

Original Plan Adopted November 18. 2021 by Leland Town Council CAMA Addendum Adopted June 19, 2025 by Leland Town Council

Plan and Addendum Certified July 23, 2025 as a CAMA Land Use Plan by North Carolina Coastal Resources Commission



ACKNOWLEDGMENTS

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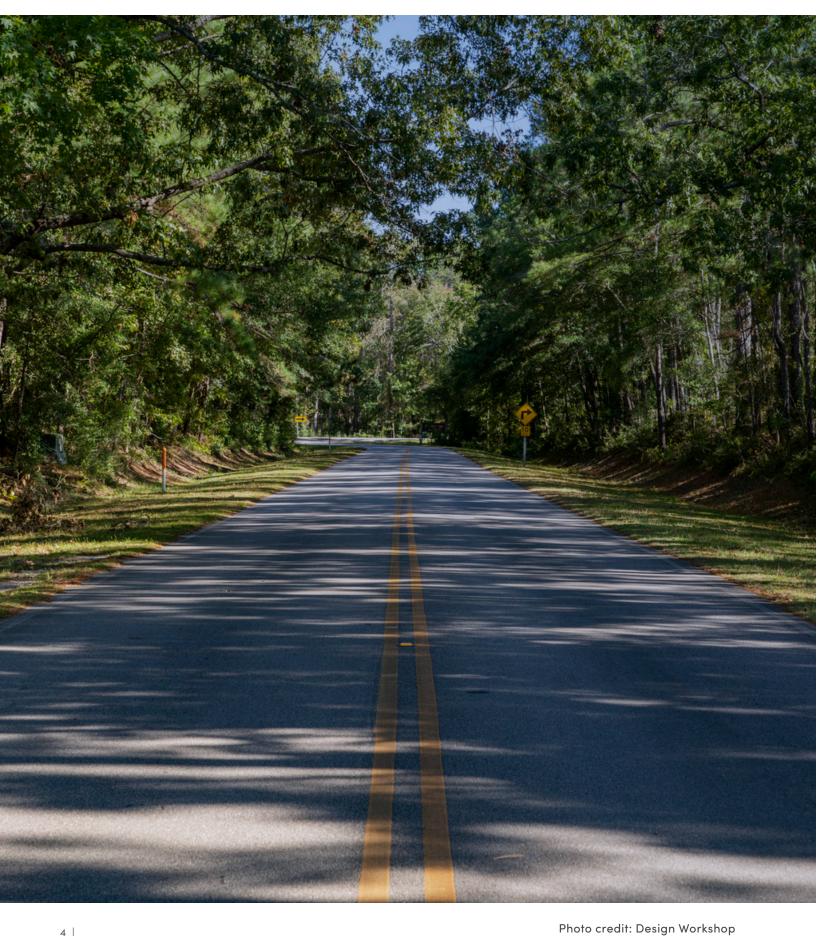
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THANK YOU TO ALL OF THE COMMUNITY MEMBERS, BUSINESSES, PROPERTY OWNERS, AND VISITORS FOR YOUR PARTICIPATION, TIME AND CONTRIBUTION!

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Photo credit: Design Workshop

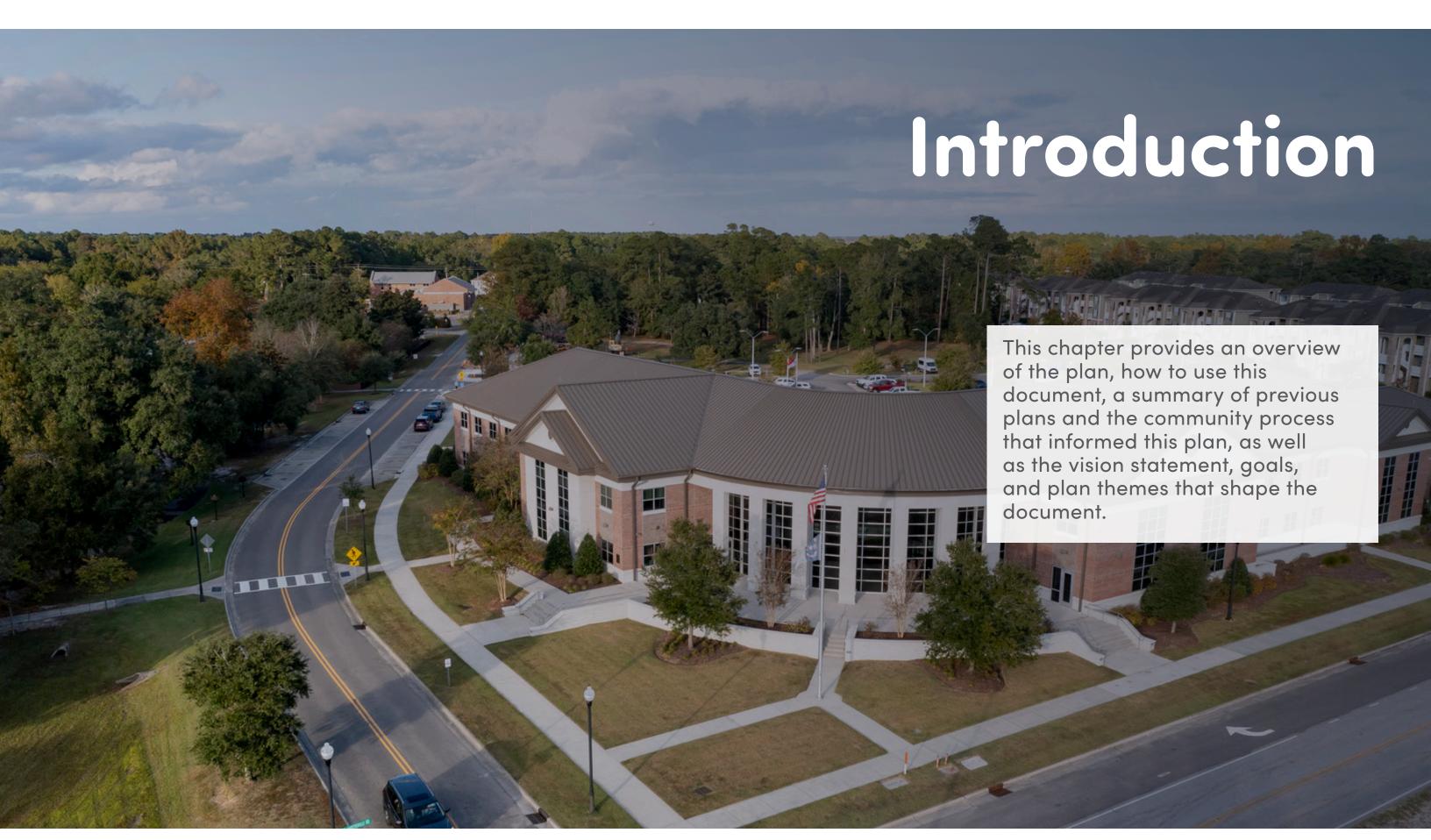
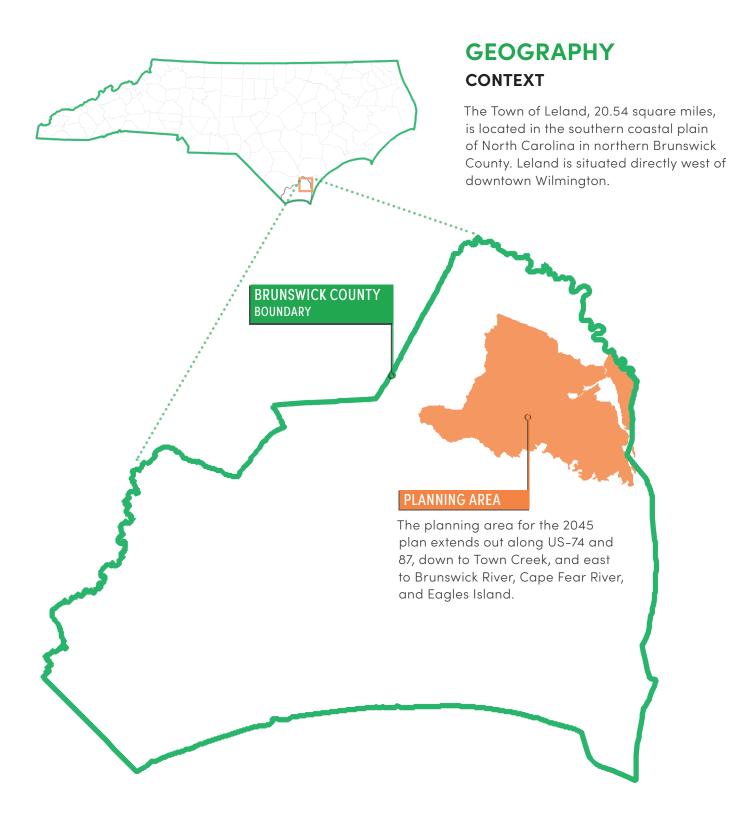
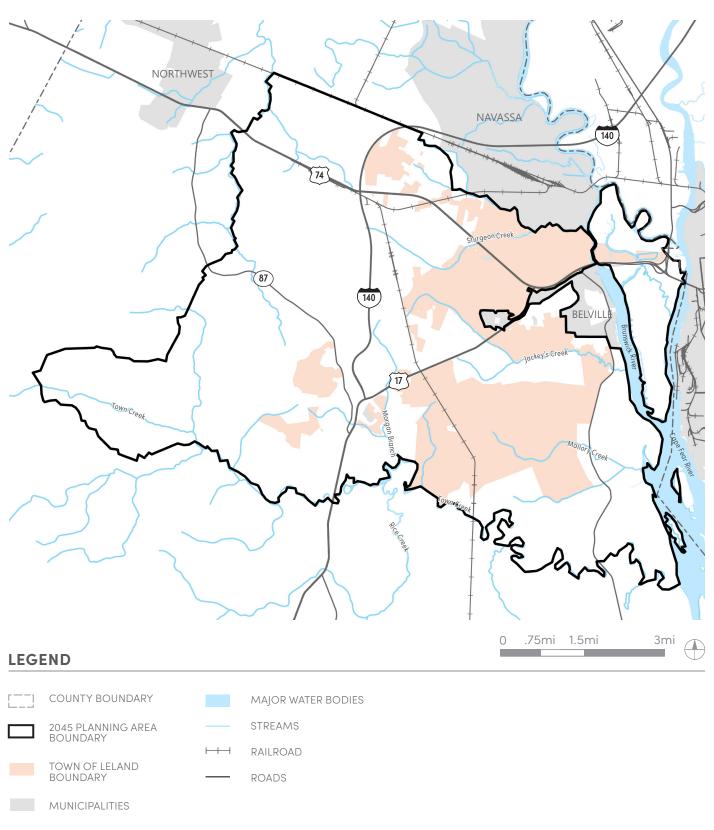


Photo credit: Design Workshop

OVERVIEW AND CONTEXT



MAP 1: CONTEXT MAP



Map Source: Design Workshop, existing conditions from Town of Leland GIS and ESRI

THE LELAND 2045 COMPREHENSIVE LAND USE PLAN

The Leland 2045 Comprehensive Plan ("Leland 2045") is a planning document that outlines goals, policies, and implementation strategies that were developed through a robust public engagement process. The purpose of the Leland 2045 Comprehensive Plan is to enable Leland officials and citizens to anticipate and constructively respond to growth and change, and to encourage the development of safe and healthy, built and natural environments that create opportunities for all.

OBJECTIVES OF THE PLAN

- 1. Integrate existing plans and initiatives into a community-wide vision for the future
- 2. Create a resource to inform policy decisions
- 3. Set priorities and responsibilities for land use planning and community development
- 4. Outline specific goals and strategies to achieve the plan's vision
- 5. Align Strategic Plans, Capital Improvement Plans (CIP), Budgets, and Department Action Plans
- Help Leland staff, leadership, and officials initiate tasks and make decisions
- 7. Outline a strategic and manageable process to accommodate growth and expansion

WHY IS THE PLAN NEEDED?

Leland 2045 is needed to link together existing and forward-looking planning with future efforts and investments to ensure that Leland grows and expands toward a community-derived vision rather than in a way that detracts from those things that make it a special place to live. This linkage will facilitate sustainable growth; create a unique sense of place and character that is Leland's own; foster a high quality of life and sense of community; protect Leland's unique landscape and access to nature; and expand economic opportunities for all. When acted on, Leland 2045 will enable the Town to continue to build a place that attracts people to live, create, do business, and recreate here for generations.

WHAT DOES THE PLAN INCLUDE?

Leland 2045 provides a vision, goals, strategies, and actions derived through a collaborative community-based planning process. It includes Implementation and Action Planning, which allows for Town departments, leadership, private sector interests, and citizens to hold each other accountable to act in

harmony. It brings focus and priority to the capital investment, human capacity, collaboration, and shared commitment that is needed for the Town to realize its vision and manage its growth toward an even more viable and sustainable future.

Consistent with The Coastal Area Management Act (CAMA), Leland 2045 consists of five elements that analyze existing and emerging conditions, determine future growth, and project future land uses, and also includes tools to guide future development within Leland's existing boundaries and areas that may become part of the Town. Because of the unique approach undertaken by the Town in the adoption of Leland 2045, the standard elements of CAMA are not always segregated into individual chapters. Rather, they are packaged into integrative themes that better articulate Leland's priorities for achieving economic, social, and environmental sustainability.

HOW TO USE THIS DOCUMENT

Each of the principles, strategies, and actions included in this document are important for the Town to achieve its vision. In that sense, Leland 2045 is a living document that needs to be worked with and updated regularly. To be effective, the plan needs to influence the actions of the Town's departments and encourage collaboration and cooperation between them.

Leland 2045 should be used as a reference tool that is referred to often and regularly and should be the impetus for the ongoing decisions and focus of the Town's internal and external interactions.

Leland 2045 is a step toward the future of the Town, where vision is articulated, themes are established, strategies are identified, and action items are defined. It lays the framework for future action, but purposefully does not resolve all its goals, principles, and strategies.

The plan describes actions in terms of immediate activities that begin with adoption of the plan and are typically completed or realized within the first year; short-term activities that start within one to three years of the plan's adoption; mid-term activities that begin three to ten years after the plan's adoption; and long-term activities that extend beyond ten years and may overlap into the next comprehensive plan effort.

REFERENCE TO OTHER PLANS AND DOCUMENTS

The Leland 2045 Comprehensive Plan integrates existing plans that were created to advance the quality of Leland's growth. Each plan was analyzed to determine the key actions that are ongoing, and those that are completed, to avoid unnecessary duplication or confusion amongst the plans. Several key action items remain important for Leland to continue to work on:

LAND USE & COMMUNITY DEVELOPMENT

- Pursue the implementation of the Gateway Infill Plan
- Encourage infill development

ECONOMIC DEVELOPMENT

- Leverage the Cape Fear region's economic role in the global economy
- Nurture existing industries to create a diversified economy
- Grow the job base in Leland with development patterns that have a high General Fund contribution per acre
- Position Leland as an important partner for both residential and office support for this technical cluster in the Cape Fear region
- Provide knowledge to encourage redevelopment of the Gateway District as a town center and to develop the US HWY 17 corridor as an economic development hub
- Seek to reduce the number of people who must commute out of Leland for work every day
- Promote business and strengthen tourism

ENVIRONMENTAL, OPEN SPACE, & RECREATION OPPORTUNITIES

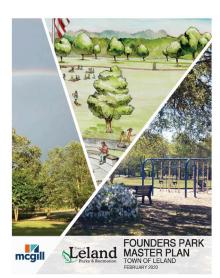
- Increase environmental buffers around sensitive waterways
- Limit development within the 100-year floodplain
- Expand open space requirements and define park requirements

TRANSPORTATION

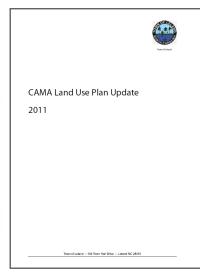
- Implement the recommendations of the Collector Street Plan
- Pursue complete streets designs for all new streets
- Continue to improve connectivity
- Implement traffic management and traffic calming techniques

BICYCLE AND PEDESTRIAN

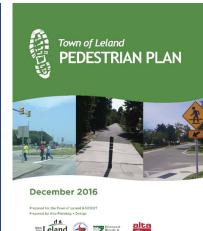
- Plan for and implement bike and pedestrian infrastructure
- Become designated as a Walk-Friendly Community
- Integrate bicycle facilities into all new developments and roadway planning, design and construction projects
- Encourage walkable, compact neighborhood forms that increase quality of life, and access to Leland's rich natural resources

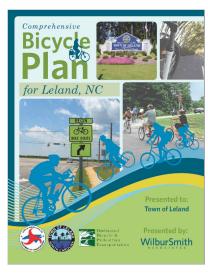
















SUMMARY OF COMMUNITY INVOLVEMENT PROCESS



ENGAGING THE COMMUNITY

The plan was prepared during the Covid-19 pandemic, which required a combination of social distancing and virtual community workshops. Regardless of these obstacles, it was shaped around a continuous and multi-faceted cycle of input with stakeholders and the public, designed to aggregate feedback from a diverse group of voices within the Town. Over the course of the plan's development, there were multiple opportunities for the public to provide input, voice concerns, and comment on and shape in-progress plan materials.

FOCUS GROUP, PLANNING BOARD, AND TOWN COUNCIL

The consultants and planning staff met with the Focus Group, Planning Board, and Town Council to solicit feedback throughout the process and during the development of the draft plan.

WEB AND MEDIA PRESENCE

The comprehensive plan was developed alongside a 24/7 web presence via the Town website that allowed free and open access to key plan documents as well as a platform for the public to interface with and react to the plan's development. The plan was advertised and reported on in a variety of local media, including press releases, email, and the Town's social media platforms.

PUBLIC ONLINE SURVEYS

The plan was influenced by two online public surveys. The surveys evaluated citizen satisfaction with existing Town services and qualities and offered a glimpse into public preferences for prioritizing future investment.

PUBLIC MEETINGS

Two virtual public workshops were conducted with the community. The first focused on framing the background of the plan, vision, and themes. The second focused on growth scenarios. Both virtual meetings offered the community the chance to share ideas and priorities through live polling and through live chat function.

A third public community meeting was held in Town Hall, where exhibit boards were set up to reveal the draft Future Land Use Map (FLUM), focal area maps, and plan vision and themes that were shaped by the first two meetings.

All workshop recordings and exhibit materials were published online and translated into a user-friendly format for viewers to navigate and respond to survey questions or provide comments at their own pace.



Figure 2: Advertising the plan website via a moveable road sign proved to be an effective strategy in reaching communities across Leland and boosting engagement.

PUBLIC ENGAGEMENT HUB

Throughout the planning process, a physical engagement "hub" was set up in Town Hall for community members to schedule time to view presentation











Figure 1: Photos from the final community meeting where exhibit boards revealed the draft Future Land Use Map (FLUM), focal area maps, and plan vision and themes.

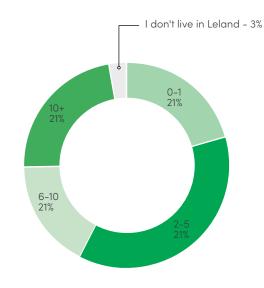
SURVEY RESULTS SUMMARY



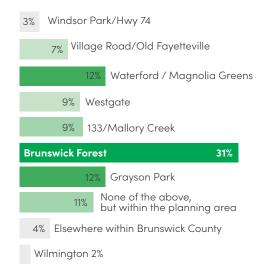
The first public survey helped to frame the plans vision and goals and gauge priorities. This survey was live on the website from January 19, 2021 through March 21, 2021. Responses were also collected from the Public Engagement Hub set up at Leland Town Hall.

THIS PAGE SUMMARIZES SOME OF THE KEY TAKEAWAYS FROM THE COMMUNITY SURVEY. ADDITIONAL FINDINGS ARE FOUND THROUGHOUT THE DOCUMENT AND FOR THE FULL SURVEY RESPONSES, PLEASE **VISIT THE PROJECT WEBSITE:** WWW.LELAND2045.COM

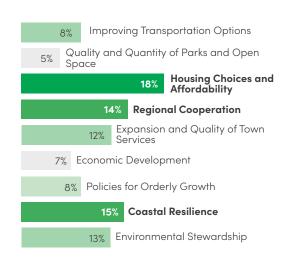
HOW LONG HAVE YOU LIVED IN **LELAND (YEARS)?**



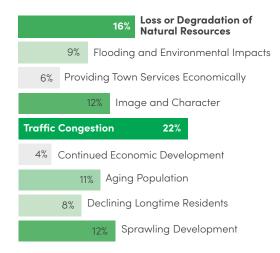
PLEASE INDICATE IN WHICH AREA OF THE TOWN YOU LIVE:



THE MOST IMPORTANT TOPICS TO **FOCUS ON IN A COMPREHENSIVE PLAN ARE:**



AS THE TOWN CONTINUES TO **GROW, THE BIGGEST CHALLENGES WE FACE ARE:**



THE ITEMS I FEEL MOST SATISFIED WITH RELATED TO LELAND'S **QUALITY OF LIFE ARE:**

Affordability/Cost of Living

5% Art and Culture

7% Relationship to Nature

4% A Strong Stable Economy

5% Feeling of Safety and Security

14% Accessible Public Services

Feeling of Community

4% Demographic Diversity

Educational Opportunities 20%

3% Housing Choices **Employment Opportunities** 8% Sprawling Development 10% Entertainment and Food Choices 14% Traffic/Limited Transportation Options 10% Access to Job Training 9% Educational Opportunities 3% Neighborhood Parks

THE ITEMS I WOULD LIKE TO

IMPROVE UPON ARE:

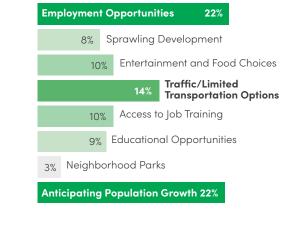




Figure 3: Community survey response word cloud describing vision for the Town in one word. The larger and bolder words are representative of the most common responses.

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FUTURE VISION, GOALS, AND PLAN THEMES

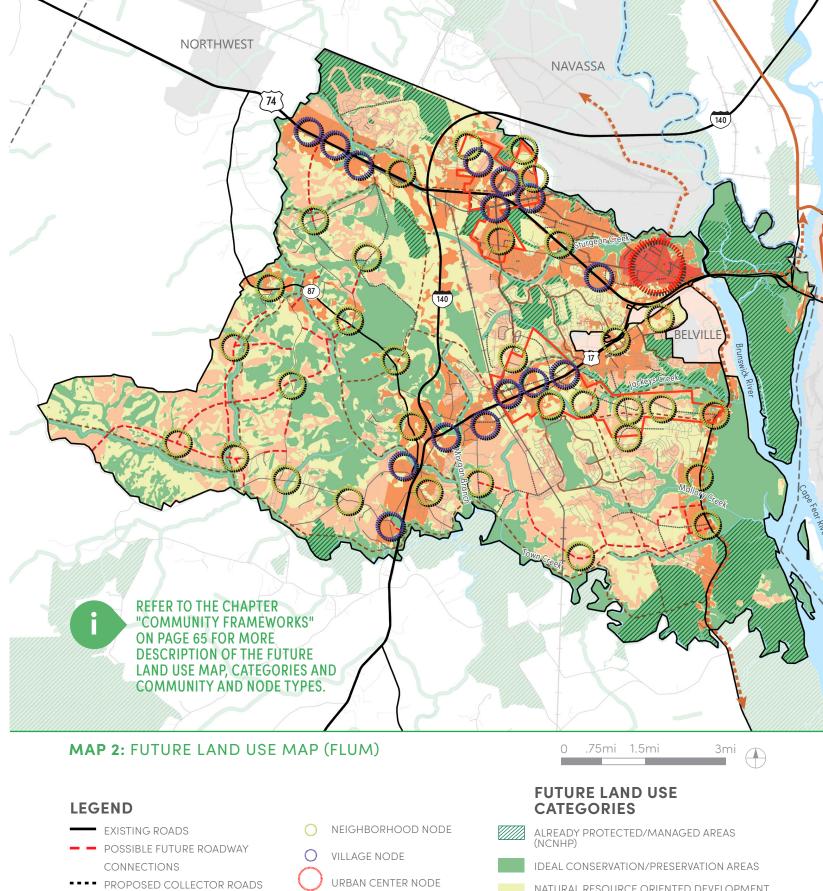
LELAND 2045 VISION

Leland is prosperous, inclusive, and resilient. It is a healthy, safe, equitable, and accessible community built upon our strong values for the natural environment; inclusivity; walking and biking; social, economic, and physical connectivity; the quality of our neighborhoods; access to services, facilities, and places to gather; and the unique image and sense of place we have nurtured together as a community.

CRITICAL GOALS OF THE PLAN

- 1. Leland has a high quality of life shared by all residents
- 2. Leland promotes a sense of belonging, inclusivity, fairness, and equity
- 3. Leland values and protects natural and cultural resources
- 4. Leland has principled and sustainable economic growth
- 5. Leland has accessible community facilities, parks, schools, and open spaces
- 6. Leland has high-quality neighborhoods with diverse housing opportunities
- 7. Leland is attractive to people of all income levels, life stages, and personal abilities

- 8. Leland has high levels of social, environmental, economic, and cultural connectivity
- 9. Leland has safety, security, health, and wellbeing for all its citizens
- 10. Leland has identifiable, central gathering places that bring us together
- 11. Leland uses smart, progressive planning that anticipates and stays ahead of growth



NATURAL RESOURCE ORIENTED DEVELOPMENT (FROM COLLECTOR PLAN) FOCAL AREA EXISTING TRIALS MODERATE DEVELOPMENT POTENTIAL FUTURE GULLAH GEECHEE HERITAGE TRAIL EXISTING REGIONAL TRAILS HIGH DEVELOPMENT POTENTIAL

GATEWAY DISTRICT

Map Source: 18 | Introduction Introduction | 19

---- TRAILS

(INCLUDES ALREADY PLANNED)

Leland is a town that has prospered by responding to growth opportunities within current Town boundaries and through expansion of Town boundaries. Its growth has responded to the real estate market's opportunities and has generally been accommodated in large Planned Unit Developments (PUDs) that focus primarily on the active retiree. These developments, along with Leland's cost of living, provide an amenity-based community that is attractive to the older demographic moving into the region because of lifestyle choices, weather, amenities, and cost of living. Joining that growth is more traffic congestion, more pressures on the natural environment, more demands for services, and a feeling of separation between residents that have historically lived in Leland and residents that are relatively new to the Town. There is a growing sense that Leland must define and establish a vision of its sense of place and character before accelerated growth overruns the opportunity to do so.

Efforts have been made to consider the importance of income and racial diversity, connectivity, gathering, and an identifiable sense of place for Leland. Vision statements from previous plans, the Gateway Infill Plan , the Flexcode, the street connectivity plan, and other measures were adopted to manage suburban sprawl, protect the natural environment, promote place-based development, create a central gathering place, and establish the networks that connect people to each other and to the Town's amenities.

Creating a collaborative vision and committing to an organized and holistic strategic plan for growth and expansion based on The Town's core values is a bold step the Leland 2045 plan takes. Leland 2045 considers that accelerated growth will continue, and that Leland will expand its boundaries to accommodate and benefit from projected growth.

The questions that this plan poses and focuses on answering are:

"In what form, location, and character will this expansion take place?"

"How will it support and strengthen our values?"

"What additional efforts have to be made to ensure that we achieve our vision and honor our values?"

"How can we best accommodate growth while also creating a place that will be economically and environmentally sustainable and resilient for generations to come?"

With this plan, and the ongoing work that flows from it, Leland can continue to be a leader within the region on how to plan optimistically for growth while also protecting the very reasons why Leland and the region are such an attractive and desirable place to live. This plan considers that the hallmarks of great and lasting places include protecting the natural assets that define it, promoting cultural and economic diversity, ensuring inclusion, and establishing the physical and social infrastructure and frameworks that enable people to share, prosper, gather,

work, recreate, walk, bike, and connect freely with one another. It is from these hallmarks that Leland has committed itself to achieving and from which its sense of place and identity is defined.

PLAN THEMES

A comprehensive plan is guided by a compelling vision that is reflective of what the community aspires to become. The American Planning Association (APA) in its Sustaining Places Initiative describes themes that can work collaboratively to advance economy, society, culture and the environment. Through collaboration with planning staff, the community, and the Leland 2045 Focus Group, these were adapted and refined to the following six themes:



Photo credit: Design Workshop



HIGHLY VALUED AND PROTECTED
NATURAL AND CULTURAL RESOURCES



LIVABLE, DIVERSE,
AND CONNECTED
NEIGHBORHOODS THAT
ACCOMMODATE GROWTH



A RESILIENT AND STABLE ECONOMY



AN INCLUSIVE, SUPPORTED, HEALTHY, SAFE, AND EDUCATED COMMUNITY



INFRASTRUCTURE THAT SUPPORTS COMMUNITY LIFE



AN ACTIVE
PARTICIPANT IN
A COOPERATIVE
REGION



Photo Credit: Design Workshop

HIGHLY VALUED AND PROTECTED NATURAL AND CULTURAL RESOURCES

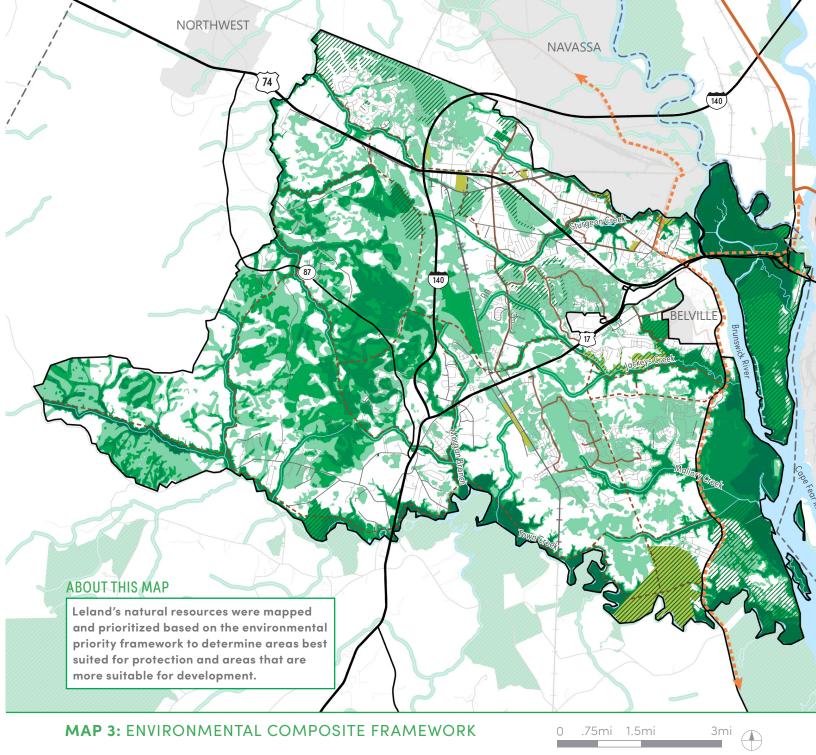
VISION STATEMENT

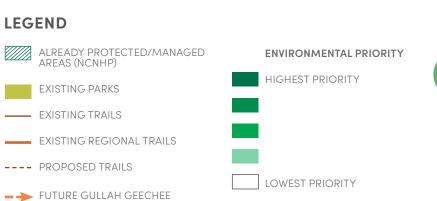


Leland's natural resources are fundamental to our lifestyle, economy, well-being, and resilience. Protecting and maintaining its health and ecological function are a primary objective within planning for growth.

