



# Thunderbolt

Comprehensive Plan 2016-2036





# **Thunderbolt 2016-2036 Comprehensive Plan Acknowledgments**

## **Thunderbolt Mayor and Council Members**

Beth E. Goette, Mayor  
Kimberly Chappell-Stevens, Mayor Pro-Tem  
John M. Henry  
David P. Crenshaw  
Sherry L. Elmore-Phillips  
Clair Alvin (Al) Henderson, Jr.  
Dr. Edward M. Drohan, III

## **Steering Committee Members**

Beth E. Goette, Mayor  
Kimberly Chappell-Stevens, Mayor Pro-Tem  
John M. Henry, Council Member  
David P. Crenshaw, Council Member  
Sherry L. Elmore-Phillips, Council Member  
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**“If you don’t know where you’re going,  
you’ll end up someplace else.”**

*-Yogi Berra*









## **Executive Summary**

Since the adoption of the 2008 Comprehensive Plan for Thunderbolt, the Georgia Department of Community Affairs (DCA) standards that Comprehensive Plans in Georgia are required to meet have been revised and updated. This update reassesses where Thunderbolt is today, and how it intends to develop in the future, as well as reorganizes the document to meet the requirements of the new state standards. It presents a community vision, corresponding goals and how Thunderbolt is to address working towards its vision; and includes a work program designed to make its vision a reality.

## Community Vision

Thunderbolt's Vision Statement is:

*The Town of Thunderbolt will protect, maintain, and enhance our sense of small town community, historical heritage, and maritime environment.*

Thunderbolt is committed to achieving this Vision by adhering to their Mission Statement:

*To provide the Town of Thunderbolt residents, businesses, and visitors with an exceptional experience and quality of life through advanced public safety and community services while retaining the appeal and affordability of a small town through visionary leadership, coordination, and integrity.*

The vision addresses the community's desire to maintain a community-oriented feel with commercial, employment, and economic development opportunities. The vision is supported by the following overarching goals created to help shape Thunderbolt's future development.

- **Upgrading Thunderbolt's Infrastructure**
- **Updating Thunderbolt's Zoning Ordinance**
- **Retaining Thunderbolt's Small Town Village Atmosphere**
- **Retaining Thunderbolt's Access to Water, Views, and Nature**
- **Addressing Thunderbolt's Traffic Issues**
- **Retaining and Expanding Thunderbolt's Maritime Industry**

Thunderbolt's vision is further defined by the **Character Area Map**. The Character Area Map plays a role in guiding future development and is further supported by the **Future Land Use Map** which also provides guidance on future land use that is in keeping with the community vision.

# Needs and Opportunities

The recommendations of the Thunderbolt’s plan were crafted to address the **Needs and Opportunities** identified through the public outreach effort and existing conditions analysis.

# Key Recommendations

Among the recommendations of the Thunderbolt’s plan, the following six items are key in achieving the community’s vision for the future. These help the Town to achieve multiple goals and its long-term vision.

Upgrading  
Thunderbolt’s  
Infrastructure

Updating  
Thunderbolt’s  
Zoning Ordinance

Retaining  
Thunderbolt’s  
Small Town Village  
Atmosphere

Retaining  
Thunderbolt’s  
Access to Water,  
Views, and Nature

Addressing  
Thunderbolt’s  
Traffic Issues

Retaining and  
Expanding  
Thunderbolt’s  
Maritime Industry

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# 1

## Plan Overview





## 1.1 Purpose

Thunderbolt's Comprehensive Plan is a living document that is updated and shaped by its leadership, staff and citizens. It is a policy guide for making zoning and land use decisions and sets policies for officials and staff concerning the future development of Thunderbolt.

The Comprehensive Plan is a long-range land use plan to guide future growth and the physical development of the town. The goals and policies within the Comprehensive Plan are designed to help Thunderbolt become a prosperous, health, equitable, and resilient town.

Thunderbolt's Comprehensive Plan is a five year update as required by the "The Minimum Standards and Procedures for Local Comprehensive Planning," (Minimum Standards) adopted by the Georgia Department of Community Affairs (DCA). The latest version of these standards can be found in O.C.G.A Chapter 110-12-1, effective March 2014.

In meeting these standards, this plan enables the Town to maintain its Qualified Local Government Status, making it eligible to receive certain types of state funding. This update reassesses where Thunderbolt is today and how it intends to grow in the future. Following the requirements of the Minimum Standards, it presents a community vision, goals and a work program designed to make the vision a reality.

## 1.2 Scope

In keeping with the Minimum Standards, this plan is presented in three components:

1. **Community Vision** - which lays out the future vision and goals that the community wants to achieve in text and maps;
2. **Needs and Opportunities** – which provides a list of the various needs and opportunities that the community will address; and
3. **Community Work Program** – which provides a 5-year Short Term Work Program designed to address the needs and opportunities. This program include activities, initiatives, programs, ordinances and administrative systems to be put into place or maintained in order to implement the plan.

In addition, the plan incorporates planning elements as defined by the DCA Minimum Standards that are important to shaping the future of Thunderbolt.

A **Record of Accomplishments** highlighting the success of the previous Short Term Work Program, a description of the public involvement process, and a report on how this plan is consistent with the Regional Water Plan and Environmental Planning Criteria is a part of this report.

Thunderbolt is a small town located in Chatham County about five miles southeast of downtown Savannah. As of the 2010 census, Thunderbolt had a total population of 2,668; the 2016 estimated population is 2,728 and is expected to grow to 2,920 by 2021 according to ESRI Business Analyst Online.

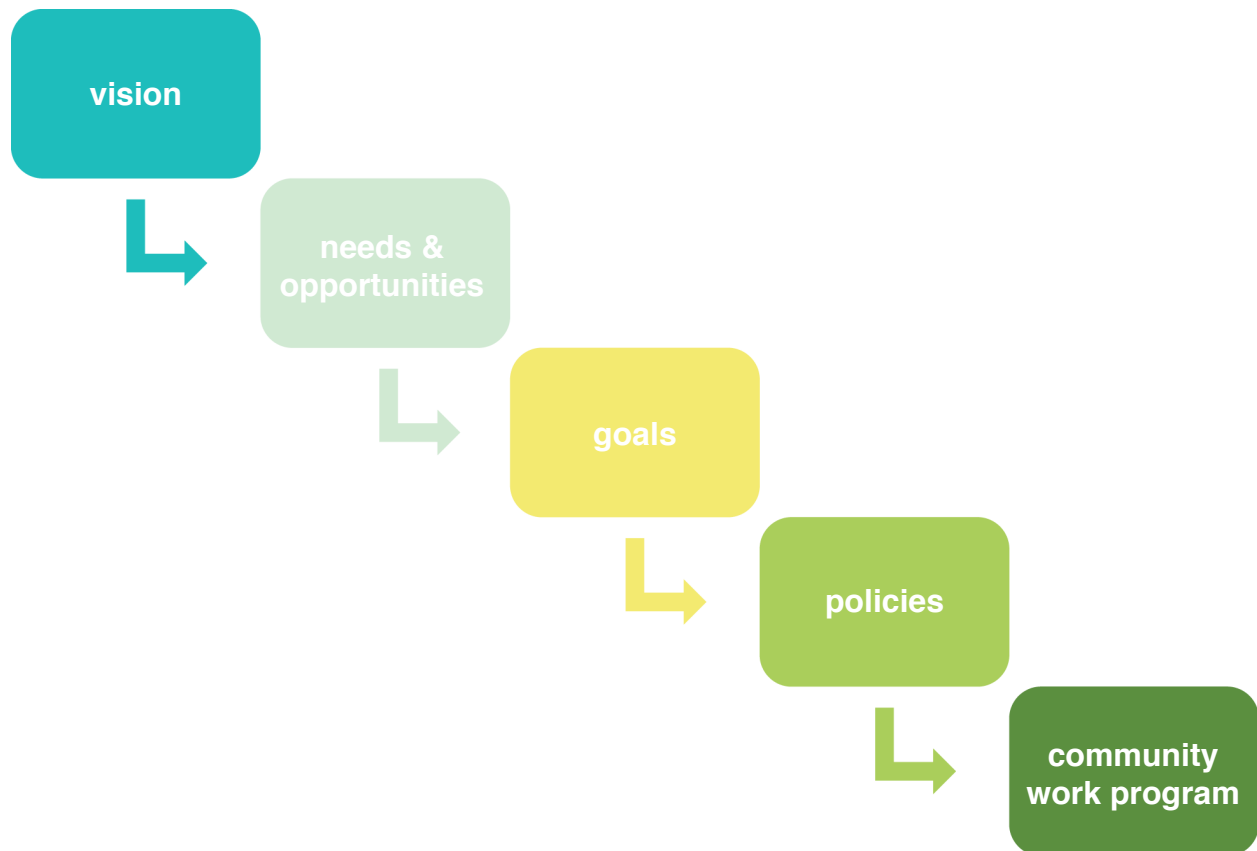
Thunderbolt runs along the western edge of the Wilmington River, with a small community, Isle of Armstrong, on the eastern shore of the river. Thunderbolt has a total area of 1.5 square miles, of which, 1.3 square miles of it is land and 0.2 square miles of it is water. The total area is 12.41% water.

The Town of Thunderbolt, a small town who owes its name to a legend of a lightning strike that created a freshwater spring on the Wilmington bluff. Native Americans were found to be among the first inhabitants.

Thunderbolt was a settlement which evolved into a shipping point for local plantation needs which also serviced the river traffic. In 1856, the Town of Thunderbolt was incorporated as Warsaw and then began its history as a processing port for the fishing community. In 1890, Georgia State College was founded for the education of African Americans. This college continues to be a historically black institution and is known today as Savannah State University.

In 1921, Warsaw's name was restored to Thunderbolt and the seafood processing continued to play a large part in this community's development. In 1939, yacht racing became popular and saw the construction of a yacht basin. Annually, the "Blessing of the Fleet" was celebrated until recent years and shrimping evolved into the primary seafood product.

Today, the Town of Thunderbolt remains a unique community with a distinct personality all of its own. Families dwell in this town for many generations which becomes a part of our town's rich history.



### 1.3 Methodology

The public outreach effort launched for this plan update includes two public hearings, a kick-off meeting, and three Steering Committee/Stakeholder meetings.

Announcements and notifications of these meetings were included on the Town’s website, and for those who could not make the workshops, comments were solicited through Constant Contact.

Additionally, the Graduate Program in Urban Studies and Planning at Savannah State University performed a Comprehensive Plan Survey during the Fall 2015 semester. The surveyors were 10 students enrolled in the Research Methods Class led by Dr. Deden Rukmana. The survey instrument provides data in three sections: 1) The Future of Thunderbolt, 2) Housing, and 3) Demographics. This information has been used by CRC and the Steering Committee to augment information gathered in other forums to develop the Needs and Opportunities.

A Citizen Planning Committee was formed comprised of members from the Steering Committee and Stakeholders representing a cross-section of the community including an elected official, civic/religious organizations, local business interests, key staff, County staff, and residents (see page 2 and page 3 for a listing of members).

The goals of the committee were to:

1. Seek agreement on key issues.
2. Help to craft a common vision for the future.
3. Provide guidance on action needed to achieve that vision.
4. Affirm public input.

A large, light gray, stylized number '2' is centered on the page. A teal horizontal bar is overlaid across the middle of the '2', containing the text 'Needs and Opportunities' in white.

## Needs and Opportunities

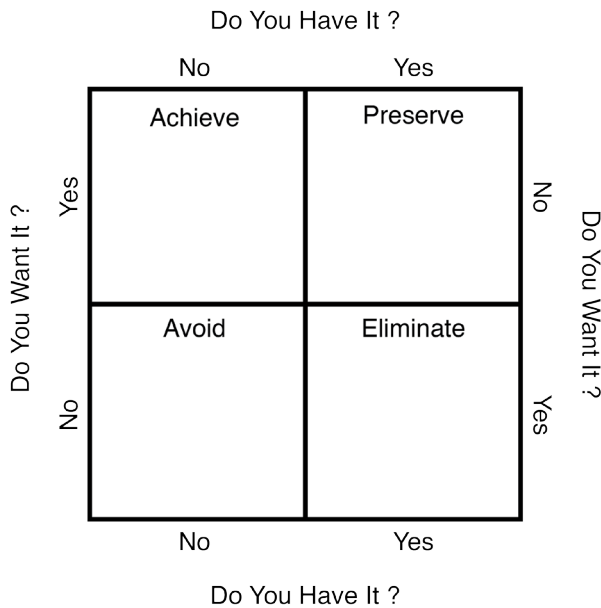


In order to achieve Thunderbolt’s vision and goals for the future there are a number of needs and opportunities that the community must address. A need can be defined as a condition of something that is required or wanted, while an opportunity is a chance for progress or advancement.

The process identified needs and opportunities which are unique to the community based on the technical assessment as well as input collected as part of the engagement process.

## 2.1 Public Input

Community members participated in a Needs and Opportunities workshop held by Thunderbolt on July 29, 2015. Members of the public had an opportunity to participate in identifying Needs and Opportunities as well as provide comment during a public meeting on October 14, 2015.



These needs and opportunities were identified through a facilitated discussion of the Strengths, Weaknesses, Opportunities and Threats in Thunderbolt, or a SWOT Analysis.

