

PUBLIC NOTICE: INVITATION OF COMMENTS

Pursuant to *Section 45-22.2-9(c)(2) of the General Laws of Rhode Island*, the Division of Statewide Planning hereby invites comments from the public, regional and state agencies, contiguous municipalities, and other interested parties regarding the local comprehensive plan document listed below.

**Town of Warren, Rhode Island
Comprehensive Plan: 2024-2044
ID#: WRN-CP-25**

Posted January 17, 2025

This Comprehensive Plan is currently under review by the State to ensure “consistency with the goals and intent established in the [Comprehensive Planning Act] and in the State Guide Plan.” The comment period shall extend for thirty days from the posted date. All comments should reference the **document title and identifier number**, and should be submitted to:

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RESILIENT WARREN

A Comprehensive Community Plan for Adaptation

Town of Warren, Rhode Island

7/22/2024 Approved by the Warren Planning Board

11/12/2024 Adopted by the Warren Town Council

ACKNOWLEDGEMENTS

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FOREWORD

Throughout its known history, Warren was and is defined by the people who live, work, play and, in some cases, fought and died here. From its time as a home to indigenous people and to the present, residents have enjoyed and reaped the Town's bounty from the sea, its fertile agricultural lands, and its strategic geographic waterfront location. Over time, Warren's residents have encountered and adapted to change.

The first days of European colonist contact with indigenous people, both here and throughout the region, were marked by early friendship. Due to an increase in conflicting interests, this tension ultimately led to a devastating war and the subsequent dominance of the colonists' culture.

Early on, concentrations of residences, warehouses and businesses were built along the Town's Palmer and Barrington Rivers waterfront, many of which remain standing and are recognized for their historic value today. Outside the Town's built areas, farming held sway.

During the American Revolution, the Town experienced the violent struggles of that upheaval, and its people suffered accordingly. After the war, the Town regained its economic health. Sadly, it would take longer before one aspect of the Town's commerce, the shameful slave trade and slave-ownership ended.

The Town also played a notable role in the short-lived, lucrative, but cruel, American whaling industry and birthed and supported a long and ongoing tradition of ship and boat building and attendant marine chandlery businesses.

At the end of the nineteenth and beginning of the twentieth centuries manufacturing became a defining factor in Town life. Workers flocked to the region from here and abroad, and the Town's population grew more culturally diverse.

Warren's history is fascinating, sometimes horrifying, and often uplifting.

Today, the Town includes renovated historic residences and other buildings of significant note. It is a haven for small businesses, restaurants, and artists' studios. Ongoing agriculture remains part of the Town's character, as does its evolving manufacturing and marine industries.

Commercial and recreational fishing opportunities abound. Old farms are finding new life. Summer community cottages are renovated into year-round homes, and the Town's historic buildings, thriving retail and restaurant scene, natural features, and sense of place attract both new residents and seasonal visitors.

Defined by the surrounding fresh and salt waters, the area has a rich natural environment. Its open and undeveloped areas serve as hatcheries, nurseries, and habitat for a wide range of finned, furred, and feathered creatures. In turn, our undeveloped lands and water continue to provide enjoyment and sustenance to our Town's people and wildlife.

Moving forward, we draw on our past in planning our future by adapting to change. Today, our little town of Warren is a unique entity, embracing natural land and seascapes, farmlands, industry, business establishments, a historic residential center, transformed summer colonies, and a population reflecting a wide range of socio-economic races and cultures. What we all have in common is a wonderfully unique sense of place and a desire to protect, preserve and pass on the best of what we have to future generations.

Our Town's great future challenges are: safe and affordable housing availability; historic building preservation; protection of agricultural land and wildlife habitat; remedying poorly planned past development; improved pedestrian and bicycle routes and links; and coping with the impact of sea level rise on our Town. Given these challenges, our Comprehensive Plan goals are to employ synergistic solutions addressing multiple challenges.

For example, our Metacom/I36 Corridor Plan, which surfaces in several of our Plan's elements, addresses: ill-advised past spot zoning resulting in inefficient and unsightly development, traffic safety improvements, and new bicycle and pedestrian routes and links. Additionally, this Plan addresses regionalism and our Town's relation to our immediate neighbors in Bristol and Massachusetts.

Similarly, Warren's Market to Metacom Initiative, addressing sea level rise and future areas for redevelopment, proposes new solutions protecting the Town's tax revenue base while creating new affordable housing and business opportunities. Once realized, this Initiative will help relieve pressure on the Town's agricultural and wild areas and historic district while providing funds for well-managed future development. The Market to Metacom Initiative is designed as a model for the future allowing us to effectively plan for the consequences of sea level rise while protecting and preserving our Town's unique, multi-faceted character.

Frederick Massie
Warren Planning Board Chair

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1. INTRODUCTION

Warren has a strong sense of place and a popular slogan to go with it for being geographically “*the smallest town in the smallest county in the smallest state.*” Being surrounded by tidal rivers and bays, Warren sits at an average of seven feet above sea level and two thirds of the town is at risk of being under water in fifty years. Sea level rise has the potential to cause dramatic impacts to Warren’s geography, natural resources and infrastructure and as a result adverse impacts to commerce, housing, municipal finances, and quality of life. With a little more than 11,000¹ residents, this close-knit community will mitigate these impacts and adapt by implementing a managed retreat strategy and redevelopment of a key corridor to create livable homes and provide the opportunity for impacted residents to remain in Warren.

Municipalities in Rhode Island are charged with preparing local comprehensive plans that meet the requirements of the Comprehensive Planning and Land Use Regulation Act (RIGL 45-22). A comprehensive plan is a policy document which sets forth a vision for what a community aspires to be in 20 or more years and lays out a framework to achieve that vision. This local comprehensive plan, *Resilient Warren*, lays out a framework for how the community must and will adapt in order to be more resilient to the impacts of climate change and sea level rise. The overarching goal of *Resilient Warren* is to increase the community’s resiliency to climate change and sea level rise impacts by implementing appropriate adaptation measures.

Municipalities are to adopt a local comprehensive plan not less than every ten years. Required standard content includes the following elements: Natural Hazards & Climate Change, Historic & Cultural Resources, Natural Resources, Recreation & Open Space, Housing, Transportation, Economic Development, Services & Facilities, Land Use. Each of these elements includes goals, policies and implementation actions along with background narrative, data and resources. The required standalone Implementation Program is included as the final chapter and assigns responsible party, timeframe and priority for each of the implementation actions that are included within the elements. The following chart outlines how the vision illustrated within the Market to Metacom Plan interrelates with each of the required elements of a local comprehensive plan and supports the goals listed within *Resilient Warren*.

¹ A report produced by Statewide Planning (Technical Paper 162) in 2013, projected a declining population for Warren with 10,015 estimated residents in 2020 and 9,083 in 2040. However, the 2020 Census showed a growth in population of over 5% since the 2010 Census with an estimated population of 11,147.

Natural Hazards & Climate Change <ul style="list-style-type: none"> ○ Creates safer housing inventory by removing vulnerable properties ○ Mitigates existing environmental pollution sources (landfill/tanks) ○ Reduces risk of flooding, property damage, and clean-up costs ○ Promote resiliency with restoration of a living shoreline, wetlands for buffering and flood storage ○ Reduces risk of flooding through upgrades to stormwater management system ○ Considers sea level rise and flood zones in the siting of new development 	Historic & Cultural Resources <ul style="list-style-type: none"> ○ Reduces some residential development pressure on historic district ○ Little to no adverse impacts to historic structures or viewsheds ○ Potential unintended consequence of drawing investment away from historic Downtown 	Natural Resources <ul style="list-style-type: none"> ○ Reduces impervious surface & implements stormwater management BMPs / water quality protection ○ Directs development away from prime farmland ○ Restoration of living shoreline, wetlands, habitat
Recreation & Open Space <ul style="list-style-type: none"> ○ Promotes infill development and directs development away from open space ○ Change in shoreline creates opportunities for new waterfront recreation assets 	Housing <ul style="list-style-type: none"> ○ Density increases creating diverse housing stock / workforce and affordable housing opportunities ○ Potential increase in percentage of LMIH units ○ Relocates/retain residents within the community 	Transportation <ul style="list-style-type: none"> ○ Creates Transit Oriented Development (TOD) ○ Safety improvements for all modes of transportation ○ Road diet (4 to 3 travel lanes) ○ Accommodates bicycle lanes ○ Potential reduction in traffic and speeds ○ Improves pedestrian experience and bicycle safety
Economic Development <ul style="list-style-type: none"> ○ Promotes future redevelopment of private property and new sites for business ○ Avoids unemployment resulting from business closures due to flooding 	Facilities & Services <ul style="list-style-type: none"> ○ Increases residential and commercial tax revenues ○ Advances Town's ability to provide municipal services ○ Reduces demand on public officials/public safety to prepare for and respond to storm events ○ Reduction in regular repair costs to roadways and other town infrastructure post storm events ○ Creates opportunity to make significant infrastructure investments during redevelopment ○ Implemented through partnerships, private investments, and state/federal funding opportunities 	Land Use <ul style="list-style-type: none"> ○ Streetscape improvements and overall improvement in urban design and neighborhood appeal ○ A more desirable and predictable built environment achieved through the use of Form-Based Code ○ Creates a destination area / mixed use center ○ Directs development to areas with existing infrastructure and away from undeveloped land and land subject to flooding and SLR

Comprehensive Plan Elements – Market to Metacom Plan

2. NATURAL HAZARDS & CLIMATE CHANGE

GOALS

- GNH1: AVOID OR MINIMIZE THE EFFECTS THAT NATURAL HAZARDS POSE ON WARREN'S RESIDENTS, BUSINESSES, INFRASTRUCTURE, CRITICAL FACILITIES, AND HISTORIC AND NATURAL RESOURCES
- GNH2: INCREASE AWARENESS OF THE THREATS OF CLIMATE CHANGE AND SEA LEVEL RISE ON THE LOCAL COMMUNITY AND CONTINUE LONG-TERM PLANNING, PREPAREDNESS EFFORTS, AND IMPLEMENTATION OF MITIGATION ACTIONS THAT WILL MAKE WARREN MORE RESILIENT

INTRODUCTION

The Town of Warren has been at the forefront of resiliency planning in the State with the Market to Metacom Plan which lays out an ambitious strategy to proactively address the anticipated large-scale impacts of climate change on the community. Resiliency is the focus of this local Comprehensive Plan and the Market to Metacom Plan serves as its backbone. Adaptation measures are prioritized within the implementation program of this Comprehensive Plan to stress the importance of these actions to mitigate negative impacts and ensure livability.

The Town of Warren Hazard Mitigation & Flood Management Plan, recently updated in 2022, is incorporated by reference into this Comprehensive Plan.

Jacobs, Kim. Town of Warren Hazard Mitigation & Flood Management Plan. Town of Warren, March 2022.

The document can be viewed on the Town of Warren website (<https://www.townofwarren-ri.gov/>) and at the George Hail Free Library located at 530 Main Street and Warren Town Hall located at 514 Main Street.

During the 2022 Warren Hazard Mitigation Plan Update, the following hazards were identified as having the highest impact rating (probability, range, and magnitude).

- Coastal Flooding / Storm Surge
- Tropical Cyclones; Tropical Storms and Hurricanes
- Heavy Snow, Ice, and Extreme Cold
- Contagious Respiratory Illness / Viruses
- High Winds

The following table includes policies to promote the stated goals of the Natural Hazards & Climate Change Element of this Comprehensive Plan. Implementation actions are also listed within the table. The Implementation Program, Chapter II of this Comprehensive Plan, assigns a responsible party or parties, timeframe, and priority level for each of the implementation actions.

NATURAL HAZARDS & CLIMATE CHANGE POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PNH1. Proactively address the future inundation of low-lying neighborhoods	ANH1. Create a voluntary buy-out strategy for properties in danger of repetitive flooding and storm damage
	ANH2. Investigate legal authority and issues around flood prone property buy-outs, road and utility abandonment
	ANH3. Secure State and Federal funding and explore Tax Increment Financing for property buy-outs
	ANH4. Remove local streets and utilities from areas within the Market Street project area when they are no longer serviceable and necessary for private property access
	ANH5. Identify locations of OWTS that may pose threats to water quality if impacted by flooding and rising water, for example, the Shore Drive area
	ANH6. Identify roadways at-risk to flooding outside of the Market Street project area, such as, Touisset Point, where raising roadbeds may be necessary to maintain access during flooding events
PNH2. Ensure land use regulations reduce vulnerability to natural hazards, particularly flooding, storm surge, and sea level rise	ANH7. Amend local Zoning to allow for higher densities in certain upland areas (i.e. Metacom Avenue project area) to provide housing opportunities for those that may be displaced due to flooding
	ANH8. Amend local Zoning for Market Street project area to discourage any new development in flood prone areas and to be consistent with the Comprehensive Plan, Future Land Use Map (Retreat Overlay), and FEMA FIRM maps
PNH3. Advance public education and outreach, including for municipal government officials and boards/ committee members, impacted property owners, and school age children on potential impacts of sea level rise and flooding on the community	ANH9. Complete steps to enroll in the NFIP Community Rating System (CRS) Program in an effort to improve the Town's floodplain programs and reduce the cost of flood insurance for Warren property owners including public engagement
	ANH10. Educate property owners about impending climate change impacts, adaptation strategies, and the Market to Metacom Plan. Education on the benefits of trees in reducing air pollution, cooling heat islands, lower utility bills, etc. should be incorporated into this educational programming.
	ANH11. Record and map flooding events to locate patterns and obtain data for future mitigation activities; create an online portal where the public could submit documentation on flooding events by uploading photos

NATURAL HAZARDS & CLIMATE CHANGE POLICIES & IMPLEMENTATION	
POLICY	IMPLEMENTATION ACTION
PNH4. Ensure regional transportation connections and emergency evacuation routes remain available	ANH12. Identify alternative evacuation routes that avoid roadways vulnerable to flooding and prioritize tree maintenance on primary and secondary evacuation routes
	ANH13. Work with RIDOT to adapt vulnerable sections of Routes 136 and 103 to withstand sea level rise and storm events and potentially become part of the flood control system
PNH5. Prepare for increased impacts from storm and flooding events through land acquisition and green infrastructure projects	ANH14. Implement a shoreline retreat strategy that will allow restoration of natural areas and opportunities to enjoy new waterfront recreational assets - "Marsh Park" (ANR6 & ARO4)
	ANH15. Implement Best Management Practices (BMPs) from the RI Stormwater Manual in flood prone areas to mitigate the impact of flooding on property, structures, and infrastructure including roadways
	ANH16. Protect property through the acquisition of land that serves as a natural buffer
	ANH17. Utilize SLAMM maps to inform the planning and design for coastal wetland restoration and coastal resiliency projects
	ANH18. Identify upland areas for conservation that will allow for the advancement of future marsh migration
	ANH19. Incorporate green features like forested bioswales, rain gardens to the medians and sides of streets along with planting street trees and introduction of permeable pavement to reduce the effects of stormwater runoff and urban heat (AT2 & ALU19)
PNH6. Protect essential services and critical facilities and utilities from the impacts of natural hazards through proper siting and flood proofing measures	ANH20. Consolidate fire and rescue into a new centrally located Fire Station headquarters with modern training facilities
	ANH21. Evaluate vulnerability of sewer lines to sea level rise and continue to floodproof at-risk pump stations
	ANH22. Explore consolidation and regionalization of wastewater management at a different location as the current facility will not be serviceable beyond 2065
	ANH23. Plan for the protection and/or relocation of at-risk utility infrastructure (i.e. evaluate risks to underground utilities from SLR and Rhode Island Energy Substation at Belcher Cove)

MARKET TO METACOM

The Market to Metacom Plan (Appendix A) includes sea level rise projections and impact analysis. Mean higher high water (MHHW) already inundates a portion of the Market Street project area east of Jamiel Park and the wetland east of Route 136/Metacom Avenue. The impacted areas are projected to expand over time, causing at least one foot of flooding within Market Street by 2035. By 2050, the lowest-lying portions of Market Street are projected to have three feet of flooding during MHHW, a portion of Child Street will have up to one foot of flooding, and many of the properties between Belcher Cove and Market Street will be impacted. Projections for the year 2070 indicate that a substantial portion of Market Street and the surrounding neighborhood will be inundated by three feet of water, with lowest areas, including wetlands, experiencing six-foot flood depths. Under current conditions, the 100-year storm would inundate the majority of the Market Street project area, with Market Street, a portion of Child Street, and many properties in the area under five to fifteen feet of water.

Existing conditions demonstrate that the Market Street area is facing severe impacts from climate change. This low-lying neighborhood will be inundated with increasing frequency and severity due to sea level rise and increased severity of storm events. These impacts will negatively affect the community in the coming ten to thirty years and will have the potential to severely damage and destroy potentially hundreds of homes, businesses, and government facilities, disrupt local and regional transportation routes, and damage utilities. This will also have significant environmental impacts related to flooding of fuel tanks, septic systems, and building materials. Existing wetlands within the Market Street project area will become increasingly inundated, eliminating these valuable natural resources that provide critical habitat and natural coastal buffers. Increased runoff from climate impacts in this neighborhood will also exacerbate water quality issues in Belcher Cove and the Palmer River. These physical impacts have the potential for extensive economic impacts that will affect residents, property owners, businesses, and the Town.

The Relocation and Restoration Scenario of the Market to Metacom Plan accepts that the Town of Warren, in concert with local, State, Federal and regional partners take proactive actions to buy-out properties in danger of repetitive flooding and storm damage, remove most local streets and utilities and restore vegetated wetlands for protective buffering and flood storage.

Sea level rise will cause flood impacts associated with the 100-year storm to increase over time along the Kickemuit River, however, the Metacom Avenue project area is not projected to be flooded under the 100-year storm through the year 2100. Because of its topography and elevation above surrounding waterbodies, the properties in the Metacom Avenue project area are less affected by sea level rise and flooding events directly. However, sea level rise will inundate the primary transportation connections to the north along Route 136 and to the west along Route 103. Unless these roadways are retrofitted or rerouted to avoid inundation from sea level rise and storm events, the Metacom Avenue corridor will be disconnected from the regional road network, with limited access during flooding events. Additionally, the increasing frequency and severity of precipitation/storm events have the potential to overwhelm existing stormwater drainage systems that were designed and constructed to handle smaller flows. Increased stormwater runoff from these precipitation events in this area with high impervious cover will likely also exacerbate water quality issues in the Kickemuit River. Stormwater management measures and the incorporation of green infrastructure in the Metacom Project area will assist with protecting properties from flooding and protecting water quality.

VULNERABLE INFRASTRUCTURE AND ROADS

Geographic conditions make Warren particularly susceptible to flooding. Warren sits at an average of seven feet above sea level and two thirds of the town is at risk of being under water in fifty years. Approximately 29% of the Town is located in FEMA Special Flood Hazard Areas (Zone A and Zone V). Zone A, the 100-year flood zone, identifies areas with a one percent or greater change of flooding in any given year and where the base flood elevation has been determined. The V Zone is subject to wave action. 5.4% of the Town is located within the V Zone and 23.6% is located in Zone A.²

Building more resilient transportation infrastructure in Warren is critical to maintaining emergency evacuation routes for the East Bay. In partnership with Rhode Island Department of Transportation (RIDOT), the Metacom Avenue corridor can be adapted to continue to serve as a major regional transportation asset. The Town is currently part of a pilot program with RIDOT for road adaption strategies. Although recently constructed, the Warren and Barrington bridges are still vulnerable transportation assets. Warren's roads (state and local) are the tenth most vulnerable in the state of Rhode Island to sea level rise with Main Street (Route 114), Market Street, and Child Street listed as the top three road assets in Warren most vulnerable to sea level rise.³ Main Street (Route 114) in Warren is listed as one of the Top 10 Roads Vulnerable to Sea Level Rise in Rhode Island with 13 linear feet impacted with 1 foot of sea level rise and 343 linear feet affected by three feet of sea level rise.⁴ In partnership with the neighboring communities of Barrington and Bristol, Warren is participating in a State sponsored and funded Bristol County Route 114 Resilience Plan. The Division of Statewide Planning contracted with a firm in 2023 to provide a plan that will identify and assess the vulnerability of segments of Route 114 and associated drainage/utility infrastructure, and to conduct feasibility analyses of potential solutions and resilience actions.

The Town is also concerned with potential impacts of flooding and future inundation to the sewer system. An evaluation of the vulnerability of sewer lines to the potential impacts of sea level rise needs to be conducted. The Town is in the process of floodproofing two at-risk sewer pump station (Wood Street and Patterson Street) but additional work must be implemented to mitigate flooding impacts on other sewer infrastructure.

Warren participates in the Rhode Island Infrastructure Bank's Municipal Resiliency Program and as part of that program a community workshop was conducted in 2019 to in part identify vulnerabilities and assets. Identified as areas of concern in the category of infrastructure as part of the process were the following: sewer pump stations, the two public schools, gas stations (i.e. Market Street), drinking water supply pipeline (Scituate), Touisset drinking water wells, Belcher Cove gas and electric substations, the wastewater treatment plant, the seawall behind the wastewater treatment plant, septic systems/cesspools, East Bay Bicycle Path, fiber optic telecommunication infrastructure, nursing homes and assisted living facilities, the Senior Center, Town Hall, and Community Center/Mary V. Quirk, Transfer Station, and Warren Animal Shelter. Resiliency programs identified within a

² JACOBS, KIM. TOWN OF WARREN HAZARD MITIGATION & FLOOD MANAGEMENT PLAN. TOWN OF WARREN, MARCH 2022.

³ VULNERABILITY OF MUNICIPAL TRANSPORTATION ASSETS TO SEA LEVEL RISE AND STORM SURGE, TECHNICAL PAPER #167, 2016, RHODE ISLAND STATEWIDE PLANNING PROGRAM AVAILABLE AT [HTTP://WWW.PLANNING.RI.GOV/GEODEMINFO/DATA/SLR.PHP](http://www.planning.ri.gov/geodeminfo/data/slr.php).

⁴ VULNERABILITY OF TRANSPORTATION ASSETS TO SEA LEVEL RISE, TECHNICAL PAPER 164, JANUARY 2015, RHODE ISLAND STATEWIDE PLANNING PROGRAM AVAILABLE AT [HTTP://WWW.PLANNING.RI.GOV/DOCUMENTS/SEA_LEVEL/2015/TP164.PDF](http://www.planning.ri.gov/documents/sea_level/2015/TP164.PDF)

Summary of Findings Report that was produced following the workshop are eligible for action grants. Vulnerability of the Town's Wastewater Treatment Plant is discussed within the Services and Facilities Element.

MAPPING

The following maps provide visuals of the land area within Warren susceptible to flooding, sea level rise, and coastal storm surge.

- *Map NH1 Flood Zones displays areas that would be inundated in the event of a 1% and 0.2% storm as they appear on the most recent Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps.*
- *Map NH2 Hurricane Inundation displays areas of Warren that could be inundated in the event of Category 1 through 4 hurricanes.*

SLAMM

The Rhode Island Sea Level Affecting Marshes Model (SLAMM) project analyzed the potential impacts to coastal wetlands from sea level rise and the landward migration potential of coastal wetlands. The purpose of the SLAMM maps (NC3, NC4, NC5) is to show how coastal wetlands will likely transition and migrate onto adjacent upland areas under projected sea level rise scenarios of 1, 3 and 5 feet. An existing inventory of coastal wetlands based on the 2010 National Wetlands Inventory, calculates approximately 280 acres of salt marsh in Warren (12 acres of irregularly flooded (high marsh) salt marsh, 259 acres of regularly flooded (low marsh) salt marsh, and 9 acres of transitional march/scrub shrub. Under 1 foot of SLR, the Town will lose an estimated 29 acres of salt marsh; under 3 feet of SLR, the Town will lose an estimated 63 acres of salt marsh; and under 5 feet of sea level rise, the Town will lose an estimated 242 acres of salt marsh. The report also estimates the freshwater wetland losses under specified sea level rise scenarios for the Town. Under 1 foot of SLR, the Town will lose an estimated 13 acres of freshwater wetlands; under 3 feet of SLR, the Town will lose an estimated 77 acres of freshwater wetlands; and under 5 feet of sea level rise, the Town will lose an estimated 99 acres of freshwater wetlands. According to the SLAMM Report, Warren is listed within the top three communities in Rhode Island with the largest percentages of freshwater wetland acreage losses as a result of sea level rise.

- *Map NH3 SLAMM 1 Foot illustrates the Sea Level Affecting Marshes Modeling for one foot of sea level rise.*
- *Map NH4 SLAMM 3 Feet illustrates the Sea Level Affecting Marshes Modeling for three feet of sea level rise.*
- *Map NH5 SLAMM 5 Feet illustrates the Sea Level Affecting Marshes Modeling for five feet of sea level rise.*

SUPPORTING DOCUMENTS AND RESOURCES

CRMC's Shoreline Change Maps are available at http://www.crmc.ri.gov/maps/maps_shorechange.html.

Geospatial Analysis of Sea Level Rise in Warren, Rhode Island. Patrick MacMeekin, Graduate Student, Masters of Environmental Science and Management (MESM) program, Department of Natural Resources, University of Rhode Island, January, 2021.

During the fall of 2020, the Coastal Institute worked with Patrick MacMeekin, a graduate student from URI's Department of Natural Resources Science,

to complete a geospatial analysis for the Town of Warren. The analysis examines potential flood risk within Warren from future sea level rise and storm events. This project resulted in a suite of GIS data products that were used in conjunction with the development of the Town of Warren's Hazard Mitigation Plan & Flood Management Plan and will continue to be used to assist the Town in future planning and risk mitigation strategies.

Jacobs, Kim. Town of Warren Hazard Mitigation & Flood Management Plan. Town of Warren, March 2022.

Market to Metacom: Adaptation and Economic Development Plan, Final Report, Prepared by Fuss & O'Neill for the Town of Warren, December 29, 2021.

Rhode Island Sea Level Affecting Marshes Model (SLAMM) Project, SUMMARY REPORT, March 2015.

Sea Level Rise Scenarios Affecting Roads, Town of Warren, maps prepared by Statewide Planning in 2016 are available at: http://www.planning.ri.gov/documents/sea_level/statewide/Warren.pdf.

State Guide Plan

The State Guide Plan is Rhode Island's centralized and integrated long-range planning document. The State Guide Plan is not a single document but a collection of plans that have been adopted over many years. It comprises many separately published elements covering a range of topics.

Ocean State Outdoors: Rhode Island's Comprehensive Outdoor Recreation Plan, State Guide Plan Report 152.

Ocean State Outdoors recommends actions aimed to provide opportunities to recreate in the outdoors while ensuring preservation of environmental resources. Warren's implementation action to create *Marsh Park* directly supports the stated goal in the RICORP, "Goal 2: Strengthen, expand and promote the statewide recreation network while protecting natural and cultural resources as well as adapting to a changing environment."

Water Quality 2035, State Guide Plan Report 731.

Water Quality 2035 promotes the broader adoption of sustainable approaches to managing stormwater, known as green infrastructure. Low impact development (LID) and green infrastructure strategies are identified in the State plan as a key focus for long-term stormwater management. The Natural Hazards & Climate Change Element of *Resilient Warren* supports this State Guide Plan Element with inclusion of a policy and multiple top priority actions specific to green infrastructure.

STORMTOOLS offers public access to interactive maps with property specific GIS data to better understand the risks of coastal inundation.

Town of Warren (2019). Joint Municipal Community Resilience Building Workshop, Summary of Findings, State of Rhode Island Municipal Resilience Program, Town of Warren, Town of Barrington, Rhode Island Infrastructure Bank. *This report provides a summary of the Town of Warren's Community Resilience Building (CRB) Workshop that was held in September 2019. The workshop was part of the Resilient Rhody: Municipal Resilience Program (MRP), an initiative of the RI Infrastructure Bank in partnership with The Nature Conservancy. The Workshop provided a community-driven process to assess current*

hazard and climate change impacts and to identify projects, plans, and policies for improved resilience. Numerous hazard mitigation actions were identified and prioritized through this community-driven process, including actions to mitigate flooding. Measures identified in this report have the potential for funding assistance through the MRP Action Grant Program.

VULNERABILITY EXPOSURE WEB MAP is an online interactive mapping tool created in conjunction with the Town's Hazard Mitigation Plan to provide a visual representation of the potential threat to Warren from extreme storm events and sea level rise.

Vulnerability of Municipal Transportation Assets to Sea Level Rise and Storm Surge, Technical Paper #167, 2016, Rhode Island Statewide Planning Program available at <http://www.planning.ri.gov/geodeminfo/data/slr.php>.

This report indicates local infrastructure and transportation assets impacted at various sea level rise scenarios, and also factors in storm surge. Vulnerability of Municipal Transportation Assets to Sea Level Rise and Storm Surge Warren Fact Sheet available at:
http://www.planning.ri.gov/documents/sea_level/fact/Warrenfs.pdf.

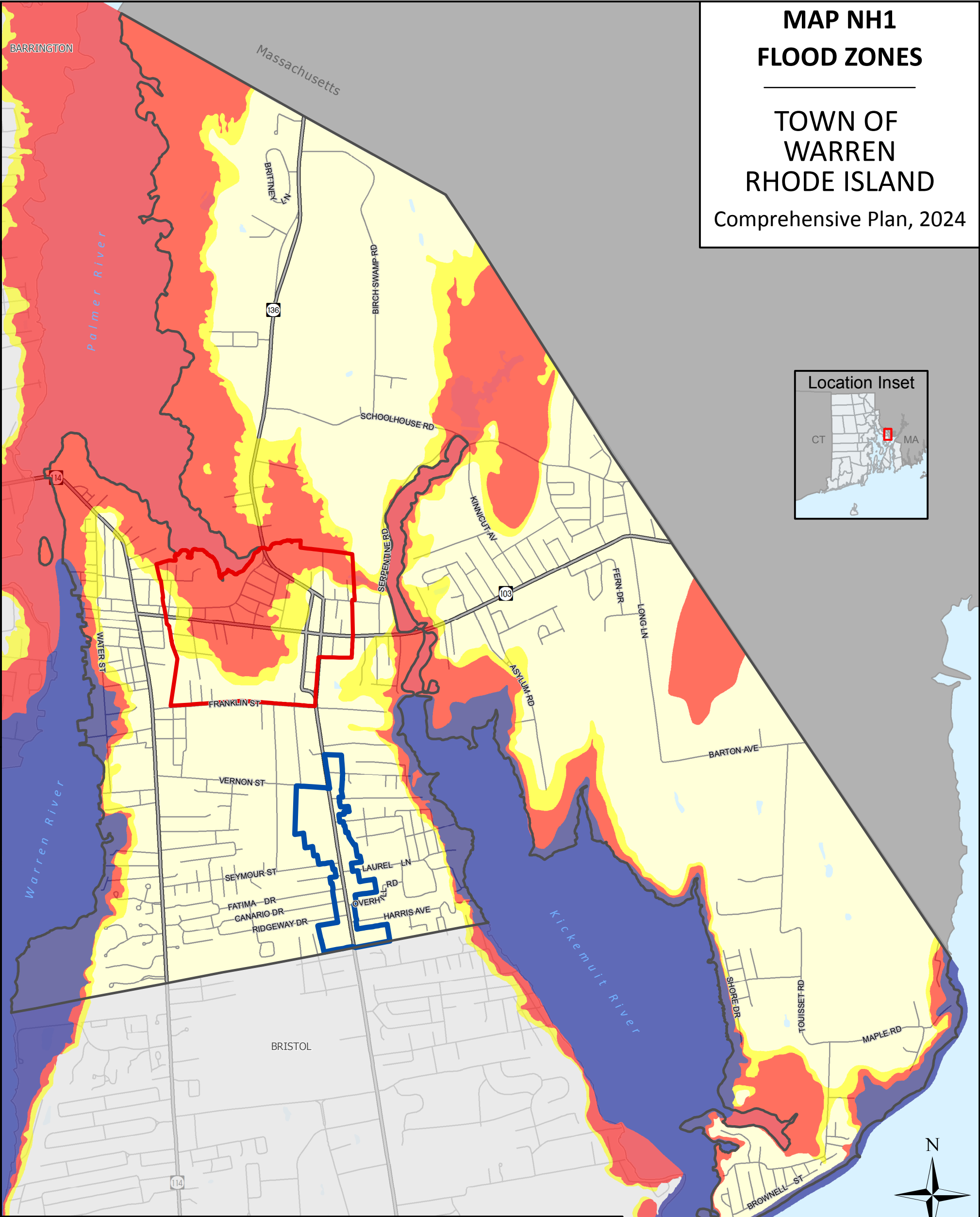
Vulnerability of Transportation Assets to Sea Level Rise, Technical Paper #164, 2015, Rhode Island Statewide Planning Program available at http://www.planning.ri.gov/documents/sea_level/2015/TP164.pdf.

Using a GIS-based methodology, this statewide study analyses the transportation assets potentially exposed under 1, 3 and 5 feet of sea level rise.

MAP NH1
FLOOD ZONES

TOWN OF
WARREN
RHODE ISLAND

Comprehensive Plan, 2024



Map Legend

Special Flood Hazard Area

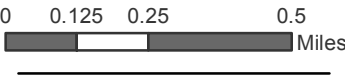
- ZONE A
- ZONE VE
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- Market St Project Area Boundary
- Metacom Ave Project Area Boundary

Features

- Highways
- Roads
- Water

Boundaries

- Warren
- RI Municipal
- Other States



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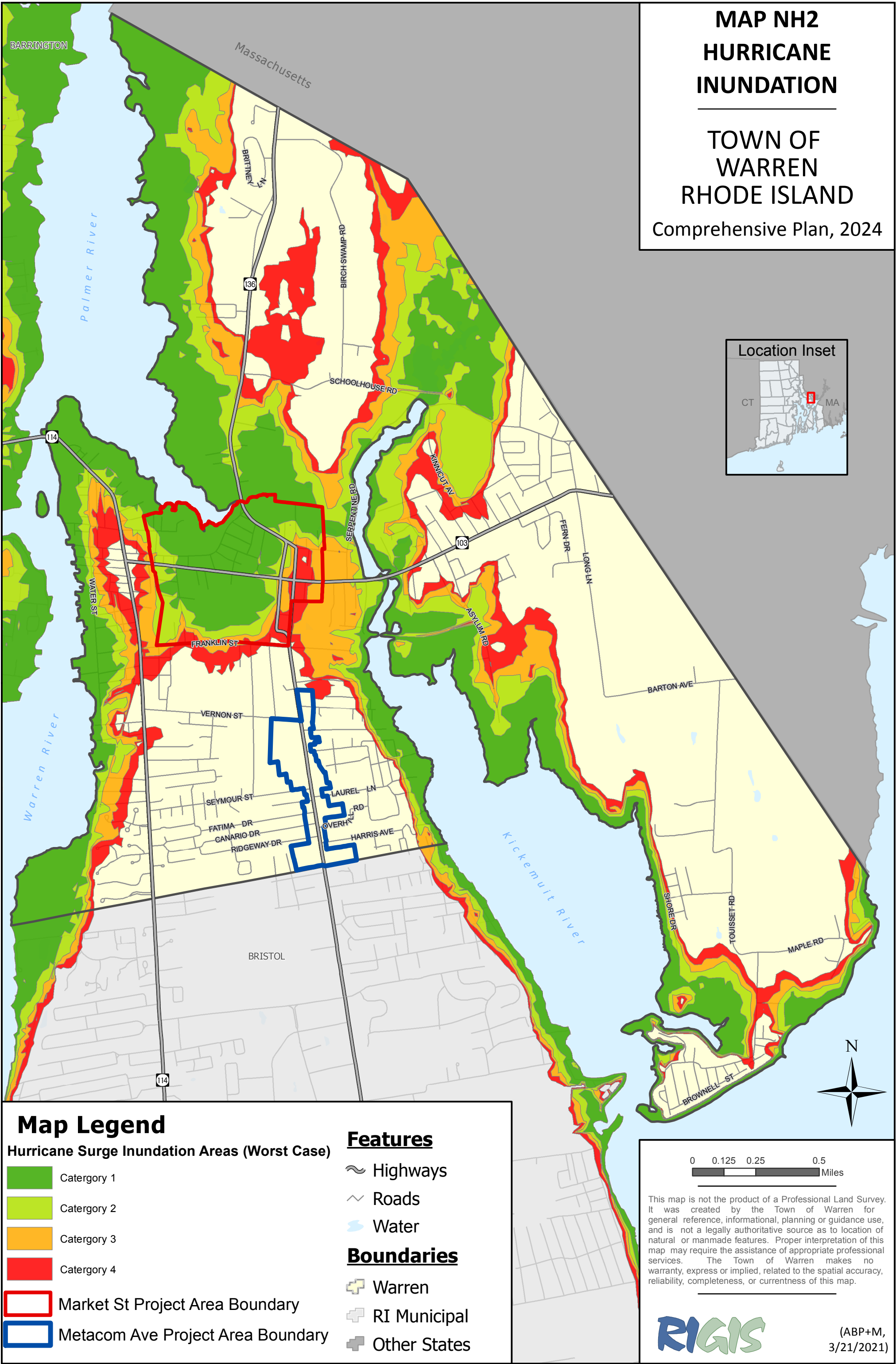
(ABP+M,
3/21/2021)

MAP NH2
HURRICANE
INUNDATION

TOWN OF
WARREN
RHODE ISLAND

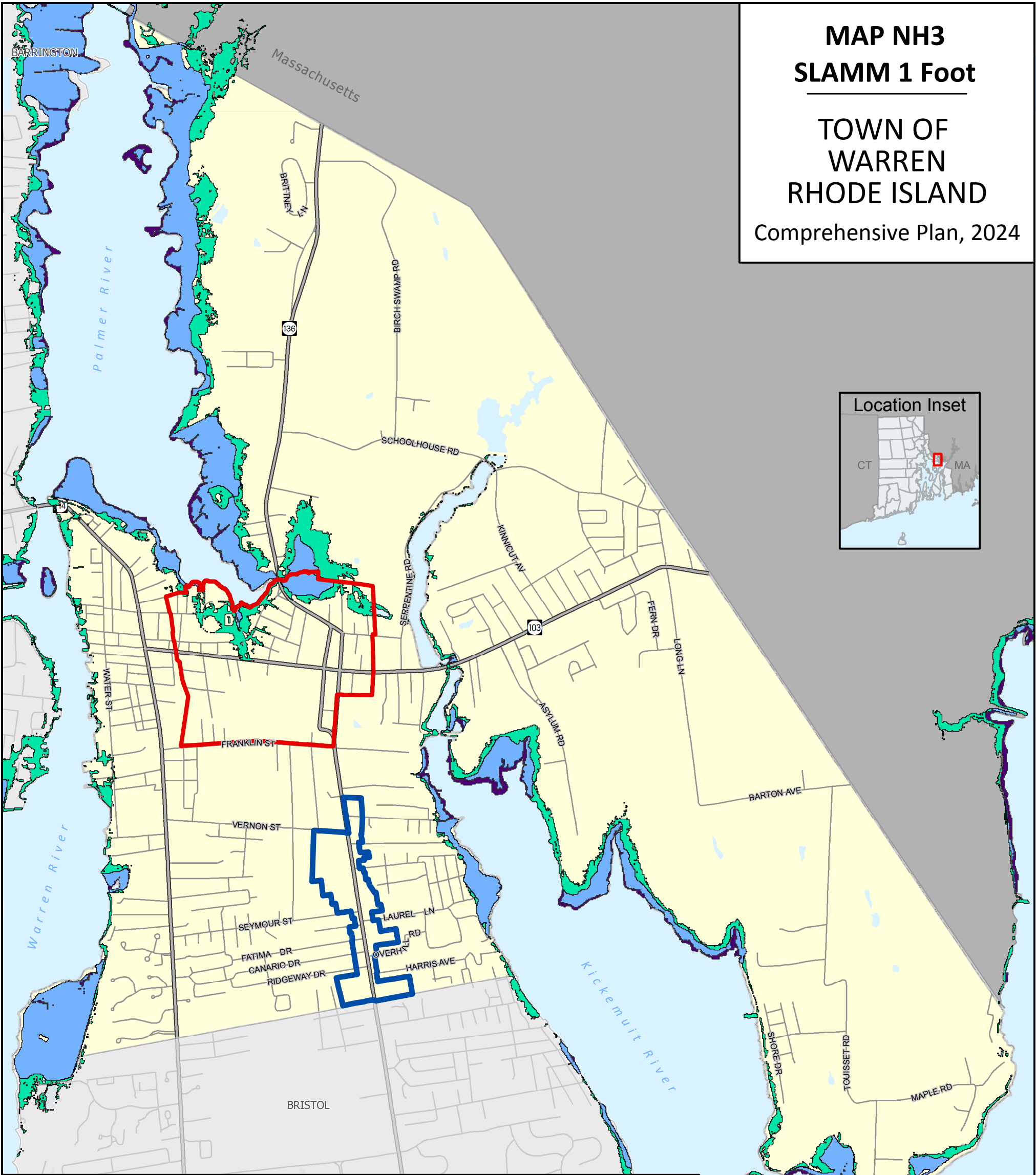
Comprehensive Plan, 2024

Location Inset



MAP NH3
SLAMM 1 Foot

TOWN OF
WARREN
RHODE ISLAND
Comprehensive Plan, 2024

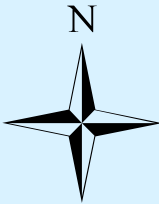


Map Legend

SLAMM (Sea Level Affecting Marshes Modeling) 1 Foot Sea Level Rise

- new tidal habitat
- persistent tidal habitat
- tidal habitat loss
- Market St Project Area Boundary
- Metacom Ave Project Area Boundary

- Highways
- Roads
- Water
- Warren
- RI Municipal
- Other States



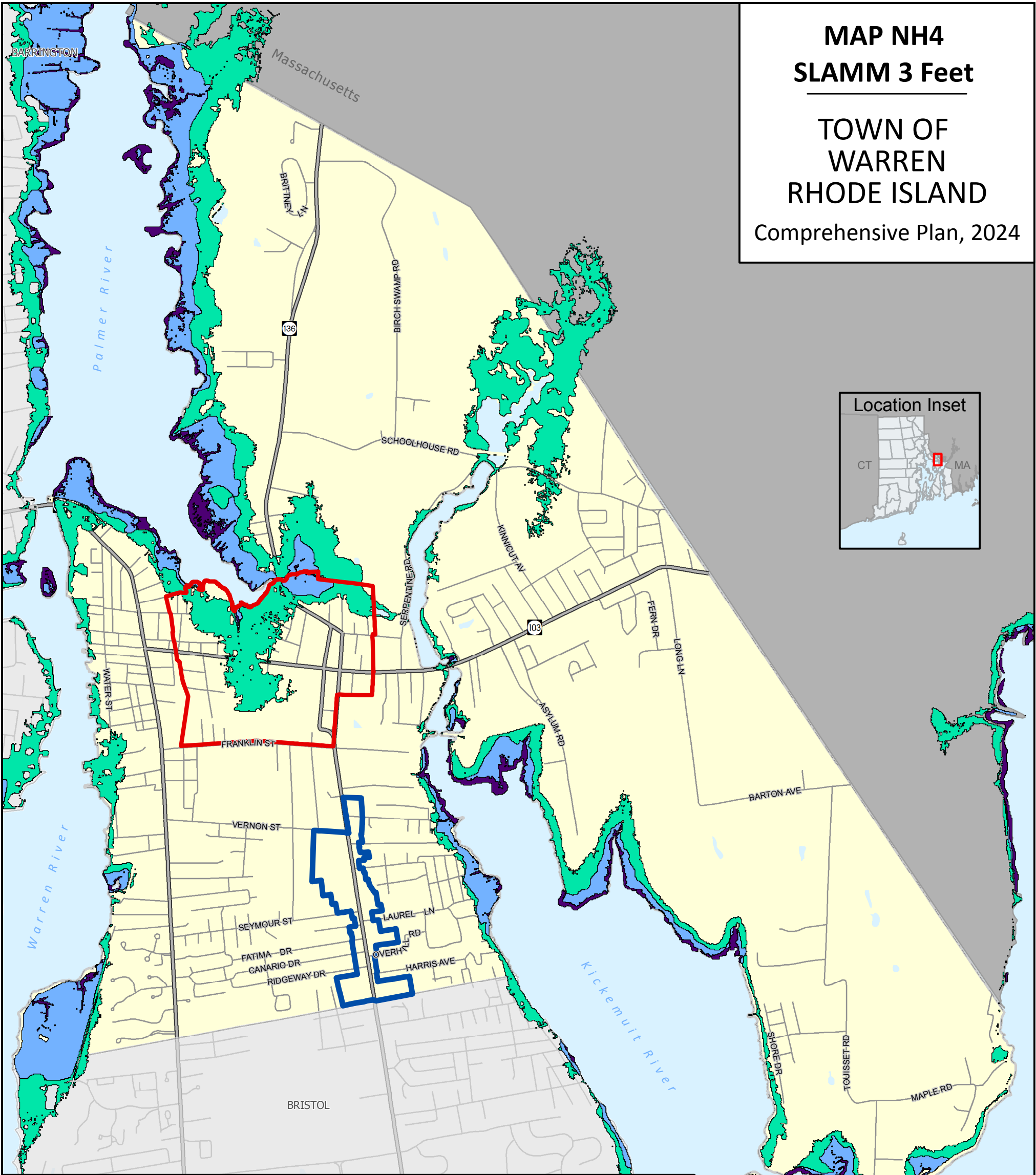
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(ABP+M,
4/24/2022)

MAP NH4
SLAMM 3 Feet

TOWN OF
WARREN
RHODE ISLAND
Comprehensive Plan, 2024

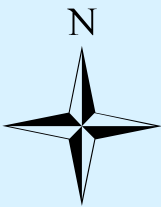


Map Legend

SLAMM (Sea Level Affecting Marshes Modeling) 3 Foot Sea Level Rise

- new tidal habitat
- persistent tidal habitat
- tidal habitat loss
- Market St Project Area Boundary
- Metacom Ave Project Area Boundary

- Highways
- Roads
- Water
- Warren
- RI Municipal
- Other States



0 0.125 0.25 0.5
Miles

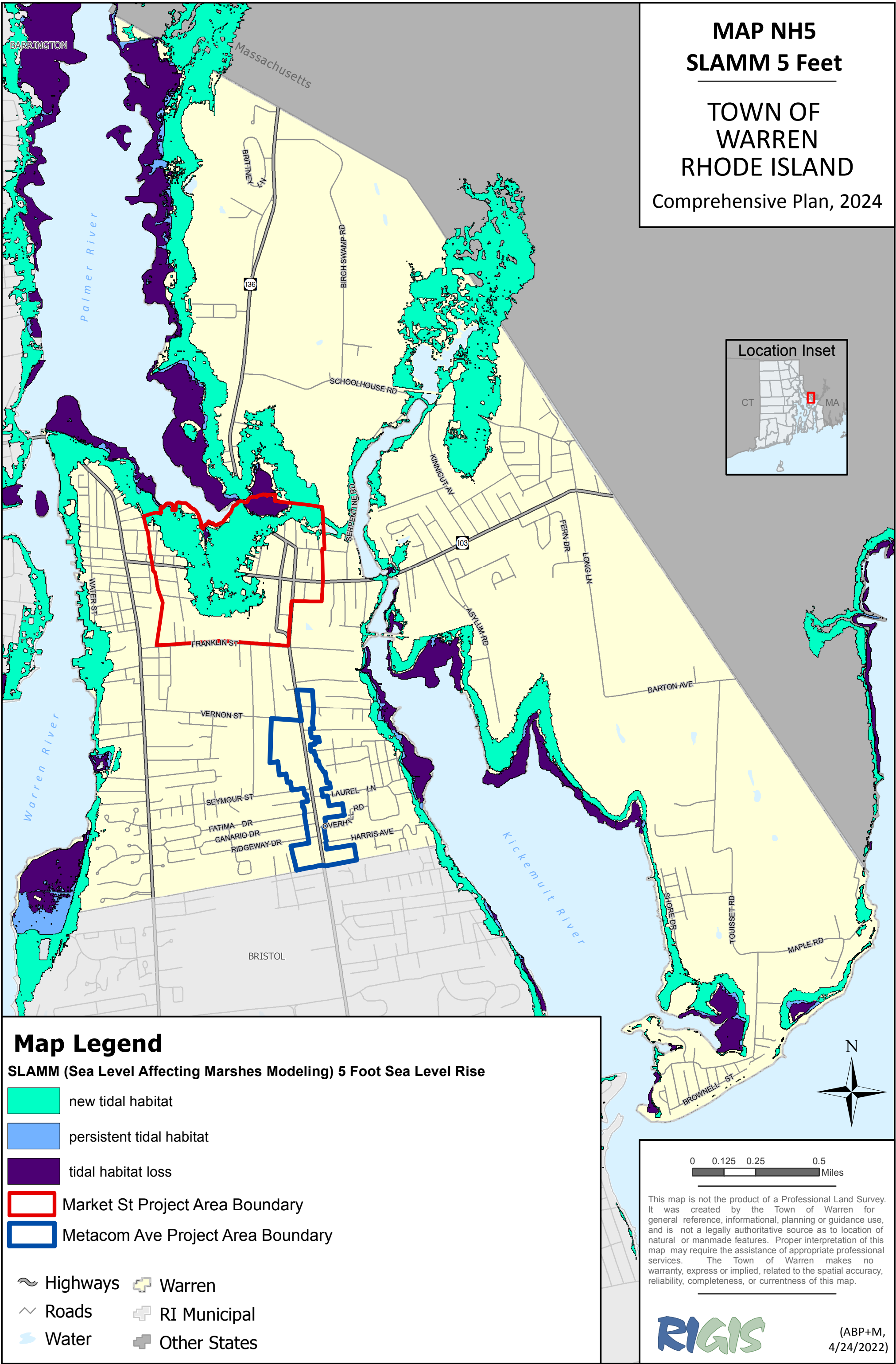
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RIGIS

(ABP+M,
4/24/2022)

MAP NH5
SLAMM 5 Feet

TOWN OF
WARREN
RHODE ISLAND
Comprehensive Plan, 2024



Map Legend

SLAMM (Sea Level Affecting Marshes Modeling) 5 Foot Sea Level Rise

- new tidal habitat
- persistent tidal habitat
- tidal habitat loss
- Market St Project Area Boundary
- Metacom Ave Project Area Boundary

- Highways
- Roads
- Water
- Warren
- RI Municipal
- Other States

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(ABP+M,
4/24/2022)

3. HISTORIC & CULTURAL RESOURCES

GOALS

- GHC1: IDENTIFY, PRESERVE AND PROTECT SIGNIFICANT HISTORIC PROPERTIES AND SITES IN THE TOWN OF WARREN
- GHC2: FOSTER ECONOMIC VITALITY THROUGH THE PRESERVATION OF PROPERTIES WHICH CONTRIBUTE TO THE HISTORIC CHARACTER OF THE COMMUNITY
- GHC3: INTEGRATE HISTORIC PRESERVATION PLANNING INTO RELEVANT ASPECTS OF LOCAL GOVERNMENT AND DECISION-MAKING
- GHC4: INCREASE AWARENESS AND UNDERSTANDING OF THE TOWN'S HISTORIC AND CULTURAL RESOURCES AND HISTORIC PRESERVATION POLICIES AND PROGRAMS
- GHC5: SHARE AND CELEBRATE WARREN'S HERITAGE AND CULTURAL TRADITIONS FOR THE ENRICHMENT AND PLEASURE OF RESIDENTS AND VISITORS

HISTORIC & CULTURAL RESOURCES POLICIES AND IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PHCI. Protect and preserve historic and cultural resources through the use of design standards, Zoning regulations and other strategies	AHC1. Undertake a review of existing historic district boundary (expansion north, south and east) and regulations, including the demolition ordinance, to determine if local amendments and state enabling legislation are needed to better achieve the purpose
	AHC2. Adopt recommended amendments to local Historic District regulations including those that may be necessary to ensure compliance with § 45-24.1-10; remove the term "Voluntary" and "District" from the Commission name and regulations to bring greater clarity
	AHC3. Evaluate increasing the local historic tax benefit offered to encourage additional preservation and restoration of historic structures
	AHC4. Explore establishing new historic districts to preserve other areas of Warren of special historic and cultural significance, such as, South Main Street, Parker Mill neighborhood, Cutler Mills, Touisset Point, Windmill Hill/Kickemuit River and make recommendations
	AHC5. Amend regulations to allow for voluntary opting-in to the Historic District by property owners of historic properties outside of the boundaries of the Historic District
	AHC6. Create informational guide/s for the public and applicants that outline clearly the local regulations, programs, and guidelines of the Historic District Commission including tax incentives that are offered and make available on Town website for convenient access
	AHC7. Work with historic preservation partners to apply for grants to preserve, conserve and protect buildings, landscapes, or other artifacts of historical significance in Warren
	AHC8. Inform property owners of voluntary historic preservation easements offered through Preserve Rhode Island which will ensure their historic property will not be destroyed or inappropriately altered by future owners
	AHC9. Enact an ordinance for the protection of historic stonewalls to help retain rural town character

HISTORIC & CULTURAL RESOURCES POLICIES AND IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PHC2. Promote visually compatible infill development and redevelopment that is consistent in scale with its surrounding historic context	AHC10. Following implementation of form-based code for Metacom Project Area, consider expanding use of form-based code to other sections of Town, including the Historic District as a complement to historic district regulations
	AHC11. Adopt context-based design standards for new construction and significant physical alterations to existing structures within the Historic District, using the National Trust guidelines
	AHC12. Require an advisory opinion by the Historic District Commission and opportunity for public comment for proposed physical alterations to town-owned historic structures and sites
PHC3. Support efforts to identify, recognize, share and celebrate the history and heritage of Warren	AHC13. Utilize as a resource and update as needed Warren's comprehensive historic and cultural resources inventories
	AHC14. Support application submissions for National Register listing for eligible historic properties, districts, and archaeological resources
	AHC15. Support and promote community events that celebrate the cultural traditions, heritage and history of Warren
	AHC16. Seek Rhode Island Historic Preservation and Heritage Commission designation as a Certified Local Government (CLG) and apply for CLG grant funding; first ensuring that Warren's local historic district zoning complies with § 45-24.1-10 to be eligible
	AHC17. Review and post to Town website information about the Town's natural, historic and cultural resources prepared by partners and volunteers

HISTORIC & CULTURAL RESOURCES POLICIES AND IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PHC4. Proactively safeguard historically significant structures and sites from the effects of climate change and natural disasters	AHC18. Complete a prioritized risk-assessment analysis to determine which historic properties, archeology sites and cemeteries in Town are most endangered by the effects of sea-level rise and flooding
	AHC19. Establish guidelines for historic property owners on preservation-sensitive mitigation options; Coordinate with the RIHPHC to identify and seek options and resources to assist owners of historic buildings to flood-proof or elevate their property while preserving the historic integrity of the property and district
	AHC20. Investigate temporary storm protection barriers and other measures for historic district property protection preceding an anticipated flood event
PHC5. Prioritize and incentivize adaptive reuse, restoration of historic buildings and prevention of demolition by neglect	AHC21. Adopt an adaptive reuse ordinance that encourages the reuse of historic structures when original uses are no longer suitable or marketable
	AHC22. Inform property owners / private developers of state and federal historic tax credits, and other available financial incentives for the adaptive reuse of historic structures
	AHC23. Set up a revolving fund to be used in the rehabilitation of historic buildings utilizing, for example, TIF (tax increment financing) funds from Metacom Avenue redevelopment
	AHC24. Establish an ongoing façade improvements loan and/or grant program to assist and encourage property owners of historic properties to make historically appropriate updates
	AHC25. Explore establishment of a real estate transfer tax to be paid by a buyer of real estate property at the time of purchase to be dedicated to a local fund for historic preservation prioritizing creation of affordable housing
	AHC26. Increase monitoring and enforcement efforts of neglected historic properties

INTRODUCTION

Warren is a small town with a heritage tied to its water-related history and harbor and its rural atmosphere represented by farms and open spaces. Historic Downtown Warren contributes significantly to the character of the town. Local historic preservation advocates have worked tirelessly to retain the town's history and preserve historic structures. Their success has resulted in a strong sense of pride of place for the residents of Warren and spurred revitalization and private investment in restoration of surrounding properties. Revitalization of Downtown Warren has reaped quality of life and economic development benefits, attracting a significant number of businesses and tourism.