OPPORTUNITY 1.

- Protect and augment the components of Leland's natural environment that will keep people and investments more safe from flooding, provide recreation and access to nature, enhance the tourism economy, and protect valuable natural resources.
- 2. Link environmental planning with zoning, growth management, land use planning, and hazard mitigitation planning.
- 3. Create strategies for future conservation / protection efforts that preserve critical natural environments.
- 4. Promote green building and development techniques as a part of Leland's image, character, and brand.
- 5. Create a linked open space network that supports environmental connectivity, trails, and blueways.
- 6. Maximize public access to public trust waters.
- 7. Maintain, protect, and where possible enhance water quality in all coastal wetlands, rivers, streams, and estuaries.





R E FI

REFER TO "TABLE 1:
ENVIRONMENTAL COMPOSITE
FRAMEWORK" ON PAGE 70 IN
THE COMMUNITY FRAMEWORKS
CHAPTER FOR BREAKDOWN OF
THE ENVIRONMENTAL LAYERS
AND INPUTS THAT MAKE UP THIS
COMPOSITE MAP.

Map Source: Design Workshop

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PRINCIPLES

- We value our unique and complex natural environment as a source of life, recreation, economy, culture, and sense of place.
- Our natural environment supports and defines the location of our built environment and is essential to our economy and way of life.
- Our development is done in balance with preserving our natural systems.
- We leverage environmental preservation and conservation to build resiliency and hazard mitigation.

- We take efforts to preserve our critical natural environments so that future generations can enjoy them.
- We protect our air and water quality.
- We promote safe and sensitive access to our open spaces and waterways.
- We value our cultural history and respectfully promote it whenever we can.
- We are leaders in the region and pursue environmentally responsible development.



Photo: Sturgeon Creek Park, Leland

STRATEGIES CREATE A STRATEGIC PLAN TO CONSERVE, CONNECT, AND PROTECT VULNERABLE LANDS.

- Develop a masterplan for a Green Network that will connect existing and proposed conservation areas, neighborhoods, riparian corridors, and sensitive natural environments.
- Create a plan to put more land in conservation through open space requirements based on a regularly updated land / environmental suitability analysis.
- Consider open space requirements for all development types based on best practices.
- Create requirements for developments to connect open spaces designated on the Green Network plan through their projects where feasible.
- Establish and maintain partnerships with entities able to fund conservation efforts.
- Work with organizations, such as a Land Trust, to manage the funding and efforts to conserve environmentally and culturally sensitive land.
- Incentivize land purchases and development restrictions in floodprone areas for open space preservation.
- Implement tools to enable land conservation such as:
 - 1. Conservation easements
 - 2. Transfer of development rights
 - 3. Purchase of development rights

RESILIENT GROWTH MANAGEMENT PLANNING

 Rank land suitability associated with risk of vulnerability associated with flooding events.

- Overlay future land use plans and/ or zoning to determine vulnerability and areas of inconsistency between zoning, environmental conditions, and potential risk of flooding.
- Systematically review Leland's
 Comprehensive Plan, land use
 and zoning policies, building
 and engineering standards,
 transportation plans, housing plans,
 park plans, etc. and incorporate
 measures and create policies
 that negate or minimize effects
 associated with enhanced flooding.
- Coordinate enhanced flooding resiliency strategies, planning, design, and engineering standards across all codes, plans and policies.
- Within growth management planning and zoning, create long-term plans to direct new development and critical infrastructure to be less vulnerable from flooding.
- Consider development forms that are more resilient to environmental hazards, while accommodating future growth.
- Transform less-intense uses into a denser, mixed-use pattern in low-risk areas.
- Outline a transit-centric land use and infrastructure pattern to support new urban centers in low-risk areas and build the infrastructure necessary to support new urban centers.
- Promote resiliency and sustainability as a necessary growth and economic development strategy.
- Create policies to limit growth or reduce impact of development in 100-year and 500-year flood plains.
- Create awareness with the public of potential impacts of development within areas prone to flooding.

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- STRATEGIES Identify areas critical for flood and natural resource protection, as well as higher ground that may be more suitable for development.
 - Update environmental systems mapping to reflect ongoing research and actual conditions of flooding.
 - Review proposed development and land use plans, infrastructure plans, parks and recreation plans, and transportation plans against the environmental framework.

PROMOTE THE USE OF **ENVIRONMENTALLY FRIENDLY DEVELOPMENT AND OPERATIONS PRACTICES**

- Monitor effectiveness of existing ordinances and programs and update as necessary to protect water quality and natural resources.
- Implement use of green building and Low Impact Development (LID) techniques for new home, commercial, and institutional developments.
- Protect mature and specimen trees when property is developed or redeveloped.
- Plant new trees when property is developed or redeveloped.
- Continually reevaluate and update the Stormwater Regulations to add Best Management Practices (BMPs) that increase the use of Low Impact Development (LID) techniques, such as, but not limited to bioretention, green roofs, pervious paving, and cisterns that promote water

conservation and groundwater recharge.

INTEGRATE FUTURE LAND USE PLANNING, ZONING, AND SUBDIVISION REGULATIONS WITH ENVIRONMENTAL SYSTEMS MAPPING

- Zone land areas and base their development standards with their natural environmental condition.
- Use the Environmental Composite Framework, created in this Comprehensive Plan, that designates areas of environmental importance, such as the floodplain, wetlands, critical habitat, etc. to craft development standards that protect the natural environment and to review all development and land use proposals for their compatibility with the natural environment.
- Use regulatory tools such as lowerdensity zoning, conservation-based planning, Low Impact Development (LID) standards, open space setaside requirements and buffers, and natural resource protection standards, as the primary tools to protect areas of environmental importance. Use land purchases and the purchase of conservation easements for the most critical properties.
- Coordinate park plans, future land use plans, zoning, conservation plans, scenic corridor plans, and greenway plans with environmental systems mapping to create a consolidated green network plan that expands green/open space connectivity.
- Create a strategic and prioritized open space acquisition plan that targets lands that will aid in resiliency planning and mitigation efforts.

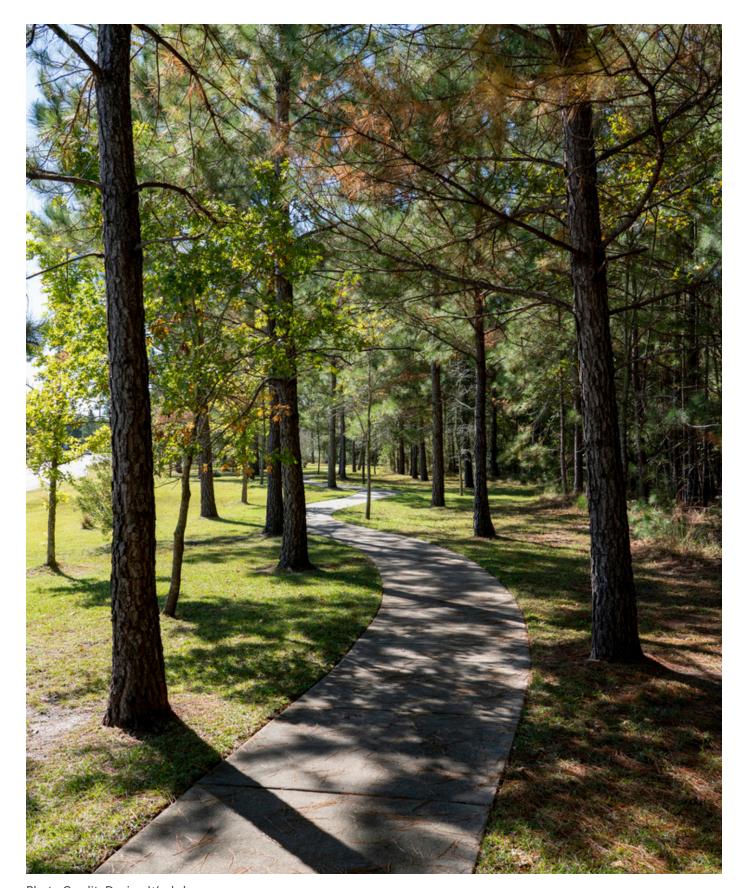


Photo Credit: Design Workshop

LIVABLE, DIVERSE, AND CONNECTED NEIGHBORHOODS THAT ACCOMMODATE GROWTH

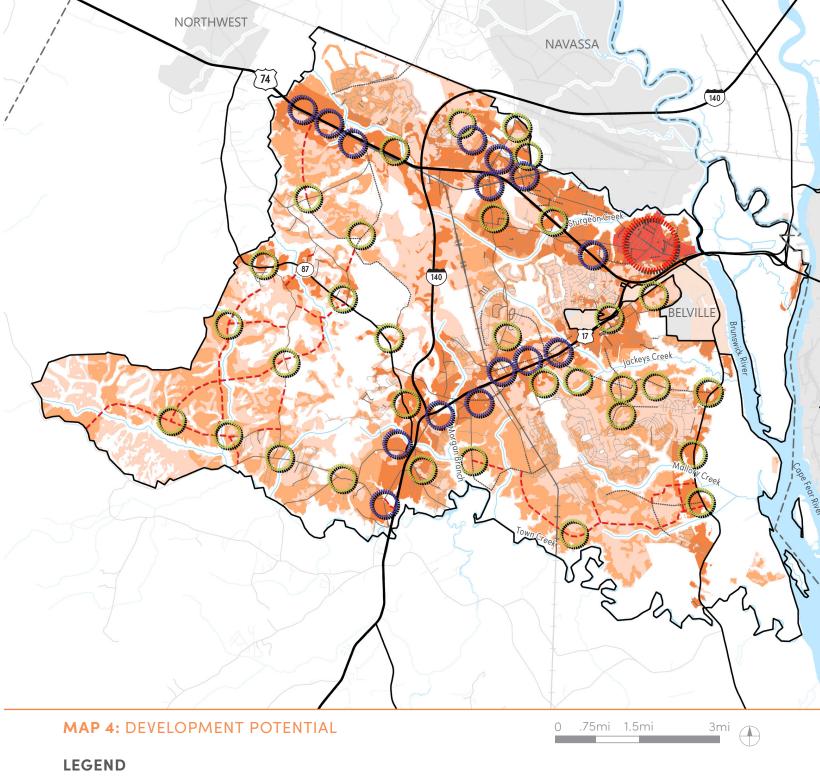
VISION STATEMENT



Leland's neighborhoods and communities promote connectivity, sense of place, character, and quality of life. This is done by providing walkable and bikeable places for living, working, shopping, recreation, and interacting for diverse age groups, income levels, and abilities.

OPPORTUNITY

- Resiliency and open space planning linked with growth management planning – grow where it is suitable to do so from an environmental and economic standpoint.
- 2. Growth accommodated toward a community-derived vision of the character, form, density, location, and development principles.
- 3. An organized strategy for town expansion based on nodal town planning principles.
- Planning frameworks that create a complete community:
 - » Connectivity (multimodal)
 - » Access to parks and open space
 - » Access to community services
 - » Access to employment opportunities
 - » Centers and edges
 - » Mix of uses
 - » Housing diversity
- Infill and redevelopment equally encouraged with new community development.
- 6. A more consistently recognizable sense of place and identity for the Town of Leland and individual communities and areas within it.
- Reducing sprawling, auto-dependent development.
- 8. Protecting and enhancing real property values.





ABOUT THIS MAP

Land most suitable for development was mapped and prioritized to best position new development on the most suitable land.

Potential additional roadway connections and the locations of nodes provides the framework for new community development within the planning area.

Map Source: Design Workshop, Leland GIS Department, ESRI

PRINCIPLES

- Our neighborhoods express our identity, promote our character, and exemplify our commitment to a high quality of life.
- We value walkable and bikeable connections between neighborhoods to promote a sense of community and belonging.
- We support housing-diverse neighborhoods with a variety of housing choices and prices that are attractive and open to all segments of the market.
- Our neighborhoods have accessible parks, open spaces, and places to gather, which provides a place of neighborhood identity.
- We support small, walkable commercial nodes within our neighborhoods that create places to shop, work, or start a business.

- We ensure the realization of our vision by creating plans and policies that support it.
- We collaborate regionally to coordinate the development of the built environment and the protection of our natural environment.

STRATEGIES LOCATE OR ACCOMMODATE GROWTH PROMOTE GROWTH THAT IS GEARED WITHIN LOGICAL LOCATIONS IN THE PLANNING AREA TO ENHANCE **RETURN ON INVESTMENT AND FEASIBILITY**

- Promote growth where there is an existing, planned, or funded roadway and utility infrastructure to reduce costs to the Town.
- Make development and completion of existing approved PUDs and subdivisions a priority to accommodate projected growth within areas already approved for it.
- Continue to promote the Village Road Gateway redevelopment plan.
- Incrementally expand Town boundaries based on infrastructure, adjacencies with existing development, economic opportunity, the availability of community services, and need.

TOWARD A VISION AND CHARACTER THAT THE COMMUNITY SUPPORTS

- Promote development that is consistent with Leland's vision for itself and for various areas of the Town and Planning Area, based on community input.
- Promote development patterns that support safe, effective, and multi-modal transportation options, including auto, pedestrian, bicycle, and transit. This will minimize vehicle traffic by providing for a mix of land uses, walkability, and compact community form.
- Locate jobs and commercial areas near where people live in nodes that promote a mix of uses in a walkable pattern.

STRATEGIES CREATE THE TOOLS NEEDED TO **REALIZE COMMUNITY-SUPPORTED TYPES OF GROWTH**

- Create Small Area Plans for key focal growth areas to guide their development vision.
- Expand use of FlexCode within areas of new development, areas to be annexed, and proposed nodes.
- Update FlexCode as necessary to ensure it is promoting its established vision and principles.
- Consolidate zoning and subdivision regulations into a Land **Development Code that incentivizes** the use of the FlexCode.
- Simplify the application processes and encourage form-based building with the neighborhood and pedestrian shed model.
- Consider the use of "Node Types" that define mixed-use nodes and centers of varying scales located along major roadways and the Green Network.
- Define Community Types for key areas of the Planning Area that describe a clear vision, mix of land use types, community form, density, and character for how they should be developed.

PLAN FOR AND INTEGRATE **COMMUNITY BUILDING** INFRASTRUCTURE THAT WILL SUPPORT LONG-TERM GROWTH

- Plan for Transit Ready Nodes along US 17, US 74, Village Rd, Lanvale Rd, and Old Fayetteville Rd.
- Plan for Trail Ready Nodes along the Green Network.
- Require infrastructure service concurrency for new developments.

- Require adequate road, bike, and pedestrian connectivity between adjacent community developments.
- Consider the requirement to make parks and open spaces internal to a development open and accessible to the public and not for private
- Create and implement signage and wayfinding that links areas of town into a whole.

INTEGRATE FLOOD RISK MITIGATION **EFFORTS INTO CODES AND ORDINANCES**

- Systematically review comprehensive plan, land use and zoning policies, building and engineering standards, transportation plans, housing plans, park plans, etc. and incorporate measures and create policies that negate or minimize effects on public infrastructure associated with enhanced flooding.
- Coordinate enhanced flooding resiliency strategies, planning, design, and engineering standards across all codes, plans, and policies.
- Consider designating areas of environmental importance, such as the floodplain, as areas that have unique development standards that protect the natural environment they are within or adjacent to.

A RESILIENT AND STABLE **ECONOMY**

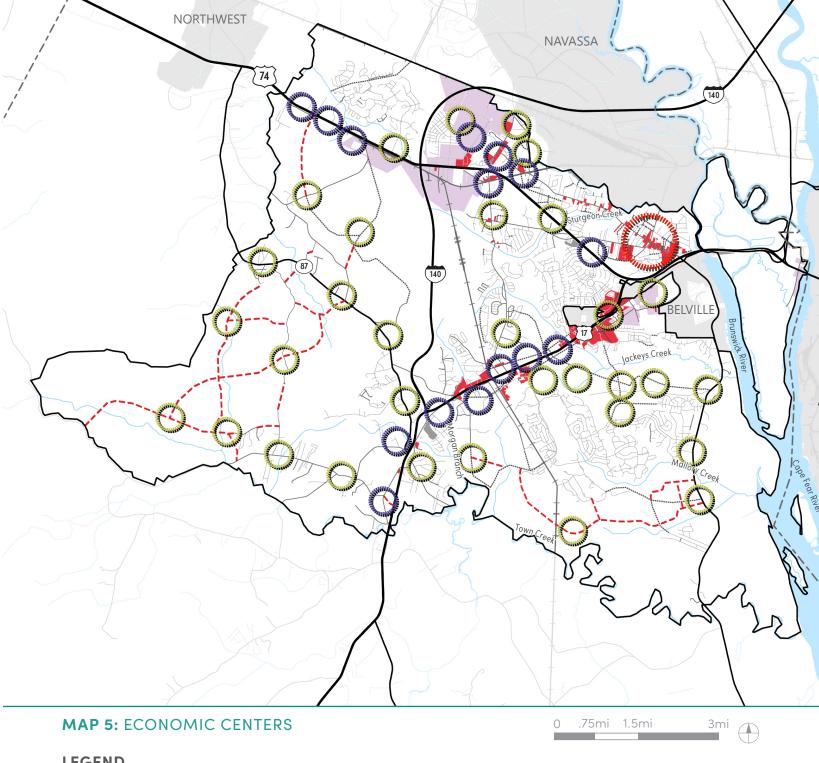
VISION STATEMENT



Leland has the programs, plans, strategies, and a workforce that is prepared to capitalize on regional opportunities that diversify and expand its tax base and stabilize its vulnerability to economic cycles.

OPPORTUNITY

- Diversify the economy and tax base.
- 2. Identify suitable land area for job-creating development.
- 3. Support the efforts of the Leland Innovation Park, Inc.
- 4. Expand agricultural industries that convert agricultural products by value-added manufacturing operations from the point of view of proximity to the Port of Wilmington, Highway 17, Highway 74-76, I-140 and I-40.
- 5. Determine how Leland can best leverage the Town's proximity to the Port of Wilmington.
- 6. Weave workforce training into primary and secondary education.
- 7. Continue to capitalize on Leland's reputation as a retirement community destination.
- 8. Collaborate with Leland Tourism Development Authority to increase travel and tourism.



LEGEND

EXISTING ROADS **EXISTING LAND USE** POSSIBLE FUTURE ROADWAY LIGHT INDUSTRIAL --- PROPOSED COLLECTOR ROADS O NEIGHBORHOOD NODE

Map Source: Design Workshop, Leland GIS Department, ESRI

VILLAGE NODE

URBAN CENTER NODE

ABOUT THIS MAP

Existing commercial and light industrial land uses create the opportunity for economic development.

The potential nodes that form the centers of neighborhoods and villages provide future locations for various sizes and scales of businesses.

PRINCIPLES

- We work to provide diverse and stable employment opportunities for our citizens.
- We value cultural diversity and seek economic opportunities for all our citizens.
- We prepare our workforce with the skills needed to meet the needs of existing and emerging opportunities.
- Leland's sense of place and quality of life are essential to our economy.
- Our natural and cultural resources support our tourism industry.
- We are business-friendly and create the incentives and resources needed to attract new businesses that support our principles.

- Leland is forward-looking and is positioned to take advantage of evolving innovative economic opportunities.
- We recognize the need to locate jobs nearer to where people live to reduce time spent commuting.
- Leland supports industries that are clean and environmentally friendly.
- We recognize that the Town is made up of unique natural and social environments and we position economic development opportunities that fit those locations.
- We recognize that regional cooperation and coordination will expand opportunities for us all.

STRATEGIES DIVERSIFY AND EXPAND POTENTIAL

- Target job-creating uses that build on the region's existing strengths and provide economic opportunities to Leland's residents.
- Diversify the local tax base with job-creating uses that include hightech manufacturing and industry; tourism and hospitality supply chain; agriculture; health and biorelated fields; knowledge-based industries; and green industries.
- Ensure that there is enough appropriately located, zoned, and environmentally suitable land for non-retail commercial uses, such as business parks, research and development centers, product assembly, distribution centers, cottage industries, and light to moderate industrial uses.
- Locate jobs close to centers and nodes and close to the highest concentrations of households to reduce impacts on traffic and commute times.
- Continue to promote and leverage Leland Innovation Park.

PREPARE WORKFORCE

Work with educational partners, both within and outside of Leland and Brunswick County, including universities, colleges, and trade schools, to tailor their educational programs to the area's unique economic opportunities.

CREATE INCENTIVES AND STREAMLINE PROCESSES

- Identify properties that are currently under municipal control, and/or properties that can be land banked, that can be offered to relocating businesses.
- Review and update state and local incentives on a regular basis to attract the right industries for the region as well as keep pace with the changing face of business and industry.
- Support green and sustainable development projects that meet economic development requirements, by streamlining the review processes, as well as creating fee reductions and waivers, and building height or density bonuses.

STRATEGIES EXPAND UPON AND PROMOTE LELAND'S ASSETS

- Recognize the importance of the visual and performing arts community as a key component of quality of life and source of economic development.
- Support the development of a visual and cultural arts community, which is essential to attracting and retaining young professionals and enhancing quality of life.
- Consider financial support for art education programs, and local arts organizations.
- Continue to support the creation of venues, classrooms, and galleries to showcase new and emerging local artists.
- Continue to provide space in libraries and other civic buildings to display the work of local artists.
- Promote the outdoors and recreational tourism.
- Promote Leland's quality of life.



Photo Credit: Design Workshop, Leland Cultural Arts Center (LCAC)

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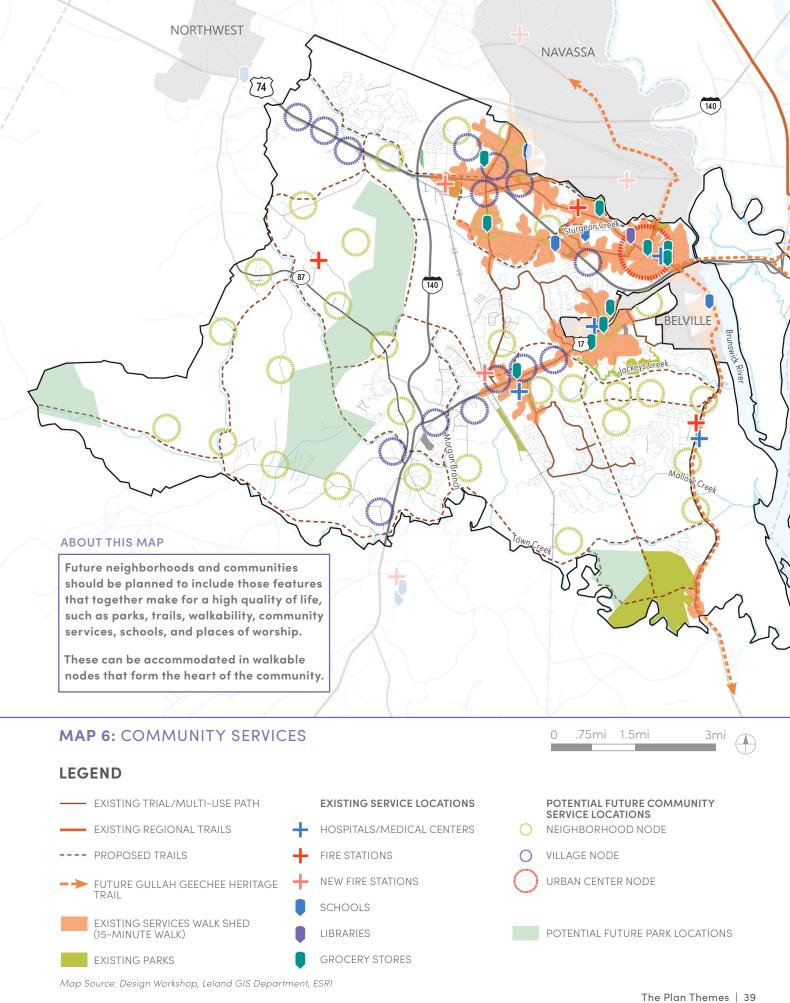
AN INCLUSIVE, SUPPORTED, HEALTHY, SAFE, AND EDUCATED COMMUNITY

VISION STATEMENT



Public health, safety, and education are valued and provided for with access to housing choices, high quality schools, libraries, healthy foods, parks and recreation, health care, safe neighborhoods, art, and culture.

- OPPORTUNITY 1. Equitable and easy access to a healthy lifestyle, quality health care, community services, good education, and attainable housing.
 - 2. Housing diversity supported by codes and ordinances.
 - 3. High levels of multimodal connectivity to reduce time spent in the
 - 4. Access to broadband internet.
 - 5. Support for arts and culture and local artists.
 - 6. Public infrastructure systems that are sized, located, and managed to protect or restore the quality and productivity of Areas of Environmental Concern (AEC) and other fragile areas.



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PRINCIPLES

- Health, safety, equity, and inclusivity are woven into our community and neighborhood plans.
- We support and encourage housing choices that are affordable for our residents.
- · Our communities are served by great schools, libraries, arts and cultural facilities, health care, parks, and open spaces.
- Access to healthy food options is a component of our community and neighborhood plans.
- We value access to community elements via multiple modes of

- transportation such as walking, biking, transit, and the automobile.
- Our neighborhoods, parks, and open spaces are designed with public safety in mind.
- We meet the needs of our aging population and support the growth of our younger generations.
- We strive to support the needs of our citizens to access a happy and successful life.
- We understand that health, wellness. and recreation are marketable investments.

STRATEGIES EXPAND AWARENESS AND SUPPORT **AROUND HEALTH**

- Make health and wellness a Town priority.
- Partner with local and regional community resources, educational programs, and activities that address healthy living and healthy diets.
- Encourage Town-supported health and wellness programs within Town government and for private businesses.

CREATE THE INFRASTRUCTURE TO SUPPORT COMMUNITY HEALTH

- Promote walking and biking as a form of exercise, and commuting, through the greenways and complete streets planning and incentivize complete networks for walking and biking.
- Promote health and wellness activities and programs in parks, open spaces, and recreational facilities.
- Ensure access to affordable healthy foods, goods, and services that support the health and wellness needs of community residents.

- When creating small area plans for new growth areas, include provisions for parks, open spaces, gathering places, food choices, daily needs for shopping, libraries, day care, community services, and community-building elements.
- Incentivize the development of grocery stores in or near underserved neighborhoods.
- Support and promote the use of locally grown produce to expand healthy food options and adopt a local food purchasing program.
- Allow and promote community gardens and small vegetable farms in urban and suburban areas.
- Develop plans and programs to support our aging population.
- Support the creation of venues to showcase new and emerging local artists.

SUPPORT HIGHER LEVELS OF **EDUCATION AND QUALITY SCHOOLS**

Coordinate future land use planning and small area planning with school facility planning.

STRATEGIES •

- Promote a Cradle-to-Career approach to education and create the infrastructure to support it.
- Work with Brunswick County School System to raise the quality and standard of schools.
- Coordinate the timing and siting of future school facilities through Intergovernmental Agreement, coordinated funding, coordinated growth projections, and coordinated land use planning to project future facility needs.
- Encourage cooperation between the School System and other community facility providers (parks, libraries, fire protection) to coordinate future land purchases to serve mutual needs.
- Maintain and expand coordination with the school district to ensure that major development proposals do not have an adverse impact on current school capacity.
- Seek future school sites that are in close proximity or within residential areas so that more children can walk to school.

PROVIDE EQUAL ACCESS TO COMMUNITY FACILITIES, HOUSING AND INFRASTRUCTURE

- Ensure zoning accommodates modern small-scale medical facilities, including walk-in clinics, within every neighborhood or within a ½ mile walking distance to the largest population centers.
- Ensure safe multimodal access to adequate neighborhood and community park space, open space and trails, good schools, health care, healthy food choices and community services are woven into the planning of each new neighborhood or community.

- Plan to create equal access to broadband service.
- Provide a mix of housing and housing price points within each new development.
- Create plans to reduce social vulnerability in areas that are designated as being susceptible to health issues, crime, pollution, poverty, vehicle accessibility, etc.



Photo Credit: Design Workshop

INFRASTRUCTURE THAT SUPPORTS COMMUNITY LIFE

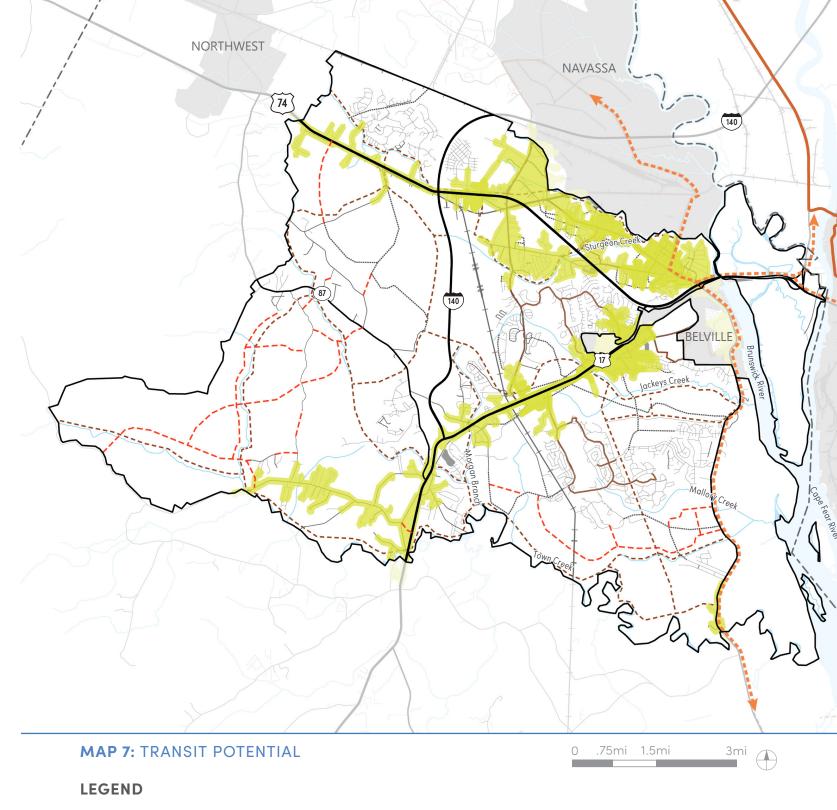
VISION STATEMENT



Leland plans and provides for efficient, cost-effective, and environmentally friendly infrastructure service, walking and biking, safe and complete streets, and opportunities for potential future transit connectivity.

OPPORTUNIT

- 1. Connectivity with complete and multimodal streets.
- 2. Connectivity through trails and greenways.
- 3. Street designs and travel speeds that match community and node types.
- 4. Expansion of transit use town-wide.
- 5. Transit to and from Wilmington to reduce time spent in the car.
- 6. Access management techniques on major roadways.
- 7. Nodal commercial development along major roadways.
- 8. Becoming a place known as a "trails, biking, and walking community."
- 9. Expansion of green infrastructure usage.
- 10. Reduced energy and water use.



EXISTING ROADS

POSSIBLE FUTURE ROADWAY CONNECTIONS

PROPOSED COLLECTOR ROADS (FROM COLLECTOR PLAN)

EXISTING TRAIL/MULTI-USE PATH
 EXISTING REGIONAL TRAILS

---- PROPOSED TRAILS

Map Source: Design Workshop, Leland GIS Department, ESRI

ABOUT THIS MAP

Future planning considers that transit use may be more desirable and convenient over time, as habits change and more people move to Leland.