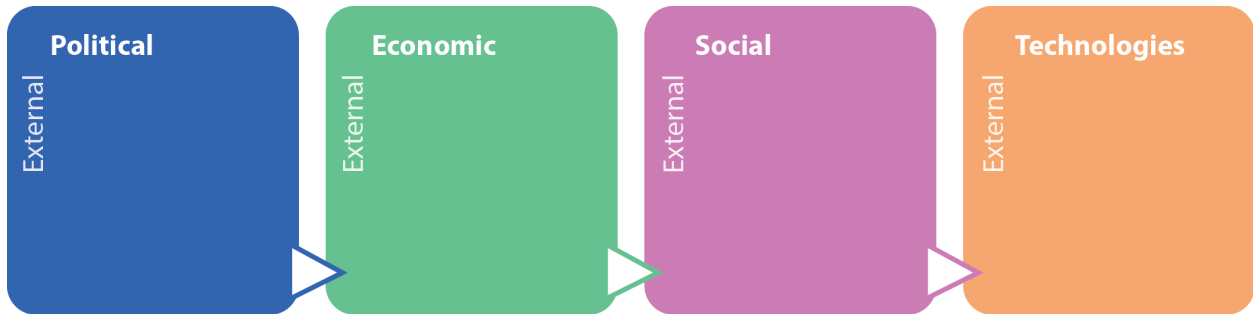
The SWOT analysis was designed to identify priorities for the Town and was conducted through a “Matrix” that included an exercise with the interplay of ‘yes’ and ‘no’ to the following questions?

Do we have it? Do we want it?

The interplay of Yes and No answer to these questions defines four basic categories, Achieve, Preserve, Avoid or Eliminate.



Once the four categories were identified, the analyses of the **external environment** such as social changes, new technologies, political environments to determine how, if at all might affect Thunderbolt. A chart for analyzing the external environment is the PEST chart, an acronym for Political, Economic, Social and Technologies analysis that encompass the process.



A critical component in the planning process is also documenting what Thunderbolt knows about itself, analyzing the internal environment. What defines Thunderbolt’s culture? What is its image in the eyes of its stakeholders and others?

The information derived from the external analysis feeds into the Opportunities and Threats segments of the SWOT analysis.

The information derived from the internal analysis drives the Strengths and Weaknesses components of the SWOT.



## 2.2 Needs and Opportunities Matrix

The matrix below shows the relationship between the Town of Thunderbolt’s goals and its identified needs and opportunities as they related to economic development, development patterns, housing, mobility, community, conservation, livability, and resiliency.

A need can be defined as a condition of something that is required or wanted, while an opportunity is a chance for progress or advancement. More specifically, a “need” refers to the gap or discrepancy between a present state (what is) and a desired state (what should be). The need is neither the present nor the future state; it is the gap between them. An “opportunity” refers to something that the community has that should be maintained, promoted; or that the town can capitalize on to improve the community.

The matrix is intended to create an alignment between the goals of the Town of Thunderbolt and its Needs and Opportunities as ultimately strategic planning, the community work plan, and performance are inextricably linked.

Needs and Opportunities

| GOALS  | Upgrading Thunderbolt's Infrastructure | Updating Thunderbolt's Zoning Ordinance | Retaining Thunderbolt's Small Town Village Atmosphere | Retaining Thunderbolt's Access to Water, Views, and Nature | Addressing Thunderbolt's Traffic Issues | Retaining and Expanding Thunderbolt's Maritime Industry |
|--|--|---|---|--|---|---|
| <b>Economic Development</b>  |  |   |   |  |   |   |
| 1. Thunderbolt should develop a Strategic Economic Development plan.   | X                                      | X                                       | X   | X  | X                                       | X   |
| 2. The community needs to determine where public facility capacity needs to be improved in order to attract new development. | X                                      |   | X   | X  |   | X   |
| 3. Thunderbolt has a solid financial foundation which offers it the opportunity to keep ahead of the demands for growth.     | X                                      |   | X   | X  |   | X   |
| 4. Thunderbolt recognizes it is important to maintain its user-friendly government.  |  | X                                       | X   | X  |   | X   |
| <b>Development Patterns</b>  |  |   |   |  |   |   |
| 5. The community should continue to improve the appearance of all areas in the community.                                    | X                                      | X                                       | X   | X  | X                                       | X   |
| 6. Thunderbolt needs to address blighting influences in residential and non-residential areas.                               | X                                      | X                                       | X   | X  | X                                       | X   |
| 7. Guidelines are needed throughout the community for established and currently developing areas.                            | X                                      | X                                       | X   | X  | X                                       | X   |
| 8. The community should provide incentives for desirable redevelopment and infill projects.                                  | X                                      | X                                       | X   | X  | X                                       | X   |
| 9. The community should promote infill development and redevelopment of suitable sites.                                      | X                                      | X                                       | X   | X  | X                                       | X   |

**Needs and Opportunities**

| GOALS  | Upgrading Thunderbolt's Infrastructure | Updating Thunderbolt's Zoning Ordinance | Retaining Thunderbolt's Small Town Village Atmosphere | Retaining Thunderbolt's Access to Water, Views, and Nature | Addressing Thunderbolt's Traffic Issues | Retaining and Expanding Thunderbolt's Maritime Industry |
|--|--|---|---|--|---|---|
| 10. There is a need for specific design guidelines in an anticipated mixed-use corridor where a higher cost, long term business investment is anticipated. | X                                      | X                                       | X   | X  | X                                       | X   |
| 11. Thunderbolt should require preservation of open space in new development.  | X                                      | X                                       | X   | X  | X                                       | X   |
| <b>Housing</b>   |  |   |   |  |   |   |
| 12. The community should analyze housing costs versus wages to determine if affordable housing options are needed.   |  |   | X   |  |   | X   |
| 13. The community needs to rehabilitate older homes.   | X                                      | X                                       | X   |  |   |   |
| <b>Mobility</b>  |  |   |   |  |   |   |
| 14. There is a demand for an improved pedestrian environment.  | X                                      |   | X   | X  | X                                       |   |
| 15. The community would like to provide more sidewalks and pedestrian opportunities.   | X                                      |   | X   | X  | X                                       |   |
| 16. The community would like to provide more bike paths, trails, and other multi-modal opportunities.  | X                                      |   | X   | X  | X                                       |   |
| 17. Thunderbolt needs to address alleviating peak traffic congestion along Victory Drive (Highway 80).   | X                                      |   | X   | X  | X                                       |   |
| 18. Improvements need to be made to Victory Drive (Highway 80), Bonaventure Road, and Mechanics Avenue to create safer areas for pedestrians.              | X                                      |   | X   | X  | X                                       |   |

**Needs and Opportunities**

| GOALS  | Upgrading Thunderbolt's Infrastructure | Updating Thunderbolt's Zoning Ordinance | Retaining Thunderbolt's Small Town Village Atmosphere | Retaining Thunderbolt's Access to Water, Views, and Nature | Addressing Thunderbolt's Traffic Issues | Retaining and Expanding Thunderbolt's Maritime Industry |
|--|--|---|---|--|---|---|
| <b>Community</b>   |  |   |   |  |   |   |
| 19. Thunderbolt recognizes it is important to maintain its sense of community.   |  | X                                       | X   | X  |   |   |
| 20. The community encourages an increase of greenspace and parkland.   |  | X                                       | X   | X  |   |   |
| 21. The community would like to provide more protection of its historic resources.                                     |  | X                                       | X   | X  |   |   |
| 22. The community needs to market its historic structures.   |  | X                                       | X   | X  |   |   |
| 23. Thunderbolt needs to identify and protect significant cultural and natural areas in the community.                 |  | X                                       | X   | X  |   |   |
| 24. The community should link existing and potential greenspace through a network of trails and green infrastructure.  |  | X                                       | X   | X  |   |   |
| <b>Conservation</b>  |  |   |   |  |   |   |
| 25. The community would like to better protect its natural resources; streams, rivers, wetlands, and coastal habitats. |  | X                                       | X   | X  |   | X   |
| 26. The community needs to continue to address water management in order to ensure water capacity.                     |  | X                                       | X   | X  |   | X   |
| 27. The community needs to continue to implement best practices for stormwater runoff and drainage.                    | X                                      | X                                       | X   |  | X                                       |   |

Needs and Opportunities

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|--|--|---|---|--|---|---|
| 28. The community needs to continue to protect its trees.  | X                                      | X                                       | X   | X  |   | X   |
| <b>Livability</b>  |  |   |   |  |   |   |
| 29. More developed areas within the community need to manage traffic congestion and commute times.   | X                                      | X                                       | X   |  | X                                       |   |
| 30. The community needs to increase the mix of uses – commercial/retail/residential.   |  | X                                       | X   |  | X                                       |   |
| 31. The community would like to coordinate with neighboring jurisdictions on shared needs and opportunities.   | X                                      | X                                       | X   | X  | X                                       | X   |
| 32. The community would like to improve its development review process, especially as it relates to Developments of Regional Impact.                     | X                                      | X                                       | X   | X  | X                                       | X   |
| <b>Resiliency</b>  |  |   |   |  |   |   |
| 33. The community would like to assess the nature of vulnerable populations; the very young, the elderly, and persons living in poverty.                 |  |   | X   |  |   |   |
| 34. The community would like to assess the vulnerability of its significant infrastructure; water and sewer, roads and bridges, and critical facilities. | X                                      | X                                       | X   |  |   | X   |





**Community Vision and Goals**





The Community Vision and Goals identify the Thunderbolt's direction for the future and are intended to serve as a guide to Thunderbolt officials in day-to-day decision making. They are the product of public involvement and the following components:

- Vision Statement
- Overarching Community Goals
- General policies
- Character Areas Map and Narrative
- Future Land Use Map

Each of these components was previously established in the Town's prior Comprehensive Plan. Through the Thunderbolt Plan Update process community members were given opportunity to revisit and update each component.

### **3.1 Vision Statement**

The Community Vision paints a picture of what Thunderbolt desires to become. The vision statement offered below was refined through discussion with the Citizen Advisory Board and participants.

Thunderbolt's Vision Statement is:

*The Town of Thunderbolt will protect, maintain, and enhance our sense of small town community, historical heritage, and maritime environment.*

Thunderbolt is committed to achieving this Vision by adhering to their Mission Statement:

*To provide the Town of Thunderbolt residents, businesses, and visitors with an exceptional experience and quality of life through advanced public safety and community services while retaining the appeal and affordability of a small town through visionary leadership, coordination, and integrity.*

The vision addresses the community's desire to maintain a community-oriented feel with commercial, employment, and economic development opportunities. The vision is supported by the following overarching goals created to help shape Thunderbolt's future development.

This vision is supported by the following overarching goals created to help shape Thunderbolt's future development.

## 3.2 Goals

Goals are long-term outcomes that Thunderbolt hopes to achieve by implementing the Comprehensive Plan. They are aspirational, expressing Thunderbolt's collective desires and values.

The community identified a number of goals to achieve in order to make Thunderbolt's vision a continuing reality. The following goals represent the recurring themes, and like the vision statement, were derived from a vetting process involving Town staff, the members of the Steering Committee and Stakeholders group, and members of the general public.



### **Upgrading Thunderbolt's Infrastructure**



### **Updating Thunderbolt's Zoning Ordinance**



### **Retaining Thunderbolt's Small Town Village Atmosphere**



### **Retaining Access to Water, Views, Nature**



### **Addressing Thunderbolt's Traffic Issues**



### **Retaining and Expanding Thunderbolt's Maritime Industry**



## **Upgrading Thunderbolt's Infrastructure**

It is a primary goal of the Town of Thunderbolt to upgrade its infrastructure – including water, sewer, streets, stormwater, and other utilities. The town understands that sufficient infrastructure capacity is a strong component to economic development and must be addressed concurrently with any plans for future residential and commercial growth.

Thunderbolt recognizes that it has issues with its infrastructure, particularly aging water and sewer lines. The town is actively addressing these issues and will continue to do so. Some members of the Steering Committee noted that the condominium developments along the waterfront occurred after public sewer became available and that these developments are now considered to be a detriment to Thunderbolt. However, proper planning and zoning would have prevented these developments at the time. Currently the Isle of Armstrong area on the east side of the Wilmington River is using septic systems. Representatives of that area do not want to install sewer; however, given its geographic location and surrounding marshlands, this is something the Town of Thunderbolt should continue to consider for the future.

The Town of Thunderbolt will continue to place infrastructure projects into its Capital Improvement Plan and seek appropriate funding for these projects, including Community Development Block Grants, Economic Development Administration Public Works grants, and Georgia Environmental Finance Authority grants and low interest loans if such funding is deemed suitable for specific projects.



## **Updating Thunderbolt's Zoning Ordinance**

This goal centers on Thunderbolt's desire to manage and guide growth and development while retaining and improving upon its livability and maintaining its small town feel that is so important to Thunderbolt's residents. The goal of auditing and updating ordinances is to ensure residents have the opportunity to live in a safe and healthy community with access to affordable homes, amenities, and services; making good use of natural resources which surround the community.

The Steering Committee feels that an updated Zoning Ordinance will help staff and appointed and elected officials better implement the Comprehensive Plan and provide guidance for growth and development. Some issues that were recognized as needing to be addressed were substandard or nonconforming lots, siting and permitting of tiny houses and other types of accessory dwelling structures, mixed-uses, and the preservation of green space. A project that Thunderbolt particularly wants to include in its Zoning Ordinance update is the creation of a Mixed-Use District along River Drive – Thunderbolt's main corridor and gateway.



## **Retaining Thunderbolt’s Small Town Village Atmosphere**

Thunderbolt’s Vision Statement: “The Town of Thunderbolt will protect, maintain, and enhance our sense of small town community, historical heritage, and maritime environment” speaks to how important the community considers this goal is. In the Savannah State University (SSU) survey 62.5% of respondents said they strongly agree that keeping Thunderbolt’s small town atmosphere is important. Thunderbolt began as an agrarian outpost to keep watch on the Wilmington River and notify the City of Savannah of any potential invasion by Spanish galleons. Throughout its history it has been a small vibrant community with many of its activities focused on its waterfront and maritime and fishing endeavors.

Thunderbolt will use development tools such as its updated Comprehensive Plan and an update to its Zoning Code to guide growth and development to ensure it maintains its small town atmosphere. The town will continue to market itself as a convenient and safe place to live with access to the Savannah region.