Warren must prioritize retaining its unique coastal and historic character by ensuring that new development is designed in a way that augments and does not detract from its historic, cultural and scenic resources. Development not in keeping with the scale and character of the vernacular of the historic context in which it is sited will have negative impacts on Warren's historic fabric and scenic landscapes. Warren must ensure proper regulatory measures are in place and adhered to in order to prevent inappropriate development incongruous with the special character of historically significant areas of Warren.

The Town recognizes and celebrates the upcoming fifty-year milestone for the listing of the Warren Waterfront Historic District to the National Register of Historic Places. It is the intent that this Comprehensive Plan Update will serve as an instrument to continue and build upon the successful historic preservation programs and activities of Warren over the last half century.

The following table includes policies to promote the stated goals of the Historic and Cultural Resources Element of this Comprehensive Plan. Implementation actions are also listed within the table. The Implementation Program, Chapter II of this Comprehensive Plan, assigns a responsible party or parties, timeframe, and priority level for each of the implementation actions.

HISTORICAL RESOURCES INVENTORY

The Town of Warren has one district and one individual property listed on the National Register of Historic Places. See Map HCI Historic and Cultural Resources which identifies the approximate boundary of the Warren National Register historic district and site, as well as historical cemeteries.

National Register of Historic Places

- Warren Waterfront Historic District, listed to the National Register in 1974, updated & expanded 2003
- Warren United Methodist Church/First Methodist Church (and Parsonage amendment), 27 Church Street, listed to the National Register in 1971

WARREN WATERFRONT HISTORIC DISTRICT

The district encompasses almost half a square mile and is bounded, approximately, by the Warren River on the west and north; Main Street and the East Bay Bike Path on the east; and sections of Franklin, Campbell, and Wheaton Streets on the south. Over 300 documented

historic buildings dating as far back as the mid-eighteenth century are located within this largely intact historic district. Besides the large number and variety of individual historic buildings, the eighteenth-century layout of the streets and wharves and the ongoing vitality of the working waterfront add to the cohesiveness and importance of this district.

WARREN UNITED METHODIST CHURCH/FIRST METHODIST CHURCH

Built in 1844, the United Methodist Church in Warren is a two-story Greek Revival with a dramatic steeple and spire. It is the first Methodist church in Rhode Island and is an architectural landmark located in the heart of Warren's Historic District.



View from Town Hall of Downtown Warren

A town-wide survey of historic resources was published by the Rhode Island Historical Preservation Commission in April of 1975. The 1975 survey recommended three districts and nine individual properties as being worthy of National Register of Historic Places status. They are as follows:

- Main Street Commercial District
- Barton Avenue – Touisset Road District
- Serpentine Road – Kickemuit River District
- Burr's Hill Park (before 1621), South Water Street
- Butterworth House (1728), Child Street & Long Lane
- George Cole House (c. 1860), 18 Turner Street

- William Cole House (c. 1840), 97 Child Street
- George Hatch House (c. 1855), 963 South Main Street
- L. B. Hatch House (c. 1860), 901 South Main Street
- Mason Farmhouse (c. 1850-1870), north side of Maple Road
- Louis R. Seymour House (c. 1870), 976 South Main Street
- Captain Benjamin Usher House (c. 1780), 1080 South Main Street.

During the 2011 Spring Semester, graduate level historic preservation planning students at Roger Williams University prepared a Historical and Cultural Resources Plan for the Town of Warren to be used to inform the Comprehensive Plan. The Plan suggested the following district and properties as being eligible for listing on the National Register and recommended that they be documented and nominated.

- Burr's Hill Park/Greene's Landing District, South Water Street
- Mason Farmhouse (c. 1850-1870)
- The Flaggy (1895), 7 Jacob's Point Road
- Fireproof House (c. 1915)
- Augustus H. Fiske House (1921)
- Country Club Cleansers (c. 1950), 260 Child Street

There may be additional historic properties and sites beyond those identified above that may also be eligible for designation, such as 35 Kinnicut Avenue.

Sowams

The Town of Warren has recently taken significant steps to better recognize its precolonial history. In 2021, the Warren Town Council adopted a Land Acknowledgement statement in recognition of its Indigenous origins. The Land Acknowledgement was authored by an American Indian Study Committee formed by the Town Council in 2020 and was approved by the Pokanoket Nation Council. It is believed to be the first municipal Land Acknowledgement in New England. A new entrance sign to the Town will reference Warren as “Sowams, the home of the Massasoit Ousamequin who welcomed the Pilgrims in 1621”. In addition to the Acknowledgement, the Town has also installed a new interpretive marker about it in front of Town Hall.



Burr's Hill

Warren has significant archeological resources, including Burr's Hill (between Main and Water Streets) which was a Royal Pokanoket burial ground from the 1500s to the 1700s. Its presence indicates that a sizable Pokanoket village may have existed nearby.

Kickemuit River Crossing/Windmill Hill Historic District

This historic area is noteworthy more for historic events and sites than for historic structures. The area is bounded on the north and east by the Massachusetts border, on the south by the old Fall River Railroad and on the west by Birch Swamp Road. Along the Massachusetts border are Margaret's Cave (where Roger Williams stayed after fleeing Boston) and King's Rock, site of the National Grinding Stone. The oldest surviving house in Warren, built by Levi Haile in 1682, still stands on Market Street. To the south along the Kickemuit River was the location of a "sweat," a hut where indigenous people came to cleanse body and soul. Many significant events involving early white settlers and the Pokanokets took place in this area--including the Massasoit's 1653 sale to Hugh Cole and others of the first tract of the land later incorporated as the town of Sowams. Warren's first houses were built here but were destroyed during the war in 1675. Warren's oldest cemetery, dating from 1690, located on Serpentine Road along the Kickemuit River. The district also contains Windmill Hill, the site of the windmill that was moved to Portsmouth, and the Ice Pond, just north of the reservoir. The reservoir itself was used for ice production and an ice storage house building was located along Serpentine Road. The BCWA discontinued using the reservoir as a drinking water supply in 2011, and its treatment plant was decommissioned in 2019. Priority should be made to maintain abutting lands held by the BCWA as open space.

Touisset Neck Historic District

This rural area extends from the old Fall River Railroad south to Mount Hope Bay, bounded on the east by the Massachusetts border and on the west by the Kickemuit River. With the exception of two summer colonies started in the early 1900s, and recent suburban growth, Touisset has remained rural in character. The area contains several large historic farms and houses dating from the 1700s. The largest farm still in operation is

Manchester's Farm, once known as "Gardener's Ideal Farm," comprising over 330 acres. Several farms have been protected from future development in perpetuity through the purchase of development rights.

LOCAL HISTORIC PRESERVATION PROGRAMS AND POLICIES

Existing programs for the protection of historic structures in Warren includes the work of the Historic District Commission and local historic district regulations. The Warren Historic District Commission acts as a design review board for work performed on the exterior of an historic property. Owners of historic properties can qualify for a local real estate tax credit up to 20% of the cost of exterior restoration work and cancellation of construction permit fees. Eligible properties are either located within the Historic District, shown on Map HC2, or are at least 100 years old. The Warren Historic District Commission also reviews applications for alterations and demolition permits within the Historic District as outlined within Warren's Demolition of Historic Buildings Ordinance. A review and update of the Historic District Ordinances is a top priority in the short-term along with public education regarding the regulations and program.

The Town currently has two ordinances that control the Commission's authority and purpose. Both ordinances are within Chapter 4 – *Building and Building Regulations*. The first ordinance is Article VII. - *Voluntary Historic Preservation Program*. This is where the WVDC is established and its responsibility to facilitate the tax incentive program is assigned. The second relevant, and arguably more significant, ordinance is Article II Division 2. *Demolition of Historic Buildings*. Within the ordinance entitled "*Demolition of Historic Buildings*" regulations regarding exterior alterations of historic structures exist including the requirement of the Commission's review and approval. Some simple amendments and reorganization would improve the process and further the goals of the Historic District Commission.⁵ Updating should also involve removing the term "Voluntary" and "District" from the Commission's name to more accurately reflect the work of the Commission and the regulations. Defining what projects are required and qualify for review before the Historic Commission and allowing for minor alternations to be approved administratively is an additional recommended part of the regulatory updates to be considered.

Due to a recent ordinance passed in 2020, the Town has the ability to tax certain commercial property owners who are not using or actively marketing their buildings for use. The goal is to encourage property owners to fill their vacant structures, particularly highly visible commercial structures located in the Downtown Historic District, so that they become assets to the community again. Several historic structures within the Historic District were the impetus to implementing this policy including the Old Stone Bank at the corner of Main and Market Street, The Liberty Street School and the former Second Story Theatre on Market Street. There are other buildings including storefronts that are vacant, however, mixed use buildings with residential above do not currently apply to this non-utilization tax policy. The Town will implement other measures to incentivize the use of vacant storefronts.

⁵ Article II Division 2. Demolition of Historic Buildings must be amended to read "Alteration and Demolition of Historic Buildings." Currently, a property owner must search within the section titled, "Demolition of Historic Buildings" to find they cannot alter an exterior of a historic home without the Commission's approval. Amending the title as noted will avoid confusion and unnecessary expense and work for the property owner and the Town.

THREATS TO HISTORICAL RESOURCES

Some of Warren's most significant historic structures within and outside of the Historic District are located within areas susceptible to inundation due to sea-level rise and storm surge. A RIHPHC sponsored report completed in 2015 estimated a total of 223 National Register listed or eligible properties within Warren are located within FEMA Flood Zones. Map HC2 displays flood zones over parcels located within the Downtown Historic District. The report raised the concern that new infill construction and substantial improvements could interrupt the pedestrian streetscape with non-commercial ground floors and elevated entries. Specific standards and guidelines related to resiliency including wet and dry flood-proofing options will be considered and incorporated when preparing and approving local design standards.

An increased demand for housing will arise following the loss of housing units and displacement of residents from flooding due to sea level rise in the Market Street Area. This increased demand could put excessive development pressure on the historic district. Implementation of the strategies recommended in the Market to Metacom Plan would accommodate increased need for housing and direct that growth to underutilized land already developed along Metacom Avenue through Zoning mechanisms to encourage higher density development in that area. The Metacom Project Area and Market Street Project area are highlighted on Map HCI. Refer to the Natural Hazards and Climate Change Element for additional information and mapping on natural hazards and sea level rise.

STRATEGIES FOR HISTORIC PRESERVATION

Additional strategies for historic and cultural preservation include adaptive reuse, façade improvements program, tax policies, and land conservation, and are described below.

Adaptive reuse is the process of repurposing buildings for viable new uses and functions, other than those originally intended, to address present-day needs. Reuse allows for a building's continued use and helps it remain a community asset. Reuse brings both older and newer vacant or underutilized structures such as empty mills, former schools, large historic homes, and dilapidated strip malls back to life. The strategy of adaptive reuse supports the goal of historic preservation and has been successfully implemented in Warren.

The former Warren Manufacturing Company (1872) also known as the American Tourister factory, at 99 Main St., underwent a major rehabilitation for reuse as apartments, shops and retail space. A riverfront walkway and green space was also created as part of this redevelopment and adaptive reuse. The former Main Street School located at 691 Main Street within the Historic District was converted into Rhode Island's first culinary incubator launching nearly 300 businesses since 2014 and offers the space for community events including a weekly farmers market. Adaptive reuse is also currently planned for a key historic structure and site that serves as the gateway to Warren from Barrington. The former National Grid brick utility building is significant architecturally, historically, culturally and economically to Rhode Island. It serves as an example of the architectural legacies of the electrification of the state and sits on a prime location on the Warren River at the entrance to Historic Downtown Warren, along the East Bay Bike Bath and adjacent to the redeveloped American Tourister factory. In 2019, the

Town created concept renderings for redevelopment of the former National Grid Site. The concept includes two additional buildings on the site, along with permeable parking and an extension of the Riverwalk from the Tourister site.

While Historic Downtown Warren has experienced significant revitalization and has become a top destination for dining and shopping. Some properties remain in disrepair and/or contain underutilized or vacant space. The Town will establish an initiative that would provide grants or loans to targeted property owners to assist them with improving the appearance and usability of buildings in the District, prioritizing the Main Street area.

The Rhode Island Historical Preservation & Heritage Commission administers a Certified Local Government (CLG) Grant Program for municipal historical preservation activities. To qualify for Certified Local Government status, a community must have a historic district zoning ordinance and a historic district commission. Through the certification process, local communities make a commitment to national historic preservation standards. Select grants for historic preservation are eligible to communities listed as Certified Local Governments, of which 18 local communities in Rhode Island are currently designated. Eligible projects for grant funding include identification and evaluation of significant historic and archaeological properties, the nomination of eligible properties to the National Register, historic preservation plans and certain education-related activities. The goal of the CLG Program is to facilitate state and local government cooperation with Federal partners to promote nationwide preservation initiatives. Warren will seek Certified Local Government status to become eligible for funding through this program.

Volunteer organizations and partnerships have been key in land conservation efforts including the purchase of development rights, a successful strategy in preserving historic landscapes of Warren. Refer to the Recreation and Open Space Element and the Natural Resources Element for additional information including inventories. A distinguishing feature of Warren's historic landscapes and agricultural history are fields lined with stone walls. Additional regulations are necessary to ensure protection of the remaining historic stonewalls in Warren. Regulations should focus on protecting those historic stonewalls which are located within public view, along roads, and serve as boundary walls. Provisions could require that any alteration, relocation, or removal of historic stonewalls must first obtain approval of the Town and that new stonewalls be constructed using the methods and material of historic stonewalls found locally. The subdivision regulations should encourage preservation of stonewalls serving as boundary lines.

LOCAL HISTORICAL AND CULTURAL RESOURCES PRESERVATION PARTNERS

Volunteer groups play an important role in preservation of historic and cultural resources within Warren. There are several nonprofit volunteer organizations with the shared goal of historic preservation. A listing and description of some of the organizations is located below.

WARREN HERITAGE FOUNDATION

The Warren Heritage Foundation endeavors to protect, restore, and maintain buildings, structures, sites, and open spaces possessing historical and architectural significance in Warren. The Warren Heritage Foundation is dedicated to awarding and managing financial grants in the town. In 2013, a group of residents established the Warren Heritage Foundation to promote the maintenance of the town's historic structures and

cultural sites. Since its founding, WHF, has awarded more than \$70,000 in matching grants to five buildings: Methodist Church, Masonic Temple, Baptist Church, George Hail Library and Warren Armory.

THE WARREN PRESERVATION SOCIETY

The Warren Preservation Society is dedicated to historical preservation in the town of Warren, Rhode Island by preserving its architectural and cultural resources and educating the community about the history of the town. The WPS Marker Program recognizes buildings that are at least 75 years old and illustrative of the historic character of Warren. Over 120 markers have been placed on historic structures in Warren. WPS has also been collaborating with other local historic organizations and businesses to install a series of public markers that are intended to educate the public on Warren's history and culture. The Oyster Industry Marker (Water/Baker Streets), Warren Armory Marker (Jefferson Way), Middle Passage Marker (Town Wharf) and a marker at Burr's Hill Park have been installed. In 2011, The Warren Preservation Society with the Town Department of Public Works restored Parsonage Way also known as Stingy Alley.

CHARLES WHIPPLE GREENE MUSEUM

The Charles Whipple Greene Museum located in the George Hail Free Library located at 530 Main Street collects, maintains, and preserves documents, artifacts, graphic images and other items relating to Warren's history. Designed in the Romanesque Revival style by the Providence architectural firm of William Walker and Sons, the current building was constructed in the style of Henry Hobson Richardson between 1887 and 1888 and was restored in the late 1970's. The collection is being digitized to be accessible online.

HISTORIC WARREN ARMORY

The Historic Warren Armory was established to revitalize and restore the 1842 Warren Artillery Company Armory (11 Jefferson Street) to its historic architectural design and to maintain and operate the armory for use by the Warren community and all State residents and organizations for military, clinic and social activities and events. A small collection features the Revolutionary War cannons and limber given to the Warren Artillery Company for their support of the State Governor during the 1842 Dorr's Rebellion. Reputed to be designed by Russell Warren, the property is a one-story gable roof Gothic Revival Norman French structure with two hexagonal towers and is owned by the Town of Warren.

MASSASOIT HISTORICAL ASSOCIATION

The Massasoit Historical Association charges itself with the collection and preservation of historical data and relics pertaining to the town of Warren and



The Maxwell House

its history; to care for and preserve the Maxwell House. The Maxwell House, maintained by the association as a house museum, was built between 1752 and 1756 and is the oldest brick dwelling in Warren.

WARREN LAND TRUST

The Warren Land Trust protects open space for the benefit of the public and natural resources. The Trust recognizes the rich traditions of native people and acts as stewards of historically significant properties, maintaining them as much as possible in their natural state. The Warren Land Trust, formerly known as the Warren Land Conservation Trust, has acknowledged and promoted Warren's history with the protection and naming of conservation lands (The Haile Farm Preserve, Sowams Meadow Preserve, Jacob's Point and Toweset Landing) and by incorporating historical information on the signage/trail map installed at The Haile Farm Preserve.

Preserve Rhode Island

Preserve RI can assist with preservation real estate projects –acquisition, rehabilitation, and protection. An historic preservation easement is a legal agreement that ensures the historic and architectural qualities of a property will not be destroyed. Several regional non-profit organizations including Preserve RI offer historic easement programs as a means to protect historic properties and landscapes in perpetuity, ensuring that subsequent owners follow its terms. Preserve Rhode Island can also help with Community Preservation Response, advocating to protect Warren's historic assets.

SUPPORTING DOCUMENTS AND RESOURCES

The following two documents are recognized as historic and cultural resources inventories for Warren, additional guidance documents and links to local historic and cultural resources reports and relevant local websites are also included in the list of resources below.

Historic Preservation Plan for the Town of Warren, RI. Roger Williams University. May 2011.

Statewide Historical Preservation Report: Warren, 1975, 1636-882. Rhode Island State Archives.

Warren 250th Anniversary Commemorative Book was published in 1998 by a committee (Warren 250th Anniversary Committee) established by the Warren Town Council. It documents 250 years of Warren's history.

The Discover Warren website maps and describes notable historic structures.

Historic Warren connects people with the historical sites, museums and collections.

The Sowams Heritage Area website provides historical information across several communities including Warren.

Historic Coastal Communities and Flood Hazard: A Preliminary Evaluation of Impacts to Historic Properties. Youngken Associates for Rhode Island Historical Preservation and Heritage Commission and City of Newport, RI. 2015.

“Regulating New Construction in Historic Districts” By Eleanor Essor Gorski, AIA, National Trust for Historic Preservation

Market to Metacom: Adaptation and Economic Development Plan, Final Report, Prepared by Fuss & O’Neill for the Town of Warren, December 29, 2021.

Rhode Island Historical Cemeteries. The Rhode Island Historical Cemetery Commission is permanent advisory commission to study the location, condition, and inventory of historical cemeteries in Rhode Island and to make recommendations to the General Assembly relative to historical cemeteries. This website offers many resources and information regarding historic cemeteries in Rhode Island including a database that includes details on the sixteen within Warren.

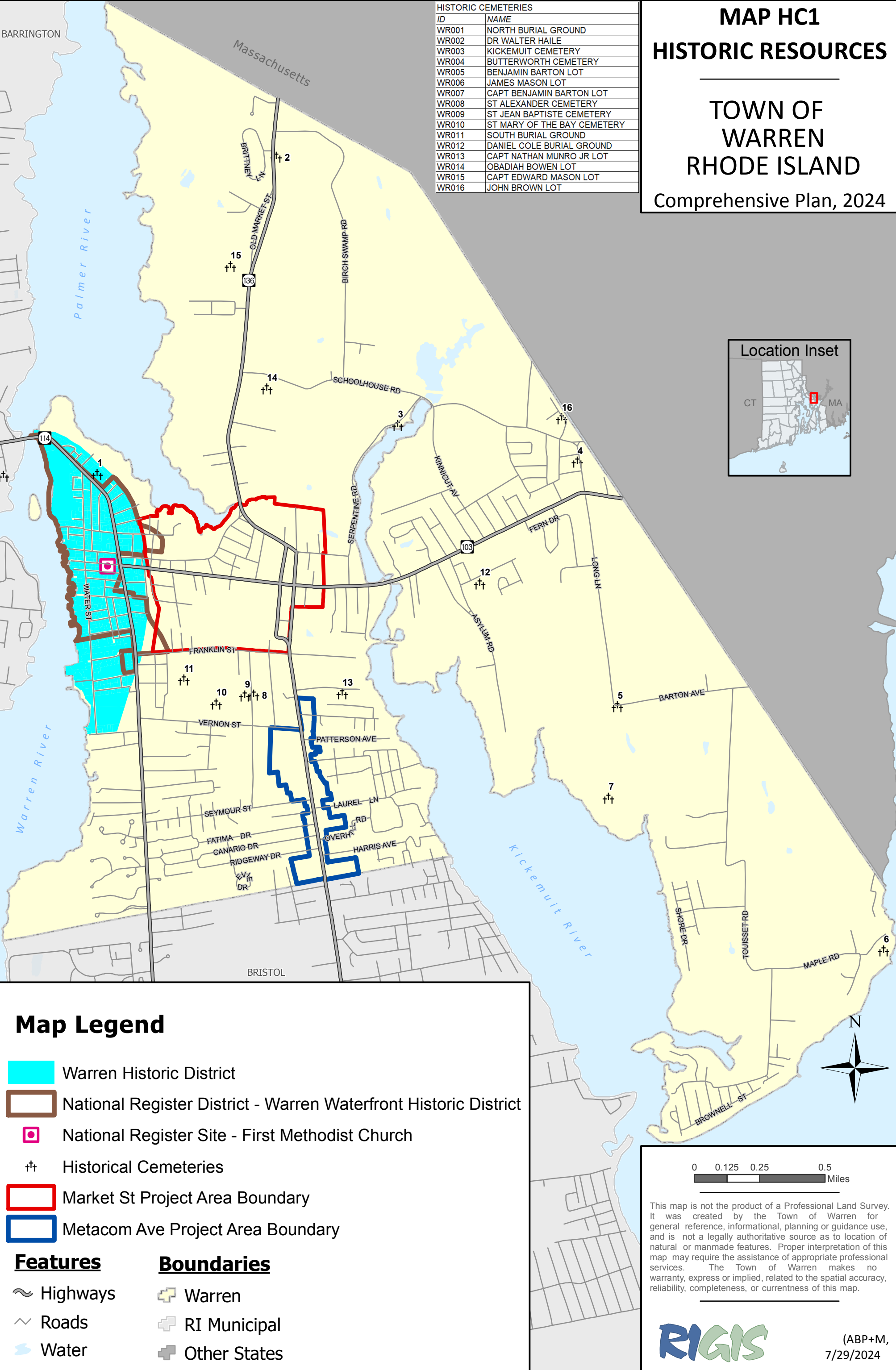
Rhode Island Tree Council. Rhode Island Champion Tree List. December 8, 2019. There are 144 trees listed as species champions in the State and Warren is home to two, a Katsura tree and a Black Oak.

State Guide Plan

The State Guide Plan is Rhode Island’s centralized and integrated long-range planning document. The State Guide Plan is not a single document but a collection of plans that have been adopted over many years. It comprises many separately published elements covering a range of topics.

Protecting Our Legacy of Buildings, Places, and Culture: An Historic Preservation Plan for Rhode Island, State Guide Plan Element 210

Resilient Warren’s Historic & Cultural Resources Element directly supports the goals and stated objectives of the State Guide Plan, Element 210, specifically: locate, identify, document, and evaluate Rhode Island’s historic properties; protect historic buildings, areas, and archeological sites from the effects of climate change and natural disasters; and protect historic buildings, areas, and archeological sites from inappropriate alteration, neglect, and demolition. Several implementation actions listed under relevant policies within *Resilient Warren* will advance these state’s objectives for historic preservation including the actions listed under policies PHC3, PHC4, PHC5 which address identification of historic properties, climate change, and demolition by neglect, respectively.



Historic Cemeteries	
ID	NAME
WR001	NORTH BURIAL GROUND
WR002	DR WALTER HAILE
WR003	KICKEMUIT CEMETERY
WR004	BUTTERWORTH CEMETERY
WR005	BENJAMIN BARTON LOT
WR006	JAMES MASON LOT
WR007	CAPT BENJAMIN BARTON LOT
WR008	ST ALEXANDER CEMETERY
WR009	ST JEAN BAPTISTE CEMETERY
WR010	ST MARY OF THE BAY CEMETERY
WR011	SOUTH BURIAL GROUND
WR012	DANIEL COLE BURIAL GROUND
WR013	CAPT NATHAN MUNRO JR LOT
WR014	OBADIAH BOWEN LOT
WR015	CAPT EDWARD MASON LOT
WR016	JOHN BROWN LOT

MAP HC1

HISTORIC RESOURCES

TOWN OF WARREN

RHODE ISLAND

Comprehensive Plan, 2024



Map Legend

- Warren Historic District
- National Register District - Warren Waterfront Historic District
- National Register Site - First Methodist Church
- ††

Historical Cemeteries
- Market St Project Area Boundary
- Metacom Ave Project Area Boundary

Features

- Highways
- Roads
- Water

Boundaries

- Warren
- RI Municipal
- Other States

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(ABP+M,
7/29/2024

MAP HC2 Historic District with Flood Zones

TOWN OF WARREN RHODE ISLAND



Map Legend

- Downtown Warren Historic District
- Historic District parcels

Flood Zone

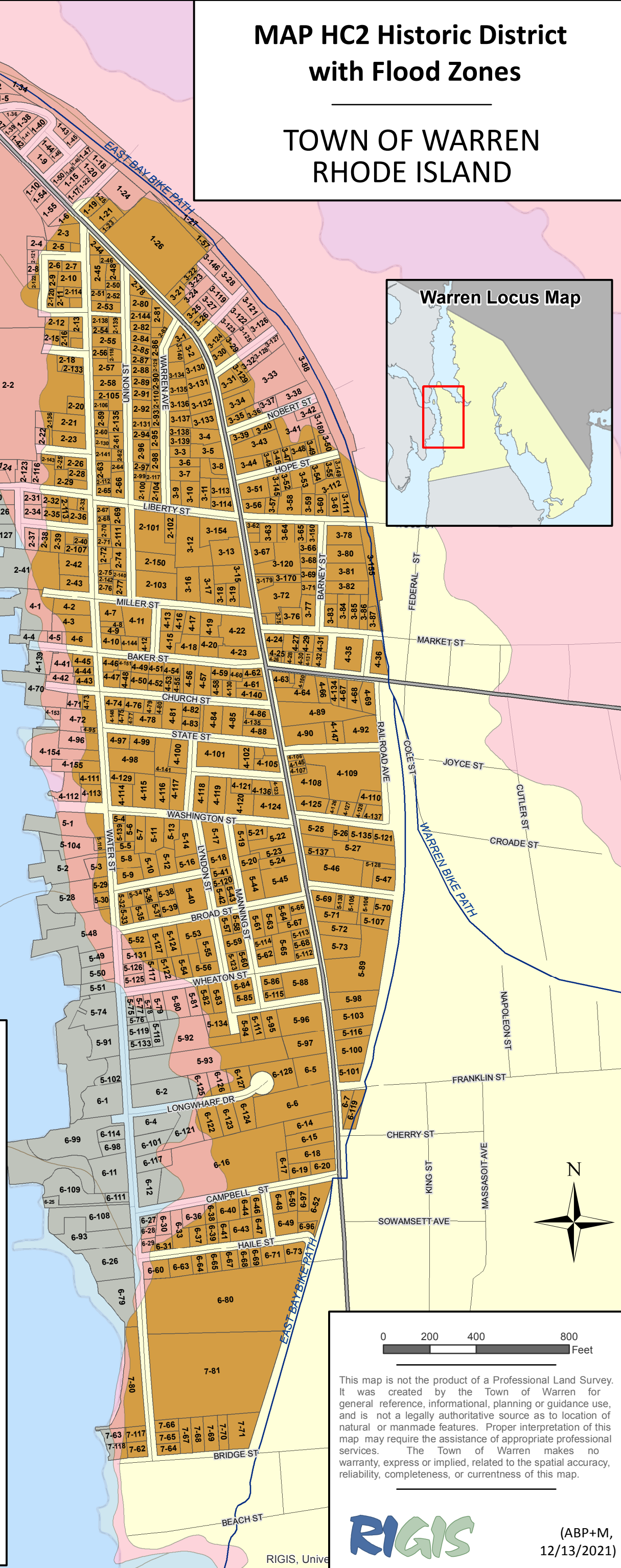
- AE
- VE

Features

- Highways
- Roads
- Water

Boundaries

- Warren
- RI Municipal
- Other States



RIGIS

(ABP+M,
12/13/2021)

4. NATURAL RESOURCES

GOALS

- GNR1: PROMOTE STEWARDSHIP OF THE WARREN ECOSYSTEM WITH GREENBELTS OF PERMANENTLY PROTECTED LAND OF HIGH ECOLOGICAL VALUE
- GNR2: MINIMIZE DAMAGE FROM SEA LEVEL RISE AND FLOODS THROUGH FLOODPLAIN PROTECTION AND RESTORING THE NATURAL FUNCTIONS OF WETLANDS
- GNR3: IMPROVE WATER QUALITY BY REDUCING EXISTING AND POTENTIAL GROUNDWATER AND SURFACE WATER CONTAMINANTS AND PRESERVE WATER QUALITY AND CAPACITY IN AREAS SERVED BY WELLS

INTRODUCTION

Warren’s natural environment adds immeasurably to its quality of life. As such, it is a priority of the Town to preserve and protect its natural resources by managing development in a way that mitigates impacts on those natural resources. *Resilient Warren: A Comprehensive Community Plan for Adaptation* identifies areas where development and redevelopment can be directed in order to avoid sensitive habitat as well as preserve community character. The Natural Resources Element provides an inventory of the Town’s significant natural resources including but not limited to water, soils, prime agricultural land, coastal features, floodplains, wildlife and habitats, and identifies policies and strategies for their protection. Natural resource protection is essential to ensure both the economic and environmental health of Warren.

The following table includes policies to promote the stated goals of the Natural Resources Element of this Comprehensive Plan. Implementation actions are also listed within the table. The Implementation Program, Chapter 11 of this Comprehensive Plan, assigns a responsible party or parties, timeframe, and priority level for each of the implementation actions.

NATURAL RESOURCES POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PNR1. Manage stormwater volumes, reduce pollutants, and mitigate untreated stormwater from entering the Kickemuit, Warren, Cole and Palmer rivers, as well as, Mount Hope Bay.	ANR1. Include Low Impact Development stormwater management requirements within the Form Based Code so that when redevelopment occurs in Metacom Avenue project area, non-structural BMPs, such as raingardens, will be required components of the design (ASF13)
	ANR2. Support projects that reduce the amount of impervious cover in both the Market Street Project Area and Metacom Project Areas
PNR2. Protect water quality through removal of potential sources of pollution from Market Street Project Area	ANR3. Remove environmental contaminants that are stored in the Market Street project area (fuel/chemical tanks & underground storage tanks)
	ANR4. Investigate best options and obtain cost estimates for removal or encapsulation of the landfill at Jamiel Park to prepare the site for future inundation due to sea level rise
PNR3. Preserve and restore natural areas along coastal and freshwater resources for protective buffering and flood storage	ANR5. Reestablish vegetated and wetland areas between developed areas and adjacent bodies of water listed as impaired
	ANR6. Implement a shoreline retreat strategy that will allow restoration of natural areas and opportunities to enjoy new waterfront recreational assets - "Marsh Park" (ANH14 & ARO4)
	ANR7. Communicate with CRMC local concerns regarding enforcement within their jurisdiction and encourage CRMC to enforce buffer requirements and restoration if property owners are in violation
	ANR8. Work with the RI League of Cities and Towns and state legislators to identify strategies and advocate for additional resources, such as additional personnel, to enforce state rules protecting natural resources
PNR4. Support infill development in areas with existing infrastructure and outside of areas prone to flooding	ANR9. Permit greater development density and a mix of uses within Metacom Avenue Project Area
PNR5. Preserve, protect and acquire open space for the purpose of preserving and enhancing the natural and visual resources of the Town	ANR10. Establish evaluation criteria based on conservation priorities to assist in decision-making regarding land acquisition for protection
	ANR11. Encourage eligible private property owners to take advantage of the State's Farm Forest and Open Space Program for a tax reduction and to explore selling development rights to governmental/non-profit entities (RIGL 44-27)
	ANR12. Maintain a conserved open space inventory within GIS

NATURAL RESOURCES POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PNR6. Protect water quality of the Palmer River to ensure that fishing and swimming can continue to be enjoyed	ANR13. Participate with and support the multi-state coalition efforts towards expanding a protected greenway and wildlife corridor along the Palmer River
PNR7. Proactively address a wide range of natural resource protection and conservation issues under the leadership and encouragement of an effective conservation commission	ANR14. Work collaboratively with partners such as the Warren Land Trust to achieve shared conservation goals
PNR8. Plant, maintain, and conserve community trees and increase the townwide tree canopy to maximize the public benefits provided by trees	ANR15. Assess existing tree resources and tree canopy, establish a town-wide tree canopy goal, adopt an updated tree ordinance, and provide information to the public regarding trees on the Town's website
	ANR16. Apply for support through RIDEM's Urban and Community Forestry Grant Program to conduct a comprehensive tree inventory and management plan with RI Energy to assess tree risk. Once completed, compile the tree inventory and tree canopy analysis completed by GIC to develop a town tree management plan.

INVENTORY

The following element summarizes Warren's natural environment including its geography, soils, agricultural land, wetlands and coastal resources. The benefits and constraints of these resources as they relate to community development are also discussed. Mapping for this element, outlined below, demonstrates that the town is rich in agricultural soils, wetlands, and shorelines.

- MAP NR1 *Wetlands* provides the extent, approximate location and type of wetlands⁶.
- MAP NR2 *Agricultural Soil* displays prime and statewide important farmland soils.
- MAP NR3 *Habitats* displays significant habitats including salt marsh, forest categories from the RI Ecological Classification System⁷, and Natural Heritage Areas⁸.
- MAP NR4 *Water Resources* displays surface waters, watersheds, wellhead protection areas, reservoirs and water protection areas
- MAP NR5 *SLAMM* identifies the marsh areas within the Town that are likely to be lost in the event of 1', 3', and 5' of sea level rise as well as areas within the community to which marsh is likely to migrate.
- MAP NR6 *Conserved Open Space* identifies permanently protected conservation areas both publicly-owned and private.
- Map NH1 *Flood Zones* illustrates the areas that would be inundated in the event of a 1% and 0.2% storm as they appear on the most recent FEMA Flood Insurance Rate Maps.

The geography and natural systems of Warren are well defined and have strongly influenced settlement patterns. Though small in area, Warren has approximately 16 miles of coastline along the Palmer, Warren and Kickemuit rivers, and Narragansett and Mount Hope bays. The Kickemuit River has had a major influence on settlement and land use and separates several sections of the Town from each other. Warren's topography ranges from sea level to approximately 90 feet. The bay and rivers have sculpted a land area of low ridges separated by open water or lowlands that are characterized by high water tables and wetlands, generally unsuitable for development. Steep slopes do not present a major development constraint. Lack of slope, however, combined with overall low elevation leaves substantial acreage of Warren vulnerable to periodic flooding and persistently poor drainage.

⁶ According to GIS data, there are no wetlands within the Metacom Avenue project area and there are approximately 40 acres of wetlands in the Market Street area.

⁷ A detailed ecological communities map and database to serve multiple conservation needs including the State Forest Assessment and State Wildlife Action Plan prepared by Richard Esner, 2011.

⁸ Dataset developed as an aid in the identification and protection of plant and animal species listed in the RI Natural Heritage Database.

Soils

The Rhode Island Soil Survey provides comprehensive soil mapping and classification. It describes the physical and chemical characteristics of particular soils and assigns soils to a hydrological group. It also discusses the constraints and benefits of each soil type relative to such things as construction, septic system functioning, natural resource and agricultural management.

Soils that are either slowly permeable or have high water tables or both make up a majority of Warren and present constraints for onsite wastewater management systems. Excessively permeable soils may inadequately treat septic system effluent and therefore require a special design in order to prevent groundwater contamination and reduce nitrates.

Much of Warren consists of prime and secondary farmland soils. Some of this productive land has been built upon, especially in the more urban western portion of the Town. These soils are primarily in the Touisset Point area and the siting of active farming corresponds with the soil designations. A band down the center of the western area and extending into Bristol and out to the Kickemuit River is also designated as important farmland, however, with dense development, this area is effectively now non-productive.

Several elements of this Comprehensive Plan, including the economic development element, emphasize the importance of preserving Warren's agricultural land. In addition to purchasing development rights, farming should be encouraged through tax incentives and farm-friendly zoning regulations. The Farm, Forest and Open Space Program (FFOS) allows enrolled property to be assessed at its current use not its value for development. The purpose of the law is to conserve Rhode Island's productive agricultural and forest land, and open spaces by reducing the chance it will have to be sold for development. There is currently 684.6 acres of land in Warren enrolled in the Farm, Forest and Open Space Program.

Conserved Open Space

The Warren Land Trust, formerly known as the Warren Land Conservation Trust, was founded in 1987, holds about 200 acres throughout Warren. Most of these properties are environmentally sensitive land such as wetlands or marshland. Four of the WLT properties are currently open to the public: Jacob's Point, Haile Farm Preserve, Toweset Landing and Tom's Island.

Increased land conservation efforts will move the Town towards achieving the natural resources goals established in this Comprehensive Plan. The following list provides priorities for land conservation. This will be finalized and formalized within an evaluation criteria form and utilized when the Town is considering land acquisition for conservation.

- Land Subject to Sea Level Rise
- Land Serving as Buffer to Water Resources / Wellhead Protection Areas
- Active Farmland or Significant/Important Agricultural Soils
- Abutting Existing Conservation Lands / Greenbelt
- Public Scenic Viewsheds

- Wildlife Habitat
- Wetlands

Habitat and Wildlife

Warren has a number of ecologically significant natural communities and is home to several rare species. The Palmer River in particular provides critical habitat for several rare species within the salt marsh along its shores. Wetlands along northern parts of the river support the Northern Diamond Back Terrapin, osprey and several uncommon plants. A small area of critical habitat is also located in Touisset Point in the vicinity of Chase Cove.

The State's Wildlife Action Plan provides an in-depth inventory of "Species of Greatest Conservation Need." For example, the seaside sparrow is a conservation concern in the state due to its salt marsh habitat which is being impacted by sea level rise. Salt marshes along the Barrington and Warren Rivers probably support the largest population of seaside sparrow in Rhode Island. Conservation actions listed in the State's WAC include developing a widespread, systematic monitoring plan to assess changes in their spatial distribution, abundance, and reproductive success. In addition, research needs to focus on the effects of salt marsh restoration efforts including the control of *Phragmites australis* on this and other species.

Many salt marsh systems have already been heavily degraded by past ditching, filling, and associated coastal development. Although salt marshes now receive regulatory protection in Rhode Island, unless additional conservation actions are taken to mitigate the impact of sea level rise on the high marsh, birds that breed in salt marshes will be negatively affected. The Saltmarsh Sparrow is considered by Partners in Flight to be the species of highest conservation priority in this region because a significant proportion of the world's population of this species breeds in the coastal marshes of southern New England.⁹ The Saltmarsh Sparrow has often been referred to as the "Canary in the Coal Mine" for rising sea levels due to global warming. It has successfully built nests only an inch above the ground for thousands of years. This species is dependent upon healthy salt marshes on the east coast of the US. Since the 1990s, 75% of the population has been lost.¹⁰

The Warren Land Trust is involved in active species monitoring of the Saltmarsh sparrow at Jacobs Point preserve documenting its breeding ecology for the past two years, and has identified this species at Haile Farm Preserve and Sowams Meadows Preserve. The Warren Land Trust volunteers have applied leg bands to 148 birds and documented the specific locations within Jacob's Point Salt Marsh where they build nests and forage. These vulnerable birds only live in healthy marshes on the east coast of the United States and could become extinct by 2040 due to flooding and habitat loss. Maintaining Jacob's Point as a healthy functioning habitat is critical for their survival.

Profiles for other bird species of conservation concern in the Wildlife Action Plan that are found within Warren include but are not limited to: spotted sandpiper, least tern, great egret, snowy egret, yellow-crowned night heron, black-crowned night heron. Warren is also home to several

⁹ [Home - Partners in Flight](#)

¹⁰ [Saltmarsh Sparrow Research Initiative - SALSri.org](#)

species of bats that are included in the WAP and the following amphibians: Northern leopard frog, wood frog, loggerhead turtle, Atlantic green turtle, spotted turtle, leatherback turtle, Kemp's Ridley turtle.

Mentioned within the State's Wildlife Action Plan is the Atlantic Coast Joint Venture (ACJV), a partnership of government agencies and conservation partners, which has designated nine Waterfowl Focus Areas in Rhode Island where the conservation of waterfowl is particularly important. One designated area, the Hundred Acre Cove and Warren and Palmer Rivers, includes a portion of Warren. The Palmer River marshes are described as "high quality and largely unditched." This wetland system includes Belcher Cove and a portion extends into Massachusetts, and as such, preservation of this area would be well suited for a joint effort. The area has been designated by the US Fish and Wildlife Service as a Significant Coastal Habitat and identified as important wetland under the Emergency Wetlands Resources Act. It provides breeding, and migratory habitat for waterfowl located in the Atlantic flyway. Nesting species of special interest include Canada Goose, Mallard, and American Black Duck. In addition to the large number of waterfowl, the wetlands of the Warren/Palmer River provide habitat for a large number of other migratory birds with more than 56 species having been observed using marshes for feeding and resting during migration. The greatest threat was identified as the high demand of residential development along the shore in Rhode Island which could result in fragmentation and degradation of the habitat. Recommendation of the ACJV's Plan included pursuing acquisition of abutting upland, notable "along the entire extent of the Palmer River."

A four-year restoration project of the salt marsh and meadows at Sowams Meadows Preserve on Market Street is currently underway and will provide multiple ecological benefits for water quality, wildlife, and habitat. The restoration effort is a partnership between the Warren Land Trust, the Natural Resources Conservation Service of the USDA (NRCS), and Save the Bay. NRCS protected 24 acres of degraded salt marsh and farmland in Warren in 2020 with a Wetland Reserve Easement. The property owner then donated the land to the Warren Land Trust, which owned an adjacent parcel. The two parcels being restored total 25.35 acres – 22.85 acres of wetlands and 2.5 acres of upland. This restoration will allow for salt marsh to migrate into the freshwater wetlands and undeveloped upland under future sea level rise scenarios. In the salt marsh, shallow channels (or runnels) will be excavated to restore healthy flows of salt and fresh water between the marsh, wetlands and upland. The runnels will lower the water level in impounded areas on the marsh platform and tie into selected existing ditches that are clogged with vegetation, which will be periodically cleaned to facilitate drainage of the marsh platform. Additionally, a freshwater wetland community will be restored in a portion of the existing hay fields. Within the other portion of the field, pollinator and native grass seedings will be established and invasive species management will be implemented.

Conserved habitat also includes the Audubon's Touisset Marsh Wildlife Refuge which offers picturesque views of the Kickemuit River. The property is full of hardwood forests, salt marsh, and open fields of flowers that attract butterflies. Deer and red fox are commonly sighted along with the following species of birds: Eastern Bluebird, American Woodcock, Great Egret, Osprey, Snowy Egret, American Redstart, Common Yellowthroat, Indigo Bunting, and Tree Swallows. Belted King Fisher and double crested cormorants are also found in Warren.

Community Forestry

Trees are critical urban infrastructure that are essential to public health, well-being, and community resilience. Trees in urbanized areas reduce summer heat, absorb air pollutants to reduce respiratory illness, while also mitigating flooding, improving drinking water and providing essential wildlife habitat and food. To provide better access to the benefits trees provide, the Rhode Island Department of Environmental Management partnered with the Green Infrastructure Center (GIC) to offer a program to support urban forest planning and planting in Rhode Island cities and towns. The Urban Forests for Rhode Island Technical Assistance Program offers tree canopy mapping, planning, management, planting, code and ordinance development, master plans, policy development, and community engagement and education. Warren is participating in the program in 2024 and tree canopy mapping is underway. Specific goals, recommendations, and mapping that follow from being part of the program will be incorporated into future Comprehensive Plan amendments.

MARKET TO METACOM

The area outlined on the maps contained within this Plan and referred to as the “*Metacom Project Area*” has been identified as where development and redevelopment can be directed in order to avoid sensitive habitat and preserve community character.

Impervious surfaces associated with residential and commercial development, failing septic and wastewater systems, and the use of fertilizer and pesticides contribute to a degradation of water quality in Warren. The high percentage of impervious area within the Metacom Project Area, 76%, results in large volumes of stormwater runoff directed to the Kickemuit River. Impairments listed for the Kickemuit River include fecal coliform and phosphorus. The increasing frequency and severity of precipitation/storm events due to climate change have the potential to overwhelm existing stormwater drainage systems that were designed and constructed to handle smaller flows and exacerbate water quality issues. A reduction in the amount of impervious cover and installation of BMPs will help to mitigate this and improve water quality of the Kickemuit River.

The Market Street project area is located within the Palmer River Subwatershed. The Palmer River is also a Special Resource Protection Water identified by the State of Rhode Island as a critical habitat for rare and endangered species, and a locally designated conservation area. The majority of stormwater from the Market Street project area drains untreated overland and through storm drains directly to the Palmer River. Water quality in the Palmer River is degraded with elevated concentrations of the nutrient nitrogen and fecal coliform bacteria, and reduced concentrations of dissolved oxygen. Because of the elevated fecal coliform concentrations, a total maximum daily load (TMDL) has been established for fecal coliform.¹¹

The low-lying neighborhood around Market Street will be inundated with increased frequency and intensity of storm events and increasing sea level rise. Increased runoff from climate impacts in this neighborhood will exacerbate water quality issues in Palmer River and Belcher Cove with increased volumes of stormwater runoff, which results in increased migration of pollutants and sediment into storm drains and waterways. Existing

¹¹ A TMDL is a regulatory calculation that sets the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant.

wetlands within the Market Street project area will become increasingly inundated, eliminating these valuable resource areas that provide critical habitat and natural coastal buffers.

This will also have significant environmental impacts related to repeated flooding of existing fuel tanks, septic systems, and building materials. The Market Street area currently contains 12 underground storage tanks and one RIPDES Sanitary Waste Site, according to the list of RIDEM-regulated facilities. As sea level rise increases, all of these sites will be regularly flooded at high tide by the year 2100. There are also an estimated 200 unregistered domestic fuel oil tanks as well as storage of household chemicals and fuel containers.

Another major potential source of pollution and concern is the Landfill at Jamiel's Park. It is predicted to be fully inundated during the 100-year storm in 2035 and partially flooded daily at high tide by 2050. Although the landfill site is capped, flooding poses a risk of contaminants leaching into Belcher Cove, and erosion of the soil cap and shoreline. Extreme storm events and significant floods may cause landfill waste along the shoreline to be exposed and enter the water.

Implementation of the Market to Metacom Plan will move the Town towards achieving the natural resources goals established in *Resilient Warren: A Comprehensive Community Plan for Adaptation*. The Market to Metacom Plan outlines the significant town-wide environmental benefits of implementation of the adaptation strategies. These include:

- A reduction in impervious surface in both the Market Street and Metacom Avenue project areas will improve water quality by filtering stormwater runoff through reestablished negotiated wetland areas and associated stormwater control structures
- Implementation of stormwater management BMPs resulting in water quality protection for the Kickemuit River
- Restoration of wetlands and the creating of a living shoreline with "Marsh Park" in the Market Street project area serving as habitat and a natural buffer to minimize wave action and flood storage areas protecting adjacent remaining structures and infrastructure
- Directing development away from prime farmland and other undeveloped land currently serving as habitat, farmland, water resource buffers
- Removal of environmental contaminants that are stored in the project area can result in significant risk reduction, avoiding the potential environmental damage that may result during flooding events.
- Removal or encapsulation of the landfill at the Town-owned Jamiel Park to prepare the site for future inundation and avoid potential pollution impacts.

In 2023 and 2024, the Town of Warren received \$400,000 of federal funding (SNEP) and \$1.25M from the Rhode Island Infrastructure Bank to help restore the coastline of Belcher Cove by Jamiel's Park. This can be considered the first step in implementing the recommendations outlined in the Market to Metacom Plan. The Jamiel's Park Restoration Project will stabilize approximately 1,000 feet of eroding shoreline, improve the Belcher Cove and Palmer River ecosystem through construction of a living shoreline and restoration of the salt marsh, stabilize four acres of park grounds, and provide passive recreational activities to Town residents for improved and expanded access to the waterfront. The project will also incorporate additional landfill capping activities. A third grant award is pending announcement and would cover the remaining funds for the \$2M project.

NATURAL RESOURCES CONSERVATION PARTNERS

The Warren Land Trust is a private, nonprofit organization founded in 1987 to protect open space in Warren and keep that land undeveloped forever.

Audubon Society of Rhode Island holds 66 acres in Warren, named the Touisset Marsh Wildlife Refuge and located at 99 Touisset Road, public trails are open sunrise to sunset.

SUPPORTING DOCUMENTS AND RESOURCES

Rhode Island Guide for Developing Municipal Street Tree Ordinances, Model Ordinance. RIDEM Division of Forest Environment, Urban & Community Forestry Program.