Planning for "transit ready" nodes along major roadways will set Leland up for the potential to take advantage of transit opportunities.

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─ → FUTURE GULLAH GEECHEE

POTENTIAL TRANSIT SERVICE

AREA (15-MINUTE WALK)

HERITAGE TRAIL

PRINCIPLES

- Our infrastructure is planned for the efficient servicing of our neighborhoods and developments.
- We value cost-effective and efficient development and maintenance of our public infrastructure.
- We support the growth of environmentally friendly infrastructure that protects our air, water, comfort, and landscape.
- We make efforts to be good stewards of our resources.

- We support complete streets that value all modes of transit.
- Our streets are part of our identity and quality of life, and they are contextual for the places they travel through.
- We consider the impact that traffic and congestion have on our quality of life, air quality, and health, and how our built environment affects the time spent in the car.

STRATEGIES A NETWORK OF CONNECTED. **CONTEXT-SENSITIVE, AND COMPLETE STREETS**

- Ongoing coordination with WMPO.
- Update and consolidate the Street Design Manual, Bike Plan, Pedestrian Plan and Collector Street Plan.
- Create and adopt a "Complete Streets" policy.
- Requirements for bike connectivity within PUDs and all new developments.
- Create access management plans for all major roadways and roadways supporting commercial land uses.
- Coordinate signage, landscape, and streetscape standards for roads that cross jurisdictional boundaries.
- Explore design standards and innovative road construction techniques to link wildlife habitat and preserve wetlands.

REDUCE NEED FOR AUTOMOBILE

· Adopt land use regulations that encourage internal trip capture and promote development whose location and density are suitable to support public transit and other alternative modes of transportation.

- Plan for bus routes as part of longrange planning into growth areas.
- Include transit-ready nodes of varying scales as part of growth planning.
- Use context-sensitive design principles in the development and redesign of all streets and roads.
- Create plans for water access, blueways and greenways in coordination with the Green Network plan.
- Develop a funding strategy and anticipated annual revenue for trail projects that includes Occupancy Tax, dedicated local funding, and state and federal grants.
- Partner with a non-profit to advocate for greenway, blueway, and trails projects and raise private donations.
- Support the development of Bus Rapid Transit features in highdemand corridors, such as offboard fare collection, platform level boarding, and dedicated lanes and stops sheltered from automobile traffic.

STRATEGIES **ENVIRONMENTALLY RESPONSIBLE UTILITIES AND INFRASTRUCTURE**

- Water/sewer service planning that supports the growth management plan in an environmentally supportive way.
- Concurrent utility service planning that supports the growth management plan in an environmentally supportive way.
- Cooperate with service providers in their efforts to shift to more environmentally responsible infrastructure.
- Implement green infrastructure strategies on public property and evaluate incentives for private property.
- Expand the use of green building, development and operations best practices to reduce consumption of natural resources, promote energy efficiency, and reduce pollution.
- Integration of LEED design principles into policies, codes and ordinances.

- In areas of new development occurring in flood zones, marshy, intertidal or otherwise low-lying areas, eliminate, or substantially reduce, the placement of fill or other structures that decrease the infiltration and absorption performance of these areas.
- Assess existing stormwater plans for future effectiveness and prioritize and evaluate individual stormwater drainage basins, particularly those that are prime for future development.
- Coordinate regional, district or basin area stormwater management planning with open space planning, park planning, scenic area planning, schools planning, transportation planning and public facilities planning to consider holistic use of available property for storm water management.

STORMWATER AND WATER QUALITY

- Encourage best practices for hardscape and landscape features that absorb, sustain, cleanse, and release water.
- Apply market-based incentives, including stormwater credits, green infrastructure implementation credits, enhanced permitting, green roofs, and conservation and stormwater easements, to promote use of green infrastructure tools.
- Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of flood barriers.

AN ACTIVE PARTICIPANT IN A **COOPERATIVE REGION**

VISION STATEMENT



Leland's plans and the plans of adjacent jurisdictions complement each other's vision, goals, and opportunities for success. We collaborate with our neighbors to elevate both Leland and the region.

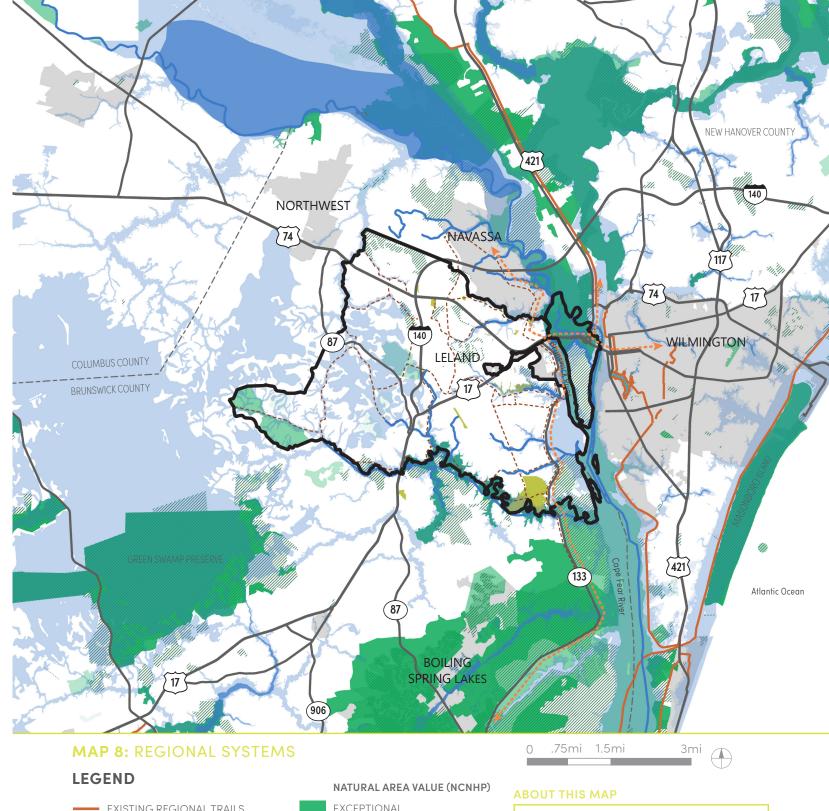
OPPORTUNITY

- Regional cooperation and collaboration on growth.
- Regional open space connectivity.
- Regional trail connectivity.
- Regional cooperation on limits, growth boundaries, and edges.
- Regional promotion and economic development.

- We work to coordinate our growth plans with our neighbors and collaborate on shared values and visions.
 - We recognize that natural environments don't follow jurisdictional boundaries and work with our neighbors to protect our natural resources and open space connectivity.
- We collaborate regionally on promotion and economic development so that our collective efforts create more opportunity for all.
- We assume a leadership role in creating regional participation and collaboration.

STRATEGIES •

- Improve regional governmental coordination.
- Work with Brunswick County and adjacent municipalities on compatible land use policies across boundaries that are based on the same principles of channeling growth into acceptable lands.
- Work with WMPO on contextsensitive multimodal transportation options that fit with the community and node types.
- Work with other organizations on regional promotion and economic development.





Leland can work with the region to share principles, values, and policies around natural resource and open space preservation, positioning development on suitable lands, trail linkages, and connectivity and development principles.

Map Source: Design Workshop, Leland GIS Department, NCNHP, ESRI

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AREAS (NCNHP)

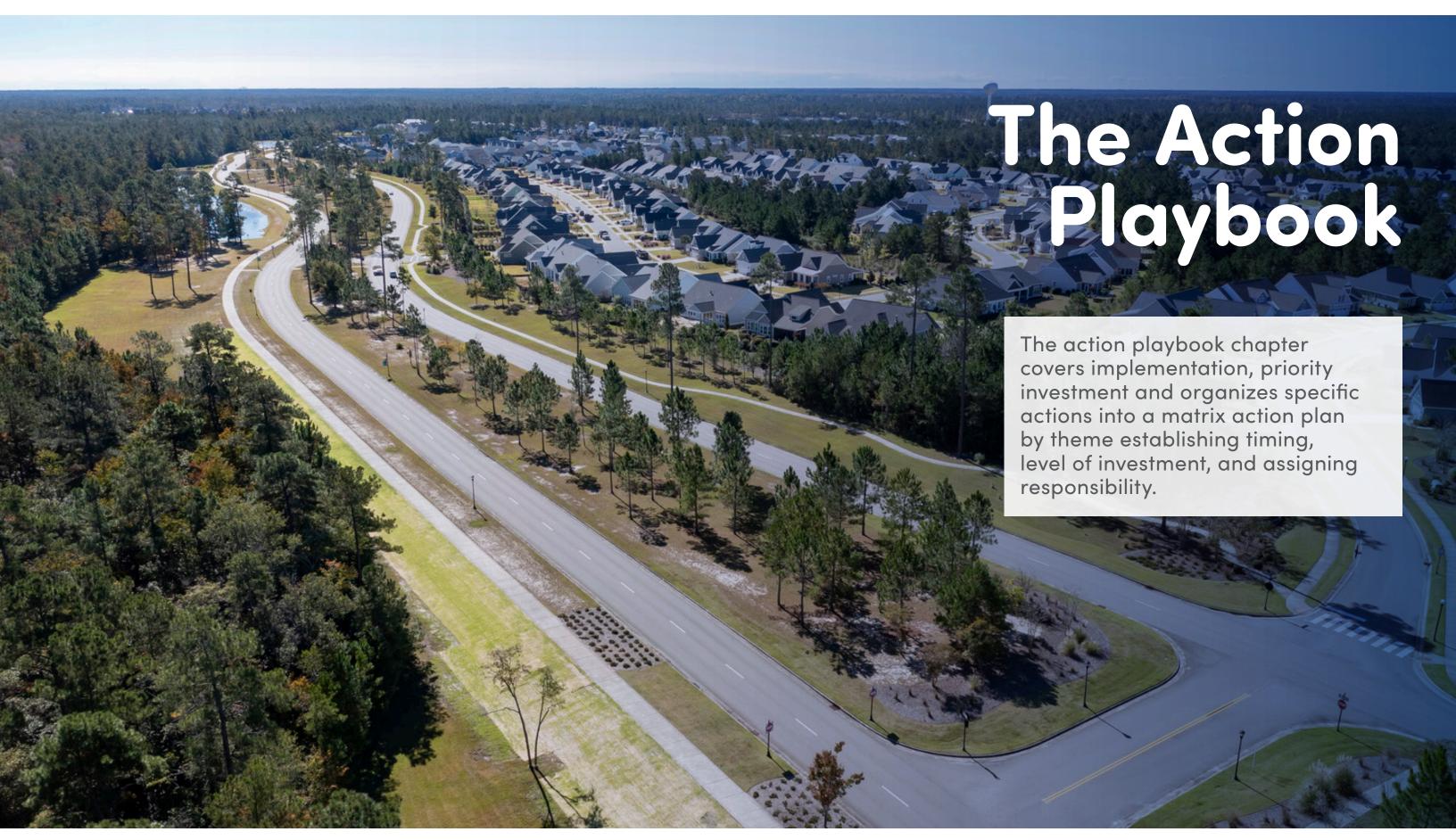


Photo Credit: Design Workshop

IMPLEMENTATION AND PRIORITY INVESTMENT

OVERVIEW

Leland 2045 conveys a vision, goals, strategies and actions derived through a collaborative "community based" planning process to ensure Leland maintains and promotes its high quality of life, its unique landscape and access to nature, its low country aesthetic and expanded economic opportunities. To realize this vision, implementation should be viewed as a shared opportunity and commitment for the Town's departments, leadership, private sector interests, and citizens to hold each other accountable to act on the comprehensive plan and provide the capital investment, human capacity, collaboration and shared commitment that is needed for the Town to realize its vision and manage its growth toward an even more viable and sustainable future.

Each of the strategies and actions included in this document have been determined to be important to accomplish if the Town wants to achieve its aspirations and visions. In that sense, this comprehensive plan is a living document that needs to be worked with regularly. It describes actions to be taken to local government to implement policies that meet the Coastal Resources Commission (CRC) management topic goals and objectives. The first steps include prioritizing the items that are the most critical and creating work plans, identifying responsibilities, identifying partnerships, determining the time frame for completion and establishing funding.

It is also helpful to consider actions in terms of immediate activities that begin with adoption of the plan, typically completed or realized within the first year, short-term activities that start within one to three years of the plan's adoption, mid-term activities that begin three to 10 years after the plan's adoption and long-term activities that extend beyond 10 years and may overlap into the next comprehensive plan update.

Finally, the comprehensive plan should be a reference tool that is referred to often and regularly and should be the impetus for the ongoing decisions and focus of the Town's internal interactions and interactions with its citizens.

FUNDING PRIORITY INVESTMENTS

The following list provides the most common sources of funds that the Town may use in the funding of its capital needs:

- Property Tax
- Stormwater Fees
- Tax Increment Financing
- Revenue Bonds
- General Obligation Bonds
- State and Federal Grant Funding
- Accommodation Fees
- Hospitality Fees

PRIORITY INVESTMENT ACTIONS TO ACCOMMODATE GROWTH & DELIVERY OF SERVICES

- Consider the use of development agreements, tax increment financing, and similar instruments to finance necessary infrastructure improvements that accommodate acceptable growth while limiting the financial impact on the Town.
- 2. Seek innovative and creative funding sources (federal and state) to support investment in needed infrastructure.
- 3. Collaboratively work with property owners and interested developers within key growth areas to develop plans for public/private partnerships for investing in infrastructure to facilitate development.
- 4. Annually review, revise and adopt a capital improvement plan as part of the Town's budget to ensure that both municipal infrastructure and major departmental equipment needs are identified, planned for and funded each fiscal year.
- 5. Utilize regular, recurring, sources of funding to finance anticipated infrastructure maintenance and capital investment needs.
- 6. Prepare regular assessments of municipal infrastructure to utilize in adjusting the capital improvement plan.
- 7. Seek partnerships with community groups, educational institutions, governmental agencies and commercial ventures to leverage the planned investments by outside groups to support the Town's infrastructure needs, such as recreational facilities.
- 8. Provide funding support at a level that is requisite with the departments' needs for continuing to provide high quality and efficient services to the Town.

 Actively participate in regional planning and financing initiatives to ensure that regionally-funded projects reflect the needs of Leland.

REQUIRED PERIODIC IMPLEMENTATION STATUS REPORTS

Jurisdictions with a locally adopted and certified land use plan are required to submit an Implementation Status Report to the Division of Coastal Management every two years from the date of initial certification by the CRC. This report shall be based on implementation actions that meet the CRC's Management Topic goals and objectives. The Implementation Status Report shall also identify:

- All local, state, federal, and joint actions that have been undertaken successfully to implement its certified land use plan;
- Any actions that have been delayed and the reasons for the delays;
- 3. Any unforeseen land use issues that have arisen since certification of the land use plan; and
- 4. Consistency of existing land use and development ordinances with current land use plan policies.

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2045 ACTION PLAN: ACT ON THE **ACTION PLAN**

ACTION

Provide an update on the Action Plan quarterly to Department Heads, Planning Board, and

A-1

Council.

A-2

Create a simple and user-friendly dashboard of the Action Plan and put on Town website.

A-3

Use the Action Plan when making annual budgets and department plans

A-4

Revise the Action Plan annually should any items become irrelevant or if new actions become a higher priority

2045 ACTION PLAN: NATURAL RESOURCES

N-1

ACTION

Coordinate existing and new development standards with the environmental and cultural resource mapping created for the comprehensive plan by overlaying the existing zoning map to see where there are conflicts and use this information to evaluate zoning ordinance changes.

N-2

Share environmental resource mapping with organizations focused on land conservation, to assist them with organizing their conservation.

N-3

Evaluate the Flood Damage Prevention Ordinance every five years to determine if it is effective at avoiding flood damages and is reducing flood damages.

N-4

Promote and expand the integration of Low Impact Development (LID) and Green Infrastructure (GI) into normal development standards and practices.

INVESTMENT	Low	Low	Low	Low
TIMING	Ongoing	Near	Ongoing	Ongoing
ENTITY RESPONSIBLE	Planning and Inspections	Planning and Inspections, Communications and Outreach	All Departments	Planning and Inspections
INITIATED				
COMPLETED				

INVESTMENT	Low	Low	Low Medium/H	
TIMING	Medium	Near	Near	Near
ENTITY RESPONSIBLE	Planning and Inspections	Planning and Inspections	Planning and Inspections	Planning and Inspections
INITIATED				
COMPLETED				

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2045 ACTION PLAN: LIVABLE, DIVERSE, AND CONNECTED NEIGHBORHOODS

ACTION

B-1
Catalyze
development
investment in the
Gateway District
by targeting public
investment towards
improvement that
will support future

development.

B-2

Expand the use of FlexCode into appropriate areas such as identified nodes and other areas with higher development opportunities based on low environmental constraints and proximity to existing or planned infrastructure.

B-3

Create detailed small area plans for the Jackeys Creek and 76/74 Interchange areas (Focal Areas) that include connectivity, parks and open spaces, community services, land uses, housing diversity, active nodes, and community health elements.

B-4

Create a Land Development Code that reflects the Future Land Use Map, principles, and strategies in the comprehensive plan to refine zoning regulations, the FlexCode, current zoning districts, new zoning districts, street design standards, and subdivision regulations into one clear and easy to use document.

B-5

Revise street connectivity requirements to improve connectivity within and between developments. B-6

Create a Town signage and wayfinding plan that is reflective of Leland's vision, brand, and sense of place.

B-7

Coordinate
with MOTSU
Intergovernmental
Council to explore
preferred use,
density, and
setback allowances
for areas adjacent
to the MOTSU rail
corridor.

INVESTMENT	Medium/High	Low	Medium	Medium
TIMING	Near	Medium	Near	Near
ENTITY RESPONSIBLE	Economic and Community Development	Planning and Inspections, Economic and Community Development	Planning and Inspections, Economic and Community Development	Planning and Inspections
INITIATED				
COMPLETED				

Low	Medium	Low
Near	Long	Long
Planning and Inspections, Public Services	Planning and Inspections, Public Services, Operation Services, Economic and Community Development	Planning and Inspections

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2045 ACTION PLAN: A RESILIENT AND STABLE ECONOMY

ACTION

E-1

Research ways to expand diversity in job opportunities, housing, and economic development. E-2

Promote the Leland Coordinate the Innovation Park plan for the Lela Innovation Park as the preferred Innovation Park with the Focal tech, well-paying employers. Coordinate the plan for the Lela Innovation Park with the Focal subsequent small subsequent small park in the plan for the Lela Innovation Park with the Focal subsequent small park in the plan for the Lela Innovation Park plan for the Lela Innovation Park as the preferred in the plan for the Lela Innovation Park as the preferred in the Lela Innovation Park in the Innova

E-3

Coordinate the plan for the Leland Innovation Park with the Focal Area Plan and subsequent small area plan to create a complete community within and around it.

E-4

Promote business and development opportunities in the Gateway District by creating incentive programs for development and job-creating uses.

E-5

Grow and educate the workforce to be prepared for emerging and trending industries anticipated to located in the region by partnering with high schools, colleges, and universities on vocational assessment and skill development.

E-6

Work with regional partners to coordinate promotion the area's economic assets to further economic development.

INVESTMENT	Low	Low	Low	Medium
TIMING	Medium	Near	Near	Near
ENTITY RESPONSIBLE	Economic and Community Development	Economic and Community Development	Planning and Inspections, Economic and Community Development, Public Services	Economic and Community Development
INITIATED				
COMPLETED				

Medium	Low/Medium
Medium	Medium
Economic and Community Developmen, Human Resources	Economic and Community Development

2045 ACTION PLAN: AN INCLUSIVE, SUPPORTED, HEALTHY, SAFE, AND EDUCATED COMMUNITY

ACTION

Coordinate with area education providers to develop criteria to help determine the timing and location of schools.

H-1

H-2

place.

Create a plan to support aging in H-3

Update the Parks,

Recreation, and

Open Space Plan

to reflect the Future

Land Use Map and

consideration for

new community

centers and

programs that

all community

residents.

are inclusive for

H-4

Revisit the allowance of gated communities to ensure that the transportation and multimodal facilities are connected when possible.

INVESTMENT	Low	Medium	Medium	Low
TIMING	Near	Long	Near	Near
ENTITY RESPONSIBLE	Planning and Inspections, Economic and Community Development, Management	Planning and Inspections, Economic and Community Development, Operations Services	Operations Services	Planning and Inspections
INITIATED				
COMPLETED				

H-5

Evaluate land use regulations and the zoning map during the Land Development Code project to ensure equitable opportunities for residents in all areas and of all socioeconomic and demographic groups.

Low/Medium Near Planning and Inspections

2045 ACTION PLAN: INFRASTRUCTURE THAT SUPPORTS COMMUNITY LIFE

ACTION

I-1 Create horizontal street cross sections that meet

standards for

I-2 complete streets for all street types.

I-3

Create a blueways,

greenways, and

in collaboration

with partners to

design, and

development.

assist with funding,

water access plan

Update and consolidate the bicycle and pedestrian plans to reflect the FLUM and Focal Area Plans.

1-4

Coordinate recommendations for new streets, roads, trails, sidewalks, multi-use paths, streetscapes, and other improvements to public spaces in Capital

Improvement Plan.

I-5

Update and consolidate the collector street plan and street infill plans to reflect the FLUM and Focal Area Plans.

INVESTMENT	Low/Medium	Low/Medium	Medium	Low	Low/Medium
TIMING	Near	Medium	Long	Near	Medium
ENTITY RESPONSIBLE	Planning and Inspections, Public Services	Planning and Inspections, Public Services, Operations Services	Planning and Inspections, Public Services, Operations Services	Planning and Inspections, Public Services, Operations Services	Planning and Inspections, Public Services
INITIATED					
COMPLETED					

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2045 ACTION PLAN: AN ACTIVE PARTICIPANT IN A COOPERATIVE REGION

R-2

Collaborate

regionally to

development

opportunities.

promote economic

ACTION

When transportation and recreation plans, including those for trails, streets, multi-use paths, blueways, greenways, transit, and other regionally significant linkages, are being prepared, coordinate with surrounding jurisdictions to create high levels of integration and linkages.

R-1

Work
collaboratively
with surrounding
jurisdictions to
protect natural
resource and
improve open
space connectivity.

R-3

INVESTMENT Low Low Low **TIMING** Long Medium Medium Planning and Planning and Economic and Inspections, Inspections, **ENTITY** Community Public Services, Public Services, **RESPONSIBLE** Development, Operations Operations Administration Services, Services, Administration Administration **INITIATED COMPLETED**

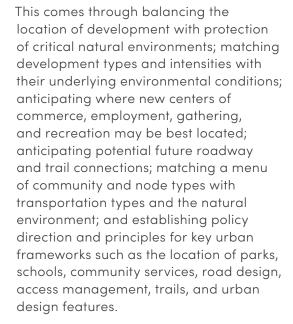
62 | The Action Playbook | 63



Photo Credit: Design Workshop

PRINCIPLES AND PROCESS

With this Comprehensive Plan, Leland has made a choice on how it can support growth in a way that also supports the natural environment and the vision it has articulated for itself within this plan.





Several specific policies and principles can work together to best ensure that the vision described by the community is met over time. This includes:

- Creating neighborhoods that are walkable with pedestrian-scaled streets and blocks.
- Creating roadway and trail connectivity in a connected street pattern adapted to the natural environment and land use type.
- Establishing access management designs on major roadways that avoid multiple curb cuts and lengthy turning lanes, establish back street connectivity, and promote parking lot connectivity.



Photo Credit: Design Workshop

- Locating buildings so that they frame the public realm.
- Locating parking so that it does not visually impact the public realm.
- Defining open space networks based on connecting the natural environment together.
- Developing amenities through the use of the open space network with trails, signage, education, and recreational elements.
- Requiring parks and open spaces that are within walking distances of neighborhoods.
- Locating community types and nodes so there are identifiable centers and a transition of land uses from more compact to less compact as you radiate away from the center.
- Growing in an organized fashion that takes advantage of existing and phased investment of infrastructure.
- Locating schools, places of worship, parks, and community services within mixed-use nodes that are scaled to the neighborhood types they support.
- Avoiding lining major commercial roadways with linear shopping centers or other single use land uses.
- Locating jobs close to where people live to avoid excessive commuting times.
- Using complete streets and contextsensitive street designs that include sidewalks, bike facilities, street trees, and attractive signage that are scaled to the environments they pass through.

Meeting the goals of the plan will require considerations for the most appropriate type of regulatory tools to manage and support new growth and development. This may include:

- Utilizing form-based or zoning codes similar to the FlexCode.
- Reviewing and updating existing ordinances and regulations to provide clarity, improve organization, and support the vision and goals of the Leland 2045 plan.
- Overlays or special considerations within the zoning code for critical areas of the natural environment that need to be protected.
- The expansion of green infrastructure and green development and building techniques to enable development to sit within sensitive environments more harmoniously.
- Land conservation strategies like conservation easements, clustering, buffering, and lower densities.
- Design standards and design guidelines that support zoning and articulate requirements for aesthetic, technical items, and character.
- Streamlining permitting and review processes, creating education, and promoting clarity within the review process so that implementation isn't slowed down or made confusing and time-consuming.
- Accommodating the development of affordable housing to meet demand.
- Small area planning that anticipates new areas of growth, establishes guidelines and policies, and graphically describes how new areas should be organized spatially.
- Coordinating new growth areas and small area plans with planning for transportation, parks and recreation, schools, utility services, affordable housing, jobs, and community services.
- Creating complete streets design standards.

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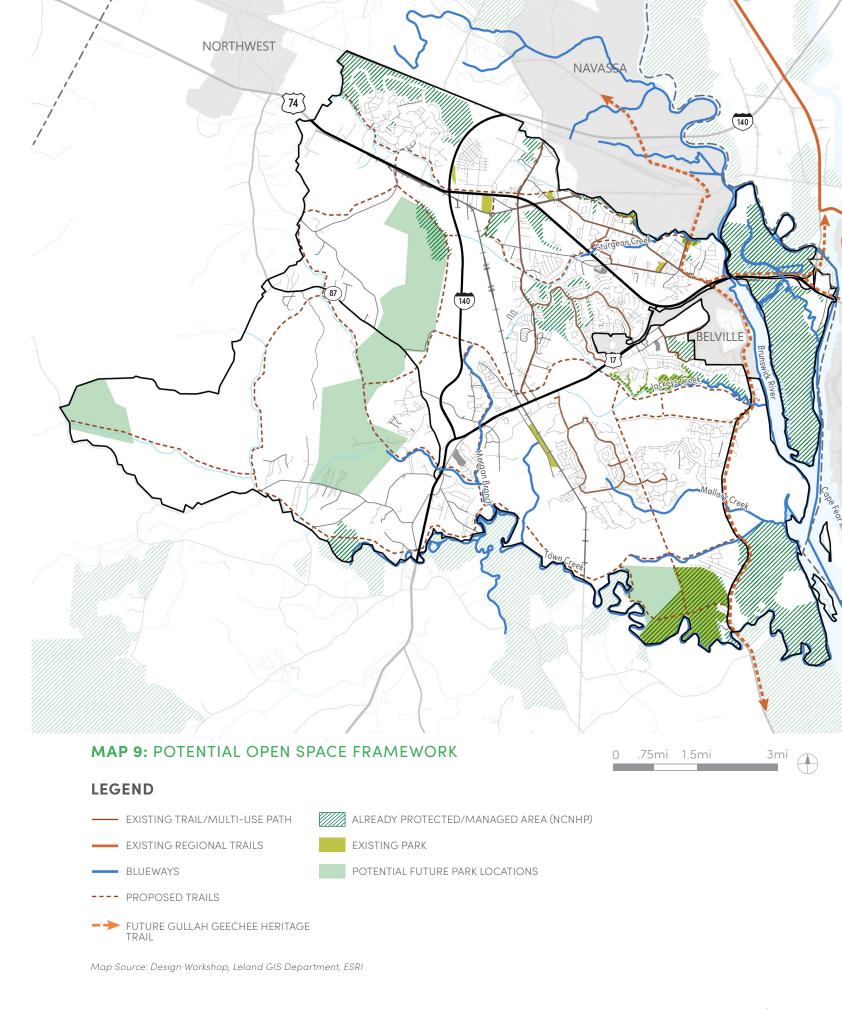
OPEN SPACE/ENVIRONMENTAL FRAMEWORK

Leland and Brunswick County have large areas of protected open space, along with plans for more land conservation. As shown on the open space framework map, a comprehensive open space and greenway / blueway network (the Green Network) can link new and existing neighborhoods across the Town with its surrounding natural environment and recreational assets to:

Expand recreation tourism opportunities, enhance Leland's brand and image, elevate quality of life, and provide a catalytic economic development tool.



Photo Credit: Town of Leland



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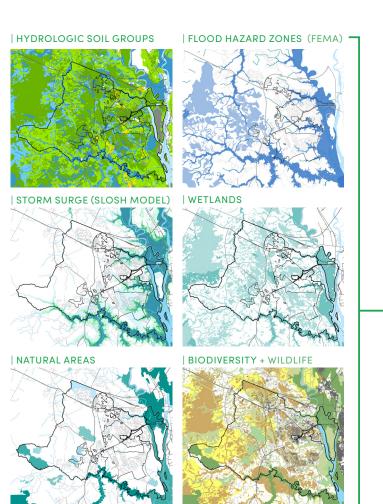
Table 1: Environmental Composite Framework

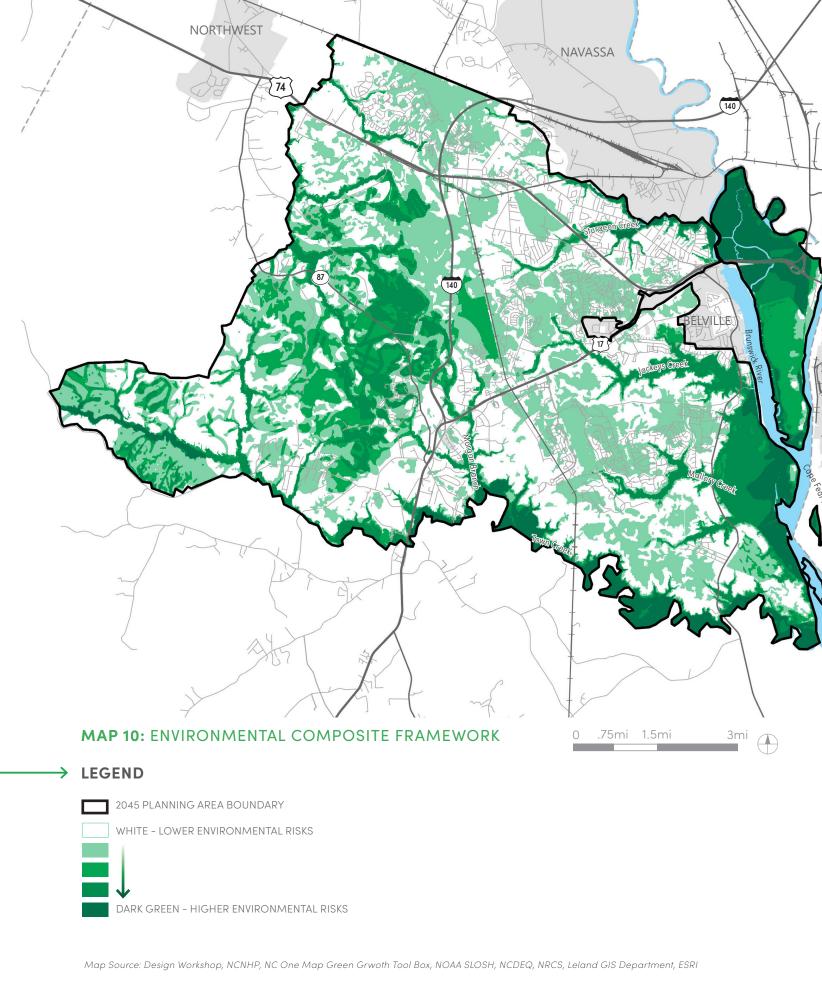
INPUT CATEGORIES/	ASSIGNED	WEIGHT
LAYERS	VALUE	
HYDROLOGIC SOIL GROUPS		5%
Source: USDA NRCS, ESRI		
Group A	2	
Group B	3	
Group C	7	
Group D	10	
WETLAND FUNCTIONAL ASSESSMENT		20%
Source: NCDEQ - NC CREWS)		
Beneficial	5	
Substantial	8	
Exceptional	10	
FLOOD HAZARD ZONES		30%
Source: FEMA Flood Insurance Rate Map (FIRM) Effective 8/28/2018		
2% Annual Chance	5	
Zones A and A99	8	
Zones AE, AH, AO, and AE Floodway	10	
STORM SURGE (SLOSH)		15%
Source: NOAA Sea Lake and Overland Surge from Hurricanes (SLOSH)		
Category 5	1	
Category 4	3	
Category 3	7	
Category 2	9	
Category 1	10	
NATURAL AREAS		15%
Source: North Carolina Natural Heritage Program (NCNHP)		
General	2	
Moderate	4	
High	6	
Very High	8	
Exceptional	10	
BIODIVERSITY AND WILDLIFE HABITAT ASSESSMENT SCORE		15%
Source: NC One Map/Green Growth Tool Box		
0	0	
1	1	
2-4	3	
5	5	
6	6	
7	7	
8	8	

ENVIRONMENTAL COMPOSITE

Protecting
environmentally
sensitive areas is an
essential framework
for future land use
planning in Leland and
the planning area.