## **Retaining Access to Water, Views, Nature**

Thunderbolt recognizes that access to water, views of the Wilmington River and surrounding marshes, and other elements of the natural environment are key assets for the community that the town wishes to retain and capitalize upon to the extent possible. Thunderbolt perceives the large condominium developments along River Drive as a detriment due to their height and massing that seems excessive in comparison to the village atmosphere that Thunderbolt desires to achieve. The town realizes that these developments are here to stay; however, they can learn from this experience and make efforts to retain access to water, views, and nature going forward. Thunderbolt will achieve this goal by updating its zoning ordinance and creating a mixed-use overlay district for River Drive.



## **Addressing Thunderbolt's Traffic Issues**

Thunderbolt has several traffic issues that it has identified and would like to address. Some of these issues, for example traffic congestion on Victory Drive (Highway 80), are largely out of its control; and some issues, such as traffic calming on Bonaventure Road and the creation of sidewalks and bicycle paths are clearly goals the community can set for short term achievement.

The desire for sidewalks was the only item in the SSU survey that scored higher than the desire to retain its small town village atmosphere. This citizens' survey also indicated strong demand for more bicycle paths and a walking trail on Town owned property next to Johnson High School on Sunset Boulevard. A sidewalk inventory for the town has been completed, and their next steps should include developing a Bicycle and Pedestrian Plan to identify and prioritize specific bike/ped projects.

Bonaventure Road begins at Mechanics Avenue and runs generally north for about three-quarters of a mile until it reaches the entrance to the historic Bonaventure Cemetery and the town line. From that point it runs west for nearly a mile and intersects with Skidaway Road. Bonaventure Road is two-lanes, narrow and winding among ancient oaks. It has limited right-of-way and no existing sidewalks. Its first two blocks have the traditional smaller lots of the urban village and then it gives way to less dense development. The road is entirely residential. Many residents of Thunderbolt use Bonaventure Road as an alternate route to Victory Dive and a short cut to Skidaway Road and access to downtown Savannah. Unfortunately, many commuters have discovered the same short cut leading to an increase in traffic through this residential area. In its current condition Bonaventure Road is unwelcoming and dangerous to pedestrians and bicyclists. A detailed study of this corridor with recommendations for traffic calming and bicycle/pedestrian safety features is strongly recommended.

Another traffic related issue that Thunderbolt needs to address is road maintenance. Due to the marine industrial activities at Hinckley Yachts and Thunderbolt Marine occasional over-sized loads must travel through the town to reach these destinations. This traffic is not often enough to generate an traffic or safety problem, but it does exacerbate wear and tear on the roads.





## **Retaining and Expanding Thunderbolt's Maritime Industry**

The Town of Thunderbolt has prioritized retaining and expanding its maritime industry. Thunderbolt is home to two facilities, Thunderbolt Marine and Hinkley Yachts, that specialize in repairing and refitting yachts. Thunderbolt Marine was honored as 2014 Boatyard of the Year by the American Boat Builders & Repairers Association.

Thunderbolt Marine provides a great example of the economic development impact of this particular industry. In 2013, they serviced 225 vessels, employing an average of 100 people directly and another 125 seasonal subcontractors. The operation also generates significant indirect economic impact – a typical crew on a 150-foot yacht is 10 to 12 people, with most vessels staying at the facility for an average of six weeks. During that time, crews stay in rental properties, rent cars and go to local restaurants and stores.

The Town of Thunderbolt is uniquely positioned to offer these types of industries along the Atlantic Intracoastal Waterway, well away from Port of Savannah operations, yet conveniently close to the Savannah metro area. Ship fitting and repair, plus the shrimp fleet, and other watersports related activities make Thunderbolt unique in the area and offer an opportunity to maintain and further develop a niche industry.

### 3.3 Community Policies

The following policies are intended to provide on-going guidance and direction to local government officials for making decisions consistent with achieving the Community Goals. For this reason these policies are organized by goals, although individual policies will likely achieve multiple goals.



#### Upgrading Thunderbolt's Infrastructure

The Town of Thunderbolt recognizes the need to upgrade its infrastructure – including water, sewer, streets, stormwater, and other utilities. The town understands that sufficient infrastructure capacity is a strong component to economic development and must be addressed concurrently with any plans for future residential and commercial growth. To meet this need, the town has developed the following policies.

The Town of Thunderbolt will develop a comprehensive approach to upgrading its infrastructure that includes a needs assessment, budget, and funding plan.

- The Town will perform a needs assessment of its potable water and sanitary sewer systems that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources
- The Town will perform a needs assessment of its stormwater system that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources
- The Town will perform a needs assessment of its roadway system that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources
- The Town will perform a needs assessment of its sidewalk system that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources



## Updating Thunderbolt's Zoning Ordinance

- Thunderbolt will update their zoning ordinance to be user friendly and easy to understand.
- Thunderbolt's zoning ordinance will be illustrated with graphics, diagrams, and concise tables.
- Thunderbolt's zoning ordinance will allow for a streamlined development process.
- Thunderbolt's zoning ordinance update will be designed to foster the town's desired type of redevelopment and future development.
- Thunderbolt's zoning ordinance will include design standards and specific building material to retain Thunderbolt's small town aesthetics.
- Thunderbolt will establish a mixed-use overlay district for the River Drive corridor.
- Thunderbolt will establish overlay districts for hazards (flood, hurricane, storm surge) to incorporate a separate set of guidelines for properties that fall inside the boundaries of these overlay districts.
- Thunderbolt shall reduce requirements that result in additional impervious surfaces such as driveway widths, roadway widths, and parking standards.
- Thunderbolt shall establish maximum parking requirements versus minimum requirements to encourage safe growth.



## **Retaining Thunderbolt's Small Town Village Atmosphere**

- Thunderbolt will use its Comprehensive Plan and Zoning Code to guide growth and development; and any redevelopment that may occur in a manner that retains its small town village atmosphere.
- Thunderbolt will recognize and preserve its historic structures.
- Thunderbolt will develop and codify design standards for all allowable and/or conditional uses that promote urban village development in all new development and redevelopment.
- Thunderbolt will develop residential lot standards for new development and infill redevelopment that preserve the traditional density of the town.
- Thunderbolt will develop height and mass standards for multi-family residential and non-residential development that preserve viewsheds, especially along waterways and marshes, and maintain the traditional building type standards appropriate to urban village development.
- Thunderbolt will develop street and sidewalk standards compatible with urban village development.



## **Retaining Access to Water, Views, Nature**

- Thunderbolt will use its Comprehensive Plan and Zoning Code to guide growth and development; and any redevelopment that may occur in a manner that retains access to water, views, and nature.
- Thunderbolt will develop and codify design standards for all allowable and/or conditional uses that promote access to water, views, and nature.
- Thunderbolt will develop height and mass standards for multi-family residential and non-residential development that preserve viewsheds, especially along waterways and marshes, and maintain the traditional building type standards appropriate to retain access to water, views, and nature.



## **Addressing Thunderbolt's Traffic Issues**

- The Town will perform a needs assessment of its roadway system that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources
- The Town will perform a needs assessment of its sidewalk system that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources
- Thunderbolt, in coordination with Chatham County and GDOT, will develop a plan to address traffic issues on Victory Drive.
- Thunderbolt, in coordination with Chatham County and GDOT, will develop a plan to address traffic issues on Bonaventure Road.
- 
- Thunderbolt will develop street and sidewalk standards compatible with urban village development.
- Thunderbolt will explore a “complete streets policy.”
- Thunderbolt will improve connectivity throughout the Town.
- Thunderbolt will address safety and mobility issues that may arise for all road uses.



## **Retaining and Expanding Thunderbolt's Maritime Industry**

- Thunderbolt will update its zoning code to designate specific locations for maritime industrial activity.
- Thunderbolt will continue to promote and market its maritime industry.

## 3.4 Quality Community Objectives

The Department of Community Affairs (DCA) requires local governments to evaluate the community's current policies, activities, and development patterns by comparing them with the Department's Quality Community Objectives and supporting Best Practices as shown below.

The Town of Thunderbolt has reviewed these and provides its analysis of how Thunderbolt embraces these model objectives.

***DCA's Vision: Every Georgia community offers a quality of life where people and businesses can grow and prosper.***

The 10 objectives outlined below are adapted from generally accepted community development principles to fit the unique qualities of Georgia's communities. Although these are only recommendations, we at DCA are convinced that if a community implements these principles, it will result in greater efficiency, cost savings, and a higher quality of life for Georgia citizens. These objectives are intentionally crafted with significant areas of overlap, such that, by addressing one or more of the objectives, a community will also end up addressing aspects of others. DCA stands ready to partner with communities to assist with any of these objectives to help create a climate of success for Georgia's families and businesses.

### The Quality Community Objectives

#### 1. Economic Prosperity

Encourage development or expansion of businesses and industries that are suitable for the community. Factors to consider when determining suitability include job skills required; long-term sustainability; linkages to other economic activities in the region; impact on the resources of the area; or prospects for creating job opportunities that meet the needs of a diverse local workforce.

*Thunderbolt is strategically located on a bluff along the Wilmington River. The town is committed to retaining its small town village atmosphere and its history as a maritime community. As such, Thunderbolt is committed to updating its zoning code to guide and control development and redevelopment in a manner that will maintain its image, encourage maritime activity, and retain the community's access to water, views, and nature.*

#### 2. Resource Management

Promote the efficient use of natural resources and identify and protect environmentally sensitive areas of the community. This may be achieved by promoting energy efficiency and renewable energy generation; encouraging green building construction and renovation;



utilizing appropriate waste management techniques; fostering water conservation and reuse; or setting environmentally sensitive areas aside as green space or conservation reserves.

*Thunderbolt is located on the Wilmington River and is bordered by extensive marshlands, and a wide variety of plants and animals that rely upon these resources; thus it promotes efficient use of natural resources. The town has a stated goal to retain access to water, views, and nature.*

### **3. Efficient Land Use**

Maximize the use of existing infrastructure and minimize the costly conversion of undeveloped land at the periphery of the community. This may be achieved by encouraging development or redevelopment of sites closer to the traditional core of the community; designing new development to minimize the amount of land consumed; carefully planning expansion of public infrastructure; or maintaining open space in agricultural, forestry, or conservation uses.

*Thunderbolt has made updating its zoning ordinance a goal with the specific intent of guiding the efficient use of land in new development and redevelopment.*

### **4. Local Preparedness**

Identify and put in place the prerequisites for the type of future the community seeks to achieve. These prerequisites might include infrastructure (roads, water, sewer) to support or direct new growth; ordinances and regulations to manage growth as desired; leadership and staff capable of responding to opportunities and managing new challenges; or undertaking an all-hazards approach to disaster preparedness and response.

*Thunderbolt recognizes a need to upgrade and improve its infrastructure (roads, water, and sewer) to improve the quality of life for its residents and to provide guidance for growth and redevelopment. Thunderbolt intends to update its zoning ordinances and regulations to manage development and redevelopment. The town's leadership and staff desire to maintain their capability of responding to opportunities and managing new challenges; or undertaking an all-hazards approach to disaster preparedness and response.*

### **5. Sense of Place**

Protect and enhance the community's unique qualities. This may be achieved by maintaining the downtown as focal point of the community; fostering compact, walkable, mixed-use development; protecting and revitalizing historic areas of the community; encouraging new development that is compatible with the traditional features of the community; or protecting scenic and natural features that are important to defining the community's character.

*Thunderbolt has a goal of maintaining its small town village atmosphere. This will be achieved by updating its zoning code and fostering compact, walkable, mixed-use development; encouraging new development that is compatible with the traditional features of the community; or protecting scenic and natural features that are important to defining the community's character.*

## **6. Regional Cooperation**

Cooperate with neighboring jurisdictions to address shared needs. This may be achieved by actively participating in regional organizations; identifying joint projects that will result in greater efficiency and less cost to the taxpayer; or developing collaborative solutions for regional issues such as protection of shared natural resources, development of the transportation network, or creation of a tourism plan.

*Thunderbolt actively participates in regional organizations; and looks towards developing collaborative solutions for regional issues such as protection of shared natural resources, development of the transportation network, or creation of a tourism plan.*

## **7. Housing Options**

Promote an adequate range of safe, affordable, inclusive, and resource efficient housing in the community. This may be achieved by encouraging development of a variety of housing types, sizes, costs, and densities in each neighborhood; promoting programs to provide housing for residents of all socioeconomic backgrounds, including affordable mortgage finance options; instituting programs to address homelessness issues in the community; or coordinating with local economic development programs to ensure availability of adequate workforce housing in the community.

*Thunderbolt achieves this by encouraging development of a variety of housing types, sizes, costs, and densities in neighborhoods.*

## **8. Transportation Options**

Address the transportation needs, challenges and opportunities of all community residents. This may be achieved by fostering alternatives to transportation by automobile, including walking, cycling, and transit; employing traffic calming measures throughout the community; requiring adequate connectivity between adjoining developments; or coordinating transportation and land use decision-making within the community.

*Thunderbolt encourages alternatives to transportation by automobile, including walking, cycling, and transit; employing traffic calming measures throughout the community; requiring adequate connectivity between adjoining developments; or coordinating transportation and land use decision-making within the community.*

## **9. Educational Opportunities**

Make educational and training opportunities readily available to enable all community residents to improve their job skills, adapt to technological advances, manage their finances, or pursue life ambitions.

This can be achieved by expanding and improving local educational institutions or programs; providing access to other institutions in the region; instituting programs to improve local graduation rates; expanding vocational education programs; or coordinating with local economic development programs to ensure an adequately trained and skilled workforce.

