Opportunities and Constraints Analysis

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Introduction

As Atlantic Highlands pursues a resilience and sustainability strategy and plan endorsement, municipal staff and partners could benefit from considering unique factors that could make this process more effective, cohesive, or challenging. This report examines the Borough's existing natural, social, and human resources that could positively contribute to resiliency planning, including flood control and hazard mitigation, health and social benefits, natural resource protection and enhancement, and expansion of the local economy.

It also examines existing plans in relation to potential conflicts between sustainability and resilience goals. The report goes on to analyze geographic, economic, structural, and technological limitations in Atlantic Highlands that could counter its strategy. This report integrates considerations of the plan endorsement process that would allow the Borough to access additional financial resources and receive technical assistance from the State.

Opportunities

Atlantic Highlands can harness its strong foundations in natural resources, human resources, and social infrastructure in implementing resilience actions.

The Borough has robust site-specific opportunities for its **natural resources** that could benefit from enhancement.

- *Wagner Creek:* The buffer zone around the creek, which helps to mitigate flooding through open space, sets a precedent for other natural infrastructure projects within Atlantic Highlands and the Bayshore region.
- *Many Mind Creek:* There is also a small buffer space around Many Mind Creek, which has been identified as an ideal space to improve recreation and connectivity through a greenway path without exacerbating flooding issues. It stands to benefit from improved water quality and safer public access after the coal tar contamination cleanup project, which is entering its final stages.
- *Sandy Hook Bay:* Improved water quality in the creeks will also help the water quality of the bay, which is beneficial to the water-dependent economy of the borough and the greater Bayshore Region. The natural beauty of the Sandy Hook Bay is an important asset and advantage.

- *Open space:* Parks and open space currently serve as flooding overflow catchments at critical flooding sites, including Popamora Point Park. There is a significant amount of forest in the Lenape Nature Preserve, as well as Atlantic Highlands' urban forest of street trees, that provides ecosystem services and helps protect against climate impacts. Notably, this helps cool the air and provide shade, as well as strengthen Atlantic Highlands' slopes.
- *Harbor:* As the largest municipally owned harbor in the state of New Jersey, the harbor contributes heavily to the local economy due to fishing, the Sea Streak ferry, and local businesses. Further, in providing access to the bay, the harbor has the potential to expand targeted ecotourism; for example, featuring educational posters or a glass platform looking into the bay.
- *Physical infrastructure:* The Borough's coastline is at risk for erosion and flooding in storm events more gradually through sea-level rise. There are two existing coastal resiliency project plans produced by Michael Baker International to help protect the Borough's shoreline. These plans are helpful because they lay the groundwork for coastal resiliency and can be implemented relatively quickly once funding for the projects is found. Physical infrastructure that is more than 800 feet from any body of water is not under immediate threat of flooding (e.g. police and fire department).

The **human resources** that make up the Borough's **municipal and civic capacity** also provide advantages to achieving resilience goals in Atlantic Highlands.

- The Borough has a number of existing related plans on the subject, which will inform its next steps and provide a framework for action. These include the Monmouth County Plan, which may help to guide resource and service sharing, and the Bayshore Regional Strategic Plan to increase local tourism and enhance connectivity and natural resources. Other relevant plans include the Raritan/Sandy Hook Bay Coastal Resilience Study, Many Mind Creek Restoration Plan, and Getting to Resilience Report. Importantly, these plans do not seem to give contradicting views and recommendations for Atlantic Highlands and provide a good background to pursue the plan endorsement process with the state to ensure compliance and access additional financial resources.
- There is a strong social infrastructure in the Borough.
    - Residents are engaged in municipal issues and decision-making related to land use and the environment, which are keenly affected by current and projected flooding. There are several active communities and volunteer groups doing relevant work, including the Shade Tree Commission, Neighbors for Waterfront Preservation, and Friends of the Many Mind Creek.
    - There is a core identity and strong sense of place in Atlantic Highlands, much of which is centered around the historic downtown and shoreline. This provides an opportunity to engage with staple businesses as stakeholders in relation to flooding risk.
- Atlantic Highlands has capable partners in Monmouth County.
    - Frequent communication with Monmouth County staff could help foster opportunities to enhance Bayshore region municipalities' resiliency through collaborative nature-based infrastructure and construction projects. Thus, Atlantic Highlands can actively seek opportunities that foster collaboration with surrounding towns with resources supported by the county.

- The Borough has information on its website about emergency management and response and has space to enrich this community education.
    - To build off of these passive educational efforts, the Borough can routinely provide educational opportunities to raise citizens' awareness of environmental issues, such as slope hazards, extreme heat, saltwater intrusion, contamination of water resources, and cascading health risks of flooding. Potential opportunities for these efforts include community workshops, educational signs at the harbor or population hubs, an educational Harbor Day, or educational videos on Youtube or the Atlantic Highlands website.

Similarly, Atlantic Highlands can build on its **communication** assets around risk and vulnerability in the context of environmental change.