Rhode Island Natural History Survey The Rhode Island Natural History Survey connects people knowledgeable about Rhode Island's animals, plants, and natural systems with each other and with those who can use that knowledge for research, education, and conservation.

Rhode Island Wildlife Action Plan (RI WAP) | Prepared by Terwilliger Consulting Inc for the Rhode Island Chapter of the Nature Conservancy and the Rhode Island Department of Environmental Management - The 2015 RI WAP is a comprehensive plan that provides direction to and coordination of wildlife conservation efforts over the coming decade. It includes the Community Wildlife Conservation Guide: Implementing Rhode Island's Wildlife Action Plan in Your Community - A Guide for Rhode Island Communities, Conservation Groups, and Citizens Working to Protect Wildlife for the Health of Our Communities and Future Generations

State Guide Plan

The State Guide Plan is Rhode Island's centralized and integrated long-range planning document. The State Guide Plan is not a single document but a collection of plans that have been adopted over many years. It comprises many separately published elements covering a range of topics.

A Greener Path: Greenspace and Greenways for Rhode Island's Future, State Guide Plan Element 155

A Greener Path sets forth policies and program initiatives to create a system of state and local greenspaces and greenways, including natural corridors, trails, and bikeways. *Resilient Warren* supports this state guide plan element through goal NRI, policies and a specific implementation action (ANR13) to expand a protected greenway and wildlife corridor along the Palmer River.

Ocean State Outdoors: Rhode Island's Comprehensive Outdoor Recreation Plan, State Guide Plan Report 152.

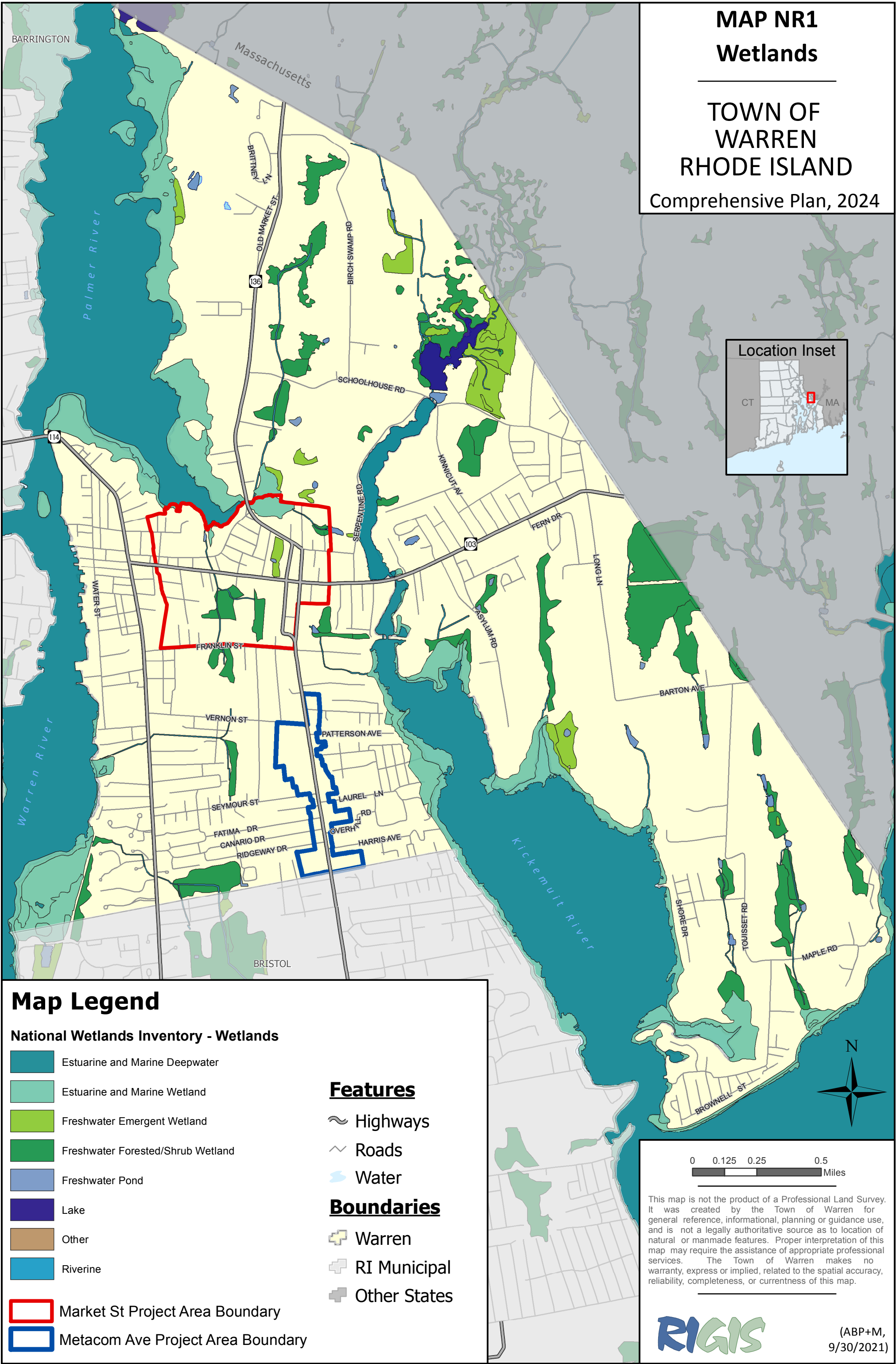
Ocean State Outdoors recommends actions aimed to provide opportunities to recreate in the outdoors while ensuring preservation of environmental resources. Warren's implementation action to create *Marsh Park* directly supports the stated goal in the RICORP, "Goal 2: Strengthen, expand and promote the statewide recreation network while protecting natural and cultural resources as well as adapting to a changing environment."

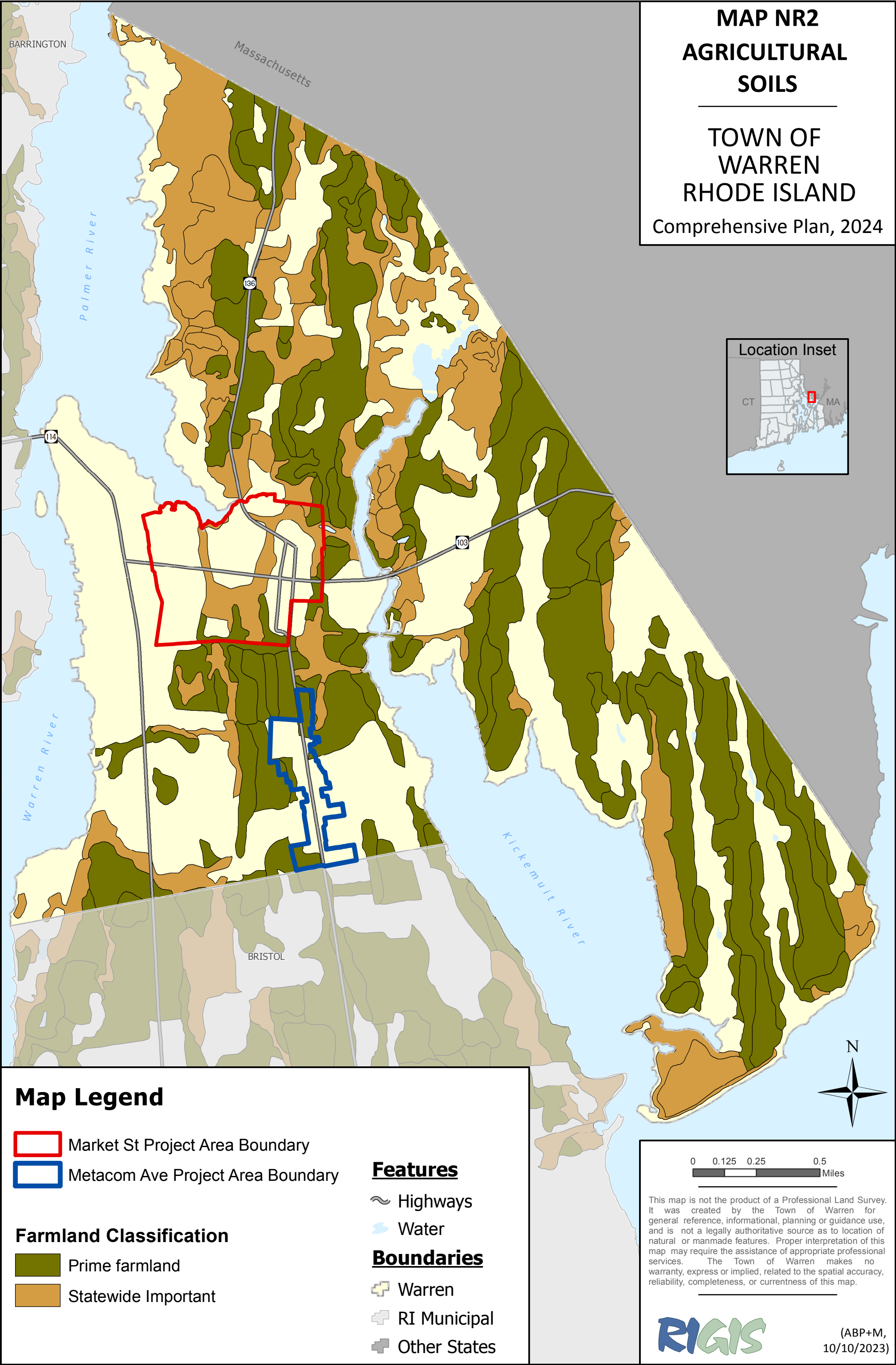
Water Quality 2035, State Guide Plan Report 731.

Water Quality 2035 promotes the broader adoption of sustainable approaches to managing stormwater, known as green infrastructure. Low impact development (LID) and green infrastructure strategies are identified in the State plan as a key focus for long-term stormwater management. *Resilient Warren* supports this State guide plan with inclusion of policies and multiple top priority actions specific to LID and green infrastructure in several elements including Natural Resources under PNRI. The Natural Resources Element of *Resilient Warren* greatly furthers the two broad goals of Water Quality 2035 to both protect and restore the quality of Rhode Island's waters and aquatic habitats with goal GNR3 and three policies specific to protecting water quality (PNRI, PNR2, PNR6) of the waterbodies in and around Warren including the Kickemuit, Warren, Cole and Palmer rivers, as well as, Mount Hope Bay. Water Quality 2035 references several times the federal Clean Water Act's "fishable-swimmable" goal to which PNR6 is in direct support.

MAP NR1
Wetlands

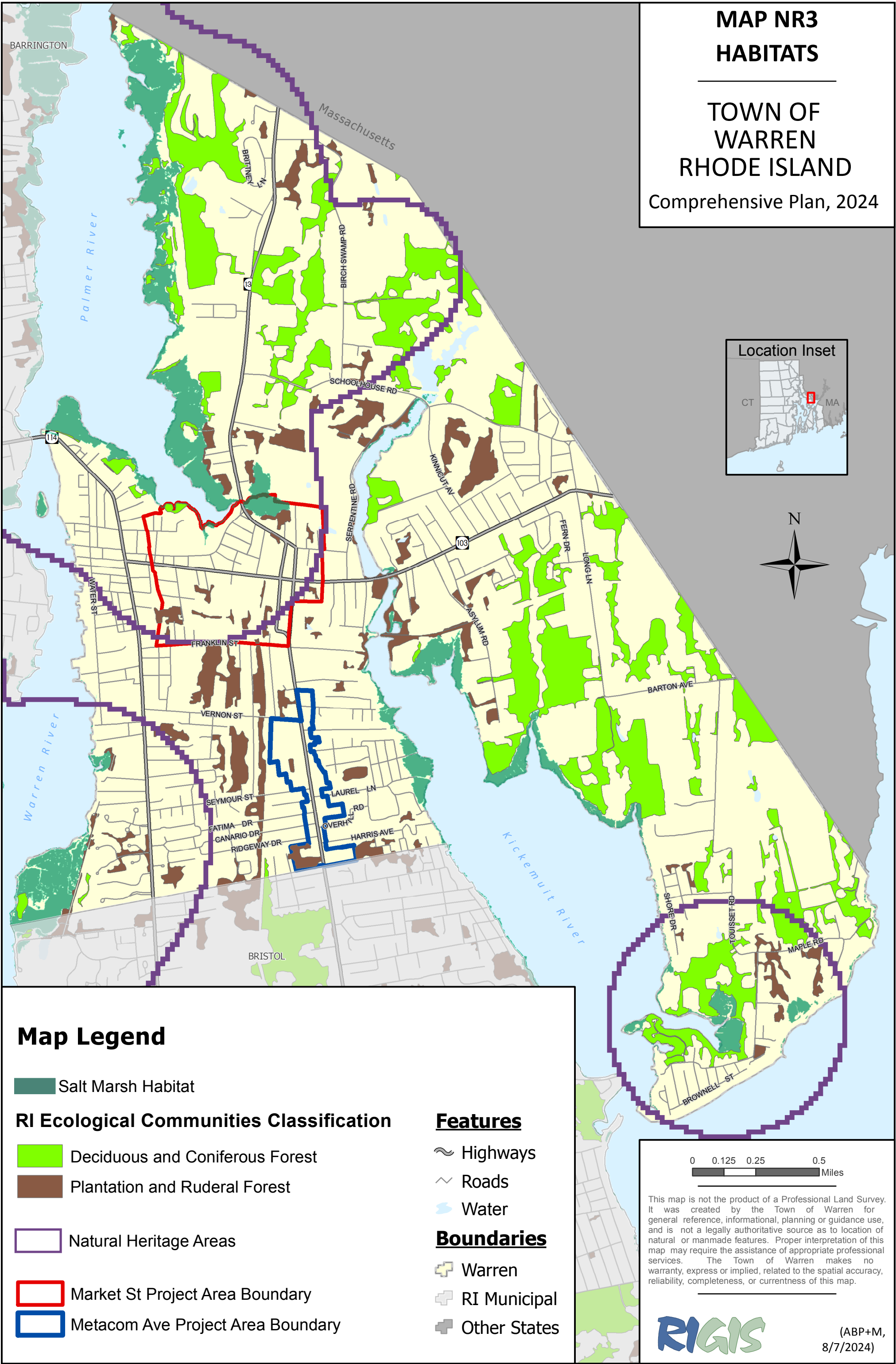
TOWN OF
WARREN
RHODE ISLAND
Comprehensive Plan, 2024





MAP NR3
HABITATS

TOWN OF
WARREN
RHODE ISLAND
Comprehensive Plan, 2024

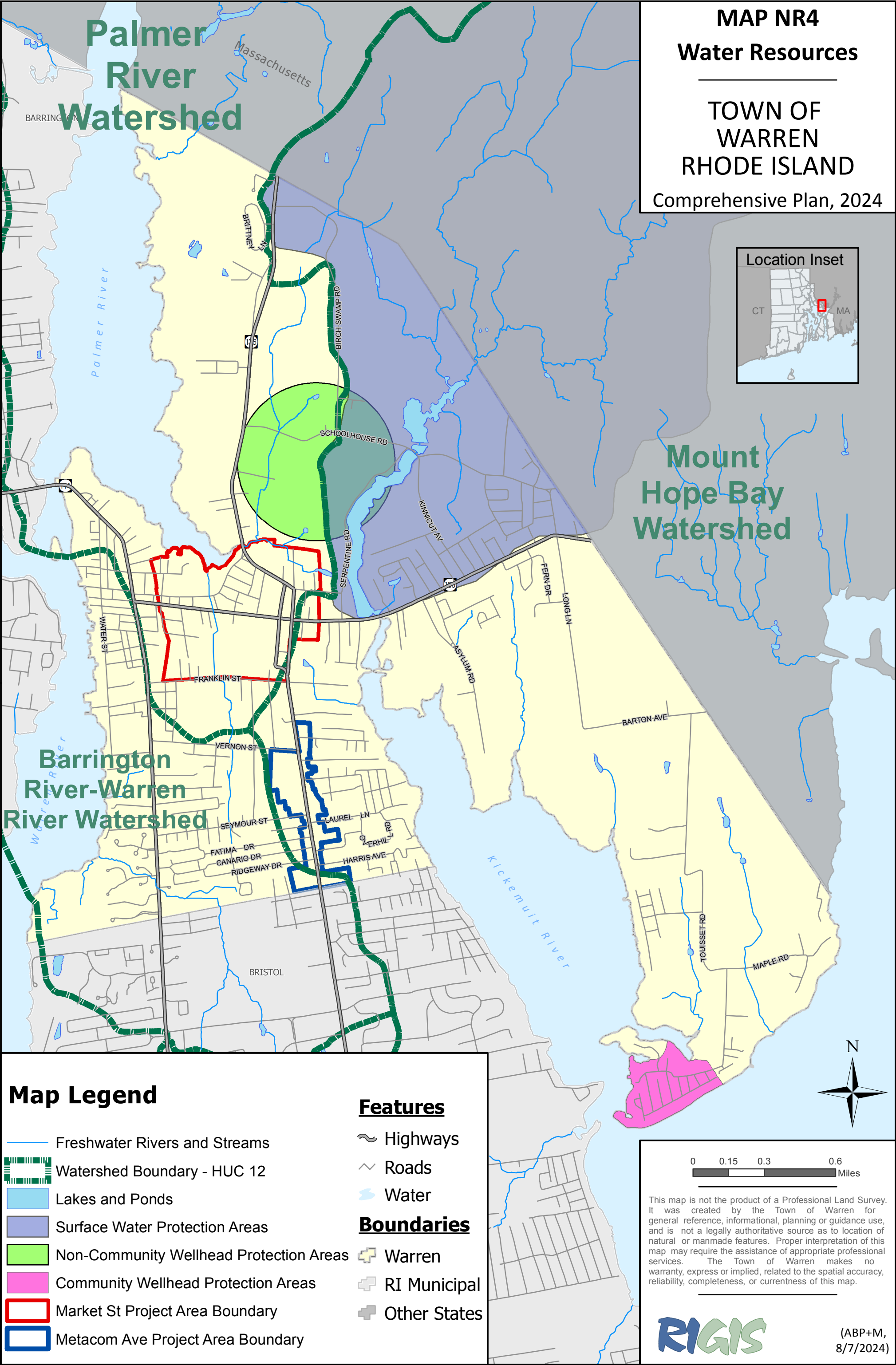


0 0.125 0.25 0.5
Miles

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RIGIS

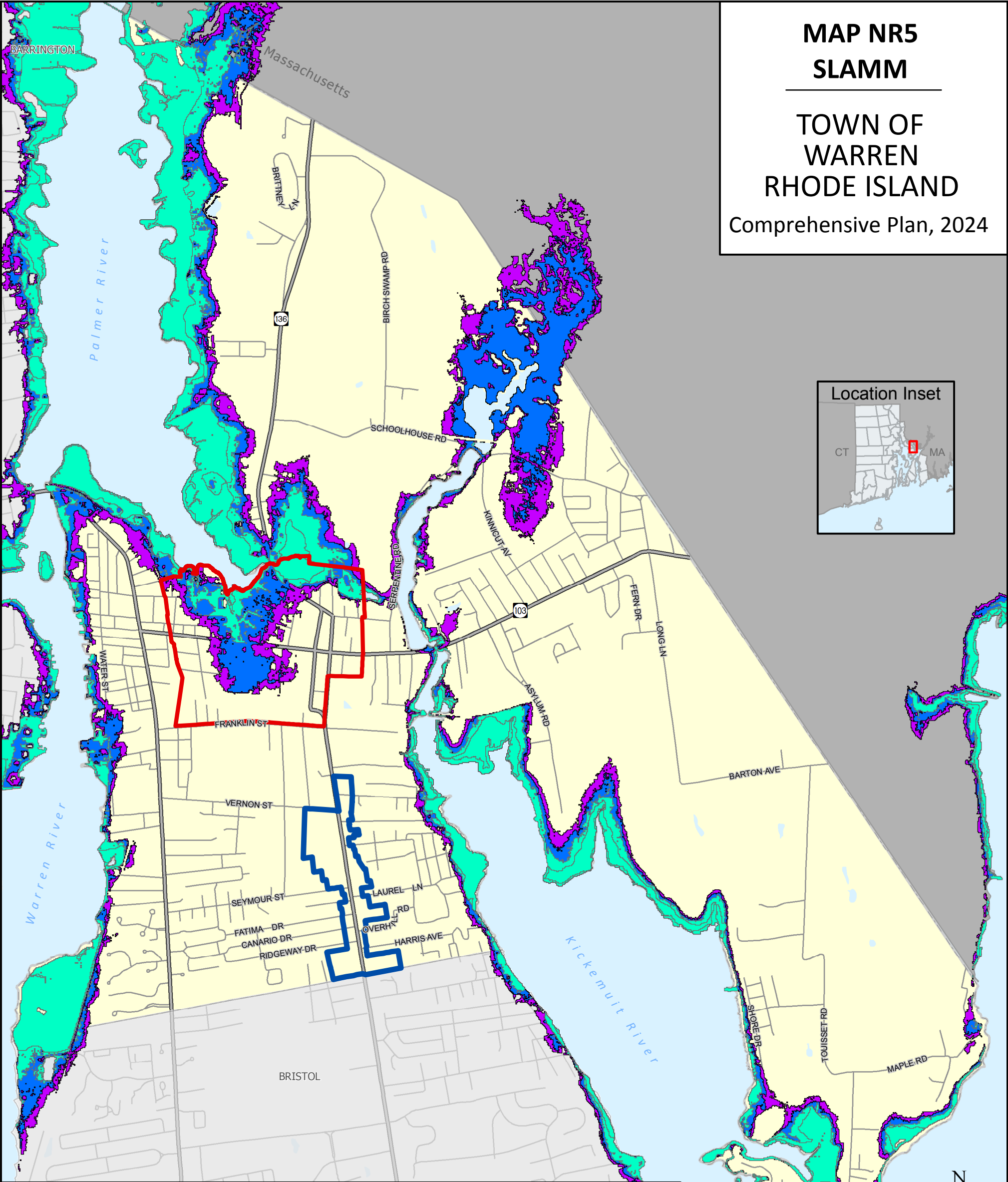
(ABP+M,
8/7/2024)



MAP NR5
SLAMM

TOWN OF
WARREN
RHODE ISLAND

Comprehensive Plan, 2024



Map Legend

SLAMM (Sea Level Affecting Marshes Modeling) 1 Foot Sea Level Rise

SLAMM (Sea Level Affecting Marshes Modeling) 3 Foot Sea Level Rise

SLAMM (Sea Level Affecting Marshes Modeling) 5 Foot Sea Level Rise

Market St Project Area Boundary

Metacom Ave Project Area Boundary

Highways

Roads

Water

Warren

RI Municipal

Other States

N

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Miles

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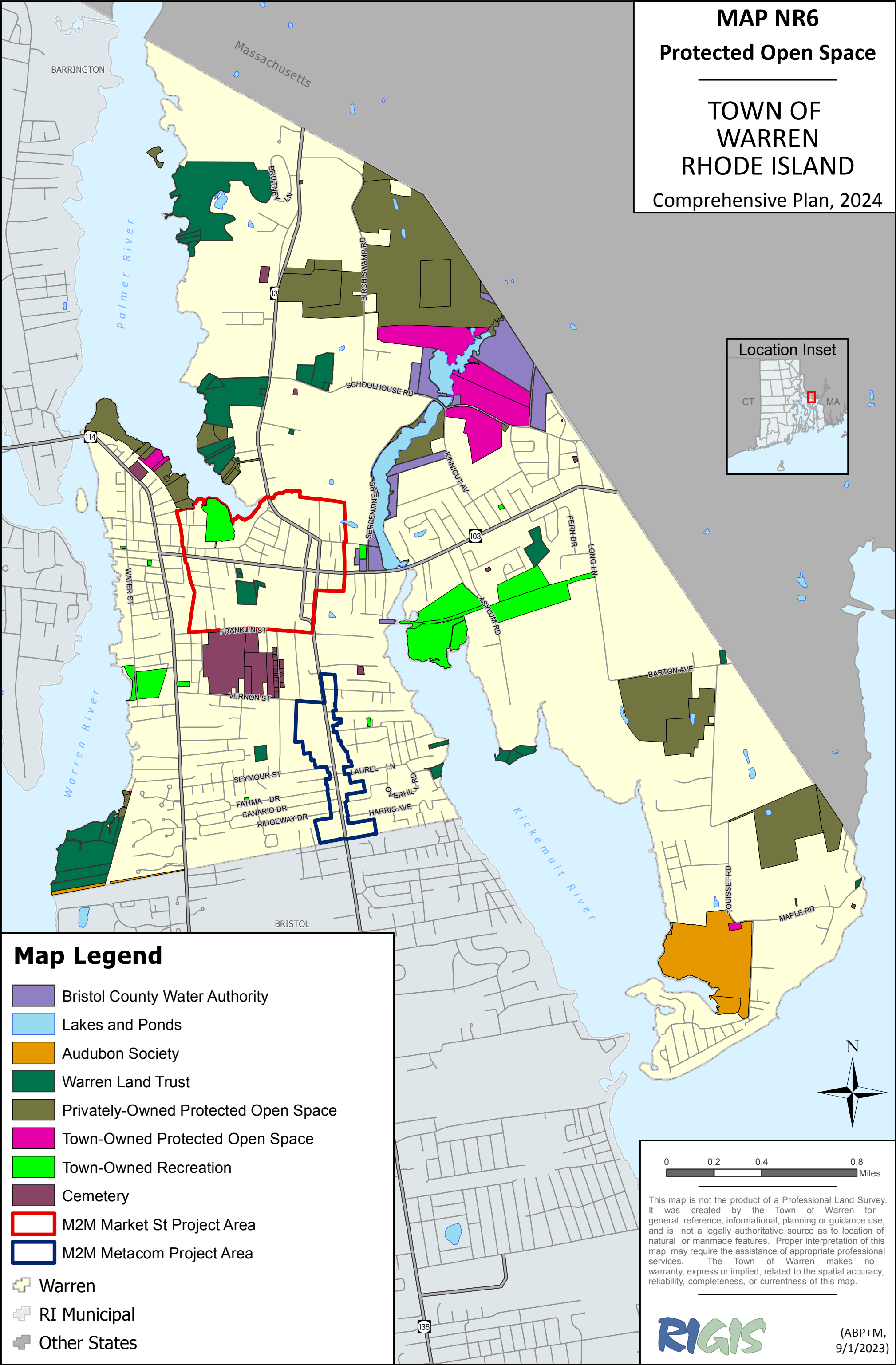
(ABP+M,
4/24/2022)

Warren Comprehensive Plan, 2024

54

MAP NR6
Protected Open Space

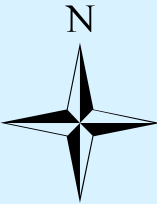
TOWN OF
WARREN
RHODE ISLAND
Comprehensive Plan, 2024



Map Legend

- Bristol County Water Authority
- Lakes and Ponds
- Audubon Society
- Warren Land Trust
- Privately-Owned Protected Open Space
- Town-Owned Protected Open Space
- Town-Owned Recreation
- Cemetery
- M2M Market St Project Area
- M2M Metacom Project Area

- Warren
- RI Municipal
- Other States



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(ABP+M,
9/1/2023)

5. RECREATION & OPEN SPACE

GOALS

- GRO1: OFFER A WELL-MAINTAINED AND GEOGRAPHICALLY DISPERSED NETWORK OF OUTDOOR RECREATIONAL AREAS THAT MEETS THE DIVERSE NEEDS AND INTERESTS OF RESIDENTS OF VARIOUS AGES AND ABILITIES AND ENCOURAGE INCREASED USE OF THESE ASSETS THROUGH IMPROVEMENTS AND PROMOTION
- GRO2: SAFEGUARD ACCESS TO THE SHORE THROUGH WATERFRONT PUBLIC RECREATIONAL SITES AND PUBLIC RIGHTS OF WAY
- GRO3: ACHIEVE RESILIENCY, ENVIRONMENTAL, AND RECREATIONAL BENEFITS THROUGH AN EXPANDED INVENTORY OF CONSERVED OPEN SPACE AND RESTORED COASTAL HABITATS

INTRODUCTION

The following element provides an inventory of Warren’s recreational assets along with an assessment of current and future recreational needs. Providing recreational opportunities is an important means of promoting public health and wellness for a community. The Recreation Department has the primary responsibility for providing recreational programming. Partners, such as the Warren Land Trust and the Audubon Society of RI, have helped to conserve a significant amount of land in Warren and provide public access to miles of maintained trails. Arguably the most significant recreational resource is Warren’s extensive shoreline which offers both active and passive recreational opportunities for residents and visitors while adding to the quality of life of residents and serving as an important driver of the local economy.

The following table includes policies to promote the stated goals of the Recreation & Open Space Element of this Comprehensive Plan. Implementation actions are also listed within the table. The Implementation Program, Chapter II of this Comprehensive Plan, assigns a responsible party or parties, timeframe, and priority level for each of the implementation actions.

RECREATION & OPEN SPACE POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PRO1. Preserve open space through land protection and encouraging infill development	ARO1. Work with partners reestablish open space bond fund and to acquire or purchase development rights to open space properties for conservation or recreation purposes
	ARO2. Permit residential land use at higher densities within Metacom Project Area/ Route 136 and other appropriate areas with existing infrastructure
PRO2. Consider vulnerability to natural hazards and sea level rise when locating or upgrading recreational facilities	ARO3. Update the 2018 Recreation & Parks Master Plan to make it consistent with the Market to Metacom Plan and reevaluate site recommendations and investments based on future potential inundation due to sea level rise
	ARO4. Implement a shoreline retreat strategy that will allow restoration of natural areas and opportunities to enjoy new waterfront recreational assets - "Marsh Park" (ANH14 & ANR6)
PRO3. Create recreational opportunities and public open spaces within currently underserved areas including the Metacom Project Area	ARO5. Incorporate open space dedication requirements within the new Form-Based Code regulations for major development projects within Metacom Project Area
	ARO6. Establish bicycle lane identified within the Market to Metacom Plan along Metacom Avenue and a multi-use trail on the electric easement of the Rhode Island Energy property (AT10)
	ARO7. Identify and prepare plans for the development of a splash park to offer outdoor recreation, interactive water play, and the opportunity to cool off during times of excessive heat to children in underserved parts of Warren
PRO4. Connect recreation, conservation and open space areas through a greenbelt system	ARO8. Improve connections from the Warren Bike Path through Long Lane to the Kickemuit River to Metacom Avenue, the East Bay Bike Path and adjacent neighborhoods (AT13)
	ARO9. Establish a Bike, Path, & Trails Committee tasked with developing a plan and map for a townwide network and system of paths, trails, bike lanes, etc. and destination nodes (AT18)
PRO5. Ensure sustainable operation, maintenance and management of the safest possible outdoor recreational assets	ARO10. Review and update as needed the Town's Passive Recreation Sites and Conservation Areas Ordinance
	ARO11. Develop a maintenance plan for town recreational facilities that establishes roles and responsibilities of the various town departments
	ARO12. Establish clear and concise field use policies to be enforced
	ARO13. Promote the town's open space and recreational areas through a variety of media to encourage the use of the sites by the public

RECREATION & OPEN SPACE POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PRO6. Avoid overlapping and overuse of athletic fields and invest in diverse opportunities for passive and active recreation	ARO14. Establish a priority list of park and recreation facility upgrades to include within the Town's Capital Improvement Program and to apply for grant funding
	ARO15. Identify new recreational programs and activities desired by the community; conduct a public survey as one mechanism to assist in this process
	ARO16. Reevaluate recommendations from the Recreation & Parks Master Plan, in particular, determination as specific needs for new athletic fields
PRO7. Repurpose underutilized land to create neighborhood recreation and open space amenities	ARO17. Develop a trail/pedestrian connection along the electric power line easement that runs north south through Warren
PRO8. Facilitate public access to the shore by ensuring passable conditions at designated shoreline rights-of-way	ARO18. Create a report that assesses conditions at public access to shore points and makes recommendations for improvements
	ARO19. Expand the public riverwalk created as part of the Tourister redevelopment south to the Town Beach and north to the Town line
PRO9. Make improvements to the Town Wharf so it can serve as an appealing and convenient gateway for transient boaters	ARO20. Add floats and facilities (bathrooms, showers, power, trash receptacles) for transient boaters.
	ARO21. Add historical signage and volunteer landscaping and beautification projects

RECREATION & PARKS MASTER PLAN

In 2018, the Town completed a Recreation & Parks Master Plan that analyzes existing and future recreational needs. The master plan focuses primarily on 41 public, Town-controlled and operated venues located at twelve properties, and provides a comprehensive analysis of existing conditions and recommendations for improving or the addition of new facilities throughout Warren.

The master planning process identified the need for new and refurbished athletic facilities to better support the myriad of sports programs that operate within the community, to kept pace with the increasing participation rates and changing popularity of sports, and to avoid overlapping and overuse of fields. There are limited realistic opportunities for field expansion at existing facilities, and therefore, the Town will need to look to other potential properties to address any poor playing conditions or demand for additional athletic fields. Athletic facilities for school district purposes could be located within Warren or Bristol.

Part of the master planning process included a survey to which many respondents expressed an interest in the development or improvement of other ancillary facilities at the various playing field properties, such as, support buildings, backstops, fencing lines, parking areas, children's playground equipment, lighting and irrigation.

The full Recreation & Parks Master Plan is located in Appendix B and is included for reference purposes only and not intended to constitute the goals and policies of this Comprehensive Plan. Given five years has passed since the Recreation & Parks Master Plan was completed, an updated assessment should be conducted prior to significant investments in or the development of new recreational facilities.

Anticipated sea level rise impacts will require reconsideration of the facilities and programming for recreational properties in Warren and some of the recommendations listed within the Recreation & Parks Master Plan. For example, one of Warren's major recreational facilities is located within the Market Street Project Area. Jamiels Park on Market Street encompasses 8.3 acres and includes a roller hockey court, softball field, two tennis courts, two basketball courts, a playground, restrooms, concessions, and storage. The Recreation & Parks Master Plan proposed \$1.8 million in improvements to Jamiels Park including expansion and amending of the natural turf field, refurbished courts, improved circulation, parking, lighting, as well as the replacement and improvements of associated amenities and buildings. The Recreation & Parks Master Plan also presents the concept of acquiring National Guard Center next to Jamiels Park for a community center but lists some drawbacks. This property is also located within the Market Street Project Area and subject to potential future inundation due to sea level rise (1 Ft High Tide Projection in 2070). The Town will need to reevaluate and determine which improvements are consistent with the vision of the Market to Metacom Plan and those that may not be a good investment when factoring in the site's vulnerability to sea level rise and the Town's long-term plan for retreat.

MARKET TO METACOM

Following the retreat strategy, the concept of “Marsh Park” is presented in the Market to Metacom Plan within the Market Street Project Area. Through phased relocation and restoration, natural wetlands buffers would provide new scenic passive recreational opportunities such as walking paths, bird watching, view platforms, and a kayak launch.

Implementation of the Market to Metacom Plan will also provide opportunities to create new green spaces along Metacom Avenue, a commercial corridor currently dominated by pavement. Although town-owned recreational properties that were a focus of the Recreation & Parks Master Plan are generally geographically spread out throughout the Town, the Metacom Project Area does not include recreational facilities or publicly-accessible open spaces. With the planned increase in residential units within the neighborhood, the Town will make the addition of recreational amenities within the area a priority. Two options include acquiring land within the Metacom Project Area for this purpose or requiring that developers incorporate recreational amenities within their projects when permitting major land developments. Such recreational assets could include a playground, connections to trails/paths, small publicly accessible pocket parks that incorporate open green space with seating, as well as, indoor recreational facilities and/or community center. For example, the Job Lot Plaza Conceptual Site Plan prepared as part of the Market to Metacom Plan includes a Common Green / Plaza, a landscaped green with buffer along Vernon Street, and a performing arts center.

The Towns of Warren and Bristol have joined together in an effort to investigate a trail connection which would link neighborhoods, open space and schools between the two towns via a bicycle and pedestrian path on the electric easement of the Rhode Island Energy (formerly National Grid). The Town of Bristol owns 100 acres of protected open space known as Perry Farm. Rhode Island Energy’s power line easement runs through this land and currently has a path beneath the lines that serves as a connection to other trails located within Bristol. In Warren, these power lines continue northward to Belcher’s Cove, with almost all the land beneath the power lines under the ownership of Rhode Island Energy. The Rhode Island Energy Utility Path directly abuts the Job Lot Plaza to the west. The location of a trailhead should be considered when redevelopment occurs in the future.

INVENTORY OF RECREATION, CONSERVATION, & OPEN SPACE

Map RI *Outdoor Recreation* identifies existing recreational sites and publicly accessible open spaces within Warren. A complete inventory of conserved lands is included within the *Natural Resources* element.

Trails

East Bay Bicycle Path

The East Bay Bike Path is the first multi-town State-owned bike path built in Rhode Island. The path follows the former Providence and Bristol Railroad. It travels 14.5 miles from India Point Park in Providence to Independence Park in Bristol, with approximately two miles running north / south through Warren. Replacement of bicycle path bridges between Barrington and Warren over the Barrington River and Palmer River is necessary.

Warren Bicycle Path

A little over a mile long from Long Lane to the Kickemuit River, the bicycle path follows an old railroad bed and runs along the Hugh Cole Elementary School and other recreational assets owned by the Town. Connection of this local bicycle path to the East Bay bicycle path is a priority.

Tourister Mill Riverfront Walkway

The newly renovated Tourister Mill complex offers a public walkway along the Warren River.

Touisset Marsh Wildlife Refuge

Within the Audubon Society of Rhode Island property, an approximately 1-mile perimeter loop trail crosses through hardwood forests, open fields, and salt march along Chase Cove and the Kickemuit River, as well as an outdoor art exhibit related to climate change.

Jacobs Point

The property is accessible via the East Bay Bike Path and abuts the Rhode Island Audubon's McIntosh Wildlife Refuge located in Bristol. The wooden boardwalk runs out and back from the bike path through a salt marsh and to the beach.

The Haile Farm Preserve

Several trails were created on the Haile Farm Preserve owned by the Warren Land Trust. A trailhead with parking is available at New Industrial Way. The property is located along the Palmer River.

Heritage Park

Located on Schoolhouse Road, Heritage Park is a town-owned property that grass paths cross open fields and is a haven for a diversity of birds.

Sowams Meadow Preserve

Twenty-six acres of wetland habitat along the Palmer River owned by the Warren Land Trust. A major restoration project is underway and future public access is planned and is to include trails and parking.

Water-Based Recreational Opportunities

Town Wharf

The Town is working on improvements to the Town Wharf on Water Street that will make the waterfront more accessible and appealing to visitors and increase tourism revenues. Following implementation of improvements to the seawall, the Town had planned for and is seeking funding for additional upgrades to the Town Wharf that would increase the number of transient boats that could be accommodated and offer facilities and services to boaters to improve this gateway to Warren's historic waterfront district. Planned improvement include:

- Adding several main floats and finger floats dedicated to transient boats of at least 26 feet, allowing as many as a dozen large transients to tie up at any one time.
- Adding bathroom, shower, trash and recycling receptacles, as well as power facilities for transient boaters.
- Installation of historical signage and volunteer landscaping and beautification projects in areas not otherwise designated for parking or transient facilities.



Warren Town Wharf



Warren Town Wharf

WARREN TOWN BEACH

Located at the south end of Water Street, the beach hosts a playground, bathroom facilities, kayak rack, outdoor showers, and a picnic area. Parking fees are charged Memorial Day through Labor Day when a lifeguard is on duty. The playground at the Town Beach was renovated in 2022 and new equipment was installed. The Town is in the process of constructing a new recreational facility comprised of several buildings to be located near the band shell at Burr's Hill Park. The project consists of a bathroom structure, a concession stand, and two buildings to be used for office and storage space for the Parks and Recreation Department.



Burr's Hill Park



Warren Town Beach

RIGHTS-OF-WAY TO THE SHORE

Safeguarding and maintaining the public's right to access the shoreline is a priority for the Town and its residents. A public right-of-way (ROW) to the shore is a piece of land over which the public has right to pass on foot, or if appropriate by vehicle, in order to access the tidal waters of Rhode Island. This right of passage is consistent with the use and condition of each particular site. Throughout Warren, neighborhood rights-of-way and

road ends provide public access to the Warren River, Kickemuit River, and Mount Hope Bay. Below is table listing the currently thirteen CRMC designated rights-of-way to the shore within Warren. Most of these rights-of-way are located within neighborhoods off of narrow roads not conducive to vehicular parking. An online interactive map application, developed by the URI Coastal Institute, can be used to navigate to CRMC-designated rights-of-way (ROW) to the shore.¹² The mapping site offers aerial imagery and photos of each location along with the ability to download the official designation files for each ROW.

CRMC ID	LOCATION	MEANS OF ACCESS	WATER BODY
R-1	73 MAPLE ST	ROAD END	WARREN RIVER
R-12	68 BEACH ST	ROAD END	WARREN RIVER
R-13	71 BRIDGE ST	ROAD END	WARREN RIVER
R-11	90 BAKER ST	ROAD END	WARREN RIVER
R-14	56-98 BARKER AVE	ROAD END	KICKEMUIT RIVER
R-2	43 PARKER AVE	PATH TO SHORE	KICKEMUIT RIVER
R-3	63 PATTERSON AVE	PATH TO SHORE	KICKEMUIT RIVER
R-4	98 HARRIS AVE	PATH TO SHORE	KICKEMUIT RIVER
R-6	55-61 SHORE DR	PATH TO SHORE	KICKEMUIT RIVER
R-7	29 SHORE DR	PATH TO SHORE	KICKEMUIT RIVER
R-8	17 SHORE DR	PATH TO SHORE	KICKEMUIT RIVER
R-7	3 SHORE DR	PATH TO SHORE	KICKEMUIT RIVER
R-10	1-7 TOUISSET POINT RD	PATH TO SHORE	MOUNT HOPE BAY

Additional important public access points to the shore to note include:

The Warren Conservation Land Trust property, known as Toweset Landing, offers public access to Mount Hope Bay at the end of Maple Road in Touisset (Plat 16, between lots 344 and 345). Recent amenities include two designated parking spaces and a town managed kayak rack.

Warren's only public boat ramp provides access to the Warren River and is located at the end of Wheaton Street, west of Water Street, by the Warren Sewage Treatment Plant. The boat ramp is in fair condition, is a bit steep, and there is limited parking.

BLUEWAYS

The portion of the Kickemuit River covered by the blueways maps is a broad tidal estuary in Warren and Bristol. At its widest, this part of the Kickemuit is over half a mile wide. It is a little over 2 miles from the head, below the dam that forms Warren Reservoir, to the mouth at Bristol

¹² CRMC-Designated Rights-Of-Way to the Shore Mapping Application, a collaboration between the URI Coastal Institute and the RI Coastal Resources Management Council.

Narrows, where the Kickemuit flows into Mount Hope Bay. The shoreline of the river is a mix of farmland, residential neighborhoods, and conservation land, including the Audubon Society of Rhode Island's Touisset Marsh Wildlife Refuge.

The **Warren Loop** paddle is a 4.75-mile loop starting at the north end of the estuary or along the western shore at the Harris Avenue access point. The loop takes you down one side of the river and up the other side.

The 6.5-mile **Warren-Bristol Loop** starts outside the narrows at the Mount Hope Fishing Access site and takes you north through the narrows, and then largely follows the route of the Warren Loop, before going back out through the narrows to the starting point.

RECREATIONAL PROGRAMS OFFERED BY THE TOWN

Warren Parks and Recreation Department

- Pickleball League at Burr's Hill Park Courts
- Coed Softball League at Jamiel Park
- Summer Camp at Burr's Hill Park, Mary V. Quirk and Town Beach
- Warren Dog Park - A fenced dog park north of Franklin Street along the East Bay Bicycle Path next to the RIPTA Park N Ride

RCOS PARTNERS

WARREN LAND TRUST

The Warren Land Trust protects open space for the benefit of the public and natural resources. The Trust recognizes the rich traditions of native people and acts as stewards of historically significant properties, maintaining them as much as possible in their natural state.

THE KICKEMUIT RIVER COUNCIL

The Kickemuit River Council is an all-volunteer non-profit organization founded in 1973 dedicated to the preservation, protection, and improvement of the Kickemuit River.

LOCAL ATHLETIC ORGANIZATIONS

The Town has several local athletic organizations including the Warren Youth Soccer Association, the Warren Little League, and the Warren Youth Wrestling Club. Several other regional athletic associations also serve Warren youth including the East Bay Warriors Football, East Bay Lacrosse, and Bristol Flag Football. The ballfield at Jannitto Park is owned by St. Mary's of the Bay and maintained by the Warren Little League.



Warren Little League Field

SUPPORTING DOCUMENTS AND RESOURCES

Allard Cox, M. (ed.). 2004. Public Access to the Rhode Island Coast. Rhode Island Sea Grant. Narragansett, R.I. 84pp.

CRMC-DESIGNATED RIGHTS-OF-WAY TO THE SHORE MAPPING APPLICATION, A COLLABORATION BETWEEN THE URI COASTAL INSTITUTE AND THE RI COASTAL RESOURCES MANAGEMENT COUNCIL.

EXPLORE RI BLUEWAYS AND GREENWAYS: WATER TRAIL MAPS

- Kickemuit Warren Water Trail Map
- Kickemuit Warren-Bristol Water Trail Map

Harbor Management Plan, 2010

Market to Metacom: Adaptation and Economic Development Plan, Final Report, Prepared by Fuss & O'Neill for the Town of Warren, December 29, 2021.

State Guide Plan

The State Guide Plan is Rhode Island's centralized and integrated long-range planning document. The State Guide Plan is not a single document but a collection of plans that have been adopted over many years. It comprises many separately published elements covering a range of topics.

A Greener Path: Greenspace and Greenways for Rhode Island's Future, State Guide Plan Element 155

A Greener Path sets forth policies and program initiatives to create a system of state and local greenspaces and greenways, including natural corridors, trails, and bikeways. *Resilient Warren* supports this state guide plan element through policy PRO4 and implementation actions specific to expanding the bicycle path network.

Ocean State Outdoors: Rhode Island's Comprehensive Outdoor Recreation Plan, State Guide Plan Report 152.

Ocean State Outdoors recommends actions aimed to provide opportunities to recreate in the outdoors while ensuring preservation of environmental resources. Warren's implementation action to create *Marsh Park* directly supports the stated goal in the RICORP, "Goal 2: *Strengthen, expand and promote the statewide recreation network while protecting natural and cultural resources as well as adapting to a changing environment.*"

Town of Warren, RI, Recreation & Parks Master Plan, 2018.

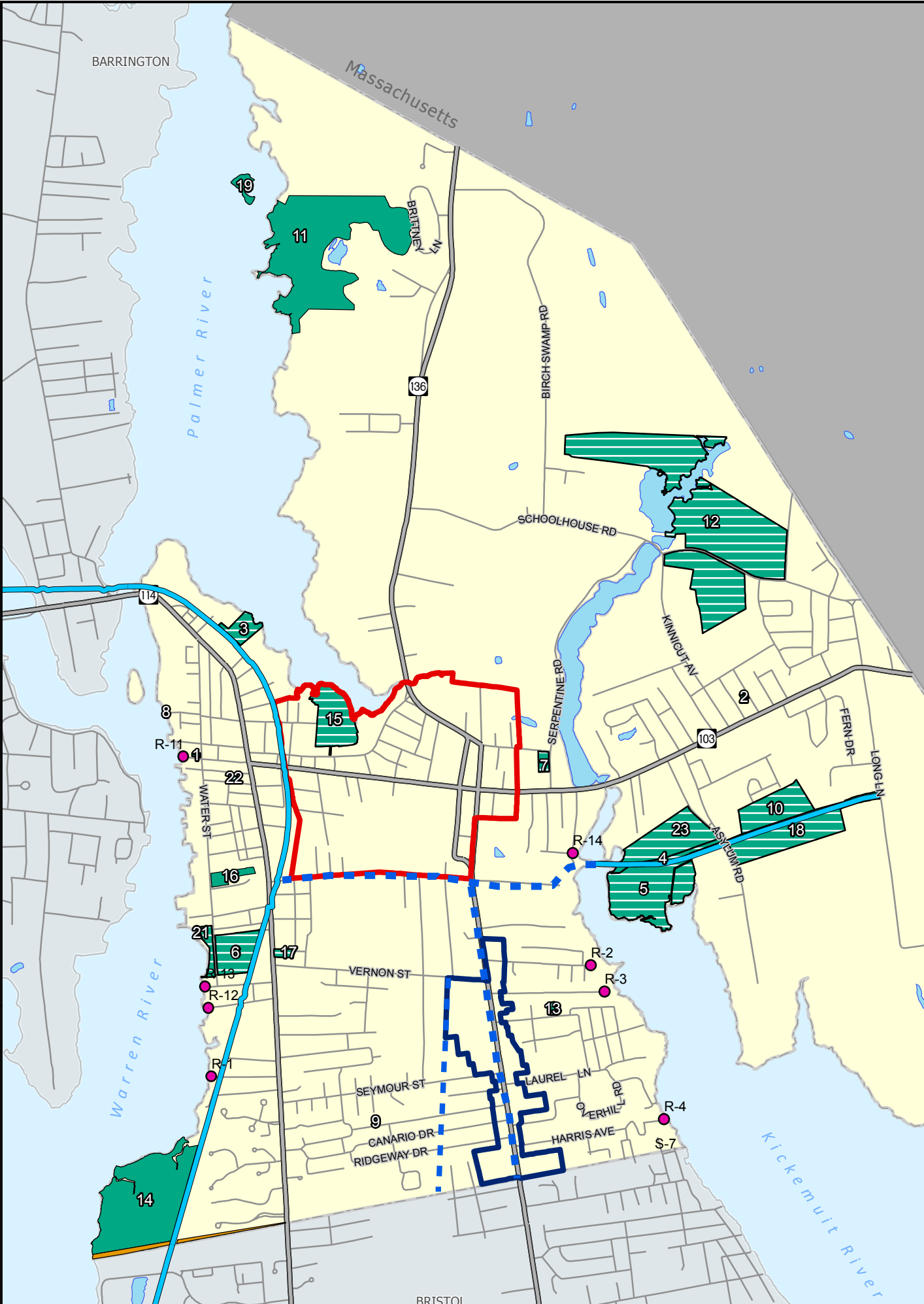
MAP R1

OUTDOOR RECREATION

TOWN OF WARREN

RHODE ISLAND

Comprehensive Plan, 2024



Map Legend

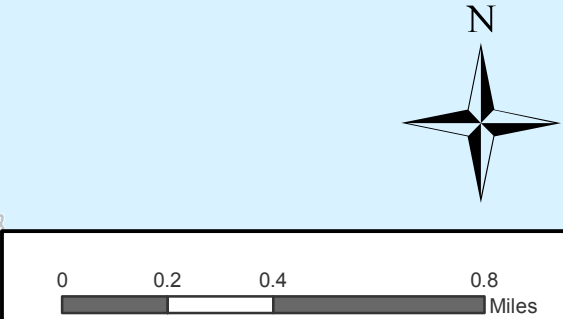
- Recreation Property
- Town-Owned Recreation
- Audubon Society
- CRMC ROW
- Bicycle Path
- Metacom Ave Project Area
- Market St Project Area
- Proposed Potentail Location of Bicycle Path Connection, Bicycle Lane, or Multi-Use Trail

 Highways Roads Water

Boundaries

- Warren
- RI Municipal
- Other States

ID	Site	Owner
1	Baker Street Park	Town
2	Baltimore Ave Park	Town
3	Belcher Cove	Town
4	Bike Path (E/W Connector)	Town
5	Brito Field	Town
6	Burrs Hill Park	Town
7	Child Street Park	Town
8	Company Street	Town
9	Fatima Drive	Town
10	Figuerido's Town Farm	Town
11	Haile Farm Preserve	WLCT
12	Heritage Park	Town
13	Homestead Park	Town
14	Jacobs Point	WLCT
15	Jamiels Park	Town
16	Jannitto Park	Private
17	Mary V Quirk	Town
18	Recreation Park & Pete Sepe Pavilion	Town
19	Tom's Island	WLCT
20	Toweset Landing	WLCT
21	Town Beach	Town
22	Town Common	Town
23	Veterans Field	Town



This map is not the product of a Professional Land Survey. It was created by the Town of Warren for general reference, informational, planning or guidance use, and is not a legally authoritative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. The Town of Warren makes no warranty, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.