*Educational and training opportunities are readily available to Thunderbolt residents as there are a number of colleges, universities, technical training opportunities in Chatham County.*

## **10. Community Health**

Ensure that all community residents, regardless of age, ability, or income, have access to critical goods and services, safe and clean neighborhoods, and good work opportunities. This may be achieved by providing services to support the basic needs of disadvantaged residents, including the disabled; instituting programs to improve public safety; promoting programs that foster better health and fitness; or otherwise providing all residents the opportunity to improve their circumstances in life and to fully participate in the community.

*The World Health Organization defines a healthy city or community as “one that is safe with affordable housing and accessible transportation systems, work for all who want to work, a healthy and safe environment with a sustainable ecosystem, and offers access to healthcare services which focus on prevention and staying healthy.” A healthy community is also defined as one in which a diverse group of stakeholders collaborate to use their expertise and local knowledge to create a community that is socially and physically conducive to health.*

*Thunderbolt, through this planning process, and through its participation in the work towards this goal achieved by the Chatham County Blueprint, strives to ensure community health for all of its residents.*

## 3.5 Character Areas

The Character Area Map is a visual representation of the Town's future development policy. This plan also includes a Future Land Use Map.

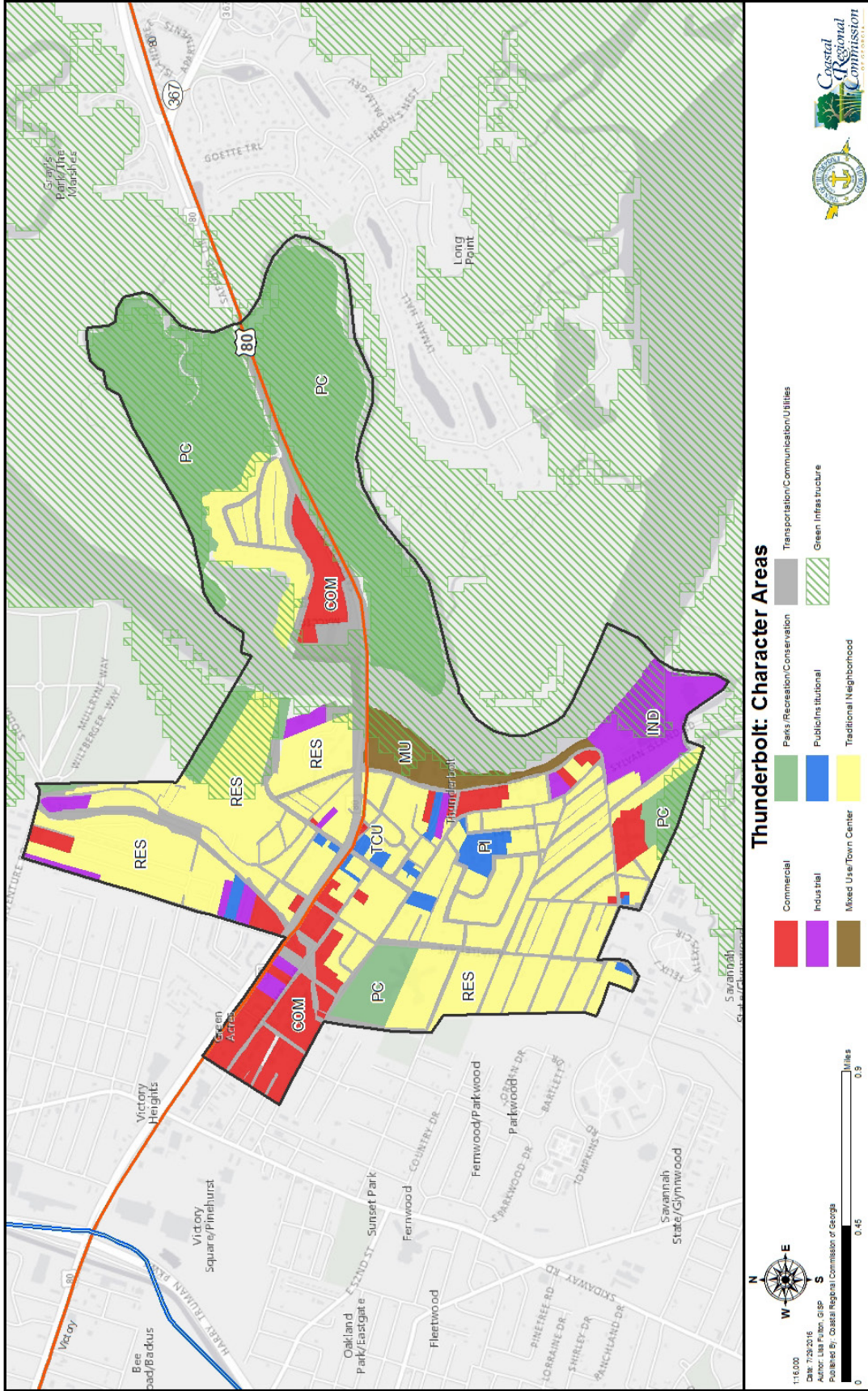
Interpretation of the Character Area Map is provided in the supporting text to be considered along with the Town's zoning, the Future Land Use map, and other local policies when decision-makers consider land development questions or requests. The supporting text provides written description of the patterns of development that the Town will encourage in each area.

The supporting narrative provides policy direction for regulating development with the goal of furthering consistent character within each area as defined by a 'vision.' Where appropriate, statements for policy and goals are also established.

The Character Areas for the Thunderbolt include:

- Traditional Neighborhood
- Commercial
- Mixed-Use/Town Center
- Industrial
- Transportation/Communications/Utilities
- Public/Institutional
- Parks/Recreation/Conservation

### 3.5.1 Character Areas Map



## 3.5.2 Traditional Neighborhood

### Vision / Intent

The Traditional Neighborhood Character Area in Thunderbolt is an eclectic mix ranging from a mobile home park to luxury waterfront condominiums and including single-family homes, small townhome developments, apartment complexes, and large condominium developments. Styles range from modest cottages to grand two-story homes and the age of housing ranges from the 1880s to new construction. All of this creates a vibrant assortment of styles and sizes meeting the housing needs of different sized families with very different income levels. However, it is this very robust mix that gives Thunderbolt its small town village feel that Thunderbolt residents find so attractive. The Traditional Neighborhood Character Area is primarily residential; this land use makes up approximately thirty-eight percent (38%) of the developed land in Thunderbolt.

### Current Zoning

R-1: One-Family Residential  
R-2: Two-Family Residential  
R-3: Multi-Family Residential  
R-M-H: Residential – Mobile Home

### Future Zoning Considerations

The Future Land Use Map indicates that this area will remain residential in nature.

### Implementation Measures

- Thunderbolt's Zoning Code will be updated to provide clarification and guidance for uses within this Character Area.
- Applicable development proposed within this area shall be subject to procedures, standards, and guidelines.
- Allowed uses reflect the community's desire to maintain a small village atmosphere.
- Design and architectural standards should be compatible with surrounding area.



## 3.5.3 Commercial

### Vision / Intent

Thunderbolt's Commercial area is primarily along Victory Drive as you enter the town from Savannah. Other commercial areas exist along River Drive near Town Hall, towards the southern edge of town near Thunderbolt Marine, and on Isle of Armstrong near Savannah Bend Marina. True to the village nature of Thunderbolt, these commercial uses are interspersed throughout the town in logical and convenient locations. Commercial use represents approximately nine percent (9%) of the land use in Thunderbolt.

### Current Zoning

B: Business  
P-B: Planning District-Business  
R-2: Two-Family Residential  
I-P: Institutional-Professional  
W-I: Waterfront Industry

### Future Zoning Considerations

The Town of Thunderbolt is considering a new Mixed Use/Town Center zoning district, and has reflected this on their Character Areas map. The purpose of the district will be to create a vibrant mixed-use district along River Drive in the area commonly perceived as "Main Street" Thunderbolt. Creation of this district will guide growth and redevelopment of commercial uses to a focused area, creating critical mass key to commercial success and key to the creation of a village center. The Mixed Use/ Town Center will augment Thunderbolt's stated goal of maintaining a small town village atmosphere.

### Implementation Measures

- Thunderbolt's Zoning Code will be updated to provide clarification and guidance for uses within this Character Area.
- Thunderbolt will create a Mixed Use/Town Center district to guide commercial development in a very specific area within the town.
- Applicable development proposed within this area shall be subject to procedures, standards, and guidelines.
- Allowed uses reflect the community's desire to maintain a small village atmosphere.
- Design and architectural standards should be compatible with surrounding area.
- standards, and guidelines.
- Allowed uses reflect the community's desire to maintain a small village atmosphere.
- Design and architectural standards should be compatible with surrounding area.





## 3.5.4 Mixed-Use / Town Center

### Vision / Intent

The purpose of the district will be to create a vibrant mixed-use district along River Drive in the area commonly perceived as “Main Street” Thunderbolt. Creation of this district will guide growth and redevelopment of commercial uses to a focused area, creating critical mass key to commercial success and key to the creation of a village center. The Mixed Use/ Town Center will augment Thunderbolt’s stated goal of maintaining a small town village atmosphere.

### Current Zoning

B: Business

I-P: Institutional-Professional

W-I: Waterfront Industry

### Future Zoning Considerations

As Thunderbolt updates its Zoning Ordinance the community will need to evaluate development trends and future market demand to determine the best way to create a robust mixed-use town center as desired by the community. Special attention needs to be made to ensure that this new overlay district enhances the small town village feel of the community and does not detract from it.

### Implementation Measures

- Thunderbolt’s Zoning Code will be updated to provide clarification and guidance for uses within this Character Area.
- Thunderbolt will create a Mixed Use/Town Center district to guide commercial development in a very specific area within the town.
- Applicable development proposed within this area shall be subject to procedures, standards, and guidelines.
- Allowed uses reflect the community’s desire to maintain a small village atmosphere.
- Design and architectural standards should be compatible with surrounding area.
- Residential development and commercial uses should be designed to complement each other and create a live/work environment.
- Varied residential densities and housing types should be allowed.
- Commercial uses should include a mix of retail, services, and offices to serve neighborhood residents’ day-to-day needs, and should match the character of the neighborhood.
- Mixed use area design should be very pedestrian-oriented, with strong, walkable connections between different uses.



## 3.5.5 Industrial

### Vision / Intent

The Town of Thunderbolt maintains a niche market in maritime related industrial activities, specifically commercial shrimping and ship fitting and repair. The Town of Thunderbolt is uniquely positioned to offer these types of industries along the Atlantic Intracoastal Waterway, well away from Port of Savannah operations, yet conveniently close to the Savannah metro area. In addition to commercial activities, recreational watersports and related activities are popular and encouraged. Thunderbolt has a stated goal of retaining and expanding its maritime industry. The vision and intent of the Industrial Character Area is to achieve this goal.

### Current Zoning

I: Industrial

W-I: Waterfront Industry

I-P: Institutional-Professional

B: Business

### Future Zoning Considerations

The majority of land in this character area is zoned Waterfront Industry; that is consistent with the stated goals of the Town of Thunderbolt.

### Implementation Measures

- Thunderbolt's Zoning Code will be updated to provide clarification and guidance for uses within this Character Area.
- Thunderbolt may choose to expand this district to guide maritime industrial development in suitable areas within the town.
- Applicable development proposed within this area shall be subject to procedures, standards, and guidelines.
- Allowed uses reflect the community's desire to maintain a small village atmosphere.
- Design and architectural standards should be compatible with surrounding area.



## 3.5.6 Transportation / Communications / Utilities

### Vision / Intent

This area has the specific use of providing utility easements and the transportation network throughout the town.

### Current Zoning

B: Business

I: Industrial

R-2: Two-Family Residential

R-M-H: Residential Mobile Home

I-P: Institutional-Professional

H-M: Hotel-Motel

M-C: Marsh Conservation

R-1: One-Family Residential

R-3: Multi-Family Residential

W-I: Waterfront Industry

L-I: Light Industrial

### Future Zoning Considerations

This activity will continue to occur in all land uses.

### Implementation Measures

- Updates to the Zoning Code should specifically address how best to monitor these uses, especially when infrastructure upgrades and repairs occur.
- Sufficient right-of-way should be maintained to create sidewalks and bicycle/ pedestrian paths wherever possible.
- Right-of-way acquisition should be considered to create sidewalks and bicycle/ pedestrian paths.
- Preservation and conservation of marshes, wetlands, and waterways must be prioritized during any development or redevelopment of the transportation network and any communications and/or utility infrastructure.
- Special attention must be paid to areas designated as “green infrastructure” given these areas vital role in the community’s resiliency from storm surge and flooding events.



## 3.5.7 Public / Institutional

### Vision / Intent

This designation sets aside land for public and institutional uses – churches, schools, town hall, museum, police station, fire station, and library. These uses are found in all zoning districts except industrial and provide services equitably throughout the community.

### Current Zoning

B: Business

I: Industrial

R-2: Two-Family Residential

R-M-H: Residential Mobile Home

M-C: Marsh Conservation

R-1: One-Family Residential

R-3: Multi-Family Residential

I-P: Institutional-Professional

### Future Zoning Considerations

This activity will continue to occur in appropriate land use areas.

### Implementation Measures

- Thunderbolt's Zoning Code will be updated to provide clarification and guidance for uses within this Character Area.
- Development of public and/or institutional uses shall be subject to procedures, standards, and guidelines.
- Allowed uses should reflect the community's desire to maintain a small village atmosphere.
- Design and architectural standards should be compatible with surrounding area.





## 3.5.8 Parks / Recreation / Conservation

### Vision / Intent

The availability of parks with active and passive recreation, green spaces, and conservation areas speak to the quality of life. These areas should be found in conjunction with well-planned and promoted cultural and historic resources and with town centers.