- *Emergency communication infrastructure:* The Borough has solid community hubs, both physical and digital, to get critical information to residents. These include its senior center, schools, and municipal social media pages. This, combined with the reverse 911 system in place, can help to promote practices for public safety in future storms and other hazard events.
- *Risk education:* Atlantic Highlands' environmental challenges have notable overlap in risk and vulnerability, such as slope hazards and stormwater impacts. These coalescing threats can help the Borough make a stronger case with residents and other stakeholders for resiliency actions, as it expands the number of interests affected and their severity.
- *Participation:* Events facilitated by the Borough's recreation committee coupled with the engagement of residents creates opportunities for activities that promote resilience within the community.

Atlantic Highlands can also make adaptations to its **economic drivers** to better equip them for climate and flood resiliency.

- The municipal harbor is a valuable community asset that takes advantage of the natural resources in the Borough without damaging natural systems and generates a significant amount of revenue, mainly in local tourism. Atlantic Highlands can expand sustainable tourism practices in recreational water-dependent uses and integrate this image in its marketing as a regional destination.
- The central business district, with its successful service industry, benefits from its proximity to Atlantic Highlands' natural resources, including the waterfront and the Many Mind Creek. Thus, local businesses may be more inclined to be active partners in implementing green and natural infrastructure to protect these resources and their properties while enhancing aesthetic streetscapes in the Borough.

Planned development and redevelopment projects in the borough present opportunities for resilient design, including green building standards and land use that can also provide benefits beyond the immediate vicinity.

- This opportunity is most obvious for the future development of the two blocks between 1st Avenue and the municipal harbor, which has been identified as a gateway to Atlantic Highlands. This municipally-owned land is highly vulnerable to flooding and coastal storms, although the Borough

can make sure that improvements to this space are designed to accommodate and control flooding through aesthetically-pleasing natural infrastructure to increase its value as a community asset.
    - The Borough can increase and diversify revenue by promoting ecotourism in this area. For example, economic development strategies can create opportunities for visitors to spend time near the cleaned up Many Mind Creek.
- The McConnell Tract, which is currently on track for the development of single-family housing, is incorporating local flooding and public access concerns to include open space, based on a lawsuit in the Borough.
- Atlantic Highlands is considering purchasing and developing the vacant Mother Teresa Regional School to build a senior housing project. Municipal ownership would give the Borough greater control in pursuing resiliency goals throughout the construction process and minimize risk for this vulnerable population in the future.

In comparison to other towns in the region, Atlantic Highlands has a **geographic advantage** that limits immediate flood risk. This grants Atlantic Highlands a key advantage of time, allowing it to be proactive on its risk and design great projects that address multiple town concerns. Current benefits include:

- Most public buildings, including the library, schools, businesses, police and fire departments, and churches, as well as historic and cultural resources, are not at immediate flooding risk and thus do not require resources for reactive reinforcement.
- Compared to other municipalities in NJ, the Borough's social vulnerability index is moderately low.
    - Relatively high incomes improve residents' mobility in emergency response and should help to make minor repairs to flooding and storm damage on private property.
    - Similarly, most residents' professions are not directly impacted by coastal flooding or primarily dependent on the water.
- The Borough's infrastructure, including separate sewer and stormwater systems, minimizes public health impacts and cascading events of future flooding.

Constraints

The Borough needs to address **site-specific environmental challenges and vulnerabilities** to reduce the impact of future flooding and hazards:

- *Many Mind Creek:* The remediation project is ongoing, which is delaying the start of planning for the greenway project to address flooding and public access issues. The surrounding space for potential flood buffering is also limited, which will require creativity and spatial efficiency in design, meaning smaller rain gardens or pervious pavements. The creek's condition on contamination and water quality may become exacerbated in future flooding scenarios such as, floodwaters inundating seven of twelve known contaminated sites found in the watershed (occurs at a Total Water Level of 13-feet), increased precipitation leading to increased flow from eight stormwater outfalls that discharge into the Creek, and increased runoff from any upstream development in the Town of Middletown.
- *Wagner Creek:* Maintenance cost of the wetland and its intensive labor, which is managed by the Borough, is a burden. Continual maintenance is necessary to fully eradicate the existing invasive

phragmites plants, to protect the indigenous species planted in the area, and to maintain minimal sediment loads. Without proper maintenance, the water filtration function of the wetland may be lessened by the excessive sediment buildup.

- *Historic buildings and downtown:* Historic and cultural resources are at future flood risk in the Borough and cannot be rebuilt to replicate their current state. Thus, the Borough could benefit from considering changes to its building code in flood zones, and should possibly consider changing its zoning to allow for commercial and civic uses removed from flood risk. For more resources about flooding and historic structures in New Jersey, please visit these three webinars provided by Rutgers at no cost online at these URLs: Building elevations; Planning & preparedness; Asset protection
- *Harbor:* Due to the saltwater from the ocean, the harbor requires expensive constant maintenance to structures including water pipes, piers, asphalt in the parking lots, dredging in the harbor, etc. In addition, there are limits on fishing to ensure that the waters are properly stocked, which can interfere with head boats and charter boats that bring money into the Borough through fishing.
- *Emergency management infrastructure:* The two evacuation shelters and segments of the evacuation route, as well as the boat fueling station on the coast, are at future flood risk. Thus, the Borough should prepare substitute spaces and back up routes should these infrastructures be inaccessible.

