resources (OCCP01).

This idea of yin and yang is expanded even further because directly next door to the very developed Ocean City is the state and national parks on Assateague Island, which is almost completely untouched shoreline for environmental protection and conservation. This park garners a different type of tourism: eco-tourism (OC01). If visitors go to this park, there is significant regulations, no amenities, and those staying overnight are expected to camp in a tent (OC01). This is very contrasting to the neighbour, Ocean City, which boasts hotels along the shoreline, a boardwalk lined with food, games, and a Ferris wheel, ports to park all kinds of different boats, and amenities galore (OC01). This case is a good example of how prioritization can assist in the process of integration.

In general, each city showed more focus and integration of economic development and is consistent with general United States culture²⁶. Even still, climate adaptation is becoming a bigger topic within local planning discussions, and this is shown in comprehensive planning documents.

²⁵ US Census Quick Facts, <https://www.census.gov/quickfacts/fact/table/oceancitytownmaryland/PST045223>, Retrieved April 20, 2024

²⁶ US Economic Development Administration, <https://www.eda.gov/performance/key-definitions#:~:text=Economic%20Development%3A%20creates%20the%20conditions,trade%20valuable%20goods%20and%20services>, Nov 20, 2023

4.2 Organization

4.1.1 Internal Organization

The internal organizational structure of the governmental territories selected was analyzed and compared. While the structure varied between the territories, it reflected that the structure could affect the success of integration of economic development and climate adaptation into comprehensive planning. For example, if a government structure separates their focuses into separate departments, they often silo their ideas and have much less integration throughout. On the other hand, if they integrate the ideas under one department or higher level of the government structure, it is found that there is often more successful integration of the ideas. The following information in this sub-section will show the breakdown of each territory's internal organization.

Annapolis included the Division of Community and Economic Development (CEDD) under the Department of Planning and Zoning, providing an easy exchange of ideas and perspectives (A01). The CEDD is separated into two different offices: the Community Development Office and the Economic Development Office. The Community Development Office holds a lot of the housing programs, which include grant programs and financial incentives for affordable homes and community development (A01). For example, there is the Moderately Priced Dwelling Unit Program and the Community Development Block Grant Program, which is facilitated through the federal department of Housing and Urban Development (A01). In turn, The Economic Development Office focuses on the business community, such as business recruitment and retention, through issues such as zoning, parking, trash collections, and more (A01).

Interestingly, the economic development office was originally the Annapolis Development Corporation, technically a non-profit, quasi-governmental organization external and separated from the city government (A01). This changed many years ago and restructured the economic development focused projects under the planning department (A01). The interview with the co-manager from the Community and Economic Development Division said both these organizational structures presented pros and cons – benefits of a separate entity is there is more autonomy and independence, however, there isn't as much cohesion with the government, planning and zoning, and community development (A01). By being “*embedded*” within the planning and zoning department helps facilitate communication (A01). Additionally, Annapolis also places their Resilience and Sustainability Office underneath the highest office in the city government, at the mayor's level (ACP01).

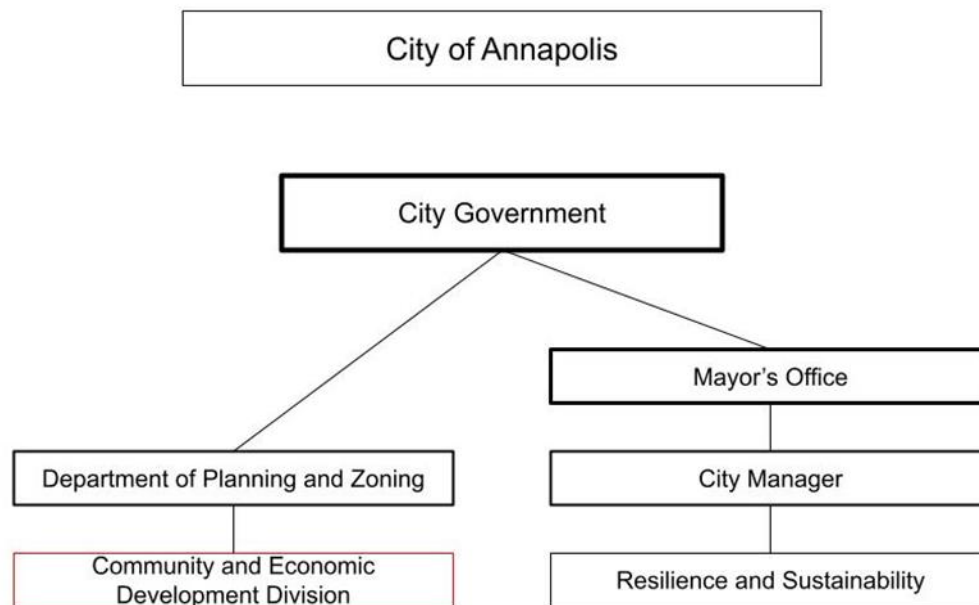


Figure 7: Organizational structure of the government of Annapolis. Red highlights indicate the department associated with the interview.

Baltimore city was similar in that they put the Office of Sustainability underneath the Department of Planning, but has the Baltimore Development Corporation, a non-profit, quasi-governmental organization, as their economic development department (B01). Ocean City had a similar Development Corporation make-up, but also had a separate tourism department due to the heavy reliance on tourism for the economy of the area. Additionally, they had the Department of Planning and Community Development but no individual sustainability office. However, the planning department includes environmental planners that focus on comprehensive and long-term planning for the environment specifically, which has a large emphasis on climate adaptation (OC02).

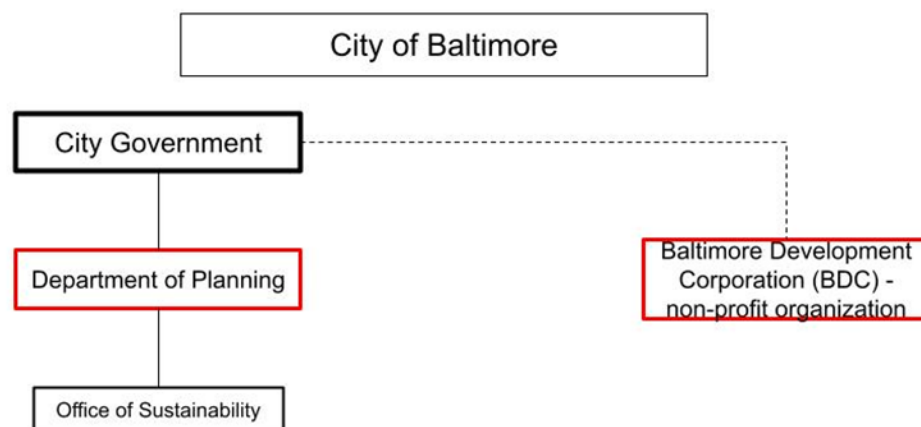


Figure 8: Organizational structure of the government in Baltimore City. Red highlights indicate the department associated with the interview.

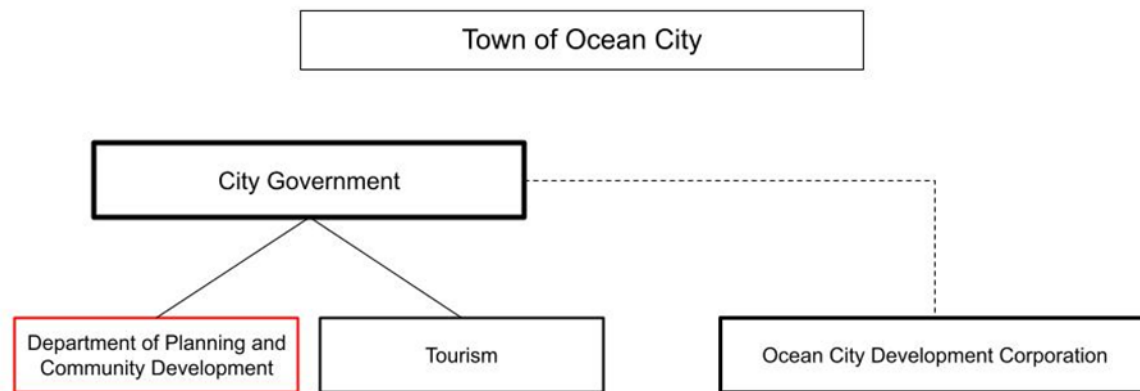


Figure 9: Organizational structure of the government in Ocean City. Red highlights indicate the department associated with the interview.

Frederick City was unique in that all three departments, planning, sustainability, and economic development had separate departments on the same level. In the planning department, there are two office divisions: Development Review Division and the Community Planning Comprehensive Planning Division (F03). The department of Economic Development has a small staff, and they tend to focus on individual projects and less of the long-term-planning outlook (F02) The Sustainability Office is the smallest of the three departments, with only two employees. The office was created in 2014 and started with only the manager working within the office, with the second employee being hired only within the last year (F01).

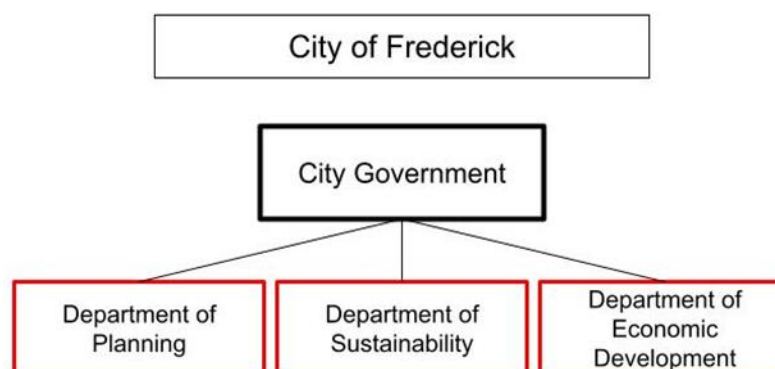


Figure 10: Organizational structure of the government in Frederick City. Red highlights indicate the department associated with the interview.