(ABP+M,
9/27/2023)

6. HOUSING

GOALS

- GH1: MEET THE NEEDS OF TOWN RESIDENTS FOR AFFORDABLE AND ATTAINABLE HOUSING TO SUPPORT A SOCIOECONOMICALLY DIVERSE COMMUNITY
- GH2: ENSURE HOUSING STOCK IS OF SAFE AND HEALTHY CONDITION TO PROTECT RESIDENTS AND NEIGHBORHOODS
- GH3: PROMOTE A DIVERSE RANGE OF HOUSING OPTIONS TO ACCOMMODATE A VARIETY OF HOUSEHOLD SIZES, INCOMES, STAGES OF LIFE, AND BOTH HOMEOWNERSHIP AND RENTAL OPPORTUNITIES
- GH4: ESTABLISH REGULATIONS INCLUDING ALTERNATIVES TO CONVENTIONAL ZONING SUCH AS FORM-BASED CODE THAT ENCOURAGE HIGHER DENSITY MIXED-USE REDEVELOPMENT IN APPROPRIATE LOCATIONS TO INCREASE LOCAL HOUSING SUPPLY AND FURTHER OTHER GOALS OF THIS COMPREHENSIVE PLAN
- GH5: ENSURE ALL NEW RESIDENTIAL DEVELOPMENT AND REDEVELOPMENT IS DESIGNED TO COMPLEMENT HISTORIC AND SCENIC RESOURCES AND DOES NOT RESULT IN NEGATIVE IMPACTS ON NATURAL RESOURCES AND NEIGHBORHOOD CHARACTER
- GH6: ENSURE THE SITING AND SCALE OF RESIDENTIAL DEVELOPMENT CONSIDERS AVAILABLE UTILITIES AND THE SCALE AND MASSING OF EXISTING RESIDENTIAL STRUCTURES IN THE NEIGHBORHOOD

INTRODUCTION

Housing is a key element of the Comprehensive Plan as the availability and affordability of housing is a major factor in the livability of a community. The following housing element assesses the Town's existing housing stock particularly in terms of affordability, evaluates current and future housing needs, and identifies strategies to increase the supply of affordable housing. This housing element also serves as the Town's Affordable Housing Plan, as required by the Rhode Island Low- and Moderate-Income Housing Act, RIGL § 45-53.

It is a priority of the Town to support residential development that increases the supply of affordable and attainable housing. Proposed development, however, must not diminish the unique character of Warren or negatively impact the community's natural, scenic and historic resources. Residential development in the Town should be planned and designed in a way that complements the Town's unique character, protects the Town's natural and scenic resources, and enhances the quality of life of residents.

Warren, like most communities throughout the state and nation, has recently experienced significant increases in housing costs and limited availability. In 2022, the Town of Warren contracted with Housing Works RI to prepare a report entitled "Town of Warren, Trends in Housing Report." The document includes research and analysis of available local housing related data. The document is included as part of this Comprehensive Plan as fulfillment of the analysis of existing and forecasted housing need (Appendix C). The Town of Warren also received state funding to complete a housing needs assessment in 2024 that will further inform this element of the Comprehensive Plan and can be incorporated through future amendments.

The following table includes policies to promote the stated goals of the Housing Element of this Comprehensive Plan. Implementation actions are also listed within the table. The Implementation Program, Chapter II of this Comprehensive Plan, assigns a responsible party or parties, timeframe, and priority level for each of the implementation actions.

HOUSING POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PH1. Ensure municipal land use and zoning regulations are consistent with the goals and policies set forth within this Comprehensive Plan and the Market to Metacom Plan (PLU1)	AH1. Adopt Form Based Code for the Metacom Project Area to permit and incentivize higher density mixed use development and affordable housing units and to achieve a more desirable and predictable built environment. Consider expanding Form Based Code to other parts of town including northern section of Route 136 and Historic Downtown. (ALUI)
	AH2. Establish the Metacom Avenue Corridor as a Special Revitalization District in order to utilize Tax Increment Financing (TIF)
	AH3. Draft an Accessory Dwelling Unit that establishes requirements for this type of housing and is consistent with state law; amend existing in-law zoning
PH2. Ensure appropriate siting of future residential development and adequate infrastructure is available to support higher density residential development	AH4. Perform an Infrastructure Capacity Study along the Metacom Avenue Corridor to identify any deficiencies which would prevent higher density mixed use developments. Identify funding for this priority study
	AH5. Create a prioritized list of parcels from the existing drafted inventory that could accommodate future residential development with existing utilities and access to public transportation as considerations
PH3. Promote and support rehabilitation of existing residential units, adaptive reuse and the conversion of vacant upper-level space to residential use in Census Tract 305 / Downtown Warren	AH6. Promote use of the Affordable Housing Trust Fund which provides grant funding up to \$50,000 for the rehabilitation or conversion of deed restricted residential units
	AH7. Utilize a portion of TIF Funds to establish a low interest revolving loan fund for the rehabilitation or conversion of deed restricted residential units.
	AH8. Rigorously enforce housing codes and make efforts to prevent demolition by neglect of residential structures, particularly those contributing historic value
PH4. Advance the use of energy-efficient measures in building design and construction to decrease housing costs in the long-term	AH9. Promote energy efficiency programs and enforce energy efficient building code

HOUSING POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PH5. Advocate for fair and effective State law and policies regarding affordable housing, as well as, state planning and financial assistance to address the housing crisis in Rhode Island	AH10. Attendance of local municipal leaders at state housing meetings; In partnership with other RI communities, submit comments verbally and in writing as to how the state can more effectively support local housing needs including amendments to the Low- and Moderate-Income Housing Act
	AH11. Incorporate findings of the 2024 Warren Housing Needs Assessment into the Comprehensive Plan. Ensure public engagement is part of the housing needs assessment process and solicited in any local development of strategies for the creation of affordable housing.
	AH12. Amend local regulations to include additional application submission requirements for Comprehensive Permit applications to address state law changes and local housing needs

EXISTING RESIDENTIALLY ZONED AREAS

The Zoning districts listed below provide a variety of residential densities across the Town. The Village Business and Waterfront Districts are a combination of single family and mixed use. The Special District is exclusively multi-family.

- **R40 Residence District.** This district is for residential uses with a density of one dwelling unit per 40,000 square feet.
- **R30 Residence District.** This district is for residential uses with a density of one dwelling unit per 30,000 square feet.
- **R20 Residence District.** This district is for residential uses with an approximate density of one dwelling unit per 20,000 square feet.
- **R15 Residence District.** This district is for residential uses with a density of one dwelling unit per 15,000 square feet.
- **R10 Residence District.** This district is for residential uses with a density of one dwelling unit per 10,000 square feet.
- **R6 Residence District.** This district is for residential uses with a density of one dwelling unit dwelling unit per 6,000 square feet.
- **Village Business.** This district includes the central business area off Main Street as well as the business area off Child Street and Metacom Avenue, where permitted business uses are in character and scale with the mixed-use areas of town, and have less traffic impact and parking demand than more intensive business uses.
- **Waterfront District.** This district includes mixed-use areas along and adjoining the Warren River for which water dependent uses are encouraged.
- **Special District.** This district is designated primarily for the American Tourister and 99 Water Street.

Existing overlay zoning districts include:

- **Kickemuit Reservoir Watershed Overlay Protection District.** This is an overlay district applied to the watershed of the Kickemuit Reservoir, for which certain uses otherwise permitted in the underlying districts are prohibited, and for which site plan review is required.
- **Waterfront Overlay District.** This is an overlay district applied to the Waterfront District and Special District. This district requires development plan review by the Planning Board.
- **Residential Village District.** This is an overlay district applied to certain areas of compact residential development in the Touisset area, for which modified dimensional regulations are applied to substandard lots of record.

HOUSING PROFILE

Warren ranks seventh among all Rhode Island municipalities by share of renters, has a lower median income than its neighboring communities, and an aging housing stock. In the past ten years the housing stock in Warren has risen from 5,031 to 5,363 units. Single family homes represent 48% of that total with multi-family representing the remaining 52%.

The median home price in Warren increased over 60% from \$225,000 (2012) to \$355,500 (2021). Data on rental costs is more challenging to record, however, there is anecdotal evidence by experienced professionals suggesting a large increase in rents as well. A household is considered cost burdened if it spends 30% or more of its income on housing costs. In 2022, out of the 5,032 households in Warren, 1,552 households were considered cost burdened (22% of owners and 49% of renters).¹³

Housing Works releases its Housing Fact Book annually. The 2023 publication profiled Warren's affordability with the figures below:

- \$409,950 - Median single family home price
- \$3,289 - Estimated monthly housing payment for median single family home price
- \$131,544 - Annual income needed to affordably purchase a median priced home
- \$92,382 - Annual income needed to afford a two-bedroom rental
- 2,265 - Number of households below HUD 80% area median income

Insights from the Warren Housing Authority, including information from the waiting list as of 2024, indicated that there is a demand for one-bedroom housing units in Warren. This local housing need has been identified as part of the 2024 Warren Housing Production Plan and Needs Assessment and will be further detailed within that study. The households identified as needing one-bedroom units earn less than 50% of area median income and are eligible for a federal voucher.

Beyond affordability, another area of concern is the age of the housing stock in Warren. The estimated median year built of single-family homes in Warren is 1960. Using Warren's tax assessor data, the median age of the housing stock in Warren is 67 years old (1955). The main cause for concern is the age of the multifamily and mixed-use properties that are used for rental housing. The median age of 2-5 family and mixed-use building is 1900. The age of these structures potentially presents health and safety concerns. Also, older homes without updates could have higher heating, cooling, and upkeep costs contributing to the cost burden of renters.

In the past fifteen years, between 2009 and 2023, there were 102 single family dwellings constructed and 122 multi-family units constructed in Warren. This equates to an average of seven single family housing units and 8 multi-family housing units added to the housing stock in Warren annually.

¹³ 2023 Housing FactBook, Housing Works RI

Table H1. Housing Starts in Warren																	
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	Average
Single Family	5	8	1	3	10	7	8	9	8	7	6	13	7	6	4	102	6.8
Multi-Family Units	0	0	0	0	0	0	0	0	0	100	0	0	0	20	2	122	8.1

Source: Town of Warren Building Department

"CHAS" data (Comprehensive Housing Affordability Strategy) further demonstrates the extent of housing problems and housing needs in Warren and is included in Appendix D.

Low-and-Moderate Income Housing

The Low-and-Moderate Income Housing Act (RIGL 45-53) requires most cities and towns in Rhode Island to maintain 10% of their year-round housing stock as affordable housing. A unit is affordable if it receives a subsidy from a federal, state or local government source and has an affordability restriction (deed-restricted) for at least 30 years. As of 2022, Warren had 207 low-and-moderate income housing units, 160 family and 47 special needs, which equates to 3.85% of the Town's 5,370 housing units. The 2022 Low-and-Moderate Income Housing Chart incorporates housing unit statistic from the 2020 Census, and as a result, many communities including Warren had a reduction in their percentage of affordable housing as the total number of year-round units produced in the community over the past decade is incorporated into the calculation for the first time.

Since Warren does not meet the 10% threshold, the town is subject to Comprehensive Permit applications, that may propose projects with little regard to the town's specific needs for affordable housing or inconsistent with the Town's character. In partnership with the state legislative delegation, the town should seek modifications to the state's current affordable housing act that would create more fairness and effectiveness in providing affordable housing opportunities in all communities in Rhode Island.

Warren supports state legislation that would change the calculation of affordable housing to include rental properties located within the municipality that are secured with a federal government voucher. This would better reflect the actual affordability within the Town of Warren by including Housing Choice Vouchers issued by the Warren Housing Authority and would bring Warren's calculation of affordable to around 8%. The Housing Choice Voucher System, previously known as Tenant Based Section 8, provides valuable housing assistance to low-income residents of the Town. The Town has a high percentage of rental units comparatively to other suburban communities in the state and that is and should be a factor in evaluating a community's housing stock. Anecdotal evidence suggests that market rate rentals in Warren cost less than deed restricted units being created and eligible to be on the low-and-moderate income housing chart. The Town is in strong support of affordable

housing but would promote a broader definition as to what is included within any state mandated percentage placed in local municipalities.

The Town has encouraged developers to utilize the Comprehensive Permit Application for some infill projects, however, when a development only provides the minimum required (25% of total units) number of deed-restricted units this does not advance in any substantive way the Town's overall percentage of low-and-moderate income housing. Two Comprehensive permit projects have recently been approved including an 18-unit apartment complex on Metacom Avenue that has been completed and a 15-unit condominium project on Main Street that is under construction. Several other comprehensive permit developments are under review.

MARKET TO METACOM PLAN

Existing land use in the Market Street project area, identified within the Market to Metacom Plan, is primarily medium and high-density residential. Lots are generally less than 10,000 square feet and a majority of the housing units are contained within multi-family residential structures. **Many of the 700 housing units within the Market Street project area are at risk for future flooding.** Government-led acquisition and removal of flood-prone properties are often known as floodplain buyouts programs and are frequently used by communities to reduce future flood damages. Funding sources are available from several existing Federal and State programs, such as the Hazard Mitigation Assistance programs of the Federal Emergency Management Agency (FEMA) including Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC) and Flood Mitigation. Warren can also consider establishing a Tax Incremental Financing (TIF) program from future tax income from redevelopment within the Metacom Avenue project area to help fund the capital costs of property buyouts. The Market to Metacom phased relocation and retreat scenario promotes replacement of housing units from the Market Street project area to the Metacom Avenue project area.

AS IDENTIFIED IN THE MARKET TO METACOM PLAN THERE IS A PROJECTED LOSS OF HOUSING UNITS IN THE MARKET STREET AREA DUE TO SEA LEVEL RISE AS EARLY AS 2035, SO THE NEED TO CREATE HOUSING FOR THOSE RESIDENTS BEING DISPLACED IS CRITICAL.

The Metacom Avenue corridor is a largely commercial corridor which is auto centric with a wide multi-lane roadway, large expanses of parking lots in front of strip retail. The Metacom Avenue project area, identified in the Market to Metacom Plan, includes the parcels abutting Metacom Avenue (RI Route 136) located south of Vernon Street and Parker Avenue. The southern boundary of the project area is located between Harris Avenue and Jameson Drive. The total area within the Metacom Avenue project boundary, including roadways, is approximately 81 acres. The Metacom Avenue project area is underutilized and market desirability for retail in this form may continue to decline. The rezoning and redevelopment of the Metacom Avenue project area will provide the opportunity to relocate housing units at-risk to flooding in the Market Street project area within Warren at a higher elevation.

The Town establish local Zoning mechanisms to encourage the redevelopment of the Metacom Avenue corridor as a mixed-use center that contains retail, employment and housing in a development pattern more similar to a traditional Town Center. Amending local zoning for

Metacom Avenue will include Form Based Code and high density residential by right. The Town will partner with the State and advocate for supportive State actions to upgrade Metacom Avenue to facilitate this increased density including additional transit service, road redesign and stormwater management. The Town will also investigate any necessary infrastructure and utility upgrades that may be necessary to facilitate the redevelopment.

A Form-Based Code (FBC) is a means of regulating land development to achieve a specific urban form. Form-Based Codes foster predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle, with less focus on land use, through municipal regulations. A FBC is a regulation, not a mere guideline, adopted into the Town's Zoning Ordinance and offers a powerful alternative to conventional zoning regulation.

Adoption of the Form Based Code will provide further opportunities to provide mixed-income housing. Embedded in the code is a requirement that every residential project contain a minimum of 25% of the units be affordable based on Rhode Island Housing Income guidelines for rental and ownership. Projects would also be eligible for a density bonus if additional units above the 25% are included. In lieu of additional units within the proposed project, a developer would have the option to negotiate a financial contribution to the Town's Affordable Housing Trust Fund.

The Town is requesting that the State designate the Metacom Avenue Project area as a local growth center as defined by Statewide Planning's *Land Use 2025*. Such a designation could provide for additional funding opportunities and planning support.

ADDITIONAL CHALLENGES & STRATEGIES

With the exception of the Metacom Avenue project area, there are limited opportunities within Warren for significant residential development. Additional development in other parts of the town is constrained by the lack of infrastructure (public water and sanitary sewer), available land (already developed or conserved), and land that is subject to sea level rise.

In 2022, a Warren Planning Board member prepared an inventory of vacant or underutilized parcels that could be considered for future development for housing units. Further review and prioritization of parcels included in this inventory, sharing with partners and conversations with current owners, may be a useful next step to identifying viable sites for future affordable housing units.

The reestablishment of the Town's Affordable Housing Trust Fund and the allocation of a portion of the Town's American Rescue Plan Act (ARPA) to the fund provides the Town with the ability to incentivize property owners in Census Tract 305 to either rehabilitate existing housing units or convert unused upper-level space to residential. Housing in that area would have access to necessary services and public transportation. It is the intention in the future to utilize a portion of TIF funding that is generated from the Market to Metacom development into a low-interest revolving loan fund for rehabilitation, conversion, or acquisition.

Impacts from short-term rentals could also have a negative impact on housing availability. While many coastal communities in Rhode Island struggle with the proliferation of short-term rentals, Warren appears not yet to experience the issue at a scale that other communities do. During peak times of the year (warmer months), active listings of short-term rentals were determined to be 26 (Housing WorksRI Report). Though the number may be lower compared to other communities in Rhode Island, the majority of short-term rentals are located near Water Street, which may cause pressures on rental and ownership markets in the area and increase in real estate values. The Town Council adopted an ordinance in 2023 to proactively address the issue and establishes requirements and limits to the number of units that can be created and permitted.

Warren's Ten-Year Affordable Housing Action Plan

Affordable housing is generally defined as housing which costs no more than 30 percent of a household's income. For many lower income households in Warren, affordable housing cannot be obtained through the market; however, a significant number of housing units, subsidized through a variety of government programs, are rented or sold below market rate to households who meet specific income criteria. **As of 2022, Warren had 207 low-and-moderate income housing units, 160 family and 47 special needs, which equates to 3.85% of the Town's 5,370 year-round housing units. In order to reach 10% affordable housing units, Warren will need to add an additional 330 Low-and-Moderate Income Housing Units.** The Town of Warren is committed to and is making progress towards achieving the 10% affordable goal.

The Town of Warren recognizes the importance and its responsibility in promoting affordable housing. The following action plan sets forth Warren's strategy to increase the town's supply of affordable housing. This plan lays out actions that will be taken over the next ten years to meet the town's affordable housing goals. A focus of the affordable housing strategy is replacement of the housing units that will be lost due to the impacts of flooding from sea level rise.

- Encourage mixed-use and transit-oriented developments. The Market to Metacom Plan includes a capacity assessment for redevelopment of select sites along the corridor. Several conceptual plans for six parcels were prepared by the architectural firm Union Studio and totaled 538 residential units. It should be noted that these conceptual plans do not represent an intent from current properties owners to redevelop their properties consistent with this at this time. A conceptual plan for the redevelopment of Job Lot Plaza included within the Market to Metacom Plan includes nearly 180 residential units of which 25% could be deed-restricted Low-and-Moderate Income Housing Units. As part of the implementation of Form Based Code for the Metacom Avenue project area, a mix of affordability levels for housing units will be required. If half of those units are created over the next decade and 25% are affordable that would add an estimated **70 units** to the Town's LMIH Chart.
- Several comprehensive permit applications are pending and currently in the local review process. Warren has received a significant number of Comprehensive Permit applications in recent years. If that trend continues, over a ten-year period an estimated **120 units** could be expected to be developed and added to the Town's Low- and Moderate-Income Housing Chart.
- A package of bills passed during the Rhode Island General Assembly's 2023 legislative session will streamline the local review process for housing development and will be enacted in 2024. The Town's local ordinances and regulations will be amended to be consistent with state law. An adaptive reuse ordinance will be adopted in 2024 that could result in the creation of housing units including low-and-moderate income housing units in buildings that are converted to that use. This could result in a rough estimate of **40 units**.
- Encourage infill development on vacant and underdeveloped properties into affordable housing. Redevelopment of existing vacant lots and structures into residential units through the use of a Comprehensive Permit will produce additional LMIH units. An inventory of

vacant and underutilized sites across town that has been drafted and will be further analyzed to create a shorter prioritized list of potential sites. The Town can then encourage and facilitate the development of affordable housing units on these sites through communication with property owners and nonprofit developers and the regulatory changes discussed above. This strategy could result in an estimated **15 units**.

- Permitting Accessory Dwelling Units is another strategy that could create additional affordable housing units. State law requires Accessory Dwelling Units be a permitted use by right and the Town will be adopting local zoning to place parameters on this type of housing unit consistent with state law. ADU's can be counted as 0.5 units on the LMIH Chart when certain conditions are met as specified under RIGL § 45-24-75. This strategy could result in an estimated **5 units**.
- Advocate for fair and effective affordable housing legislation at the state level. In partnership with other municipalities, participate in review and update of affordable housing legislation. Legislation has again been introduced this session that broadens the definition of LMIH and allows municipalities to receive credit for other forms of affordable housing including units secured through federal government voucher programs. By including Housing Choice Vouchers issued by the Warren Housing Authority the Town's percentage of LMIH would double to an estimated 8%, with the addition of an estimated **160 units**. This would result in Warren closing the gap between the units created through the affordable housing strategies listed above and realizing the 10% LMIH within 10 years.

Affordable housing needs in Warren should be met in a manner consistent with the following criteria. Affordable housing should be:

- Developed in a manner that will have no significant negative impacts on the health and safety of current or future residents
- Sited away from land vulnerable to future impacts of sea level rise / flooding
- Developed in a manner that will have no significant negative impacts on our natural environment
- Integrated into the community rather than concentrated in specific areas of the town
- Preserved as long-term affordable
- Address the local needs for specific types of housing units including 1-bedroom units at up to 50% AML (which will be identified in the 2024 Warren Housing Production Plan and Needs Assessment)
- Designed to complement and not detract from historic and scenic resources
- Consistent with the goals and purpose of this local comprehensive plan, the Town's Zoning Ordinance and Subdivision Regulations
- Include a high percentage of LMIH units (greater than 25%) when requesting substantial relief from local regulations through a Comprehensive Permit application.

To safeguard local decision-making authority on the review and approval of development and ensure that housing units added to the Low-and-Moderate Income housing stock effectively meet local housing needs the Town will:

1. Create a housing implementation strategy(ies) following the completion of the 2024 Warren Housing Production Plan and Needs Assessment and incorporate into future amendments to the Comprehensive Plan.
2. Work with the Town's legislative delegation and the RI General Assembly to amend the Comprehensive Permit law to:
 - Re-institute the Master Plan stage of review. This re-institution is broadly accepted by the development community. By bringing back the Master Plan stage, the Legislature could amend the law to combine the Preliminary and Final Plan stages into a singular review.
 - Raise the percentage of affordable housing units required to a higher percentage than 25% (i.e., to a percentage that will help communities "move the needle" toward achieving the state's 10% goal and create more units for households in need).
 - Add incentive for developers to target affordable unit prices for persons/households earning less than 100% of area median income.
 - Lengthen the term of the required deed restriction from "not less than 30 years" to a term more in keeping with perpetuity.
 - Add an application submission requirement for consideration of local impact such as: 1) historic preservation, 2) character of the neighborhood (e.g., density considerations), 3) scenic resources 4) impact on traffic and municipal services and 5) other matters of local concern.
3. Amend local land use regulations to promote the creation of housing units that are affordable to those persons earning less than 100% of area median income. One of the Town's priority positions is to add new and rehabilitated affordable housing stock for persons earning less than 100% of area median consistent with US HUD's definition of affordable housing.
4. Amend local land use regulations to include, but not necessarily be limited to, the following submission requirements to be approval by the Planning Board for Comprehensive Permit applications:
 - An itemized financial pro-forma for the proposed development. The State's Comprehensive Permit law, effective January 1, 2024, deleted this requirement.
 - A narrative explaining how the proposed development will strictly adhere to the US Interior Department's Guidelines for Historic Preservation should the proposed development locate in the Town's Historic District or otherwise affect a structure that is 100 years of age or older or affects a historic structure/site as duly identified by the Town via the State/Federal Register of Historic Buildings/Sites or identified by the Warren Historic Preservation Society as historically significant prior to a property owner (or their designee) filing a Comprehensive Permit pre-application with the Town.
 - A narrative explaining how the project as proposed conforms to the character of the existing neighborhood in which it will be located. If the proposed project is located in a zoning district that does not permit residential development, the narrative shall indicate why a waiver should be granted by the Planning Board.
 - Evidence that all new utilities will be located underground, including electric, cable, telephone, and other typical utility lines that locate overhead on poles.
 - For each waiver requested by the applicant, an explanation shall be provided detailing why the waiver is necessary to justify

superseding the Town's duly adopted Future Land Use Plan and its related vision, goals, and policies, the purpose established in the Town's land use regulations.

- For proposed projects targeting persons/households earning above 100% area median income, a financial explanation why it is financially infeasible to develop the project targeting persons/households with an income limit of less than 100% AML.

HOUSING PARTNERS

East Bay Community Development Corporation

East Bay Community Development Corp, (EBCDC) is a non-profit corporation that has been in existence for 30 years. The EBCDC owns and manages 344 apartment units in multiple scattered sites throughout Bristol, Warren, and Barrington. It is the mission of the EBCDC to preserve the quality of family and community life in the East Bay by ensuring that a full range of safe, attractive and affordable housing opportunities are available to meet the needs of all our residents.

Health Equity Zone Warren

Established in July 2021, the Warren Health Equity Zone (HEZ) is a place-based collaborative created to reduce and eliminate health disparities and barriers to wellness. The Rhode Island Department of Health provides seed funding for the Warren HEZ which is supported by East Bay Community Action Program (EBCAP) as its backbone agency. The HEZ model encourages and prepares neighbors and community partners to collaborate to create healthy places for people to live, learn, work, and play. Health equity means that everyone has a fair and just opportunity to be healthier.

Warren Housing Authority

The Warren Housing Authority is governed by a town-appointed Board of Commissioners who are responsible for preserving and expanding WHA's resources and assuring WHA's continued variability. The Warren Housing Authority is committed to providing quality, affordable housing that is decent and safe, to eligible families and to manage public housing units in a manner that is consistent with good, financially sound property management practices. The WHA's goal for the Housing Choice Voucher Program is to promote personal, economic and social upward mobility to provide families the opportunity to make the transition from subsidized to non-subsidized housing.

SUPPORTING DOCUMENTS AND RESOURCES

Market to Metacom: Adaptation and Economic Development Plan, Final Report, Prepared by Fuss & O'Neill for the Town of Warren, December 29, 2021.

State Guide Plan

The State Guide Plan is Rhode Island's centralized and integrated long-range planning document. The State Guide Plan is not a single document but a collection of plans that have been adopted over many years. It comprises many separately published elements covering a range of topics including housing.

Rhode Island Five Year Strategic Housing Plan (2010) – Element 423

Quantifies housing needs, identifies implementation strategies to address these needs, and provides guidelines for higher density residential development. Warren's local comprehensive plan, *Resilient Warren*, is consistent with the State's 5-Year Strategic Housing Plan, specifically its strategy to promote compact growth through zoning and focus growth per the State land use plan, *Land Use 2025*. A priority of *Land Use 2025* is encouragement of compact infill growth and redevelopment in areas that are already developed and that have supporting infrastructure. The Market to Metacom Plan that is featured throughout all elements of *Resilient Warren* and prioritized through several implementation actions including within this Housing Element would serve as a model in calling for higher density in an already developed area with existing infrastructure through zoning amendments (AHI) and other specified actions.

State Housing Plan (2000) – Element 421

Establishes housing goals and policies. It also analyzes major housing problems in Rhode Island and makes recommendations for action.

“*Town of Warren, Trends in Housing Report*,” Prepared by Housing WorksRI for the Town of Warren, 2022.

7. TRANSPORTATION

GOALS

- GT1: DEVELOP A SAFE, EFFICIENT AND CONNECTED MULTIMODAL TRANSPORTATION NETWORK PROVIDING MOBILITY AND ACCESS TO ALL USERS
- GT2: PROMOTE ENVIRONMENTAL SUSTAINABILITY BY PRIORITIZING INVESTMENTS IN ALTERNATIVE MODES OF TRANSPORTATION AND A COMPLETE AND GREEN STREETS STRATEGY
- GT3: EASE CONGESTION CAUSED BY REGIONAL TRAFFIC PATTERNS AND PROVIDE ADEQUATE PARKING WHILE MAINTAINING TOWN CHARACTER AND AVOIDING THE PAVING OF LARGE AREAS
- GT4: ACHIEVE AN INTEGRATED NETWORK OF ON-ROAD AND OFF-ROAD BICYCLE ROUTES TO PROVIDE A SAFE MEANS OF TRAVEL FOR COMMUTING, RECREATION, AND TOURISM

INTRODUCTION

The Transportation Element provides an inventory and assessment of the transportation network within Warren. The Town supports the State's transportation policy and Complete Streets approach that transportation plans and investments should consider the needs of all users of our roadways; including pedestrian, bicyclists, transit riders, motorists and citizens of all ages and abilities. Future transportation investments in Warren should prioritize resiliency, promote safety and minimize environmental impacts by adequately addressing stormwater management.

The following table includes policies to promote the stated goals of the Transportation Element of this Comprehensive Plan. Implementation actions are also listed within the table. The Implementation Program, Chapter 11 of this Comprehensive Plan, assigns a responsible party or parties, timeframe, and priority level for each of the implementation actions.

TRANSPORTATION POLICIES AND IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PT1. Support a Green and Complete Streets approach to planning, designing, building, and maintaining roads that enables safe access for all users of all modes, ages and abilities	AT1. Work with RIDOT to implement the Metacom Avenue Corridor Redevelopment Plan with RIDOT to improve safety and aesthetics by reducing Metacom Avenue/Route 136 within the Metacom Avenue Project Area from four lanes to a three-lane road and upgrading accommodations for bicycles and pedestrians, specific priority actions below: restripe road to create two eleven-foot-wide travel lanes; one 12' wide turning lane, and two six-foot wide accessible shoulders, create dedicated bicycle lanes; make accessible improvements to existing five foot wide sidewalks
	AT2. Incorporate green features like forested bioswales, rain gardens to the medians and sides of streets along with planting street trees and introduction of permeable pavement to reduce the effects of stormwater runoff and urban heat (ANH19 & ALU19)
	AT3. Adopt a local Complete and Green Streets ordinance
	AT4. Establish parking standards that reduce visibility of asphalt and vehicles through siting in the rear and screening
	AT5. Work with RIDOT and RIPTA to ensure that accommodations such as bus shelters are provided to support transit users, prioritize planting shade trees at bus stops
	AT6. Request increased frequency and destination option along the Route 136 / Metacom Avenue corridor to realize a transit-oriented development
	AT7. Pursue funding through the TIP to install sidewalks in appropriate locations, such as along Main Street from Beach Street to town line, where feasible plant or plan for new street trees when installing new sidewalks
	AT8. Work with RIDOT to develop and implement an improved circulation plan for the Parker Mill area, reconsidering the rotary and eliminating unnecessary traffic signals, incorporating bike lanes, and making streetscape improvements (ALU11)

TRANSPORTATION POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PT2. Promote bicycle use and pedestrian safety among residents and visitors while reducing congestion, emissions, and parking demands	AT9. Prepare a bicycle plan and identify locations for “share the road” markings and buffered bicycle lanes to reduce the potential for crashes and better accommodate those traveling by bicycle
	AT10. Establish bicycle lane identified within the Market to Metacom Plan along Metacom Avenue and a multi-use trail on the electric easement of the Rhode Island Energy property (ARO6)
	AT11. Assess installing raised crosswalks and signage within the crosswalk for increased visibility and to reduce speeds near bicycle path crossings
	AT12. Implement Safe Routes to School projects that upgrade and expand bicycle infrastructure and promote vehicular traffic calming techniques that encourage students to walk and ride bikes safely to school
	AT13. Improve connections from the Warren Bike Path through Long Lane to the Kickemuit River to Metacom Avenue, the East Bay Bike Path and adjacent neighborhoods (ARO8)
	AT14. Work with RIDOT traffic engineers to identify and implement the safest connection between the East Bay Bicycle Path and the Warren Bicycle Path
	AT15. Complete a traffic evaluation to determine if one-way roadway conversions are feasible and beneficial to traffic circulation and congestion easement Downtown
	AT16. Inventory existing bicycle racks Downtown and install additional bicycle parking at in demand locations (i.e. in close vicinity to shops and restaurants along Main Street)
	AT17. Identify impediments located within sidewalks (i.e. signage, poles, electrical boxes), determine those that are most negatively impacting pedestrian safety and accessible sidewalks, and those that relocation can and should be addressed
	AT18. Establish a Bike, Path, & Trails Committee tasked developing a plan and map for a townwide network and system of paths, trails, bike lanes, etc. and destination nodes (ARO9)

TRANSPORTATION POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PT3. Prioritize safety of the transportation system through enforcement of traffic laws, installation of traffic calming techniques, proactively addressing flooding of roadways and maintaining emergency vehicle access and evacuation routes	AT19. Investigate raising a portion of Child Street to mitigate flooding of road surface and consider installation of traffic calming techniques
	AT20. Leverage the use of technology to assist the Police Department with enforcement of traffic codes for public safety (i.e. speeding cameras)
	AT21. Increase enforcement of yielding laws to protect pedestrians and bicyclists at crosswalks
	AT22. Work with partners to implement educational campaigns on “share the road” and “yield to pedestrians”
	AT23. Undertake and maintain improvements (clear vegetation, fresh crosswalk marking, adequate signage, etc.) at crosswalks and bicycle path intersections to increase visibility and safety for pedestrians and bicyclists
PT4. Address parking through implementation of sound parking management policies and best practices to improve curb management	AT24. Consider a parking ordinance to impose restrictions on the times and places that trucks can make deliveries in order to decrease congestion
	AT25. Promote a “park and walk” environment incentivizing the use of lesser demand parking areas Downtown through policy and regulatory changes such as education and wayfinding, parking enforcement, time limits and/or pricing, and employee parking programs (AED12)
	AT26. Evaluate and prioritize recommendation from Phase 2 of the Warren Downtown Parking Study and SS4A Statewide Safety Action Plan and begin implementation of top priority actions
	AT27. Enact regulations that place time limits on on-street parking Downtown to encourage turnover for businesses and explore mobile payment platforms to collect fees
	AT28. Install wayfinding signage for public parking and also signs visible from bicycle paths (i.e. Union Studio designed sign by Del’s) to primary destinations
	AT29. Establish a local policy and strategy to increase electric vehicle charging stations available publicly in Warren

ROAD SYSTEM AND VEHICULAR PARKING

Warren is served by state routes 136 and 114 connecting to Bristol to the south, Barrington to the west and Swansea, Massachusetts to the north. Route 136 connects Warren with Interstate Route 195 in Swansea, Massachusetts, linking Providence, Fall River and Cape Cod. Map T1 *Transportation Network* displays the Town's transportation system including major roads with their highway classifications, transit routes, and existing and proposed bicycle paths and multi-use trails.

Circulation has been raised as an area for necessary traffic engineering analysis and improvements in the Parker Mill neighborhood of Warren. Located generally between where Route 136 (Metacom Avenue) intersects with Arlington Avenue to the north and south a number a traffic signals and one-ways creates an unusual circulation pattern or "rotary" which may not be the most efficient or desirable from a land use perspective with negative impacts on abutting residential properties. The elimination of unnecessary traffic signals, creation of bicycle lanes, and planting of street trees could be incorporated and implemented with a larger plan to revitalize the neighborhood with other streetscape improvements and investments in affordable housing. Roadways in Warren most vulnerable to sea level rise and flooding include Main Street/Route 114 and Market Street and are discussed in the Natural Hazards and Climate Change Element. A Bristol County Route 114 Resilience Plan is underway that will assist in identifying vulnerable areas along Route 114 and mitigation actions to reduce flooding risks. Following heavy precipitation events, Schoolhouse Road was prone to flooding and suffered from deteriorated pavement along with Birch Swamp Road. Efforts were made to address these issues with a recent \$6M pavement reclamation and reconstruction project that was completed in 2023.

Accommodating multiple modes of transportation safely and efficiently on narrow streets in the historic downtown is a challenge. Although solutions are available to improve the situation, circulation and parking will continue to remain a challenge in Downtown Warren, due to its colonial street patterns and narrow streets, and draw as the commercial, civic and cultural center of community. The congestion along Main Street is exacerbated by the number of dead ends and one-way streets, and the absence of connector streets providing alternative routes. Due to ongoing traffic bottleneck on Main Street, Water Street is regularly used as a short cut, particularly at rush hour.

Parking continues to be an issue in Downtown Warren, particularly on neighborhood side streets. Many of the businesses along Water Street do provide off-street parking for their employees and customers. Overspill parking, however, does occur, causing problems for both residents and area businesses. In addition to curbside parking and private lots in the Downtown, there are currently also public parking lots serving the area, namely:

- The Municipal Lot behind Town Hall
- The Municipal Lot at Railroad Avenue
- The RIPTA Park & Ride Lot at Franklin Street

In December 2022, the Town completed a Downtown Warren Parking Study which inventoried on-street and off-street parking along with existing regulations for time limits. According to the survey, there are approximately 742 parking spaces; 319 off-street and 423 on-street, and the ability to shift high on-street parking demand to existing public parking lots and less utilized on-street parking segments. Parking utilization trends and location-specific recommendations will be further explored in Phase 2 of the Downtown Warren Parking Study. Phase 2 will also provide specific recommendations for policy and regulatory changes, as well as public education and outreach to generate community support and buy-in for a parking management plan.

MARKET TO METACOM PLAN

As demonstrated in the Market to Metacom Plan, at least one foot of flooding within Market Street is expected by 2035. By 2050, the lowest-lying portions of Market Street are projected to have three feet of flooding during MHHW, a portion of Child Street will have up to one foot of flooding, and many of the properties between Belcher Cove and Market Street will be impacted. Projections for the year 2070 indicate that a substantial portion of Market Street and the surrounding neighborhood will be inundated by three feet of water, with lowest areas, including wetlands, experiencing six-foot flood depths.

“During 100-year storm events, many of the roads in the project area are predicted to be flooded by the year 2035. Market Street at Redmond Street is predicted to be flooded at high tide by 2035. Child Street and Belcher Cove Bridge are predicted to be flooded every day by 2050 due to sea level rise and tidal flooding.

As depths and extents of roadway flooding during high tides and storm events increases, impacts to traffic and public safety will worsen. If these impacted roads are not relocated or elevated to avoid or reduce flooding, traffic will need to be rerouted away from these roads during high tide on a daily basis. This will result in an inability for road users and emergency services to access properties along the affected sections of road, as well as impacting through-traffic. Several of the roads that are projected to experience increased flooding during high tide and storm events, including Market Street and Route 136, are designated as emergency evacuation routes. Closure of these roadways due to flooding eliminates essential evacuation routes for the residents of Warren and neighboring towns.”

Transportation improvements associated with the retreat and relocation scenario within the Market to Metacom Plan include the redevelopment of the Metacom Avenue/Route 136 corridor. Metacom Avenue currently consists of four travel ways, each eleven feet wide, with a one-foot paved shoulder and five-foot-wide sidewalk on each side. The current configuration is vehicle-centric and there is currently no bike lane within this section of Metacom Avenue. The width of Metacom Avenue presents an opportunity to reconfigure the roadway to accommodate bicycles, and incorporate a center turning lane. The resulting roadway would consist of two eleven-foot-wide travel lanes, one 12' wide turning lane, and two six-foot wide accessible shoulders. Existing five-foot wide sidewalks would be improved to be more accessible. Costs for this type of reconfiguration are typically moderate, since the main changes are to lane striping and signage while paved surfaces are maintained in their existing configuration.

Metacom Avenue/Route 136 is a major north-south surface transportation facility that is critical to local and regional traffic. The section of Metacom within the project area is classified as a minor arterial road and an evacuation route. It serves as a segment of the north-south route connecting traffic from Bristol and Warren with points north including the connections to Interstate 195 in Swansea, Massachusetts and the regional highway system. It is also one of the two primary routes connecting south to Bristol and the Mount Hope Bridge. The period between 1965 and 1985 saw the development of Metacom Avenue as retail/commercial corridor with a widening of the roadway and associated private development that catered to automobile traffic. There is currently little infrastructure to accommodate pedestrians between or within parcels, and no separated paths or designated lanes for bicyclists.

This segment of Metacom Avenue also connects just north of the project area with Child Street/Route 103 which is classified as a principal arterial road and an evacuation route. Child Street/Route 103 serves as a primary east-west route connecting traffic from the Metacom Avenue corridor and Downtown Warren with points east including the connections to Interstate 195 in Swansea and the regional highway system.

Approximately 76% of the Metacom project area, including roadways, is impervious. This high percentage of impervious area results in large volumes of stormwater runoff. Catch basins within roadways capture some runoff within this project area and the storm drains discharge at several outfalls to the Kickemuit River. Impairments listed for the Kickemuit River include fecal coliform and phosphorus. Improvements highlighted within the Market to Metacom Plan also include the reduction of surface parking lots and improved stormwater management infrastructure.

GREEN INFRASTRUCTURE AND STORMWATER MANAGEMENT

In addition to the larger scale planned stormwater management improvements for the Metacom Project area, the Town of Warren has already prioritized implementing green infrastructure at the site-specific level to reduce the environmental impacts of road runoff.

Green infrastructure, including street trees, brings the benefits of nature to the built environment. Nature can be harnessed to provide critical services for communities, protecting them against flooding or excessive heat, or helping to improve air and water quality, which underpin human and environmental health. When nature is harnessed by people and used as an infrastructural system it's called "green infrastructure."

Warren has partnered with Save the Bay and the Eastern RI Conservation District to implement water quality and stormwater mitigation projects throughout the Town. When feasible, "green infrastructure" is utilized to maximize environmental benefits while reducing maintenance costs. Examples of local green infrastructure projects include the bioswales along Water Street in the area of the Town Beach and underground infiltration systems on Campbell Street and Brownell Street.

The Town is also preparing to construct two "end of road retrofits". This is a process where the end of the paved roadway is removed and landscaping is installed to reduce erosion, reduce runoff and improve the quality of the water that enters the river. The design for these projects was created in partnership with Save the Bay, and construction is being funded through a Municipal Resilience Fund grant with the RI Infrastructure

Bank. Another municipal project in the pipeline funded in part by a Municipal Resilience grant with the RI Infrastructure Bank seeks to reduce the paved area of an existing cul-de-sac (Fern Drive) and install new street trees with tree filters to store and treat stormwater runoff.

PUBLIC TRANSIT

The Rhode Island Public Transit Authority (RIPTA) offers bus service along designated routes with specified stops in Warren. Route 60 runs daily between Providence and Newport along Route 114 and Route 61x provides weekday services along Metacom Avenue and Franklin Street to and from Tiverton Park & Ride and Downtown Providence.

The Town of Warren provides senior bus transportation Monday through Friday to residents 60 years and older, or younger disabled, at no cost for shopping, doctors' appointments and transportation to the Senior Center. Medical Transportation Management (MTM) provides statewide transportation for Medicaid members and for all Rhode Islanders age 60+ for routine, non-emergency medical appointments. Trips must be scheduled at least two business days in advance and must occur Monday-Friday between 5 AM and 6 PM. Ride service is also available through an application process for individuals whose disability prevents use of the fixed route system or prevents travel to or from bus stops.

BICYCLE INFRASTRUCTURE

The East Bay Bike Path is the first multi-town State-owned bike path built in Rhode Island. The path follows the former Providence and Bristol Railroad. It travels 14.5 miles from India Point Park in Providence to Independence Park in Bristol, with approximately two miles running north / south through Warren. The bike path is an undisputed success, used extensively for bicycling, walking, and commuting. However, some public safety concerns have been raised due to conflicting uses between bicyclists riding at high speeds and sometimes using electric bikes and persons walking and riding more casually such as young families.

Necessary replacement of bicycle path bridges between Barrington and Warren over the Barrington River and Palmer River is underway and anticipated to be completed in 2025. RIDOT has started work on a \$24 million design-build project to replace the East Bay Bike Path bridges. The bridges, which date back to the 1880s, have been closed since 2019 because they were badly deteriorated and it was not safe to keep them open.

A little over a mile long from Long Lane to the Kickemuit River, the Warren bicycle path follows an old railroad bed and runs along the Hugh Cole Elementary School and other recreational assets owned by the Town. Connection of this local bicycle path to the East Bay bicycle path is a priority and is in development stages. Ongoing is a federally-funded Safe Routes to School project to make it easier and safer for the students of Kickemuit Middle School and Hugh Cole Elementary School to walk or ride a bike to school. The centerpiece of this project involved the replacement of the "Broken Bridge," which was destroyed more than 80 years ago during the Hurricane of 1938. A new 165-foot-long pedestrian bridge using lightweight yet strong and long-lasting composite materials is being constructed. It will connect several neighborhoods on the western side of Kickemuit River with the existing Warren Bike Path on the eastern side of the river. RIDOT will make necessary ADA-complaint sidewalk and path extensions to link the schools to the Warren Bike Path and bridge. Flashing school zone speed limit signs and stormwater improvements along the project area will also be incorporated. In 2023, the Town approved the construction of a small off-street parking lot on Long Lane for

bicycle path users to facilitate access and address safety concerns of on-street parking and student drop off in the area by the bicycle path. A priority is also establishing a safe and convenient connection between the west end of the new Warren bicycle path bridge by Libby Lane to the East Bay Bicycle Path. Franklin Street would provide the most direct access and measures to safely accommodate bicyclists should be explored and implemented in the short-term.

This Safe Routes to School bicycle paths connection project will work in tandem with improvements the Town is making farther north at Birch Swamp Road which will remove obstructions to tidal flow, reduce flooding, and improve the ecological health of the river with sustainable transportation infrastructure.

The Towns of Warren and Bristol are working together to investigate a potential trail connection to link neighborhoods, open space and schools between the two towns via an off-road bicycle and pedestrian path on the electric easement of Rhode Island Energy. The Town of Bristol owns 100 acres of protected open space known as Perry Farm. Rhode Island Energy's power line easement runs through this land and currently has a path beneath the lines that serves as a connection to other trails located within Bristol. In Warren, these power lines continue northward to Belcher's Cove, with almost all the land beneath the power lines under the ownership of Rhode Island Energy. The Rhode Island Energy Utility Path directly abuts the Job Lot Plaza to the west. The location of a trailhead should be considered when redevelopment occurs in the future. The Town and RIDOT should collaborate to plan and implement bicycle lanes and signage along shared corridors with other neighboring communities such as the Town of Swansea and its planned improvements for Route 103.

Where the bike path intersects streets, Main Street, Child Street, and Market Street, automobile traffic threatens crossing bicyclists and pedestrians. Many crashes have been determined to have a direct or indirect linkage to cyclists crossing at these locations. The Town will consider strategies for traffic calming and increased visibility including installing signage in the crosswalk, sidewalk expansion, and raised crosswalks. Along Main Street, Child Street and Market Street, there are no existing facilities, such as share the road signage or buffered bicycle lanes, in place to accommodate cyclists.



Child Street intersecting East Bay Bicycle Path



East Bay Bicycle Path

The Town should consider establishing a Bike, Path, & Trails Committee tasked with advising on safety improvements and developing a plan for a townwide network and system of paths, trails, bike lanes, etc. and destination nodes (e.g., library, parks, convenience stores, intended connections with adjacent town's infrastructure, etc.). The plan should include a map for municipal government purposes such as during the review process of development applications and when planning for and constructing such paths, trails, and lanes including the securing of easements in anticipation of future implementation. If formed, the Town Manager and the Town Planner should develop the Committee's charge and rules of procedure for consideration and approval by the Town Council.

SAFETY ACTION PLAN

Warren is one of more than thirty cities and towns in Rhode Island that is part of a Statewide Safety Action Plan funded through a \$5 Million SS4A (Safe Streets For All) grant administered by the Federal Highway Administration. The statewide action plan and community action plan specific to Warren will serve as a framework for roadway safety improvements to be implemented during this 10-year Comprehensive Community Plan timeframe. The process will be facilitated by an external consultant and will incorporate engagement and collaboration from the community with the ultimate goal of eliminating roadway fatalities and serious injuries.

SUPPORTING DOCUMENTS AND RESOURCES

Market to Metacom: Adaptation and Economic Development Plan, Final Report, Prepared by Fuss & O'Neill for the Town of Warren, December 29, 2021.

Metacom Avenue Corridor Plan, Warren, RI, 2012.

National Grid Easement Trial Feasibility Study, 2016.

The Towns of Warren and Bristol joined together in this effort to investigate a trail connection which would link neighborhoods, open space and schools between the two towns via a bicycle and pedestrian path on the electric easement of the National Grid.

Road Safety Assessment¹⁴, Downtown Warren, October 2019.

State Guide Plan

The State Guide Plan is Rhode Island's centralized and integrated long-range planning document. The State Guide Plan is not a single document but a collection of plans that have been adopted over many years. It comprises many separately published elements covering a range of topics.

Moving Forward Rhode Island 2040, The State of Rhode Island's Long Range Transportation Plan (LRTP), State Guide Plan Element 611, 2020.

This plan envisions a multimodal transportation network that connects people, places and goods in a safe and resilient manner by providing effective and affordable transportation choices that are supportive of healthy communities, provide access to jobs and services, and promote a sustainable and competitive Rhode Island economy. The Transportation Element of this Comprehensive Plan supports the state's goal to "promote environmental sustainability by prioritizing non-single occupancy vehicle focused strategies and investments" with a comparable goal (GT2), a policy (PT2) which focuses on bicycle and pedestrian circulation, two transit-related implementation actions (AT5 & AT6 – transit) and numerous pedestrian and bicycle related actions (AT7-AT14; AT15-AT18).

Under the umbrella of Moving Forward, the State's Bicycle Mobility Plan, identifies "connect and expand the state's bicycle network" as a goal which aligns with the Town's goal (GT4) specific to bicycle transportation. Implementation of actions AT7-AT14 for expanding and

¹⁴ The FHWA defines a Roadway Safety Assessment (RSA) as a "formal safety performance evaluation of an existing or future road or intersection by an independent, multidisciplinary team". RSAs are a valuable tool for transportation agencies to evaluate road safety issues contributing to injuries and deaths and to identify opportunities for improvement.

connecting the bicycle transportation network at multiple sites across Warren would further the goals of the State's Bicycle Mobility Plan.

State Transportation Improvement Program (STIP) 2022-2031

The STIP is a list of transportation projects the State of Rhode Island intends to implement using United States Department of Transportation funds. For a transportation project to utilize federal funds it must be included in the STIP. A number of projects in Warren are listed in the STIP including but not limited to the East Bay Bike Path Bridge Replacement and the Safe Routes to School infrastructure improvements for Hugh Cole and Kickemuit Middle School area including the bridge over the Kickemuit River at Brito Park to Barker Avenue.

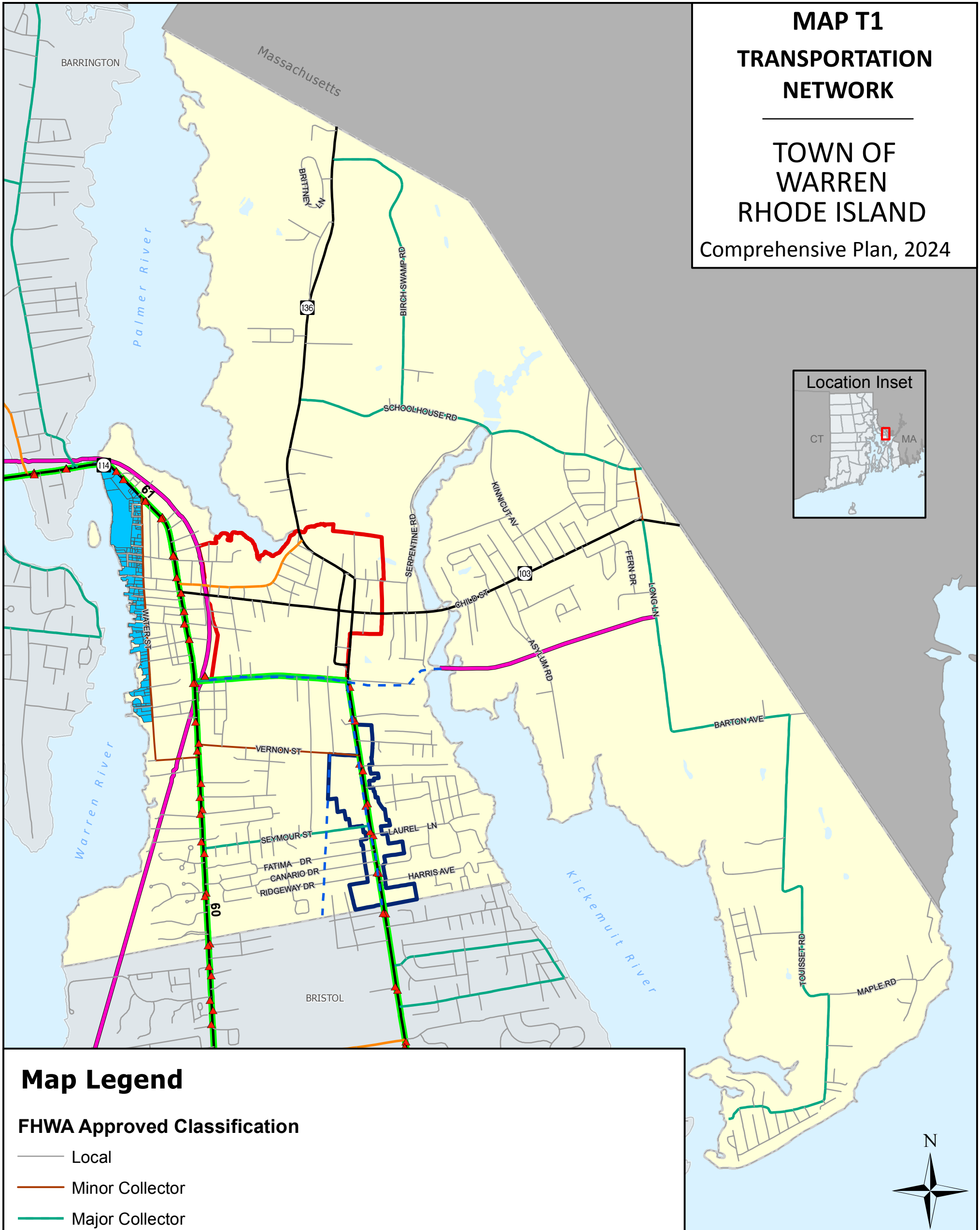
Technical Papers 164, 167 – Vulnerability of [Municipal] Transportation Assets to Sea Level Rise and Storm Surge Transportation Improvement Plan, Rhode Island Department of Administration.