### Current Zoning

B: Business

I: Industrial

R-2: Two-Family Residential

R-M-H: Residential Mobile Home

M-C: Marsh Conservation

R-1: One-Family Residential

R-3: Multi-Family Residential

I-P: Institutional-Professional

### Future Zoning Considerations

This activity will continue to occur in appropriate land use areas.

### Implementation Measures

- Preserve scenic vistas and natural ecological features.
- Promote conservation easements and other incentives for natural space preservation.
- Work towards establishing greenspace as the first step in the land-use planning and design process.
- Identify the key physical, natural, ecological, landscape, historical, access and recreational assets.
- Coordinate greenspace planning with planning for gray infrastructure — roads, bike trails, water, electric, telecommunication and other essential community support systems.
- Identify new and enhanced assets including opportunities for landscape and habitat enhancement, and the provision of new green spaces and green links.
- Provide guidance such as Green Growth Guidelines (G3) for developers and
- Provide a strategic framework for the implementation of a connected and multi-functional network of wildlife sites, public open spaces and green links with mapping and analysis.

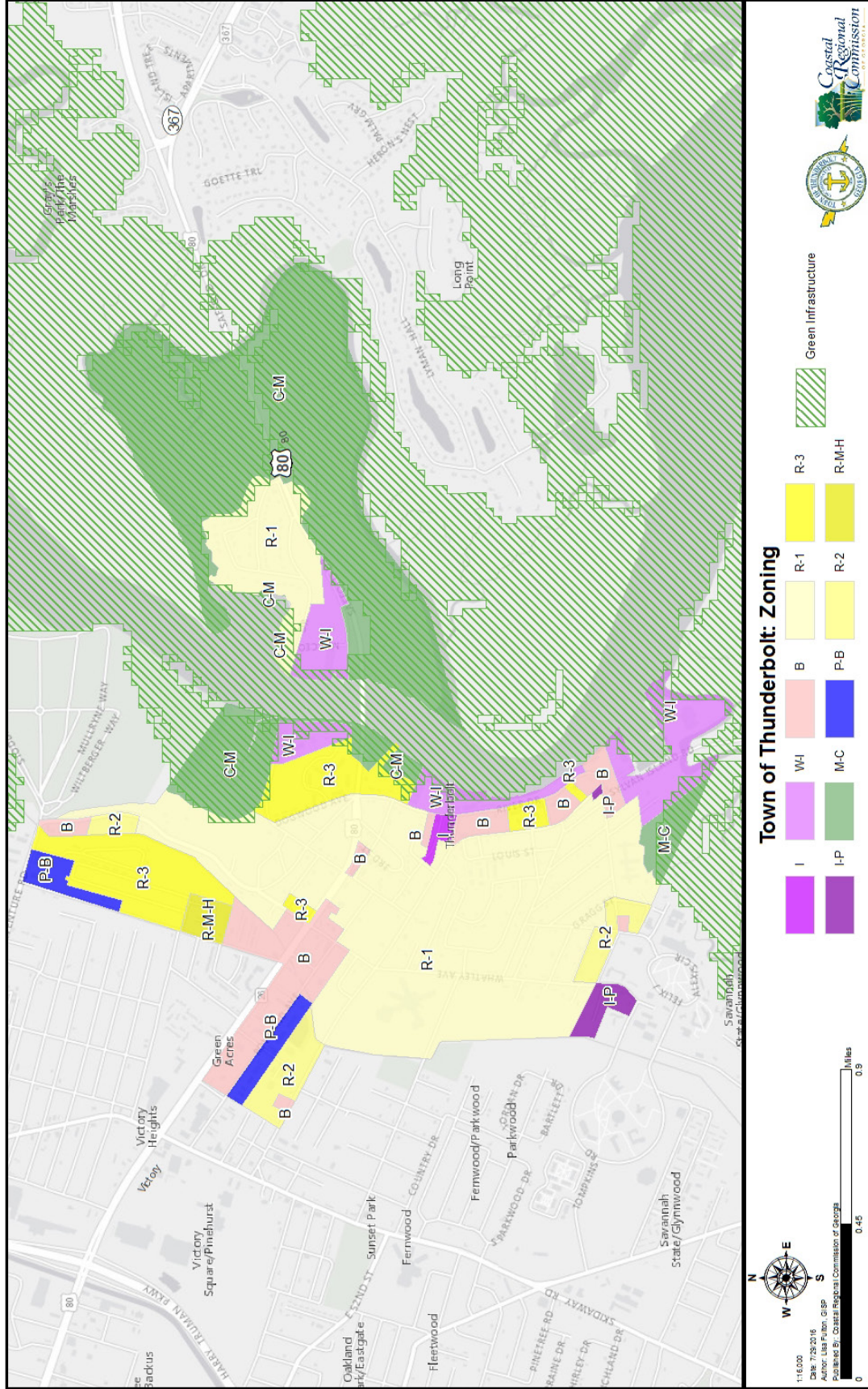


## 3.6 Zoning

The Zoning Map is a visual representation of the Town's current zoning districts.

Interpretation of the Zoning Map is provided in the supporting **Land Use Districts** table.

### 3.6.1 Zoning Map



### 3.6.2 Land Use Districts

The Town of Thunderbolt has the following Land Use Districts.

| Land Use Districts             | Description   | Zoning Categories |
|--------------------------------|---|-------------------|
| B: Business                    | An area designated for development of, and occupied exclusively by, businesses providing for the retailing of goods and the furnishing of services.   | B                 |
| M-C: Marsh Conservation        | The purpose of the M-C District is to encourage all reasonable public and private uses and developments of the marshlands, such as rice farming, marshland grass cultivation and harvesting, grazing, boating, fishing, hunting, and swimming that will not be significantly detrimental to the biological ecology, aquatic life, wildlife, recreation, and scenic resources of the marshlands and will not pollute the inlets and coastal waters with human or industrial waste or the long term silting that would result from unduly disturbing the marshlands, all for the purpose of furthering the social and economic welfare of the citizens of Thunderbolt, of the State of Georgia, and the nation. | M-C               |
| I: Industrial                  | An Area set aside and so situated as to be well adapted to industrial and commercial development, but where the proximity to residential and commercial districts will not be undesirable.  | I                 |
| P: Planning district           | The purpose of this district shall be to provide areas within which comprehensive development plans shall be prepared and reviewed by the Planning and Zoning Commission in order to secure an orderly development pattern. Such districts shall be considered an overlay district and the uses permitted in such districts shall be those uses permitted in the zoning district which it overlays.   | P                 |
| R-1: One-Family Residential    | The purpose of this district shall be to create an environment in which one-family dwellings are permitted in order to promote stability and character of low density residential development with adequate open space. No uses other than One-Family Residences will be permitted unless the Board of Zoning Appeals grants a variance.  | R-1               |
| R-2: Two-Family Residential    | An area designated for the development of up to two-family dwellings, with compatible nonresidential uses.  | R-2               |
| R-3: Multiple Unit Residential | An area designated for the development of multi-family dwellings, with compatible nonresidential uses.  | R-3               |

| Land Use Districts              | Description   | Zoning Categories |
|---------------------------------|---|-------------------|
| R-M-H: Residential Mobile Home  | The purpose of this district shall be to establish a residential district in which uses and regulations are restricted to permit the development of mobile homes, single-family residences, and certain compatible nonresidential uses; and to permit the development in a manner which protects and preserves property values of adjacent properties.  | R-M-H             |
| W-I: Waterfront Industry        | The purpose of this district shall be to create and protect areas for commercial fishing operations and other activities that are dependent upon a waterfront location.   | W-I               |
| I-P: Institutional-Professional | An area set aside and so situated as to be well adapted to professional and institutional development as outlined in the use schedule, but where proximity to residential districts will not be undesirable.  | I-P               |
| L-I: Light Industrial           | This district is composed of land and structures so situated as to be well adapted to industrial development, but where the proximity to residential and commercial districts makes it desirable to limit the manner and extent of industrial operations. Development within this district is subject to the approval of the governing body. The purpose of the district is to permit the normal operation of a limited number of light industrial uses under such conditions of operation as will protect abutting residential and commercial uses and adjacent industrial uses.   | L-I               |
| H-M: Hotel-Motel                | Any area designated or to be designated for development of hotels or motels. This District shall be composed of land and structures so situated as to be well adapted to Hotel or Motel development where the proximity to residential and commercial districts makes it desirable to limit the manner and extent of hotel or motel operations. Development within this district is subject to approval of the governing body. The purpose of the district is to permit the normal operation of a limited number of motel and/or hotel uses under such conditions as will protect the abutting residential and commercial use or other adjacent uses. | H-M               |

## 3.7 Future Land Use

The Town of Thunderbolt has the following Future Land Use Categories as shown on its Future Land Use map.

### Future Land Use Categories

**Residential** – this area is predominately single-family and multi-family homes and makes up the largest land use category within Thunderbolt.

**Commercial** – commercial corridors are found in highly trafficked areas such as Victory Drive and River Drive.

**Industrial** – industrial use in Thunderbolt is located primarily along Victory Drive and adjacent to the Wilmington River, serving Thunderbolt’s maritime related industries.

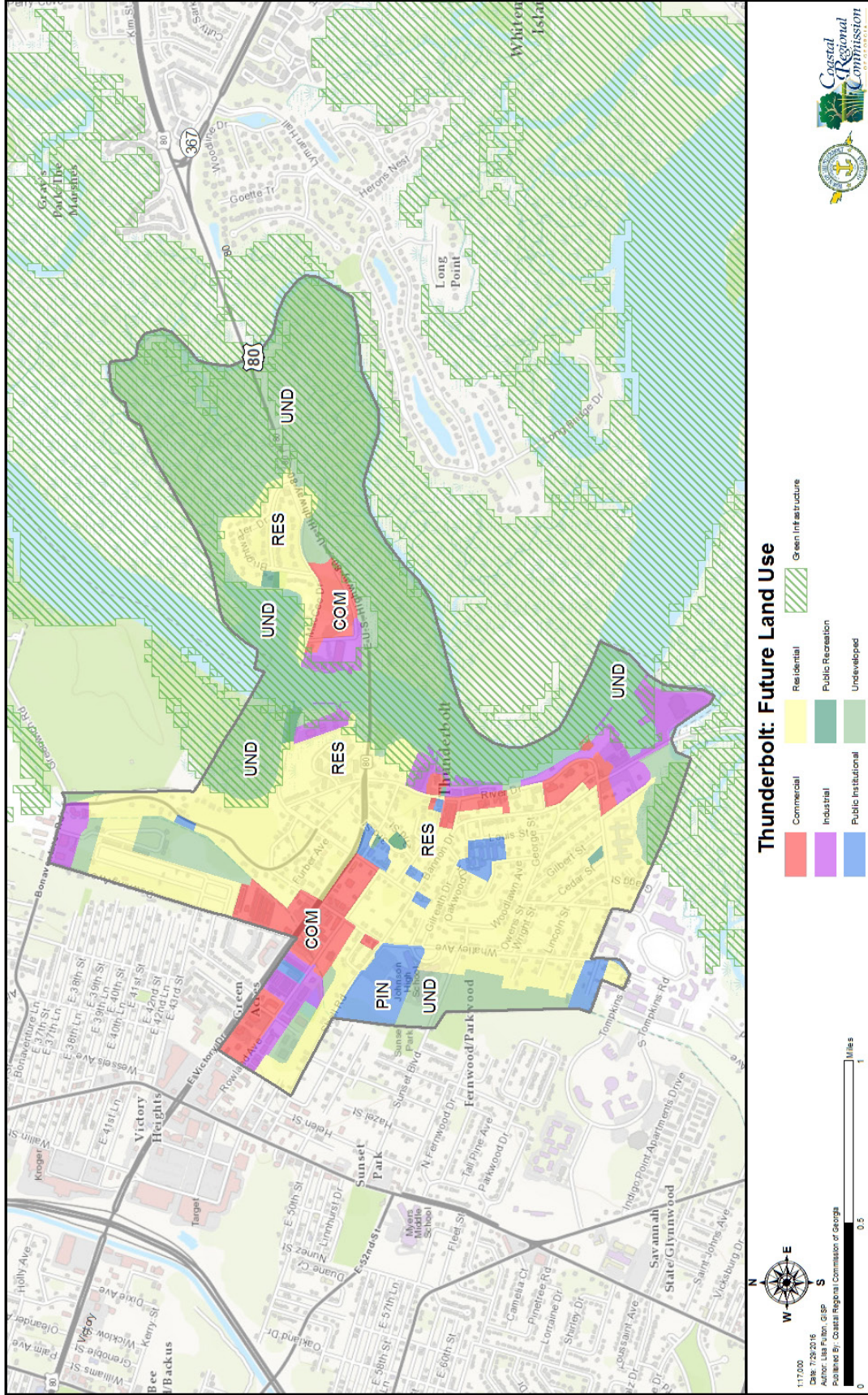
**Public/Institutional** – these uses, town hall, police and fire, schools, churches, the library, and the museum are found throughout the community.

**Public Recreation** – Thunderbolt offers both passive and active recreation throughout the community with access to its waterfront.

**Undeveloped** – Thunderbolt has a few areas of undeveloped land that may be developed at a later date, or reserved as conservation areas.



# 3.7 Future Land Use







# 4

## Transportation



MECHANICAL ACCESS AVE

H.R. Delaney  
Ministries Inc.  
SUN TEAM  
"JESUS IS LORD"



## Transportation

Thunderbolt is a member of the Coastal Region MPO (CORE); and CORE is the entity responsible for transportation planning in the region. As such, the Total Mobility Plan – 2040 Metropolitan Transportation Plan, inclusive of its amendments and addenda, is the most up to date and comprehensive plan governing transportation issues in Thunderbolt. These documents can be found at [www.thempc.org/Dept/Plans](http://www.thempc.org/Dept/Plans). Some of the documents of particular interest to Thunderbolt include the US 80 Bridges Study.