Leland's natural resources were mapped and prioritized based on the environmental composite framework (Table 1; left) to determine areas best suited for protection and areas that are more available for development. The framework was established based on CAMA requirements and community priorities.





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TRANSPORTATION CONNECTIVITY

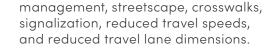
With its Collector Street Plan, Pedestrian Plan, Street Design Manual, Comprehensive Bicycle Plan, and Street Infill Plan,

Leland has committed itself to planning for higher levels of multimodal connectivity as well as designing complete streets that fit with their surrounding character and context.

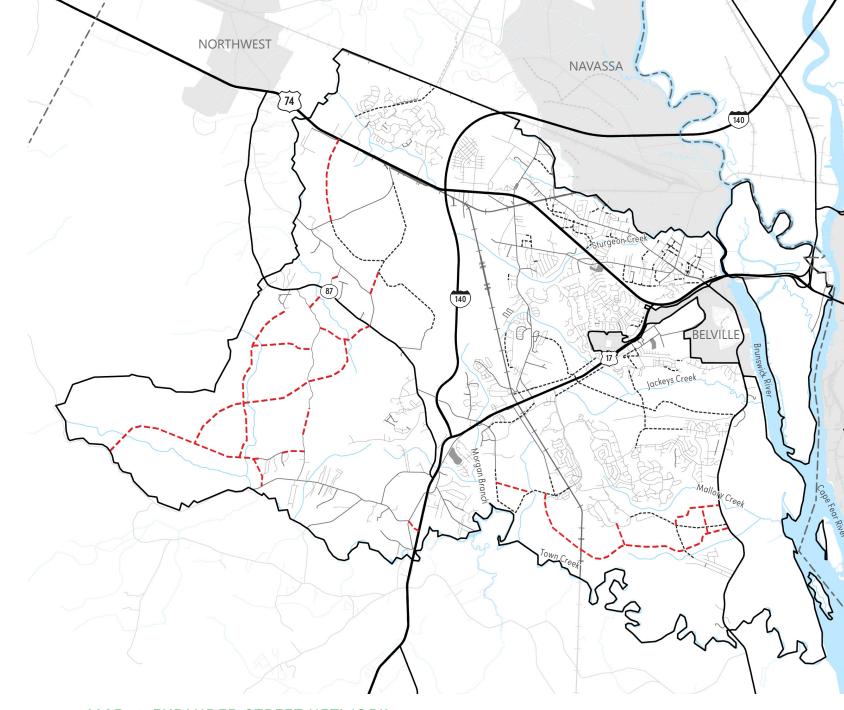
Principles that are guiding the advancement of Leland's connectivity include:

Photo Credit: Design Workshop

• Re-designed major roadways and state highways that make them more safe, multimodal, and livable, which includes multipurpose paths, access



- Context-sensitive design principles applied to the design or redesign of all streets and roadways.
- Higher levels of connectivity and multimodal transportation options that connect people across the town, planning area, and county to places of employment and regional
- Exploring ways to make Leland and Brunswick County more feasible for public transportation by establishing transit ready routes and transit ready nodes along major roadways that connect residents and visitors to their workplace, the beach, or major commercial areas.
- Working cooperatively with the municipalities, neighboring counties, and NCDOT to identify, fund, and implement needed road improvements.
- Preserving road capacity by adopting, applying, and enforcing policies to manage access and reduce vehicle miles traveled (VMTs).
- Land use policies that encourage internal trip capture and promote development whose location and density are suitable to support public transportation and other alternative modes of transportation.
- Requiring new road projects to minimize their adverse environmental impacts and enhance the Town's aesthetic qualities.
- Pursuing transportation alternatives that are aligned with land preservation and land use decisions.
- Investing in transportation options that consider all users and all modes and that support Leland's economic opportunity, access, environment, sense of place, and quality of life.



MAP 11: EXPANDED STREET NETWORK

EXPANSION OF COLLECTOR ROAD NETWORK

As shown on the Future Land Use Map and Focal Area Plans, expanding upon the Collector Street Plan to plan for enhanced connectivity within the Planning Area will enable Leland to grow more connected. This includes a broad network of streets and trails that connect nodes together, as well as provisions for pedestrian-oriented block sizes in more urbanized areas.

LEGEND

EXISTING ROADS

 POSSIBLE FUTURE ROADWAY CONNECTIONS

PROPOSED COLLECTOR ROADS (FROM COLLECTOR PLAN)

Map Source: Design Workshop, Leland GIS Department, ESRI

0 .75mi 1.5mi



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CONTEXT-SENSITIVE AND COMPLETE STREET DESIGN

According to North Carolina Department of Transportation (NCDOT), "complete streets are designed to be safe and comfortable for all users, including pedestrians, bicyclists, transit riders, motorists, and individuals of all ages and capabilities. These streets generally include sidewalks, bicycle lanes, transit stops, appropriate street widths and speeds, and are well-integrated with surrounding land uses. Complete Street design elements that emphasize safety, mobility and accessibility for multiple modes may include crosswalks, bus lanes, landscaping, lighting, signaling systems, and adequate separation between sidewalks and streets."

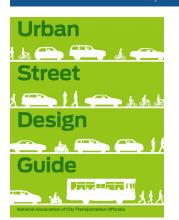
The Town of Leland should reference standards from the NACTO (National Association of City Transportation Officials) Urban Street Guide and Urban Bikeway Design Guide as well as the NCDOT Complete Streets and Design Guidelines in preparing and adopting a complete street design manual calibrated for Leland's unique context. This manual should be used when considering the design of future streets in Leland's planning area to ensure that complete and context-sensitive streets promote Leland's sense of place and quality of life, while providing safe multimodal connectivity.

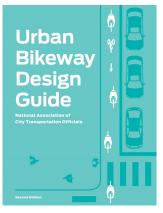
Source: https://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NCDOT-Complete-

Streets-Planning-Design-Guidelines.pdf

Figure 4: Example of typical principles and components considered in complete streets with the ultimate goal of safety, mobility and accessibility for all users including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. These components will look different depending on their context, whether that









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is rural, urban, or suburban.



Photo Credit: Design Workshop

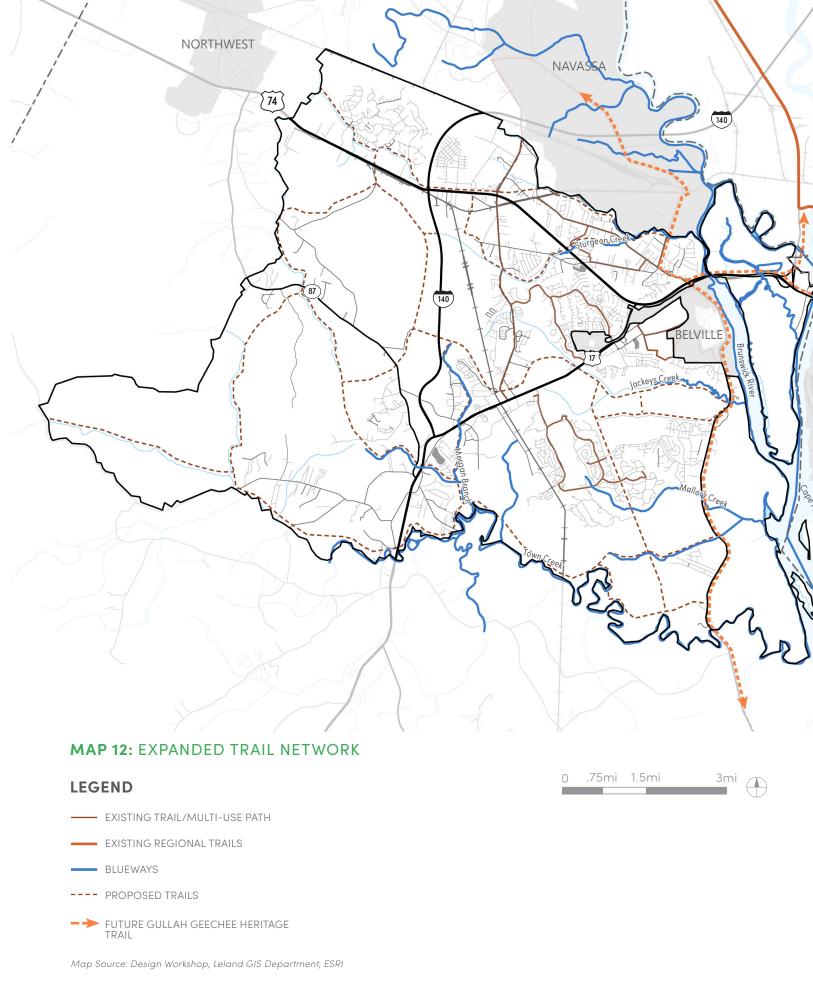
EXPANSION OF TRAILS NETWORK

As Leland grows and expands, its identity can include biking and walking as a major component of day to day living, mobility, and recreation. Leland can become a major destination for hiking and biking in all forms, and a comprehensive and accessible trail network can link Leland's neighborhoods with its natural areas and gathering places. Trails can be built into future land use planning and become a primary framework from which to create neighborhoods and communities.

The trail system will provide cyclists and pedestrians numerous ways of moving

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through and around Leland safely, for both active transportation and recreation, to create a truly connected town — one that is connected to the Cape Fear River, regional trails and the proposed Gullah Geechee Heritage Trail. Blueway trails can also be envisioned and planned for to expand access to Leland's waterways.



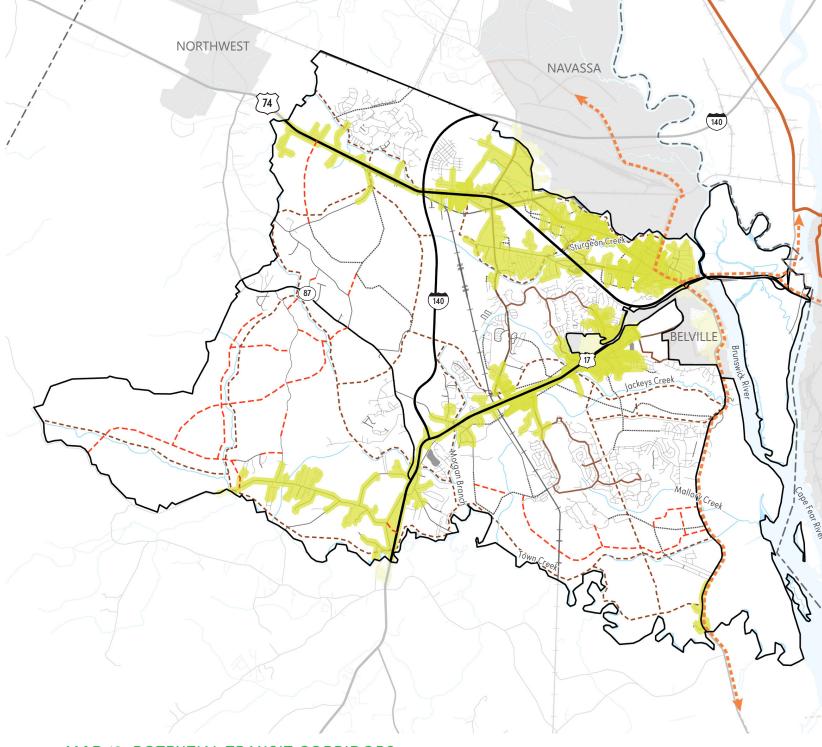
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TRANSIT READINESS

Future planning considers that transit use may be more desirable and convenient over time, as habits change and more people move to Leland. Planning for "transit ready" nodes, that correspond to planned nodes within the Future Land Use Map, along major roadways at halfmile spacing, will set Leland up for the potential to take advantage of transit opportunities as they arise.



Figure 5: "Transit ready" nodes

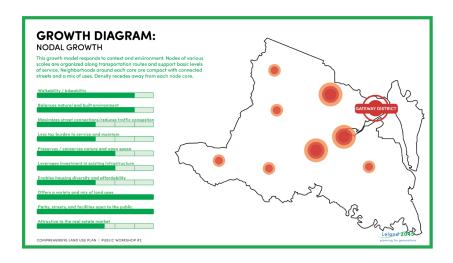


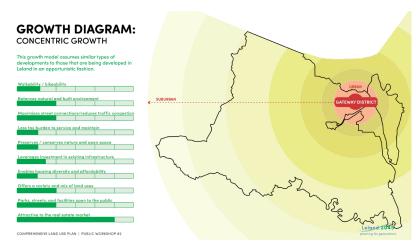
MAP 13: POTENTIAL TRANSIT CORRIDORS



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PROCESS - CHOOSING FROM SCENARIOS





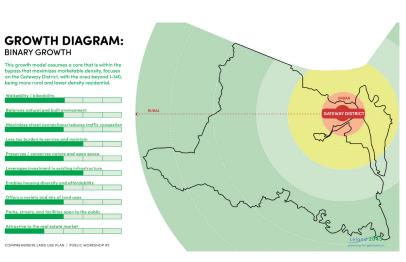


Figure 6: Growth typology diagrams.

The Future Land Use Map and Focal Area Plans were created based upon input from the community, stakeholders, and prior planning efforts. As part of the process, the community provided its preferred type of growth based on the tradeoffs associated with three alternative scenarios of nodal growth, binary growth, and concentric growth.

The majority of participants chose the nodal growth scenario, which includes identifiable activity nodes organized along major transportation routes. This was preferred over binary growth, which would limit growth in the planning area to lower density and maximize growth within Leland's core.

Nodal growth was also preferred over concentric growth, which suggested that Leland's current growth patterns would be continued out into the planning area.

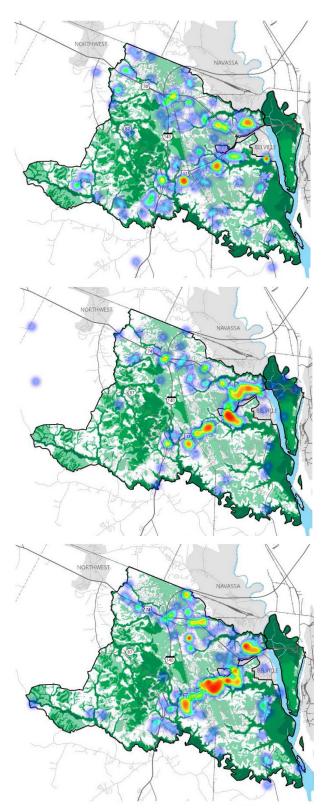


Figure 7: Survey results showing heatmap of node location preferences.

In a community survey, participants were asked to indicate where they thought various node types would be best located throughout the planning area. This resulted in the heat maps displayed in Figure 13 that helped to guide and inform the conversation around future growth and land uses.

Three versions of nodal growth were then modeled for further discussion and evaluation as it related to scale, frequency, mix of uses, and orientation. This resulted in a preferred direction about how the community desires to manage its growth.

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THE ECONOMIC CASE FOR SMART, NODAL GROWTH

The cost of sprawl has been documented for over 40 years in city after city. Jurisdictions that understand this have benefited their bottom lines by promoting development and redevelopment in more compact, walkable forms — ideally where infrastructure, human capital, housing and services already exist. As desire for smarter growth has grown, more and more studies have been prepared in cities across the country that compare the cost / revenue benefits of developing smartly over sprawl.

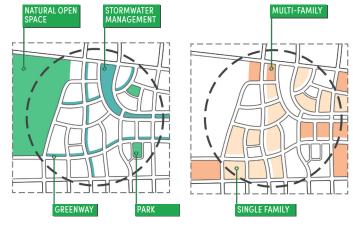
In support of this growing knowledge, Smart Growth America conducted a national survey to compare smart growth development principles over conventional suburban development methods to understand their impact on municipal finances. The studies compared two development types. The first type, defined as Smart Growth Development, which "includes buildings located closer to each other; more walkable neighborhoods; streets with better connections among destinations; a greater mix of home types; and more transportation options." The second type is Conventional Suburban Development, which "includes siting buildings farther away from each other; designing neighborhoods primarily for driving; creating a less-connected street system with longer distances between destinations; and providing fewer public transportation options."

In summary, the national study concluded that:

- 1. In general, smart growth development costs one-third less for upfront infrastructure, and saves an average of 38% on upfront costs for new construction of roads, sewers, water lines, and other infrastructure. Many studies have concluded that this number is as high as 50%. Smart growth development patterns require less infrastructure, meaning upfront capital costs and long-term operations and maintenance costs, and, presumably, lower costs for eventual replacement. Smart growth development also often uses existing infrastructure, lowering upfront capital costs even more.
- 2. Smart growth development saves an average of 10% on ongoing delivery of services such as police, ambulance, and fire. Smart growth patterns can reduce costs simply by reducing the distances service vehicles must drive. In some cases, the actual number of vehicles and facilities can also be reduced, along with the personnel required.
- 3. Smart growth development generates 10 times more tax revenue per acre on an average per-acre basis than conventional suburban development. This number includes property tax.

Source: Building Better Budgets: A National Examination of the Fiscal Benefits of Smart Growth Development; Smart Growth America: Making Neighborhoods Great Together









PRINCIPLES OF SMART GROWTH

Smart growth looks different from place to place, but in essense, it is an overall approach to development that encourages a mix of building types and uses, diverse housing options, and walkable development within existing neighborhoods.

The Smart Growth Network has developed a set of 10 basic principles based on communities around the nation:

- 1. Mix land uses
- 2. Take advantage of compact design
- 3. Create a range of housing opportunities and choices
- L. Create walkable neighborhoods
- 5. Foster distinctive, attractive communities with a strong sense of place
- 6. Preserve open space, farmland, natural beauty, and critical environmental areas
- 7. Direct development towards existing communities
- 8. Provide a variety of transportation choices
- Make development decisions predictable, fair, and cost effective
- 10. Encourage community and stakeholder collaboration in development decisions

Source: https://www.epa.gov/sites/default/files/2017-06/documents/sm_growth_guide.pdf

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COMMUNITY AND NODE TYPES

Community and node types were envisioned to help the community visualize and choose the most appropriate scale, type, density, and form of growth for Leland's future. These community and node types can also influence future zoning, zoning overlays, small area plans, and policies that will ensure that Leland grows in alignment with the vision of this comprehensive plan.

Describing Leland's future growth with the use of Community Types and Node Types will help accomplish the community's vision of achieving balance between the built and natural environment, as well as:

• Improve the performance and quality of the built environment.

- Promote development patterns that support safe, effective, and multimodal transportation options, including auto, pedestrian, bicycle, and transit. This will minimize vehicle traffic by providing for a mix of land uses, walkability, and compact community
- Provide neighborhoods with a variety of housing types to serve a diverse population.
- Promote the greater health benefits of a pedestrian-oriented environment.
- Reduce sprawling, auto-dependent development.
- Reinforce the unique identity of Leland that builds upon great neighborhoods, amenities, quality of life, access to nature, inclusiveness, and affordability.

The Future Land Use Map and Focal Area Plans that follow utilize Community Types and Node Types, and promote their use across the Planning Area.

CONSERVATION COMMUNITY



- Conservation easements
- Environmental buffers along waterways
- Very low-density residential or rural
- Variety of housing types and price points
- Clustered homesites on small footprint
- Single family homesites
- Rural streets with bike lanes
- Context-sensitive street design
- Greenways and trails along environmental
- Low Impact Development (LID) principles

AMENITY COMMUNITY



- Primarily single-family with medium-density townhouses and multifamily
- Variety of home types and price points
- Open space, parks and amenities provided
- Connected internal streets and greenways
- Suburban street networks / limited use cul-de
- Residential street designs with sidewalks and street trees
- Low Impact Development (LID) principles

COMMUNITY TYPES



NATURAL / PRESERVE



CONSERVATION COMMUNITY



AMENITY COMMUNITY



TRADITIONAL NEIGHBORHOOD



COMMERCIAL/ **EMPLOYMENT**



URBAN MIXED-USE NEIGHBORHOOD

More Preservation

Density and character can range from preserved nature to more compact and urban

More Urban

NODE TYPES



NEIGHBORHOOD NODE



VILLAGE NODE



URBAN CENTER NODE

TRADITIONAL NEIGHBORHOOD



- Medium density / mixed density
- Variety of housing types and price points
- Single-family homes, townhouses and multifamily
- Open space, parks, schools, services, neighborhood retail, small-scale employment, small office, institutions
- Connected / gridded street network and greenways
- Suburban and urban block patterns and sizes
- Complete streets design with narrow traffic lanes, sidewalks, street trees, walkable block sizes
- Traditional neighborhood designs
- Low Impact Development (LID) principles

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COMMERCIAL/EMPLOYMENT



- Allocation of land for employment uses of all types including high-tech, green industry, light industry, office and commercial, service and institutional
- Buildings fronting streets with parking in the rear
- Bus and Bus Rapid Transit (BRT) transit locations
- Access management on fronting streets
- Urban street patterns and block sizes
- Green building and development principles
- Parking management solutions to reduce parking
- Complete streets

URBAN MIXED-USE NEIGHBORHOOD



- Mixed-use
- Higher density / range of densities
- Townhouses and multifamily
- Variety of housing types and price points
- Allocation of land for employment uses of all types including incubator spaces, entrepreneur's space, office, commercial businesses
- Street-oriented commercial
- Parking in rear of buildings
- Complete streets
- Transit nodes
- Open space, parks, schools, services, neighborhood retail, employment, institutions
- Urban block patterns and sizes highly pedestrian

NEIGHBORHOOD NODE



- Mixed-use
- Variety of housing types and price points
- Small traditional neighborhoods
- Neighborhood-scaled retail
- Small office
- Gridded walkable streets
- Parking in rear of buildings
- Bus transit locations
- Parks, services, institutions
- Greenway and trail access

VILLAGE NODE



- Mixed-use
- Variety of housing types and price points
- Small Traditional Neighborhoods
- Regional scaled retail and employment centers, small office and other employment uses
- Open space, parks, schools, services
- Gridded walkable streets
- Bus Rapid Transit (BRT) locations
- Parking in rear of buildings
- Greenways and trail access

URBAN CENTER NODE



- High Density mixed use
- Variety of housing types and price points
- BRT transit locations
- Parking management solutions
- Regional scaled retail and commercial centers, office and other employment uses
- Open space, parks, schools, services
- Gridded walkable streets
- Parking in rear of buildings
- Parks, parklets, services, institutions
- Greenways and trail access

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FUTURE LAND USE MAP (FLUM)

Citizen and Town leadership want Leland to grow into an even more sustainable, healthy, equitable, responsible, and highly livable place that elevates the lives of those who live here. while protecting the attributes and assets that make it unique.

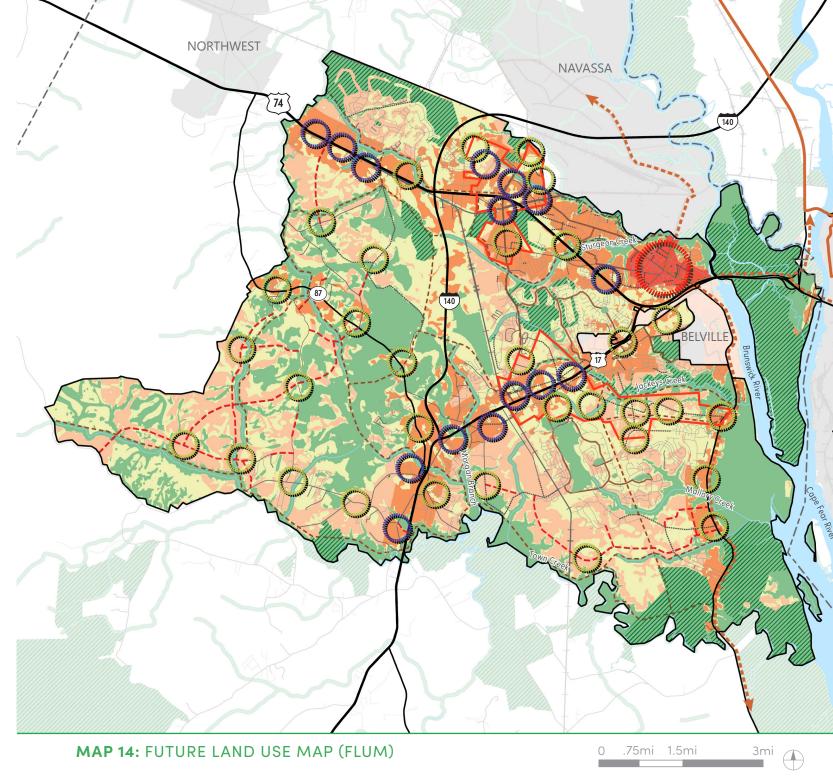
The Future Land Use Map will help preserve and promote the character and quality of Leland for generations. It describes in concept how the town can manage anticipated population growth over the next 25 years. It includes the creation of Community Types, promoting different types of living, anticipating a transit ready future, and supporting living and working near each other to reduce traffic congestion and commuting times. It directs development, over time, to land that is more suitable for development and protects critical environmental systems.

Nodes of various scales are located along major transportation routes to create identifiable and walkable centers and to support quality-of-life elements such as parks, shopping, jobs, gathering, worship, and support.

FUTURE LAND USE CATEGORIES

- ALREADY PROTECTED/MANAGED AREAS (NCNHP)
- IDEAL CONSERVATION/PRESERVATION
 - Protected/Open Space
- NATURAL RESOURCE ORIENTED DEVELOPMENT POTENTIAL
 - Protected/Open Space
 - Conservation Community
 - Low Impact Development
- MODERATE DEVELOPMENT POTENTIAL
 - Conservation Community
 - Amenity Community
 - · Traditional Neighborhood
- HIGH DEVELOPMENT POTENTIAL
 - Conservation Community
 - Amenity Community
 - Traditional Neighborhood
 - Urban Mixed-Use Neighborhood
 - Commercial Employment
- **GATEWAY DISTRICT**

The area west of the Village Road interchange with US 74/76 that includes much of the historic origins of Leland. This area has been referred to as the gateway to Leland, and was identified as the Gateway District in the 2009 Master Plan. The area forms the nucleus of the community's vision of a town center and a discernible "downtown."



EXISTING ROADS

LEGEND

POSSIBLE FUTURE ROADWAY CONNECTIONS

--- PROPOSED COLLECTOR ROADS (FROM COLLECTOR PLAN) EXISTING TRAIL/MULTI-USE PATH

EXISTING REGIONAL TRAILS ---- PROPOSED TRAILS

(INCLUDES ALREADY PLANNED)

NEIGHBORHOOD NODE

VILLAGE NODE

URBAN CENTER NODE

FOCAL AREA **-→** FUTURE GULLAH GEECHEE

HERITAGE TRAIL

ABOUT THIS MAP

The Future Land Use Map (FLUM) describes how Leland can continue to grow and prosper, while also protecting its valuable natural resources. The Future Land Use Map considers how community types and nodes can be selected to work in harmony with the underlying environmental conditions.

Map Source: Design Workshop, Leland GIS Department, ESRI

FOCAL AREA PLANNING

Two areas of Leland have been studied to demonstrate, in concept, how they might be developed to meet with Leland's vision, principles, and policies.

These areas are generally considered to be more immediate growth areas. They are both located along existing infrastructure, adjacent to existing development, and are located on sizable roadways. Each of these areas has the

potential to define by example how Leland can create places, neighborhoods, and communities that perform at a high level related to quality-of-life indicators.

It is important to note, however, that these concepts have not been created based on market research, development feasibility, or other considerations, and should be looked at only as inspiration for how connectivity, nodes, community types and trails can be established within these areas. In that regard, they are illustrative only and do not indicate any proposed plan for implementation. That will happen with community-based small area planning and working with developers and landowners to create the most balanced and highest-performing plan.