Frederick County has a similar governmental structure as the city. For example, all three sectors are individual departments found at the same level. The titles of the departments in the county government are: Department of Planning and Permitting, Department of Energy and Environment, and Division of Economic Opportunity. Overall, Frederick County government is significantly larger than the city, with far more departments, government levels, and overall staffing.

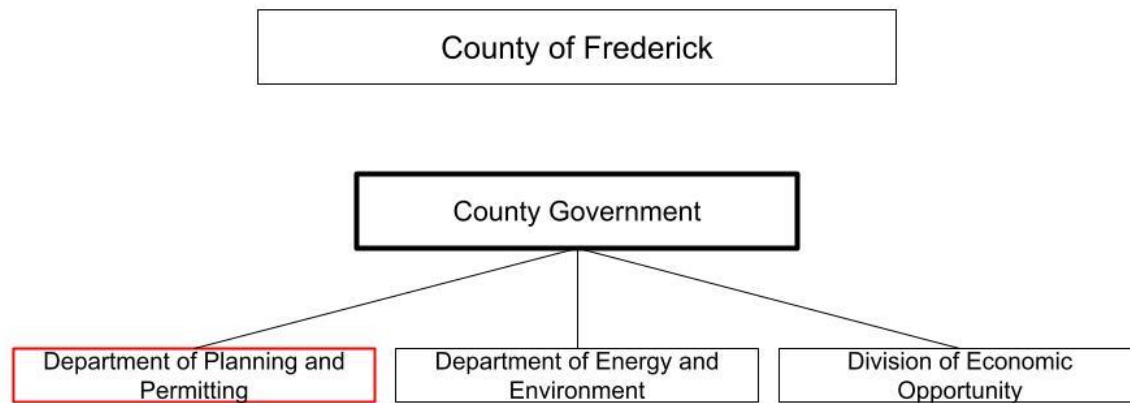


Figure 11: Organizational structure of the government of Frederick County. Red highlights indicate the department associated with the interview.

Internally, the State Government also has separate departments: Department of Planning and Zoning, Department of Natural Resources, and Department of Commerce. However, they have an additional Community and Economic Development Division underneath the Department of Planning and Zoning. In the interview with the state representative, they explained that other states do not have a state level planning department and Maryland is one of the only ones with a Department of Planning (MS01). By having a Department of Planning, there is more ability to facilitate things a higher level for the smaller jurisdictions, as the department “*is well placed to moderate, facilitate, and bring those groups together*” and prevent silos and makes the state more “*cohesive*” and integrated. (MS01).

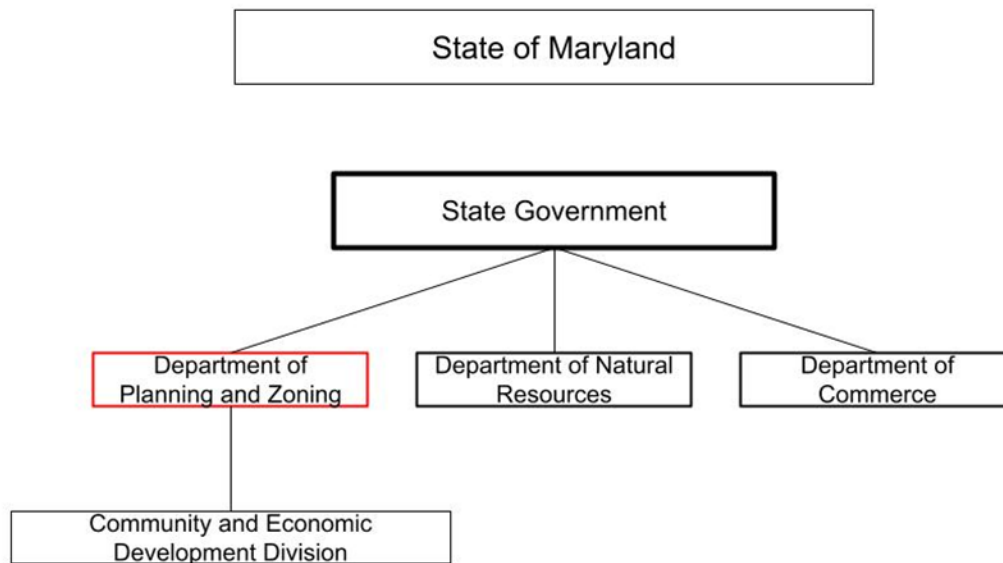


Figure 12: Organizational structure of the government of the State of Maryland. Red highlights indicate the department associated with the interview.

4.1.2 External Organization

All the territories analyzed had very robust external organization. In terms of integration of economic development and climate adaptation, it is important for territories to maintain strong external relationships, specifically with their citizens, larger government jurisdictions, and in some cases, third-party organizations. These external stakeholders can support or prevent integration through pressures like resources and funding like in cases with county governments or with the state government. Additionally, having citizen involvement, interest, and support can influence larger decisions due to the pressure they can put on elected officials and government administrations.

External Governments

The closest relationship is with larger jurisdictions such as the county government and the state government (MS01) (see figure 13). The state government mandates a lot of guidelines and basic level regulations that county and city governments must abide by, one of which being that each county and city must publish an updated comprehensive plan for the jurisdictions (MS01). However, when speaking with a state employee, they explain that the state has more of a facilitation role to help connect smaller jurisdictions to other resources like federal funding (MS01). An example that these regulations may not be followed very strictly is in the case of Baltimore City, which has had multiple cases where they have delayed releasing an updated comprehensive plan, making them fall far outside of the ten-year timeline (BCP01).

Annapolis has a strong relationship with the state government because it is the capital city of the state. Furthermore, it also houses an important naval base and academy, so it also receives attention from the federal government. Frederick City had the closest relationship with their

county government, as the city departments tend to rely on the county government for funding and labour (see figure 13). For example, the sustainability department representative explained that they only have two people in their department and rely heavily on the sustainability department in the county to help execute projects because they are short staffed and lack-funding (F01).

Ocean City has a lot of assistance from the state and national governments because of its extreme vulnerability along the Atlantic Ocean and is provided a lot of funding to protect the shoreline, specifically through studies and conservation efforts like the Dune Conservation Projects (OC02) (see figure 13). Additionally, it is bordered by a state and national park, Assateague, which is a completely undeveloped and protected beach. Moreover, there are many bays, rivers, and streams in the area that are very sensitive ecosystems, which have many conservation organizations that work with governments in the area to protect them, like the Maryland Coastal Bay Program.

Baltimore City had a close external relationship with the state government and within their comprehensive plan, it was evident that a lot of their sustainability, environmental protection, and climate adaptation strategies stemmed from baseline requirements from the state (BCP01, BCP03) (see figure 13). However, this may change in the next updated plan, as this was dated 2009. The sustainability department was created around the same time (B02) and released multiple plans to represent their approach to sustainability and climate adaptation (BCP03).

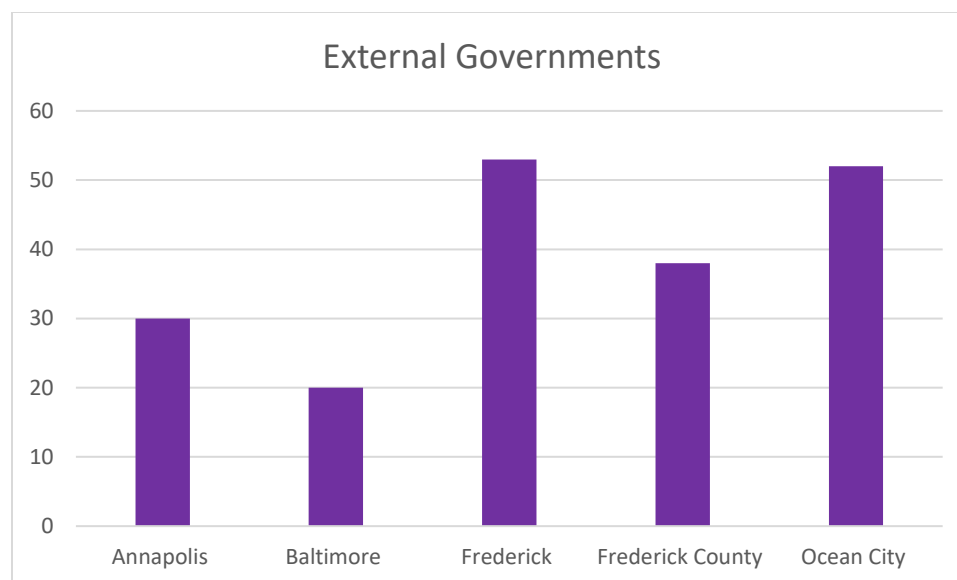


Figure 13: Bar graph depicting how often territories organize with external or higher-level governments such as county, state, or national governments. Data from both interviews and comprehensive plans were used to create this figure.

Citizens

Each city has a strong external relationship with the city residents. In all comprehensive plans, they discuss some form of education, outreach, and/or hearings that help inform the residents about the planning process but also allow them to include their personal input and opinions on drafts of the comprehensive plan (BCP01). Baltimore had the most resident involvement and community focus out of all the cities analyzed (see figure 14). However, the non-profit that focused on conservation in the east of the state, also had a very heavy emphasis on involving residents of the area in their conservation management plan (ES03).