The US 80 Bridges Study is of particular importance to local comprehensive planning, in that it was conducted to determine the feasibility of:

- *Improving emergency access by replacing or modifying the existing bridges to accommodate shoulders,*
- *Improving access for bicyclists pedestrians to Tybee Island and McQueen’s Island Trail,*
- *Providing additional capacity at specific locations to provide congestion or incident relief,*
- *Improving conditions of flood prone areas.*

## Roads & Highways

The Town of Thunderbolt contains U.S. Highway 80 which is the main east-west arterial in the Town. This highway experiences high volumes of traffic and provides areas east of Thunderbolt, such as Tybee Island and Wilmington Island with connection to downtown Savannah. The remainder of the Town consists of primarily local roads with collectors providing access to the major transportation routes in the Town.

## Road Network Hierarchy

Freeways. Limited access roads, freeways or motorways, including most toll roads are at the top of the hierarchy. These roads provide largely uninterrupted travel, often using partial or full access control, and are designed for high speeds.

### Arterials

Major through roads that are expected to carry large volumes of traffic are designated as arterials. These are often divided into major and minor arterials, and rural and urban arterials. Examples of arterials in Thunderbolt include US Highway 80.

### Collectors

Next in the hierarchy are collector roads, which collect traffic from local roads, and distribute it to arterials. Traffic using a collector is usually going to or coming from somewhere nearby. Examples of collectors in Thunderbolt include Whatley Avenue, Bonaventure Road, Downing Street, Mechanics Avenue, Dogwood Avenue, and River Drive.

### Local Roads

These roads are at the bottom of the hierarchy, have the lowest speed limit, and carry low volumes of traffic. In some areas, these roads may be unpaved.

### Bridges

Thunderbolt has identified 1 bridge within the Town limits. The bridge consist of US Highway 80 and crosses Wilmington River.

### Connectivity

In order to address traffic congestion and improve connectivity, the Town of Thunderbolt supports the various transportation projects outlined in the Metropolitan Transportation Plan.

### Signalized Intersections

The Town of Thunderbolt contains 3 signalized intersections.

### Signage

The Town of Thunderbolt has invested in signage at community access points to inform people they have entered Thunderbolt to direct them to unique resources within the Town.



## **Alternative Modes of Transportation**

### **Pedestrian & Bicycle Paths**

There is a need for an improved network of sidewalks to allow people to walk to a variety of destinations, as there are many instances of sidewalk disrepair or a lack of sidewalk connectivity. There is also a need for additional planning with regards to bicycle routes and pedestrian trails that connect the Town to other communities and support a multi-modal transportation network.

### **Public Transportation**

While Thunderbolt has direct access to public transportation by way of Chatham Area Transit System (CAT), the current routes providing access to the community are minimal as they are a by-product of the destination, Savannah State University.

### **Parking**

The Town does not contain a significant number of facilities related to parking. There are no surface parking facilities located in the Town, and on-street parking is currently the only public parking option. Currently, there is no need for additional parking facilities in the Town. Existing parking options are sufficient for residents and visitors.

### **Water Access**

The Town has an advantage with the river access and should explore ways to capitalize on this by improving marina access and building on the waterfront economic opportunities.

### **Growth and Traffic Congestion**

As Highway 80 (Victory Drive) continues to develop, the Town is experiencing traffic congestion that needs to be alleviated through enhanced public transit routes or alternative modes of transportation.

## Transportation & Land Use Connection

The transportation issues and policies identified within this plan have a direct impact on the other elements of the plan and can ultimately shape the character of the Town. The reverse is also true; working to achieve the desired character in a neighborhood can raise a new set of transportation related issues. For example, the density of a new housing development is important in determining the appropriate transportation infrastructure.

### Transportation Projects

In an effort to alleviate some of the traffic issues within the Town of Thunderbolt, there are active and proposed construction projects in and around the Town. Projects defined by the Georgia Department of Transportation and identified in the Chatham County Long-Range Transportation Plan are listed below:

| Current or Previously Planned Projects   | Source and additional information  |
|--|--|
| Tybee Island Bikeway Corridor on US80, from Thunderbolt to Tybee Island  | CORE MPO Bikeway Plan. Bikeway currently not funded as a stand-alone project, but portions could be accomplished in road projects  |
| Riverfront Corridor (on rail bed) and US80 Corridor for non-motorized transportation between Savannah and Tybee Island | Coastal Georgia Land Trust's Connecting the Coast Master Plan. Projects are not currently funded as stand-alone projects, but portions of US80 Corridor could be accomplished in road projects |





# 5

**Community Work Program**



The Community Work Program outlines the overall strategy and action items for achieving the Community Vision and Goals and for addressing the Community Needs and Opportunities laid out in Chapter 3. These actions are supported by the policies provided as part of the Community Vision and Goals laid out in Chapter 2, and are presented here in two parts. The first part is the Implementation Program which outlines how the community addresses each of the needs and opportunities. The second part is the short- term work program which lists the specific actions the Town government and other partner entities will undertake to implement this plan within the first five-years of the planning horizon.

## **5.1 Implementation Program**

The implementation program outlines a variety of action items that need to be undertaken to address the needs and opportunities. These action items include policies, ongoing efforts, short term efforts, and long term efforts. Short term efforts are those that can be accomplished in the next five years and are included in the Short Term Work Program. Long term item efforts are those that may be accomplished beyond the 5 year immediate time frame or an opportunity may arise.

## 5.1.1 Upgrading Thunderbolt's Infrastructure

- The Town of Thunderbolt will develop a comprehensive approach to upgrading its infrastructure that includes a needs assessment, budget, and funding plan.
- The Town will perform a needs assessment of its potable water and sanitary sewer systems that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources
- The Town will perform a needs assessment of its stormwater system that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources
- The Town will perform a needs assessment of its roadway system that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources
- The Town will perform a needs assessment of its sidewalk system that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources



## **5.1.2 Updating Thunderbolt's Zoning Ordinance**

- Thunderbolt will update their zoning ordinance to be user friendly and easy to understand.
- Thunderbolt's zoning ordinance will be illustrated with graphics, diagrams, and concise tables.
- Thunderbolt's zoning ordinance will allow for a streamlined development process.
- Thunderbolt's zoning ordinance update will be designed to foster the town's desired type of redevelopment and future development.
- Thunderbolt's zoning ordinance will include design standards and specific building material to retain Thunderbolt's small town aesthetics.
- Thunderbolt will establish a mixed-use overlay district for the River Drive corridor.
- Thunderbolt will establish overlay districts for hazards (flood, hurricane, storm surge) to incorporate a separate set of guidelines for properties that fall inside the boundaries of these overlay districts.
- Thunderbolt shall reduce requirements that result in additional impervious surfaces such as driveway widths, roadway widths, and parking standards.
- Thunderbolt shall establish maximum parking requirements versus minimum requirements to encourage safe growth.

## **5.1.3 Retaining the Small Town Village Atmosphere of Thunderbolt**

- Thunderbolt will use its Comprehensive Plan and Zoning Code to guide growth and development; and any redevelopment that may occur in a manner that retains its small town village atmosphere.
- Thunderbolt will recognize and preserve its historic structures.
- Thunderbolt will develop and codify design standards for all allowable and/or conditional uses that promote urban village development in all new development and redevelopment.
- Thunderbolt will develop residential lot standards for new development and infill redevelopment that preserve the traditional density of the town.
- Thunderbolt will develop height and mass standards for multi-family residential and non-residential development that preserve viewsheds, especially along waterways and marshes, and maintain the traditional building type standards appropriate to urban village development.
- Thunderbolt will develop street and sidewalk standards compatible with urban village development.

## **5.1.4 Retaining Thunderbolt’s Access to Water, Views, and Nature**

- Thunderbolt will use its Comprehensive Plan and Zoning Code to guide growth and development; and any redevelopment that may occur in a manner that retains access to water, views, and nature.
- Thunderbolt will develop and codify design standards for all allowable and/or conditional uses that promote access to water, views, and nature.
- Thunderbolt will develop height and mass standards for multi-family residential and non-residential development that preserve viewsheds, especially along waterways and marshes, and maintain the traditional building type standards appropriate to retain access to water, views, and nature.

## **5.1.5 Addressing Thunderbolt’s Traffic Issues**

- The Town will perform a needs assessment of its roadway system that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources
- The Town will perform a needs assessment of its sidewalk system that includes:
  - Repair and replacement priorities
  - Budget
  - Identification of actual and potential funding sources
- Thunderbolt, in coordination with Chatham County and GDOT, will develop a plan to address traffic issues on Victory Drive.
- Thunderbolt, in coordination with Chatham County and GDOT, will develop a plan to address traffic issues on Bonaventure Road.
- Thunderbolt will develop street and sidewalk standards compatible with urban village development.
- Thunderbolt will explore a “complete streets policy.”
- Thunderbolt will improve connectivity throughout the Town.
- Thunderbolt will address safety and mobility issues that may arise for all road uses.

## **5.1.6 Retaining and Expanding Thunderbolt’s Maritime Industry**

- Thunderbolt will update its zoning code to designate specific locations for maritime industrial activity.
- Thunderbolt will continue to promote and market its maritime industry.

## 5.2 Thunderbolt Community Work Program (2016-2020)

| Activities   | Implementation Schedule |      |      |      |      | Responsible Party | Budget        | Funding Source        |
|--|-------------------------|------|------|------|------|-------------------|---------------|-----------------------|
|  | 2016                    | 2017 | 2018 | 2019 | 2020 |                   |               |                       |
| <b>Natural, Cultural and Historic Resources</b>  |                         |      |      |      |      |                   |               |                       |
| Implement and enforce NPDES Phase I MS4 permit through compliance with the Countywide TMDL Monitoring Plan.  | X                       | X    | X    | X    | X    | Administration    | \$17,500/year | General Fund          |
| Implement and enforce NPDES Phase I MS4 permit by mapping the drainage system outfalls that discharge into waters of the state.  | X                       | X    | X    | X    | X    | Administration    | \$17,500/year | General Fund          |
| Participate in the National Flood Insurance Program by enforcing floodplain management regulations.  | X                       | X    | X    | X    | X    | Administration    | Staff time    | General Fund          |
| Participate in the Community Rating System (CRS) program offered by FEMA by insuring development activities comply with the floodplain management regulations.   | X                       | X    | X    | X    | X    | Administration    | \$1,000/year  | General Fund          |
| Participate with the Savannah-Chatham Metropolitan Planning Commission in public awareness programs to encourage natural resource protection by promoting the local events and educational programs offered by the MPC. <a href="http://www.mpcnaturalresources.org/educational-programs/">www.mpcnaturalresources.org/educational-programs/</a> | X                       | X    | X    | X    | X    | Administration    | Staff time    | General Fund          |
| Support water conservation programs such as the indoor and outdoor water-saving kits provided by MPC educational program.  | X                       | X    | X    | X    | X    | Administration    | \$1,000/year  | General Fund          |
| Support Thunderbolt Museum historical preservation project by providing letters of support for grants and hosting and soliciting support on the Town's official website.   | X                       | X    | X    | X    | X    | Administration    | TBD           | General Fund & Grants |
| Add an ADA accessible ramp and addition to the Thunderbolt Museum.   |                         | X    | X    |      |      | Administration    | \$50,000      | General Fund & Grants |

| Activities   | Implementation Schedule |      |      |      |      | Responsible Party                  | Budget   | Funding Source        |
|--|-------------------------|------|------|------|------|------------------------------------|--|-----------------------|
|  | 2016                    | 2017 | 2018 | 2019 | 2020 |                                    |  |                       |
| <b>Natural, Cultural and Historic Resources</b>  |                         |      |      |      |      |                                    |  |                       |
| Take proactive measures to protect valued historic and natural resources through inventories.  | X                       | X    | X    |      |      | Administration                     | \$3,000  | General Fund & Grants |
| Replace roof on Thunderbolt Museum.  | X                       |      |      |      |      | Administration                     | \$15,000   | General Fund          |
| Renovate the front and side of the Thunderbolt Museum.   | X                       |      |      |      |      | Administration                     | \$40,000   | General Fund          |
| Promote the area as an ecotourism center by cooperating with the tourism industry to promote a greater emphasis on environmental protection, education, and preservation of local natural resources. | X                       | X    | X    | X    | X    | Administration                     | Staff Time   | General Fund          |
| Improve participation in the current Recycling Program by sharing metrics of success and explaining the benefits of recycling.   | X                       | X    | X    | X    | X    | Administration/<br>Contract Hauler | Staff Time   | Enterprise Fund       |
| Develop plans for using land contiguous to Placentia Canal for a public bicycle and pedestrian trail.  | X                       |      |      |      |      | Administration and MPC             | Staff Time   | General Fund & Grants |
| <b>Economic Development</b>  |                         |      |      |      |      |                                    |  |                       |
| Support Chamber of Commerce to actively recruit retail commercial and appropriate industries to the Town by utilizing data from ESRI Business Online.  | X                       | X    | X    | X    | X    | Administration                     | Staff Time   | General Fund          |
| Encourage commuters and tourists to support the local economy by providing way-finding signage to local service-oriented businesses.   | X                       | X    | X    | X    | X    | Administration                     | Staff Time   | General Fund          |
| Support community events such as the Thunderbolt Festival and National Night Out through local outreach and hosting updates on the Town's official website.  | X                       | X    | X    | X    | X    | Town                               | Up to \$4,000/year based upon funding availability | General Fund          |
| Complete a feasibility study for improved water access, restaurants, and entertainment to capitalize on its waterfront location.   | X                       | X    | X    | X    | X    | Administration                     | Staff Time   | General Fund          |