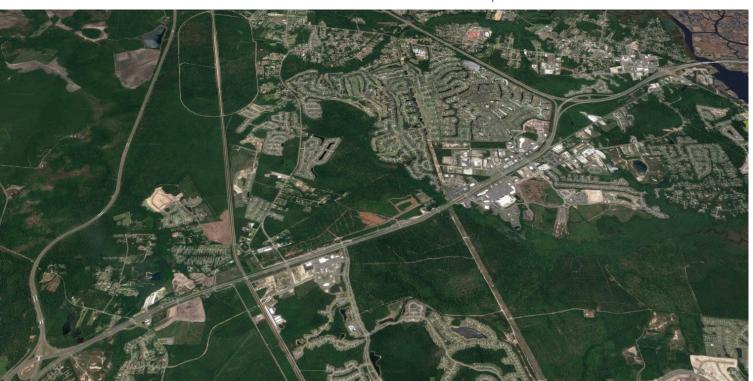
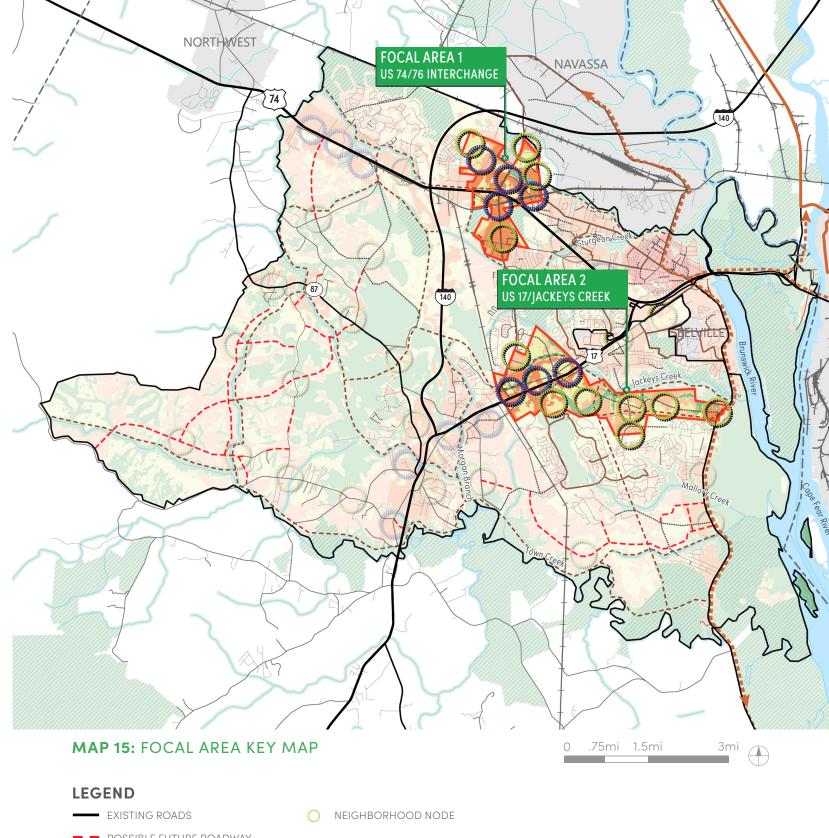


Figure 8: Aerial of Focal Area 2.

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POSSIBLE FUTURE ROADWAY CONNECTIONS

PROPOSED COLLECTOR ROADS (FROM COLLECTOR PLAN)

EXISTING TRAIL/MULTI-USE PATHEXISTING REGIONAL TRAILS

--- PROPOSED TRAILS (INCLUDES ALREADY PLANNED)

O VILLAGE NODE

URBAN CENTER NODE

FOCAL AREA

FUTURE GULLAH GEECHEE HERITAGE TRAIL

VISION:

Focal Area 1 supports urbanizing development forms and promotes a medium to high density and mix of uses that enable people to live, work, and recreate within a compact footprint. Every quality-of-life element, such as employment, education, recreation, and safety, is considered within this Focal Area and planned so that they are located within accessible nodes alona pedestrian- and bike-friendly streets.

These areas are located along Highway 74, also named Andrew Jackson Highway, which is a primary access into Leland from the west. The area benefits from being planned and zoned as an industrial and innovation park to support employment. It is also zoned for commercial use to take advantage of the car traffic that is within this area.



Figure 9: Aerial looking west towards Windsor Park neighborhood from plan north of Focal Area 1.

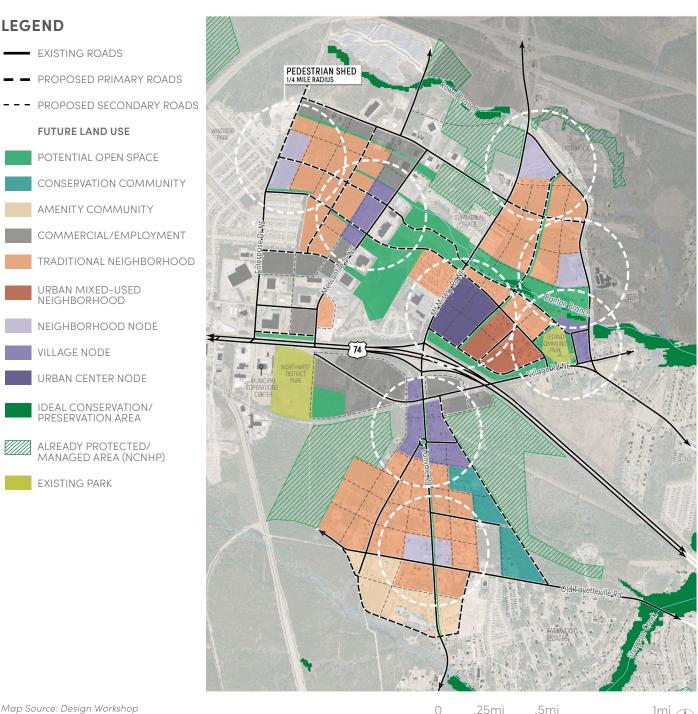
Key planning considerations:

- Retain and support job-creating land
- Promote job creation of all types including office, light industrial, commercial, lodging, entertainment, incubator, and others while discouraging heavy industrial uses.
- Support the employment uses with medium- to high-density housing that enable employees to walk or bike to
- Create a grid of streets that allow for multiple circulation routes, and smaller pedestrian-oriented streets.
- Preserve sensitive open spaces, natural drainage ways, and floodplains within a connected corridor that also provides opportunities for multipurpose trail connectivity.
- Locate higher densities, mixed uses, parks, schools, gathering areas and community services within mixed-use nodes that range from neighborhood nodes to village nodes to urban nodes.
- Concentrate higher-density housing within and around these nodes.
- Provide for a variety of housing types from conservation communities to amenity communities, traditional neighborhoods and urban neighborhoods depending upon locations along transportation corridors, open spaces and natural areas, and existing land uses.
- Connect open space areas with greenways that flank pedestrianfriendly streets.
- Consider locating consolidated or districted stormwater management systems in appropriate locations to serve more than one development or neighborhood and enable higher usage of land within the neighborhoods or developments.
- Transition the scale, height, and intensity of development to the focal area's perimeter to create compatibility with existing neighborhoods.

MAP 16: FOCAL AREA 1

LEGEND

This map describes how Leland's principles and values associated with creating great neighborhoods, connectivity, protection of open space, and walkability can be applied to new growth areas.



Map Source: Design Workshop

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VISION:

Focal Area 2 supports urbanizing development forms and promotes a medium to high density and mix of uses that enable people to live, work and recreate within a compact footprint. Quality-oflife elements, such as employment, education, recreation and safety, is considered within this Focal Area and planned so that they are located within accessible nodes along pedestrian- and bike-friendly streets.

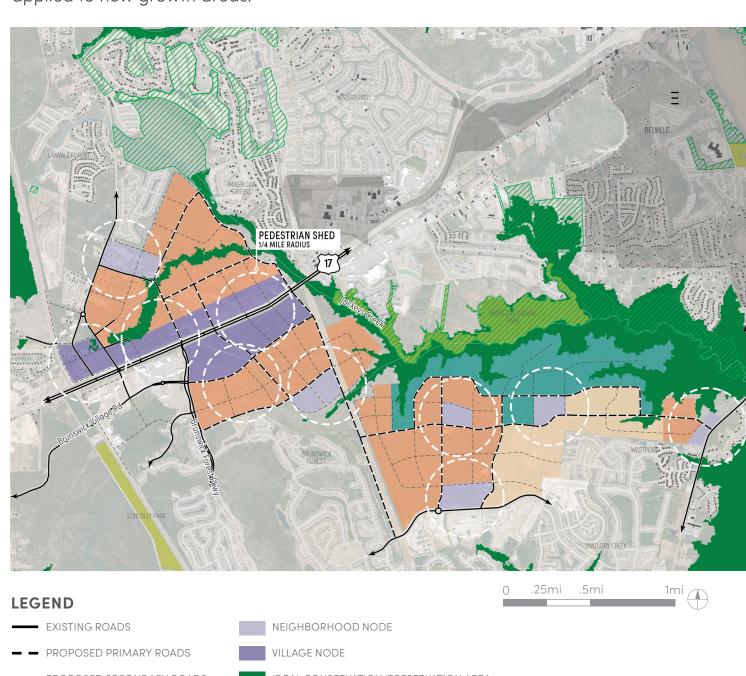
This area is located along US Highway 17 (Ocean Highway E), which is a primary access into Leland from the south. It also has access from NC Highway 133 (River Rd SE), which is a roadway with scenic qualities with future plans for improvements as part of the conceptual Gullah Geechee Heritage Trail that will connect to larger regional trail systems. The area benefits from being planned and zoned as commercial and residential. Its commercial zoning takes advantage of the car traffic along Highway 17. Existing commercial centers already support the area, along with large, planned developments such as Brunswick Forest. The eastern portion of the focal area has more sensitive environmental conditions and is adjacent to Highway 133 (River Rd SE). A major drainage flows along the north boundary to Jackeys Creek, which flows to Brunswick River and Cape Fear River and ultimately the Atlantic Ocean.

Key planning considerations:

- Locate village centers along Highway 17 (Ocean Highway E) to take advantage of commercial and retail opportunities within mixed-use destinations.
- Create a grid of streets that allow for multiple circulation routes, and smaller pedestrian-oriented streets.
- Preserve sensitive open spaces and natural drainage ways and floodplains within a connected corridor that also provides opportunities for multipurpose trail connectivity.
- Locate higher densities, mixed uses, parks, schools, gathering areas and community services within mixed-use nodes that range from neighborhood nodes to village nodes.
- Concentrate higher-density housing within and around these nodes.
- Provide for a variety of housing types from conservation communities to amenity communities and traditional neighborhoods depending upon locations along transportation corridors, open spaces and natural areas, and existing land uses.
- Connect open space areas with greenways that flank pedestrianfriendly streets.
- Consider locating consolidated or districted stormwater management systems in appropriate locations to serve more than one development or neighborhood and enable higher usage of land within the neighborhoods or developments.
- Transition the scale, height, and intensity of development to the focal area's perimeter to create compatibility with existing neighborhoods.
- Connect to existing large developments to promote higher levels of connectivity within the area.

MAP 17: FOCAL AREA 2

This map describes how Leland's principles and values associated with creating great neighborhoods, connectivity, protection of open space, and walkability can be applied to new growth areas.



PROPOSED PRIMARY ROADS
 VILLAGE NODE
 IDEAL CONSERVATION/PRESERVATION AREA
 FUTURE LAND USE
 CONSERVATION COMMUNITY
 EXISTING PARK
 AMENITY COMMUNITY
 TRADITIONAL NEIGHBORHOOD



Photo Credit: Town of Leland

POPULATION, HOUSING, AND ECONOMY

The Town of Leland has seen a rapid increase in its population growth in the last 20 years and is considered one of the fastest-growing municipalities in North Carolina.

Population change 2010-2019

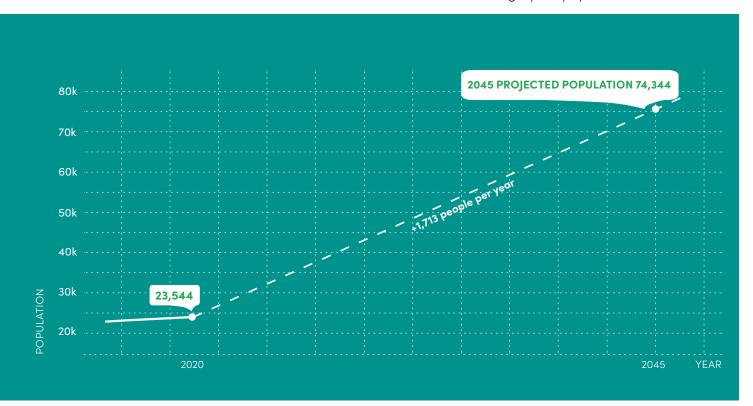
73% 32.9%
Leland Brunswick
County

ick North Carolina

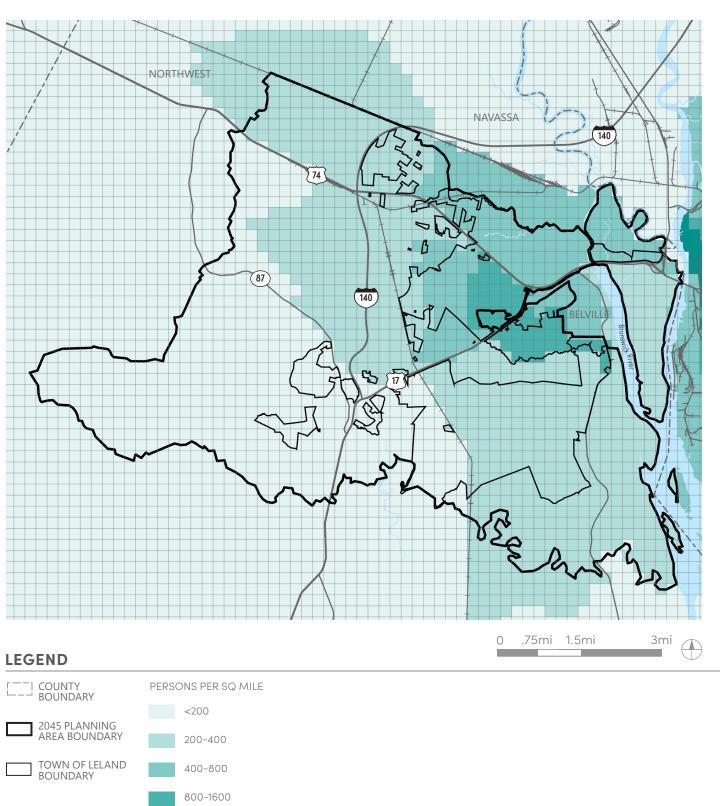
POPULATION

Brunswick County and the Wilmington region are some of the fastest–growing areas in the state. From 2000 to 2010 Leland jumped from a population of 1,938 to 13,614, according to Census data. Leland has continued to see growth since, with the latest estimate placed at 23,544 (U.S. Census Bureau, Population Estimates Program 2019), an increase of approximately 73 percent since 2010.

Leland's population growth is expected to continue with a projected population of 74,344 in 2045. As the State Data Center does not make population projections for municipalities, Leland's forecast is based on data collected within NCDOT's Transportation Analysis Zones and is consistent with the Town's 10-year strategic plan population estimates.



MAP 18: POPULATION DENSITY



Map Source: Design Workshop, ESRI U.S. Census Bureau / ACS 2019 Estimates

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Note: Due to delays in the distributions of the 2020 United States Census data, this report is utilizing a combination of the latest American Community Survey estimates and population data from ESRI.

DEMOGRAPHICS

HOUSEHOLDS

The Town of Leland in 2019 had an estimated 8,366 total households, which has grown by about 43% since 2010 and is expected to continue increasing. Average household size has grown slightly from 2.37 in 2010 to 2.43 in 2020. Household size is slightly higher than Brunswick County (2.34) and slightly lower than North Carolina (2.52).

AGE

The median age in Leland is 46.2, higher than North Carolina's (38.7), but lower than Brunswick County's median age of 53.8. This increase in median age is in part due to an increase in population over the age of 65, which is estimated at 25.8% of the population, a trend across the state.

Leland also has a higher population under the age of 5 (6.5%) in comparison to both Brunswick County (3.7%) and North Carolina (5.8%). While higher in comparison, Leland has seen a decrease from 2010, which was around 10%.

Leland has approximately 19.5% population under 18 years, which is significantly higher than Brunswick County at 14.7%, but much more in line with North Carolina at 21.9%.

The age of the town's population has implications for future land use and policy development.

Table 2: Households

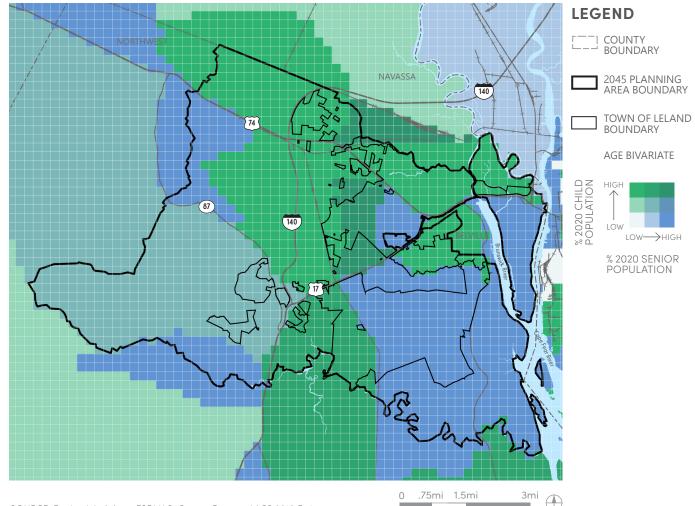
	2010	2019	% CHANGE
Leland	5,833	8,366	43%
Brunswick	46,409	58,385	25.8%
North Carolina	3,626,179	3,965,482	9.3%

Table 3: Median Age

	2010	2019	% CHANGE
Leland	38.6	46.2	19.6%
Brunswick	46.6	53.8	15.4%
North Carolina	37.1	38.7	4.3%

SOURCE: U.S. Census Bureau 2000, 2010, and ACS 2019 Estimates

MAP 19: PERCENT CHILD/SENIOR POPULATION



SOURCE: Design Workshop, ESRI U.S. Census Bureau / ACS 2019 Estimates

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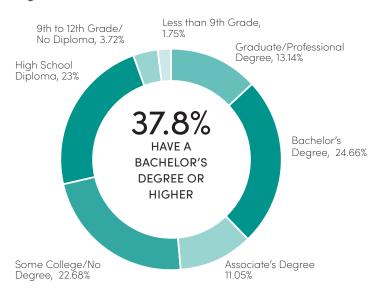


"Educational Opportunities" was one of the top three responses when the community was asked what items they feel most satisfied with related to Leland's quality of life.

EDUCATION

94.5% of Leland residents have a highschool degree or higher, and 37.8% have a bachelor's degree or higher. This indicates a more highly educated population compared to both the county (29.9%) and the state (32.3%).

Figure 10: Education Attainment in Leland



SOURCE: U.S. Census Bureau and ACS 2019 Estimates

RACE AND ETHNICITY

A majority of the population in Leland identifies as White Alone (83.8%), which is approximately the same percentage as in 2010 according to Census data.

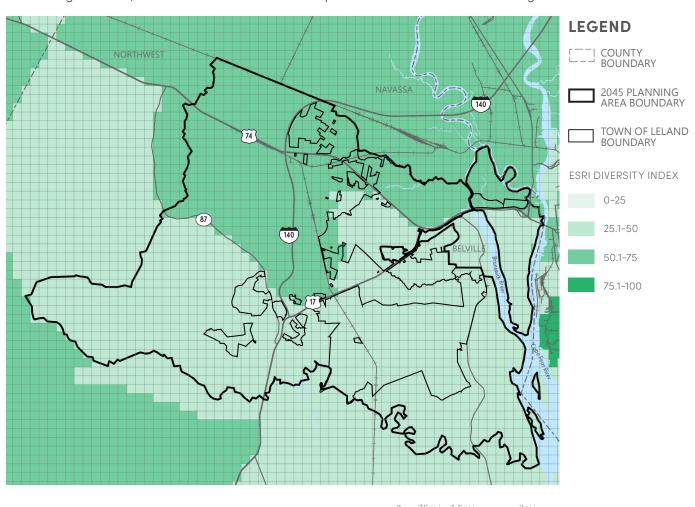
Figure 11: Population by Race and Hispanic Origin



SOURCE: U.S. Census Bureau 2000, 2010, and ACS 2019 Estimates

MAP 20: DIVERSITY INDEX

This map summarizes racial and ethnic diversity via ESRI's Diversity Index layer by census block. This shows the likelihood that two persons chosen at random from the same area belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity). Much of Leland and the planning area are in the score range of 0-25, with the north and northwest portions in the 50.1-75 score range.



SOURCE: Design Workshop, ESRI U.S. Census Bureau / ACS 2019 Estimates

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SOCIAL VULNERABILITY INDEX

The Centers for Disease Control (CDC) provides insight into vulnerability at the Census Tract level. The Social Vulnerability Index provided by the CDC assembles composite data into 15 variables defined by the U.S. Census. The index was developed to assist in disaster planning, and when effectivity utilized, it can positively impact a community's resiliency. The variables are organized in four themes:

SOCIOECONOMIC STATUS

- below poverty
- unemployed
- income

MAP 21: SOCIOECONOMIC STATUS

• no high school diploma

HOUSEHOLD COMPOSITION AND DISABILITY:

- aged 65 or older
- aged 17 and younger
- older than age 5 with a disability
- single-parent households

vulnerability refers to the "potential negative effects on communities caused by external stresses on human health. Such stresses include natural or human-caused disasters, or disease outbreaks.

As defined by the CDC, social

Such stresses include natural or humo caused disasters, or disease outbreak Reducing social vulnerability can decrease both human suffering and economic loss."

Leland can utilize this mapping to help planners meet the needs of socially vulnerable populations in emergency response and recovery efforts.

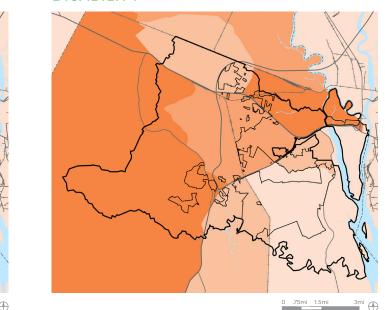
MINORITY STATUS AND LANGUAGE:

- minority
- speak English "less than well"

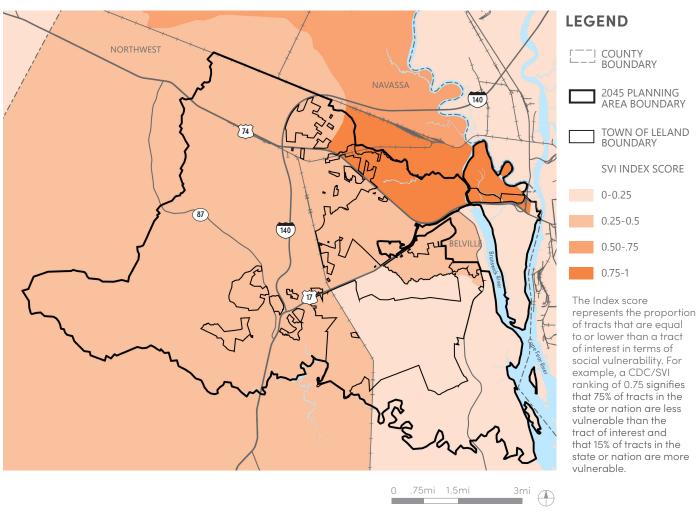
HOUSING TYPE AND TRANSPORTATION

- multi-unit structures
- mobile homes
- crowding
- no vehicle
- group quarters

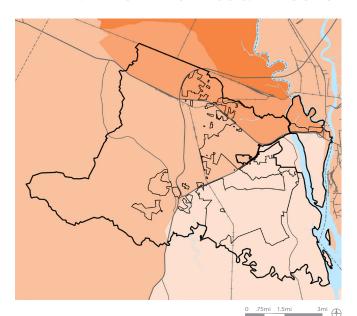
MAP 22: HOUSEHOLD COMPOSITION & DISABILITY



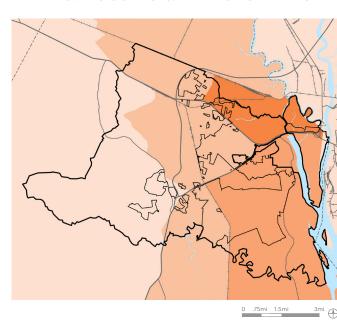
MAP 23: OVERALL SOCIAL VULNERABILITY INDEX



MAP 24: MINORITY STATUS & LANGUAGE



MAP 25: HOUSING & TRANSPORTATION



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HOUSING

HOUSING MIX

Leland has an estimated 8,877 homes and expects to need a total of 21,689 housing units by 2045 to accommodate anticipated growth. Single-family detached homes account for 84.1% of Leland's housing stock. Leland will need to provide a diversity of housing choices to accommodate this expected growth.

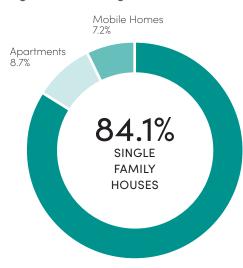
PERMANENT AND SEASONAL UNITS

Seasonal population numbers in Leland are not substantially different than yearly population. There are a limited number of hotel rooms and short-term rentals/ Airbnbs.

HOUSING TENURE

Table 8 details household tenure in Leland from 2000 to 2019. During this period, the owner-occupied household tenure increased while renter-occupied decreased. Vacant units account for just 8.9% of housing stock, lower than North Carolina's rate of 14.3%, and significantly lower than Brunswick County's vacant housing units, which account for 37.3% in the latest estimates.

Figure 12: Housing Mix in Leland



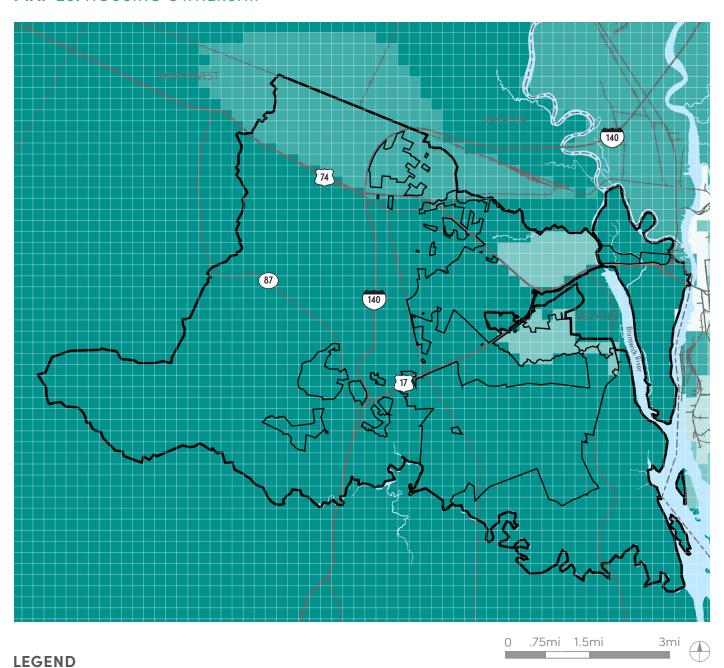
SOURCE: U.S. Census Bureau 2000, 2010, and ACS 2019 Estimates

Table 4: Town of Leland Housing Tenure

	2010	2019
	(TOTAL/%)	(TOTAL/%)
Total Occupied HU	5,207 / 89.1%	9,184 / 91.1%
Owner-occupied	3,827 / 73.5%	6,727 / 80.4%
Renter-occupied	1,380 / 26.5%	1,639 / 19.6%
Vacant	634 / 10.9%	818 / 8.9%

SOURCE: U.S. Census Bureau 2000, 2010, and ACS 2019 Estimates

MAP 26: HOUSING OWNERSHIP



COUNTY BOUNDARY PERCENT HOMEOWNERS 20%-40% 20%-40% 40%-60% TOWN OF LELAND BOUNDARY 60%-80%

DATA SOURCE: Design Workshop, ESRI U.S. Census Bureau / ACS 2019 Estimates

80%-94%

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HOUSING AFFORDABILITY

Housing affordability is often used interchangeably with governmentassisted or pubic housing; however, the term here is referring to the topic of home affordability in general. Cost burdened is generally defined as spending more than 30% of a family or individual's income on rent or mortgage payments, utilities, maintenance, taxes, and insurance. Map 27 (below) displays data from ESRI's Housing Affordability Index, which measures the financial ability of a typical

household (defined by Area Median Income) to purchase an existing home in an area (based on Median Home Value). A Housing Affordability Index score of 100 suggests that on average the area has sufficient household income to afford a loan on a home valued at the median home price, and a score greater than 100 suggests that homes are easily affordable by the average area resident. Less than 100 means that homes are less affordable.

The data using this method suggests that Leland and the planning area are, on

Table 5: Median Home Value

LEGEND

COUNTY BOUNDARY

2045 PLANNING AREA BOUNDARY

BOUNDARY

HAI SCORE

The Location Affordability Index map displays

household income to

valued at the median

that homes are easily

less affordable

afford a loan on a home

home price and a score

greater than 100 suggests

affordable by the average

area resident. Less than

100-150

150-200

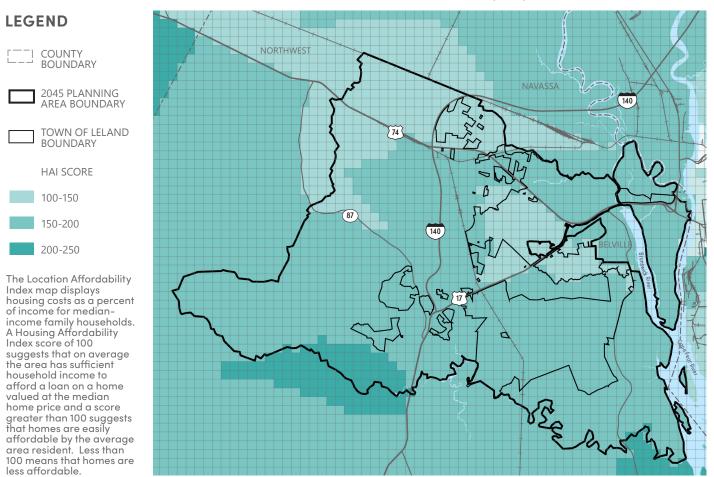
200-250

TOWN OF LELAND

	2010	2019	% CHANGE
Leland	198,900	\$243,200	22%

SOURCE: U.S. Census Bureau 2000, 2010, and ACS 2019 Estimates

MAP 27: HOUSING AFFORDABILITY INDEX (HAI)



SOURCE: Design Workshop, Esri Updated Demographics, U.S. Census Bureau, Esri Data Development

.75mi 1.5mi

average, affordable or easily affordable. However, when taken in context to Brunswick County and vulnerable lowincome populations, a different picture is presented.

According to the NCHC (North Carolina Housing Coalition), 32% of Brunswick County individuals and families are "costburdened." Over half (53%) are renters. Brunswick County's high Fair Market Rent (FMR) of \$866 per month also impacts Leland's market. The average renter can only afford \$563 per month.

Leland has an insufficient supply of affordable housing to accompany the increased demand that comes with the growth the municipality has

How much people

38.0%

46.9%

of income for **Dual-Professional**

57.5%

61.7%

Moderate Incom

74.5%

88.6%

Single-Parent Family

116.3%

Very Low-Income

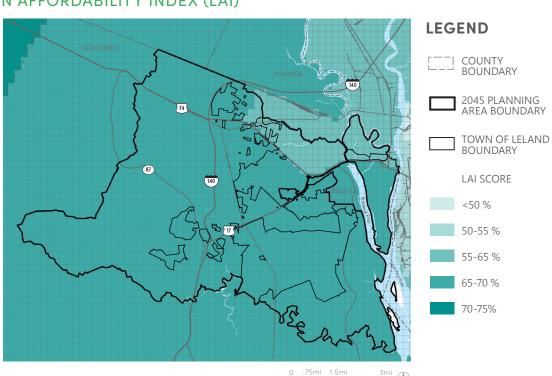
Individual

of income for **Retired Couple**

spend on housing and transportation depends on their household type: been experiencing and is expected to experience going forward. The town's average rent of \$1200 appears affordable in comparison to the median income; however, income is inflated by an influx of residents who are primarily retirees from higher-income areas.

Several factors contribute to the rising prices of housing in Leland, including construction costs, low supply, and zoning restrictions. Affordable housing options are fundamental to supporting a growing economy, reducing intergenerational poverty, and increasing upward economic mobility.