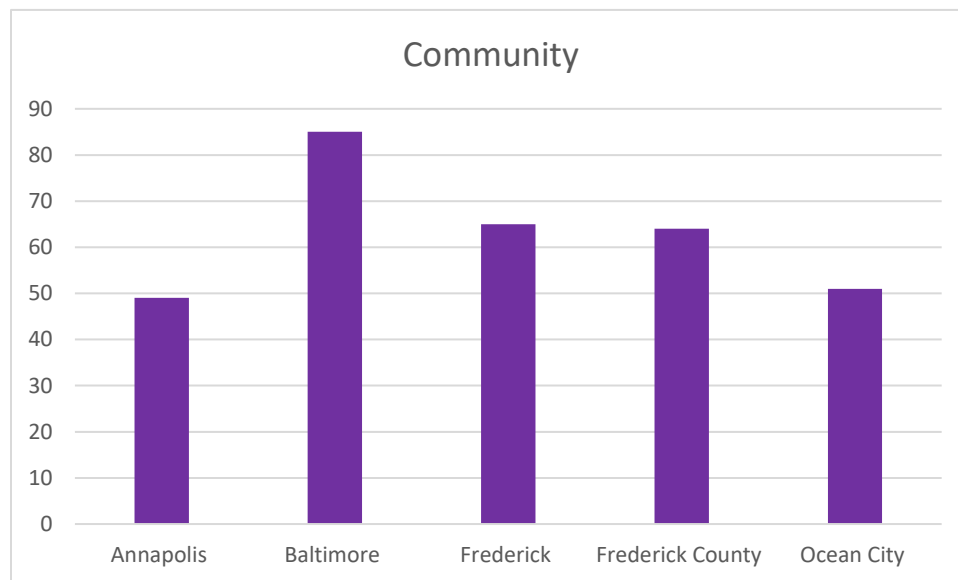


Figure 14: Bar graph depicting the emphasis placed on community engagement within a territory. Data from both interviews and comprehensive plans were used to create this figure.

4.3 Instruments

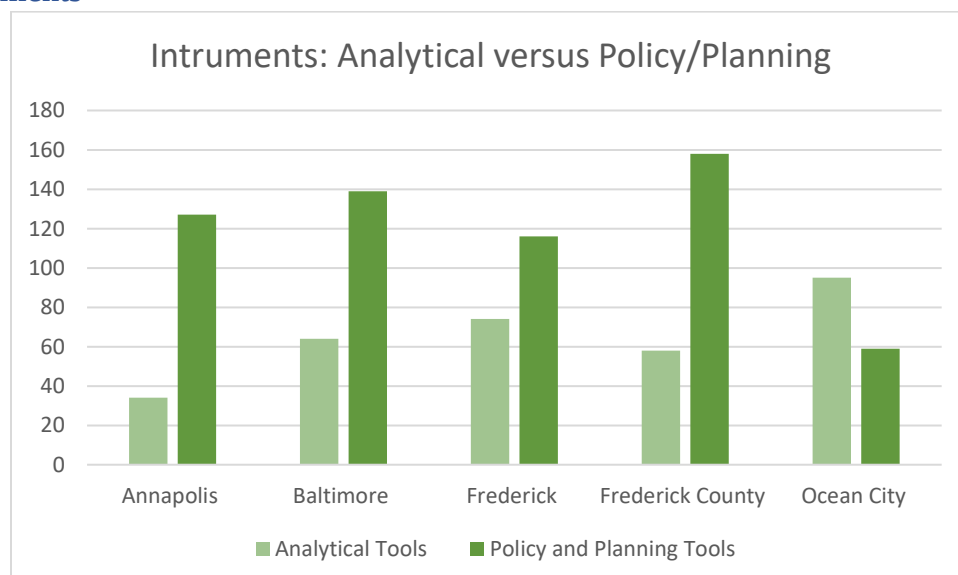


Figure 15: A bar graph comparing the types of instruments used within each territory.

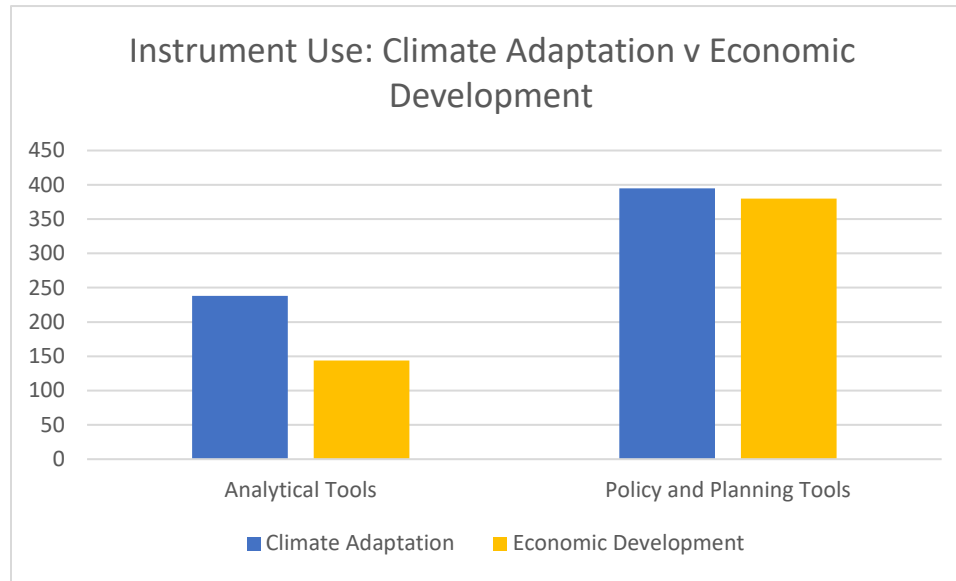


Figure 16: Bar graph comparing instruments used in relation to climate adaptation and economic development. This figure was created using a co-occurrence analysis between the different tools and climate adaptation and economic development topics.

4.2.1 Analytical Tools

Analytical tools were often used less than policy and planning tools in comprehensive plans (see figure 15 above). Typically, they were used in cases of identifying and understanding or to manage and monitor a certain state of something. Additionally, analytical tools are used in conjunction with topics of climate adaptation more than with topics of economic development (see figure 16 above).

Ocean City was a unique case where they used more analytical tools within their comprehensive plan than policy and planning tools, in contradiction to the other territories analyzed. Through interviews and studying the comprehensive plan, Ocean City's priority is to understand the current state of the natural environment, but also to monitor any changes (OC01, OC02, OCCP01). However, Ocean City does confirm that these analytical tools tend to focus more on climate adaptation themes than with economic development themes, although they did have some studies done that relate to tourism and the implications of that seasonal change in population growth might create, like infrastructure for traffic and water supply (OCCP01).

4.2.2 Policy and Planning Tools

Policy and planning tools were used significantly more than analytical tools in comprehensive plans (see figure 15 above). Given that comprehensive plans are inherently a type of planning and policy tool, this is unsurprising. Policy and planning tools tend to address both economic development and climate adaptation somewhat evenly (see figure 16 above).

A notable example of an integrated policy and planning tool used throughout all the territories is “designated sensitive areas” or a similar term. This is to specify certain areas of land use that will be specifically zoned for conservation to prevent development.

4.4 Interaction

Interaction through the concept of integrating climate adaptation alongside economic development can sometimes invoke conflict and compromise. Although cooperation and compromise between the two is becoming easier, conflict is the biggest issue when environmentalists go the “*purist*” route and want to get the environment back to as close as natural as possible (FC01, OC01). However, compromise is becoming far more predominant otherwise (A01, B01, B02, F01, F02, F03, OC2, MS01). Often sentiment from city employees is that climate adaptation should think “*less abstractly*” or be more realistic while economic development needs to think more long-term (B01). Below is a graph showing how the different territories use communication versus participation to interact (figure 17). This is discussed further in the next sections.

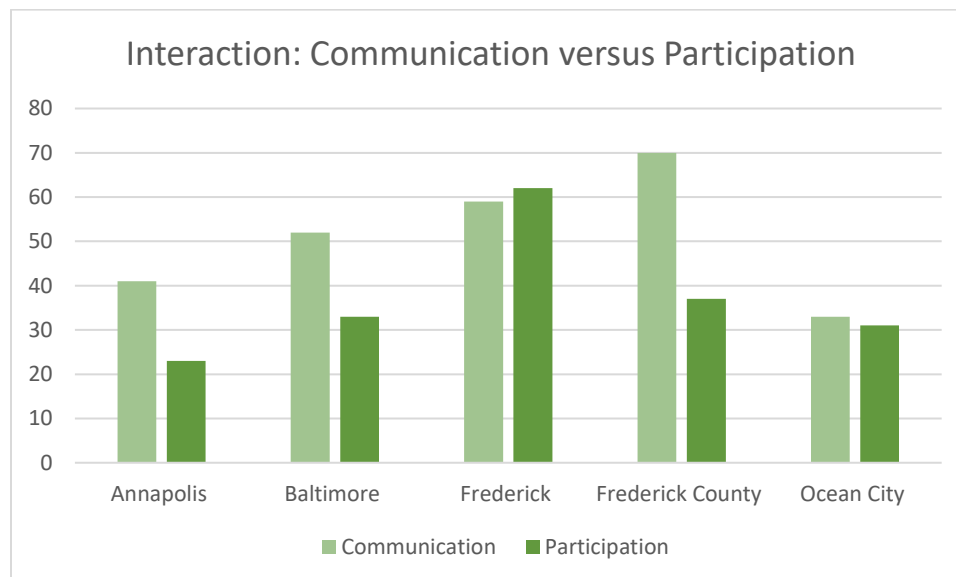


Figure 17: Bar graph comparing how often communication versus participation is used in each territory.

4.3.1 Communication

All cities tend to have more interaction based in communication (see figure 17 above). Communication existed between departments, across distinct levels of government and most prominently, with residents. The form of communication with the residents also was focused on education or input on comprehensive planning. Clear and effective communication, both internally and externally, helps facilitate integration of climate adaptation and economic development.

In the case of Annapolis, the economic department is expected to be the business’s advocate with the city government, or that they “*need to speak two languages: the language of business and the*

language of government” (A01). This aspect of the office needs to be able to inform the city about how a rule or regulation might impact the business community (A01). This leads the economic development office to do mainly external communication with external stakeholders like businesses but also internal communication within the city government. This is reiterated in the Frederick City Economic Development Office (F02).