Atlantic Highlands can expand **communication** media and audience around environmental change to build support for municipal investments in the natural resources and resiliency projects:

- *Emergency communication infrastructure:* The Borough has a reverse 911 system to warn those who are registered in it. However, only 4,000 people are registered. Thus, the Borough can encourage participation during blue sky time, especially among its more vulnerable populations, to raise residents' awareness of multiple hazards and reduce population loss in the future. Additionally, the Borough can conduct an outreach campaign to encourage vulnerable populations to register with the state's "Register Ready" program to ensure that vulnerable individuals are accounted for in the event of a disaster.
- *Community education:* Residents may not be familiar with local risks and vulnerabilities that overlap with environmental concerns. This could impede priority and support for environmental projects that would increase the sustainability and resiliency in the Borough. For example, the Wagner Creek wetland could serve as an efficient stormwater management and water filtration system with proper maintenance, but community support for this type of maintenance is needed to secure annual funding. Additionally, without comprehensive community education about risk issues, such as emergency preparedness, residents may not fully understand or be aware of the actions they should be taking to protect and prepare themselves in the event of a disaster. The Borough can further increase support to senior populations under emergency situations with a greater proactive outreach. To accomplish this, a committee could be established within the Environmental Commission focused on specific education and outreach efforts.
- *Collaborative governance:* The source and impact of environmental hazards are not contained within an administrative boundary. Atlantic Highlands is downstream from Middletown, and its boundary encompasses steep slopes shared with the neighboring Highlands. It is crucial to coordinate with surrounding towns that may contribute to or share hazards, such as pollution or excessive stormwater.

But despite the impact of Middletown's stormwater and flooding on Atlantic Highlands, for example, there is a lack of political mechanisms to address this. Additionally, landslide considerations have been removed from the Monmouth County Hazard Mitigation Plan, which may form an additional barrier for regional coordination on environmental impacts in Atlantic Highlands.

The complexity and size of environmental projects exceed Borough's **municipal capacity** to achieve resilience goals:

- *Resources*: The Borough is resource-limited in terms of environmental funding, dedicated staff, and technical expertise to address the number of existing plans on the subject. Most resilience project proposal budgets presented to the Borough are expensive and cannot be supported by a $9 million annual budget, or by many grants due to matching requirements. Thus, the Borough needs professional assistance to prioritize project proposals and divide the projects into digestible phases to execute, as well as secure additional funding options.
    - COVID-19 created a revenue shortfall that may impact future funding for projects and shift priorities away from environmental action.
- *Decision making*: Flooding and other hazards are not an immediate threat, so there may be a tendency to postpone action. Existing proposals to enhance resiliency and sustainability may not have enough environmental champions to reallocate funding and put it into action. Addressing the hazards sooner greatly reduces losses and impact in the future. Thus, the Borough could benefit from staff training on resilience as well as educational opportunities for the public.

Planned development and redevelopment is constrained by limited land with conflicting land use demands, as illustrated below:

- *Limited land availability:* Scarcity of undeveloped spaces limits options to build open spaces to strengthen the Borough's resiliency and sustainability, such as by mitigating floods and extreme heat. Driven by this land scarcity, high property values make land acquisition difficult for the municipality, hindering their ability to realize their sustainability goals using the money accessible by existing grant programs, such as the Monmouth County Open Space Grants.
- *Ordinance structure:* The existing state building code, dated 2006, and Municipal Land Use Law do not incorporate resiliency, such as flooding or climate concerns. Therefore, it is up to municipalities to determine how they incorporate resilience and climate concerns into their zoning and construction processes. However, per Executive Order 89, the state is creating new guidelines for resilient development which should aid the municipality in making these decisions about developing and redeveloping with resilience and sustainability in mind.
- *Spatial constraints*: Within the residential areas on the west side of town, narrow streets limit available space for nature-based solutions, such as tree installations and rain gardens. Additionally, in the coastal bluff areas, steep slopes limit the development allowed. This limit on development in the sloped areas per the steep slopes ordinance (§ 150-78) currently constrains development in a beneficial way to protect the residents living on the slopes. However, with flooding pressures increasing, there may be a need to move lower elevation populations in the future. Despite the

appearance of space, the sloped areas will be unable to accommodate those needs, a constraint which requires planning.

How can Plan Endorsement help Atlantic Highlands advance these opportunities and overcome these challenges?

With completed Plan Endorsement, the Borough would have prioritized scoring and preferential interest rates on loans for funding under the Clean Water State Revolving Fund Financing Program to fund projects involving the creeks that would benefit water quality, as well as open space land acquisition. Additionally, the Borough would have prioritized access to coordinated planning assistance from state agencies, which could streamline decision making processes involving future planning, infrastructure improvements, design standards, and resource protection. This prioritized assistance is a key feature of Plan Endorsement that serves to lighten the burden on municipalities faced with a multitude of decisions to make, thereby easing the impacts of identified constraints.

This examination of opportunities and constraints would be helpful in developing a local resilience strategy for the plan implementation agreement stage of the plan endorsement process.