Warren Downtown Circulation Study, 2017 (RA Cataldo & Associates Inc. (CA) has evaluated traffic impacts associated with five proposed alternative circulation patterns for the downtown area in Warren, Rhode Island.)

MAP T1
TRANSPORTATION
NETWORK

TOWN OF
WARREN
RHODE ISLAND

Comprehensive Plan, 2024



Map Legend

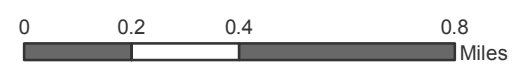
FHWA Approved Classification

- Local
- Minor Collector
- Major Collector
- Minor Arterial
- Other Principal Arterial
- RIPTA Bus Stops
- RIPTA Bus Routes
- Bicycle Path

- Ports and Commercial Harbors
- M2M Market St Project Area
- M2M Metacom Project Area

- Proposed Potential Location of Bicycle Path Connection, Bicycle Lane, or Multi-Use Trail

- Warren
- RI Municipal
- Other States



This map is not the product of a Professional Land Survey. It was created by the Town of Warren for general reference, informational, planning or guidance use, and is not a legally authoritative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. The Town of Warren makes no warranty, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

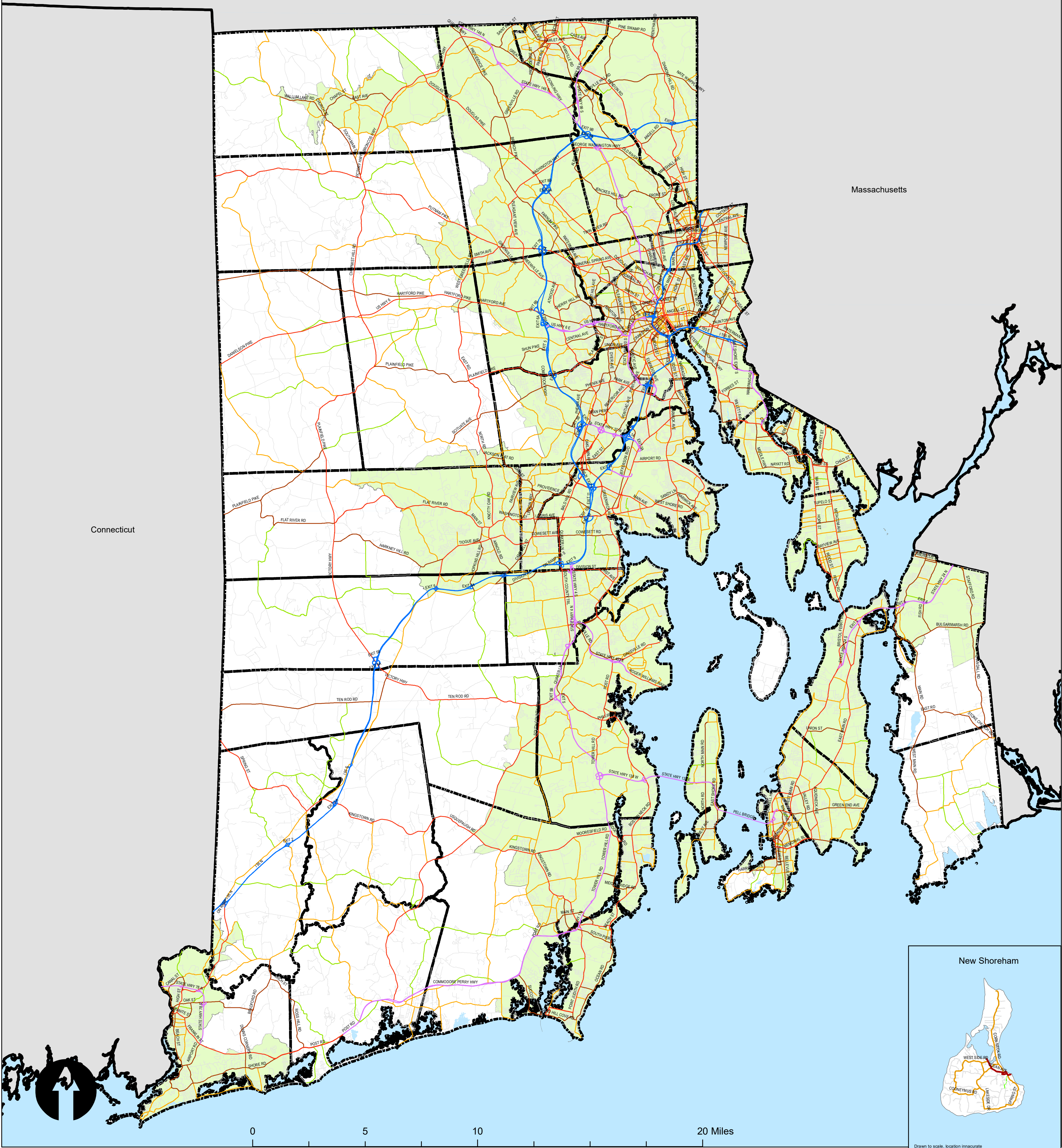
RIGIS

(ABP+M,
8/23/2023)

State of Rhode Island

Existing Highway Functional Classification

Map Updated on: Monday, March 11, 2019



Legend

- Interstate
- Major Collector
- Freeway
- Minor Collector
- Principal Arterial
- Local
- Minor Arterial

Urban Transportation Area 2013



Rural Transportation Area 2013



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8. ECONOMIC DEVELOPMENT

GOALS

- GED1: SUPPORT SMALL BUSINESSES, EXPAND EXISTING INDUSTRIES, AND CULTIVATE ADVANCED INDUSTRIES TO ENSURE A RESILIENT AND PROSPEROUS COMMUNITY FOR ALL RESIDENTS
- GED2: STRENGTHEN AND MAINTAIN A BALANCED AND SUSTAINABLE LOCAL ECONOMY CHARACTERIZED BY A DIVERSE TAX BASE, QUALITY EMPLOYMENT OPPORTUNITIES, AND HIGH QUALITY OF LIFE FOR ALL RESIDENTS
- GED3: PROMOTE A SOUND LOCAL ECONOMY THAT DRAWS UPON AND ENHANCES THE TOWN'S UNIQUE NATURAL, HISTORIC AND CULTURAL FEATURES
- GED4: RETAIN, EXPAND, AND ATTRACT BUSINESSES THAT PROMOTE AND IMPROVE THE ENVIRONMENTAL SUSTAINABILITY OF THE TOWN
- GED5: RETAIN AND EXPAND AGRICULTURE AND WATERFRONT-RELIANT BUSINESSES AS VIABLE ECONOMIC ENTERPRISES AND METHOD TO PRESERVING OPEN SPACE AND NATURAL RESOURCES
- GED6: ADDRESS BARRIERS TO EDUCATION AND EMPLOYMENT, OFFER WORK-BASED LEARNING OPPORTUNITIES, AND INCREASE THE SUPPLY OF WORKFORCE HOUSING

INTRODUCTION

The overarching goal of local economic development for the Town of Warren is that the community remain a desirable place to live, work and play. Local economic development strategies can and should capitalize on the Town maintaining and enhancing its assets including its maritime and agrarian heritage, waterfront opportunities, natural resources and sense of place. Working and recreational waterfronts, an historic downtown district, reimagined mill spaces, rural landscapes with active farms, a centralized location and diverse business sites make Warren a viable place for existing businesses to expand and for new businesses to locate. However, economic and physical development must occur in context, and care must be taken to preserve and enhance the current assets that contribute to the current and future quality of life.

The following table includes policies to promote the stated goals of the Economic Development Element of this Comprehensive Plan. Implementation actions are also listed within the table. The Implementation Program, Chapter II of this Comprehensive Plan, assigns a responsible party or parties, timeframe, and priority level for each of the implementation actions.

ECONOMIC DEVELOPMENT POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PED1. Prioritize resiliency and proactively protect the local economy from the impacts of climate change	AED1. Implement the retreat and corridor redevelopment scenario prescribed in the Market to Metacom Plan to limit business closures due to flooding
	AED2. Rezone Metacom Avenue project area to encourage higher-density mixed use redevelopment of the corridor and new sites for businesses
	AED3. Encourage existing businesses and commercial property owners to update facilities to be energy efficient, utilize renewable energy, request street trees within the public ROW or plant trees on their property, reduce impervious surface, and purchase electric vehicles
PED2. Promote economic resilience by encouraging a diversity of permitted commercial uses and commercial districts	AED4. Review and update permitted uses in commercial zoning districts including but not limited to the Rural Business District
PED3. Ensure that development or redevelopment of the Warren River waterfront enhances and does not detract from its character and important economic role as a mixed-use working waterfront	AED5. Review local regulations and make amendments as necessary in order to protect waterfront-reliant businesses and land use while ensuring future development respects the historic scale of adjacent residential neighborhoods
PED4. Establish arts and culture as a strong civic value that enhances economic vitality, builds a sense of place and fosters community engagement	AED6. Collaborate with arts-related organizations and economic development partners such as the East Bay Chamber and foster the relationship between the arts and business community for cross-promotion and economic development
	AED7. Seek funding for arts and culture and historic preservation to build on Warren's identity as a cultural destination

ECONOMIC DEVELOPMENT POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PED5. Promote heritage and marine-related tourism as a key economic development strategy, using historic structures and natural resources to attract and serve visitors, as a way to encourage economic development and protect cultural assets	AED8. Market the town as an attractive and unique cultural regional destination for visitors
	AED9. Incentivize the use of and improvement to vacant storefronts; establish strong disincentives for property owners to continue long-term vacancy of commercial structures or keep properties in a state of disrepair
	AED10. Advertise and support community events throughout the year that bring in many visitors to patron local businesses
	AED11. Ensure commercial development in Downtown Warren is consistent with the historic character of the district
	AED12. Promote a “park and walk” environment incentivizing the use of lesser demand parking areas Downtown through policy and regulatory changes such as education and wayfinding, parking enforcement, time limits and/or pricing, and employee parking programs (AT25.)
	AED13. Install wayfinding signage for public parking and also signs visible from bicycle paths (i.e. Union Studio designed sign by Del’s) to primary destinations (AT28.)
	AED14. Investigate development of color-coded walking paths /routes originating from strategic starting points such as the parking lot on Franklin Street adjacent to the bike path to lead visitors to Main Street, Water Street, historic sites. Have a QR code for visitors to access information on landmarks, parking, and businesses along the route.
PED6. Foster economic viability of local agricultural producers	AED15. Expand the public riverwalk created as part of the Tourister redevelopment south to the Town Beach and north to the Town line (ARO19.) and explore opportunities for museums and/or other cultural or marine-related public exhibits along the waterfront.
	AED16. Facilitate low-cost leasing of publicly owned and/or conservation land to farmers
	AED17. Support the efforts of the LCACT and other partners to preserve farmland and open space through the purchase of development rights and other voluntary mechanisms
	AED18. Amend zoning ordinance as needed to provide adequate standards which permit and support agricultural businesses while ensuring that they are compatible with neighboring residential uses and the overall environmental and aesthetic goals of the community
	AED19. Regulate uses on farms not directly related to the agricultural operations or principal use of the farm

ECONOMIC DEVELOPMENT POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PED7. Support and encourage existing small businesses to grow in place, keeping jobs local, and retaining the commercial tax base	AED20. Inventory development sites, exiting vacant and underutilized commercial space, and available real estate
	AED21. Encourage residents to support local businesses and educate on the impact of shopping locally
	AED22. Update local regulations to spur the creation of workforce housing units which is critical for the local economy and advocate for effective affordable housing policies and programs at the state level
PED8. Create a business-friendly environment that fosters entrepreneurship, attracts businesses that produce livable wage jobs and improves the quality of life of residents	AED23. Continue to analyze the permitting and licensing processes and implement recommended measures from LEAN process to ensure a streamlined process for starting or expanding a business in Warren.
	AED24. Collaborate with educational institutions and workforce development organizations to support, educate and train residents on the skills that meet employer and workforce needs
	AED25. Facilitate connection between the BWRSD and local employers who can offer career exploration opportunities including manufacturing and the trades
PED9. Support the retention and growth of key industries that promote economic mobility for all residents including manufacturing, marine trades, blue economy, professional, scientific, and technical, construction trades, and food systems	AED26. Advocate for improved telecommunications infrastructure including broadband fiber optic cable and continue programs that promote expanded and affordable access to high-speed internet
	AED27. Establish town-wide reliable and affordable high-speed internet connection which is critical for both the public school system and local economy (ASF25)
	AED28. Collaborate with industry professionals, associations, and government agencies to foster the growth of regionally significant industries including the blue economy, manufacturing, marine trades, defense, and tourism
	AED28. Conduct an in-depth survey of businesses to understand needs in regards to location and municipal services to inform local marketing and retention efforts
	AED29. Undertake a branding exercise utilizing local creative talent to target and attract businesses and highlight Warren as a unique community and desirable place to live, work, and visit

WARREN'S ECONOMIC STRENGTHS

- Location – Situated between Providence and Newport, Warren benefits from economic activity at these regional centers. Warren's economy is also closely tied to abutting East Bay communities and regional collaboration has benefits at the local level including a quality regional school system with Bristol.
- Town Character – Warren's town character is arguably its largest asset and its historic and walkable Downtown, shorelines, rural neighborhoods and farmlands, and arts and culture define the image of Warren and establish a strong economic foundation. This small close-knit community benefits from a rich variety of landscapes, land uses, and diverse housing stock.
- Redevelopment Opportunities – Warren has larger sites vacant or underutilized that are well suited for large scale redevelopment and adaptive reuse including mill buildings, sites along visible gateway corridors such as Market Street with convenient Interstate 195 access, industrial sites, and future opportunities created through rezoning of commercial sites along Metacom Avenue to higher-density mixed use centers.
- Service and Connectiveness – Water and sewer are available in most developed parts of town.RIPTA provides bus service to Providence as well as Newport. The East Bay Bicycle Path connects Warren to communities to the north and south and has introduced many of its users to Warren and has resulted in increased patronage of local businesses located along its route. The expanding local bicycle path network also connects the neighborhoods of Warren.
- Creativity and Innovation – The arts are well-established in Warren and provide opportunities for growth and the attraction of creative entrepreneurs.
- Natural Resources – Warren's heritage and natural resources provide a legacy for the evolving agricultural and water-based economic sectors. Extensive shoreline and a working waterfront offer growth potential in sustainable industries and the blue economy in Warren as well as plentiful recreational activities.

WARREN'S ECONOMIC DATA

- Private establishments in Warren total 423 with an employment of 3,420, total wages of \$179,240,458, and average annual wage of \$52,413.¹⁵
- Warren has a median household income similar to the statewide average (\$74,489) at \$75,755, 30th out of 39 cities and towns for median household income.¹⁶

¹⁵ Rhode Island Department of Labor and Training's 2021 Employment and Wage Report: <https://dlt.ri.gov/labor-market-information/data-center/employment-wages-industry-qcew>

¹⁶ <https://dlt.ri.gov/sites/g/files/xkgbur571/files/documents/pdf/lmi/towninc.pdf>

- 34% of the population of Warren 25 years of age or older have a bachelor's degree.¹⁷ Warren ranks 32nd out of 39 cities and towns in Rhode Island for percent of population 25 years or older with high school diploma at 88.9%.¹⁸
- 41.3% of Warren residents 25 years and older had a college degree (Associate or higher) in 2021. The share of local residents without a high school diploma or GED decreased between 2000 and 2019, falling from 23.1 percent to 11.1 percent.
- Between 2020 and 2021, employment in Warren increased by 230 (+6.8%) jobs. Private sector employers reported a gain of 227(+7.1%) jobs, while public sector employment rose by 2 (+1.4%) jobs. In comparison, statewide total employment grew by 19,254 (+5.0%) jobs. Between 2021 and 2022, employment in Warren increased by 175 (+4.9%) jobs. Private sector employers reported a gain of 169 (+4.9%) jobs, while public sector employment rose by 6 (+3.5%) jobs. In comparison, statewide total employment grew by 16,541 (+4.1%) jobs.
- Warren's annual unemployment rate (not seasonally adjusted) averaged 2.9%, just below the state average of 3.0% in 2023. Rhode Island's average adjusted unemployment rate for the four quarters ending March 2024 was 3.7 percent.
- Over one-fifth (21.0%) of Warren residents work in Warren, while 19.8 percent work outside of RI. As of August 2023, there were 704 businesses registered with the Rhode Island Secretary of State located within Warren. Of those the highest percentages were construction (9% at 65), professional, scientific, and technical (8% at 62), manufacturing (7% at 52), and accommodations and food services (5.3% at 37).
- Warren's total population decreased by 0.2 percent during the 1990's, with the loss of 25 people. Between 2000 and 2021, Warren lost another 194 (-1.7%) residents.

Table ED.I below highlights those employment sectors that represent the largest employers in Warren including manufacturing, accommodation and food services, and health care and social services. These primary employment sectors of Warren are consistent with the state as a whole.

¹⁷ US Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

¹⁸ US Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

Table ED1. Employment and Wages in Warren (2022, Unemployment Insurance Covered)			
Sector	Number of Units	Average Employment	Total Wages
Total Private & Government	481	3,760	\$ 179,752,209
Total Private Only	474	3,589	\$ 169,570,034
Agriculture, Forestry, Fishing & Hunting	2	*	*
Mining	0	0	\$ -
Utilities	0	0	\$ -
Construction	56	147	\$ 8,652,046
Manufacturing	34	905	\$ 48,419,958
Wholesale Trade	23	117	\$ 9,585,576
Retail Trade	55	328	\$ 11,077,653
Transportation & Warehousing	3	*	*
Information	7	32	\$ 1,905,607
Finance & Insurance	17	135	\$ 12,089,282
Real Estate & Rental & Leasing	12	42	\$ 1,547,558
Professional & Technical Services	65	204	\$ 15,888,883
Management of Companies & Enterprises	2	*	*
Administrative Support & Waste Mngmnt.	35	138	\$ 7,180,137
Educational Services	9	129	\$ 5,961,014
Health Care & Social Assistance	47	499	\$ 22,501,866
Arts, Entertainment, & Recreation	10	51	\$ 1,046,922
Accommodation & Food Services	48	602	\$ 14,166,059
Other services,except Public Administration	52	189	\$ 7,056,947
Unclassified Establishments	0	0	\$ -
Government	7	171	\$ 10,182,175
<i>RIDL T, Quarterly Census of U.I.- Covered Employment and Wages, City and Town Report, 2022 AnnualData compiled May 2023, subject to revision.</i>			

INDUSTRY PROFILES

Manufacturing

For over a century, Warren relied on manufacturing and related industry as its major source of local employment. Despite the decline regionally in manufacturing, it is still the leading local employment category. Manufacturing jobs are an important component of the overall job market as the sector creates middle class jobs providing family sustaining wages, with an average annual salary of over \$51,000 in Warren and opportunities for career progression. RIDLT data from 2021 compared to 2011 data demonstrates a growth of 243 manufacturing jobs during the past decade, and job growth continuing in this sector in 2023 with a total of 905 jobs. Warren must continue to attract and retain modern manufacturing, light industry and technology firms.

Today, manufacturing in the U.S. is recreating itself with smaller, cleaner, highly specialized operations. Large historic industrial complexes remain part of Warren's landscape and are being successfully repurposed. A large proportion of Warren's historic manufacturing activities were clustered in the block behind Main and Child streets adjacent to the train tracks, now the East Bay Bicycle Path. Most of the buildings remain and are being utilized to some lesser extent, for small businesses including artist studios and workshops as an example. Comprehensive mixed-use redevelopment of the American Tourister site along the Warren River has been completed.

Food Services

Warren also has a popular and growing food services industry and has become a regional destination for visitors looking to dine at many of its local restaurants. Contributing to and supporting this growing industry is the Hope & Main Culinary Business Incubator which offers affordable shared kitchen space and mentoring for aspiring chefs, farmers, fishermen and food professionals.

“Hope & Main helps retain Rhode Island’s culinary professionals, provides a new market for local farmers and fishermen, and connects food producers to food consumers in a community setting. It also reuses an historic building, and brings new jobs and vitality to a traditional small downtown. By building connections in the local food economy, Hope & Main contributes to a more resilient economy and increased food security for Rhode Island residents.”¹⁹

Agriculture

Warren has several active agricultural operations and extensive fields used for a variety of crops. The importance of retaining these open spaces is recognized at the local and state level and municipal and joint efforts to acquire development rights have been successful and continue. In

¹⁹ Rhode Island Rising: <https://planning.ri.gov/sites/g/files/xkqbur826/files/documents/Econdev/2015/RhodeIslandRisingFinalwReport118.pdf>

addition to being small businesses that produce locally grown farm products, farms also serve as cultural, recreational and education centers for a community.

The Farm, Forest & Open Space Program (RIGL 44-27) allows enrolled property to be assessed at its current use, not its value for development. The purpose of the law is to conserve Rhode Island's productive agricultural and forest land, and open spaces by reducing the chance it will have to be sold for development.²⁰ Property owners of qualifying land in Warren that is currently in active agriculture use, idle farmland or forested benefit from this tax program. The underlying zoning of these properties is a variety of residential or commercial Zoning districts and being enrolled in the FFOS program does not equate to long-term conservation. The Town supports additional measures that ensure lands enrolled in the FFOS continue active agricultural operations or remain as open spaces.

Agriculture is a sustainable business providing produce and value-added goods to the region. Agricultural businesses can capitalize on the statewide growth of the local food sector and proliferation of farmers markets. In many farming communities, accessory uses to support agriculture are a growing portion of revenues for farmers and are often necessary to maintain working farms. The industry of agritourism and value-added agricultural products can offer important additional revenue for agricultural businesses from customers seeking farm experiences and locally-made products. The Town will review its Zoning Regulations to ensure that appropriate accessory uses for active farm businesses are permitted.

Land availability and affordability are significant obstacles to expanding or starting farm operations. In promoting agriculture, the Town can assist by identifying publicly owned or conserved lands suitable for agriculture and facilitating low-cost lease agreements. Supporting active farming can help stabilize the Town's tax base as productive farm activity contributes to the local economy and demands far less in terms of municipal services than comparable acreage of residential development.

The Blue Economy

The blue economy defined by the State as “the sustainable use of the ocean to create a resilient economy with and good paying jobs” is an area where Rhode Island has long dominated. Industries contributing to the blue economy include: ports and shipping, tourism and recreation, offshore renewable energy, marine trades, aquaculture and fisheries, seafood processing, and defense. As a coastal community, Warren supports and contributes to the State's blue economy. The working waterfront along southern Water Street is an important part of Warren's heritage and water-dependent and water-related uses sited there include boat building and fisheries/seafood processing. Expanding and attracting additional businesses to Warren that support the growing blue economy is highly desirable and offers the opportunity to add jobs to the local economy.

The Creative Economy

Warren is home to a robust art scene that has greatly contributed to the preservation of community character partly evidenced by the

²⁰ The Farm, Forest and Open Space Act | Rhode Island Department of Environmental Management (ri.gov)

transformation of vacant historic structures into artisan workshops and art studios including Cutler Mill. In 2020, the Warren Town Council created a **WARREN ARTS AND CULTURE COMMISSION** as a way to increase collaboration between local government and the growing arts and culture community of Warren. The Warren Arts and Culture Commission has organized and implemented the installation of public art including the 2021 Burr's Hill community art project's call for painted wooden panels to be displayed on the side of a historic Town-owned structure across from the Warren Town Beach. The Town of Warren also partnered with The Avenue Concept to create a Public Art Utility Box Program, with original artwork by local artists beautifying seven boxes. Using grant funding from Take It Outside the artwork on the utility boxes enlivens the streetscape and provides important opportunities to showcase local artistic talent.

Warren is one of nine municipalities in the state to have a designated "Tax Free Arts District." The strategy to grow the "creative economy" promotes community vitality and encourages business investment. Rhode Island law provides for tax incentives for artists, writers, and composers who live and work in a designated area. These incentives are intended to develop an active artistic community, including artists in residence, to promote economic development, revitalization, tourism, employment opportunities, and encourage business development. The tax incentives apply to writers, composers and artists residing within those areas of Warren which are zoned "waterfront district," "special district," "village business district," "manufacturing district," "business district" or "Warren historic district."

Art Night Bristol Warren promotes artists and arts organizations within the communities of Warren and Bristol, connects arts to residents and visitors and generates social, economic and cultural growth for the community. At Art Night, art-makers, advocates, and businesses owners collaborate to support the creative community and the cultural and economic vitality of Warren with free, affordable, and open educational programs for all ages. Other popular local cultural events include the Warren Quahog and Art Festival, a family event held in July featuring fresh seafood, art, and entertainment at Burr's Hill Park and the Annual Memorial Day Parade along Main Street honoring those who have served.

Tourism

Warren's pedestrian-friendly historic Downtown filled with shops and restaurants and scenic waterfront offering recreational opportunities is a regional tourism destination. Lacking in hotels and inns, the Town has very limited overnight accommodations and therefore visitors are typically from or staying in nearby communities. The Town can support its tourism economy by implementing measures to improve the experience of day visitors, such as parking management and wayfinding signage. The historic Downtown is easily accessible by car, bus, and bicycle and various modes of transportation are encouraged. Parking management strategies have been identified in the Plan for further exploration. A growing and successful tourism economy in Warren requires the community protect its unique sense of place and historic architecture and features.

A balance must be established between encouraging increased tourism activity in Warren and protecting neighborhood character and housing affordability. Towards this end, Warren adopted a short-term rental ordinance in 2023 that established a cap on the number of short-term rental units.

ECONOMIC DEVELOPMENT PROGRAMS AND POLICIES

One of Warren's Census tracts, that includes the Downtown Historic District and the land area generally north of Franklin Street, east of Metacom Avenue and South of Kickemuit Road is one of the State's 25 Opportunity Zones. The Opportunity Zones program is an economic development tool for designated Rhode Island communities. This federal program provides a tax incentive for private investors to direct capital gains into equity investments in qualified projects. It should be noted that the flood-prone Market Street project area is located within this Census Tract. Incentivizing real estate investment and development, through Opportunity Zones or other tools, within the retreat overlay defined on the Town's FLUM is discouraged. However, there are many other areas within this State designated Opportunity Zone private investment for business expansion, startup creation, development of workforce and affordable housing, and other real estate development is suitable and encouraged by the Town.

The Town has taken steps to advance local economic development in Warren with the following programs, policies and actions:

1. The Warren Town Council established the Economic Development Advisory Board by resolution in 2008.
2. Small businesses face barriers and challenges navigating local regulatory requirements including licensing, zoning, and permitting. The Town of Warren has partnered with Commerce RI and consultants from Exceeds to analyze the permitting and licensing processes. The goal of this exercise which utilizes the principles of Lean Government is to eliminate unnecessary steps and paperwork required when starting or expanding a business. Several amendments have already been implemented to this end and more are scheduled to be implemented in the short-term.
3. Understanding how critical broadband is for businesses, the town is taking steps to improve reliable high speed internet including discussions with service providers and surveying residents and businesses. Funding has been secured through Warren's Health Equity Zone (HEZ) to support outreach efforts to provide affordable high-speed internet to those in need.
4. Continuing the policy instituted during the COVID-19 pandemic expanded outdoor dining capacity.
5. The Town will continue to support policies and developments that result in the creation of affordable and workforce housing which is critical to the local economy.

GEOGRAPHIC AREAS FOR ECONOMIC DEVELOPMENT FOCUS

While Warren's economic activities are spread throughout the town, there are several centers of economic activity where public planning and investment can be focused.

Historic Downtown - Main Street / Water Street

Downtown Warren has experienced a substantial amount of renovation and adaptive reuse to historic structures over the past two decades including the Tourister Mill, Handkerchief Factory, and the Hope and Main business incubator (former school). The historic architecture, mix of uses, narrow roads and sidewalks add to the area's character and walkability. Main Street/Route 114 is the heart of and gateway to the Downtown Historic District, as well as the municipal center of Warren, and as such its aesthetic appeal, streetscape amenities, and vitality is of upmost importance to the entire district. Water Street retains its own ambience distinct from Main Street, with a diverse mix of marine industries, restaurants, boutique shops and waterfront recreational opportunities. Protecting Water Street's maritime, historic and architectural character is crucial to retaining Downtown Warren's desirability for small business location and regional tourism destination. Economic development within Downtown Warren should build upon the historic and architectural features of the area and balance commercial activity with residents' needs.

The Waterfront

Warren's waterfront along the Warren River is one of the few working waterfronts remaining in Rhode Island. Maritime uses are integral components to Warren's economic base and as such land zoned and dedicated to water-dependent and related businesses must be maintained. A variety of land use activities define the waterfront area today. The waterfront contains a mix of uses including typical maritime commercial activities such as boat building, boat storage, and fish processing, along with restaurants and antique shops. The southern end of the waterfront includes important recreational assets, the Town Beach and adjoining playground, Burr's Hill Park, and a baseball field. Along the waterfront in the district is also the existing site of the Wastewater Treatment Plant. While maintaining Warren's working waterfront, expanding public access to the waterfront is also a priority. Additional public spaces including an extension of the riverwalk should be pursued, as well as a museum or outdoor exhibits that celebrate the town's maritime history. These civic spaces would also promote the tourism economy of Warren.



Waterfront Along the Warren River

Cutler Street Area

The Cutler Street area has emerged as a growing source of economic activity. Cutler Mills was built in 1868 and 1916 as a textile mill and is a good example of adaptive reuse of a mill complex for commercial uses including artisan studios. At the end of Cutler Street, a mix of businesses east of the bike path could be made more accessible through street and pedestrian connections. Visual and pedestrian links to Main Street would increase the economic potential of this area. Streetscape improvements including lighting, sidewalks, street trees and wayfinding signage would create a more pedestrian-friendly environment.

Market Street

Market Street has a mix of manufacturing, commercial and residential uses, and some scenic and historic properties. The northern gateway into Warren from Massachusetts must be carefully planned particularly to mitigate conflicting land uses and to preserve coastal buffers. The Warren Zoning Ordinance has a Rural Business Zoning District that will be revisited to ensure that it is not overly prohibitive in the definition of rural businesses and the uses permitted.



Cutler Mills

Parker Mill

Parker Mill is a 240,000 square foot building located on a 10.4-acre site on Metacom Avenue. This building was constructed in 1899 and was used as a textile mill until 1968. From 1968 through 1990 the site was used for the manufacture of wire and cable products. The mill was redeveloped and currently has multiple small businesses as tenants including most notably a health and fitness center. Further economic development opportunities within the Parker Mill site and surrounding district are encouraged, along with circulation and streetscape improvements.

Metacom Avenue

Metacom Avenue/Route 136 is typical of commercial highway strips all over the country developed during the 1960's and 1970's. Route 136 connecting Interstate 195 and Bristol is a four-lane road with excessive curb cuts. The corridor suffers from a lack of trees, landscaping, design

standards, and accommodations for pedestrians and bicyclists. Heavy traffic that peaks during commuting hours has an impact on the area including long delays and hazardous conditions for entering left turning traffic. A Metacom Corridor Plan was completed in 2012 and goals of recommendations of that Plan are still relevant and to be completed. More recently, the Market to Metacom Plan which is the focus of this Comprehensive Plan details future economic development opportunities to be created along Metacom Avenue through rezoning, specifically form based code, that will allow for greater density and a mix of uses.

MARKET TO METACOM PLAN

The goal of the Market to Metacom Plan was to create a community plan that holistically addresses climate change challenges in Warren while promoting economic redevelopment. Funded by a grant from the Southeast New England Program (SNEP) of the U.S. EPA, the plan serves as an example of how communities can adapt to climate change impacts while fostering community redevelopment, job creation, and housing production, in a manner that attracts a shift in private investment while improving overall resilience.

Review of the existing conditions demonstrates that the Market Street area is facing severe impacts from climate change, including sea level rise and severe precipitation and storm events. These impacts will negatively affect the community in the coming ten to thirty years and will have the potential to severely damage and destroy hundreds of residential units and businesses, public facilities, disrupt local and regional transportation routes, flood environmentally sensitive sites and damage utilities.

Implementation of the retreat and corridor redevelopment scenario prescribed in the Market to Metacom Plan will have the following economic development benefits:

- Promotes future redevelopment of private property and new sites for business within the Metacom Avenue area
- Avoids unemployment resulting from business closures due to flooding in the Market Street area
- Mitigates municipal financial impacts from loss of taxable properties due to flooding

The Market to Metacom Plan includes an analysis of the devastating economic impact of a no action scenario. The number of commercial buildings flooded has been calculated based on the extent of sea level rise over time combined with projections for the frequency of future 100-year storm events. An estimate of the number of lost operational days for these flooded businesses was used to predict the total business revenue loss due to the flooding.

Local property taxes fund municipal government operations including but not limited to public education, roads, police and fire protection, water, sewer, waste management, parks, and utilities. Quality public services at competitive tax rates are key to attracting and retaining residents and businesses, which in turn support local tax revenues. The loss of local tax revenues from the regular and permanent flooding of residential and commercial properties in the Market Street project area will result in a significantly smaller tax base and a potential downward spiral of disinvestment with population decline, reduced tax base, and reduced quality of public services.

The redevelopment of Metacom Avenue at higher density, with a mixture of land uses, allows for new buildings which have the potential to yield more taxable real estate value for the Town of Warren. The Market to Metacom Plan offers build-out scenarios and estimates a significant increase to annual tax revenues for the Town. The redevelopment of Metacom Avenue corridor will also allow for additional commercial space to retain businesses and jobs locally lost to flooding conditions in the Market Street area.

The reestablishment of natural vegetated and wetland areas between the remaining developed areas and adjacent bodies of water in the Market Street area will create a natural buffer to minimize wave action and flood storage areas that can protect remaining businesses, infrastructure, and roadway/transportation connections.

ECONOMIC DEVELOPMENT PARTNERS

The East Bay Chamber of Commerce represents member businesses in Barrington, Warren, and Bristol and surrounding municipalities to promote their economic interests.

Discover Warren promotes tourism, shopping, dining and the arts in Warren, with a focus on Water Street and Main Street.

The Hope & Main Culinary Business Incubator is a facility that offers food businesses the opportunity to grow their first few years without the cost of equipping their own commercial facilities through the sharing of equipment, technical assistance and other business support.

Rhode Island Commerce is the quasi-public agency charged with Economic Development for the state Rhode Island. The Rhode Island Commerce Corporation works with public, private and nonprofit partners to create the conditions for businesses in all sectors to thrive and to improve the quality of life for our citizens by promoting the state's long-term economic health and prosperity. RI Commerce offers business assistance, access to funding and red tape reduction.

FEATURED BUSINESSES

Local businesses are also economic development partners and stakeholders. Their input should be solicited during economic development planning and policy development. Table ED2 below is a selection of large employers sited in Warren that demonstrates the diversity of industries that comprise the local economy. Table ED3 includes lists the largest tax revenue generating businesses in Warren.

Table ED2. Large Employers in Warren	
Jade Engineered Plastics	Precision plastics manufacturing
TPI Composites	Composite materials/renewable energy manufacturing
Water rower	Manufacturer of rowing simulator
Magnetic Seal	Manufacturer of magnetically energized rotary seal for aerospace and high precision applications
Pusterla (previously known as Taylor Box)	Manufacturer of packaging
ComSearch, Inc	Technology based services for insurance companies
Avtech	computer hardware and software developer and manufacturer

Aspects	Manufacturer of bird feeders
Blout Fine Foods	Food system business / seafood soups / distribution, market, and restaurant
Blout Boats	designs and builds commercial steel and aluminum vessels
Grace Barker Health	Elderly services – nursing home, assisted living, rehab
Crestwood Nursing Home	Nursing services and rehabilitation center

Table ED3. Largest Tax Generating Businesses in Warren							
Name	Location	State Code	Land Assessment	Building Assessment	Tax Value	Tax	Land Use
TOURISTER MILL LLC	2-1 at 91 MAIN ST	06	\$ 2,277,400	\$ 47,660,100	\$49,937,500	\$682,146	Apartments/Commercial
99 Water LLC	2-2 at 99 WATER ST	03	\$ 1,800,900	\$ 21,587,400	\$23,388,300	\$319,484	Apartments/Commercial
RHODE ISLAND ENERGY-Electric	TANGIBLE (UTILITY)	10P			\$ 8,113,231	\$146,119	Utility-Personal Property
RHODE ISLAND ENERGY-Gas	TANGIBLE (UTILITY)	10P			\$ 7,766,769	\$139,880	Utility-Personal Property
GNN II LLC	13E-172 at 700 METACOM AVE	03	\$ 460,700	\$ 9,506,200	\$ 9,966,900	\$136,148	Apartments
THE PEARSON COMPLEX LLC	22-156 at 373 MARKET ST	07	\$ 546,200	\$ 7,482,200	\$ 8,028,400	\$109,668	Manufacturing/Industrial
OCEAN STATE PLAZA INC MEGL REA	15B-333 at 601 METACOM AVE	06	\$ 1,091,600	\$ 6,176,200	\$ 7,267,800	\$ 99,278	Retail
MUSSUCHUCK PROPERTIES LLC	23-130 at 15 NEW INDUSTRIAL RD	07	\$ 663,300	\$ 4,615,200	\$ 5,278,500	\$ 72,104	Manufacturing/Industrial
OHI ASSET (CT) LENDER LLC	13E-5 at 642 METACOM AVE	06	\$ 349,800	\$ 3,777,800	\$ 4,127,600	\$ 56,383	Assisted Living
NARRAGANSETT ELECTRIC CO		10				\$ 54,865	Utility Vacant Land
Source: Town of Warren Tax Assessor							

SUPPORTING DOCUMENTS AND RESOURCES

Climate Central, Research Brief, “[Sinking Tax Base: Land Parcels and the Rising Sea, Bristol County, RI](#)”, 2022.

Rhode Island Agricultural Partnership. [A Vision for Rhode Island Agriculture: A Five-Year Strategic Plan](#), May, 2011.

Rhode Island Department of Environmental Management, [Community Guidance to Maintain Working Farms and Forests](#), October, 2012.

Rhode Island Department of Labor and Training, [State of the State April 2023, A statistical profile of RI Cities and Towns](#).

Rhode Island State Guide Plan

The State Guide Plan is Rhode Island’s centralized and integrated long-range planning document. The State Guide Plan is not a single document but a collection of plans that have been adopted over many years. It comprises many separately published elements covering a range of topics.

Rhode Island State Guide Plan Report #118, [Rhode Island Rising: A Plan for People, Places and Prosperity, Economic Development Element](#), December, 2014.

Goals, policies and actions within Warren's Economic Development Element further *Rhode Island Rising's* goal to "support industries and investments that play to Rhode Island's strengths" and the State's corresponding policies:

Policy 1: Develop and enhance Rhode Island's sustainable and innovative maritime and defense economy.

Policy 2: Strengthen and support Rhode Island's burgeoning food system businesses, which span agriculture, aquaculture, and fishing, food processing/ manufacturing, and sales.

Policy 3: Invest in arts and culture to build on Rhode Island's identity as a cultural destination.

Warren's Goal (GED3) to "Promote a sound local economy that draws upon and enhances the Town's unique natural, historic and cultural features" and policy (PED9) "Support the retention and growth of key industries that promote economic mobility for all residents including manufacturing, marine trades, blue economy, professional, scientific, and technical, construction trades, and food systems" further the goals of the State Guide Plan *Rhode Island Rising*. The industries listed in the State policies above, maritime, food systems, agriculture, food processing, manufacturing are all promoted within this Economic Development Element.

State of Rhode Island Comprehensive Economic Development Strategy (CEDS), *Ocean State Accelerates Five-Year Economic Development Strategy*, November 2023.

Ocean State Accelerates serves as the State's 2023-2028 Comprehensive Economic Development Strategy (CEDS) and Long-Term Economic Development Vision and Policy. The three thematic areas which emerged in the Plan as being essential to actualizing Rhode Island's economic potential are: Strong Communities, Increased Prosperity, and Sustainable Growth. These themes are deeply rooted in economic resilience, climate adaptability, workforce development, and a commitment to equity. Within this local comprehensive plan, climate resilience is presented as an overarching strategy to strengthen the community of Warren and promote local economic development, furthering CEDS Goal 10. *Ocean State Accelerates* includes additional economic development goals for the state such as expanding linkages between K-12 education and onramps to industry. *Resilient Warren* advances the goals of *Ocean State Accelerates* with Goal ED6 and implementation actions AED23 and AED24 which promote workforce development opportunities within the local school district.

Town of Warren (Fuss & O'Neill), *Market to Metacom: Adaptation and Economic Development Plan*, Final Report, December 29, 2021.

Urban Design Group, *A Waterfront Development Plan for Warren*, Rhode Island. September, 2001.

9. SERVICES & FACILITIES

GOALS

- GSF1: MEET THE NEEDS OF RESIDENTS FOR QUALITY MUNICIPAL SERVICES AND FACILITIES DELIVERED IN AN EFFICIENT AND COST-EFFECTIVE MANNER
- GSF2: PROTECT WATER QUALITY AND PROPERTIES THROUGH SUCCESSFUL STORMWATER MANAGEMENT REGULATIONS AND PROJECTS
- GSF3: PROMOTE ENERGY-EFFICIENCY AND THE USE OF RENEWABLE ENERGY FOR MUNICIPAL OPERATIONS, BUSINESSES, AND RESIDENTIAL PROPERTIES
- GSF4: MAINTAIN RELIABLE SOURCES OF HIGH-QUALITY AFFORDABLE DRINKING WATER
- GSF5: PROPERLY MANAGE WASTEWATER TO PROTECT AND ENHANCE WATER RESOURCES
- GSF6: REDUCE TRASH DISPOSAL AND INCREASE RECYCLING RATES TO ACHIEVE THE STATE'S MINIMUM 35% SOLID WASTE RECYCLING RATE AND MINIMUM 50% SOLID WASTE DIVERSION RATE

INTRODUCTION

Map SFI displays current public infrastructure and facilities including all municipally-owned and operated buildings. A priority of the Town of Warren is to reduce the costs of delivering municipal services through the regionalization of services and the sharing of public facilities and equipment with neighboring communities. The Town supports exploring the feasibility of combining municipal services and facilities with other local communities to achieve economies of scale which could result in cost savings or improvements in the quality of local government functions or allows for the continuation of municipal services. A second priority is for municipal capital improvement planning in Warren to incorporate and mitigate risks as they are anticipated to exist over the life of the asset. For a coastal community such as Warren, these risks include sea level rise and increased precipitation.

The following table includes policies to promote the stated goals of the Services and Facilities Element of this Comprehensive Plan. Implementation actions are also listed within the table. The Implementation Program, Chapter 11 of this Comprehensive Plan, assigns a responsible party or parties, timeframe, and priority level for each of the implementation actions.

SERVICES & FACILITIES POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PSF1. Continually explore ways to reduce the costs of delivering services and operating facilities without compromising quality	ASF1. Meet with neighboring communities to discuss opportunities for regional/shared services and facilities
	ASF2. Utilize current technologies to improve municipal operations and efficiencies and to expand outreach to residents
	ASF3. Explore sale of Mary V. Quirk Community Center property
	ASF4. Improve existing animal shelter or enter into a shared services agreement with another municipality
PSF2. Proactively plan for the relocation or retrofitting of public facilities that will be impacted by sea level rise	ASF5. Explore consolidation, regionalization or decentralization of wastewater management as the current facility is likely to not be serviceable beyond 2065
PSF3. Ensure that wastewater is properly managed to protect and enhance water resources	ASF6. Update and maintain inventory of septic systems which do not meet current standards for on-site wastewater treatment and investigate and promote funding opportunities to assist homeowners with replacement
	ASF7. Expand sewer capacity to accommodate new development within the Metacom Ave Project Area
PSF4. Prioritize public services related to the health and safety of residents	ASF8. Acquire property for the construction of a new rescue station headquarters; secure funding to support design and construction costs
	ASF9. Complete reconfiguration of the existing Police Station headquarters to adequately meet the current and near future needs of the department
PSF5. Ensure potable water is available to residential properties and adequate fire protection is provided to neighborhoods	ASF10. Review, update and enforce local land use regulations related to controlling the scale of residential construction in Touisset given that potable water is limited
	ASF11. Discuss and plan with the private 501c3 Touisset Point Water Trust strategies to manage their water supply system
	ASF12. Install underground cisterns for fire protection using recently secured funding

POLICY	IMPLEMENTATION ACTION
PSF6. Manage stormwater volumes, reduce pollutants, and mitigate untreated stormwater from entering the Kickemuit and Warren rivers surface waters (NRI)	ASF13. Include Low Impact Development stormwater management requirements within the Form Based Code so that when redevelopment occurs in Metacom Avenue project area, non-structural BMPs, such as raingardens, will be required components of the design (ANRI)
	ASF14. Support projects that reduce the amount of impervious cover in both the Market Street Project Area and Metacom Project Areas (NRIB)
PSF7. Create a more efficient and environmentally sustainable solid waste management program to reduce financial and environmental costs	ASF15. Reevaluate unlimited curbside pick-up of items and drop off at transfer station in order to control costs
	ASF16. Consider implementing a "Pay As You Throw" system for solid waste collection
PSF8. Encourage residents and businesses to increase recycling and food waste composting	ASF17. Create incentives, such as reduced cost composting or free compost bin programs
	ASF18. Implement a public education campaign focused on recycling and increase recycling pick-up to weekly
PSF9. Promote water conservation, energy conservation, and solid waste reduction among all municipal services and operations	ASF19. Assess energy usage in municipal buildings and facilities
	ASF20. Incorporate renewable energy and green site and building standards during construction or renovation of municipal facilities as well as electric vehicle charging stations
	ASF21. Upgrade and modernize the town's solid waste and recycling handling facilities
	ASF22. Implement measures identified in the 2019 Infrastructure Improvement Plan for improving energy efficiency of the Town's wastewater management facility.
PSF10. Maintain Town facilities and proactively plan for the long-term future facility needs of the community	ASF23. Explore acquisition and/or renovation of a property to serve the community's need for a modern community/senior center
	ASF24. Complete renovations to the second floor of Town Hall to maintain effective government operations within the historic structure
PSF11. Provide Bristol Warren Regional School District students with learning environments that support academic success	ASF25. Establish town-wide reliable and affordable high-speed internet connection which is critical for both the public school system and local economy (AED26)
	ASF26. Remain engaged in the BWRSD building upgrade planning process and support efforts that will results in improved educational facilities for Warren students
PSF12. Support and ensure the library's continued fiscal stability so that it can continue to develop and offer services and resources that meet the needs of residents	ASF27. Encourage increase staffing or volunteerism in order to expand access to library's museum collection

MARKET TO METACOM

The severe impacts from climate change and sea level rise facing the Market Street project area will result in damage to existing infrastructure including utilities. The *Market to Metacom Plan* addresses impacts to public services and facilities that would result with inaction.

Existing utilities within the Market Street project area include sanitary sewer, water, overhead electric, and drainage infrastructure. Each of the public rights-of-way within the project area have public sanitary sewer and water mains, as well as overhead power lines operated by Rhode Island Energy. Several drainage structures and pipes exist within the project area. One drainage outfall discharges to Belcher Cove northwest of Jamiel's Park. Two additional drainage outfalls exist just north of Franklin Street.

The Town would realize the following financial benefits summarized below in implementing the relocation, restoration and redevelopment scenarios outlined in the Market to Metacom Plan.

- Increased residential and commercial tax revenues advancing the Town's ability to provide quality municipal services following redevelopment of a higher density in the Metacom project area
- Reduced demand on public officials including public safety officials to prepare for and respond to storm events impacting vulnerable infrastructure
- Reduced regular repair costs to roadways and other town infrastructure investments resulting from damage due to at risk locations
- Local cost burden of restoration and redevelopment can be reduced through implementation with partnerships, private investments, and state/federal funding opportunities

WATER SUPPLY

Map SF2 displays public drinking water supply resources in Warren. The Bristol County Water Authority's administrative offices are located on Child Street in Warren. The BCWA provides water to approximately 17,000 customers in Barrington, Warren and Bristol. BCWA obtains water supply from Providence Water's series of surface water reservoirs located in the northwest portion of Rhode Island. The main source of supply is the Scituate Reservoir, which when at full capacity, contains over 37 billion gallons of water and covers an area of 3,390 acres. In addition to the Scituate Reservoir, there are also five other tributary reservoirs, for a total water storage capacity of 41 billion gallons. Following a leak in the East Bay Pipeline, BCWA prioritized obtaining a redundant source of drinking water. The Pawtucket Pipeline Project commenced in 2020 and will provide BCWA with a reliable emergency supply connection to the East Providence system.

The Touisset Point section of Warren, defined as the area from Barton Road to Mount Hope Bay, is not served by the Bristol County Water

Authority (BCWA) or by municipal sewer. As a result, all the houses in this rural residential area are served by wells and onsite wastewater treatment systems (OWTS). Private wells in the Touisset neighborhood of Warren are shallow and vulnerable to contamination and overuse. The concern for wells running dry is exacerbated by the increasing amount and scale of residential development in the neighborhood. An extension of public water supply has been discussed but is not proposed at this time.

On Touisset Point's farthest southern end, the area bounded by Touisset Point Road, Bayview Avenue, Mount Hope Bay, Circuit Drive and the Kickemuit River, most houses are located on undersized lots not conforming to current minimum lot size prescribed by the Zoning Ordinance. Most of the Point houses were originally built as seasonal summer cottages prior to the establishment of Town Zoning regulations. Over time, many of these houses were and continue to be renovated to allow year-round occupancy. Currently, for Town Zoning purposes, this non-conforming area is designated as a Village Overlay. Within this area, the majority of the homes, eighty-three, depend upon a shared private, non-profit water distribution system owned and operated by the Touisset Point Water Trust (TPWT) for their drinking water. The remainder of the Point homes depend upon individual wells. There are no alternative drinking water sources.

Based on a study conducted completed in the early 2000s, the capacity of the TPWT water source is 16,000 gallons per day. At peak periods, the current TPWT subscriber demand is 14,000 gallons per day. Given this, the southern Point area serviced by the TPWT requires special protection to ensure the area is not overdeveloped impeding existing homeowner's access to drinking water and subsequently reducing local property tax revenue for the Town.

Due to a high salt concentration in the underlying water table, the two TPWT wells and the individual house wells are shallow (40-feet), drawing from a limited capacity aquifer fed, in part, by groundwater recharge. As a result, the community is vigilant about preventing contamination from fertilizers or other potential toxins. Community representatives of Touisset Point were also active in the formation of the Town's Wastewater Management District, described further below, which led to the identification and replacement of all exiting cesspools with appropriate OWTS and regular monitoring of these systems by the Town's contracted service provider.

Fire protection is an added concern for this area with the lack of hydrants. A fire protection study was conducted in 2020 and the Town is still investigating the best options for locating water supply tanks in the neighborhood.

WASTEWATER MANAGEMENT

Sewage is treated at the Warren wastewater treatment facility, located on Water Street, which was originally constructed in the 1940's. The Town of Warren recently financed a \$20 million upgrade to the Town's wastewater treatment facility through the Clean Water State Revolving Fund managed by Rhode Island Infrastructure Bank. The project modernized the wastewater treatment facility by reducing nitrogen discharges into the Warren River, increasing energy efficiency, replacing obsolete equipment, and increasing the resiliency of the facility to storms, flooding,

and the effects of climate change. The resilience components of the project make it the first wastewater treatment facility in Rhode Island to incorporate flood protection measures. Specific measures include relocating electrical equipment and motor drives above projected flood elevation and replacing pumps and mixers with submersible motors where raising pumps above flood level is not feasible. The aim of the improvements is to protect the facility from a 100-year storm and three feet of sea level rise. However, this facility will likely not be able to service the community in the long-term, beyond 2065. With seven feet of sea-level rise, which could come by the end of the century, the area around the treatment plant would be underwater and the shoreline would shift hundreds of feet inland. The Town will need to explore consolidation, regionalization or decentralization in the future to mitigate impacts to wastewater treatment due to sea level rise.