The economic development office in Frederick City is mainly focused on individual projects or initiatives. One of their more successful initiatives that presents a significant level of external and internal communication was their project to incorporate more micro-breweries and distilleries to grow more attractive businesses for visitors and residents (F02). To achieve this, the economic development office needed to communicate with the planning department to make the zoning laws more flexible to allow these types of industries within the city limits (F02). With this change, it attracted a huge number of new businesses throughout the city, is a great attraction for tourism and residents, and is considered a great success for the department (F02).

The Planning Departments of each territory mostly interact through communication. For example, In Frederick City, their long-term planning requires some input from various other departments and other stakeholders, both internal and external (F03).

There is a consensus in all cities and stakeholder interviews that while there are sometimes challenges in finding balance, conflict is overcome through communication, collaboration, and most importantly, compromise from all sides (A01, B01, B02, F01, F02, F03, OC01, OC02, FC01, MS01, MCBP01). There was an understanding that there would be give-and-take in terms of the integration of economic development and climate adaptation (F01, B02, OC01, OC02, FC01). A unique idea from the Office of Economic Development in Annapolis suggests that city governments can seize the opportunity to merge two policy goals (A01). For instance, governments should view climate adaptation as a competitive advantage, such as becoming a hub for studying climate change and climate science (A01). Embracing business opportunities in this way could distinguish the city from others while addressing a critical issue (A01).

All cities and stakeholders throughout both interviews and comprehensive plans indicate a priority of communication with community residents. For example, in both the planning interview and the sustainability interview of Frederick City, they discussed the resident input and opinions that often drive specific priorities of the departments (F03, F01). Community desire for sustainability and climate adaptation is what keeps it on the radar for government representatives (F01).

Another notable interaction was involving political administration influence. In both the Maryland Department of Planning interview and the Frederick County Planning interview, it was discussed that elected positions in all levels of government can affect the planning process and outcome (MS01, FC01). The Maryland Department of Planning is run by a secretary appointed by the elected state governor, meaning the direction the planning department focuses on is election driven and changes with each state administration and changing the expectations and

scope of the planning department (MS01). Often priorities shift, in terms of growth, economic development, and sustainability in planning (MS01). Even terminology and programming names change along with government administrations (MS01).

This is reflected even at the local level, such as in Frederick County (FC01). Reaching compromises is often easier during the drafting of comprehensive plans, allowing for more ambitious sustainability goals and ideals. However, the application and implementation of these plans can differ significantly (FC01). In an interview with a representative from Frederick County, it was noted that more conflicts arise than are commonly acknowledged (FC01). The representative mentioned that economic interests often take precedence over conservation and landscape protection (FC01). They provided an example where the Frederick County Comprehensive Plan designated a preservation zone over a specific area. However, when it was time to implement this plan, an elected official chose to forgo preservation regulations to keep the area available for potential future development (FC01). While this decision is currently being contested by citizen groups, it illustrates the local administration's prioritization of development revenue over the preservation of sensitive natural areas (FC01).

4.3.2 Participation

There are some forms of participation specifically when working internally or across partnerships with larger jurisdictions or third parties. Similarly, participation, both internally and externally, helps facilitate better integration of climate adaptation and economic development goals.

Some examples of how the economic development office in Frederick used participatory forms of interaction in the past were Carroll Creek. Carroll Creek was a city-government wide project that was in response to severe flooding in the 1970s. The city government collaborated on this project to create a linear park and creek that addressed the flooding through engineering blue-green infrastructure while also adding public open space, pedestrian walkways, increasing tree canopy, new housing, a new open event space, and a large amount of new space for businesses (F02). Much of the project is currently complete, and it is an important landmark to the downtown city center and is considered a successful redevelopment project for the city (F02). The economic development department participated greatly in this process and continues to do so but attracting new businesses and helping along the final phase of the project (F02).

Uniquely, the Sustainability Department in Frederick City has a very mixed interaction of both communication and participation. Due to the office's small size, they are often consulted on many aspects within the city government to support the improvement of a project's sustainability, especially within comprehensive planning documents (F02). This is reconfirmed from the Sustainability Office website which states that the "sustainability team works with all departments and with the public for holistic project management"²⁷. However, the office does initiate individual projects of their own, such as reducing energy outputs and increasing tree

²⁷ Sustainability, <https://www.cityoffrederickmd.gov/891/Sustainability>, Retrieved June 18, 2024

canopy. The office still requires a lot of financial or labor-related assistance from other departments or the county government due to their limited resources (F02).

5 Discussion

The results indicate that none of the territories studied prioritize climate adaptation and economic development in a balanced manner. This imbalance, often influenced by external regional contexts, is the primary reason for the inadequate integration of these two crucial areas. While there is some degree of integration, it remains minimal overall, further hindered by organizational silos and insufficient communication with the community and other external stakeholders. In the upcoming section, these findings will be connected with those of earlier studies mentioned previously, evaluating the similarities and differences in outcomes.

5.1 General

As mentioned above, this study's results showed that due to a general lack of prioritization (and thus 'mainstreaming'), there was not a lot of integration at all. However, it was clear that climate adaptation is still an emerging topic and cities are learning how to incorporate those topics into their long-term planning, alongside their other priorities. These priorities vary from territory to territory depending on certain regional contexts. For example, Baltimore's comprehensive plan was framed through the lens of equitable economic development, to account for the city's historical challenges stemming from socio-economic discrimination (BCP01). Ocean City's comprehensive plan was framed through the lens of tourism, as this was not only most of the economy, but significantly affects infrastructure and facilities each summer with the major population influx during the summers (OCCP01). The different regional contexts and priorities caused the findings to be varied.

This is reaffirmed in Eichhorn et al. (2021). They found that there is no universally applicable procedure for integrating urban infill development with climate change adaptation and "results varied from case to case", (p. 2243) but instead, suggest the necessity of linking specific components based on the unique challenges and past experiences of each municipality. Additionally, Aylett (2015) also finds that the ways in which municipal agencies address integrative governance of climate adaptation are "highly uneven" (p 14), reiterating that external contexts can affect the policy integration within a city government. Aylett explains that while interest in climate adaptation integrative governance is increasing, it remains an emerging topic that is only starting to be integrated into long-range sectoral planning within local governments (2015).

5.2 Organization

This thesis found that internal cohesion increases integration across internal organizational structures. This was particularly correlated with cities who had significantly siloed internal departments, causing minimal interaction and exchange of ideas. A fitting example of this was in Frederick City, where their sustainability department, economic development department, and planning department existed separate from each other, resulting in the most substantial difference in priorities between climate adaptation and economic development (see figure 12). In contrast, Annapolis has their sustainability focus underneath the mayor's office, showing high priority and allowing those ideas to permeate into other departments (see figure 9). Furthermore, the office

relating to economic development was filed under the planning department, allowing for an easy exchange of topics (A01). Eichhorn et al. (2021) provides related results this finding. For example, they found that “cooperation between departments” improved integration.

A similar result came from Aylett (2013), as he identified that effective climate adaptation must incorporate innovative strategies that bridge departmental divisions to address the siloed nature of local government offices rooted in their distinct organizational cultures and technical practices. To overcome this, Aylett suggests communication, innovation, collaboration, and implementation of an open network structure (2013). Then again in 2015, Aylett reaffirms that internal institutional governance networks are fundamentally connected to addressing adaptation challenges, which do not align with individual silos.

Furthermore, interviewees from this study explained that other states without a state planning department or agency to provide guidelines, there can be less streamlined success for achieving specific goals or targets (F03, MS01). This can also be seen on a smaller scale in Annapolis. They structured their city government to include climate adaptation topics in an office of a higher level, making climate adaptation a priority, which showed through to the comprehensive plan (ACP01). This was also reaffirmed with Eichhorn et al. (2021), when they explain that the lack “higher-level guidelines” can negatively affect integration.

It was also found in this thesis that a strong relationship with external stakeholders can be beneficial for policy integration. For example, the close working relationship between Ocean city and MDCBP helped find a balance between climate adaptation and conservation with economic development and the city’s priority of tourism (OC02). Eichhorn et al. (2021) confirms this by specifying that “regular exchanges with external experts and stakeholders” can benefit integration. Aylett (2015) can also support this with his description of integrative governance as involving local municipal stakeholders across various government levels and sectors, including governmental bodies, community groups, and the private sector.

A unique finding from this study was that that politics can often have a lot of influence over local and regional governments. In multiple interviews, it was explained that local, regional, state, and even national elected officials can temper progress of integrative governance undermining continuity of policy integration. The best example of this was in the case of Frederick County in which an area was specified as “a sensitive area” and designated for conservation zoning within the county’s comprehensive plan of 2019 (ES01). However, after announcing and publishing the comprehensive plan, an elected official decided to make a last-minute change to that zoning designation and labelled it available for future development to generate revenue through land taxes and business and industry development (FC01). This can be related to Duffy and Cook’s (2019) conclusion that in the USA, policy integration often occurs through administrative channels rather than legislative ones. This means that integrated climate policies implemented under one presidential administration can be potentially undone by the succeeding administration. While this is happening on a smaller scale in this thesis, the sentiment remains the same.

5.3 Instruments

Analytical tools was used often across the territories analyzed, especially to assess and monitor certain situations or to manage and maintain in-progress plans or projects. Eichhorn et al. (2021) validates this finding when they say that analytical tools are primarily used to “measure, map, and assess” both economic development and climate adaptation topics (p. 2243).

An example of a policy and planning tool used was in Frederick County. They uniquely structured a portion their comprehensive plan through a “SWOT analysis”, otherwise breaking down their “strengths, weakness, opportunities, and threats”. They furthered this analysis by structuring the rest of the comprehensive plan through themes identified (ES01). This structuring was very different from the other plans provided by the other territories. This unique tool was also seen in one of the German cities studied in Eichhorn et al, that used the SWOT analysis for “content-thematic frameworks” (2021, p. 2245). A more common planning and policy tool used throughout all the cases was the financial incentive provided to companies and citizens, which also occurred in Eichhorn et al (2021).