MAP 28: LOCATION AFFORDABILITY INDEX (LAI)



& transportation costs as a percent of income for Median-income family households. When you add transportation costs, you can see that most of the planning area is in the 65-70% range. This data set also includes information based on eight household profiles

(for full comparison of household profiles and methodology, visit https://services1.arcgis. com/4yjifSilG17X0gW4/arcgis/rest/services/Location_ Affordability_Index/FeatureServer)

SOURCE: Design Workshop, Esri Updated Demographics, U.S. Census Bureau, Esri Data Development



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ECONOMY

INCOME & JOB SECTORS

Leland's Median Household Income (MHI) of \$68,924 is higher than both Brunswick County (\$58,236) and the State of North Carolina (\$54,602). In addition, MHI in Leland has significantly increased just in the last ten years, up from \$57,569.

While Leland's family poverty rate is lower in comparison to both the State and the County at 5.9%, the percentage of families in poverty with children under the age of 5 is quite high at 26.3%. While this is only slightly higher than Brunswick County, this is almost double that of North Carolina.

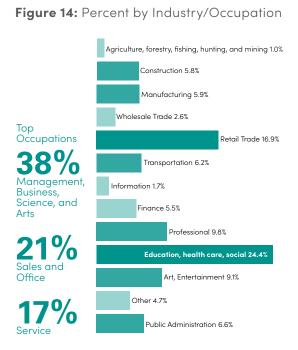
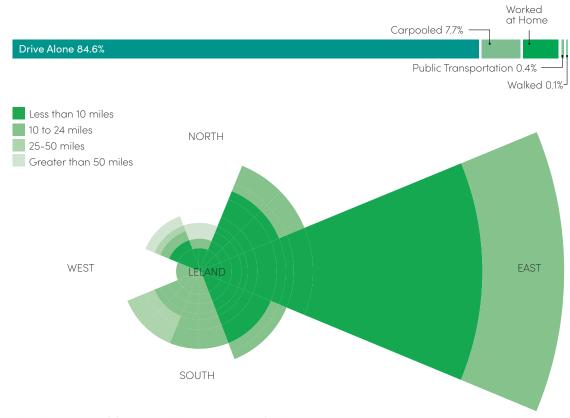
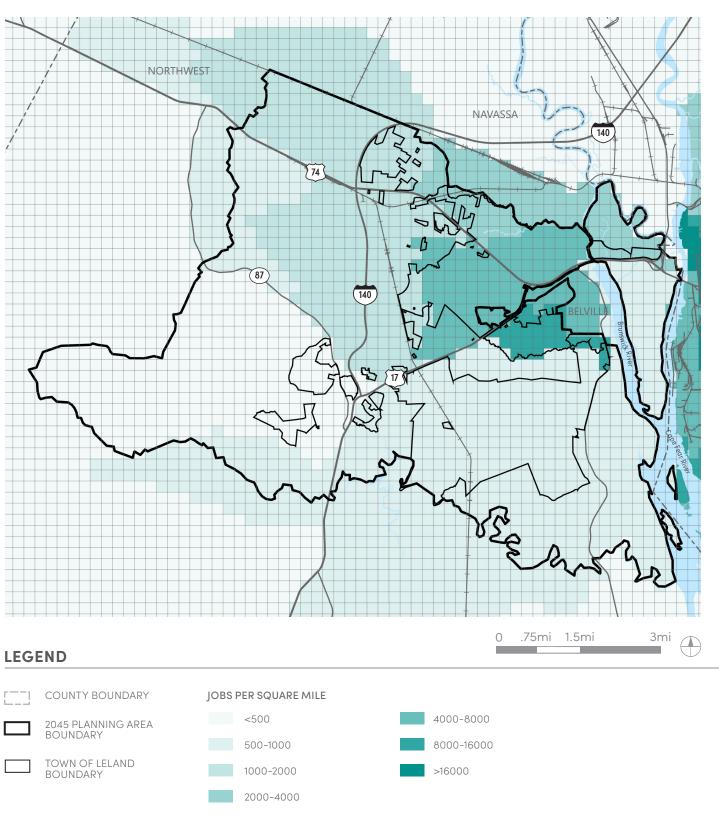


Figure 13: Commuting-to-work Patterns in Leland



SOURCE: Design Workshop, Esri, U.S. Census Bureau and ACS 2019

MAP 29: JOB DENSITY



SOURCE: Design Workshop, Esri, U.S. Census Bureau and ACS 2019

NATURAL SYSTEMS AND ENVIRONMENTAL CONDITIONS

Leland's natural systems are critical to the community's vision and lifestyle, providing a key framework for land use plan development, and leveraging existing assets.

AREAS OF ENVIRONMENTAL CONCERN

Areas of Environmental Concern (AEC) are natural areas, land or water, designated as important to protect from uncontrolled or incompatible development. In Leland, there are four categories of AECs as defined by the Coastal Area Management Act (CAMA) Subchapter 15A NCAC 07H .0209. These are coastal wetlands, estuarine waters, public trust areas, and coastal shorelines.

COASTAL WETLANDS

Coastal Wetlands are defined as any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (even if the tide waters reach the marshland areas through natural or artificial watercourses), provided this shall not include hurricane or tropical storm tides. Coastal wetlands are characterized by the presence of marsh plant species that are detailed in Subchapter 15A NCAC 07H .0205.

ESTUARINE WATERS

Estuarine waters include all the waters of the rivers and streams seaward of the dividing line between coastal fishing waters and inland fishing waters. The boundaries between inland and coastal fishing waters are set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Environment Quality and Natural Resources and in the most current revision of the North Carolina Marine Fisheries Regulations for Coastal Waters. In Leland, the Brunswick River for its entire length next to the town is the only water body classified as an estuarine water. The Brunswick River is in a joint water by agreement between Marine Fisheries and the Wildlife Resources Commission. The rest of the major creek systems in the town are classed as inland waters.

PUBLIC TRUST AREAS

Public trust areas applicable to Leland are described in the Coastal Resources Commission (CRC) rules as follows:

- » Natural bodies of water subject to measurable lunar tides and lands thereunder to the normal high water or normal water level;
- » Navigable natural bodies of water and lands thereunder to normal high water;
- » Normal water level as the case may be, except privately-owned lakes to which the public has no right of access;
- » Waters in artificially created bodies of water containing public fishing resources or other public resources which are accessible to the public by navigation from bodies of water in which the public has rights of navigation; and

» Waters in artificially created bodies of water in which the public has acquired rights by prescription, custom, usage, dedication, or any other means.

COASTAL SHORELINES

Coastal shorelines include estuarine shorelines and public trust shorelines.

The estuarine shoreline AEC includes non-ocean shorelines extending from the normal high water level or normal water level along the estuarine waters, estuaries, sounds, bays, fresh and brackish waters, and public trust areas for a distance of 75 feet landward. The shoreline of the

Brunswick River is the only estuarine shore in the town.

Public trust shorelines AECs are non-ocean shorelines immediately contiguous to public trust areas located inland of the dividing line between coastal fishing waters and inland fishing waters and extending 30 feet landward of the normal high water level or normal water level. The shorelines of the major creek systems — Town Creek, Mallory Creek, Jackeys Creek, and Sturgeon Creek — are classified as public trust shorelines.



Photo Credit: Town of Leland

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SOILS

The characteristics of the soils in the planning area have an important link with stormwater runoff quantity and quality and ultimately suitability related to development.

HYDRIC SOILS

Per the USDA National Resources Conservation Service (NRCS), the definition of a hydric soil is a "soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part."

Hydrologic soil groups, defined by the NRCS, are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from longduration storms. The soils are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D).

The Town of Leland and the planning area contain soils in groups, A, B, C, D, A/D, and C/D, with Group A and A/D as the top two.

Definitions from the NRCS:

Group A soils have a "high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission."

Group B soils have a "moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission."

Group C soils have a "slow infiltration rate when thoroughly wet. These consist chiefly

of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission."

Group D soils have a "very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission."

For groups A/D, and C/D, the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

FARMLAND SOIL CLASS

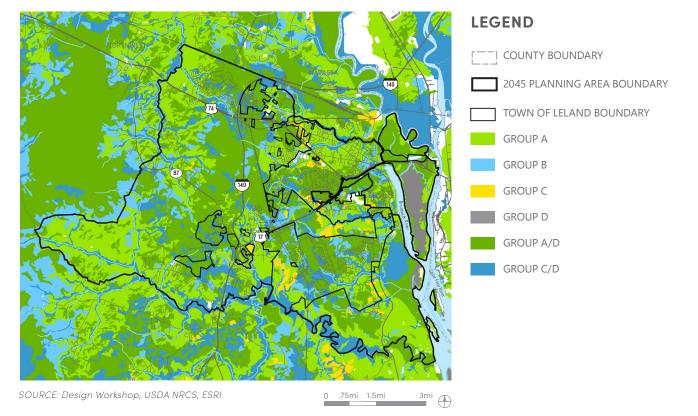
Prime farmland, as defined by the U.S. Department of Agriculture, "is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas."

Farmland of statewide importance is defined as land that includes "areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods."

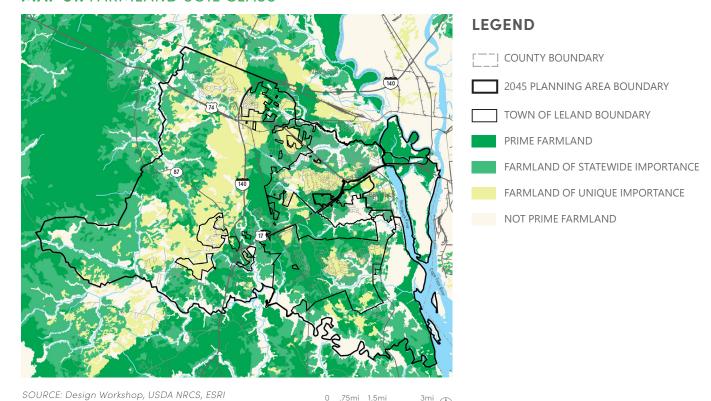
While the USDA data shows much of Leland and the planning area as having soils for prime farmland or statewide importance, the Agricultural Lands assessment done by the NCNHP which includes government policy, agribusiness infrastructure and soils, rates much of the area as Tier IV or Tier V (the lowest priority tiers for conservation of working farmland).

Source: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.

MAP 30: HYDROLOGIC SOIL GROUPS



MAP 31: FARMLAND SOIL CLASS



WATER QUALITY

CAMA planning guidelines require a land use planning assessment of water quality to inform the identification of limitations and opportunities for development. Water quality is a core environmental condition for Leland and the 2045 planning area.

SURFACE WATER CLASSIFICATIONS

Surface water classifications are designated by the North Carolina Department of Environmental Quality (NCDEQ) and are applied to all surface water bodies, such as streams, rivers, and lakes. These classifications define the best uses to be protected within these waters (such as for recreation, fishing, or drinking water supply) as well as water quality standards.

The main creeks in Leland and the planning area are Sturgeon Creek, Jackeys Creek, Mallory Creek, and Town Creek. These are all designated as C and Sw, meaning it is fresh swamp water with best uses including aquatic life and secondary recreation.

The Brunswick River is classified as SC meaning it is saltwater, and suited for aquatic life and secondary recreation.

IMPAIRED WATERS & POINT/ NON-POINT SOURCE POLLUTION

The Brunswick River is the only water body in the planning area identified as being "impaired" on the NCDEQ Division of Water Quality Impaired Waters List. This means that water quality samples exceed water quality standards for a particular parameter.

Discharge permits (NPDES) establish effluent limitations on the maximum

level of wastes or pollutants that may be discharged into surface waters. There are currently two NPDES permits within the planning area. These are considered point source pollution.

Non-point source (NPS) pollution is caused mainly by rainfall moving over and through the ground, picking up natural and human-made pollutants and depositing them into waterways. While no specific non-point sources are identified as being associated with the impaired condition of the Brunswick River, it is reasonable to assume that water quality in the river is impacted by non-point source pollution.

SHELLFISH GROWING AREAS

The Brunswick River is also the only delineated shellfish harvesting area and is classified as "prohibited."

The North Carolina Division of Marine Fisheries is responsible for classifying all coastal waters as to their suitability for shellfish harvesting for human consumption. Shellfish growing waters can be classified as "Approved," "Conditionally Approved," "Restricted," or "Prohibited."

Approved areas are consistently open to harvest, while Prohibited areas are off-limits for shellfish harvest.

MAP 32: WATER QUALITY INDICATORS NORTHWEST NAVASSA 140 0 .75mi 1.5mi **LEGEND COUNTY BOUNDARY** SHELLFISH GROWING AREA CLASSIFCATION - PROHIBITED NPDES SITES 2045 PLANNING AREA HAZARDOUS WASTE SITES TOWN OF LELAND

IMPAIRED WATERS (DWR)

SOURCE: Design Workshop, NCDEQ, DWR, ESRI

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FLOOD & NATURAL **HAZARD AREAS**

FLOOD HAZARD AREAS

The planning area's highest-priority natural hazard is flooding caused by rain events and storm surge from coastal storms. The flooding is concentrated in the stream margins along Sturgeon Creek, Jackey's Creek, Mallory Creek, Town Creek, Brunswick River, and Cape Fear River. These areas are either Zone A or Zone AE (see Map 33). The maps for storm surge from both fast- and slowmoving hurricanes overlay the A and AE flood zones. The Town has policies and ordinances in place to address development in these flood-prone areas.

STORM SURGE AREAS

The SLOSH (Sea, Lake, and Overland Surges from Hurricanes) model is a numerical model used by the National Weather Service to compute storm surge. Storm surge is defined as the abnormal rise of water generated by a storm, over and above the predicted astronomical tides. Flooding from storm surge depends on many factors, such as the track, intensity, size, and forward speed of the hurricane and the characteristics of the coastline where it comes ashore or passes nearby. For planning purposes,

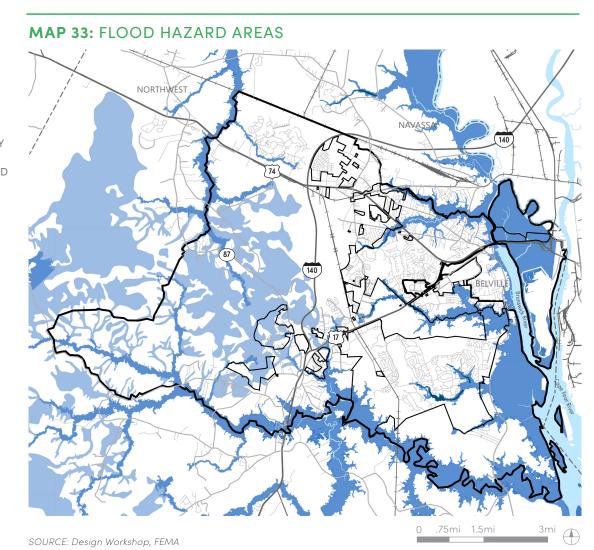
the National Hurricane Center uses a representative sample of hypothetical storms to estimate the near worst-case scenario of flooding for each hurricane category.

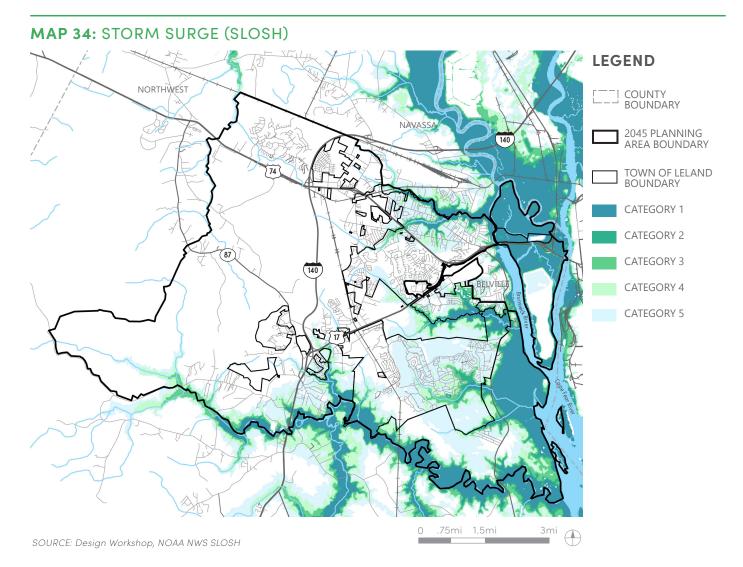
LEGEND COUNTY BOUNDARY

2045 PLANNING AREA BOUNDARY

TOWN OF LELAND

FLOODWAY





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NON-COASTAL WETLANDS

NC-CREWS

NC-CREWS, or the North Carolina Coastal Region Evaluation of Wetland Significance, is a watershed-based wetland functional assessment model that uses Geographic Information Systems (GIS) software and data to assess the level of water quality, wildlife habitat, and hydrologic functions of individual wetlands. This assessment is intended to provide information about the relative ecological importance of wetlands in particular for use in planning.

The NC-CREWS produces three possible overall wetland rating scores: Exceptional

Significance (highest), Substantial Significance, or Beneficial Significance (lowest).

Source: NCDEQ - NC-CREWS Wetland Functional Assessment



LEGEND





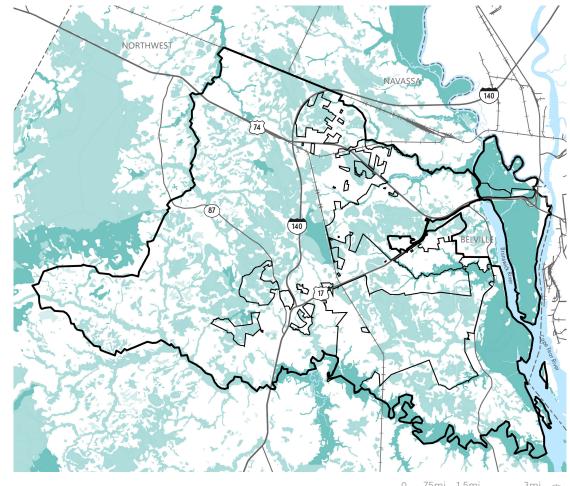
NC CREWS VALUE



SUBSTANTIAL

EXCEPTIONAL

MAP 35: NC-CREWS WETLAND FUNCTIONAL ASSESSMENT



SOURCE: Design Workshop, NCDEQ NC-CREWS

ENVIRONMENTALLY FRAGILE AREAS

NATURAL HERITAGE PROGRAM

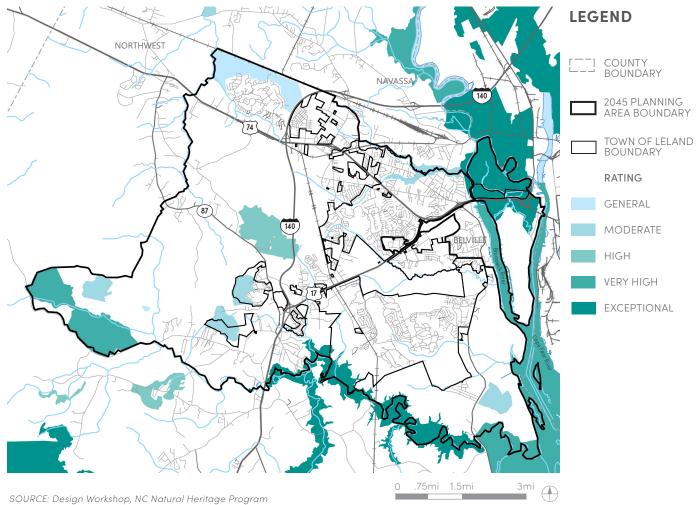
The North Carolina Natural Heritage Program (NCNHP) is a program of the Division of Land and Water Stewardship within the North Carolina Department of Natural and Cultural Resources.

A natural area is defined as "a site (terrestrial or aquatic) of special biodiversity significance due to the presence of rare species, unique natural communities, important animal assemblages, or other ecological features." These natural areas are

not necessarily open to the public; sometimes they are located on private land. The NCNHP works with state and federal conservation agencies, national conservation groups, and the land trust community to implement protection for these areas.

Map 36 depicts the natural areas identified in the planning area and their relative score/rating, with Exceptional being the highest score for natural area significance. More details on the procedure for rating can be found at ncnhp.org.

MAP 36: NATURAL AREAS



BIODIVERSITY & WILDLIFE HABITAT

BIODIVERSITY & WILDLIFE HABITAT ASSESSMENT

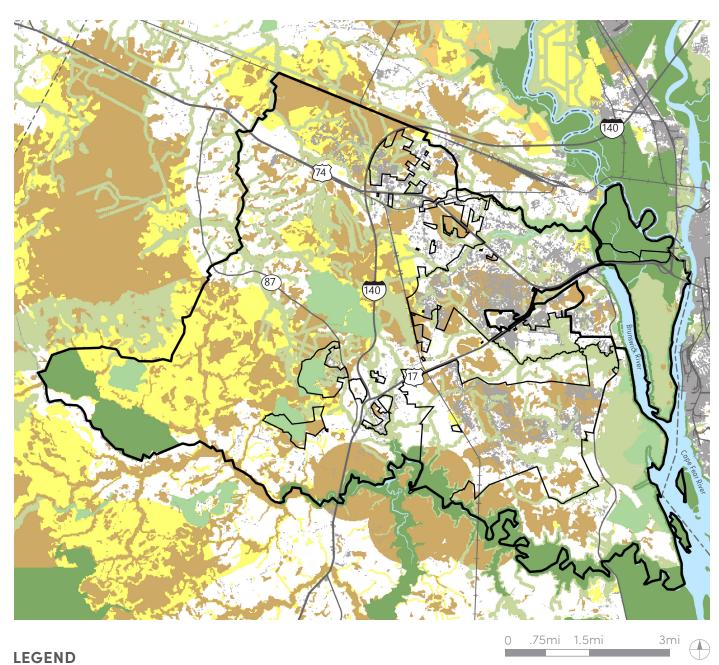
The Green Growth Toolbox project is a cooperative, non-regulatory effort led by the Habitat Conservation Division of the North Carolina Wildlife Resources Commission and is intended as a guide for planners. (Source: ncwildlife.org)

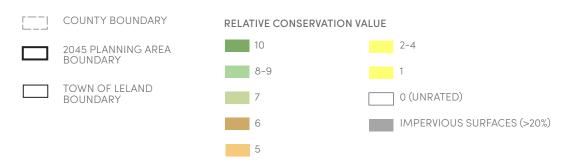
The Biodiversity and Wildlife Habitat Assessment is a map that represents the highest-priority areas for conservation of wildlife habitat and biodiversity in North Carolina.

Specific recommendations and guidance from this tool have been incorporated into the suitability analysis for development and is based on the following guidance:

"If your conservation options are limited to only the highest priority areas, we recommend that the greatest conservation measures are placed in areas that rank from 10 to 7 in the BWHA. High priority areas can be connected by maintaining low density but clustered development in or outside low ranking areas. All areas with a value equal to or greater than 1 are very important to maintaining a healthy natural environment. Major development or major roads in these areas should be kept to a minimum as much as possible."

MAP 37: BIODIVERSITY & WILDLIFE HABITAT ASSESSMENT





SOURCE: Design Workshop, NC Wildlife Green Growth Toolbox

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EXISTING LAND USE AND DEVELOPMENT

This section provides an overview of current development in the Leland planning area, existing land use patterns, and emergent development trends. This information offers a foundation for projecting future development patterns and land use needs.

EXISTING LAND USE

Over the past two decades, Leland has experienced rapid growth and expansion due to expansion of water and sewer services along with an influx of migration (particularly retirement age) moving into the region because of lifestyle choices, weather, amenities, and cost of living.

LAND USE PATTERNS & TRENDS

The existing land use map (Map 38) depicts the current land uses by land use code provided by the latest parcel data available from Brunswick County. Table 6 further breaks down these land uses by acreage within the Town boundaries and within the planning area for comparison.

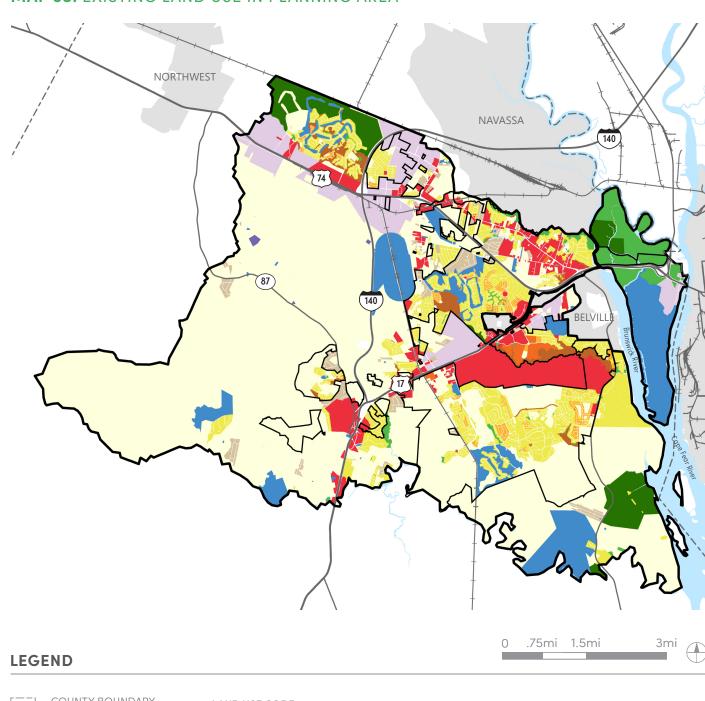
Rural Residential and low-density Single Family land uses are the predominant land uses in both Leland and the planning area, reflective of the development trends in this area in the past 20 years. Trends that will continue to influence the land use include:

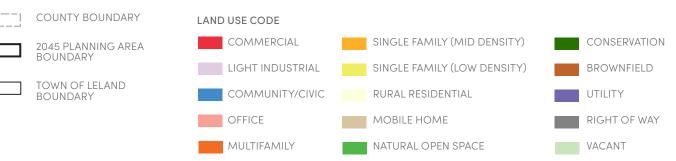
- Missing middle/higher densities: Residential development is trending towards higher densities, including what is considered the "missing middle," typically townhomes and duplexes.
- Amenity-oriented: High value continues to be placed on access to open space and pedestrian- and bike-oriented amenities that allow residents to meet daily needs within a close proximity to their homes, while providing additional recreation oportunities for all generations.
- Commercial development: Small-box development along transporation cooridors has seen an increase over the last 20 years and is expected to continue.

Table 6: Existing Land Use (acres)

LAND USE CODE	LELAND	PLANNING AREA
Commercial	2,695	3,628
Light Industrial	1,168	3,923
Community/ Civic	863	4,779
Office	<1	<1
Multifamily	219	219
Single Family (Mid-density)	416	455
Single Family (Low-density)	3,534	6,058
Rural Residential	9,293	69,538
Mobile Home	347	893
Natural Open Space	613	1,488
Conservation	23	2,704
Brownfield	526	764
Utility	2	34
Right of Way	9	12
Vacant	41	41

MAP 38: EXISTING LAND USE IN PLANNING AREA





SOURCE: Design Workshop, Brunswick County GIS

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HISTORIC, CULTURAL, & SCENIC AREAS

Leland, a relatively young town incorporated in just 1989, does not currently have historic structures or scenic areas designated by any state, federal, or local agency. However, Leland's roots go back to the mid-1890s, when it was settled at the same time as the earliest plantations along the Cape Fear and Brunswick rivers. As such, Leland served as an early transportation hub, with ferries in place for travelers going north and south.

EAGLES ISLAND

The town recognizes the importance of Eagles Island to the region's maritime industry and to the history of the rice plantations that are part of the Gullah Geechee heritage. Many organizations and individuals are interested in committing to a vision for the island where economic and ecological interests are properly balanced. These organizations have recognized the importance of coordination to avoid duplication of effort and missed opportunities, leading to the formation of the Eagles Island Coalition. The town actively supports these efforts.

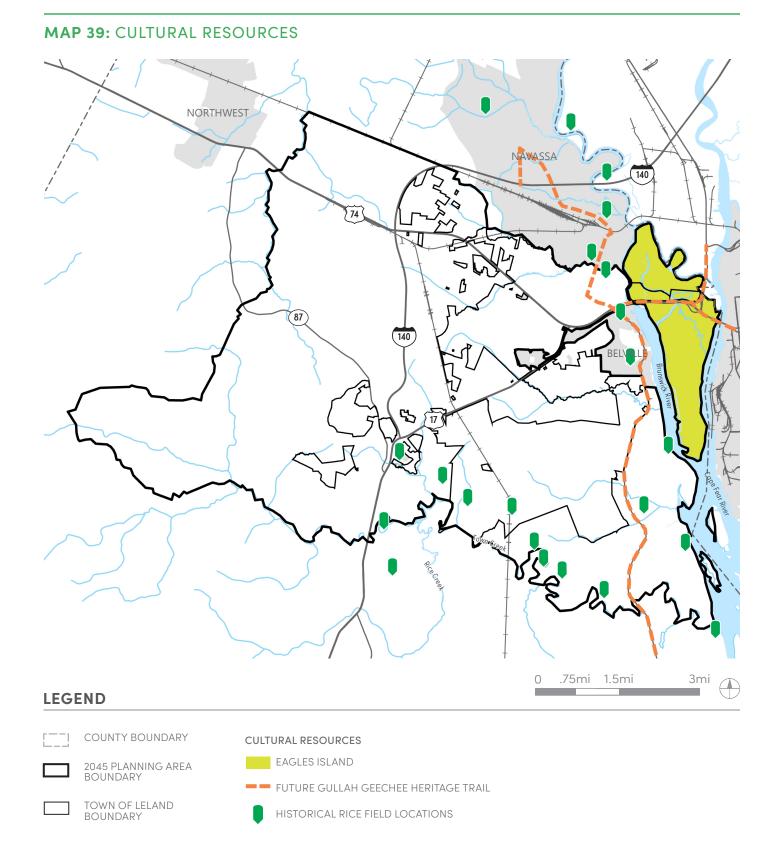
GULLAH GEECHEE CULTURAL HERITAGE CORRIDOR

The Gullah Geechee Cultural Heritage Corridor is a National Heritage area established by the U.S. Congress in 2006 to recognize the unique culture of the Gullah Geechee people, who traditionally have lived in the coastal areas of North Carolina, South Carolina, Georgia and Florida. (Gullahgeecheecorridor.org). The corridor is made of many historically and culturally significant places to the Gullah Geechee people.

A proposed greenway and blueway trail commemorating the culture and history of the Gullah Geechee people in Brunswick County has been championed by the Brunswick County chapter of the NAACP and would connect Navassa to Southport with a link to the existing East Coast Greenway. This effort was selected in 2021 by the National Park Service, which will provide consultation services to amplify recreational (land and water-based trails), conservation, and historical components. This proposed trail is along Highway 133, one of the more scenic drives through Leland.

Along with landmarks in Navassa, Leland's N.C. Rice Festival event and former locations of historic rice plantations are a part of this history. Rice was an important crop in southeastern North Carolina and the Cape Fear region, in particular, with more than 40 rice plantations in Brunswick County up until 1865. The N.C. Rice Festival was founded in 2014 to provide locals with an increased understanding of this history and the ties to the rice coast of Africa.

Source: https://coastalreview.org/2021/07/park-service-tosupport-gullah-geechee-corridor-project/



SOURCE: Design Workshop in reference to the Draft plan for the proposed Gullah Geechee Heritage trail

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COMMUNITY FACILITIES

Community facilities

– sewer, water, roads/
infrastructure, parks
and trails – have a
substantial impact on
future growth and land
use.