Map SF3 displays public sewer mains and parcels within the sewer service area. An expansion of the sewer system into currently unserved areas is not anticipated over the next 20-year planning horizon. However, it is possible that additional sewer treatment capacity may be needed to accommodate an anticipated increased in residential development within the Metacom project area following adoption of Zoning amendments. Package wastewater treatment plants may be a solution to handle the increased flow from the Metacom project area following redevelopment.

The non-sewered areas of Warren are part of a Wastewater Management District. The Town implemented recommendations of the Fuss & O'Neill Report, *Touisset Point and Highlands Wastewater Management & Water Supply Impact Study*. To protect drinking water resources, the Town adopted a townwide Wastewater Management District in 2011 to ensure that onsite wastewater treatment systems are properly installed, operated, regularly inspected and routinely maintained in accordance with applicable rules and regulations. The installation or alteration of systems is regulated by the Rhode Island Department of Environmental Management.

SOLID WASTE MANAGEMENT

The Warren Transfer Station is located at 21 Birch Swamp Road. Resident stickers currently cost \$20 each and allow for up to 400 pounds of trash and/or yard waste annually. Commercial trash generated within Warren is also accepted at the Transfer Station with a permit. The Town of Warren is focused on reducing solid waste transported to the Central Landfill in Johnston and increasing the amount of recycling and landfill diversion opportunities. Not only does this provide an obvious environmental benefit, but it also saves taxpayers money through reduced “tipping fees” paid to dispose of waste. Changes and increases in the Rhode Island Resource Recovery Corporation tipping fee structure created an added budget challenge for municipalities. The Town of Warren is undergoing a full assessment of the costs associated with all aspects of solid waste management, including collection, disposal, operation and overhead.

Table SFI. Solid Waste Management Facility Permitted Capacity			
Operation name	Facility Type	Permitted Capacity	
		Municipal Solid Waste (Tons/day)	Compost Capacity (Cubic Yards / Year)
Warren Compost Facility	Leaf & Yard Waste		3,700
Warren Transfer Station	Transfer Station	75	

In 2019, the Town of Warren implemented a collection bin system, providing one 95-gallon bin for trash and one 95-gallon bin for recycling for curbside pickup. At the beginning of the program, trash tonnage began to trend downward, and recycling rates began to trend upward. February 2020 was the most successful month, with lower overall trash tonnage and the highest recycling rate (27%) reported in recent years. However, as in other municipalities, the COVID-19 pandemic had a negative impact and the trend of reduced tonnage and improved recycling rates was reversed. Currently, recycling is picked up biweekly in Warren. Increasing curbside pickup of recycling to weekly may improve the local recycling rate.

2021 Solid Waste Recycling and Diversion Rates (as reported by RIRRC annually)²¹

Warren MRF Recycling Rate 23.2%

Warren Rate of Overall Material Diversion from Landfill: 39.6%

Definitions

MRF Recycling Rate: This is our simplest measure of recycling, which divides the total tons of mixed recyclables (materials placed in your bin/cart at home) sent to Resource Recovery's Materials Recycling Facility (MRF) by the total of these tons plus the tons of trash delivered to Resource Recovery for landfilling. Resource Recovery automatically collects both of these numbers when your city or town's trucks cross our scales.

Rate of Overall Material Diversion from Landfill: This measure expands on the previous one even more, by adding in all other materials that are diverted from the landfill for reuse or recycling such as books, bulky rigid plastics, cooking oil, electronic waste, food scraps, (recyclable) mattresses, motor oil & filters, paint, paper shredded at special events and tires. We divide these tons by their total plus the total tons of landfilled trash.

²¹ Source: 2021 Municipal Recycling, Composting and Waste Diversion in Rhode Island: [Municipal Summary CY2021 20220331.xlsx \(rirrc.org\)](#).

PUBLIC EDUCATION

The Bristol Warren Regional School District (BWRSD) is a PK-12 public school system supporting the education of students in the towns of Bristol and Warren. The Bristol Warren Regional School District comprises six school buildings, two of which are located in Warren. The Hugh Cole Elementary School serves grades PK-5 for Warren children and the regional Kickemuit Middle School for students from Bristol and Warren in grades 6 through 8. The regional high school (grades 9-12) is located in the town of Bristol. This District had a total of 2,888 students in the 2022-2023 school year, which represents an approximately 16% decrease in enrollment from a decade ago (enrollment was 3,437 for 2012-2013).

- **Hugh Cole Elementary School**
50 Asylum Road, Warren
- **Kickemuit Middle School**
525 Child Street
- **Mt. Hope High School**
199 Chestnut Street, Bristol

A construction planning project for all BWRSD facilities is underway, which includes the high school (new construction), middle school and all elementary schools (renovation and/or closure). The Town of Warren participants as members on a recently formed Building Committee. Public workshops were held in 2023, a Phase 2 assessment was submitted to RIDE in September of 2023 and the Bristol and Warren voters approved a bond in November of 2023.

The BWRSD will comprehensively address capital improvement needs across the district's six school facilities. Capital funding will be used to support renovation that focus on health and safety and educational enhancement. Below is a summary of the capital improvements needed and planned at the two facilities located in Warren.

Kickemuit Middle School: The scope of work may include select renovations and repairs to the classrooms, common areas, mechanical electrical and life safety upgrades, accessibility upgrades, and building envelope work. This scope will continue to be reviewed and defined during the construction planning process.

Hugh Cole Elementary School: The scope of work may include select renovations and repairs to the classrooms, common areas, mechanical electrical, life safety upgrades, and accessibility upgrades. Select areas of need will be renovated to reflect a 21st century learning environment. This scope will continue to be reviewed and defined during the construction planning process.

Table SF2. Bristol Warren Regional School District Enrollment October 2022 by Grade																
School	Total	PK	PF	KF	1	2	3	4	5	6	7	8	9	10	11	12
Bristol Warren	2888	22	39	211	200	195	204	217	228	212	222	219	226	198	252	243
Guiteras School	234	0	0	42	34	34	36	45	43	0	0	0	0	0	0	0
Colt Andrews School	300	0	20	35	43	44	42	58	58	0	0	0	0	0	0	0
Rockwell School	264	0	0	46	48	32	47	44	47	0	0	0	0	0	0	0
Mt. Hope High School	879	0	0	0	0	0	0	0	0	0	0	0	221	194	244	220
Kickemuit Middle School	650	0	0	0	0	0	0	0	0	210	221	219	0	0	0	0
Hugh Cole School	510	21	19	88	74	85	77	68	78	0	0	0	0	0	0	0
Bristol Warren Public Schools	51	1	0	0	1	0	2	2	2	2	1	0	5	4	8	23
Source: RIDE																

The New England School Development Council prepared an enrollment projections report for 2022-23. A Summary of the Enrollment Report for the BWRSD and it is included within the Stage I Submission to the RI Department of Education. Over the next three years, K-5 enrollments are projected to decrease by 81 students, Grades 6-8 are projected to decrease by 38 students and Grades 9-12 are projected to decrease by 70 students, as students move through the grades.

Table SF3. Projected Enrollment				
Year	PK-5	K-5	6-8	9-12
2023-24	1261	1200	640	868
2024-25	1221	1159	628	817
2025-26	1229	1166	611	808
2026-27	1251	1187	580	796
2027-28	1255	1190	560	778
2028-29	1250	1184	560	753
2029-30	1271	1204	546	731
2030-31	1301	1233	526	704
2031-32	1296	1227	534	692
2032-33	1283	1213	568	671
<i>Source: NESDEC</i>				

PUBLIC SAFETY

The Warren Police Department employs 25 officers plus additional civilian staff. The headquarters is located in the East Bay Government Center in Downtown Warren. The facility has adequate space to serve the functions of the Department, however, reconfiguration of the existing space is a priority and federal funding has been awarded to assist in implementing this project. The Police Station also serves as the Town's Emergency Operations Center.

The Warren Fire Department consists of six fire stations and is mostly volunteer with the exception of the Chief, Fire Marshall, and Administrative Assistant. The rescue station on Miller Street is the only fire station that is staffed 24/7. The Town has secured funding and is in the early stages of planning a new rescue station headquarters that could serve as a testing and training site. While most of the town is easily accessible, fire service to Touisset is becoming increasingly difficult with the significant amount of new residential development, limited roads and lack of water lines and hydrants.



Public Safety Complex and Town Hall (right)

PUBLIC LIBRARY SERVICES

Constructed in 1888, the George Hail Public Library is a Romanesque Revival style building located on Main Street in Historic Downtown Warren. The George Hail Public Library is an independent non-profit organization. The Town provides grant support; however, the building is not publicly-owned and the Town has no role in staffing or management of the library. This sole public library in the community also houses the Charles Whipple Greene Museum of historic artifacts. There are space limitations and the need for an addition has been discussed. Handicapped accessibility is also a need that should be addressed.



George Hail Public Library



George Hail Public Library

COMMUNITY AND SENIOR CENTERS

Mary V. Quirk Community Center

The town-owned Mary V. Quirk Community Center on Main Street currently houses the East Bay Community Action's Head Start Program, office space for the Town's Recreation Director's Office, a Veterans organization, HEZ (Health Equity Zone) program, and as needed, due to weather, indoor space to accommodate the Town's summer camp. The Town is considering selling the property with the intention that the space continue to be used for community services. The Town is in need for a modern and accessible community center and is currently exploring other properties that could be repurposed for this use.

The Warren Senior Center is located within the Housing Authority property at 20 Libby Lane. Although the building is not town-owned, the programs and staffing is under the purview of the Town. The Warren Senior Center provides services such as transportation and meals for over 500 residents. A long-term goal of the community is to incorporate a senior center into a new community center in a municipally-owned building.

STORMWATER MANAGEMENT

Chapter 22 of the Town Code establishes the administrative mechanisms necessary for the Town of Warren to ensure proper storm water management of runoff from new development and redevelopment projects. The chapter was written to work in conjunction with the RIDEM General Permit Rhode Island Pollutant Discharge Elimination System Storm Water Discharge from Small Municipal Separate Storm Sewer Systems and from Industrial Activity at Eligible Facilities Operated by Regulated Small MS4s. The Town with the assistance of an engineering firm will be implementing its SWMPP in 2024. The scope of work will include preparing the Town's required annual report for submission to RIDEM.

Warren has partnered with Save the Bay and the Eastern RI Conservation District to implement water quality and stormwater mitigation projects throughout the Town and also to offer green infrastructure training to municipal staff. "Green infrastructure" is utilized to maximize environmental benefits while reducing maintenance costs. Examples of local green infrastructure projects include the bioswales along Water Street by the Town Beach and underground infiltration systems on Campbell Street and Brownell Street. In 2023, The Town of Warren implemented "end of road retrofits" on Bridge Street and Maple Street. This is a process where the end of the paved roadway is



Bioswales along Water Street

removed and landscaping is installed to reduce erosion, reduce runoff and improve the quality of the water that enters the river. The design for these projects was created in partnership with Save the Bay, and construction is being funded through a Municipal Resilience Fund grant with the RI Infrastructure Bank. Another project targeted for 2023, located on Fern Drive, seeks to reduce the paved area of an existing cul-de-sac and install new street trees with tree filters to store and treat stormwater runoff.

Implementation of the Market to Metacom Plan provides the opportunity for improved stormwater management. The majority of precipitation that falls on impervious surfaces in the Metacom project area is captured by conventional stormwater infrastructure and directed to the Kickemuit River. Approximately 76% of the total project area, including roadways, is impervious. Most redevelopment projects within this area would be required to conform to current or amended Zoning, which would likely result in increased pervious area and green spaces. Redevelopment projects would also be required to conform to Rhode Island Water Quality Regulations and the Town's Stormwater Regulations. This will require projects one-acre or larger obtain a Rhode Island Pollution Discharge Elimination System (RIPDES) permit and construct stormwater management systems which provide treatment of stormwater prior to discharging it to the Town's storm drain system and the Kickemuit River.

In addition to existing regulations, this scenario could involve improved Town Stormwater Regulations to require increased stormwater management treatment for redevelopment projects in this corridor. Under Rhode Island Water Quality Regulations, projects which qualify as "redevelopment" have reduced water quality requirements, as well as exemptions from several of the Minimum Standards of the Rhode Island Stormwater Design and Installations Standards Manual. However, in order to maximize the water quality improvement impacts that are possible in this Metacom Avenue corridor, full treatment of the water quality volume (one inch of runoff from proposed impervious areas) could be required under a more stringent local stormwater regulation.

The Town of Warren is focused on reducing negative environmental impacts from development to maintain and restore Warren's beautiful natural resources. The Town will continue to assess potential sources of environmental harm and work towards implementing stormwater management strategies and other projects with partners to address them.

ENERGY PRODUCTION AND CONSUMPTION

The Town supports the use of renewable energy technology and efforts to reduce dependence on fossil fuels. There are several large solar projects being implemented within Warren including one at the former landfill site. The Town has both a solar and wind ordinance and the Town of Warren has also recently entered into a net metering agreement.

The Town of Warren has also implemented several strategies to improve efficiency of Town buildings and facilities. These projects were funded with the assistance of the RI Office of Energy Resources, the RI Infrastructure Bank and National Grid (now Rhode Island Energy). The cost for the improvements will be funded through the energy cost savings realized through the projects:

- All Town streetlights have been converted to LED fixtures. In order to achieve even greater energy savings, all fixtures will be on a control system (currently under construction) allowing the Town to dim the lights during off-peak hours.

- Town Hall has received all new LED light fixtures, improvements to the heating/cooling system and new targeted insulation.
- Government Center has received a new heating system, hot water heater and light fixtures.
- Mary V. Quirk Community Center has converted from heating oil to natural gas with a new boiler and further improvements to the heating system are planned.

The Town of Warren participated in the “Achieving Community Efficiency” grant program sponsored by the US Department of Energy in partnership with the RI Office of Energy Resources and National Grid from 2019 through 2022. The Town has funded the position of an Energy Manager who will be tasked with building energy benchmarking, developing and updating goals and providing resources to work towards implementation. This program will help Warren update the goals and information contained within the *Warren, RI Strategic Energy Plan (2011)* and to assess the benefits of the efficiency projects that have already been implemented.

Warren also participated in the US Department of Energy’s Better Buildings “SWIFt” program (Sustainable Wastewater Infrastructure of the Future) which resulted in an *Infrastructure Improvement Plan: Energy Efficiency, Wastewater Treatment Facility* that identified a number of measures to be implemented in the short-term and also longer-term, over a ten-year period.

PANDEMIC IMPACTS TO PUBLIC SERVICES AND FACILITIES AND LESSONS LEARNED

The Covid-19 pandemic which began impacting the United States in 2019 required local communities including Warren to adapt quickly to the way public services had to be delivered and make drastic changes to priorities and budgets to address impacts from the public health crisis. Understanding how a pandemic can impact local government services will make the community better prepared in the event of another pandemic in the future.

Broadband

The pandemic highlighted the need for reliable and affordable high-speed internet for remote learning, virtual meetings, business operation, and telemedicine. The Town recently conducted a public survey related to internet speeds and service costs. Additional outreach to collect more responses is underway at this time and the data will be used to demonstrate that Warren is an underserved community.

Public Meetings and Technology

Social distancing requirements required virtual meeting attendance and the upgrading of municipal technology and staff training to support this service.

Increased Emergency Services

A significant amount of mutual aid occurred during the pandemic, specifically in regards to emergency services. This illustrated the need to reevaluate and formalize mutual aid agreements and to examine consolidation and regionalization of services.

- Senior Services

Senior Center services were interrupted by the pandemic. Transportation could not be provided to bring seniors to errands due to not being able to socially distance on the bus. Alternative food vendors through the local culinary incubator Hope and Main were established to assist in meeting the needs of seniors.

- Increased Refuse Disposal / Tipping Fees

The pandemic increased the amount of solid waste generated within Warren and associated tipping fees. This is attributed to an increase in the number of people at home, an increase in the use of disposable cleaning supplies and an increase in “take out” containers. Yard waste collections also increased as residents spent more time and attention caring for their properties.

- Outdoor Dining

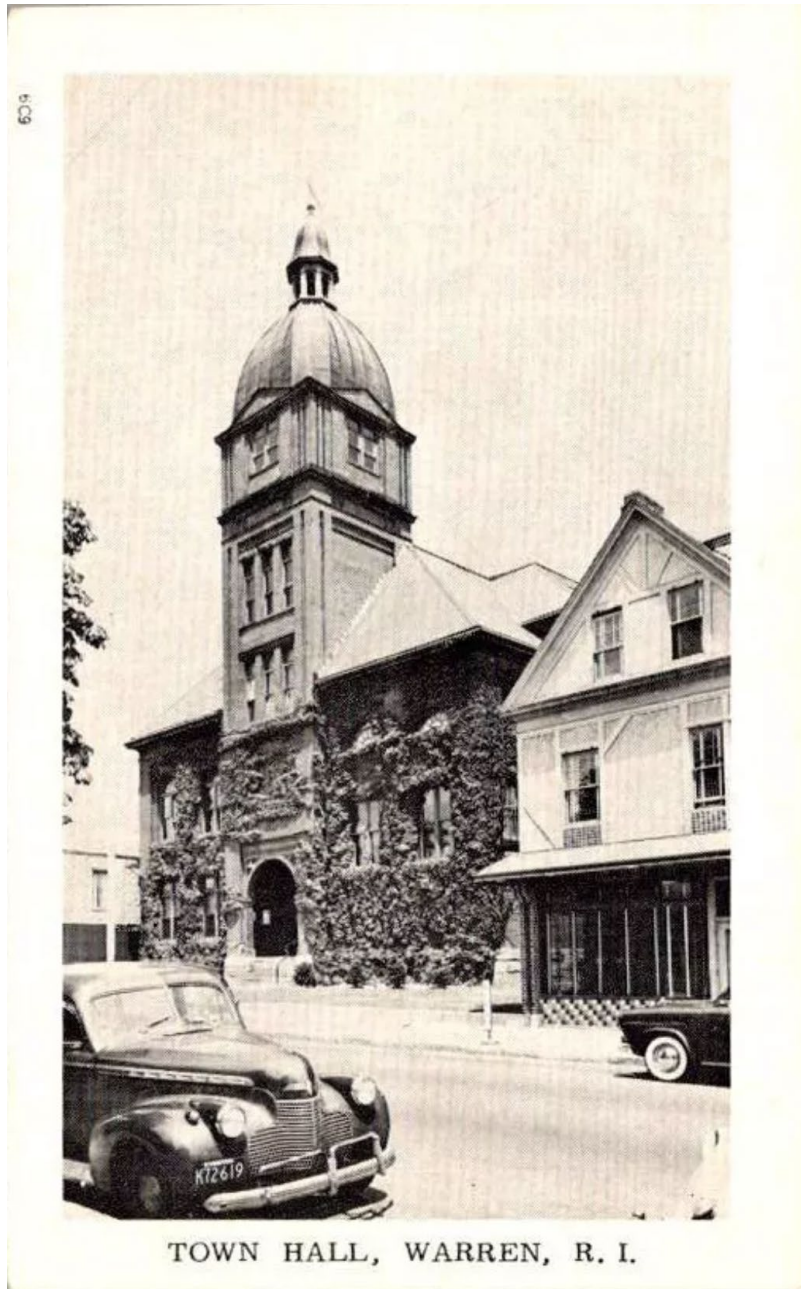
The Town relaxed regulations related to outdoor dining to assist local businesses during the pandemic. This proved to be successful and is something the Town will likely make permanent.

- Traffic

Local traffic increased during the later stages of the pandemic as many residents continued a remote and/or flexible work schedule.

- Vaccine Implementation

The Town was a key partner in the vaccine rollout, providing space and staffing for vaccine clinics.



SUPPORTING DOCUMENTS AND RESOURCES

Bristol Warren Regional School District. Stage I Submission to Rhode Island Department of Education (Feb 15, 2023, as modified Feb 27, 2023).

NESDEC. Bristol-Warren Regional School District Bristol, RI, *2022-23 Enrollment Projection Report*.

Rhode Island Department of Environmental Management: Stormwater Design & Installation Standards Manual

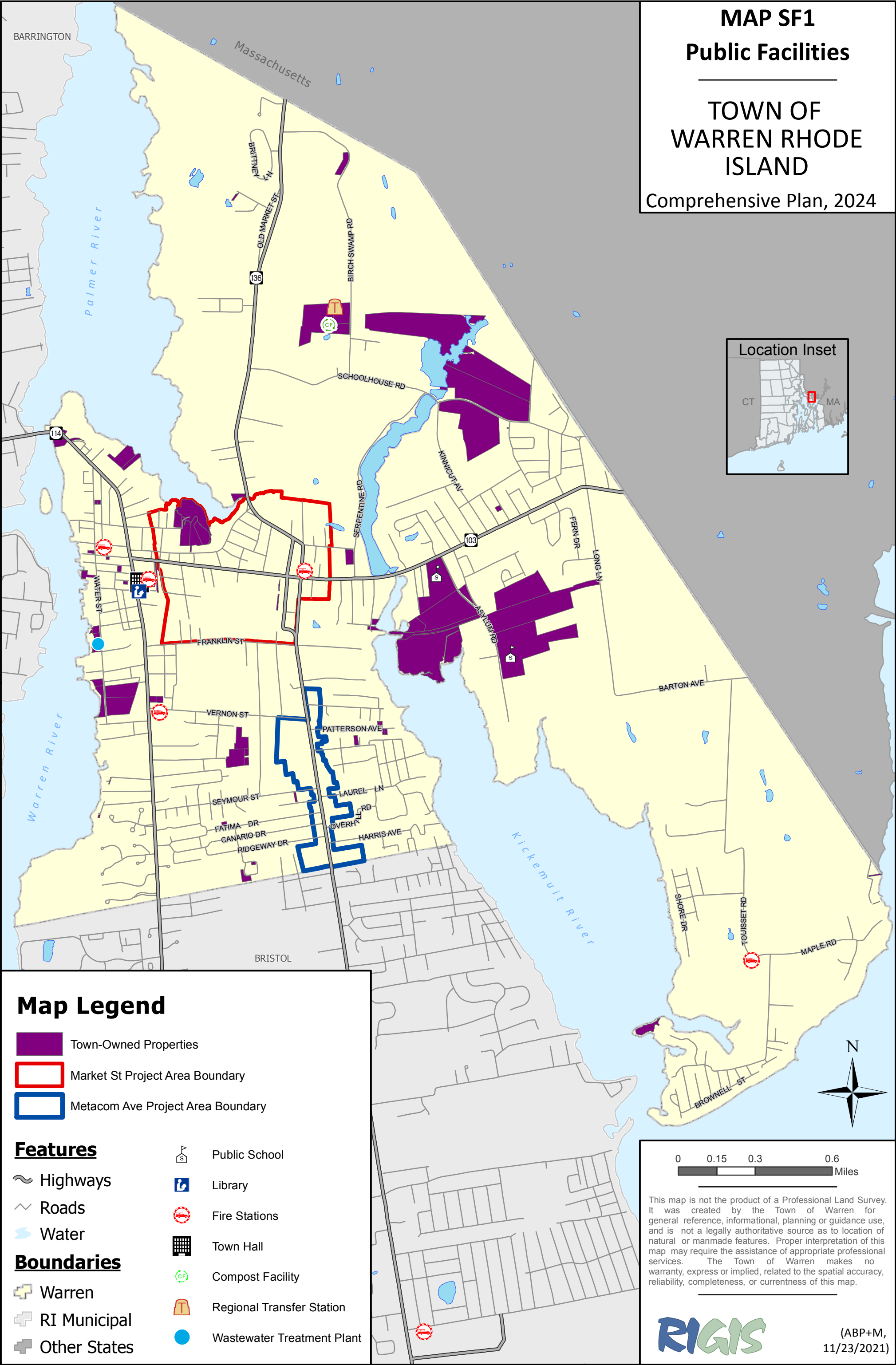
Rhode Island Department of Environmental Management. Wastewater Treatment Facilities Program Planning & Design Program.

Town of Warren, RI (Fuss & O'Neill). *Touisset Point and Highlands Wastewater Management & Water Supply Impact Study, Final Report*, November 2007.

Town of Warren, RI. *Infrastructure Improvement Plan: Energy Efficiency, Wastewater Treatment Facility*, August 2019.

Town of Warren, RI (Fuss & O'Neill). *Market to Metacom: Adaptation and Economic Development Plan, Final Report*, December 29, 2021.

Warren, Rhode Island, Strategic Energy Plan, Executive Summary, 2011.



Map Legend

Town-Owned Properties

Market St Project Area Boundary

Metacom Ave Project Area Boundary

Features

Highways

Roads

Water

Boundaries

Warren

RI Municipal

Other States

Public School

Library

Fire Stations

Town Hall

Compost Facility

Regional Transfer Station

Wastewater Treatment Plant

00.150.30.6

Miles

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RIGIS

(ABP+M, 11/23/2021)

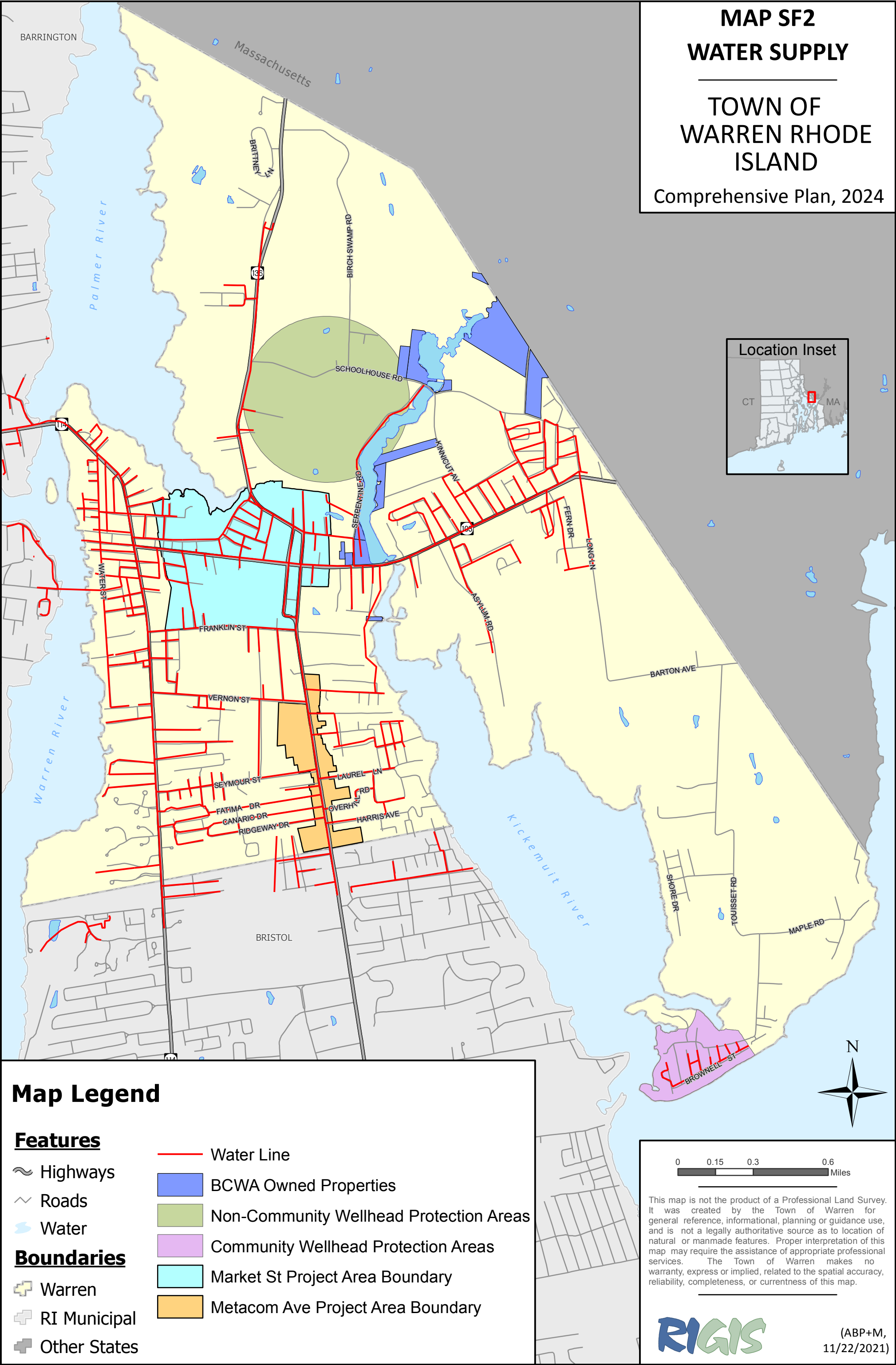
Warren Comprehensive Plan, 2024

137

MAP SF2
WATER SUPPLY

TOWN OF
WARREN RHODE
ISLAND

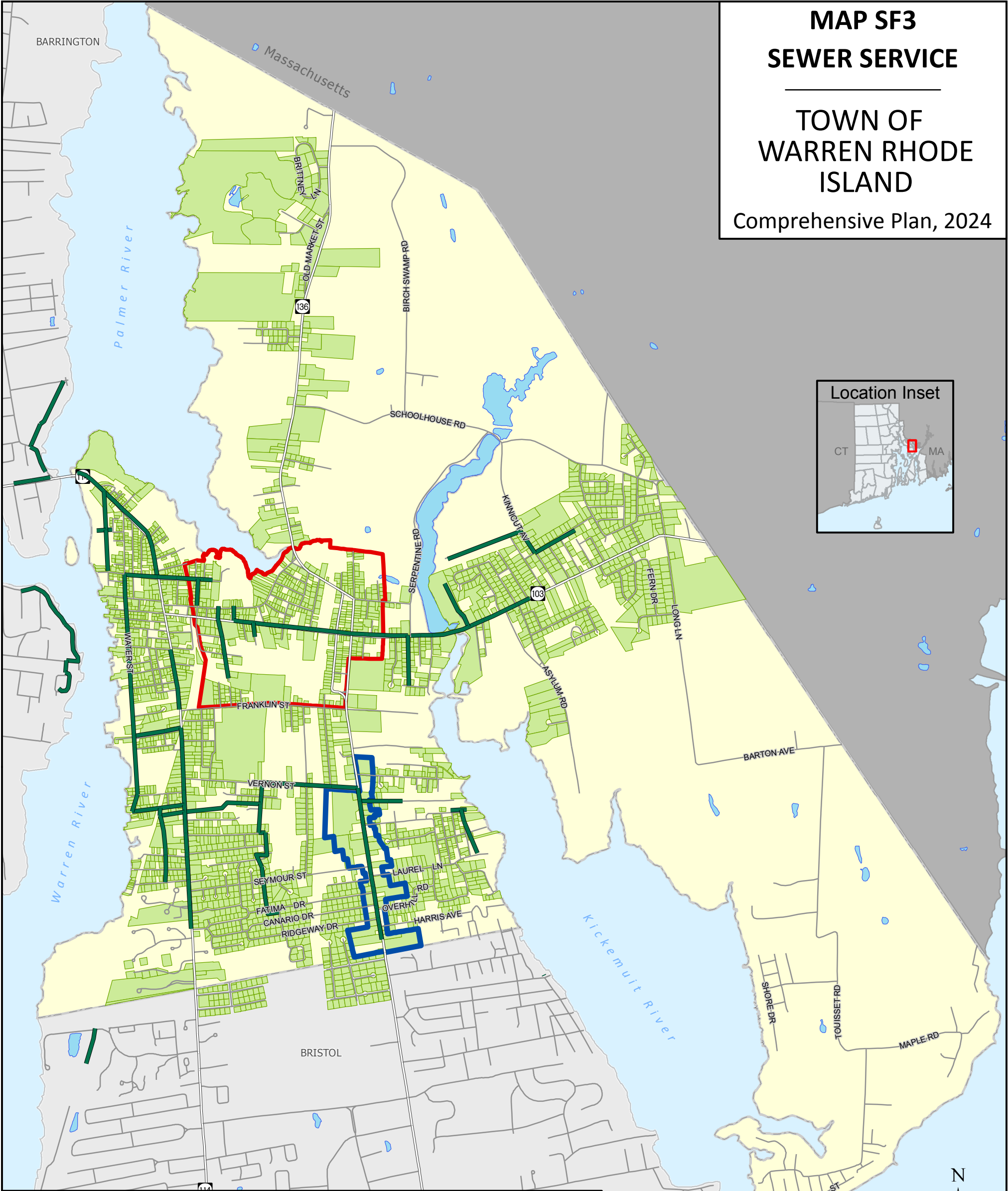
Comprehensive Plan, 2024



MAP SF3
SEWER SERVICE

TOWN OF
WARREN RHODE
ISLAND

Comprehensive Plan, 2024



Map Legend

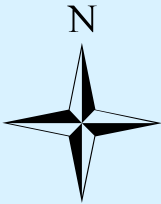
Features

- Highways
- Roads
- Water

Boundaries

- Warren
- RI Municipal
- Other States

- Sewer Line
- Sewer Service Area
- Market St Project Area Boundary
- Metacom Ave Project Area Boundary



0 0.15 0.3 0.6
Miles

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RIGIS

(ABP+M,
11/22/2021)

10.LAND USE

GOALS

- GLU1: ENSURE THAT THE COMMUNITY REMAINS A DESIRABLE PLACE TO LIVE AND WORK BY REDUCING VULNERABILITY TO CLIMATE CHANGE AND SEA LEVEL RISE IMPACTS.
- GLU2: ACHIEVE A LAND USE PATTERN THAT IS CONSISTENT WITH NATURAL RESOURCE CONSTRAINTS AND PROTECTION, ADVANCES LOCAL ECONOMIC DEVELOPMENT GOALS AND MINIMIZES INCOMPATIBILITY AMONG ADJACENT LAND USES.

INTRODUCTION

Warren benefits from a very diverse variety of land uses and residential densities. The western side of Warren is a compact settlement characterized by a working waterfront, mill buildings and a vibrant Historic District containing a mixture of residential and commercial development. To the south, medium high residential development is prevalent. A mixture of industrial uses is located between Child Street and the railroad right-of-way. The eastern half of town is rural with low density single-family housing, farms and conserved open space. Active agriculture is still a significant component of the landscape in this part of town. Warren's complex land use patterns are illustrated in Map LUI Existing Land Use.

Throughout this Plan, the Metacom Avenue Project Area, defined within the Market to Metacom Plan, is described and promoted as a future growth center that can accommodate higher density mixed-use development and serve as a sending area for residential units lost in other parts of Warren as a result of sea level rise. It is the Town's hope that the State's recognition of this defined area within Warren as a growth center will result in additional support in implementing many of the identified specific actions within this Plan which provide a framework for bringing a relocation and retreat scenario to fruition.

The following table includes policies to promote the stated goals of the Land Use Element of this Comprehensive Plan. Implementation actions are also listed within the table. The Implementation Program, Chapter II of this Comprehensive Plan, assigns a responsible party or parties, timeframe, and priority level for each of the implementation actions.

LAND USE POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PLU1. Ensure municipal land use regulations are consistent with the goals and policies set forth within this Plan and the Market to Metacom Plan	ALU1. Adopt Form Based Code for the Metacom Avenue Project Area to permit and incentivize higher density mixed use development and affordable housing units and to achieve a more desirable and predictable built environment. Consider expanding Form-Based Code to other parts of town including northern section of Route 136 and Historic Downtown. (AH1)
	ALU2. Establish a Redevelopment Agency to assist in implementing Market to Metacom Plan
	ALU3. Enact a stormwater overlay district and implement improvements to stormwater management infrastructure to protect the Kickemuit from polluted runoff
	ALU4. Revise local Zoning map to be consistent with the Future Land Use Map, address inconsistencies described in the Land Use Element
PLU2. Discourage future development in areas exposed to natural hazards including the effects of sea level rise.	ALU5. Amend Zoning to minimize risk to lives, property and infrastructure by establishing a retreat overlay zoning district within the most vulnerable areas of the Market Street Project Area to encourage the phased relocation and retreat scenario.
	ALU6. Explore Tax Increment Financing to support property buy-out program and infrastructure upgrades and other sources of funding including federal grant programs
	ALU7. Request State approval of Metacom Avenue project area as a locally designated growth center in support of redevelopment that will create a mixed-use, higher density residential area which supports
	ALU8. Evaluate local regulations and identify strategies to prevent and discourage tall residential structures along the shoreline that are inconsistent with the traditional scale and height of the surrounding residential neighborhood.
PLU3. Expand public access to and views of the water and harbor	ALU9. Establish walking trails and public viewsheds along Warren's waterfronts by acquiring key waterview and public access parcels and easement opportunities.
PLU4. Preserve Warren's working waterfront from the threat of conversion to land uses that are not water dependent	ALU10. Ensure land remains dedicated and zoned for water dependent land uses and industry
	ALU11. Provide incentives to expand and introduce working waterfront businesses
	ALU12. Maintain deepwater wharves

LAND USE POLICIES & IMPLEMENTATION ACTIONS	
POLICY	IMPLEMENTATION ACTION
PLU5. Invest in targeted redevelopment planning and public infrastructure improvements that will revitalize neighborhoods in Warren and improve the quality of life of residents+AI4:B22	ALUI3. Work with RIDOT to develop and implement an improved circulation plan for the Parker Mill area, reconsidering the rotary and eliminating unnecessary traffic signals, incorporating bike lanes, and making streetscape improvements (AT8)
	ALUI4. Conduct an evaluation of Zoning and permitted uses for Parker Mill and surrounding properties and any amendments prepared must include design controls to ensure that any development or redevelopment promotes an aesthetically pleasing gateway to the Town and historic resources are protected and restored.
	ALUI5. Hold public charettes to obtain public input on any new or significant boundary changes to any existing special zoning districts or neighborhood plans
PLU6. Promote principles of good design in new commercial development to enhance the built environment, pedestrian experiences, and streetscape	ALUI6. Consider adopting commercial design standards beyond the Historic District, particularly along major roads and gateways to the Town to promote quality site design, landscaping, and discourage franchise architecture
	ALUI7. Implement a Green and Complete Streets redesign of Metacom Avenue reducing the road from four to three lanes, creating a dedicated bicycle lane, increasing public transit frequency, and establishing an improved pedestrian and transit rider experience
	ALUI8. Evaluate permitted uses in the Rural Business Zoning District and make amendments to allow for appropriate and desired mixed-use and light industrial uses ensuring design controls are in place so that any development or redevelopment promotes an aesthetically pleasing gateway to the Town.
PLU7. Encourage pedestrian scale design for new and renovated commercial and mixed-use development and support a Green and Complete Streets approach to the transportation network enabling safe use by multiple modes	ALUI9. Incorporate green features like forested bioswales, rain gardens to the medians and sides of streets along with planting street trees and introduction of permeable pavement to reduce the effects of stormwater runoff and urban heat (AT2 & ANHI9)
PLU8. Ensure land use regulations are consistent with existing and anticipated infrastructure capacity and natural resource constraints	ALU20. Review, update and enforce local land use regulations related to controlling the scale of residential construction in Touisset given that potable water is limited (ASF10.)
	ALU21. Expand sewer capacity to accommodate new development within the Metacom Ave Project Area (ADF7)

MARKET TO METACOM

The Market to Metacom Plan establishes a plan for Warren that holistically addresses climate change challenges while promoting other priorities of the community, such as, economic development and affordable housing. The Market to Metacom Plan was funded by a grant from the Southeast New England Program (SNEP) of the U.S. EPA. The relocation and retreat scenario prescribed in the Market to Metacom Plan involves redevelopment of the Metacom Avenue corridor and ecological restoration within the Market Street project area. The plan reimagines Metacom Avenue from an auto-centric commercial zone into a mixed-use center with more housing and transportation choices along with stormwater management improvements.

Existing land use in the low-lying Market Street project area is primarily medium and high-density residential with pockets of commercial and light industrial totaling around thirty businesses. Lots are generally less than 10,000 square feet and a majority of the housing units are contained within multi-family residential structures. 700 housing units are within the Market Street project area and, therefore, are at risk for future flooding.

The Metacom Avenue corridor is a largely commercial corridor with a wide multi-lane roadway, large expanses of parking lots in front of strip retail and little to no accommodation for pedestrians or bicyclists. The Metacom Avenue project area includes the parcels abutting Metacom Avenue (Route 136) located south of Vernon Street and Parker Avenue. The southern boundary of the project area is located between Harris Avenue and Jameson Drive. The total area within the Metacom Avenue project boundary, including roadways, is approximately 81 acres. The Metacom Avenue project area is underutilized and market desirability for retail in this form may continue to decline. The rezoning and redevelopment of the Metacom Avenue project area will provide the opportunity to relocate housing units at-risk to flooding in the Market Street project area within Warren at a higher elevation.

Priority implementation actions identified in this Plan are to move forward with the drafting and adoption of Zoning mechanisms to encourage the redevelopment of the Metacom Avenue corridor as a mixed-use center that contains retail, employment and housing in a development pattern more similar to a traditional Town Center. Zoning and other strategies implemented should promote the following goals for this special planning area:

- Mixed-use redevelopments that incorporate workforce housing
- Complete streets redesign for Metacom Avenue
- Upgraded utilities to support higher density redevelopment
- Increased RIPTA public bus service
- Amending local zoning for Metacom Avenue to include Form-Based Code and high density residential by right
- Enacting a Stormwater Overlay District

The Town will partner with the State and advocate for supportive State actions to:

- Undertake a complete street design for Metacom Avenue (RIDOT)
- Adapt vulnerable sections of Metacom Avenue to withstand sea level rise and storm events (RIDOT)
- Increases transit service to the Metacom Avenue corridor to support high-density residential uses (RIPTA)

- Upgrade utilities to support higher density redevelopment and increase resiliency to climate change impacts
- Reconfigure stormwater management systems to protect the Kickemuit River from polluted runoff
- Enact Tax Incremental Financing to support buy-out programs and infrastructure upgrades in the project areas

The Town, in partnership with state government and property owners, has a limited-time opportunity to proactively adapt to climate change impacts and minimize flood vulnerability and environmental risk. a reimagined and improved Metacom Avenue corridor can serve as a growth center that benefits all of warren and the region and the location for replacement of housing lost to sea level rise.

Government-led acquisition and removal of flood-prone properties are often known as floodplain buyouts programs and are frequently used by communities to reduce future flood damages. Funding sources are available from several existing Federal and State programs, such as the Hazard Mitigation Assistance programs of the Federal Emergency Management Agency (FEMA) including Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC) and Flood Mitigation. Warren can also consider establishing a Tax Incremental Financing (TIF) program from future tax income from redevelopment within the Metacom Avenue project area to help fund the capital costs of property buyouts. The Market to Metacom Plan details the projected financial impacts to property owners and resulting lost annual tax revenue. While implementing the Market to Metacom phased relocation and retreat scenario is costly there is also a high cost to no action including great negative environmental and social impacts.

PARKER MILL NEIGHBORHOOD REDEVELOPMENT

Another neighborhood, beyond the Market Street project area and Metacom Avenue project area, that has been identified for redevelopment planning and investments is the Parker Mill neighborhood. Located generally between where Route 136 (Metacom Avenue) intersects with Arlington Avenue to the north and south, a number a traffic signals and one-ways creates an unusual circulation pattern or “rotary” which may not be the most efficient or desirable from a land use perspective with negative impacts on abutting residential properties. The elimination of unnecessary traffic signals, creation of bicycle lanes, and planting of street trees could be incorporated within a larger plan to revitalize the neighborhood with other streetscape improvements and investments in affordable housing. An evaluation of Zoning and permitted uses for the mill and surrounding properties will be conducted and any amendments prepared must include design controls to ensure that any development or redevelopment promotes an aesthetically pleasing gateway to the Town and historic resources are protected and restored.

WATERFRONT

Warren’s historic working waterfront along the Warren River is economically and culturally important to the community and the region. Preserving the working waterfront and its existing water-dependent businesses while also promoting public access and recreational enjoyment to this natural and scenic resource is a priority to the Town. In general, water-dependent uses are land uses that require direct access to coastal waters in order to function and which therefore must be located at the waterfront rather than on inland sites.

Water-dependent businesses, such as commercial fisheries, seafood processors, and charter boat operations, require infrastructure located on or adjacent to water to access the water. The working waterfronts necessary to support these industries, such as docks, loading facilities, or seafood processing plants, are often at risk of displacement by non-water-dependent uses, such as restaurants or condominium development. Once working waterfront are converted to other non-water-dependent uses, the Town will not be able to attract those industries that are water-dependent. The Blue Economy and its significant to the region are discussed further within the Economic Development Element. Local governments can help preserve traditional working waterfronts by incorporating water-dependency definitions and requirements in their regulations.

Existing residential neighborhoods along the waterfront in Warren, including parts of Touisset, are vulnerable to residential development out of scale and character with the traditional vernacular. This is in part exacerbated by the recent state law change as to how building height is calculated, with freeboard not being included. The Town's ultimate goal is a retreat strategy that encourages developments further from coastal features to reduce risk to flooding. However, in the shorter-term an evaluation of regulations and mechanisms to control maximum height of structures along the coast and in flood prone-areas to avoid a walling off of Warren's shoreline should be conducted. The Town could consider offering incentives and dimensional relief, such as reduced setbacks by right, to encourage the siting of new residential development outside of flood zones.

COMMERCIAL DESIGN STANDARDS

Utilizing design standards for commercial development will promote quality design and enhance a community's character and image. The Town should consider implementing townwide commercial design standards to improve the design quality for new and remodeled commercial sites. The standards should promote safe circulation and access by multiple modes of transportation, screen parking and dumpsters, require landscaping and street trees, and control signage and exterior lighting. Specific standards to be established should not inhibit creative design and development solutions but rather provide expectations for better quality development that promote public safety, sustainability, and a unique sense of place.

SPECIAL PLANNING DISTRICTS

The Town would like to conduct a series of charettes targeted to special planning districts that have been identified in this Comprehensive Plan as deserving or special consideration for local regulatory review and updates and targeted investments to stimulate redevelopment. The special districts could include the following:

- Metacom Avenue Project Area from the *Market to Metacom Plan* – focused on development of Form-Based Code
- The Waterfront District and Water Street – focused on waterfront-reliable businesses, historic preservation, parking policies
- Parker Mill neighborhood – focused on revitalization, transportation/circulation improvements
- Cutler Mill – focused on Zoning, permitted uses, streetscape improvements
- Rural Business –Gateway from Massachusetts – focused on Zoning, permitted uses and design standards
- Child Street – focused on design standards, streetscape and transportation improvements, flooding concerns

EXISTING ZONING

The existing Zoning Ordinance and Zoning Map (Map LU2) provides for the following zoning districts and overlay zones:

- **R40 Residence District.** This district is for residential uses with a density of one dwelling unit per 40,000 square feet.
- **R30 Residence District.** This district is for residential uses with a density of one dwelling unit per 30,000 square feet.
- **R20 Residence District.** This district is for residential uses with an approximate density of one dwelling unit per 20,000 square feet.
- **R15 Residence District.** This district is for residential uses with a density of one dwelling unit per 15,000 square feet.
- **R10 Residence District.** This district is for residential uses with a density of one dwelling unit per 10,000 square feet.
- **R6 Residence District.** This district is for residential uses with a density of one dwelling unit dwelling unit per 6,000 square feet.
- **Conservation District.** This district includes areas of protected coastal land and open space, which are in public ownership, or owned by a private organization, for the purpose of maintaining it in its natural condition and/or protecting a plant or animal habitat area. Permitted uses include passive recreation and habitat management.
- **Farm Conservation District.** This district includes agricultural lands which are permanently protected against development, and are now or formerly in active farming use.
- **Rural Business.** This district is intended for mixed commercial uses characterized by architectural and site design standards consistent with providing an aesthetically unobtrusive gateway to the Town.
- **Business.** This district includes all other commercial areas which are not in the Village Business District, and which are suitable for more intensive business uses, including those areas along major thoroughfares where businesses rely on easy vehicular access.
- **Village Business.** This district includes the central business area off Main Street as well as the business area off Child Street and Metacom Avenue, where permitted business uses are in character and scale with the mixed-use areas of town, and have less traffic impact and parking demand than more intensive business uses.
- **Waterfront District.** This district includes mixed-use areas along and adjoining the Warren River for which water dependent uses are encouraged.
- **Special District.** This district is designated primarily for the former American Tourister site along the Warren River and Parker Mill. Comprehensive development involving mixed uses is encouraged and site plan review of development proposals is required.
- **Manufacturing District.** This district includes land currently used for manufacturing and related uses, and areas which are considered suitable for development of manufacturing uses.
- **Commercial Industrial District.** This district is in the vicinity of Old Market Street, New Industrial Way and Commercial Way intended for mixed industrial and commercial uses.

Overlay Zoning

- **Kickemuit Reservoir Watershed Overlay Protection District.** This is an overlay district applied to the watershed of the Kickemuit Reservoir, for which certain uses otherwise permitted in the underlying districts are prohibited, and for which site plan review is required.
- **Waterfront Overlay District.** This is an overlay district applied to the Waterfront District and Special District. This district requires development plan review by the Planning Board.
- **Residential Village District.** This is an overlay district applied to certain areas of compact residential development in the Touisset area, for which modified dimensional regulations are applied to substandard lots of record.

THE FUTURE LAND USE MAP

A significant component of a local comprehensive plan is the identification of future land uses based on the interrelationship of historic development patterns, natural characteristics of the land, the transportation network, the availability of public services and facilities, and the desire to protect the natural and scenic qualities of the community. The Future Land Use Map (FLUM), Map LU3, supports the goals and policies of this Comprehensive Plan, and represents Warren's vision as to the types and intensities of land uses are desired in each area of town over a 20-year planning horizon.

During the Comprehensive Plan update process, a significant number of changes were made to the Future Land Use Plan. Many of these changes were an effort to bring more consistency between the Future Land Use Plan and current zoning, existing land uses, natural resource constraints, and natural hazards. This update of the FLUM also represents with greater detail agricultural land use and reflects successful land conservation efforts.

The following section describes the future land use designations as illustrated on the Future Land Use Map.

Future Land Use Designations

▪ PROTECTED OPEN SPACE AND AGRICULTURAL LANDS

The protected open space designation includes lands that are Zoned C – Conservation District and Farm Conservation, as well as additional land that has been permanently protected and is part of the Town's open space inventory. Protected open space designation along the Palmer River and Kickemuit River includes some of the rear of lots not currently permanently protected but undevelopable due to wetlands/regulatory restrictions and where potential open space corridor/connections are planned in the future. Boundaries established based roughly on SLAMM 1 foot sea level rise modeling. Protected Open Space also includes town-owned open space (Jamiel's Park) within the Market Street Project Area that is planned for wetlands restoration/migration and passive recreation. The agricultural lands including in this future land use designation are those which are permanently protective farmlands either actively or formerly used for agriculture.

- **RETREAT OVERLAY (MOST VULNERABLE AREAS WITHIN MARKET STREET PROJECT AREA)**

A Retreat Overlay on the Future Land Use Map within the Market Street project area was designated with boundaries established based on a combination of forecasted mean higher high water MHHW in 2050 as shown in the Market to Metacom Plan (figure 9), FEMA FIRM Maps - Flood Hazard Areas, road and property boundaries, and current land use. The Market Street project area is comprised of the following zoning districts: (M) Manufacturing, R6 Residential, Village Business, Business, R-10 Residential, Special, and Conservation. Overlay Zoning developed for the most vulnerable portion of the Market Street project area in the short-term could include language that encourages the phased relocation and retreat scenario outlined in the Market to Metacom Plan and discourages any significant investments in development of flood prone areas. Land within the Market Street project area Retreat Overlay would be restored to serve as flood storage and coastal buffering and a portion reused for recreation.

- **LOW DENSITY RESIDENTIAL**

The low-density residential designation represents areas of Town, mostly in the eastern part of Warren and outside of the Urban Services Boundary, that are currently zoned R40 requiring a minimum of 40,000 square feet per dwelling. Some land within this future land use designation is either active or idle agricultural lands or undeveloped. Agriculture is a permitted use by right and is encouraged to continue.

- **RESIDENTIAL VILLAGE**

The Residential Village designation for the Touisset Point area of Warren is characterized by a higher density residential building pattern that predates Zoning regulations. An existing residential village overlay allows for reduced dimensional regulations for legally created substandard lots to emulate the configuration and dimensional profile of the prevalent building pattern rather than the requirements of the underlying district. There is a concern that increased density and scale of residential development in this area will put added pressure on an already constrained water supply system. This issue is discussed in further detail in the Services and Facilities Element.