5.4 Interaction

All planning departments assessed in this study sought out to aimed to engage with local citizens and stakeholders prior to final publication of the comprehensive plans or other planning policy. This was best demonstrated through public hearing for comments and online comments on drafts of the comprehensive plans. This strategy offers a better understanding of the overall planning process and faces less opposition during implementation. Communication was highly utilized throughout all the territories, especially by means of interacting with the community and citizens. They used various forms of communication such as public hearings, social media, official documents, community outreach, and public events. This was also a significant finding of Eichhorn et al (2021), as they found that communication was a valuable form of interaction as it helps raise awareness and various forms beyond planning documents should be used and it was common for the case studies in their research to “interact with local citizens and stakeholders before legally binding participation takes place” (p. 2247).

In interviews of this thesis, it was often addressed that community participation and communication was a part of the planning process. In the case of Frederick City and County, it was found that a lot of the existing integration of climate adaptation comes from a larger push from the citizens of those territories to incorporate more sustainability in those areas (F01). While elected leadership does affect the outcomes of integrative climate governance, there is an existing relationship between the territories and their residents. In Burch’s study from 2010, it was discovered that effective leadership can stimulate innovation and provide assurance to employees of local governments that climate change priorities will remain steadfast despite competing priorities while also engaging regularly and holistically with the community. This perspective was further underscored by Chu in 2018, who emphasized that integrating climate adaptation policies requires a collaborative approach between municipalities and communities, rather than being solely directed from “top-down” or “bottom-up perspectives” (p. 1767).

5.5 Research limitations

In reflection, there were a few challenges. During the data collection phase, it was incredibly difficult to get people to agree to interviews. Over some time, eleven interviews were conducted but to make up for a lack of interviews, there was more reliance on document analysis. This in turn, made the interview analysis more supplementary and confirming to the themes identified within the document analysis. This caused the comprehensive plans to be a larger part of the analysis, influencing the end results to have more emphasis on the content within the plans rather than the real-life experiences and perceptions of those who are a part of the planning process and those affected by them. See section 6.1.2 for future research that could supplement this research to supplement this gap.

Furthermore, due to time and resource constraints, this study could only focus on one state and a selected few of territories within that state. It is not representative of the United States entirely, nor does it perfectly represent the entirety of the State of Maryland, even though territory selection was done so that all the regions were at least partially represented. While conclusions can still be drawn for the state as a whole, these conclusions do not relate to the rest of the forty-nine states within the country and would require similar research across the other states to do so, due to large variability of each of the fifty states within the country. This can be adjusted in future research, see section 6.1.2.

It should be noted that while these comprehensive plans may be mentioning these topics of climate adaptation and economic development but that does not necessarily mean it is actually being executed. An example of this was in Frederick County Comprehensive Plan, when the specified a specific area for preservation and designated it a sensitive area but was set aside by an elected official to use that specified land for future development instead (FC01). Additionally, “political/administration influence” was only tagged eight times and that was only within transcripts from interviews, showing that political influence can be difficult to detect, when analysing policy documents alone. Furthermore, there was variability in the publication dates of these comprehensive plans. If a comprehensive plan is somewhat outdated, it may not reflect the current planning policy and process being acted upon within that territory.

6 Conclusion

Returning to the main research question of this thesis: *How are economic development and climate adaptation policy goals integrated in comprehensive plans in the USA?* Due to the lack of prioritization of climate adaptation, there is unbalanced integration of the two topics across the State of Maryland. With significant variation between the territories analyzed, context of a region plays an influential role in that unbalanced integration. Enhancing the prioritization of climate adaptation to balance with economic development could initiate positive changes. There is a noticeable interest within the territories, the state as a whole and among citizens for improved climate adaptation measures, but this need must be mirrored in the actions of leadership and administration. Cities that demonstrate better integration tend to have more effective engagement with their citizens, suggesting that robust public involvement is crucial for successful policy integration.

When going through each comprehensive plan and conversations during the interviews, contextual themes begin to materialize within each city. The overarching context of a local region is a huge influencer of policy integration of these two goals of economic development and climate adaptation. In this thesis, context can come in a few forms: geographical, political, density, and historical.

Geographically, cities relying on the natural environment for industry and resources, such as Ocean City and Annapolis, prioritize resilience more highly. Politically, the influence of elected officials at various levels of government can significantly affect local priorities and policies, with shifts occurring from one administration to another. Density pressures, associated with a city's size and growth rate, also provide important context for understanding these priority shifts. Managing rapid growth and sprawl, particularly in areas transitioning from rural to peri-urban, often necessitates a realignment of priorities. This is evident in Frederick City and County, where continued growth is reshaping policy focuses, and in Ocean City, which undergoes significant peri-urban transitions during the tourist season. Baltimore, meanwhile, faces the complexities of its large urban context, presenting a unique set of challenges. Lastly, historical context impacts integration, as each territory's past presents complex problems that need addressing in contemporary planning efforts.

Overall, it is not surprising that economic development is more often prioritized than climate adaptation, reflecting the American culture of comprehensive planning. Even policy documents with a priority focus on climate adaptation, sustainability, or resilience, discussed those topics through a lens of economic development or some sort of component to address economic development. However, it is also to be noted, that most cities in Maryland start off with a higher standard of climate adaptation because the state government has set that as a consistent priority, even throughout administration transitions. While some governors may strategize it differently, it remains a focus, not just for the administration, but for its constituents. Cities are beginning to prioritize climate adaptation more consistently as well and are shifting perspectives to view it to help economic development rather than hurt it.

6.1 Recommendations

For a more balanced integration of both economic development and climate adaptation goals in comprehensive planning practice, there are few recommendations.

6.1.1 Comprehensive Planning Practice Recommendations

First, there must be a strong understanding of the context in which the region exists. This context ultimately influences and prioritizes certain themes throughout the planning processes and outcomes, including the organization, instruments, and interactions. This understanding will allow adjustments to be made to reach a more balanced integration in a way that fits within a region's context.

Additionally, it is recommended that a government should attempt to maintain a reasonably unified internal organization structure, specifically within the specified planning department. By having representation of both policy goals within the internal organization structure, they will be prioritized more. Moreover, prioritizing a goal at a higher administrative level, will improve its integration.

Next, it is recommended to have higher levels of external interaction, either through communication or participation. External stakeholders, like residents or business-owners, or third-party organizations, like state governments or non-profit organizations, can hold government decisions accountable and external stakeholders can help prioritize initiatives.

Finally, utilizing analytical tools can support string policy and planning instruments. Analytical tools can help justify and support a policy decision, but also can monitor the progress or impact of a decision.

Enhancing the prioritization of climate adaptation to achieve a balance with economic development has the potential to drive significant positive change. This need must be matched by proactive efforts from leadership and administrative bodies. In cities where climate adaptation and economic development are better integrated, there is typically more effective engagement with the public. This suggests that successful policy integration relies heavily on robust public involvement, fostering a collaborative environment where citizens and policymakers work together to address both climate and economic challenges. Enhanced public engagement not only helps align policies with the needs and expectations of the community but also builds greater trust and support for comprehensive planning initiatives.

6.1.2 Future Research

Further research can be conducted to continue to fill this knowledge gap. For instance, an extension of this research can be done to encompass a broader spectrum of local and regional municipalities within the state of Maryland could yield valuable insights in future investigation. Furthermore, similar research can be replicated in other states across the United States to compare integration among state entities and to further understand integration at the state and federal levels.

Additionally, a more focused study can look at the ways in which a comprehensive plan might actually be executed over time. This thesis looks at planning through policies and looked through the lens of the municipality and its comprehensive plans. Instead, a study can be done looking from the lens of residents and government representatives of a municipality to understand the perception of a comprehensive plan's actual execution and development.

Due to the generalization of the topics, economic development and climate adaptation, a deeper analysis could be done to focus on the themes of the topics. This could allow for an understanding of how specific themes directly conflict with one another and can lead to further insights of conflict minimizing strategies.

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Annex 1

Interview Protocol

Some questions may vary depending on the case city.

Interviewee: Planning Sector

Formalities: audio recording, data processing, and consent form (confidentiality and anonymity).

Outline of Important Questions

1. Can you explain the comprehensive planning process?
2. How is economic development incorporated?
3. How is climate adaptation incorporated?
4. Do those goals ever conflict? If so, how is that conflict addressed?
5. What do you think the key to successfully integrating economic development and climate adaptation is?

What Information Do I Need?	Answered in the Interview?
What is the process of comprehensive planning?	Yes/No
If and how goals conflict.	Yes/No
How those goals achieved through organization, interaction, and instruments?	Yes/No
Their idea of how their city executes successful integration of both goals.	Yes/No
Does the department integrate both goals into both their comprehensive planning and their actions or is it one or the other?	Yes/No
What are the important components of the comprehensive plan that involve one or both of the goals? Are there components that don't involve either?	Yes/No
Smaller details:	Covered in the Interview?
Can documents be provided regarding any policies or project examples regarding this topic?	Yes/No
Can you refer me to speak with anyone else regarding this topic?	Yes/No

Annex 2

Data Management Plan

Landscape Architecture and Spatial Planning (LSP)

Data management MSc thesis (V 1.0)

Complete the categories 1 to 6 as part of your research proposal and add it as an Annex to the final research proposal. After submitting your draft proposal, update the information of categories 1 to 6 if necessary, and complete the details of category 7. Add the completed data management document to the data you submit to your supervisor.