| Activities  | Implementation Schedule |      |      |      |      | Responsible Party       | Budget         | Funding Source                          |
|---|-------------------------|------|------|------|------|-------------------------|----------------|---|
|   | 2016                    | 2017 | 2018 | 2019 | 2020 |                         |                |   |
| <b>Community Facilities</b>   |                         |      |      |      |      |                         |                |   |
| Support water tower and pump maintenance program by hosting and soliciting support on the Town's official website .   | X                       | X    | X    | X    | X    | Public Works Department | \$20,000/year  | Water & Sewer Fund                      |
| Beautify the town by planting trees, shrubs and plants.   | X                       | X    | X    | X    | X    | Public Works Department | \$1,000/year   | General Fund/ Grants                    |
| Improve sanitary sewer lines throughout Town with the use of SPLOST to fund Water and Sewer projects.                 | X                       | X    | X    | X    | X    | Public Works Department | \$750,000/year | SPLOST/Water & Sewer Fund               |
| Install combined telephone system at Town facilities.   | X                       |      |      |      |      | Administration          | \$20,000       | General Fund                            |
| Replace windows at Town Hall.   | X                       | X    |      |      |      | Administration          | TBD            | General Fund/ SPLOST                    |
| Install combination operating system.   | X                       | X    |      |      |      | Administration          | \$100,000      | General Fund                            |
| Improve ADA compliance at Town Hall.  | X                       |      |      |      |      | Administration          | \$10,000       | General Fund                            |
| Complete the update to the HVAC system at Town Hall.  | X                       |      |      |      |      | Administration          | \$10,000       | General Fund                            |
| Explore and install disaster recovery equipment for IT purposes.  | X                       |      |      |      |      | Administration          | TBD            | General Fund                            |
| Develop Geographic Information System to include layers such as: drainage, wastewater, tax parcels and fire hydrants. | X                       | X    |      |      |      | Administration          | \$2,000/year   | Water & Sewer Fund/Grants/ General Fund |
| Complete construction of new well.  | X                       |      |      |      |      | Public Works Department | \$950,000      | GO Bond/ SPLOST/Water & Sewer Fund      |
| Continue to maintain interior roads.  | X                       | X    | X    | X    | X    | Public Works Department | \$40,000/year  | SPLOST/LMIG                             |

| Activities   | Implementation Schedule |      |      |      |      | Responsible Party | Budget       | Funding Source       |
|--|-------------------------|------|------|------|------|-------------------|--------------|----------------------|
|  | 2016                    | 2017 | 2018 | 2019 | 2020 |                   |              |                      |
| <b>Public Safety - Police Department</b>                         |                         |      |      |      |      |                   |              |                      |
| Purchase new cruisers and outfitting.                            | X                       | X    | X    | X    | X    | Police Department | \$150,000    | General Fund/ SPLOST |
| Purchase new cameras.  | X                       | X    | X    | X    | X    | Police Department | \$30,000     | General Fund/ SPLOST |
| Purchase new light bars.   | X                       | X    | X    | X    | X    | Police Department | \$5,000      | General Fund/ SPLOST |
| Purchase new radars.   | X                       | X    | X    | X    | X    | Police Department | \$5,000      | General Fund/ SPLOST |
| Purchase Intoximeter.  |                         |      | X    |      |      | Police Department | \$12,000     | General Fund/ SPLOST |
| Public safety training for all new officers.                     | X                       | X    | X    | X    | X    | Police Department | \$1,000/year | General Fund/ SPLOST |
| Purchase computer equipment for Police Administration and Court. | X                       | X    | X    |      |      | Police Department | \$3,000      | General Fund         |
| <b>Public Safety - Fire Department</b>                           |                         |      |      |      |      |                   |              |                      |
| Purchase new Fire Pumper.  |                         |      |      | X    |      | Fire Department   | \$300,000    | General Fund/ SPLOST |
| Construct new fire training classroom.                           | X                       | X    |      |      |      | Fire Department   | \$50,000     | General Fund/ SPLOST |
| Purchase incident command vehicle.                               |                         |      | X    |      |      | Fire Department   | \$25,000     | General Fund/ SPLOST |
| Purchase and/or update breathing apparatuses and cylinders.      | X                       | X    | X    | X    | X    | Fire Department   | \$50,000     | General Fund/ SPLOST |
| Update HVAC at Fire Department.                                  | X                       |      |      |      |      | Fire Department   | \$20,000     | General Fund/ SPLOST |
| Install dry fire hydrants on the Isle of Armstrong.              | X                       |      |      |      |      | Fire Department   | \$2,000      | General Fund/ SPLOST |

| Activities  | Implementation Schedule |      |      |      |      | Responsible Party       | Budget       | Funding Source             |
|---|-------------------------|------|------|------|------|-------------------------|--------------|----------------------------|
|   | 2016                    | 2017 | 2018 | 2019 | 2020 |                         |              |                            |
| <b>Public Safety - Fire Department</b>  |                         |      |      |      |      |                         |              |                            |
| Install firefighting suppression water system on Macceo Drive including water pump and fire hydrants.                   | X                       | X    | X    |      |      | Fire Department         | \$500,000    | General Fund/ SPLOST       |
| Public safety training for all Fire officers.   | X                       | X    | X    | X    | X    | Fire Department         | \$1,000/year | General Fund/ SPLOST       |
| Replacement of personal protective equipment (ongoing.)   | X                       | X    | X    | X    | X    | Fire Department         | \$150,000    | General Fund/ SPLOST       |
| <b>Parks and Recreation</b>   |                         |      |      |      |      |                         |              |                            |
| Continue to upgrade and maintain Town parks.  | X                       | X    | X    | X    | X    | Public Works Department | \$50,000     | General Fund               |
| Upgrade the HVAC system at the Senior Center.   | X                       |      |      |      |      | Administration          | \$10,000     | General Fund               |
| <b>Public Works</b>   |                         |      |      |      |      |                         |              |                            |
| Upgrade water lines.  | X                       | X    | X    | X    | X    | Public Works Department | TBD          | Water & Sewer Fund/ SPLOST |
| Maintain fire hydrants.   | X                       | X    | X    | X    | X    | Public Works Department | \$3,000/year | Water & Sewer Fund         |
| Purchase 2 portable generators.   | X                       | X    |      |      |      | Public Works Department | \$8,000      | General Fund/ SPLOST       |
| Install ADA compliant sidewalks.  | X                       | X    | X    |      |      | Public Works Department | \$60,000     | General Fund/ SPLOST       |
| Purchase new vehicle  |                         |      |      | X    |      | Public Works Department | \$20,000     | SPLOST                     |
| Purchase trailer for backhoe  |                         | X    |      |      |      | Public Works Department | \$25,000     | SPLOST                     |
| <b>Transportation</b>   |                         |      |      |      |      |                         |              |                            |
| Reduce traffic congestion on commercial corridors (Highway 80) with the use of SPLOST to fund transportation projects . | X                       | X    | X    | X    | X    | Administration          | TBD          | SPLOST                     |
| Develop bike paths to connect commercial and residential areas.   | X                       | X    | X    | X    | X    | Administration          | Staff Time   | General Fund               |

| Activities  | Implementation Schedule |      |      |      |      | Responsible Party | Budget     | Funding Source          |
|---|-------------------------|------|------|------|------|-------------------|------------|-------------------------|
|   | 2016                    | 2017 | 2018 | 2019 | 2020 |                   |            |                         |
| <b>Transportation</b>   |                         |      |      |      |      |                   |            |                         |
| Capitalize on the Town's access to water for recreational use or commercialized boat use.   | X                       | X    | X    | X    | X    | Administration    | Staff Time | General Fund            |
| <b>Housing</b>  |                         |      |      |      |      |                   |            |                         |
| Eliminate or upgrade dilapidated buildings.   | X                       | X    | X    | X    | X    | Administration    | TBD        | General Fund            |
| Encourage a sense of neighborhood pride in keeping property and streets clean by hosting and soliciting support on the Town's official website. | X                       | X    | X    | X    | X    | Administration    | Staff Time | General Fund            |
| Upgrade and enforce zoning ordinance.   | X                       | X    | X    | X    | X    | Administration    | Staff Time | General Fund            |
| Support the Neighborhood Crime Watch community program by hosting and soliciting support on the Town's official website.                        | X                       | X    | X    | X    | X    | Police Department | Staff Time | General Fund            |
| Eliminate incompatible land uses which negatively impact neighborhood quality of life.  | X                       | X    | X    | X    | X    | Administration    | Staff Time | General Fund            |
| <b>Land Use</b>   |                         |      |      |      |      |                   |            |                         |
| Review land use and zoning regulations.   | X                       | X    | X    | X    | X    | Administration    | Staff Time | General Fund            |
| Develop a Disaster Recovery Plan  | X                       |      |      |      |      | Administration    | \$25,000   | General Fund/<br>Grants |
| Create a future land use plan for the Town of Thunderbolt.  | X                       | X    |      |      |      | Administration    | \$10,000   | General Fund            |
| <b>Intergovernmental Coordination</b>   |                         |      |      |      |      |                   |            |                         |
| Improve communication and coordination with the County and surrounding municipalities.  | X                       | X    | X    | X    | X    | Administration    | Staff Time | General Fund            |
| Improve coordination with other agencies such as DNR on enforcement issues related to marine safety.  | X                       | X    | X    | X    | X    | Administration    | Staff Time | General Fund            |
| Host a Quality Growth Resources Team to help Thunderbolt with growth and development issues by partnering with DCA.                             | X                       | X    |      |      |      | Administration    | Staff Time | General Fund            |



## 5.3 Thunderbolt Report of Accomplishments (2012 - 2016)

The Report of Accomplishments is an assessment of the Town of Thunderbolt's existing Short-Term Work Program (STWP). This requirement gives Thunderbolt the opportunity to evaluate how many of the tasks previously defined have been implemented and eliminate activities that are no longer desirable or feasible for the town to pursue. At a minimum, the Report of Accomplishments shall include the following information about activities listed in the existing STWP:

- Have been completed;
- Are currently underway (including a projected completion date);
- Have been postponed (explaining why and when it will be resumed); or
- Have not been accomplished and are no longer activities the local government intends to undertake (explaining why).

| <i>Activities</i>   | <i>Status</i> | <i>Explanation</i>   |
|---|---------------|--|
| <b>Natural, Cultural and Historic Resources</b>   |               |  |
| Continue to support Countywide implementation and enforcement of NPDES Phase I MS4 permit.  | Underway      | This is an annual, ongoing program.  |
| Continue to participate fully in the National Flood Insurance Program.  | Underway      | This is an annual, ongoing program.  |
| Investigate the Community Rating System (CRS) program offered by FEMA, and submit application.  | Completed     | The Town was accepted into the program May 2015 and this will become an annual, ongoing program. |
| Continue to support Savannah-Chatham Metropolitan Planning Commission public awareness programs to encourage natural resource protection. | Underway      | This is an annual, ongoing program.  |
| Continue to support water conservation programs through public awareness campaigns.   | Underway      | This is an annual, ongoing program.  |
| Continue to support Thunderbolt Museum historical preservation project.   | Underway      | This is an annual, ongoing program.  |

| <i>Activities</i>   | <i>Status</i> | <i>Explanation</i>   |
|---|---------------|--|
| <b>Natural, Cultural and Historic Resources</b>   |               |  |
| Add a ramp and addition to the Thunderbolt Museum making is more ADA accessible.  | Postponed     | The Town has postponed this program due to a lack of funding.  |
| Replace roof on Thunderbolt Museum  | Postponed     | The Town has postponed this program due to a lack of funding.  |
| Install a new HVAC system at the Thunderbolt Museum.  | Completed     | Two new HVAC units were installed at the Museum in 2013.   |
| Renovate the front and side of the Thunderbolt Museum.  | Postponed     | The Town has postponed this program due to a lack of funding.  |
| Renovate the electrical/cabling at the Thunderbolt Museum.  | Canceled      | The Museum no longer needs renovation of electrical/cabling.   |
| Purchase computer hardware for the Thunderbolt Museum.  | Completed     | New computers were purchased and installed in 2014.  |
| Take proactive measures to protect valued historic and natural resources through inventories.   | Postponed     | The Town has postponed this program due to limited staff.  |
| Encourage and cooperate with the tourism industry to promote a greater emphasis on environmental protection, education, and preservation of local natural resources in order to promote the area as an ecotourism center. | Underway      | This is an ongoing activity.   |
| Improve participation in the current Recycling Program.   | Underway      | This is an ongoing activity.   |
| Explore the feasibility of using land contiguous to Placentia Canal for a public bicycle and pedestrian trail.  | Underway      | The Chatham County - Savannah Metropolitan Planning Commission completed a Greenway Implementation Study. The Town also applied for a Coastal Incentive Grant for this activity in 2016. The Technical Review Committee recommended the application for funding. |

| <i>Activities</i>   | <i>Status</i> | <i>Explanation</i>  |
|---|---------------|---|
| <b>Economic Development</b>   |               |   |
| Support Chamber of Commerce to actively recruit retail commercial and appropriate industries to the Town.   | Underway      | This is an ongoing activity.  |
| Install wayfinding and welcome signage on Victory Ave.  | Completed     | The Town's welcome sign was installed at the corner of Victory Drive and River Drive in 2014. |
| Explore ways to encourage commuters and tourists passing through Thunderbolt t to support the local economy, such as providing more local, service-oriented businesses.               | Underway      | This is an ongoing activity.  |
| Continue to support community events such as the Thunderbolt Festival and National Night Out.   | Underway      | This is an ongoing activity.  |
| In order to capitalize on its water access, Thunderbolt should explore ways to capitalize on its waterfront location with improved water access, more restaurants, and entertainment. | Underway      | The Town continues to participate in the annual Thunderbolt Holiday Boat Parade.              |
| <b>Community Facilities</b>   |               |   |
| Continue ongoing water tower and pump maintenance program.  | Underway      | This is an annual, ongoing program.   |
| Continue with beautification of town by planting trees, shrubs and plants.  | Underway      | This is an annual, ongoing program hosted by the Town's Tree Commission.                      |
| Continue to improve sanitary sewer lines throughout Town.   | Underway      | This is an ongoing system maintenance process as old lines require repair.                    |
| Install combined telephone system at Town facilities.   | Postponed     | The Town has postponed this program due to a lack of funding.                                 |
| Purchase vehicle for Administration Department.   | Canceled      | The Town no longer needs an Administration vehicle.   |
| Replace roof and windows at Town Hall.  | Underway      | The Town installed a Silicone Insulated Roof System at Town Hall in 2013.                     |
| Install combination operating system.   | Postponed     | The Town has postponed this program due to a lack of funding.                                 |