SEWER & WATER SERVICE

Water and sewer service in Leland has historically been complicated with the incorporated area served by multiple providers. In 2021, Brunswick Regional Water and Sewer H2GO and the Town of Leland consolidated utilities.

Table 7: 2020 Brunswick Regional Water and Sewer: Average Daily Water Use by Month

Sewer: Average Daily water use by Month				
MONTH	AVERAGE DAILY DISCHARGE (MGD)			
January	0.3860			
February	0.3924			
March	0.3996			
April	0.3820			
May	0.3997			
June	0.4005			
July	0.4069			
August	0.4134			
September	0.4255			
October	0.4184			
November	0.4363			
December	0.4245			

SOURCE: Data from Brunswick Regional WSD 2020 Local Water Supply Plan (LWSP)

WATER

SUPPLY, TREATMENT, CAPACITY

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducts assessments for drinking water quality to determine susceptibility of drinking water source to Potential Contaminant Sources (PCSs). The Cape Fear River (Brunswick County's source) rating was summarized as "moderate." This does not refer to poor water quality, but rather the potential to become contaminated by PCSs in the assessment area.

The following are key highlights from the Brunswick Regional WSD 2020 Local Water Supply Plan report:

- Estimated total miles of distribution system lines: 178 miles
- Distribution lines replaced during 2020: 0 feet
- New water mains added in 2020: 14,831 feet
- Meters replaced in 2020: 12,000
- Oldest meters in the system: 1 year
- Finished water storage capacity: 1.5 million gallons

Table 8: 2020 Water System Annual Daily Water Use by Type (MGD)

water ose by Type (MOD)				
TYPE OF USE	METERED	AVERAGE DAILY DISCHARGE (MGD)		
Residential	11,361	1.4105		
Commercial	440	0.1561		
Industrial	0	0.000		
Institutional	43	0.0315		

SOURCE: Data from Brunswick Regional WSD 2020 Local Water Supply Plan (LWSP)

SEWER

TREATMENT CAPACITY

The Brunswick Regional WSD 2020 Local Water Supply Plan reports that there were 8,362 sewer service connections countywide. There were zero water service connections with septic systems and one wastewater discharge interconnection with another system. There was one NPDES permit held by the system with Brunswick River (Cape Fear River basin 02–3) receiving the discharge. Table 9 provides a list of the average daily wastewater discharge by month.

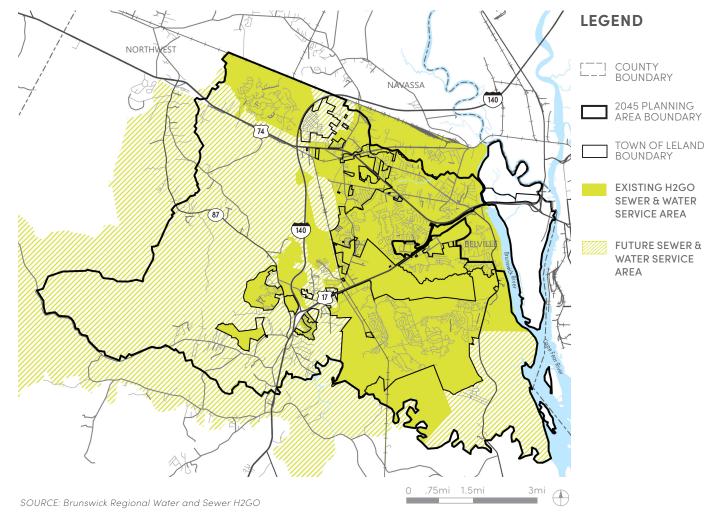
There are no current plans to build or expand wastewater treatment facilities in the next 10 years.

Table 9: 2020 Brunswick Regional Water and Sewer: Wasterwater Monthy Discharges

MONTH	AVERAGE DAILY DISCHARGE (MGD)
January	0.3860
February	0.3924
March	0.3996
April	0.3820
May	0.3997
June	0.4005
July	0.4069
August	0.4134
September	0.4255
October	0.4184
November	0.4363
December	0.4245

SOURCE: Data from Brunswick Regional WSD 2020 Local Water Supply Plan (LWSP)

MAP 40: WATER AND SEWER SERVICE AREA



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STORMWATER SYSTEMS

STORMWATER CONVEYANCE SYSTEM

As described in the 2020 Town of Leland Stormwater Program Narrative, "in the original Town limits, stormwater is carried through a mixture of roadside ditches and piping. In most of these areas, stormwater sheet flows across the shoulder into these ditches and drain into smaller tributaries. Newer developments in the Town, under NCDENR stormwater regulations, use curb and gutter with catch basins, grassed swales, retention ponds and other appropriate devices; which are privately owned by the developer or homeowners association. These devices then drain to local tributaries and streams."

WATER QUALITY

The 2020 Town of Leland Stormwater Program Narrative identifies the following impaired streams:

- The Cape Fear River [18–(71)a] from upstream mouth of Toomers Creek to Snows (Cut: Low Dissolved Oxygen, Low pH)
- The Brunswick River [18-77] from source to the Cape Fear River (Low Dissolved Oxygen, Low pH)
- Town Creek [18–81] from source to the Cape Fear River (Mercury)

Table 10: Receiving Streams from 2020 Town of Leland Stormwater Program Narrative

RECEIVING STREAM NAME	WATER CLASSIFICATION	STREAM SEGMENT	AQUATIC LIFE USE SUPPORT RATING	RECREATION USE SUPPORT RATING	FISH CONSUMPTION USE SUPPORT RATING
Cape Fear River	SC	18-(71)a	1	S	1
Brunswick River	SC	18-77	1	S	1
Sturgeon Creek	C;Sw	18-77-1	ND	ND	1
Mill Creek	C;Sw	18-77-1-1	ND	ND	I
Banton Branch	C;Sw	18-77-1-1-2	ND	ND	I
Jackeys Creek	C;Sw	18-77-3	ND	ND	
Piney Branch	C;Sw	18-77-3-1	ND	ND	1
Mallory Creek	C;Sw	18-78	ND	ND	1
Little Mallory Creek (Beaverdam Branch)	C;Sw	18-78-1	ND	ND	I
Town Creek (Rattlesnake Branch)	C;Sw	18-81	S	ND	I
Morgan Branch	C;Sw	18-81-7	ND	ND	1
Bishop Branch	C;Sw	18-81-7-1	ND	ND	1
Goodland Branch	C;Sw	18-81-8	ND	ND	1

 $Source: https://www.townofleland.com/sites/default/files/uploads/program_narrative_2020.pdf$

PARKS AND RECREATION

PARKS

The Town of Leland's 2018 Parks, Recreation, and Open Space (PROS) Master Plan provides a detailed inventory and Level of Service (LOS) study of passive and active parks and recreation of both public and private facilities within the Town.

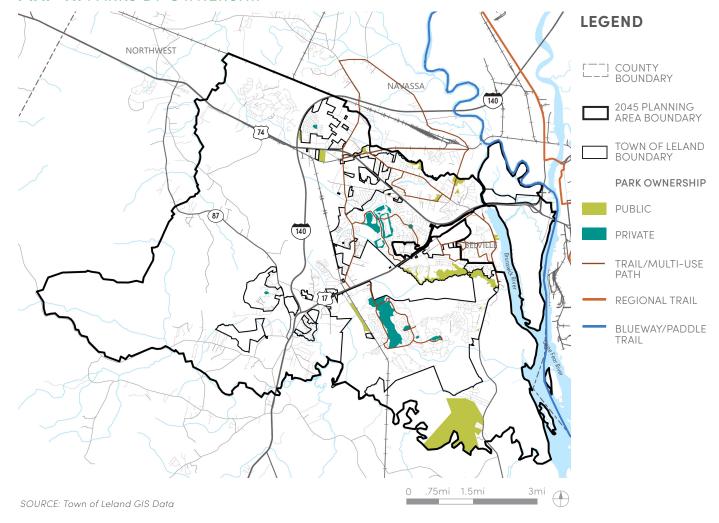
Parks provided by the Town are primarily passive with most active recreation and neighborhood-based services supplied by other service providers and private services within in planned communities.

The Town of Leland operates three parks: Cypress Cove Park, Leland Municipal Park, and Westgate Nature Park. The Town has also acquired property and developed a master plan for Sturgeon Creek Park.

According to the 2018 PROS Master Plan Level of Service (LOS) summary, when acreage for wetlands are included, "Leland is currently serving more residents per park than the State and National average." As the Town grows, the plan recommends seeking additional partnerships and resources to provide more priority park features internally.

Source: https://www.townofleland.com/sites/default/files/uploads/pros_master_plan_final-leland_8_13_18.pdf

MAP 41: PARKS BY OWNERSHIP



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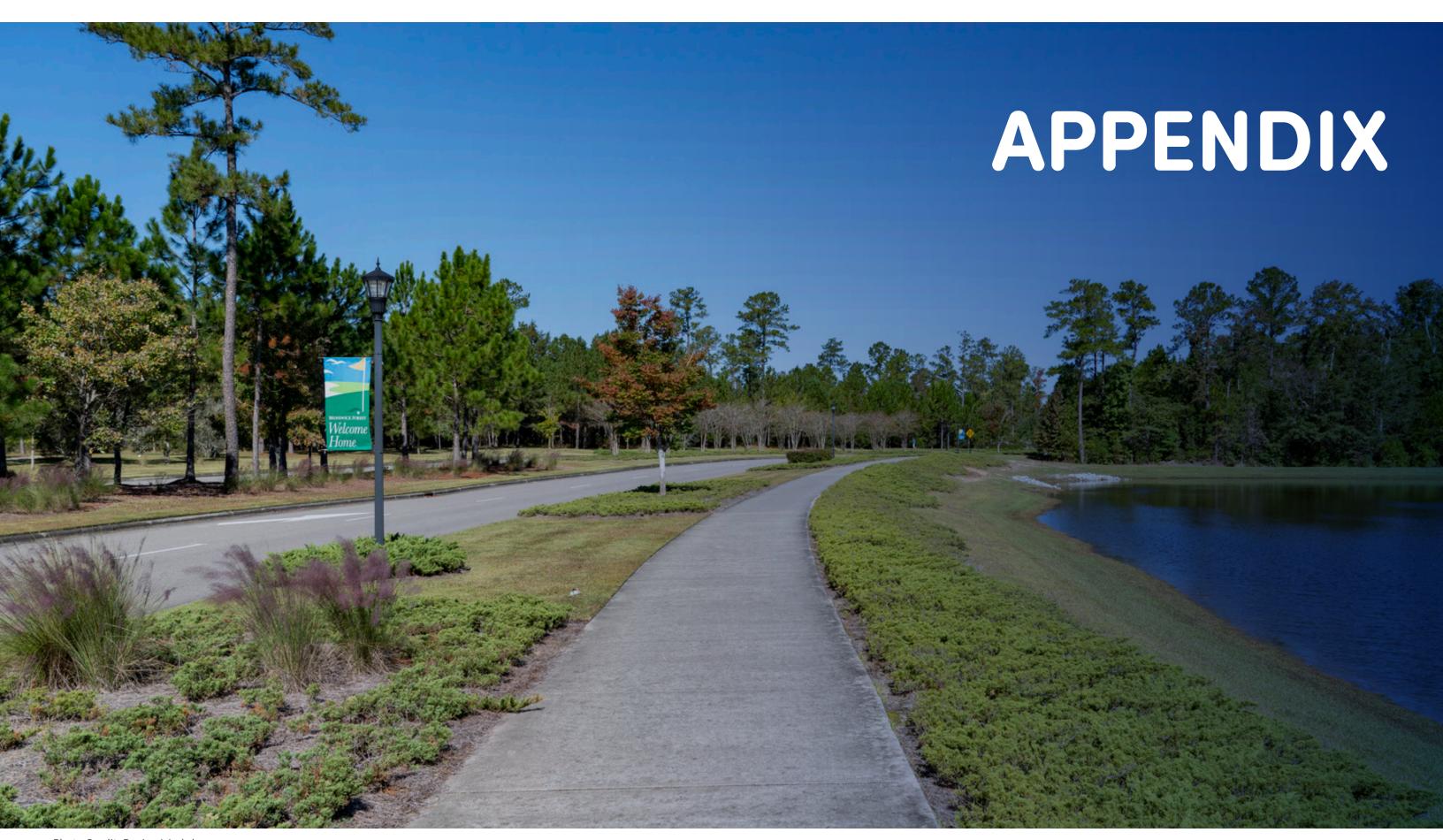


Photo Credit: Design Workshop

GLOSSARY OF TERMS

Accessibility/accessible: Capable of being used or accessed by people of different abilities and backgrounds. Accessibility is often used within the context and definitions determined by the Americans with Disabilities Act (ADA) requirements. Accessible is not the same as inclusive, however, accessibility of public spaces is an important first step and is often followed by looking at how to make those spaces more equitable and inclusive.

Blueway: A designated water trail designed with launch points – and occasionally camp sites and other points of interest along the route – for recreational use with canoes, kayaks and paddle boards.

Community Engagement: The process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of those people. It is a powerful vehicle for bringing about environmental and behavioral changes that will improve the health of the community and its members. It often involves partnerships and coalitions that help mobilize resources and influence systems, change relationships among partners, and serve as catalysts for changing policies, programs, and practices. (The Centers for Disease Control and Prevention [CDC], NRPA)

Connectivity: The state of being connected or interconnected, and enables movement among otherwise disparate elements. Connectivity, in the context of this comprehensive plan, relates to transportation, ecology, culture, and community. From an ecological standpoint, connected landscapes are better able to protect biodiversity and accommodate species and ecosystem adaptation to threats. From a transportation and community standpoint, connectivity refers to how easily people can travel by way of a system of greenways, blueways, sidewalks, and roads. Generally speaking, the better connected the built and natural landscape, the more responsive it is to human and ecological needs and functions.

Conservation Development: Communities or subdivisions designed and managed to preserve landscapes with some combination of environmental, cultural, agricultural, historical or aesthetic values. Conservation development begins with the delineation of conservation land – ideally 30 to 70 percent of a site's buildable area – that is set aside for permanent protection under a conservation easement. This open space should be connected and typically occurs along drainage ways. In the land area beyond the conservation areas, new development is often tightly clustered, resulting in a development that accommodates growth while strategically preserving open space.

Conservation Easement: A restrictive easement that is specific to the property and describes how the land must be protected and managed over time. Private landowners can donate conservation easements to a land trust or similar organization, guaranteeing specific land protections in return for individual tax benefits. The land continues to be owned and managed by the private landowners, and the land is permanently protected. Easements can allow for public access and for limited development – for example, so that future generations can continue to live on the property.

Cultural Landscape: Historically and culturally significant places that are the result of human interaction with the physical environment.

Diversity: Differences in racial and ethnic, socioeconomic, geographic and academic/professional backgrounds; people with different opinions, backgrounds (degrees and social experience), religious beliefs, political beliefs, sexual orientations, heritage, mental or physical ability, learning style, gender identity and life experience. (NRPA)

Equity: The absence of avoidable, unfair or remediable differences among groups of people, whether those groups are defined socially, economically, demographically or geographically, or by other means of stratification. Equity = Fairness and Justice. (The World Health Organization)

FlexCode: A form-based code written and adopted to implement the 2009 Master Plan. The Gateway District was rezoned to the FlexCode in 2013 and FlexCode zoning is an option for other areas of Leland at the discretion of the landowner.

Floodplain: Any land area susceptible to being inundated by floodwaters.

Flood Zone: Special Flood Hazard Areas as defined by the most recently adopted FEMA maps. The 100-year flood zone is defined as an area that has a 1% or greater chance of being inundated in any given year.

Gateway District: The area west of the Village Road interchange with US 74/76 that includes much of the historic origins of Leland. This area has been referred to as the gateway to Leland, and was identified as the Gateway District in the 2013 Gateway Infill Plan which is a direct implementation of the 2009 Master Plan. The area forms the nucleus of the community's vision of a town center and a discernible "downtown."

Green Stormwater Infrastructure: Measures that use plant or soil systems; landscaping; stormwater harvest and reuse; or permeable surfaces to store, infiltrate or evapotranspirate stormwater and reduce flows to sewer systems and surface waters. Green infrastructure reduces and treats stormwater at its source, reducing the chance of local flooding, while delivering environmental, social and economic benefits.

Greenway: Typically a shared-use path set aside for recreational use and environmental protection, often along stream and river corridors.

Green Network: A holistic system that connects parks and natural resources with safe, accessible routes for both people and wildlife.

Habitat: Land and water that provides food, shelter, nesting grounds and migration corridors for local wildlife.

Health Equity: Fair and just opportunities afforded to everyone, so that all people can attain their highest level of health; valuing everyone equally with sustained efforts and resources heavily focused on addressing unjust, unfair and avoidable historical, social and political injustices, and eliminating health disparities. Allocating resources on the basis of need. (The Root Cause Coalition, NRPA)

Impaired Waters: An impaired waterbody is one that does not meet water quality uses, such as water supply, fishing or propagation of aquatic life. Results from state water quality monitoring determine whether waterbodies meet standards or are impaired. If impaired, the sections of waterway are placed on a 303(d) list and will have requirements placed on the governing jurisdiction for improving the water quality. (EPA)

Inclusion: Authentically bringing traditionally excluded individuals and/or groups into the processes, activities and decisions/policymaking in a way that shares power, recognizes and celebrates differences, ensures people feel welcome, and makes sure everyone has equitable access to opportunities. (Racial Equity Tools)

Land Trust: Private non-profit organizations working to conserve land with open space value by securing conservation easements, advocating for strategic land conservation and overseeing or supporting long-term land stewardship.

Low Impact Development (LID): Systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration or use of stormwater in order to protect water quality and associated aquatic habitat. EPA currently uses the term green infrastructure (GI) to refer to the management of wet weather flows that use these processes, and to refer to the patchwork of natural areas that provide habitat, flood protection, cleaner air and cleaner water. (EPA)

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NPDES (National Pollutant Discharge Elimination System): The NPDES permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. Created in 1972 by the Clean Water Act, the NPDES permit program is authorized to state governments by EPA to perform many permitting, administrative, and enforcement aspects of the program. The Clean Water Act prohibits anybody from discharging "pollutants" through a "point source" into a "water of the United States" unless they have an NPDES permit. The permit will contain limits on what you can discharge, monitoring and reporting requirements, and other provisions to ensure that the discharge does not hurt water quality or people's health. In essence, the permit translates general requirements of the Clean Water Act into specific provisions tailored to the operations of each person discharging pollutants. (EPA)

Open Space: Undeveloped land that is designated and is suitable for environmental, scenic, recreation, cultural or conservation uses.

Park Access: The just and fair quantity, proximity and connections to quality parks and green spaces, recreation facilities, as well as programs that are safe, inclusive, culturally relevant and welcoming to everyone. When people have just and fair access, our health and social well-being improve, and our communities can protect and better recover from environmental, social and economic challenges. (NRPA)

Passive Recreation: Recreational programming – such as hiking trails and wildlife overlooks – that is relatively light on the land. This protects the habitat and stormwater functions of open space while allowing for public access and benefit.

Pedestrian Shed: An area that defines the limits of a mixed use neighborhood. Its size is related to a five minute walk at a leisurely pace. This is roughly a 1/4 mile radius or 1,320 feet. The walkability of an area including infrastructure such as sidewalks will impact wheather this radius is actually a five minute walk.

Planning Area: The area considered within the Future Land Use Map (FLUM). This includes areas outside the Town limits that could be considered for annexation. Providing future policies for these areas may encourage landowners to consider annexation.

Planning Transect: An urban-to-rural transect that allows planners to define different development patterns for different parts of the jurisdiction, with the highest development density expected in the urban core, progressively lower densities in suburban and rural areas, and very limited to no development in surrounding natural areas.

Point Source: Any discernible, confined and discrete conveyance, such as a pipe, ditch, channel, tunnel, conduit, discrete fissure, or container. It also includes vessels or other floating craft from which pollutants are or may be discharged. By law, the term "point source" also includes concentrated animal feeding operations, which are places where animals are confined and fed. By law, agricultural stormwater discharges and return flows from irrigated agriculture are not "point sources." (EPA)

Purchase of Development Rights: The owner of land in a priority conservation area can sell their land's development rights, maintaining ownership while guaranteeing some permanent level of protection for the land

Resiliency: The ability of a landscape to recover, adapt and thrive in the face of extreme weather events, climate change and other disruptions.

Riparian Buffer: A protected, vegetated area near a stream that promotes water quality by helping to protect the stream from the impacts of adjacent land uses.

Transfer of Development Rights: A market is created whereby the owner of land in a priority conservation area can transfer their land's development rights to someone with land in a non-priority area. Establishing this type of program begins with careful analysis of a development market to define "sending" and "receiving" areas and gauge whether such a program could be supported.

Watershed: The total land area that drains to a specific waterbody.

Zoning: A planning method whereby governments divide land into areas called zones, each of which has its own set of regulations for new development.

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TOWN OF LELAND 102 Town Hall Drive, Leland, NC 28451 (910) 371-0148 | (910) 371-3390 info@townofleland.com | www.townofleland.com

Leland 2045

planning for generations

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POPULATION & HOUSING **DEMOGRAPHICS**

According to the 2010 and 2020 Deccenial Censuses and the American Community Survey (Estimates), The Town of Leland has seen a rapid increase in its population growth in the last decade and is considered one of the fastest-growing municipalities in North Carolina.

Population change 2010-2023

Leland

124% 49%

Brunswick County

14% North Carolina

POPULATION GROWTH

Brunswick County and the Wilmington region are some of the fastest-growing areas in the state. From 2000 to 2010 Leland jumped from a population of 1,938 to 13,614, according to Census data. Leland has continued to see growth since 2010, approximately 76 percent over a decade (2010 to 2020). The latest estimate placed the Town's population at 30,542 (ACS Estimates, Population 2023), an increase of 124% since 2010 and 28% since 2020.

Leland's population growth is expected to continue with a projected population growth of roughly 2,000 people per year. The population is expected to increase by 254% between 2020 and 2045 with the population in 2050 projected at 84,440. Leland's forecast is based on data collected from NC's State Office of State Budget and Management (OSMB) data projections and within NCDOT's Transportation Analysis Zones and is consistent with the Town's 10-year strategic plan population estimates.

Table 1: Population Growth Estimates in 5-Year Increments

	2020	2025	2030	2035	2040	2045	2050
Leland	23,863	33,959	44,055	54,152	64,248	74,344	84,440
% Ch	ange	42.3%	29.7%	22.9%	18.6%	15.7%	13.6%

SOURCE: U.S. Census Bureau 2020; NCDOT Transportation Analysis; and NC OSMB Population Projections



Note: This addendum is utilizing a combination of the 2010 and 2020 Deccencial Census data and the **latest American Community Survey** estimates.

DEMOGRAPHICS

HOUSEHOLDS

In 2023, the Town of Leland had an estimated 11,258 total households, which has grown by about 93% since 2010, 11% since 2020, and is expected to continue increasing. Average household size has decreased slightly from 2.37 in 2010 to 2.34 in 2023. Household size is slightly higher than Brunswick County (2.25) and slightly lower than North Carolina (2.46).

Table 2: Households

	2010	2020	2023 ESTIMATES	% CHANGE 2010-2023
Leland	5,833	10,423	11,258	93%
Brunswick	46,409	60,915	64,469	39%
North Carolina	3,626,179	4,105,232	4,186,924	15%

SOURCE: U.S. Census Bureau 2010, 2020 and ACS 2013 Estimates

AGE

The median age in Leland in 2023 is 48.0, higher than North Carolina's (39.4), but lower than Brunswick County's median age of 57.6. This increase in median age is in part due to an increase in population over the age of 65, which is estimated at 27.6% of the population, a trend across the state.

Leland also has a higher population under the age of 5 (5.0%) in comparison to Brunswick County (3.6%) but slightly lower than North Carolina (5.6%). Leland has seen a significant decrease in the persons under 5 from 2010, which was around 10%.

Table 3: Median Age

	2010	2020	2023	% CHANGE
			ESTIMATES	2010-2023
Leland	38.6	47.1	48.0	24%
Brunswick	47.1	54.7	57.6	24%
North Carolina	37.1	39.4	39.4	6%

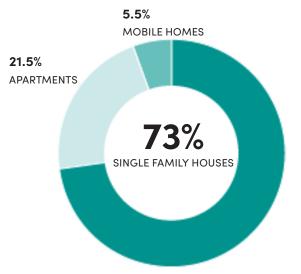
SOURCE: U.S. Census Bureau 2010, 2020 and ACS 2023 Estimates

HOUSING

HOUSING MIX

Leland had an estimated 10,905 homes in 2020 and an estimated 11,995 in 2023 according to the 2020 Census and 2023 ACS estimates. In 2023, 6% of housing units are vacant, lower than North Carolina's rate of 14.3%, and significantly lower than Brunswick County's vacant housing units, which account for 37.3% in the latest estimates. This data, coupled with the projected population estimates, assumes that Leland will need a total of 21,689 housing units by 2045 to accommodate anticipated growth. According to 2023 estimates, single-family detached homes account for 73.0% of Leland's housing stock while apartments make up 21.5% of housing stock in the Town. Leland must continue to provide a diversity of housing choices to accommodate this expected growth.

Figure 1: Housing Mix in Leland in 2023



SOURCE: U.S. Census Bureau 2000, 2010, and ACS 2023 Estimates

HOUSING TENURE

Table 4 details household tenure in Leland from 2000 to 2019. During this period, the owner-occupied household tenure continues to increase while renter-occupied decreases. As the share of owner-occupied housing increases in Leland, the share of renter-occupied housing decreases. Vacancy rate has also decreased over the decade and continues to go down after 2020.

Table 4: Town of Leland Housing Tenure

	2010 (TOTAL/%)	2020 (TOTAL/%)	2023 (TOTAL/%)
Total Occupied HU	5,207 / 89.1%	10,905 / 92.8%	11,258 / 93.9%
Owner-occupied	3,827 / 73.5%	8,139 / 81.0%	9,180 / 81.5%
Renter-occupied	1,380 / 26.5%	1,923 / 19.0%	2,078 / 18.5%
Vacant	634 / 10.9%	789 / 7.2%	732 / 6.1%

SOURCE: U.S. Census Bureau 2000, 2010, and ACS 2023 Estimates

MEDIAN HOME VALUE

The rapid population growth in Brunswick County and Leland is evident as the number of households has almost doubled since 2010. In addition to an influx of households, the median home value in both Leland and Brunswick County has increased at a rate higher than North Carolina.

Table 5: Median Home Value

	2010	2020	2023 ESTIMATES	% CHANGE 2010-2023
Leland	\$198,900	\$237,100	\$358,800	80%
Brunswick	\$174,600	\$249,400	\$314,700	80%
North Carolina	\$155,500	\$218,00	\$259,400	67%

SOURCE: U.S. Census Bureau 2000, 2010, and ACS 2023 Estimates



COMMUNITY FACILITIES & NATURAL SYSTEMS

EXISTING PUBLIC AND PRIVATE WATER SUPPLY SYSTEMS

There are no documented public or private water system overflows, bypasses, or other problems that may degrade water quality or constitute a threat to public health as documented by the North Carolina Division of Water Resources (DWR).

WATER SUPPLY WATERSHEDS AND WELLHEAD PROTECTION AREAS

There are no identified water supply watersheds and wellhead protection areas in Town limits. As of this publication, Brunswick County, nor the Town of Leland, have a water supply watershed or a wellhead protection area plan. These plans are anticipated to be developed in the near future.

EXISTING PUBLIC AND PRIVATE WASTEWATER SYSTEMS

Since 2005, there have been 21 documented public or private wastewater overflows, bypasses, or other problems that may degrade water quality or constitute a threat to public health as documented by North Carolina's Division of Water Resources (DWR).

DOCUMENTED OVERFLOWS

Documented overflows, bypasses, or other problems that may degrade water quality or constitute a threat to public health as documented by the North Carolina DWR:

Sanitary Sewer Lift Station Overflows:

- 2010: 1 occurrence (exact date unavaiable)
- 2017: 2 occurrences on August 8, 1 occurrence on Sept 12
- 2018: 3 occurrences on May 19, 2 occurrences on May 28, 1 occurrence on June 25, 1 occurrence on September 14, 1 occurrence on September 15, 1 occurrence on September 17, 1 occurrence on September 23, 1 occurrence on Oct 15
- 2019: 1 occurrence on March 4, 1 occurrence on August 15
- 2020: 1 occurrence on December 22
- 2021: 2 occurrences on September 20
- 2023: 1 occurrence on May 3

Belville Wastewater Treatment Plant Overflow:

• 2005: 1 occurrence on October 8

Belville Wastewater Treatment Plant Effluent Violations:

- Exceeded Ammonia Nitrogen Allowable Weekly Average Limit July 31, 2003
- Exceeded Ammonia Nitrogen Allowable Monthly Average Limit May 2006
- Exceeded BOD Allowable Monthly Average Limit June 2006
- Exceeded Ammonia Nitrogen Allowable Weekly Average Limit April 28, 2007
- Exceeded Ammonia Nitrogen Allowable Monthly Average Limit April 2007

SOURCE: Data from H2GO, Brunswick Regional Water & Sewer

FUTURE WATER SUPPLY AND WASTEWATER NEEDS

Considering population projections, H2GO Brunswick Regional Water and Sewer anticipates having the same number of water connections and sewer connections.

H2GO is projecting 48,000 metered customers serving a county-wide population of 116,640 in **2045**. H2GO anticipates this equating to 8.28 million gallons per day (MGD) average water usage.

H2GO is projecting 60,000 metered customers serving a population of 145,800 in **2065**. H2GO anticipates this equating to 10.08 MGD average water usage.

TRANSPORTATION FACILITIES

HIGHWAY SEGMENTS

To assess transportation and roadway deficiencies, Annual Average Daily Traffic (AADT) counts are compared to a road's design capacity. Traffic on key roadway segments is measured annually and evaluated against the design capacity standards set by the North Carolina Department of Transportation (NCDOT), which vary by roadway type. For instance, a two-lane road has a different capacity than a two-lane road with a center turn lane. The Town of Leland's highest AADT counts in 2023 are found on US Highway 17-74-76, west of State Road 1472 (Village Road NE), which the NCDOT reports has an AADT of 69,500. A GIS map of AADT counts in the Town of Leland can be found in the appendix. None of the roadways within the Town of Leland have an AADT which exceeds the current capacity. It should be noted that NCDOT designs roadways for average daily traffic counts, not peak traffic counts.

EXISTING TRANSPORTATION IMPACTS

Roadways in the Town of Leland are classified by the North Carolina Department of Transportation (NCDOT) as: 1) Interstate; 2) Major Collector; 3) Principal Arterial; 4) Minor Collector; or 5) Minor Arterial. Each roadway plays a uniquely significant role in shaping land use patterns. The Town's proximity to metropolitan Wilmington and major state roads like Interstate 140, U.S. Highway 17, U.S. Highway 74/76, U.S. Highway 133, Village Road, and Old Fayetteville Road have facilitated suburban expansion, encouraging residential and commercial development along these corridors. Improved connectivity shapes land use by concentrating development in accessible areas.

Key impacts include:

Residential Growth: Improved connectivity has spurred suburban housing developments, particularly near U.S. Highway 17, U.S. Highway 74/76, Village Road, and Old Fayetteville Road, catering to commuters traveling to and from Leland and Wilmington.