1. Details of the MSc thesis

Name student	Samantha Berenschot-Bucciero
MSc thesis code	LUP80436
Supervisor(s)	Gerrit Jan Carsjens
Start date thesis	10-10-2023

2. Short description of your research

Preliminary title	Climate policy integration of climate adaptation projects in Maryland, United States
Abstract (max 100 words)	This thesis aims to explore the interplay between economic development objectives and climate adaptation goals in the context of climate adaptation projects, guided by Eichhorn et al.'s (2021) policy integration theory. The overarching research question examines the impact of policy integration on the outcomes and planning processes of such projects. Three sub-questions delve into specific aspects: (1) the organizational dynamics of climate adaptation projects within a city when both policy goals are integrated, (2) the impact on the choice and application of instruments for project implementation, and (3) the influence on

	interactions among relevant actors involved in climate adaptation projects within a city.
--	---

3. Data management roles

Roles	
Who is collecting the data?	Samantha Berenschot-Bucciero
Who is analyzing the data?	Samantha Berenschot-Bucciero

4. Expected types of research data

Data stage	Types of research data & software choice to process it (if applicable)
Raw data	Interview Transcripts, Policy Documents
Processed data	Coded interviews and policy documents
Other?	N/a

5. Short-term storage solutions

Describe where the data will be stored physically during your research (e.g. on paper, laptop, USB drive, your university M-drive, other) and how a backup is organized.

Data stage	Storage location and backup
Raw data	Laptop storage and teams/onedrive
Processed data	Laptop storage and teams/onedrive
Other?	N/A

6. Sharing, ownership and privacy

Sharing, ownership and privacy	(With) who(m), what and how?
Data sharing - Do you have plans to share your data with other parties (besides your supervisor)?	N/A
Data ownership - Are there agreements about the data ownership with other involved parties? (besides your supervisor)	N/A
Privacy - Are there privacy or security issues, and if there are, how are you dealing with them?	N/A

7. Long-term storage

Your supervisor will take care of the long-term storage of your data. Which part of your research data has value for long-term storage and how is the data organized?

Data stage	Which data will be stored for the long term or should be destroyed?
Raw data	Stored for 1 year on teams before deletion on a personal laptop. Also sent to Monique Jansen for storage.
Processed data	Stored for 1 year on teams before deletion. Also sent to Monique Jansen for storage.
Other?	N/A
Describe how the stored data is organized (e.g. file structure and file names)	Filed in computer and teams under folder “thesis”. Within that folder there are other folders labeled “draft versions”, “feedback”, “figures”, “consent forms”, “articles”, “presentations”, “interview recordings”, “interview transcripts”, “policy documents”, “coded data”, and “archived”.

Annex 3

Consent Form

Title of study: Climate Policy Integration of Climate Adaptation Projects in Maryland, United States

Interviewee:

I declare that I understand the aim and content of the interview, which have been clearly explained to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.

I understand that:

- ☐ I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.
- ☐ I understand that personal information collected about me that can identify me, such as my name, will not be shared beyond the research team.
- ☐ the audio recording will be destroyed after the interview has been transcribed.

I declare that:

- ☐ I consent voluntarily to be a participant in this study.
- ☐ I give permission for the use of the results of this interview in a scientific report or publication.
- ☐ I give permission to audio record the interview.

Signature:

Name:

Date:

Researcher

I have accurately explained the aim and content of the interview to the potential participant and, to the best of my ability, ensured that the participant understands to what he or she is freely consenting.

Signature:

Name:

Date:

Annex 4

Background and Context of Selected Interviews

Annapolis City Context



Figure 18: Aerial View of Downtown Annapolis²⁸

Located along an important tributary to the valuable and vulnerable Chesapeake Bay, gives the City of Annapolis a beautiful waterfront that characterizes the city²⁹. This is the capital of the state and is the location of the United States Naval Academy and Base, which provides a closely tied relationship with the state and the federal governments³⁰. Furthermore, this waterfront location does pose some risks due to the growing challenges of climate change³¹.

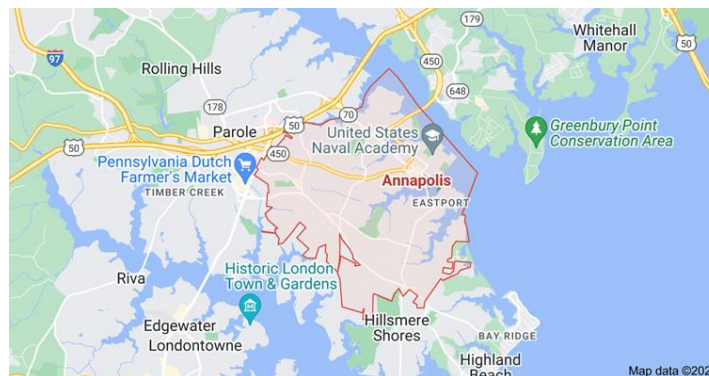


Figure 19: Map of Annapolis³²

²⁸ Visit Annapolis, <https://www.visitannapolis.org/>, Retrieved April 23, 2024

²⁹ Visit Annapolis, <https://www.visitannapolis.org/>, Retrieved April 23, 2024

³⁰ Visit Annapolis, <https://www.visitannapolis.org/>, Retrieved April 23, 2024

³¹ Environmental Sustainability, <https://www.annapolis.gov/1476/Environmental-Sustainability>, Retrieved May 21, 2024

³² Google Maps, https://www.google.com/search?q=map+of+annapolis&rlz=1C1GCEU_enNL1030NL1030&oq=map+of+annapolis&gs_lcrp=EgZjaHJvbWUyCQgAEEUYORiABDIHCAEQABiABDIHCAIQABiABDIHCAEQABiABDIHCAQQ

Annapolis’s Community and Economic Development Division defines economic development through its vision and mission within its 2016-2020 Economic Development Strategic Action Plan. Its vision is to “*establish Annapolis as a vibrant, safe, diverse, and world-class place to live, work, start and build a business, and visit – with the appropriate balance between preserving the existing local character and assets and embracing progress to ensure continued relevancy*” (p. 3). The mission is to “*enhance the City’s economic viability and employment opportunities to the benefit of its residents, workforce, and local business communities in a manner that incorporates priorities as states in the Comprehensive Plan (Promote a Vibrant Economy; Preserve Community Character; Move Toward a ‘Green’ Annapolis) with improvements in Place, Innovation, Access, and Affordability*” (p. 3).

Found on Annapolis City’s website, underneath the “goals, metrics, and actions” of the comprehensive plan tracking, there is a definition for resilience: “*the ability of the City and all residents to sustain and adapt to the environmental and social impacts of climate change*”³³.

Baltimore City Context



Figure 20: Baltimore City Skyline³⁴

According to Baltimore’s most recent comprehensive plan (2009), Baltimore is a highly diverse city, historically. Beginning in the early 1800s, Baltimore had the largest population of African Americans in the country at that time. In the mid-1800s, the city experienced an influx of immigration from Ireland, Germany, Eastern Europe, Greece, Italy and Polish and Jewish immigrants as well towards the end of the century. Additionally, there was another

[ABiABDIHCAUQABiABDIHCAYQABiABDIHCACQABiABDIHCAgQABiABDIHCAkQLhiABNIBCDM3NTdqMGo3qAIA&sourceid=chrome&ie=UTF-8](https://www.annapolis.gov/1476/Environmental-Sustainability), Retrieved April 22, 2024

³³ Environmental Sustainability, <https://www.annapolis.gov/1476/Environmental-Sustainability>, Retrieved May 20, 2024

³⁴ Baltimore Skyline <https://www.smartcitiesworld.net/news/turning-baltimore-into-a-smart-city-3126>, Retrieved April 22, 2023

influx of African Americans, although discriminatory practices made it difficult for them to find adequate housing.

In the early 1900s, Baltimore experienced rapid development. However, African Americans were largely excluded from suburban expansion due to legislation that restricted their access to housing outside a small portion of the city. Although this legislation has since been overturned, its ramifications can still be felt today. In the late 1990s, Baltimore faced high rates of violent crime, drug addiction, poor education, and poverty.

While the city has made considerable progress in improving equity, reducing crime, and addressing education and poverty rates, its historical challenges remain a significant part of Baltimore's reputation and social fabric. Both the city government and its citizens have been actively working to continue the upward trend and enhance the quality of life in Baltimore City.



Figure 21: Map of Baltimore City³⁵

In Baltimore Together's Comprehensive Economic Development Strategy document, led by the Baltimore Development Corporation (BDC), they list what their vision is for Baltimore City's economic development, part of which includes: *"to create an urban economy that is based on diversity, inclusion, and resiliency and uplifts historically excluded Baltimoreans while attracting investment, businesses, and people committed to contributing to an equitable economy"* (About Baltimore Together).

Baltimore's definition of climate adaptation comes from the 2019 Sustainability Plan: *"Sustainability is about regenerating and strengthening our city through collaborative action. It's about balancing social and racial equity, economic growth, and environmental action"* (p. 7).

³⁵ Google Maps,
https://www.google.com/search?q=map+of+baltimore&rlz=1C1GCEU_enNL1030NL1030&oq=map+of+baltim&gs_lcrp=EgZjaHJvbWUqBwgAEAAAYgAQyBwgAEAAAYgAQyBggBEEUYOTIHCAIQABiABDIMCAMQABgUGIcCGIAEMgcIBBAAGIAEMgYIBRBFGDwyBggGEEUYPDIGCacQRRg8qAIAAsAIB&sourceid=chrome&ie=UTF-8, Retrieved, April 24, 2024

Frederick City Context



Figure 22: Frederick City Skyline³⁶

Frederick City is found in the western part of the state, characterized by the very beginning of the Appalachian Mountain range³⁷. Historically a small rural town, recent exponential growth of the city and county have changed this jurisdiction from a small farming town to a suburban and historic destination, as explained in their most recently published comprehensive plan in 2020. This city became a destination because had the first historic district in the state and became craft brewery and restaurant haven, drawing in tourists from across the state and country. But more significantly, the location of the city between Baltimore and Washington DC made it perfect for commuters to live in a smaller and more affordable area and drive to work in larger urban areas causing this peri-urban transition. Therefore, the largest topic on the cities mind is growth and that is reflected in the interviews and policy documents. This growth has been exponential in the past decade and is only expected to continue³⁸. Additionally reflected in the interviews and policy documents, flooding is a major concern for Frederick City, historically and currently.