| <i>Activities</i>   | <i>Status</i> | <i>Explanation</i>  |
|---|---------------|---|
| <b>Community Facilities</b>   |               |   |
| Improve ADA compliance at Town Hall.  | Postponed     | The Town has postponed this program due to a lack of funding.   |
| Update the HVAC system at Town Hall.  | Underway      | The Town has installed four new HVAC systems at Town Hall with one system left to be replaced.                                  |
| Install Sonic firewall and disaster recovery.   | Postponed     | The Town is reassessing the disaster recovery needs with Information Technology department.                                     |
| Purchase computer hardware for Town Hall.   | Completed     | New computers were purchased in 2012 and 2013 for general administration.   |
| Develop Geographic Information System to include layers such as: drainage, wastewater, tax parcels and fire hydrants. | Underway      | The Town has contracted with Ecological Planning Group to assist and maintain the development of the Town's GIS system in 2016. |
| Complete construction of new well.  | Underway      | Construction of new well located at Downing Avenue has begun and is estimated to be completed Fall 2016.                        |
| Water meter replacement program   | Completed     | The Town has completed the water meter replacement program in 2016.   |
| Continue to maintain interior roads.  | Underway      | This is an ongoing activity.  |
| Complete sidewalk from Falligant to River Drive   | Completed     | The sidewalk on River Drive has been completed.   |
| Conduct a sidewalk masterplan.  | Completed     | Coastal Regional Commission completed a Sidewalk and Facilities Inventory in 2014.  |

| <i>Activities</i>                                 | <i>Status</i> | <i>Explanation</i>  |
|---|---------------|---|
| <b>Public Safety - Police Department</b>          |               |   |
| Purchase 6 new cruisers and outfitting.           | Underway      | The Town continues to lease a new vehicle at least once a year.                         |
| Purchase 3 new cameras.                           | Underway      | Cameras were purchased with new vehicles.   |
| Complete office renovations.                      | Canceled      | The Town no longer needs office renovations on at the Police Department                 |
| Purchase 8 new light bars.                        | Underway      | Light bars were purchased with new vehicles.  |
| Purchase 6 new radars.                            | Underway      | Radars were purchased with new vehicles.  |
| Install Variable Speed Limit Signs.               | Completed     | The Town purchased two variable speed limit signs in 2014.                              |
| Purchase Intoximeter.                             | Underway      | A new intoximeter was purchased in 2013.  |
| Public safety training for all new officers.      | Underway      | This is an annual, ongoing program.   |
| Purchase computer equipment for office and Court. | Underway      | New computers were purchased and installed for the Court in 2013.                       |
| Purchase transportation van.                      | Postponed     | The Town no longer needs a transportation van.  |
| <b>Public Safety - Fire Department</b>            |               |   |
| Purchase 1 new Fire Pumper.                       | Completed     | The Town purchased a new Mini EVO Fire Pumper in 2015.                                  |
| Purchase incident command vehicle.                | Postponed     | The Town has postponed this program due to a lack of funding.                           |
| Construct new fire training classroom.            | Postponed     | The Town has postponed this program due to a lack of funding.                           |
| Purchase 1 new rescue truck.                      | Canceled      | The Town does not need a new rescue truck as the new mini pumper provides this service. |

| <i>Activities</i>  | <i>Status</i> | <i>Explanation</i>   |
|--|---------------|--|
| <b>Public Safety - Fire Department</b>   |               |  |
| Purchase 1 fire truck with water cannon and stick.   | Canceled      | The Town no longer needs a fire truck with water cannon and stick.   |
| Replace 25 year old engine.  | Underway      | One engine was replaced in 2015 with the Mini EVO fire pumper there is an additional two engines that needs to be replaced.  |
| Purchase 30 self-contained breathing apparatuses and cylinders.  | Underway      | The Town has updated the breathing apparatuses and cylinders in 2015. This will be an ongoing activity as needed.  |
| Update HVAC at Fire Department.  | Underway      | The Town has replaced bay heaters in the Fire Station in 2013.   |
| Install dry fire hydrants on the Isle of Armstrong.  | Postponed     | The fire suppression system at Isle of Armstrong has been reviewed.  |
| Install fire fighting suppression water system on Macceo Drive including water pump and fire hydrants. | Postponed     | The Town contracted with Thomas and Hutton to provide a study with various fire suppression options and the Town has postponed the project due to lack of funding. |
| Purchase 1 new heavy duty 4x4 truck.   | Canceled      | The Town does not need a heavy duty 4x4 truck.   |
| Purchase new extrication equipment.  | Completed     | The Town purchased new extrication equipment in 2012.  |
| Public safety training for all Fire officers.  | Underway      | This is an ongoing activity.   |
| Replacement of personal protective equipment (ongoing.)  | Underway      | This is an ongoing activity.   |

| <i>Activities</i>   | <i>Status</i> | <i>Explanation</i>   |
|---|---------------|--|
| <b>Parks and Recreation</b>   |               |  |
| Continue to upgrade and maintain Town parks.  | Underway      | This is an ongoing activity.   |
| Explore forming a recreational department to invest in youth-based programs and organized sports. | Canceled      | The Town is no longer reviewing recreational programs due to lack of staff and funding.                              |
| Build a permanent storage area at the Senior Center   | Canceled      | The Senior Center no longer needs a permanent storage area.  |
| Upgrade the HVAC system at the Senior Center.   | Underway      | The Town has installed three new HVAC systems in the Senior Center with and additional units to be replaced.         |
| <b>Public Works</b>   |               |  |
| Upgrade water lines.  | Underway      | This is an ongoing activity. The Town replaced water lines on Victory Drive, Bannon Avenue, and various other areas. |
| Purchase manager truck.   | Completed     | The Town purchased a new vehicle in 2014.  |
| Purchase tractor.   | Completed     | The Town purchased a back hoe.   |
| Construct addition to Public Works Yard.  | Canceled      | The Town no longer needs an addition to the Public Works yard.   |
| Maintain fire hydrants.   | Underway      | This is an ongoing activity. The Town replaced and installed new hydrants in various areas.                          |
| Purchase 1 mobile jet device.   | Completed     | The Town purchased a jet trailer in 2014.  |
| Purchase 2 portable generators.   | Underway      | The Town purchased a used generator.   |
| Purchase 1 riding mower.  | Canceled      | The Town no longer needs a riding mower due to contracting landscaping services for Town right of ways.              |
| Purchase mowing equipment.  | Canceled      | The Town no longer needs mowing equipment.   |
| Install ADA compliant sidewalks.  | Underway      | The Town completed the ADA sidewalk project for River Drive. The second phase will include Whatley Avenue.           |
| Purchase 1 new covered dump truck.  | Canceled      | The Town no longer needs a covered dump truck.   |

| <i>Activities</i>   | <i>Status</i> | <i>Explanation</i>   |
|---|---------------|--|
| <b>Transportation</b>   |               |  |
| Explore options for reducing traffic congestion on commercial corridors (Highway 80.)                     | Underway      | The Town routinely coordinates with DOT and the MPO to address this issue.                                     |
| Explore ways to encourage the development of bike paths to connect commercial and residential areas.      | Underway      | The Town coordinates with MPC and MPO to explore this activity.  |
| Explore ways to capitalize on the Town's access to water for recreational use or commercialized boat use. | Underway      | The Town has many public access points for recreational and commercial boat use.                               |
| <b>Housing</b>  |               |  |
| Continue to eliminate or upgrade dilapidated buildings.   | Underway      | Town Code Enforcement continuously addresses this issue. One dilapidated building has been demolished in 2016. |
| Continue to encourage a sense of neighborhood pride in keeping property and streets clean.                | Underway      | The Neighborhood Improvement Association works to promote these issues.  |
| Continue to upgrade and enforce zoning ordinance.   | Underway      | This task is implemented as needed.  |
| Continue to support the Neighborhood Crime Watch community program.                                       | Underway      | This is an ongoing activity that is managed by the Police Department   |
| Continue to eliminate incompatible land uses which negatively impact neighborhood quality of life.        | Underway      | The Town's Zoning ordinance addresses incompatible land uses.  |
| Land Use  | Completed     | The Town has a Land Use Preliminary Study completed in 2010.   |
| Review land use and zoning regulations.   | Underway      | This is an ongoing activity that is managed by the Planning and Zoning Commission and Zoning Administrator.    |
| Develop a Disaster Recovery Plan  | Underway      | The Town is working with Chatham Emergency Management Agency on this activity.                                 |



| <i>Activities</i>   | <i>Status</i> | <i>Explanation</i>  |
|---|---------------|---|
| <b>Housing</b>  |               |   |
| Explore the creation of a future land use plan for the Town of Thunderbolt.   | Underway      | The Town is working with Simbioscity in regards to future land use on River Drive.                          |
| Explore the implementation of ordinances requiring infill development (residential and commercial) to include infrastructure improvements and upgrades. | Completed     | The Town contracted with Thomas and Hutton to provide a Development Process Study in 2014.                  |
| <b>Intergovernmental Coordination</b>   |               |   |
| Continue to explore ways to improve communication and coordination with the County and surrounding municipalities.                                      | Underway      | This is an ongoing activity.  |
| Explore ways to improve coordination with other agencies such as DNR on enforcement issues related to marine safety.                                    | Underway      | This is an ongoing activity.  |
| Explore partnering with DCA to host a Quality Growth Resources Team to help Thunderbolt with growth and development issues.                             | Postponed     | The Town would be happy to participate in a Quality Growth Resources Team should DCA offer the opportunity. |



# 6

## Coastal Vulnerability and Resilience



Thunderbolt reviewed its comprehensive plan to determine the degree to which resilience planning has been considered, where it best fits based on local planning requirements, and how it can be incorporated/implemented in the future. The town is incorporating the results of this review into its comprehensive planning efforts. More specifically, including a section on resilience where specific implementation activities are included in the Short-Term Work Plan to increase resilience to potential coastal hazards.

## Population Growth

The population of Thunderbolt has increased slowly but steadily between 2000 and 2010. The population is projected to grow to 2,920 by 2021 and to 3,101 by 2030. This indicates an increase of 13 percent between the two most recent census counts, and a projected growth of 23 percent from the current census count to 2030.

| Thunderbolt Population Growth   |       |       |       |       |
|---|-------|-------|-------|-------|
| 2000  | 2010  | 2016  | 2021  | 2030  |
| 2,207   | 2,514 | 2,728 | 2,920 | 3,101 |
| Source: U. S. Census; ESRI Business Analyst Online; Georgia Coast 2030: Population Projections for the 10-County Region |       |       |       |       |

## Vulnerable Populations

In Thunderbolt the percentage of the children under age 5 is estimated to increase nominally by 5 percent from 2000 to 2021, while the percentage of persons 65 and older is projected to grow by a more significant 29 percent during the same period.

| Thunderbolt Age Vulnerable Populations              |      |      |                |
|---|------|------|----------------|
|   | 2010 | 2021 | Percent Change |
| <b>Children under 5</b>                             | 175  | 183  | 5%             |
| <b>Persons 65 and older</b>                         | 496  | 641  | 29%            |
| Source: U. S. Census; ESRI; Business Analyst Online |      |      |                |

## Income and Poverty Level

Income can directly relate to a family’s ability to have reliable transportation, which then directly relates to a family’s ability to evacuate in the event of an evacuation order. Income also impacts a family’s ability to secure temporary lodging (hotels or motels) beyond publicly provided shelter, or to obtain replacement housing should they lose their homes due to a storm event or natural disaster.

According to the U. S. Census’ American Community Survey 2014 – Economic Characteristics, Thunderbolt’s Median Household Income is \$40,774. Poverty levels are established by the federal government and are based upon income and family size. For Thunderbolt, approximately, 9 percent of the population falls below the poverty level.

## Means of Transportation

The U. S. Census reports on the number of vehicles available to households. This is an important indicator of the percentage of the population that has reliable transportation should they need to evacuate in the event of a storm or other natural disaster. Forty-eight households (4.2 percent) have no vehicles available.

The U.S. Census also reports on the following means of transportation to work for workers age 16 and older: drove alone; carpooled; public transportation; walked; bicycle; taxi, motorcycle, or other; and worked at home.

The percentage for the number who drove alone is another reasonable indicator of the percentage of the population that has reliable transportation should they need to evacuate their homes in the event of a storm or other natural disaster. In Thunderbolt 84 percent of workers drove alone to work and 7 percent of workers carpooled.

## Disability

According to American Community Survey 2010-2014, there are 328 people are with any disabilities in Thunderbolt.

| Thunderbolt Disability By Age               |                 |                 |                    |
|---|-----------------|-----------------|--------------------|
|   | People under 18 | People 18 to 64 | People 65 and over |
| <b>With one Disability</b>                  | 0               | 117             | 85                 |
| <b>With Two or More Types of Disability</b> | 0               | 46              | 80                 |
| <b>Total Disability</b>                     | 0               | 163             | 165                |
| Source: U. S. Census                        |                 |                 |                    |

## **Vulnerable Housing Type**

184 housing units (15.5%) in Thunderbolt are mobile homes.