- **MEDIUM DENSITY RESIDENTIAL**

The medium density residential designation includes land zoned R10, R20 and R30, between 10,000 and 30,000 square foot residential lots. This "medium density residential" area equates to a range of residential densities of two to four residential units per acre which is less than what is called for in the State's *Land Use 2025's* "Sewered Urban Development" mapped area for Warren. The minimum density of five dwelling units per acre for areas shown as "Sewered Urban Development" on Figure 121-02(1) of *Land Use 2025: Rhode Island's State Land Use Policies and Plan* in areas shown on Warren's FLUM from Vernon Street south to the Bristol town line would not be consistent with the existing character of these largely already developed residential neighborhoods in Warren and significantly increasing the density of these neighborhoods is not desired nor feasible during the twenty-year planning horizon of this Plan.

- **HIGH DENSITY RESIDENTIAL**

The high-density residential designation includes land zoned R6, a permitted density of a minimum of 6,000 square feet.

- **MIXED USE**

This mixed-use designation includes land zoned village business and special district. Village Business zoned areas include the central business area off Main Street as well as the business area off Child Street and Metacom Avenue, as well as, the redeveloped American Tourister and Parker Mill properties. Business uses in the mixed-use designation should be in character and scale with the mixed-use areas of town and have less traffic impact and parking demand than more intensive business uses.

- **MIXED USE / LIGHT INDUSTRIAL**

The mixed use/light industrial designation is assigned to those properties currently zoned Rural Business. The FLUM designation of mixed-use/light industrial is more consistent with existing land uses in this district and will allow for rezoning to permit by right desirable economic development opportunities for the area.

- **WATERFRONT**

Land designated as waterfront on the FLUM includes the properties in the Waterfront Zoning District that are located along the Warren River. This area is comprised on a variety of land uses and future use of these properties should allow for and encourage waterfront dependent land uses.

- **SPECIAL PLANNING AREA (METACOM AVENUE PROJECT AREA BOUNDARY – CURRENTLY ZONED BUSINESS – REZONING PLANNED FOR HIGHER DENSITY MIXED-USE DEVELOPMENT)**

The Metacom Avenue project area has been designated on the FLUM as a Special Planning District. These properties are currently zoned business and planned rezoning of this Special Planning District will allow for and encourage higher density mixed-use redevelopment.

- **COMMERCIAL**

The Commercial FLUM designation includes commercial areas outside of the Village Business District which are suitable for more intensive business uses due to their easy vehicular access to and from major thoroughfares. The properties in the Commercial FLUM designation are zoned Business.

- **COMMERCIAL & INDUSTRIAL**

The Commercial & Industrial FLUM designation includes the land zoned Commercial Industrial located in the northern part of Warren off Route 136. The area has special zoning established to control development to protect specific historic sites and access to passive recreational sites while allowing for specified commercial and industrial uses that offer local economic development benefits.

- **MANUFACTURING**

The designation Manufacturing on the FLUM includes properties located between Franklin Street and Route 103/ Child Street. These properties are either currently used for manufacturing and related uses and areas which are considered suitable for future manufacturing uses.

- **RECREATION**

The Recreation designation on the FLUM is for properties currently used for recreation purposes such as parks and ballfields. A majority of these properties are owned by the Town of Warren.

INCONSISTENCIES BETWEEN THE FUTURE LAND USE MAP AND CURRENT ZONING MAP

Amendments to the Rural Business Zoning District are planned to be designated and rezoned as mixed-use/light industrial in order to better align with existing land use in the district, encourage business and job creation, and minimize the regular need for special use permits for most development projects. Design standards should be contained within the amended Zoning Ordinance for new development and redevelopment of sites in this section of town to ensure an aesthetically pleasing gateway. Protecting this portion of the corridor from overdevelopment and general business uses should be a priority.

The Special Planning Area on the Future Land Use Map is consistent with the Metacom Avenue Project Area boundary which is currently zoned Business and R-10. As part of implementing the Market to Metacom Plan, the Town of Warren will be rezoning the Metacom Avenue (Rte. 136 Corridor) to allow for greater density mixed-use development. As part of the zoning amendment the Town is including a Form Based Code. A Form-Based Code (FBC) is a means of regulating land development to achieve a specific urban form. Form-Based Codes foster predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle, with less focus on land use, through municipal regulations. A FBC is a regulation, not a mere guideline, adopted into the Town's Zoning Ordinance and offers a powerful alternative to conventional zoning regulation. The Town of Warren is addressing the need for more affordable/workforce housing by incorporating density bonuses for the inclusion of affordable housing units into the FBC.

Zoning language for the proposed Retreat Overlay on the Future Land Use Map within the most vulnerable portion of the Market Street project area is to be crafted. Underlying Zoning Districts will remain; however, the overlay district will encourage the phased relocation and retreat scenario outlined in the Market to Metacom Plan and will discourage any significant investments in development within this flood prone area. Long-term, the land within the Retreat Overlay will be restored as wetlands and passive recreation.

A property, 51 Cole Street, currently zoned Manufacturing has been designated on the updated FLUM as Mixed Use. This property abuts land zoned Village Business and is found to be more suitable for mixed use due to existing and abutting land uses, location in close vicinity to Historic Downtown, and the potential creation of needed housing units and small local businesses that would result from this rezoning.

In order to highlight the successful conservation work that has occurred in the town in recent decades, the Future Land Use Map includes the designation of protected open space and agricultural lands. The Town will evaluate any inconsistencies between Zoning and the Future Land Use Map in regards to permanently protected open space or permanently protected agricultural lands and will rezone to Conservation or Farm Conservation as appropriate to reflect that status, understanding that each conservation easements is crafted differently and contains different restrictions in regards to future development. For example, although major portions of these properties may be conserved this does not necessarily preclude the property owner from developing a portion of their property.

Map LU 4 displays the inconsistencies that exist between current Zoning and the Future Land Use Map. The Town will take appropriate steps through the local adoption process to ensure that the Zoning Ordinance and Zoning Map are consistent with the Future Land Use Plan.

The Zoning Map will be brought into compliance with the Future Land Use Map within 18 months of Plan adoption.

SUPPORTING DOCUMENTS AND RESOURCES

Market to Metacom: Adaptation and Economic Development Plan, Final Report, Prepared by Fuss & O'Neill for the Town of Warren, December 29, 2021.

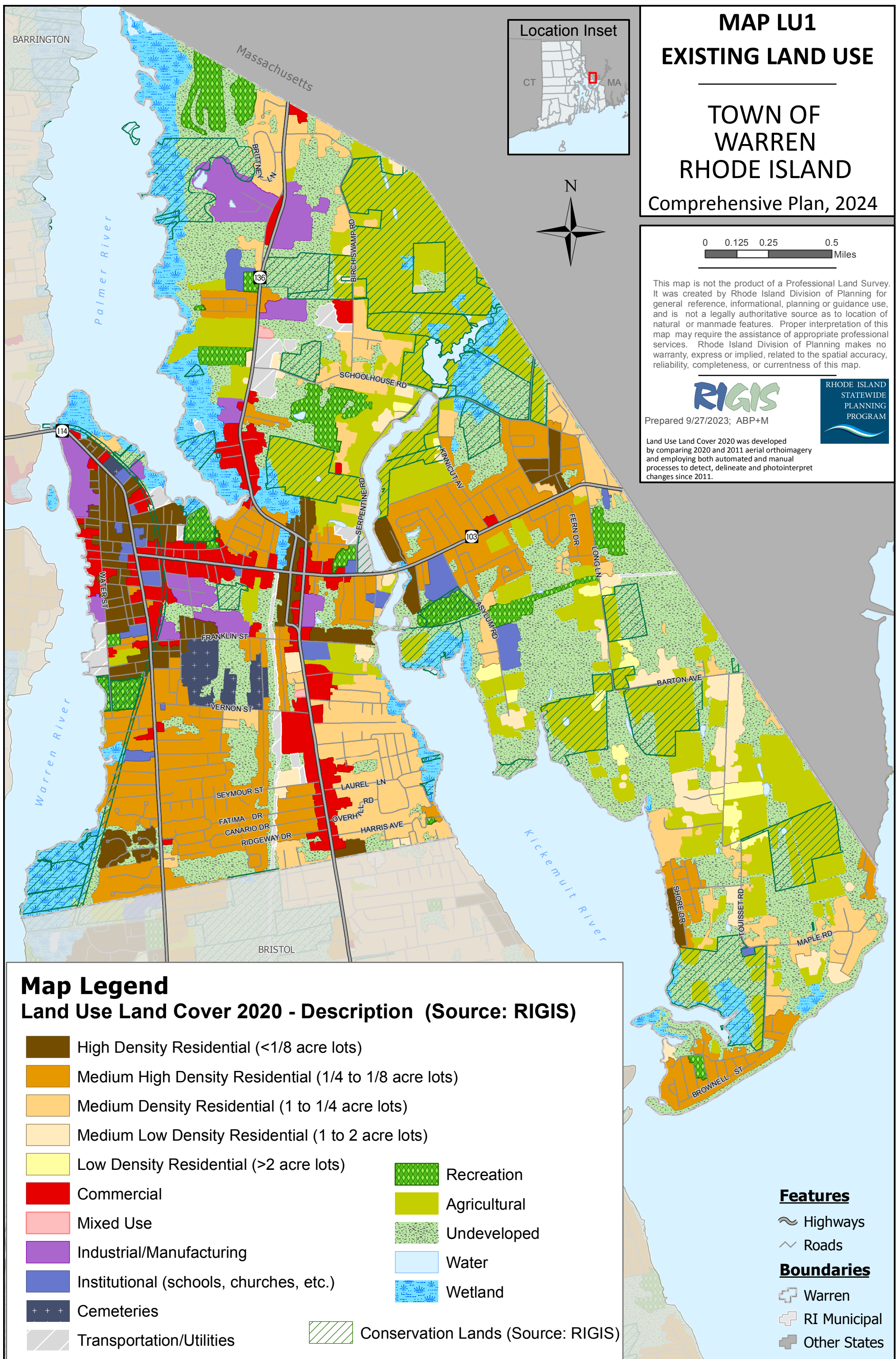
State Guide Plan

The State Guide Plan is Rhode Island's centralized and integrated long-range planning document. The State Guide Plan is not a single document but a collection of plans that have been adopted over many years. It comprises many separately published elements covering a range of topics.

Land Use 2025: Rhode Island's State Land Use Policies and Plan (April 13, 2006) – Element 121

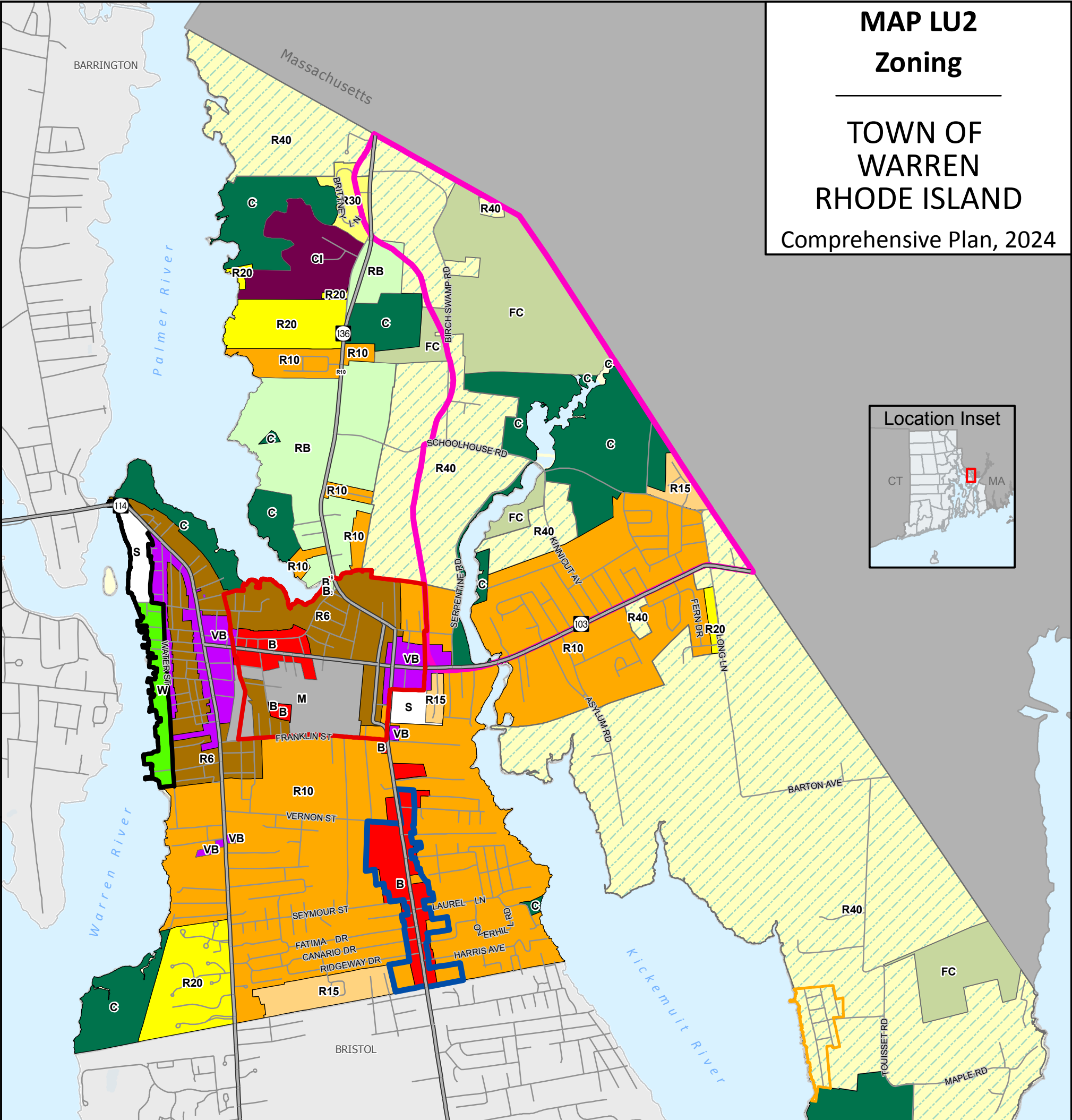
Sets forth a statewide land use policy with a 20-year time horizon. It covers topics such as general land development, economic development, housing, energy, transportation, water resources, and recreation and open space. An Executive Summary is also available for this publication.

Warren's Land Use Element supports the goals and objectives of the State's *Land Use 2025* in a multitude of ways. For example, *Land Use 2025's "GOAL 2: ACHIEVE EXCELLENCE IN COMMUNITY DESIGN • Focus growth in a variety of centers • Promote traditional neighborhoods • Preserve special places • Protect rural character • Promote diverse, affordable housing • Develop major employment centers"* would be furthered with the redevelopment of the Metacom Avenue project area, a backbone of this Plan, which focuses growth in a traditional center concept while promoting diverse and affordable housing. Resilient Warren also has stated goals and priority implementation actions to protect its special places including its Historic Downtown and its rural character.



MAP LU2
Zoning

TOWN OF
WARREN
RHODE ISLAND
Comprehensive Plan, 2024



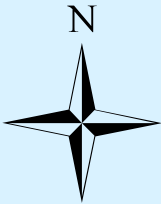
Map Legend

- Market St Project Area Boundary
- Metacom Ave Project Area Boundary

ZONING

- (R6) R-6 Residential District
- (R10) R-10 Residential District
- (R15) R-15 Residential District
- (R20) R-20 Residential District
- (R30) R-30 Residential District
- (R40) R-40 Residential District
- (C) Conservation District
- (FC) Farm Conservation District
- (RB) Rural Business
- (B) Business District
- (VB) Village Business District
- (W) Waterfront District
- (S) Special District
- (M) Manufacturing District
- (CI) Commercial Industrial District
- Kickemuit Overlay
- Waterfront Overlay
- Residential Overlay

- Water
- Boundaries
- Warren
- RI Municipal
- Other States



0 0.175 0.35 0.7
Miles

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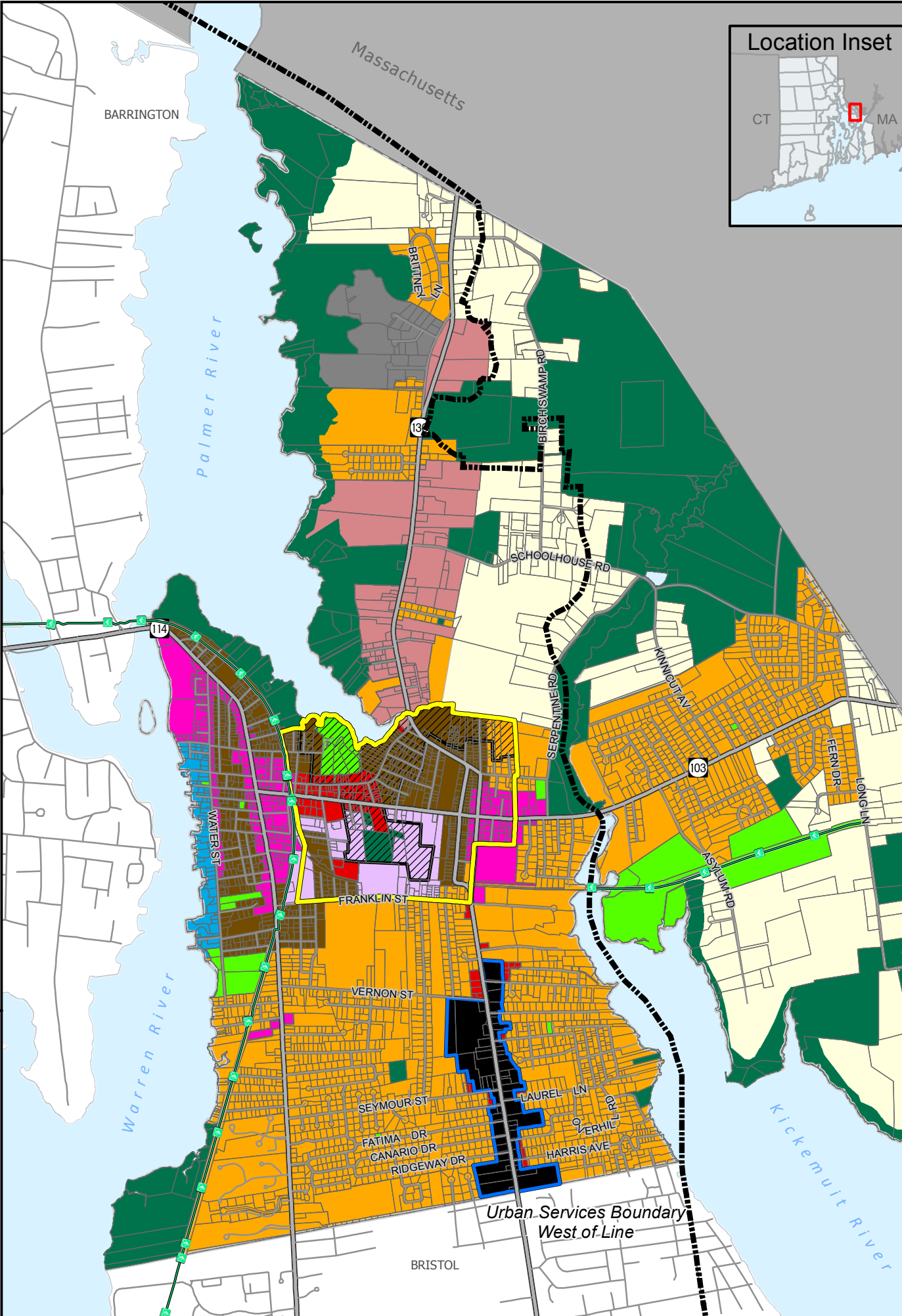
(ABP+M,
9/21/23)

MAP LU3
Future Land Use

TOWN OF
WARREN
RHODE ISLAND
Comprehensive Plan, 2024

Legend

- Bicycle Path
- Water
- Warren
- RI Municipal
- Other States

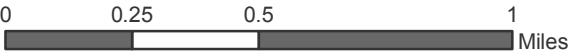


Legend

- State's Urban Services Boundary
- Market St Project Area Boundary
- Metacom Ave Project Area Boundary

Future Land Use Categories

- | | |
|------------------------------|---|
| Low Density Residential | Recreation |
| Medium Density Residential | Protected Open Space & Agricultural Lands |
| High Density Residential | Retreat Overlay |
| Mixed Use | Waterfront |
| Mixed Use / Light Industrial | Special Planning District |
| Commercial | Residential Village |
| Commercial & Industrial | |
| Manufacturing | |



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(ABP+M,
6/10/2024)

MAP LU4

Zoning Map Changes for

FLUM Consistency

TOWN OF

WARREN

RHODE ISLAND

Comprehensive Plan, 2024



Legend

Zoning Amendments for Future Land Use Map Consistency

Amend from Manufacturing to Village Business

Amend from Rural Business to Mixed-Use / Light Industrial

Amend Zoning to Conservation or Farm Conservation

Metacom Ave Project Area / Rezone to Form Based Code / Mixed-Use

(B) Business District to FBC

(R10) R-10 Residential District to FBC

Craft Retreat Zoning Overlay for Portion of Market Street Project Area - Underlying Zoning Districts Below

(B) Business District

(C) Conservation District

(M) Manufacturing District

(R10) R-10 Residential District

(R6) R-6 Residential District

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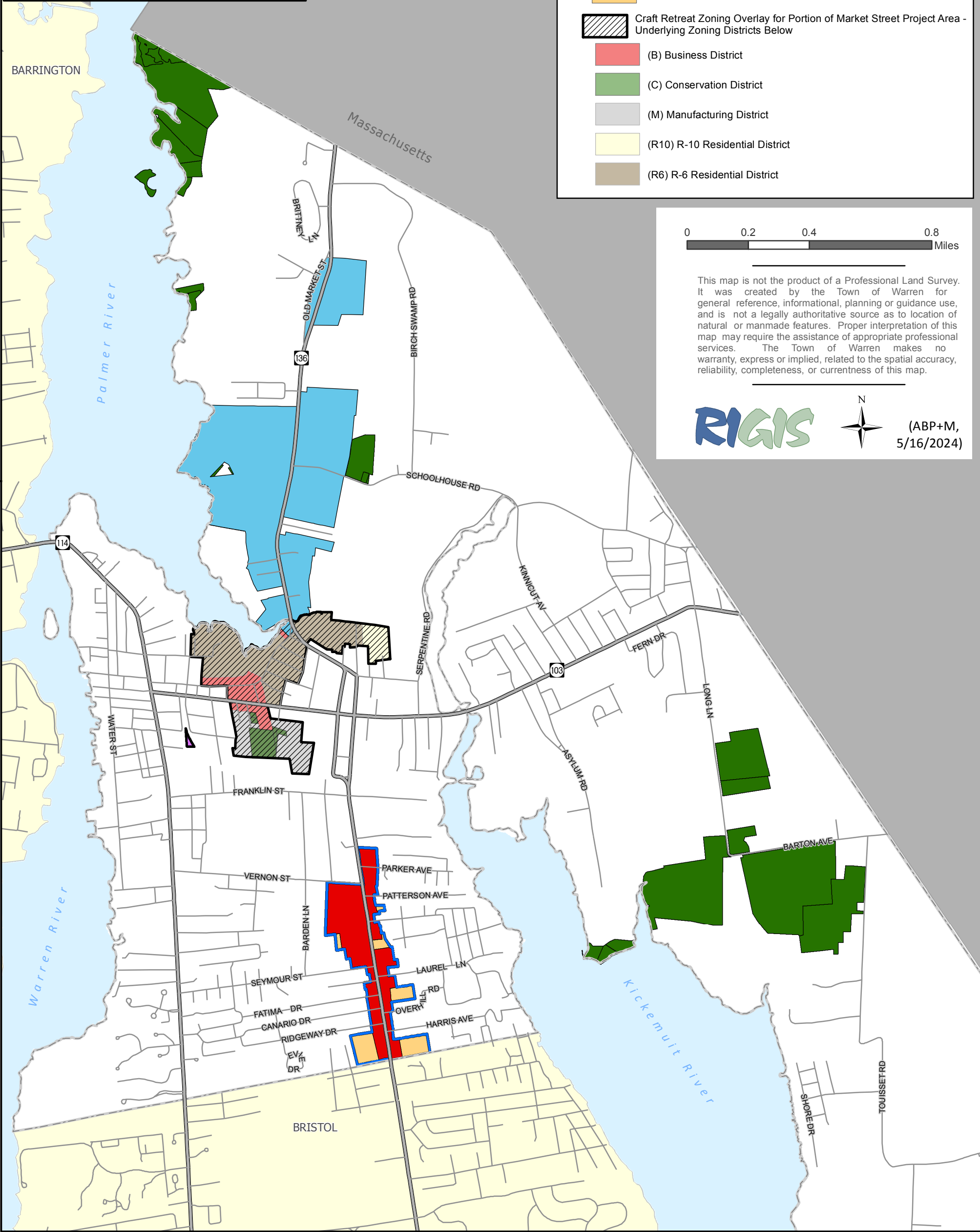
Miles

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(ABP+M,
5/16/2024)



11. IMPLEMENTATION PROGRAM

The following Implementation Program lists specific municipal actions to be undertaken to achieve the stated goals this Comprehensive Plan with an emphasis on actions to mitigate the negative impacts of climate change on our community. The standalone implementation program will serve as a useful tool to assist the Town in implementing the plan and for preparing and submitting progress updates. Actions have been prioritized and a timeframe of short, medium and long-term have been designated. Short-term actions will be implemented within two years from the date of Plan adoption. Medium-term actions will be implemented within six years of Plan adoption. Long-term actions will be implemented within ten years of Plan adoption. A “continual” timeframe is assigned for those actions that must be recurring and by their nature not completed. Top priority actions items are scored a 1, followed by 2 for medium priorities, and 3 for lesser priority action to be implemented as resources permit. The Town Council, Town Manager, and Planning Board are the key responsible parties to ensure progress in Plan implementation through action and/or delegation to key personnel or town board or committee. Actions that directly relate to implementation of the Market to Metacom Plan are identified (highlighted in yellow), along with those that are contained within the Town’s Capital Improvement Program (highlighted in green). The Planning Board will assess Plan implementation status annually to ensure that progress in being made to achieve the stated goals of this Plan and will submit an implementation status report to Statewide Planning within five years of Plan adoption. The annual municipal review shall be accomplished in the following manner consistent with state law: the Town Planner shall submit a report to the Planning Board for the board’s review, comment, and findings. The Planning Board shall submit to the Town Council a report summarizing the status of the implementation program which report shall be reviewed by the Town Council at a public meeting. This local comprehensive community plan is to be updated and re-adopted within ten years.

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
2	ANH13. Work with RIDOT to adapt vulnerable sections of Routes 136 and 103 to withstand sea level rise and storm events and potentially become part of the flood control system	Planning; Public Works	Short-term	1
2	ANH2. Investigate legal authority and issues around flood prone property buy-outs, road and utility abandonment	Legal; Town Manager; Town Council	Short-term	1
2	ANH20. Consolidate fire and rescue into a new centrally located Fire Station headquarters with modern training facilities	Fire; Town Manager	Short-term	1
2	ANH7. Amend local Zoning to allow for higher densities in certain upland areas (i.e. Metacom Avenue project area) to provide housing opportunities for those that may be displaced due to flooding	Planning; Planning Board; Town Council	Short-term	1
2	ANH9. Complete steps to enroll in the NFIP Community Rating System (CRS) Program in an effort to improve the Town's floodplain programs and reduce the cost of flood insurance for Warren property owners including public engagement	Planning; Building and Zoning	Short-term	1
2	ANH22. Explore consolidation and regionalization of wastewater management at a different location as the current facility will not be serviceable beyond 2065	Sewer; Town Manager	Medium-term	1
2	ANH14. Implement a shoreline retreat strategy that will allow restoration of natural areas and opportunities to enjoy new waterfront recreational assets - "Marsh Park" (ANR6 & ARO4)	Planning; Public Works; Recreation; Town Manager	Long-term	1
2	ANH15. Implement Best Management Practices (BMPs) from the RI Stormwater Manual in flood prone areas to mitigate the impact of flooding on property, structures, and infrastructure including roadways	Planning; Public Works; Town Manager	Continual	1
2	ANH19. Incorporate green features like forested bioswales, rain gardens to the medians and sides of streets along with planting street trees and introduction of permeable pavement to reduce the effects of stormwater runoff and urban heat (AT2 & ALU19)	Public Works; Planning	Continual	1
2	ANH8. Amend local Zoning for Market Street project area to discourage any new development in flood prone areas and to be consistent with the Comprehensive Plan, Future Land Use Map (Retreat Overlay), and FEMA FIRM maps	Planning; Planning Board; Town Council	Short-term	2
2	ANH3. Secure State and Federal funding and explore Tax Increment Financing for property buy-outs	Finance; Legal; Planning; Town Manager; Town Council	Medium-term; Long-term	2
2	ANH1. Create a voluntary buy-out strategy for properties in danger of repetitive flooding and storm damage	Finance; Legal; Planning; Town Manager; Town Council	Medium-term	2
2	ANH21. Evaluate vulnerability of sewer lines to sea level rise and continue to floodproof at-risk pump stations	Sewer; Planning	Medium-term	2
2	ANH23. Plan for the protection and/or relocation of at-risk utility infrastructure (i.e. evaluate risks to underground utilities from SLR and the Rhode Island Energy Substation at Belcher Cove)	Planning; Public Works	Medium-term	2
2	ANH5. Identify locations of OWTS that may pose threats to water quality if impacted by flooding and rising water, for example, the Shore Drive area	Planning; Conservation Commission	Medium-term	2
2	ANH12. Identify alternative evacuation routes that avoid roadways vulnerable to flooding and prioritize tree maintenance on primary and secondary evacuation routes	Police; Fire; Public Works; Planning; Emergency Management; Tree Warden	Long-term; Continuous	2
2	ANH4. Remove local streets and utilities from areas within the Market Street project area when they are no longer serviceable and necessary for private property access	Public Works; Planning; Town Manager; Town Council; Legal	Long-term	2
2	ANH16. Protect property through the acquisition of land that serves as a natural buffer	Town Council	Continual	2
2	ANH18. Identify upland areas for conservation that will allow for the advancement of future marsh migration	Planning; Conservation Commission	Continual	2

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
2	ANH6. Identify roadways at-risk to flooding outside of the Market Street project area, such as, Touisset Point, where raising roadbeds may be necessary to maintain access during flooding events	Public Works; Planning	Long-term	3
2	ANH10. Educate property owners about impending climate change impacts, adaptation strategies, and the Market to Metacom Plan. Education on the benefits of trees in reducing air pollution, cooling heat islands, lower utility bills, etc. should be incorporated into this educational programming.	Planning; Tree Commission; Conservation Commission	Continual	3
2	ANH11. Record and map flooding events to locate patterns and obtain data for future mitigation activities; create an online portal where the public could submit documentation on flooding events by uploading photos	Planning	Continual	3
2	ANH17. Utilize SLAMM maps to inform the planning and design for coastal wetland restoration and coastal resiliency projects	Planning	Continual	3
3	AHC1. Undertake a review of existing historic district boundary (expansion north, south and east) and regulations, including the demolition ordinance, to determine if local amendments and state enabling legislation are needed to better achieve the purpose	Planning Board; Historic Commission	Short-term	1
3	AHC2. Adopt recommended amendments to local Historic District regulations including those that may be necessary to ensure compliance with § 45-24.1-10; remove the term "Voluntary" and "District" from the Commission name and regulations to bring greater clarity	Town Council	Short-term	1
3	AHC24. Establish an ongoing façade improvements loan and/or grant program to assist and encourage property owners of historic properties to make historically appropriate updates	Town Manager	Short-term	1
3	AHC11. Adopt context-based design standards for new construction and significant physical alterations to existing structures within the Historic District, using the National Trust guidelines	Historic District; Town Council	Short-term	2
3	AHC16. Seek Rhode Island Historic Preservation and Heritage Commission designation as a Certified Local Government (CLG) and apply for CLG grant funding; first ensuring that Warren's local historic district zoning complies with § 45-24.1-10 to be eligible	Town Manager	Short-term	2
3	AHC18. Complete a prioritized risk-assessment analysis to determine which historic properties, archeology sites and cemeteries in Town are most endangered by the effects of sea-level rise and flooding	Planning	Short-term	2
3	AHC19. Establish guidelines for historic property owners on preservation-sensitive mitigation options; Coordinate with the RIHPHC to identify and seek options and resources to assist owners of historic buildings to flood-proof or elevate their property while preserving the historic integrity of the property and district	Planning	Short-term	2
3	AHC3. Evaluate increasing the local historic tax benefit offered to encourage additional preservation and restoration of historic structures	Historic Commission; Town Council	Short-term	2
3	AHC20. Investigate temporary storm protection barriers and other measures for historic district property protection preceding an anticipated flood event	Planning	Medium-term	2
3	AHC23. Set up a revolving fund to be used in the rehabilitation of historic buildings utilizing, for example, TIF (tax increment financing) funds from Metacom Avenue redevelopment	Town Manager; Town Council; Finance	Medium-term	2
3	AHC25. Explore establishment of a real estate transfer tax to be paid by a buyer of real estate property at the time of purchase to be dedicated to a local fund for historic preservation prioritizing creation of affordable housing	Town Manager; Town Council; Finance	Medium-term	2
3	AHC4. Explore establishing new historic districts to preserve other areas of Warren of special historic and cultural significance, such as, South Main Street, Parker Mill neighborhood, Cutler Mills, Touisset Point, Windmill Hill/Kickemuit River and make recommendations	Historic Commission	Medium-term	2

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
3	AHC6. Create informational guide/s for the public and applicants that outline clearly the local regulations, programs, and guidelines of the Historic District Commission including tax incentives that are offered and make available on Town website for convenient access	Historic Commission	Medium-term	2
3	AHC22. Inform property owners / private developers of state and federal historic tax credits, and other available financial incentives for the adaptive reuse of historic structures	Planning; Building	Continual	2
3	AHC26. Increase monitoring and enforcement efforts of neglected historic properties	Building/Zoning	Continual	2
3	AHC7. Work with historic preservation partners to apply for grants to preserve, conserve and protect buildings, landscapes, or other artifacts of historical significance in Warren	Planning Department	Continual	2
3	AHC5. Amend regulations to allow for voluntary opting-in to the Historic District by property owners of historic properties outside of the boundaries of the Historic District	Planning Board; Town Council	Short-term	3
3	AHC12. Require an advisory opinion by the Historic District Commission and opportunity for public comment for proposed physical alterations to town-owned historic structures and sites	Town Council	Medium-term	3
3	AHC13. Utilize as a resource and update as needed Warren's comprehensive historic and cultural resources inventories	Town Manager	Medium-term	3
3	AHC21. Adopt an adaptive reuse ordinance that encourages the reuse of historic structures when original uses are no longer suitable or marketable	Planning; Town Council	Medium-term	3
3	AHC9. Enact an ordinance for the protection of historic stonewalls to help retain rural town character	Planning Board; Town Council	Medium-term	3
3	AHC10. Following implementation of form-based code for Metacom Project Area, consider expanding use of form-based code to other sections of Town, including the Historic District as a complement to historic district regulations	Planning; Planning Board; Town Council	Long-term	3
3	AHC14. Support application submissions for National Register listing for eligible historic properties, districts, and archaeological resources	Town Manager	Continual	3
3	AHC15. Support and promote community events that celebrate the cultural traditions, heritage and history of Warren	Town Manager	Continual	3
3	AHC17. Review and post to Town website information about the Town's natural, historic and cultural resources prepared by partners and volunteers	Town Manager	Continual	3
3	AHC8. Inform property owners of voluntary historic preservation easements offered through Preserve Rhode Island which will ensure their historic property will not be destroyed or inappropriately altered by future owners	Historic Commission; Planning; Building	Continual	3
4	ANR9. Permit greater development density and a mix of uses within Metacom Avenue Project Area	Planning Board; Town Council	Short-term	1
4	ANR1. Include Low Impact Development stormwater management requirements within the Form Based Code so that when redevelopment occurs in Metacom Avenue project area, non-structural BMPs, such as raingardens, will be required components of the design (ASF13)	Planning; Planning Board	Medium-term; Long-term	1
4	ANR6. Implement a shoreline retreat strategy that will allow restoration of natural areas and opportunities to enjoy new waterfront recreational assets - "Marsh Park" (ANH14 & ARO4)	Planning; Public Works; Recreation; Town Manager	Long-term	1
4	ANR11. Encourage eligible private property owners to take advantage of the State's Farm Forest and Open Space Program for a tax reduction and to explore selling development rights to governmental/non-profit entities (RIGL 44-27)	Conservation Commission; Planning	Short-term	2
4	ANR15. Assess existing tree resources and tree canopy, establish a town-wide tree canopy goal, adopt an updated tree ordinance, and provide information to the public regarding trees on the Town's website	Public Works; Planning; Tree Warden; Tree Commission; Conservation Commission	Medium-term	2

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
4	ANR16. Apply for support through RIDEM's Urban and Community Forestry Grant Program to conduct a comprehensive tree inventory and management plan with RI Energy to assess tree risk. Once completed, compile the tree inventory and tree canopy analysis completed by GIC to develop a town tree management plan.	Public Works; Planning; Tree Warden; Tree Commission; Conservation Commission	Medium-term	2
4	ANR4. Investigate best options and obtain cost estimates for removal or encapsulation of the landfill at Jamiel Park to prepare the site for future inundation due to sea level rise	Town Manager	Medium-term; Long-term	2
4	ANR13. Participate with and support the multi-state coalition efforts towards expanding a protected greenway and wildlife corridor along the Palmer River	Town Manager	Long-term	2
4	ANR2. Support projects that reduce the amount of impervious cover in both the Market Street Project Area and Metacom Project Areas	Planning; Planning Board	Long-term	2
4	ANR3. Remove environmental contaminants that are stored in the Market Street project area (fuel/chemical tanks & underground storage tanks)	Town Manager	Long-term	2
4	ANR5. Reestablish vegetated and wetland areas between developed areas and adjacent bodies of water listed as impaired	Planning	Continual	2
4	ANR10. Establish an evaluation criteria based on conservation priorities to assist in decision-making regarding land acquisition for protection	Conservation Commission; Planning	Short-term	3
4	ANR12. Maintain a conserved open space inventory within GIS	Planning; Technology	Continual	3
4	ANR14. Work collaboratively with partners such as the Warren Land Trust to achieve shared conservation goals	Conservation Commission; Planning; Town Council	Continual	3
4	ANR7. Communicate with CRMC local concerns regarding enforcement within their jurisdiction and encourage CRMC to enforce buffer requirements and restoration if property owners are in violation	Zoning; Planning	Continual	3
4	ANR8. Work with the RI League of Cities and Towns and state legislators to identify strategies and advocate for additional resources, such as additional personnel, to enforce state rules protecting natural resources	Town Manager; Planning	Continual	3
5	ARO2. Permit residential land use at higher densities within Metacom Project Area/ Route 136 and other appropriate areas with existing infrastructure	Planning; Planning Board; Town Council	Short-term	1
5	ARO20. Add floats and facilities (bathrooms, showers, power, trash receptacles) for transient boaters.	Harbors; Planning; Public Works; Town Manager	Short-term	1
5	ARO5. Incorporate open space dedication requirements within the new Form-Based Code regulations for major development projects within Metacom Project Area	Planning; Planning Board; Town Council	Short-term	1
5	ARO6. Establish bicycle lane identified within the Market to Metacom Plan along Metacom Avenue and a multi-use trail on the electric easement of the Rhode Island Energy property (AT10)	Planning; Town Manager	Medium-term	1
5	ARO8. Improve connections from the Warren Bike Path through Long Lane to the Kickemuit River to Metacom Avenue, the East Bay Bike Path and adjacent neighborhoods (AT13)	Planning; DPW; Police; Town Manager	Medium-term	1
5	ARO4. Implement a shoreline retreat strategy that will allow restoration of natural areas and opportunities to enjoy new waterfront recreational assets - "Marsh Park" (ANH14 & ANR6)	Planning; Town Manager; Town Council	Long-term	1
5	ARO1. Work with partners reestablish open space bond fund and to acquire or purchase development rights to open space properties for conservation or recreation purposes	Town Manager; Town Council	Continual	1
5	ARO9. Establish a Bike, Path, & Trails Committee tasked with developing a plan and map for a townwide network and system of paths, trails, bike lanes, etc. and destination nodes (AT18)	Planning; Town Manager; Town Council	Short-term	2
5	ARO19. Expand the public riverwalk created as part of the Tourister redevelopment south to the Town Beach and north to the Town line	Planning; Town Manager; Town Council	Medium-term; Long-term	2

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
5	ARO14. Establish a priority list of park and recreation facility upgrades to include within the Town's Capital Improvement Program and to apply for grant funding	Town Manager; Recreation; Planning	Medium-term	2
5	ARO21. Add historical signage and volunteer landscaping and beautification projects	Planning; Public Works; Town Manager	Medium-term	2
5	ARO13. Promote the town's open space and recreational areas through a variety of media to encourage the use of the sites by the public	Recreation	Continual	2
5	ARO7. Identify and prepare plans for the development of a splash park to offer outdoor recreation, interactive water play, and the opportunity to cool off during times of excessive heat to children in underserved parts of Warren	Town Manager; Recreation; Planning	Short-term	3
5	ARO12. Establish clear and concise field use policies to be enforced	Recreation	Short-term	3
5	ARO15. Identify new recreational programs and activities desired by the community; conduct a public survey as one mechanism to assist in this process	Recreation	Short-term	3
5	ARO16. Reevaluate recommendations from the Recreation & Parks Master Plan, in particular, determination as specific needs for new athletic fields	Recreation, Town Council	Short-term	3
5	ARO3. Update the 2018 Recreation & Parks Master Plan to make it consistent with the Market to Metacom Plan and reevaluate site recommendations and investments based on future potential inundation due to sea level rise	Planning; Town Council	Short-term	3
5	ARO10. Review and update as needed the Town's Passive Recreation Sites and Conservation Areas Ordinance	Town Manager; Town Council	Medium-term	3
5	ARO11. Develop a maintenance plan for town recreational facilities that establishes roles and responsibilities of the various town departments	Recreation; Town Manager	Medium-term	3
5	ARO18. Create a report that assesses conditions at public access to shore points and makes recommendations for improvements	Town Manager	Medium-term	3
5	ARO17. Develop a trail/pedestrian connection along the electric power line easement that runs north south through Warren	Planning; Town Manager	Long-term	3
6	AH1. Adopt Form Based Code for the Metacom Project Area to permit and incentivize higher density mixed use development and affordable housing units and to achieve a more desirable and predictable built environment. Consider expanding Form Based Code to other parts of town including northern section of Route 136 and Historic Downtown. (ALU1)	Planning; Planning Board; Town Council	Short-term	1
6	AH2. Establish the Metacom Avenue Corridor as a Special Revitalization District in order to utilize Tax Increment Financing (TIF)	Planning; Finance; Town Manager	Short-term	1
6	AH4. Perform an Infrastructure Capacity Study along the Metacom Avenue Corridor to identify any deficiencies which would prevent higher density mixed use developments. Identify funding for this priority study	Planning; Public Works; Sewer and Water	Short-term	1
6	AH12. Amend local regulations to include additional application submission requirements for Comprehensive Permit applications to address state law changes and local housing needs	Planning; Planning Board; Town Council	Short-term	1
6	AH6. Promote use of the Affordable Housing Trust Fund which provides grant funding up to \$50,000 for the rehabilitation or conversion of deed restricted residential units	Planning; Building and Zoning	Continual	1
6	AH3. Draft an Accessory Dwelling Unit that establishes requirements for this type of housing and is consistent with state law; amend existing in-law zoning	Planning; Planning Board; Town Council	Short-term	2
6	AH5. Create a prioritized list of parcels from the existing drafted inventory that could accommodate future residential development with existing utilities and access to public transportation as considerations	Planning	Short-term	2
6	AH7. Utilize a portion of TIF Funds to establish a low interest revolving loan fund for the rehabilitation or conversion of deed restricted residential units.	Planning; Finance; Town Manager	Medium-term	2

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
6	AH8. Rigorously enforce housing codes and make efforts to prevent demolition by neglect of residential structures, particularly those contributing historic value	Building and Zoning	Medium-term	2
6	AH10. Attendance of local municipal leaders at state housing meetings; In partnership with other RI communities, submit comments verbally and in writing as to how the state can more effectively support local housing needs including amendments to the Low- and Moderate-Income Housing Act	Planning; Town Manager; Town Council	Continual	2
6	AH11. Incorporate findings of the 2024 Warren Housing Needs Assessment into the Comprehensive Plan. Ensure public engagement is part of the housing needs assessment process and solicited in any local development of strategies for the creation of affordable housing.	Planning; Planning Board; Town Council	Continual	3
6	AH9. Promote energy efficiency programs and enforce energy efficient building code	Building and Zoning	Continual	3
7	AT1. Work with RIDOT to implement the Metacom Avenue Corridor Redevelopment Plan with RIDOT to improve safety and aesthetics by reducing Metacom Avenue/Route 136 within the Metacom Avenue Project Area from four lanes to a three-lane road and upgrading accommodations for bicycles and pedestrians, specific priority actions below: Restripe road to create two eleven-foot-wide travel lanes , one 12' wide turning lane, and two six-foot wide accessible shoulders; Create dedicated bicycle lanes; Make accessible improvements to existing five foot wide sidewalks	Planning; Town Manager; Town Council	Short-term	1
7	AT13. Improve connections from the Warren Bike Path through Long Lane to the Kickemuit River to Metacom Avenue, the East Bay Bike Path and adjacent neighborhoods (ARO8)	Planning	Short-term	1
7	AT14. Work with RIDOT traffic engineers to identify and implement the safest connection between the East Bay Bicycle Path and the Warren Bicycle Path	Planning; Public Works; Police	Short-term	1
7	AT19. Investigate raising a portion of Child Street to mitigate flooding of road surface and consider installation of traffic calming techniques	Planning; Public Works; Town Manager	Short-term	1
7	AT25. Promote a “park and walk” environment incentivizing the use of lesser demand parking areas Downtown through policy and regulatory changes such as education and wayfinding, parking enforcement, time limits and/or pricing, and employee parking programs (AED12)	Police; Public Works; Town Manager; Town Council	Short-term	1
7	AT26. Evaluate and prioritize recommendations from Phase 2 of the Warren Downtown Parking Study and SSFA Statewide Safety Action Plan and begin implementation of top priority actions	Town Manager; Town Council	Short-term	1
7	AT10. Establish bicycle lane identified within the Market to Metacom Plan along Metacom Avenue and a multi-use trail on the electric easement of the Rhode Island Energy property (ARO6)	Planning	Medium-term	1
7	AT2. Incorporate green features like forested bioswales, rain gardens to the medians and sides of streets along with planting street trees and introduction of permeable pavement to reduce the effects of stormwater runoff and urban heat (ANH19 & ALU19)	Public Works; Planning	Continual	1
7	AT16. Inventory existing bicycle racks Downtown and install additional bicycle parking at in demand locations (i.e. in close vicinity to shops and restaurants along Main Street)	Public Works; Planning	Short-term	2
7	AT18. Establish a Bike, Path, & Trails Committee tasked developing a plan and map for a townwide network and system of paths, trails, bike lanes, etc. and destination nodes (ARO9)	Planning; Town Manager; Town Council	Short-term	2
7	AT27. Enact regulations that place time limits on on-street parking Downtown to encourage turnover for businesses and explore mobile payment platforms to collect fees	Town Manager; Town Council; Police	Short-term	2
7	AT6. Request increased frequency and destination option along the Route 136 / Metacom Avenue corridor to realize a transit oriented development	Planning	Short-term	2

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
7	AT9. Prepare a bicycle plan and identify locations for “share the road” markings and buffered bicycle lanes to reduce the potential for crashes and better accommodate those traveling by bicycle	Planning; Police	Short-term	2
7	AT11. Assess installing raised crosswalks and signage within the crosswalk for increased visibility and to reduce speeds near bicycle path crossings	Police; Public Works	Medium-term	2
7	AT28. Install wayfinding signage for public parking and also signs visible from bicycle paths (i.e. Union Studio designed sign by Del’s) to primary destinations	Town Manager; Town Council	Medium-term	2
7	AT3. Adopt a local Complete and Green Streets ordinance	Planning Board; Town Council	Medium-term	2
7	AT8. Work with RIDOT to develop and implement an improved circulation plan for the Parker Mill area, reconsidering the rotary and eliminating unnecessary traffic signals, incorporating bike lanes, and making streetscape improvements (ALU11)	Planning	Medium-term	2
7	AT20. Leverage the use of technology to assist the Police Department with enforcement of traffic codes for public safety (i.e. speeding cameras)	Police	Continual	2
7	AT21. Increase enforcement of yielding laws to protect pedestrians and bicyclists at crosswalks	Police	Continual	2
7	AT23. Undertake and maintain improvements (clear vegetation, fresh crosswalk marking, adequate signage, etc.) at crosswalks and bicycle path intersections to increase visibility and safety for pedestrians and bicyclists	Public Works	Continual	2
7	AT7. Pursue funding through the TIP to install sidewalks in appropriate locations, such as along Main Street from Beach Street to town line, where feasible plan for new street trees when installing new sidewalks	Planning	Continual	2
7	AT29. Establish a local policy and strategy to increase electric vehicle charging stations available publicly in Warren	Public Works; Planning	Short-term	3
7	AT15. Complete a traffic evaluation to determine if one-way roadway conversions are feasible and beneficial to traffic circulation and congestion easement Downtown	Planning; Public Works; Police	Medium-term	3
7	AT17. Identify impediments located within sidewalks (i.e. signage, poles, electrical boxes), determine those that are most negatively impacting pedestrian safety and accessible sidewalks, and those that relocation can and should be addressed	Public Works; Planning; Police	Medium-term	3
7	AT22. Work with partners to implement educational campaigns on “share the road” and “yield to pedestrians”	Police	Medium-term	3
7	AT24. Consider a parking ordinance to impose restrictions on the times and places that trucks can make deliveries in order to decrease congestion	Town Council	Medium-term	3
7	AT4. Establish parking standards that reduce visibility of asphalt and vehicles through siting in the rear and screening	Planning; Planning Board; Town Council	Medium-term	3
7	AT5. Work with RIDOT and RIPTA to ensure that accommodations such as bus shelters are provided to support transit users, , prioritize planting shade trees at bus stops	Planning; Town Manager; Town Council	Medium-term	3
7	AT12. Implement Safe Routes to School projects that upgrade and expand bicycle infrastructure and promote vehicular traffic calming techniques that encourage students to walk and ride bikes safely to school	Planning	Continual	3
8	AED12. Promote a “park and walk” environment incentivizing the use of lesser demand parking areas Downtown through policy and regulatory changes such as education and wayfinding, parking enforcement, time limits and/or pricing, and employee parking programs (AT25)	Police; Public Works; Town Manager; Town Council	Short-term; Medium-term	1
8	AED2. Rezone Metacom Avenue project area to encourage higher-density mixed use redevelopment of the corridor and new sites for businesses	Planning Board; Town Council	Short-term	1

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
8	AED26. Establish town-wide reliable and affordable high-speed internet connection which is critical for both the public school system and local economy (ASF25)	Town Manager; Town Council	Short-term	1
8	AED29. Undertake a branding exercise utilizing local creative talent to target and attract businesses and highlight Warren as a unique community and desirable place to live, work, and visit	Economic Development Board; Arts & Cultural Commission; Town Council	Short-term	1
8	AED4. Review and update permitted uses in commercial zoning districts including but not limited to the Rural Business District	Planning Board; Town Council	Short-term	1
8	AED9. Incentivize the use of and improvement to vacant storefronts; establish strong disincentives for property owners to continue long-term vacancy of commercial structures or keep properties in a state of disrepair	Planning; Finance	Medium-term	1
8	AED1. Implement the retreat and corridor redevelopment scenario prescribed in the Market to Metacom Plan to limit business closures due to flooding	Planning; Town Manager	Long-term	1
8	AED11. Ensure commercial development in Downtown Warren is consistent with the historic character of the district	Planning Board; Planning; Historic District Committee	Continual	1
8	AED17. Support the efforts of the LCACT and other partners to preserve farmland and open space through the purchase of development rights and other voluntary mechanisms	Conservation Commission; Town Council	Continual	1
8	AED25. Advocate for improved telecommunications infrastructure including broadband fiber optic cable and continue programs that promote expanded and affordable access to high-speed internet	Town Manager; Town Council	Continual	1
8	AED13. Install wayfinding signage for public parking and also signs visible from bicycle paths (i.e. Union Studio designed sign by Del's) to primary destinations (AT28.)	Town Manager; Town Council	Short-term; Medium-term	2
8	AED28. Conduct an in-depth survey of businesses to understand needs in regards to location and municipal services to inform local marketing and retention efforts	Economic Development Board	Short-term	2
8	AED5. Review local regulations and make amendments as necessary in order to protect waterfront-reliant businesses and land use while ensuring future development respects the historic scale of adjacent residential neighborhoods	Planning Board; Town Council	Short-term	2
8	AED15. Expand the public riverwalk created as part of the Tourister redevelopment south to the Town Beach and north to the Town line (ARO19.) and explore opportunities for museums and/or other cultural or marine-related public exhibits along the waterfront.	Planning; Town Manager; Town Council	Medium-term; Long-term	2
8	AED19. Regulate uses on farms not directly related to the agricultural operations or principal use of the farm	Planning Board; Town Council	Medium-term; Long-term	2
8	AED18. Amend zoning ordinance as needed to provide adequate standards which permit and support agricultural businesses while ensuring that they are compatible with neighboring residential uses and the overall environmental and aesthetic goals of the community	Planning Board; Town Council	Continual	2
8	AED23. Collaborate with educational institutions and workforce development organizations to support, educate and train residents on the skills that meet employer and workforce needs	Economic Development Board; School Committee	Continual	2
8	AED24. Facilitate connection between the BWRSD and local employers who can offer career exploration opportunities including manufacturing and the trades	Economic Development Board; School Committee	Continual	2
8	AED27. Collaborate with industry professionals, associations, and government agencies to foster the growth of regionally significant industries including the blue economy, manufacturing, marine trades, defense, and tourism	Economic Development Board; Planning; Town Manager	Continual	2
8	AED7. Seek funding for arts and culture and historic preservation to build on Warren's identity as a cultural destination	Economic Development Board; Historic District Committee	Continual	2