Commercial Clusters: Retail and service businesses have concentrated near high-traffic areas along U.S. Highway 17 and U.S. Highway 74/76, as well as within the Town's Gateway District along Village Road and Old Fayetteville Road. It is critical that the Town consider transportation impacts as it encourages future development of economic clusters in the Gateway District.

Suburban Sprawl: Easy access to transportation has led to dispersed development, consuming more land and increasing reliance on vehicles for connectivity. Leland will continue to plan for transportation facilities that bolster connectivity in the midst of urban sprawl.

Economic Diversification: The Leland Innovation Park is a 630 acre campus located off U.S. Highway 74/76 and Interstate 140. The Leland Innovation Park is home to the largest collection of world-class companies in the region, and with available development-ready land, economic diversification is heavily influenced by transportation facilities near the area..

These patterns underscore the interdependence between transportation infrastructure and land use, with accessibility driving spatial organization and growth. It is, however, important to note that U.S. Highway 17, U.S. Highway 74/76, U.S. Highway 133, Village Road, and Old Fayetteville Road are owned and maintained by NCDOT.

FUTURE LAND USE AND COMPATIBILITY

MITIGATION CRITERIA AND CONCEPTS TO MINIMIZE CONFLICT

Successful land use planning requires the adoption of clear mitigation strategies to address and minimize conflicts among competing interests. Below are criteria and concepts the Town of Leland utilizes to minimize conflict in land use planning:

Comprehensive Public Engagement & Established Review Processes: Leland has predictable development review processes, some of which provide for public input at board and Town Council meetings. Additionally, all developments are reviewed by the Technical Review Committee, a group of subject matter experts who provide a comprehensive review of potential developments before final approval

FlexCode Strategies: The Town continues to develop clear and enforceable policies for land use changes and development approvals. The Town adopted the FlexCode in 2011 as a flexible zoning ordinance designed to promote mixed-use, pedestrian-friendly development. The FlexCode provides developers and property owners with more options for land use, aiming to create a more walkable and connected community. The FlexCode employs a progressive approach to planning, encouraging diverse and adaptable development that aligns with the town's goals for anticipating growth and further connecting the community.

Environmental Impact Mitigation: Leland aims to protect critical habitats, water resources, and other environmentally sensitive areas. The Town is currently introducing the use of eco-friendly design, such as low-impact development (LID) and green infrastructure. The Town is making continous efforts to collaborate regionally to plan for lacquisition of areas that will be rezoned to the Conservation District. Additionally, the Town is utilizing the FLUM is utilized when considering the impact land use changes have on the environment.

Infrastructure Alignment: Leland ensures adequate road, public transit, and pedestrian pathways to prevent congestion and access issues and plans for water, sewer, and energy infrastructure to meet the demands of proposed developments without overburdening existing systems.

Geospatial Mapping and Analysis: To follow the above strategies, Leland draws upon up-to-date GIS mapping to identify overlapping interests or areas of potential conflict.

By integrating these mitigation criteria and concepts, the Town of Leland proactively addresses potential conflicts, promotes sustainable development, and furthers balanced and equitable land use plans and developments.

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2045 ACTION PLAN: ACT ON THE ACTION PLAN

ACTION

A-1

Provide an update on the Action Plan quarterly to Department Heads, Planning Board, and Council.

A-2

Create a simple and user-friendly dashboard of the Action Plan and put on Town website.

A-3

Use the Action Plan when making annual budgets and department plans.

A-4

Revise the Action Plan annually should any items become irrelevant or if new actions become a higher priority.

INVESTMENT	Low	Low	Low	Low
ANTICIPATED TIMING (START - END)	FY22-ONGOING	FY24-FY25	FY22-FY45	FY22-FY45
ENTITY RESPONSIBLE	Planning and Inspections	Planning and Inspections, Communications	All Departments	Planning and Inspections
INITIATED	✓	✓	✓	✓
COMPLETED				

2045 ACTION PLAN: NATURAL RESOURCES

ACTION

Coordinate existing and new development standards with the environmental and cultural resource mapping created for the comprehensive plan by overlaying the existing zoning map to see where there are conflicts and use this information to evaluate zoning ordinance changes.

N-1

N-2

Share
environmental
resource mapping
with organizations
focused on land
conservation, to
assist them with
organizing their
conservation.

N-3

Evaluate the Flood Damage Prevention Ordinance every five years to determine if it is effective at avoiding flood damages and is reducing flood damages.

N-4

Promote and expand the integration of Low Impact Development (LID) and Green Infrastructure (GI) into normal development standards and practices.

INVESTMENT	Low	Low	Low	Medium/High
ANTICIPATED TIMING (START - END)	FY23-ONGOING	FY22-ONGOING	FY25-ONGOING	FY25-ONGOING
ENTITY RESPONSIBLE	Planning and Inspections	Planning and Inspections	Planning and Inspections	Planning and Inspections
INITIATED	✓	✓	✓	
COMPLETED				

2045 ACTION PLAN: LIVABLE, DIVERSE, AND CONNECTED NEIGHBORHOODS

ACTION

Catalyze
development
investment in the
Gateway District
by targeting public
investment towards
improvement that
will support future
development.

B-1

B-2

Expand the use of FlexCode into appropriate areas such as identified nodes and other areas with higher development opportunities based on low environmental constraints and proximity to existing or planned infrastructure.

B-3

Create detailed small area plans for the Jackeys Creek and 76/74 Interchange areas (Focal Areas) that include connectivity, parks and open spaces, community services, land uses, housing diversity, active nodes, and community health elements.

B-4

Create a Land Development Code that reflects the Future Land Use Map, principles, and strategies in the comprehensive plan to refine zoning regulations, the FlexCode, current zoning districts, new zoning districts, street design standards, and subdivision regulations into one clear and easy to use document.

INVESTMENT	Medium/High	Low	Medium	Medium
ANTICIPATED TIMING (START - END)	FY24-ONGOING	FY24-ONGOING	FY25-FY27	FY24-ONGOING
ENTITY RESPONSIBLE	Economic and Community Development	Planning and Inspections, Economic and Community Development	Planning and Inspections, Economic and Community Development	Planning and Inspections
INITIATED	/	✓	✓	~
COMPLETED				

B-5

Revise street connectivity requirements to improve connectivity within and between developments.

B-6

Create a Town signage and wayfinding plan that is reflective of Leland's vision, brand, and sense of place.

B-7

Coordinate with MOTSU Intergovernmental Council to explore preferred use, density, and setback allowances for areas adjacent to the MOTSU rail corridor.

Low	Medium	Low
FY 24-ONGOING	FY26-FY30	FY26-ONGOING
Planning and Inspections, Public Works	Planning and Inspections, Public Works, Economic and Community Development	Planning and Inspections
✓		

2045 ACTION PLAN: A RESILIENT AND STABLE ECONOMY

ACTION

E-1

Research ways to expand diversity in job opportunities, housing, and economic development.

E-2

Promote the Leland Innovation Park as the preferred location for high tech, well-paying employers.

E-3

Coordinate the plan for the Leland Innovation Park with the Focal Area Plan and subsequent small area plan to create a complete community within and around it.

E-4

Promote business and development opportunities in the Gateway District by creating incentive programs for development and job-creating uses.

INVESTMENT	Low	Low	Low	Medium
ANTICIPATED TIMING (START - END)	FY24-ONGOING	FY25-ONGOING	FY25-FY27	FY24-ONGOING
ENTITY RESPONSIBLE	Economic and Community Development	Economic and Community Development	Planning and Inspections, Economic and Community Development	Economic and Community Development
INITIATED	V	~		✓
COMPLETED				

E-5

Grow and educate the workforce to be prepared for emerging and trending industries anticipated to located in the region by partnering with high schools, colleges, and universities on vocational assessment and skill development.

E-6

Work with regional partners to coordinate promotion the area's economic assets to further economic development.

Medium	Low/Medium
FY22-ONGOING	FY22-ONGOING
Economic and Community Development, Human Resources	Economic and Community Development
✓	✓

2045 ACTION PLAN: AN INCLUSIVE, SUPPORTED, HEALTHY, SAFE, AND EDUCATED COMMUNITY

ACTION

Coordinate with area education providers to develop criteria to help determine the timing and location of schools.

H-1

H-2 H-3

Create a plan to support aging in place.

Update the Parks, Recreation, and Open Space Plan to reflect the Future Land Use Map and consideration for new community centers and programs that are inclusive for

all community residents.

H-4

Revisit the allowance of gated communities to ensure that the transportation and multimodal facilities are connected when possible.

INVESTMENT	Low	Medium	Medium	Low
ANTICIPATED TIMING (START - END)	FY26-ONGOING	FY23-FY28	FY25-FY30	FY25-ONGOING
ENTITY RESPONSIBLE	Planning and Inspections, Economic and Community Development, Administration	Planning and Inspections, Economic and Community Development	Parks, Recreation, and Culutral Resources	Planning and Inspections
INITIATED		✓	✓	
COMPLETED		✓		

H-5

Evaluate land use regulations and the zoning map during the Land Development Code project to ensure equitable opportunities for residents in all areas and of all socioeconomic and demographic groups.

Low/Medium

FY22-ONGOING

Planning and Inspections





2045 ACTION PLAN: INFRASTRUCTURE THAT SUPPORTS COMMUNITY LIFE

I-2

ACTION

I-1
Create horizontal street cross sections that meet

standards for

complete streets

for all street types.

Update and consolidate the bicycle and pedestrian plans to reflect the FLUM and Focal Area Plans.

Create a blueways, greenways, and water access plan in collaboration with partners to assist with funding, design, and development.

I-3

Coordinate
recommendations
for new streets,
roads, trails,
sidewalks,
multi-use paths,
streetscapes,
and other
improvements
to public spaces
in Capital
Improvement Plan.

1-4

INVESTMENT	Low/Medium	Low/Medium	Medium	Low
ANTICIPATED TIMING (START - END)	FY25-ONGOING	FY26-ONGOING	FY26-ONGOING	FY24-ONGOING
ENTITY RESPONSIBLE	Planning and Inspections, Public Works, Engineering	Planning and Inspections, Public Works, Engineering	Planning and Inspections, Parks, Recreation, and Culural Resources	Planning and Inspections, Public Works, Engineering
INITIATED	√		✓	✓
COMPLETED				

I-5

Update and consolidate the collector street plan and street infill plans to reflect the FLUM and Focal Area Plans.

Low/Medium

FY24-ONGOING

Planning and Inspections, Public Works, Engineering





2045 ACTION PLAN: AN ACTIVE PARTICIPANT IN A COOPERATIVE **REGION**

R-2

ACTION

When transportation Collaborate and recreation plans, including those for trails, streets, multi-use paths, blueways, greenways, transit, and other regionally significant linkages, are being prepared, coordinate with surrounding jurisdictions to create high levels of integration and linkages.

regionally to promote economic development opportunities.

Work collaboratively with surrounding jurisdictions to protect natural resource and improve open space connectivity.

R-3

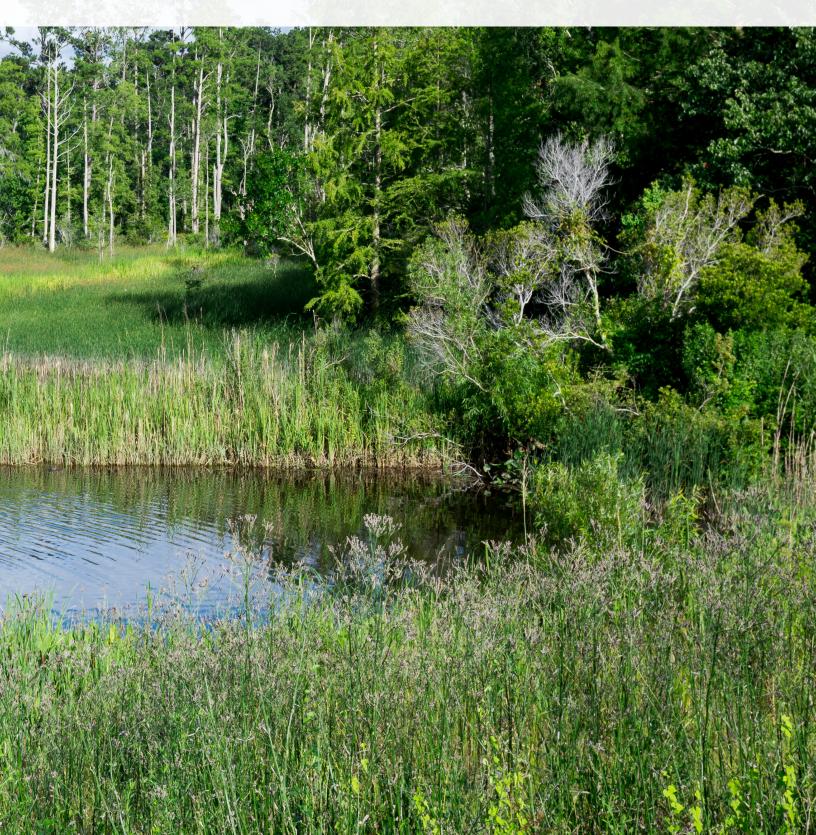
INVESTMENT	Low	Low	Low
ANTICIPATED TIMING (START - END)	FY22-ONGOING	FY22-ONGOING	FY22-ONGOING
ENTITY RESPONSIBLE	Planning and Inspections, Public Works, Engineering	Economic and Community Development, Administration	Planning and Inspections, Public Works, Engineering
INITIATED	✓	✓	✓
COMPLETED			

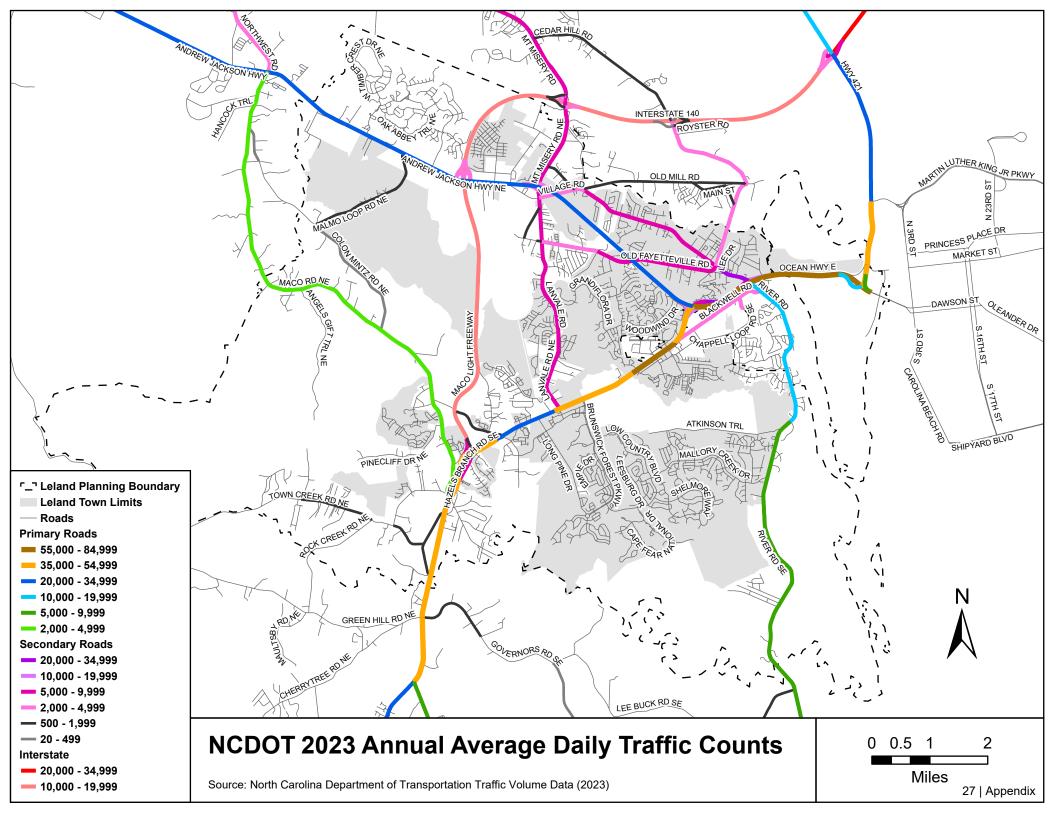
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	NCDOT AADT Counts Map		
	CAMA Matrix		
	CAMA Policies	.35	,





Town of Leland Coastal Area Management Act (CAMA) Policies

CAMA Management Goal 1.0: Implementation strategies to bolster public access

- Policy 1.1 Partner with local, state, and federal agencies and organizations to provide public shoreline and water access for people with all abilities through grants, donations, and land acquisition.
- Policy 1.2 Support commercial operations that provide and promote access to recreational activities within public waterways.

CAMA Management Goal 2.0: Implementation strategies ensuring land use compatibility

- Policy 2.1 Limit the density and intensity of development in and immediately adjacent to AECs.
- Policy 2.2 Floating homes, a stationary structure built on a float, designed for residential occupancy use, that is moored or anchored in a body of water, and connected to land-based utilities or serviced by a pumpout vessel, and is not designed for self-propulsion, are not allowed, nor is any land-dependent infrastructure for floating home communities.

Definition clarification for floating homes: Unlike a houseboat, a floating home is not intended to be a mobile vessel and is typically permanently connected to utilities like electricity, water, and sewer lines or serviced by a pump-out vessel.

Floating homes are secured in place, often docked among other floating homes, rather than being able to move independently. The foundation of a floating home is a float, which can be made of various materials like concrete or logs. Floating homes are intended for long-term and short-term living.

- Policy 2.3 Houseboat communities, defined as clusters of docked and mobile boats used as residences, shall not be established or permitted on any public or private water bodies in the Town of Leland, and no land-dependent infrastructure shall be allowed in the Town to support houseboat communities outside of Town limits.
- Policy 2.4 Prioritize shared-use private and community boating facilities over multiple individual piers and docks along the same shoreline.
- Policy 2.5 Participate in regional hazard mitigation planning and implementation.
- Policy 2.6 Moorings and mooring fields shall only be allowed where they have no adverse effect on navigation channels.

CAMA Management Goal 3.0: Implementation strategies to ensure infrastructure carrying capacity

- Policy 3.1 Prohibit clearcutting, mowing, or removal of coastal wetland vegetation within any coastal wetland AEC unless specifically authorized by the CAMA.
- Policy 3.2 Limit dredging activities to channel maintenance only, unless associated with a new public water access facility.

CAMA Management Goal 4.0: Implementation strategies conserving and maintaining natural hazard areas

- Policy 4.1 Prohibit the use of estuarine waters, estuarine shorelines, and public trust areas for development activity which would result in significant adverse impact to the natural function of those areas.
- Policy 4.2 Limit density and intensity of development in areas susceptible to coastal inundation and/or flooding.
- Policy 4.3 Consider acquiring properties for conservation, repetitive flood damage loss mitigation, and habitat preservation.

CAMA Management Goal 5.0: Implementation strategies protecting, maintaining, and enhancing water quality

- Policy 5.1 The Town will inform and educate the public about the importance of stormwater management, water quality, and environmental concerns associated with nonpoint sources of pollution.
- Policy 5.2 Encourage development practices that incorporate low-impact design (LID) and green infrastructure to reduce runoff and improve water quality.
- Policy 5.3 Integrate water quality considerations into land-use planning, ensuring that urban development minimizes impervious surfaces and optimizes stormwater management through permeable materials, detention ponds, and vegetative buffers.
- Policy 5.4 Allow permanent and/or temporary hardened shoreline protections such as seawalls, rip-rap, bulkheads, and sandbags only when there is no feasible alternative.
- Policy 5.5 The Town shall preserve and, where possible, enhance all existing wetland areas to improve water quality and provide a buffer for flooding.

Matrix for Land Use Plan Eleme	nts - 15A NCAC 7B .0702
	Page Reference(s)
Organization of the Plan	
 Matrix that shows the location of the required elements as set forth in this Rule 	Addendum page 30
Community Concerns and Aspirations	
 Description of the dominant growth- related conditions that influence land use, development, water quality and other environmental concerns in the planning area 	Pages 18-21
Description of the land use and development topics most important to the future of the planning area, including:	
Public Access	Page 24
Land Use Compatibility	Pages 19; 28
Infrastructure Carrying Capacity	Page 72
Natural Hazard Areas	Pages 70; 118-123
Water Quality	Page 116-117
Community Vision	rage tre tri
 Description of the general physical appearance and form that represents the local government's plan for the future. It shall include objectives to be achieved by the plan and identify changes that may be needed to achieve the planning vision. 	Pages 18-21
Existing and Emerging Conditions	
Public, Housing, and Economy	
Discussion of the following data and trends: Permanent population growth trends using data from the two most [recent?] decennial Censuses	Addendum pages 3- 6
 Current permanent and seasonal population estimates 	Page 106
 Key population characteristics including age and income 	Pages 100-101;110
 Thirty-year projections of permanent and seasonal population in five-year increments 	Addendum page 3
 Estimate of current housing stock, including permanent and seasonal units, tenure, and types of units 	Pages 106-109

(single-family, multi-family, and	
 manufactured) Description of employment by major sectors and community economic activity 	Page 110 (figure 14)
Natural Systems	
Description of natural features in the planning jurisdiction to include:	
Areas of Environmental Concerns (AECs) as set forth in Subchapter 15A NCAC 07H	Pages 112-113
 Soil characteristics, including limitations for septic tanks, erodibility, and other factors related to development 	Pages 114-115
 Environmental Management Commission (EMC) water quality classifications and related use support designations 	Page 116-117 (Map 32)
 Division of Marine Fisheries (DMF) shellfish growing areas and water quality conditions 	Page 116-117 (Map 32)
 Flood and other natural hazard areas 	Page 118
Storm surge areas	Page 119
 Non-coastal wetlands, including forested wetlands, shrub-scrub wetlands and freshwater marshes 	Page 120
Water supply watersheds and wellhead protection areas	Addendum page 7
Primary nursery areas	Not applicable
 Environmentally fragile areas, such as wetlands, natural heritage areas, areas containing endangered species, prime wildlife habitats, or maritime forests 	Pages 121-123
 Additional natural features or conditions identified by the local government 	Pages 126-127
Environmental Conditions	
Discussion of environmental conditions within the planning jurisdiction to include an assessment of the following conditions and features:	
 Status and changes of surface water quality, including: 	

 Impaired streams from the most recent Division of Water Resources (DWR) Basin Planning Branch Reports 	Page 130 (Table 10)
 Clean Water Act 303 (d) List 	Pages 116; 130
 Other comparable data 	Page 130
Current situation and trends on permanent and temporary closures of shellfishing waters as determined by the Report of Sanitary Survey by the Shellfish Sanitation and Recreational Water Quality Section of the DMF	Pages 116-117 (Map 32)
 Areas experiencing wastewater treatment malfunctions 	Addendum page 7
 Environmentally fragile areas (as defined in Part (c)(2)(A)(ix) of the Rule, or areas where resources functions are impacted as a result of development 	Pages 121-122 (Maps 36 and 37)
 Natural resource areas that are being impacted or lost as a result of incompatible development. These may include, but are not limited to the following: coastal wetlands, protected open space, and agricultural land. 	Not applicable
Existing Land Use and Development	
MAP of existing land use patterns	Pages 124-125 (Map 38)
 Description of the existing land use patterns 	Pages 124-125
 Estimates of the land area allocated to each land use category 	Page 125 (Table 6)
Characteristics of each land use category	Page 124-125 (Map 38)
MAP of historic, cultural, and scenic areas designated by a state or federal agency or by the local government	Page 127 (Map 39)
 Descriptions of the historic, cultural 	Page 126-127
and scenic areas	1 4go 120 121
Community Facilities	
Evaluation of existing and planned capacity, location and adequacy of community facilities to include:	
MAP of existing and planned public and private water supply service areas	Page 129 (Map 40)

 Description of existing public and 	
private water supply systems to	
include:	
- Existing condition	Page 128
- Existing capacity	Page 128 (Tables 7 and 8)
- Documented overflows, bypasses	
or other problems that may	
degrade water quality or constitute	Addendum page 7
a threat to public health as	/ tage / tage /
documented by the DWR	
- Future water supply needs based	
on population projections	Addendum page 7
MAP of existing and planning public and	
private wastewater systems to include:	Page 129 (Map 40)
Description of existing public and private	
wastewater systems to include:	
	Page 120
- Existing condition	Page 120 (Table 9)
- Existing capacity	Page 129 (Table 9)
- Documented overflows, bypasses	
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degrade water quality or constitute	Addendum page 7
a threat to public health as	
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- Future water supply needs based	Addendum page 7
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MAP of existing and planned multimodal	Pages 43 (Map 7); 73 (Map 11); 79
transportation systems and port and airport	(Map 13)
facilities	(
 Description of any highway segments 	
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Transportation (NCDOT) as having	Addendum page 8
unacceptable service as documented	NCDOT AADT Map in appendix page
in the most recent NCDOT	27
Transportation and/or Thoroughfare	
Plan	
Description of highway facilities on the	
current thoroughfare plan or current	Pages 72-73 (Map 11)
transportation improvement plan	
Description of the impact of existing	
transportation facilities on land use	Addendum page 8
patterns	l a de la de
Description of the existing public	
stormwater management system	Page 130 (Table 10)
Identification of existing drainage problems and water quality issues	Pages 94; 114
problems and water quality issues	

related to point-source discharges of stormwater runoff		
	Strategy/Action (Policy) Citations	Page References
Future Land Use		
Policies		
 Policies that exceed the use standards and permitting requirements found in Subchapter 7H, State Guidelines for Areas of Environmental Concern 	Not applicable	Not applicable
Policies that address the Coastal Resources Commission's (CRC's) management topics:		
Public Access Management Goal: Maximize public access to the beaches and the public trust waters of the coastal region.		
The planning objectives for public access are local government plan policies that:		
Address access needs and opportunities	Highly Valued and Protected Natural and Cultural Resources Opportunity 6 Infrastructure that Supports Community Life Action I-3	Pages 24; 60; Addendum page 28
Identify strategies to develop public access	Policies 1.1 and 1.2 Highly Valued and Protected Natural and Cultural Resources Opportunity 6 Infrastructure that Supports Community Life Action I-3 Policies 1.1 and 1.2	Pages 24; 60; Addendum page 28
 Address provisions for all segments of the community, including persons with disabilities 	An Inclusive, Supported, Healthy, Safe, and Educated Community	Pages 58-59; Addendum page 28

	Actions H-3 & H-5	
	Actions 11-3 & 11-3	
	Policy 1.1	
For oceanfront communities, establish access policies for beach areas targeted for nourishment	Not applicable	Not applicable
Land Use Compatibility Management Goal: Ensure that development and use of resources or preservation of land balance protection of natural resources and fragile areas with economic development, and avoid risks to public health, safety, and welfare. The planning objectives for land use computability are local government plan		
policies that:		
Characterize future land use and development patterns	Critical Future Goals 3, 4, 9, and 11 Highly Valued and Protected Natural and Cultural Resources Opportunities 1, 2, 3, 4, 5, and 7 Actions N-1 and N-4 Livable, Diverse, and Connected Neighborhoods that Accommodate Growth Opportunity 1 Action B-2 An Inclusive, Supported, Healthy, Safe, and Educated Community Opportunity 6 Infrastructure that Supports Community Life Opportunities 9 and 10 Actions I-2 and I-5	Pages 19 (Map 2), 24- 28; 30; 33; 38; 42-45; 53- 54; 60-61; 88- 89 (Map 14); Addendum pages 28-29

Establish mitigation criteria and	Future Land Use Map (FLUM) Focal Areas 1 and 2 Policies 2.1 - 2.6 Strategies to	Addendum
concepts to minimize conflicts	Minimize Conflict	page 9
Infrastructure Carrying Capacity Management Goal: Ensure that public infrastructure systems are sized, located, and managed so the quality and productivity of AECs are other fragile areas are protected or restored. The planning objectives for infrastructure carrying capacity are local government plan	William III Commission	page
policies that:		
Establish service criteria	Future Land Use Map (FLUM)	Page 19
Ensure improvements minimize impacts to AEC's and other fragile areas	Highly Valued and Protected Natural and Cultural Resources Actions Actions N-1 and N-4 Infrastructure that Supports Community Life Actions I-2 and I-5 Policies 3.1, 3.2, 4.1, and 4.2	Pages 24-28; 38; 53; 60-61; Addendum pages 28-29
Natural Hazard Areas Management Goal: Conserve and maintain barrier dunes, beaches, floodplains, and other coastal features for their natural storm protection functions and their natural resources giving recognition to public health, safety, and welfare issues. The planning objectives for natural hazard areas are local government plan policies that: • Establish mitigation and adaptation concepts and criteria for development and redevelopment, including public	Highly Valued and Protected Natural and Cultural	Pages 24-28; 33; 53; Addendum
facilities	Resources	pages 28-29

	Actions N. 4. N. C. and	
	Actions N-1, N-3 and N-4	
	11-4	
	Polices 2.1, 3.1, 4.1	
	and 4.2	
Minimize threats to life, property and	Highly Valued and	
natural resources resulting from	Protected Natural	Pages 24-28;
erosion, high winds, storm surge,	and Cultural	Addendum
flooding, and other natural hazards	Resources	page 28-29
	Policy 4.3	
Water Quality Management Goal:	Policy 4.3	
Maintain, protect and where possible		
enhance water quality in all coastal wetlands,		
rivers, streams, and estuaries.		
The planning objectives for water quality are		
local government plan policies that:		
 Establish strategies and practices to 	Highly Valued and	
prevent or control nonpoint source	Protected Natural	
pollution	and Cultural	
	Resources Opportunities 1 and 4	Doggo 24 29:
	Opportunities 1 and 4 Action N-4	Pages 24-28; 42-45; 116;
	7 totion 14-4	Addendum
	Infrastructure that	page 28-29
	Supports Community	1 3
	Life Opportunity 9	
	Policies 5.1 – 5.6	
Establish strategies and practices to	Highly Valued and	
maintain and improve water quality	Protected Natural	
	and Cultural Resources	
	Opportunity 7	
	Action N-3	Pages 24-28;
		45; 53;
	Infrastructure that	Addendum
	Supports Community	page 28-29
	Life	
	Opportunities 9 and	
	10	
	Policies 5.1 – 5.6	
Future Land Use Map	Page Referei	nce(s)
MAP of future land uses that depicts the	Pages 19; 90-95	
policies for growth and development and the	1 ages 10, 50-50	

desired future patterns of land use and	
development with consideration given to	
natural system constraints and infrastructure	
 Descriptions of land uses and 	
development associated with the	Pages 18-21; 90-95
future land use map designations	3
I state to the party and the p	
Tools for Managing Development	
Description of the role of plan policies,	
including the future land use map, in	D 50.00
local decisions regarding land use and	Pages 50-63
development	
Description of the community's	
development management program,	
including local ordinances, codes, and	Page 51
other plans and policies	
Action Plan and Implementation Schedule	
Description of actions that will be	
taken by the local government to	
implement policies that meet the	
CRC's management topic goals and	Addendum pages 11-23
	Addendum pages 11-25
objectives, specifying fiscal year(s) in	
which each action is anticipated to	
start and finish	
Identification of specific steps the local	
government plans to take to implement	50.00
the policies, including adoption and	Pages 50-63
amendment of local ordinances, other	
plans, and special projects	



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