Frederick City's Department of Economic Development lists off what "successful economic development" would mean for the city: *"retaining and attracting an educated and skilled workforce including young professionals; retaining, expanding, and attracting businesses including startups with high-quality jobs, which pay family-supporting wages and benefits; maintaining a strong ration of jobs to ensure that city residents have access to jobs within the community...; diversifying the business industry base to provide jobs for a wide range of skills and wages; enhanced public safety; and municipal fiscal surety and high bond ratings to lower cost of borrowing for capital projects"*³⁹. This is the City of Frederick's definition of Economic Development.

³⁶ City of Frederick, <https://www.cityoffrederickmd.gov/>, Retrieved April 24, 2024

³⁷ Hiking in Frederick County, <https://www.visitfrederick.org/things-to-do/parks-outdoor-recreation/outdoor-activities/hiking/>, Retrieved April 24, 2024

³⁸ Frederick's growth in past decade among largest in Washington region, https://www.fredericknewspost.com/news/politics_and_government/planning/fredericks-growth-in-past-decade-among-largest-in-washington-region/article_19a78056-7015-56c2-8a35-199f01590c86.html, Retrieved June 18, 2024

³⁹ City of Frederick, Economic Development Strategy, <https://www.cityoffrederickmd.gov/DocumentCenter/View/17963/Ch9-Economic-Development-PCversion>, Retrieved Dec 13 2023

Frederick City’s definition of climate adaptation is to “*maintain balance between economic, social, and ecological needs of residents and businesses for today and future generations. Sustainable projects will help provide better transportation, buildings, neighbourhoods, parks, and healthy places to work and live*”⁴⁰.

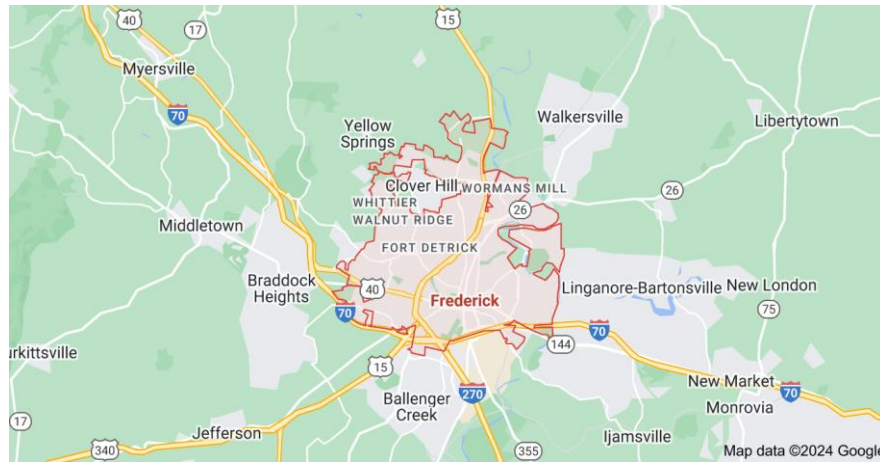


Figure 23: Map of Frederick City⁴¹

Ocean City Context



Figure 24: Ocean City coastline⁴²

According to Ocean City’s most recently published comprehensive plan (2017), Ocean City is technically designated as a township and was historically a fishing village that turned into a tourist beach destination. The main industry in Ocean City is tourism, making it a huge

⁴⁰ Sustainability, <https://www.cityoffrederickmd.gov/891/Sustainability>, Retrieved May 21, 2024

⁴¹ Google Maps, https://www.google.com/search?q=frederick+city+in+maryland+map&rlz=1C1GCEU_enNL1030NL1030&oq=Frederick+City+&gs_lcrp=EgZjaHJvbWUqBggAEEUYOzIGCAAQRRg7MgYIARBFgDsyBggCECMYJzIGCAMQRRg8MgYIBBBFGDwyBggFEEUYPDIGCAYQRRhBMgYIBxBFGHEHSAQgyNzg1ajBqOagCALACAQ&sourceid=chrome&ie=UTF-8, Retrieved April 24, 2024

⁴² Our Beach, <https://www.ococean.com/things-to-do/beaches/>, Retrieved April 24, 2024

priority of the city. Ocean City has been established as a Maryland-local summer destination for many years, but the number of visitors each year is only growing. In a way, these small-town experiences a peri-urban transition each season. Because of this huge influx of people during the summer months, the city must prepare its infrastructure accommodate this volume of people.

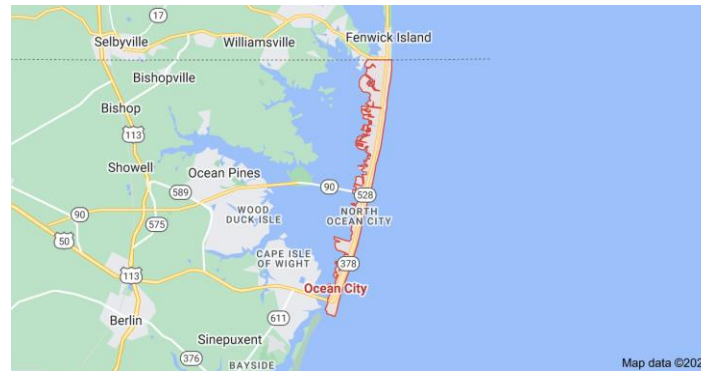


Figure 25: Map of Ocean City⁴³

Ocean City’s definition of economic development is found in chapter 2 of their Comprehensive Plan published in 2017: *“economic development efforts should focus on retaining and attracting jobs that are more varied and better paid; maintaining and increasing year round employment; expanding the commercial base through business retention, expansion and attraction; and growing the economy to provide goods and services that match the needs of residents and tourists”* (p. 2 – 1).

Ocean City’s definition of climate adaptation also comes from the Comprehensive Plan (2017), chapter 7: *“to protect the quality of the air, water, and land from the adverse effects of development and growth, and where feasible, to enhance the quality of the natural environment and sensitive areas. New priorities include adaptation to climate change and mitigation of hazards for a more resilient community”* (p. 7-1).

External Stakeholders – Context

Frederick County

Frederick County is the regional government surrounding Frederick City. This relationship between city and regional government was found to be important due to the rapid growth and peri-urban characteristics of the region, and the intertwined interest and interdependence between the two entities. During discussions with three Frederick City representatives, Frederick County was mentioned multiple times, thus making it necessary to speak with a representative of the planning department within the county. Frederick County has a similar context to the city, but the jurisdiction is larger. It does contain a

⁴³ Google Maps,
https://www.google.com/search?q=ocean+city+map&rlz=1C1GCEU_enNL1030NL1030&oq=ocean+city&gs_lcrp=EgZjaHJvbWUqBggAEEUYOzIGCAAQRRg7MgYIARBFQDsyBggCEEUYOzIMCAMQLhhDGlAEGIoFMgYI BBBFGDsyBggFEEUYOzIGCAYQRRg8MgYIBxBFGHEHSAQgxOTQ5ajBqN6gCALACAA&sourceid=chrome&ie=UTF-8, Retrieved April 24, 2024

significant amount of farmland, forest, and other natural resources. Frederick County consists of eleven municipalities: Frederick City, Middletown, Woodsboro, Brunswick, Emmitsburg, Myersville, Walkersville, New Market, Mount Airy, Thurmont, and Burkittsville⁴⁴.



Figure 26: Picture of the Peri-Urban Transition in Frederick County⁴⁵

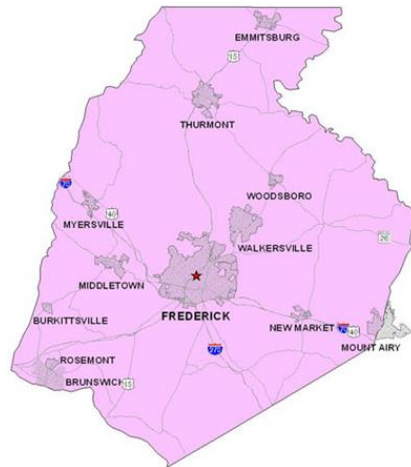


Figure 27: Map of Frederick County⁴⁶

Maryland State, Department of Planning

The Department of Planning in the State of Maryland is an entity that oversees and facilitates the planning in smaller jurisdictions⁴⁷. They have direct relationships with all

⁴⁴ Frederick County, Municipalities, <https://msa.maryland.gov/msa/mdmanual/36loc/fr/html/frmu.html#:~:text=Frederick%20County%20has%20twelve%20municipalities,in%20Frederick%20County%20in%201816>, Retrieved July 3, 2024

⁴⁵ Visit Frederick, <https://www.visitfrederick.org/blog/stories/post/the-road-most-traveled-a-guide-to-fredericks-scenic-drives/>, Retrieved May 20, 2024

⁴⁶ Map of Frederick County, <https://mapsforyoufree.blogspot.com/2018/05/map-of-frederick-county-md.html>, Retrieved April 24, 2024

⁴⁷ Maryland Department of Planning, About Us, <https://planning.maryland.gov/Pages/OurWork/Inside-MDP/mdpoverview.aspx>, Retrieved Jul 3, 2024

county jurisdictions, but interaction also occurs with local municipalities as well⁴⁸. Most importantly, the state can provide funding for jurisdictions through Priority Fund Areas (PFAs). These PFAs are designated regions where the state prioritizes its funding efforts, allowing jurisdictions to apply for financial support specifically targeted for these areas⁴⁹. Additionally, the state is the intermediary between the federal government and the smaller jurisdictions⁵⁰. Therefore, the relationship between local municipalities and the state governments is an important to acknowledge in the external stakeholders.

Maryland Coastal Bays Program (MDCBP)

The MDCBP is a non-profit organization that primarily works along the eastern shore of Maryland focusing on conservation of the Maryland Coastal Bay watershed, which includes five bays: Newport Bay, Assawoman Bay, Chincoteague Bay, Isle of Wight Bay, and Sinepuxent Bay⁵¹. Because their work encompasses education and advocacy, they work closely with regional and local governments on the eastern shore to influence decision making regarding the natural environment of this area. They do have some effect on planning policy and participate in planning processes. Because of their direct relationship with Ocean City, one of the city cases, it was identified as an external stakeholder included in the study.

⁴⁸ Maryland Department of Planning, About Us, <https://planning.maryland.gov/Pages/OurWork/Inside-MDP/mdpoverview.aspx>, Retrieved Jul 3, 2024

⁴⁹ Maryland Department of Planning, Priority Fund Areas, <https://planning.maryland.gov/Pages/OurProducts/pfamap.aspx>, Retrieved Jul 3, 2024

⁵⁰ Maryland Department of Planning, About Us, <https://planning.maryland.gov/Pages/OurWork/Inside-MDP/mdpoverview.aspx>, Retrieved Jul 3, 2024

⁵¹ Coastal Bays, <https://mdcoastalbays.org/the-coastal-bays/>, Retrieved Jul 3, 2024

Annex 5

Background and Context of Selected Policy Documents

Context of Policy Documents

Annapolis

Annapolis City released a public draft of their most recent comprehensive for review in 2023. This plan is framed as “Annapolis Ahead 2040”, which looks 20 years forward. This was main policy document analyzed for the City of Annapolis. This document is 455 pages of content and is a published draft released in December 2023, making it the most recent policy document analyzed in this thesis. Additionally, it is also a draft, meaning there may be changes made in the final published copy, which is expected in mid-2024. The document is structured into five main sections: “Annapolis Ahead”, which is an introduction and the current state and trends of the area; “The Thriving City”, a section with a focus on city design; “The Functional City”, focused on the infrastructure; “The Adaptive City”, specifically focused on climate adaptation within the area; and “Implementation”, with specific policy goals and strategies that are measurable and monitored overtime.

Baltimore

Baltimore City’s most recent available comprehensive plan is from 2006. It is written as a “business plan” and is the first comprehensive plan in over 30 years⁵². Now currently in 2024, no updated comprehensive plan has been released, however processes for public input began in 2022⁵³.

The most recent published comprehensive plan is titled LIVE EARN PLAY LEARN: *City of Baltimore Comprehensive Master Plan: A Business Plan for a World-Class City*. This comprehensive plan was published in 2009. The document was written for the years 2007 to 2012. It was written in a business plan format with the intention of more “actionable” and “effective” strategies that also “provide clear goals and objectives to direct the City’s capital investment in order to use public resources more effectively; create zoning strategies which will match the zoning code to 21st century land uses and patterns of economic and demographic development; and develop a public policy approach that can be adopted and implemented by all segments of Baltimore” (*Letter from President of Baltimore City Planning Commission*). The city’s outputs were framed as “products and services” (p. 65). Additionally, it was the first comprehensive plan update the city has done in over 30 years (p. 17).

It’s separated into four main sections and then followed up by implementation and management actions. The four main sections are titled: LIVE, EARN, PLAY, and LEARN. LIVE discusses elements of the plan that focus on residential land use and diverse growth (p. 7). EARN discusses the strategies to regarding economic development in terms of

⁵² Department of Planning, <https://planning.baltimorecity.gov/planning-master-plan/plan>, Retrieved April 20, 2024

⁵³ Department of Planning, <https://planning.baltimorecity.gov/planning-master-plan>, Retrieved April 20, 2024

employment needs, business needs, and seven industry sectors: Bioscience; Business Services; Construction, Computer, Internet and Data, and Software-Related Services (CIDS); Healthcare and Social Assistance; Hospitality and Tourism; and Port and Port-Related Services (p. 8). PLAY discusses cultural, entertainment, and natural resource amenities offered by the city (p. 8). LEARN specifically discusses schools, libraries, and other community facilities that support educational needs (p. 8).

Because this comprehensive plan is significantly outdated, this was supplemented by analyzing two other policy documents that were more recent and representative of the two other sectors: Economic Development and Sustainability/Resiliency.

For economic development, the document analyzed was *Baltimore Together's Comprehensive Economic Development Strategy* led by the Baltimore Development Corporation (BDC) and published in 2021. They clarify the relationship between BDC and the Baltimore City government as a Public-Private Partnership and this document, Baltimore Together, is an initiative to “support the creation of a common vision of inclusive economic growth in our city” (*About Baltimore Together*). They list what their vision is for Baltimore City’s economic development, part of which includes: “to create an urban economy that is based on diversity, inclusion, and resiliency and uplifts historically excluded Baltimoreans while attracting investment, businesses, and people committed to contributing to an equitable economy” (*About Baltimore Together*). This quotation can somewhat summarize the document’s definition of economic development.

For sustainability and resiliency, the document analyzed was *The Baltimore Sustainability Plan* published in 2019. The Office of Sustainability is under The Department of Planning in the government structure and the Office of Sustainability was only created in 2008 (B02). The Plan is sectioned into 5 sections: community, human-made systems, climate and resilience, nature in the city, and economy. There is also the traditional vision, process, timeline, implementation sections, but with a focus on equitable implementation. Additionally, a huge emphasis on equitability and balance between the social, economic, and environmental pillars of sustainability was a major priority for this document (p. 5).

Frederick

Frederick City’s comprehensive plan was written in 2020 and signed by the government in 2021⁵⁴. This document was produced and finalized at the beginning of the global pandemic influencing some of the contents to reflect that time. This comprehensive plan is mostly traditional and separated into general sections such as: Land Use, Transportation, Municipal Growth, Water Resources, Community Character and Urban Design, Environmental Sustainability, Historic Preservation, Housing, Economic Development, Parks, and Recreation, and finally sections focusing implementation and management. One of the

⁵⁴ 2020 Comprehensive Plan, <https://www.cityoffrederickmd.gov/1293/2020-Comprehensive-Plan>, Retrieved April 20, 2024

unique distinctions of this plan is that they begin to prioritize Small Area Planning, which helps hyper-localize the planning process (p. 60). The small areas are identified as: (1) East Frederick, (2) The Golden Mile, (3) Jefferson Street Corridor, (4) Rosemont Avenue Corridor, (5) Northwest Area, (6) Northeast Area, (7) Downtown Frederick, (8) US 15 Corridor. (p. 64).

Frederick County

Frederick County's comprehensive plan was written pre-global pandemic in 2019. It is structured differently and heavily focused on sustainability and environmental quality with the theme Liveable Frederick. Titled, *Livable Frederick Master Plan* adopted by the county government in 2019. This document has a unique approach to the comprehensive plan and focuses on "livability" or quality of life, which is defined as "the ability to easily get where you're going, to enjoy great parks, to benefit from great schools, to find support when you need it, to form bonds with your neighbours, to have access to excellent stores, restaurants, and entertainment, to have good jobs close to home, to enjoy the revitalizing qualities of our forests, rivers, mountains, and countryside, and to be in harmony with the systems that surround, support, and underlie our ability to live happy, healthy and long prosperous lives" (p. 1). The document separates into three sections: vision; development framework, which highlights the built and physical environment of the county; and action framework, which discusses the recommendations and implementations (p. 1). Again, there is a heavy focus on rapid growth and urbanization of the county, but it discusses how to account for the growth in a liveable way.

Ocean City

Ocean City's comprehensive plan was written well before the global pandemic in 2017. This plan responds to a national economic recession and large hurricane that occurred at the beginning of the planning period (OCCP01). Their plan was titled *Comprehensive Plan: Town of Ocean City, Maryland*. This comprehensive plan is a more traditional plan document with sections such as: Population Characteristics and Trends; Economic Development, Land Use and Community Character; Transportation; Community Facilities and Public Safety Services; Housing; Environment; Downtown Development Redevelopment/Reinvestment; Plan Implementation; Municipal Growth Element; and Water Resources Element/Mineral Resources Element. The next comprehensive plan will be released at the end of 2024, after the completion of this thesis (OC01).

Maryland Coastal Bay Program (MDCBP)

The Maryland Coastal Bay Program (MDCBP) produced their *Our Path Forward: Comprehensive Conservation Management Plan* in 2015. This document is structured like the city planning department's comprehensive plan; however, it is heavily focused on sustainability, resilience, management, and conservation. However, it does have one chapter that highlights community and economic development. High levels of communication with

the community, through education and outreach and participation tends to happen more internally and with other non-profit organizations or governments.

To balance the sectors out, an additional document was analyzed that focused more on an economic development perspective, which as a report which calculated the economic value of the Maryland Coastal Bay Watershed, called *Economic Value of the Maryland Coastal Bays Watershed*, published in 2018. This was a study done to provide economic and financial values to the coastal bay watershed through ecosystem services. This document was analyzed to provide a balance to the sectors since the CCMP was so focused on the sustainability and resiliency sector, this covers more of the economic development sector.

Annex 6

Code Occurrence Data

Table 10: Number of times a code occurred in data analysis

Code	Number of Occurrence
CA: Disaster	122
CA: Energy	86
CA: Environmental Quality	352
CA: Growth	39
CA: Public Open Space	133
CA: Quality of Life	93
CA: Resiliency	143
CA: Conservation	161
CA: Sustainability	110
CA: Transportation	243
CA: Tree Canopy	51
CA: Waste	34
CA: Water	232
Community	360
Compromise/Balance	33
Conflict	53

ED: Business	166
ED: Economic Development	199
ED: Growth	155
ED: Housing	219
ED: Industry	250
ED: Infrastructure	300
ED: Quality of Life	209
ED: Tourism	154
ED: Transportation	162
ED: Workforce	139
ED: Zoning/Land Use	286
Funding	168
Instruments: Analytical Tools	397
Instruments: Policy and Planning	663
Interaction: Communication	346
Interaction: Participation	237
Intertwined Interests	66
Organization: External	285
Organization: Internal	113

Political/Administration Influence	8
PPP	39
Regional/State/Federal Partnership	206