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
8	AED8. Market the town as an attractive and unique cultural regional destination for visitors	Economic Development Board; Arts & Cultural Commission; Historic District Committee	Continual	2
8	AED14. Investigate development of color-coded walking paths /routes originating from strategic starting points such as the parking lot on Franklin Street adjacent to the bike path to lead visitors to Main Street, Water Street, historic sites. Have a QR code so visitors to access information on landmarks and businesses along the route.	Historic District Committee; Planning; Arts & Cultural Commission; Police	Short-term; Medium-term	3
8	AED22. Continue to analyze the permitting and licensing processes and implement recommended measures from LEAN process to ensure a streamlined process for starting or expanding a business in Warren.	Town Manager	Short-term	3
8	AED20. Inventory development sites, exiting vacant and underutilized commercial space, and available real estate	Economic Development Board; Tax Assessor	Medium-term	3
8	AED10. Advertise and support community events throughout the year that bring in many visitors to patron local businesses	Economic Development Board; Arts & Cultural Commission	Continual	3
8	AED16. Facilitate low-cost leasing of publicly owned and/or conservation land to farmers	Town Manager; Town Council	Continual	3
8	AED21. Encourage residents to support local businesses and educate on the impact of shopping locally	Economic Development Board; Arts & Cultural Commission	Continual	3
8	AED3. Encourage existing businesses and commercial property owners to update facilities to be energy efficient, request street trees within the public ROW or plant trees on their property, reduce impervious surface, utilize renewable energy, and purchase electric vehicles	Economic Development Board; Building Official	Continual	3
8	AED6. Collaborate with arts-related organizations and economic development partners such as the East Bay Chamber and foster the relationship between the arts and business community for cross-promotion and economic development	Economic Development Board	Continual	3
8	AED22. Update local regulations to spur the creation of workforce housing units which is critical for the local economy and advocate for effective affordable housing policies and programs at the state level	Town Manager; Town Council; Planning; Planning Board	Continual	1
9	ASF10. Review, update and enforce local land use regulations related to controlling the scale of residential construction in Touisset given that potable water is limited	Planning; Planning Board; Town Council	Short-term	1
9	ASF11. Discuss and plan with the private 501c3 Touisset Point Water Trust strategies to manage their water supply system	Town Manager; Planning	Short-term	1
9	ASF8. Acquire property for the construction of a new rescue station headquarters; secure funding to support design and construction costs	Fire Department; Town Manager; Town Council; Planning	Short-term	1
9	ASF13. Include Low Impact Development stormwater management requirements within the Form Based Code so that when redevelopment occurs in Metacom Avenue project area, non-structural BMPs, such as raingardens, will be required components of the design (ANR1)	Planning; Planning Board; Town Council	Medium-term; Long-term	1
9	ASF23. Explore acquisition and/or renovation of a property to serve the community's need for a modern community/senior center	Town Manager; Town Council	Medium-term	1
9	ASF25. Establish town-wide reliable and affordable high-speed internet connection which is critical for both the public school system and local economy (AED26)	Town Manager; Town Council	Medium-term	1
9	ASF5. Explore consolidation, regionalization or decentralization of wastewater management as the current facility is likely to not be serviceable beyond 2065	Town Manager; Sewer Department	Medium-term	1
9	ASF9. Complete reconfiguration of the existing Police Station headquarters to adequately meet the current and near future needs of the department	Police Department; Town Manager; Planning	Medium-term	1

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
9	ASF22. Implement measures identified in the 2019 Infrastructure Improvement Plan for improving energy efficiency of the Town's wastewater management facility.	Town Manager; Sewer Department	Short-term; Medium-term	2
9	ASF1. Meet with neighboring communities to discuss opportunities for regional/shared services and facilities	Town Manager	Short-term; Continual	2
9	ASF15. Reevaluate unlimited curbside pick up of items and drop off at transfer station in order to control costs	Public Works; Town Manager; Town Council	Short-term	2
9	ASF12. Install underground cisterns for fire protection using recently secured funding	Town Manager; Fire Department	Medium-term	2
9	ASF16. Consider implementing a "Pay As You Throw" system for solid waste collection	Public Works; Town Manager; Town Council	Medium-term	2
9	ASF21. Upgrade and modernize the town's solid waste and recycling handling facilities	Town Manager; Public Works	Medium-term	2
9	ASF3. Explore sale of Mary V. Quirk Community Center property	Town Council	Medium-term	2
9	ASF14. Support projects that reduce the amount of impervious cover in both the Market Street Project Area and Metacom Project Areas (NR1B)	Planning; Planning Board; Town Council	Long-term	2
9	ASF24. Complete renovations to the second floor of Town Hall to maintain effective government operations within the historic structure	Town Manager; Town Council	Long-term	2
9	ASF7. Expand sewer capacity to accommodate new development within the Metacom Ave Project Area	Sewer Department; Town Manager	Long-term	2
9	ASF20. Incorporate renewable energy and green site and building standards during construction or renovation of municipal facilities as well as electric vehicle charging stations	Town Manager; Town Council	Continual	2
9	ASF26. Remain engaged in the BWRSD building upgrade planning process and support efforts that will results in improved educational facilities for Warren students	Long-term	Continual	2
9	ASF2. Utilize current technologies to improve municipal operations and efficiencies and to expand outreach to residents	Town Manager	Short-term; Continual	3
9	ASF6. Update and maintain inventory of septic systems which do not meet current standards for on-site wastewater treatment and investigate and promote funding opportunities to assist homeowners with replacement	Planning	Short-term; Continual	3
9	ASF18. Implement a public education campaign focused on recycling and increase recycling pick-up to weekly	Public Works; Town Manager; Town Council	Short-term	3
9	ASF17. Create incentives, such as reduced cost composting or free compost bin programs	Public Works; Town Manager; Town Council	Medium-term	3
9	ASF19. Assess energy usage in municipal buildings and facilities	Town Manager	Medium-term	3
9	ASF27. Encourage increase staffing or volunteerism in order to expand access to library's museum collection	Town Council	Medium-term	3
9	ASF4. Improve existing animal shelter or enter into a shared services agreement with another municipality	Town Manager; Town Council	Medium-term	3
10	ALU9. Establish walking trails and public viewsheds along Warren's waterfronts by acquiring key waterview and public access parcels and easement opportunities.	Planning; Town Manager; Town Council	Short-term; Medium-term; Long-term	1
10	ALU19. Incorporate green features like forested bioswales, rain gardens to the medians and sides of streets along with planting street trees and introduction of permeable pavement to reduce the effects of stormwater runoff and urban heat (AT2 & ANH19)	Public Works; Planning	Short-term; Medium-term; Long-term	1
10	ALU1. Adopt Form Based Code for the Metacom Avenue Project Area to permit and incentivize higher density mixed use development and affordable housing units and to achieve a more desirable and predictable built environment. Consider expanding form based code to other parts of town including northern section of Route 136 and Historic Downtown. (AH1)	Planning; Planning Board; Town Council	Short-term	1
10	ALU4. Revise local Zoning map to be consistent with the Future Land Use Map, addressing inconsistencies described in the Land Use Element	Planning; Planning Board; Town Council	Short-term	1

Implementation Program

CHAPTER	IMPLEMENTATION ACTION	RESPONSIBLE PARTY	TIMEFRAME	PRIORITY
10	ALU20. Review, update and enforce local land use regulations related to controlling the scale of residential construction in Touisset given that potable water is limited (ASF10.)	Planning; Planning Board; Town Council	Short-term	1
10	ALU17. Implement a Green and Complete Streets redesign of Metacom Avenue reducing the road from four to three lanes, creating a dedicated bicycle lane, increasing public transit frequency, and establishing an improved pedestrian and transit rider experience	Short-term	Planning; Town Manager; Town Council; RIDOT	1
10	ALU10. Ensure land remains dedicated and zoned for water dependent land uses and industry	Town Council	Continual	1
10	ALU12. Maintain deepwater wharves	Town Council	Continual	1
10	ALU2. Establish a Redevelopment Agency to assist in implementing Market to Metacom Plan	Town Manager; Town Council	Short-term	2
10	ALU3. Enact a stormwater overlay district and implement improvements to stormwater management infrastructure to protect the Kickemuit from polluted runoff	Planning; Planning Board; Town Council	Short-term	2
10	ALU6. Explore Tax Increment Financing to support property buy-out program and infrastructure upgrades and other sources of funding including federal grant programs	Finance; Town Manager; Town Council	Short-term	2
10	ALU5. Amend Zoning to minimize risk to lives, property and infrastructure by establishing a retreat overlay zoning district within the most vulnerable areas of the Market Street Project Area to encourage the phased relocation and retreat scenario.	Planning; Planning Board; Town Council	Medium-term	2
10	ALU13. Work with RIDOT to develop and implement an improved circulation plan for the Parker Mill area, reconsidering the rotary and eliminating unnecessary traffic signals, incorporating bike lanes, and making streetscape improvements (AT8)	Planning; RIDOT	Medium-term	2
10	ALU14. Conduct an evaluation of Zoning and permitted uses for Parker Mill and surrounding properties and any amendments prepared must include design controls to ensure that any development or redevelopment promotes an aesthetically pleasing gateway to the Town and historic resources are protected and restored.	Planning	Medium-term	2
10	ALU16. Consider adopting commercial design standards beyond the Historic District, particularly along major roads and gateways to the Town to promote quality site design, landscaping, and discourage franchise architecture	Planning; Planning Board; Town Council	Medium-term	2
10	ALU18. Evaluate permitted uses in the Rural Business Zoning District and make amendments to allow for appropriate and desired mixed-use and light industrial uses ensuring design controls are in place so that any development or redevelopment promotes an aesthetically pleasing gateway to the Town.	Planning; Planning Board; Town Council	Medium-term	2
10	ALU21. Expand sewer capacity to accommodate new development within the Metacom Ave Project Area (ADF7.)	Sewer Department; Town Manager	Long-term	2
10	ALU15. Hold public charettes to obtain public input on any new or significant boundary changes to any existing special zoning districts or neighborhood plans	Planning; Planning Board; Town Council	Continual	2
10	ALU7. Request State approval of Metacom Avenue project area as a locally designated growth center in support of redevelopment that will create a mixed-use, higher density residential area which supports	Planning	Short-term	3
10	ALU8. Evaluate local regulations and identify strategies to prevent and discourage tall residential structures along the shoreline that are inconsistent with the traditional scale and height of the surrounding residential neighborhood.	Planning; Planning Board; Town Council	Short-term	3
10	ALU11. Provide incentives to expand and introduce working waterfront businesses	Town Council	Short-term	3

APPENDIX A

Market to Metacom:
Adaptation and Economic Development Plan
SNEP Contract # SNEPWG20-2-WARR-M2M

Final Report



Town of Warren
Warren, Rhode Island

December 29, 2021



317 Iron Horse Way, Suite 204
Providence, Rhode Island 02908

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1 Introduction

The Town of Warren, Rhode Island received grant funding from the Southeast New England Program (SNEP) of the US Environmental Protection Agency and administered by Restore America's Estuaries (RAE) to develop a neighborhood plan for the Market Street and Metacom Avenue project areas to holistically address water quality and climate change challenges, while promoting economic redevelopment. Warren has a population of 11,147 residents and is located ten miles southeast of Providence, Rhode Island.

The Market Street project area is a dense, mixed-use neighborhood which directly abuts Belcher Cove, a part of the Palmer River watershed. The area is densely developed with commercial and residential uses and currently faces tidal flooding impacts and is threatened by significant projected sea level rise impacts. The Metacom Avenue project area is primarily a retail and commercial corridor but abuts fully developed residential areas to the east and west. Due to its location along a ridge, the Metacom area is located outside of tidal flooding areas, however, its high percentage of paved impervious surface area produces large volumes of stormwater runoff, which may have significant water quality impacts on the adjacent Palmer and Kickemuit Rivers and Narragansett Bay. The two project areas are approximately 1,750 feet apart.

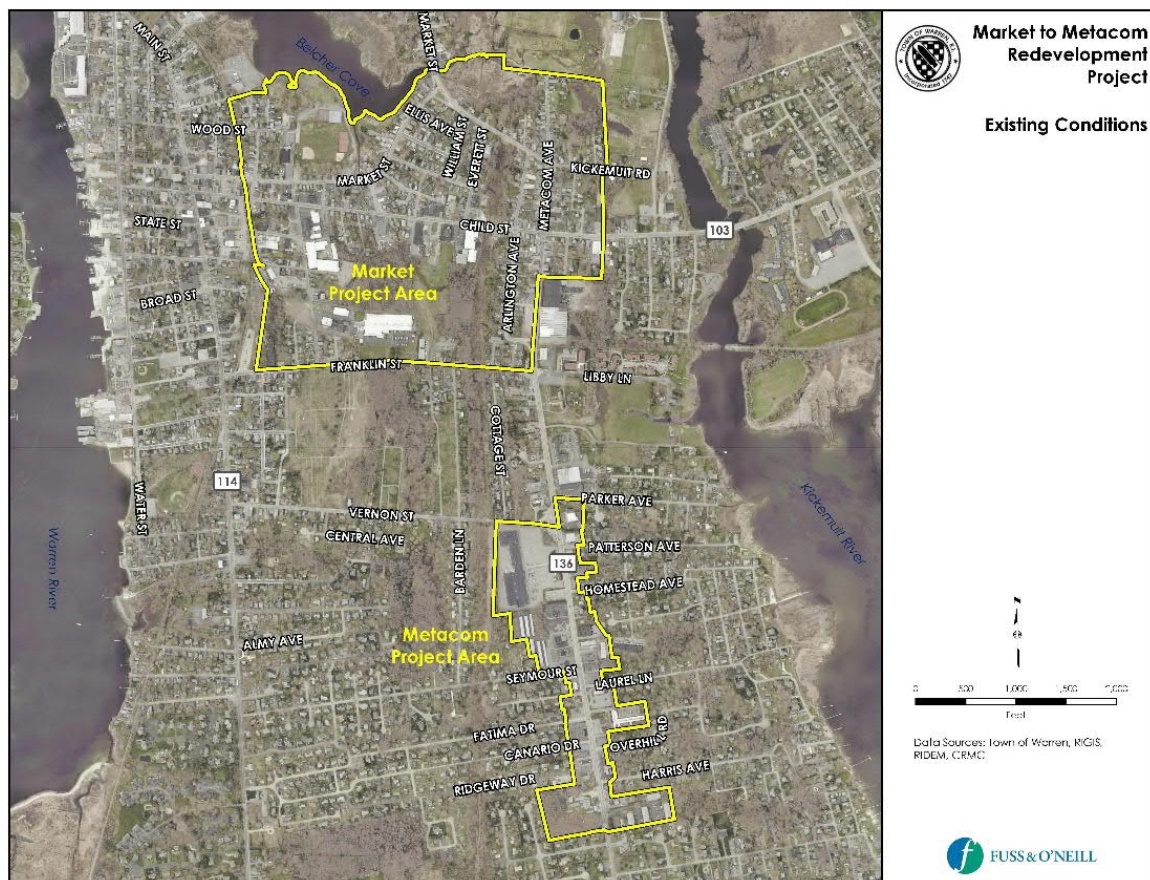


Figure 1. Market to Metacom Project Areas

2 Methodology

At the start of the project, Fuss & O'Neill assessed existing land uses, property values, infrastructure, regulations, and flooding, as well as the projected sea level rise impacts to the Market Street and Metacom Avenue project areas. The findings of this assessment are presented the *Existing Conditions* prepared by Fuss & O'Neill, dated April 27, 2021. A public workshop to present these findings was held on May 12, 2021.

Using the data in the *Existing Conditions*, Fuss & O'Neill collaborated with the Town of Warren and Union Studio Architecture and Community Design to develop and analyze two scenarios for the future of the Market Street project areas. The two scenarios considered in this analysis are a "No Action Scenario" and a "Phased Relocation and Restoration Scenario":

- The "No Action Scenario" is a baseline scenario which assumes no actions are taken to adapt to the climate-related impacts facing Market Street.
- The "Phased Relocation and Restoration Scenario" assumes a proactive approach is taken to address Market Street flooding projections while reimagining the Metacom Avenue area as an opportunity for redevelopment to accept uses transferred from Market Street. The analysis of these two scenarios includes impacts to housing and business, infrastructure, the environment, and municipal finances, as well as estimates of cost of redevelopment and restoration.

The scenarios were presented at a public workshop on July 14, 2021 to solicit input from community members, property owners, and businesses regarding the impacts facing these two neighborhoods, the two potential future scenarios and potential steps forward. Based on input from these sessions and from Warren officials it is recommended that the Town of Warren, with its partners at the State and Federal levels, move forward with simultaneous implementation of two complementary scenarios:

- Move forward with the Phased Relocation and Restoration Scenario for the Market Street area by implementing a buy-out program for properties threatened by frequent flooding. At the same time, this would include making transportation more resilient to climate change impacts where possible to maintain regional and local transportation connectivity, especially for evacuation routes, and utility infrastructure
- Begin the Metacom Avenue Redevelopment plan by changing the zoning in the project area to Form-Based Code and allowing higher density, mixed-use development that encourages both commercial development along with upper floor residential housing of various price points.

This *Market to Metacom Final Report* presents a vision for a future resilient Warren and summarizes the findings and conclusions regarding the potential futures for the Market Street and Metacom Avenue neighborhoods. This report also includes relevant climate adaptation case studies, regulatory considerations, and potential funding sources for implementing adaptation and redevelopment.

2.1 Data Sources

Data for existing conditions assessment, climate change impact projections and for the framing of the scenarios relied on a variety of municipal, state, and federal data products, projections, and planning documents. Each data source and project used is the most relevant and up-to-date version of available information as of the time of this report (October 2021). Data products were not available for all utilities in the project area.

Table 1. Summary of Data Used for Scenario Development and Analysis

	Data Source	Data Product ¹	Use
Local	Town of Warren	Tax Parcel Data Zoning Maps	Property tax impacts Housing unit impacts
		Stormwater System Water Distribution Sanitary Sewer Collection	Utility impacts
State	Rhode Island Departments of Administration and Transportation	Technical Papers 164, 167 – Vulnerability of [Municipal] Transportation Assets to Sea Level Rise and Storm Surge Transportation Improvement Plan	Transportation impacts
	RIGIS	Land Use Wetlands Impervious Cover	Water quality impacts
	CRMC	STORMTOOLS	Future Flooding Extent Projection
National	NOAA	Sea Level Rise Projection	Future Climate Conditions Assessment
	FEMA	Flood Insurance Rate Maps	Current Flooding Extent Estimates
	Flood Factor	First Street Foundation National Flood Model	Water Depth Damage Estimates

The Market to Metacom project provides concept level planning scenarios and order of magnitude estimates on costs and financial impacts.

¹ Data products were not available for all utilities in the project area

3 Existing Conditions Assessment

3.1 Introduction

The purpose of this assessment is to summarize the existing conditions within both the Market Street and Metacom Avenue project areas. This includes existing land development patterns, drainage patterns and land cover, existing infrastructure and utilities, and existing flooding. The assessment summarizes sea level rise (SLR) impacts based on mapped projections in various scenarios. Several of the figures in the report incorporate SLR forecasts to show the extent to which existing features and facilities are affected. Lastly, this report identifies relevant local and state regulations affecting development and stormwater management requirements within each project area. Taken together, this information provides a base of knowledge for understanding the dynamics in the project areas and creating potential scenarios for the future.

3.2 Market Street Area

3.2.1 Location and Land Use

The Market Street project area is located south of Belcher Cove and north of Franklin Street. In addition to the southern portion of Market Street, the project area includes the northernmost 1,900 linear feet of Metacom Avenue, as well as approximately 2,400 linear feet of Child Street. The total area within the Market Street project boundary (Figure 2), including roadways, is approximately 215 acres. The parcels of land within this project area total approximately 184 acres.

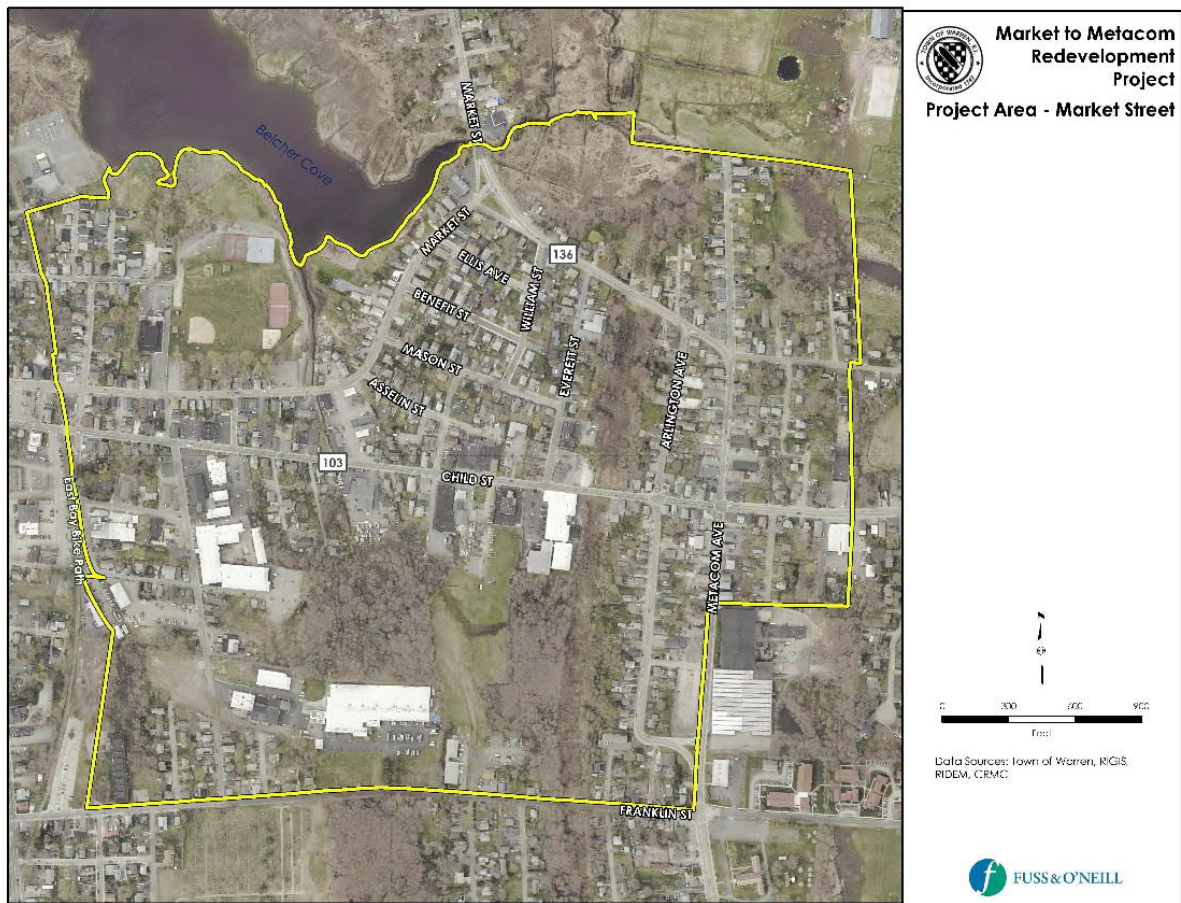


Figure 2. Market Street Project Area

The Market Street area historically consisted of farmland and wetlands until its development to meet the need for housing around the center of Warren with the development of mills in the late 19th and early 20th centuries (see Figure 3).



Figure 3. Metacom Avenue Project Area in 1939

The area now contains approximately 400 buildings with over 700 housing units and 30 businesses. Land use in the project area is primarily medium and high-density residential, with pockets of commercial, light industrial, and active recreation. The historical platting of the larger tracts of open farmland and filling of marshes into housing blocks has yielded lots that are generally less than 10,000 square feet, developed with mainly two- and three-family structures.

Table 2 below lists the land uses within the Market Street project area, and the approximate percentage of the total parcel area each use occupies.

Table 2. Market Street Land Uses

Land Use	Percentage of Total Parcel Area
Single Family Residences	19%
2-5 Family Residences	18%
Vacant Commercial/Industrial	15%
Commercial	10%
Industrial	8%
Utility/Railroad	8%
Municipal	7%
Residential – Vacant	5%
Apartments	2%
State	2%
Other	6%
Total	100%

While multi-family lots comprise a slightly lower percentage of land area than single-family lots within the Market Street project area, multi-family lots account for approximately sixty-two (62) percent of the housing units in the project area, while single family homes account for twenty-six (26) percent of housing units. The remaining twelve (12) percent of the total units are provided by apartment buildings.

3.2.2 Utilities and Infrastructure

Existing utilities within the Market Street project area include sanitary sewer, water, overhead electric, and drainage infrastructure. Each of the public rights-of-way within the project area have public sanitary sewer and water mains, as well as overhead power lines operated by National Grid. Several drainage structures and pipes exist within the project area. One drainage outfall discharges to Belcher Cove northwest of Jamiel's Park. Two additional drainage outfalls exist just north of Franklin Street.

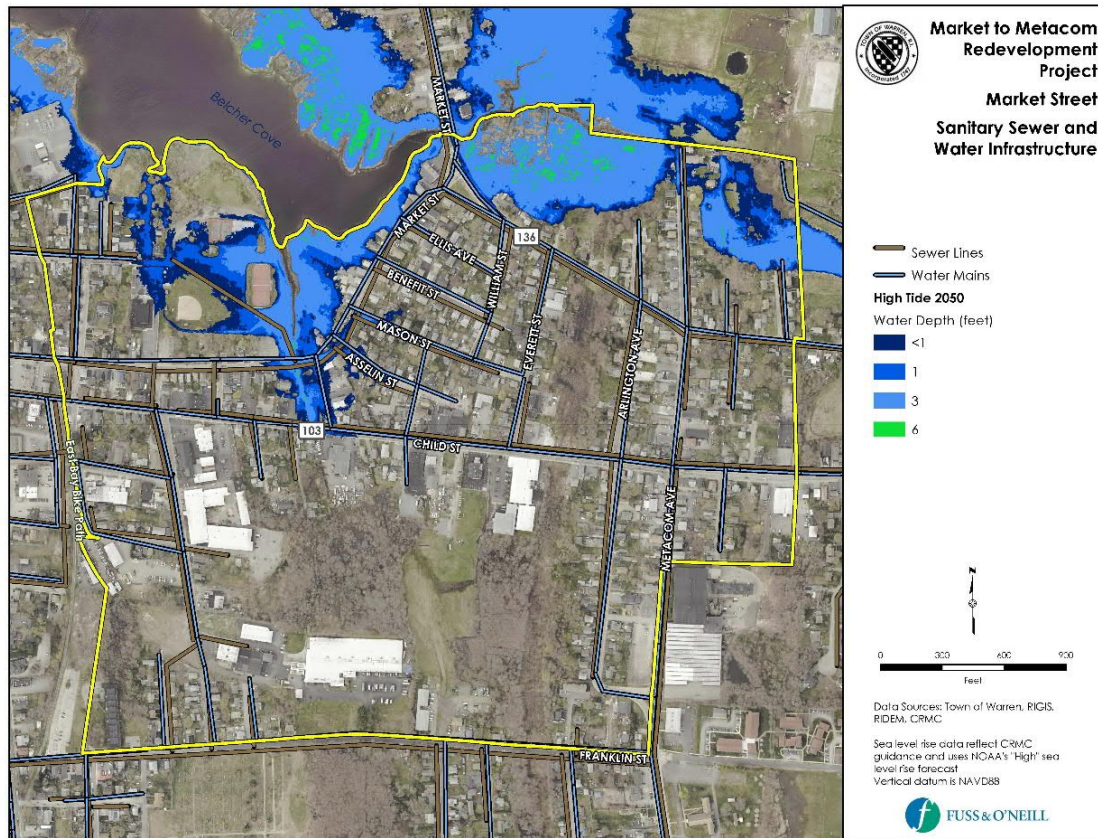


Figure 4. Market Street Sanitary Sewer and Water Infrastructure (with 2050 High Tide)

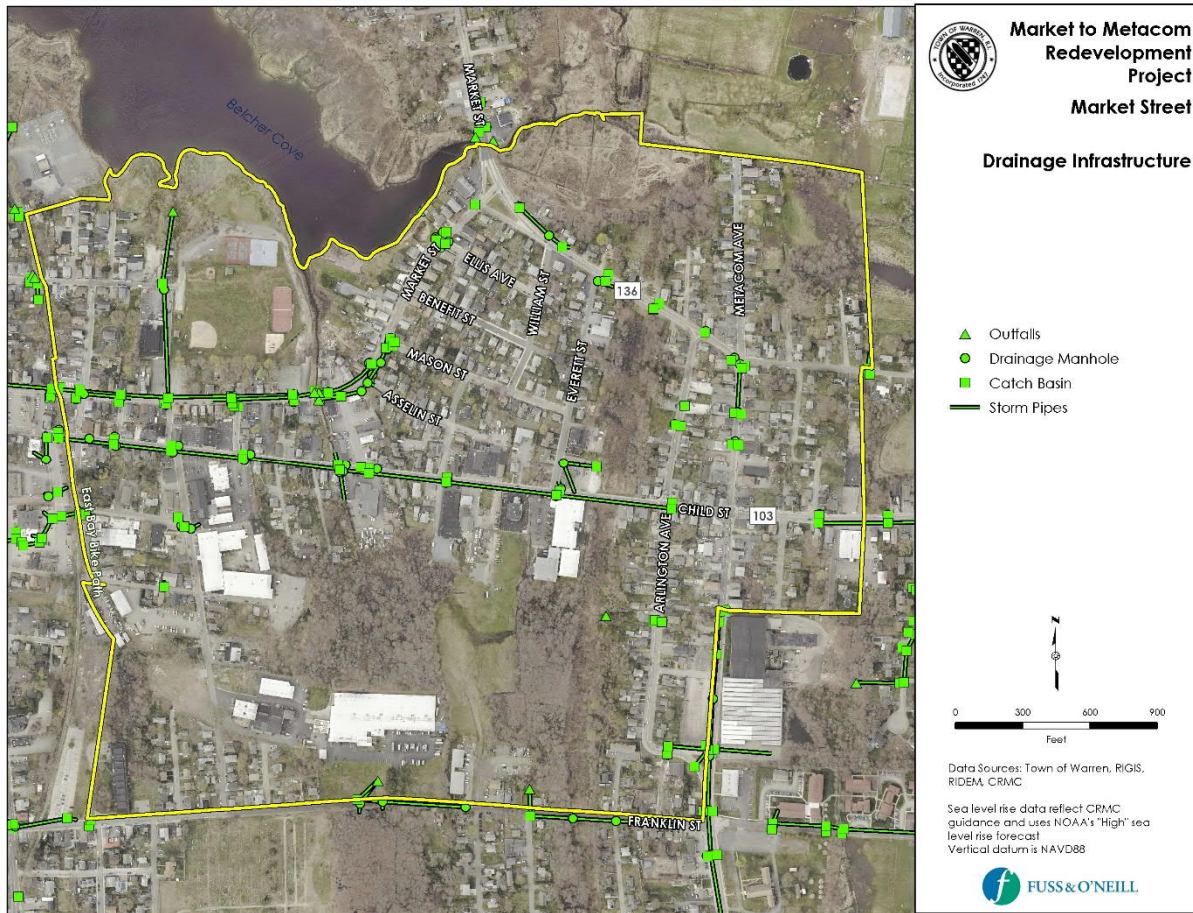


Figure 5. Market Street Drainage Infrastructure (with 2050 High Table)

3.2.3 Transportation Infrastructure

The Market Street project area includes several major surface transportation facilities that are critical to local and regional traffic, including:

- RI-136 – Market Street/Kickemuit Avenue is classified as a minor arterial road and an evacuation route. It serves as a segment of the north-south route connecting traffic from the Metacom Avenue corridor and Downtown Warren with points north including the connections to Interstate 195 in Seekonk and the regional highway system.
- RI-103 – Child Street is classified as a principal arterial road and an evacuation route. It serves as a primary east-west route connecting traffic from the Metacom Avenue corridor and Downtown Warren with points east including the connections to Interstate 195 in Swansea and the regional highway system.
- The East Bay Bike Path is immediately adjacent to project area and is a major north-south bicycle transportation route.

3.2.4 Property Values and Tax Generation

According to the Warren Tax Assessor database, the total value of the parcels within the Market Street project area is approximately \$138,313,000. The Market Street project area contains 586 parcels, with an average property value of approximately \$236,000. Approximately thirty-eight (38) percent of the total value is land value and sixty (60) percent is the value of existing buildings.

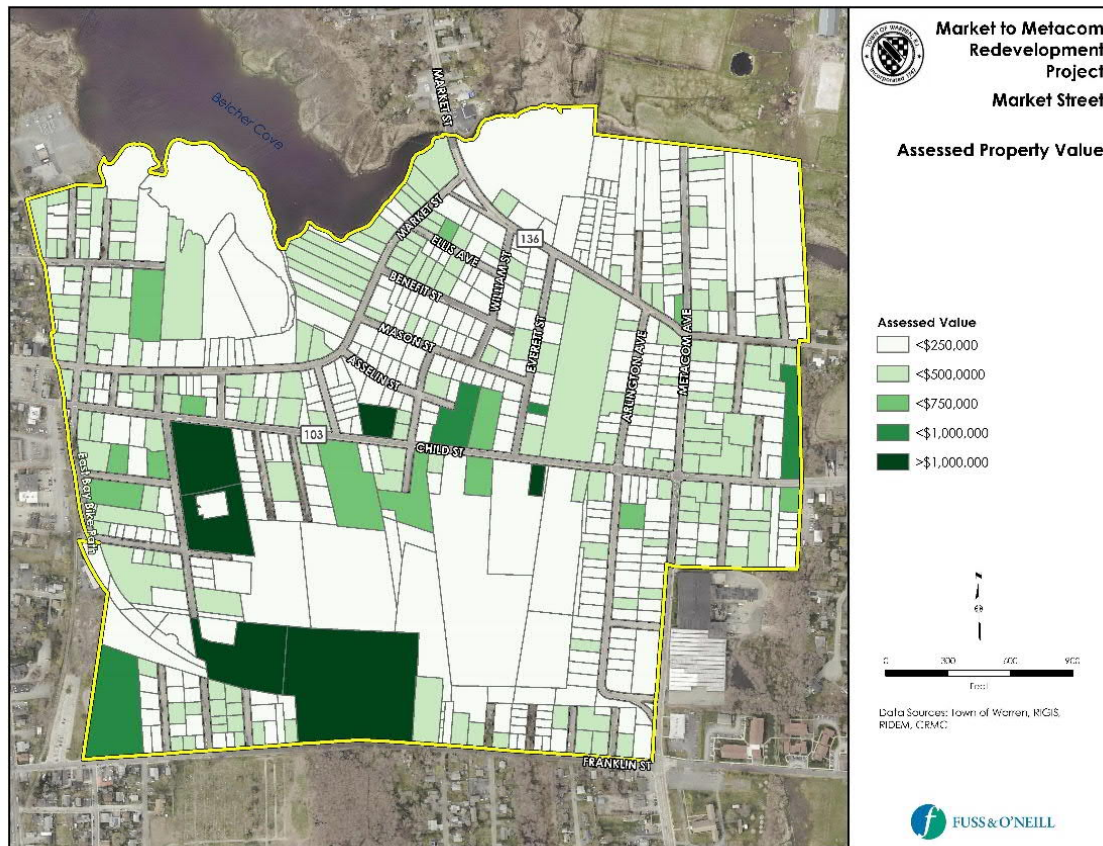


Figure 6. Market Street Property Values

3.2.5 RIDEM-Regulated Facilities

The Market Street area contains twelve (12) underground storage tanks and one RIPDES Sanitary Waste Site, according to the list of RIDEM-regulated facilities.

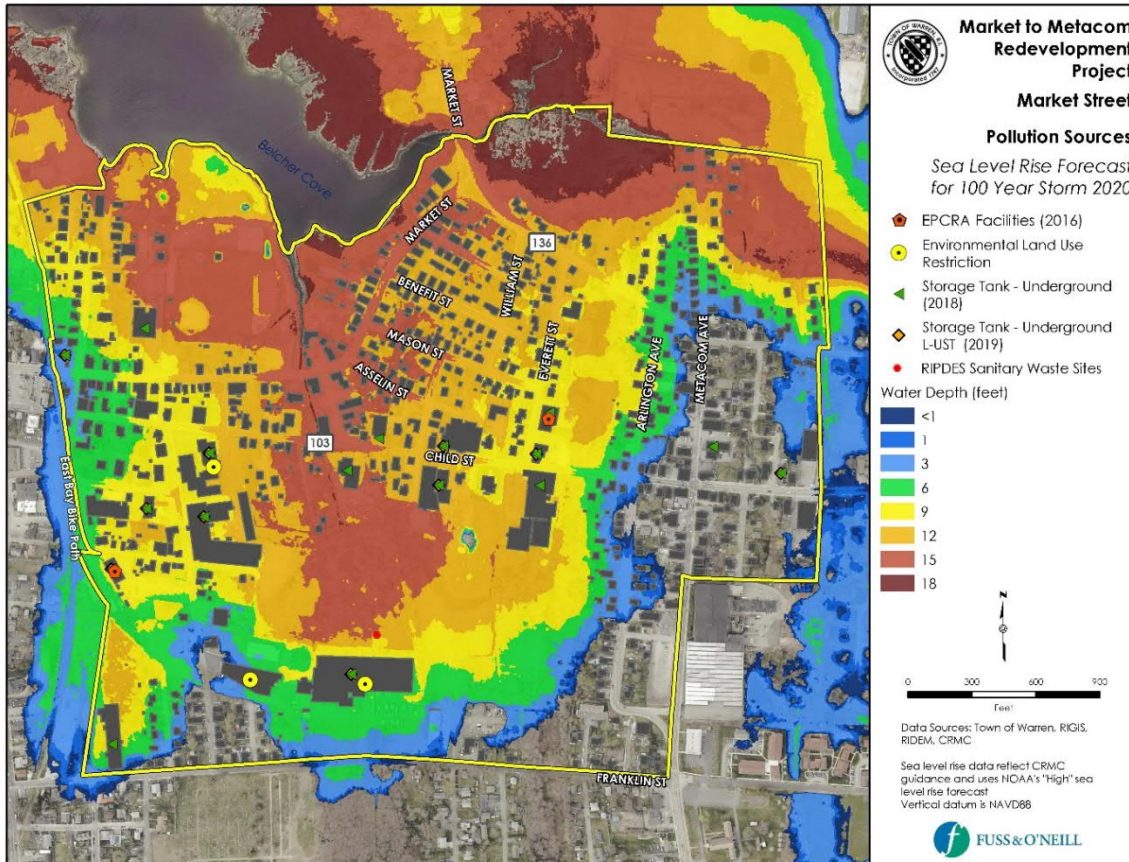


Figure 8. RIDEM Regulated Facilities (with 100 Year Storm)

3.2.6 Wetlands

According to Rhode Island Department of Environmental Management (RIDEM) mapping, there are 39 acres of wetlands in the Market Street area, including emergent marsh/wet meadow, estuarine emergent wetlands, deciduous forested wetlands, palustrine open water, and scrub-shrub swamps. These wetland areas comprise the majority of the undeveloped, vegetated land within the Market Street area.

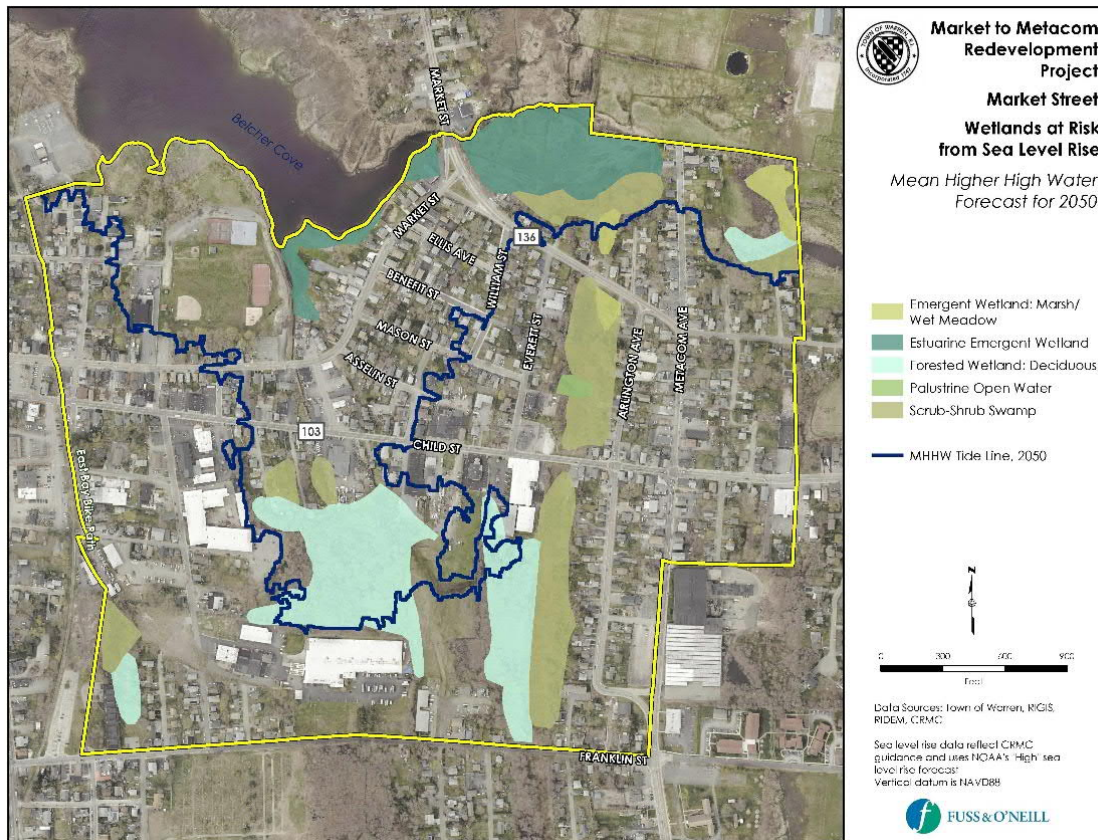


Figure 9. Market Street Wetlands

3.2.7 Impervious Surfaces, Drainage Patterns, and Water Quality

Impervious cover (IC) is any land surface covered by asphalt, concrete, brick, or similar material that does not allow rainwater to infiltrate into the soil. The percentage of land surface covered by IC is a useful metric or indicator for examining the impact of urbanization on the health of freshwater systems and water supplies (Allan, 2004). Larger areas of directly connected impervious cover generally results in larger volumes of stormwater runoff and can lead to localized flooding.

Approximately forty-six (46) percent of the land area within Market Street is covered with impervious surfaces. This includes, but is not limited to, roadways, driveways, parking lots, rooftops, and sidewalks.

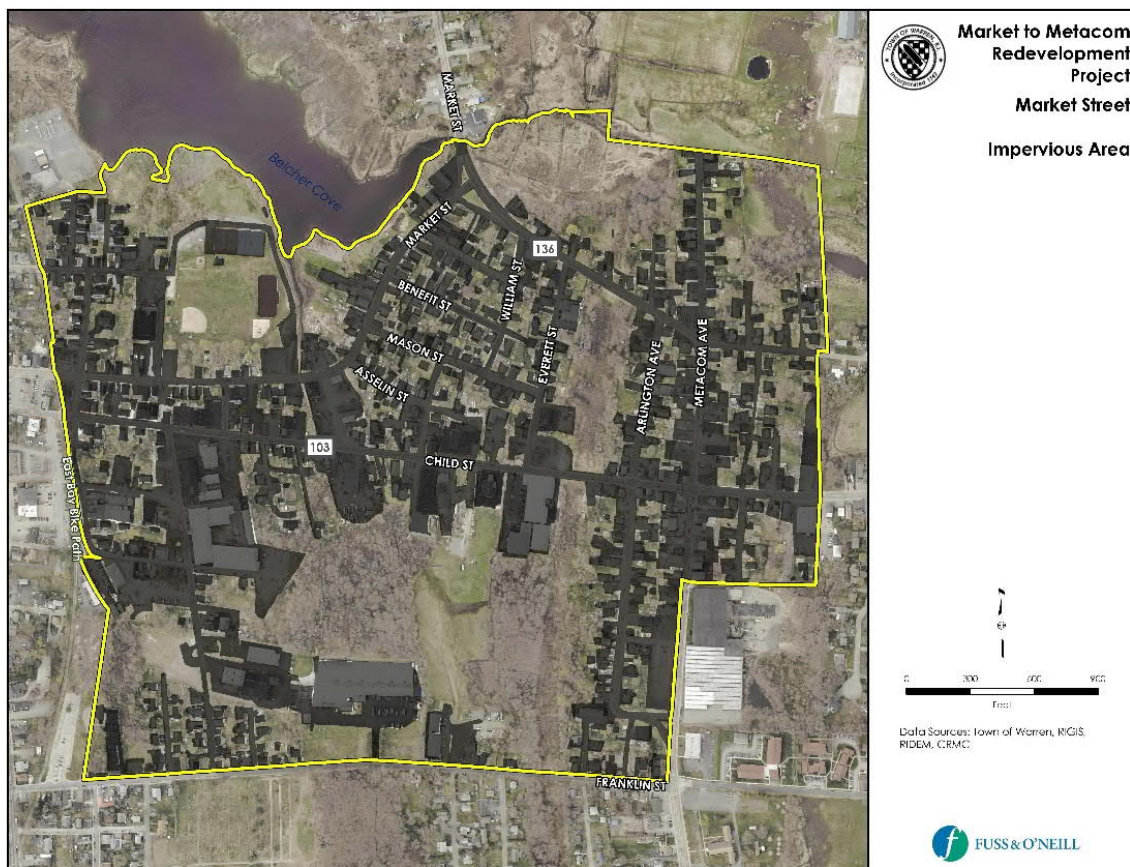


Figure 10. Market Street Impervious Area

The Market Street project area is located within the Palmer River Subwatershed (RI 0007022E-01A). The Palmer River has total nitrogen, dissolved oxygen, and fecal coliform impairments with a total maximum daily load (TMDL) in place for fecal coliform. It is a special resource water identified as critical habitat for rare and endangered species, as well as a conservation area.

The Market Street area generally drains to the north, to Belcher Cove, which is part of the Palmer River. An unnamed tributary to the Palmer River runs from a wetland south of Franklin Street, to the north through a

series of culverts and open channels within the Market Street project area, emptying east of Jamiel Park. The majority of stormwater from this project area drains untreated overland and through storm drains directly to its receiving waterbody.

3.3 Metacom Avenue Corridor

3.3.1 Location and Land Use

The Metacom Avenue project area includes the parcels abutting Metacom Avenue (RI Route 136) located south of Vernon Street and Parker Avenue. The southern boundary of the project area is located between Harris Avenue and Jameson Drive. The total area within the Metacom Avenue project boundary, including roadways, is approximately 81 acres.

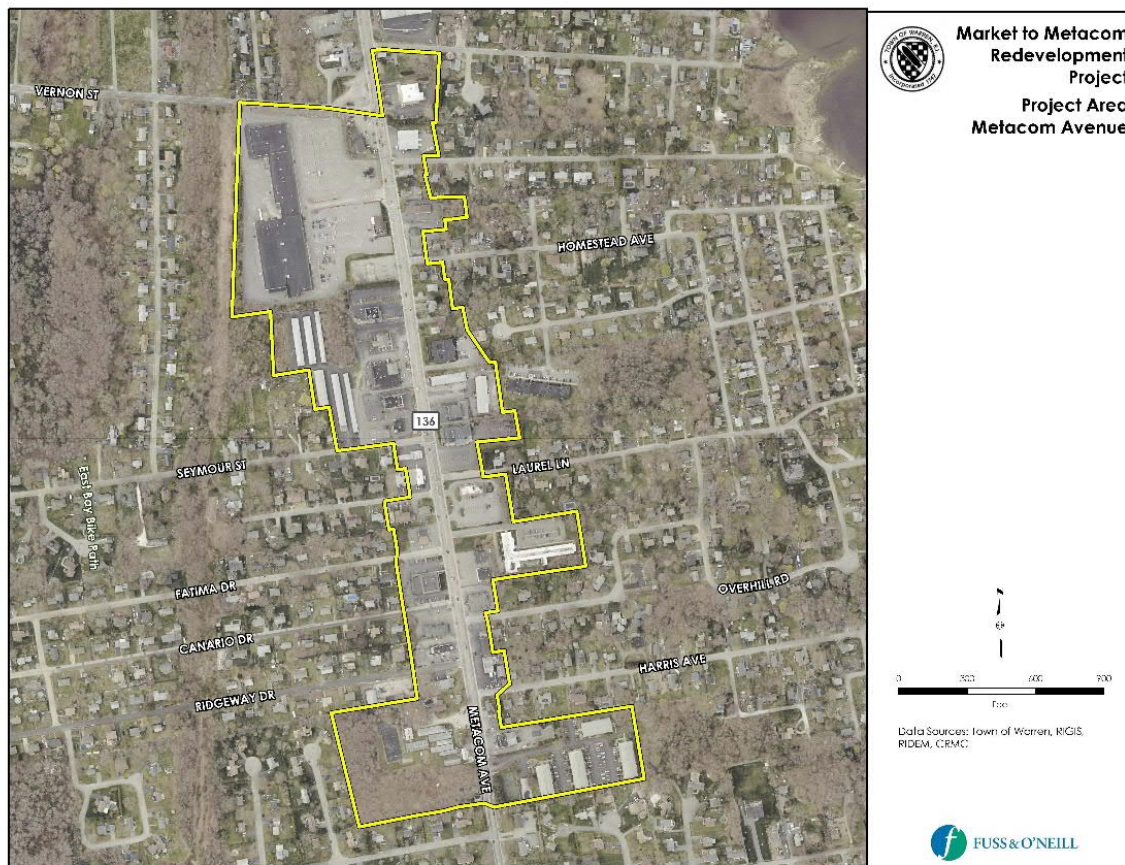


Figure 11. Metacom Avenue Project Area

Through the early history of Bristol and Warren, Metacom Avenue was a secondary north-south roadway along the ridge above the Kickemuit River. Land uses were primarily agricultural with scattered farms. During the late 19th and early 20th centuries there was no significant development on Metacom Avenue itself and limited development of seasonal housing along the shore of the Kickemuit River and Mount Hope Bay.



Figure 12. Metacom Avenue Project Area in 1939

The period between 1965 and 1985 saw the development of Metacom Avenue as retail/commercial corridor with a widening of the roadway and associated private development that catered to automobile traffic. There is currently little infrastructure to accommodate pedestrians between or within parcels, and no separated paths or designated lanes for bicyclists.

Table 3 lists the land uses within the Metacom Avenue project area and the approximate percentage of the total parcel area each use occupies.

Table 3 - Metacom Avenue Land Uses

Land Use	Percentage of Total Parcel Area
Commercial/Industrial	39%
Single Family Residences	23%
Multi-Family Residences	12%
Vacant Improved Land	13%
State/Railroad/Utility	7%
Vacant Unimproved Land	6%
Total	100%

3.3.2 Utilities and Infrastructure

Within the Metacom Avenue project area, existing utilities include sanitary sewer, water, electric, and drainage infrastructure. Public sanitary sewer and water mains are present within the public rights-of-way within the project area. Overhead electrical lines operated by National Grid are located along Metacom Avenue and the intersecting streets within the project area. Several drainage structures and pipes exist within the project area with outfall discharges to the Kickemuit River.

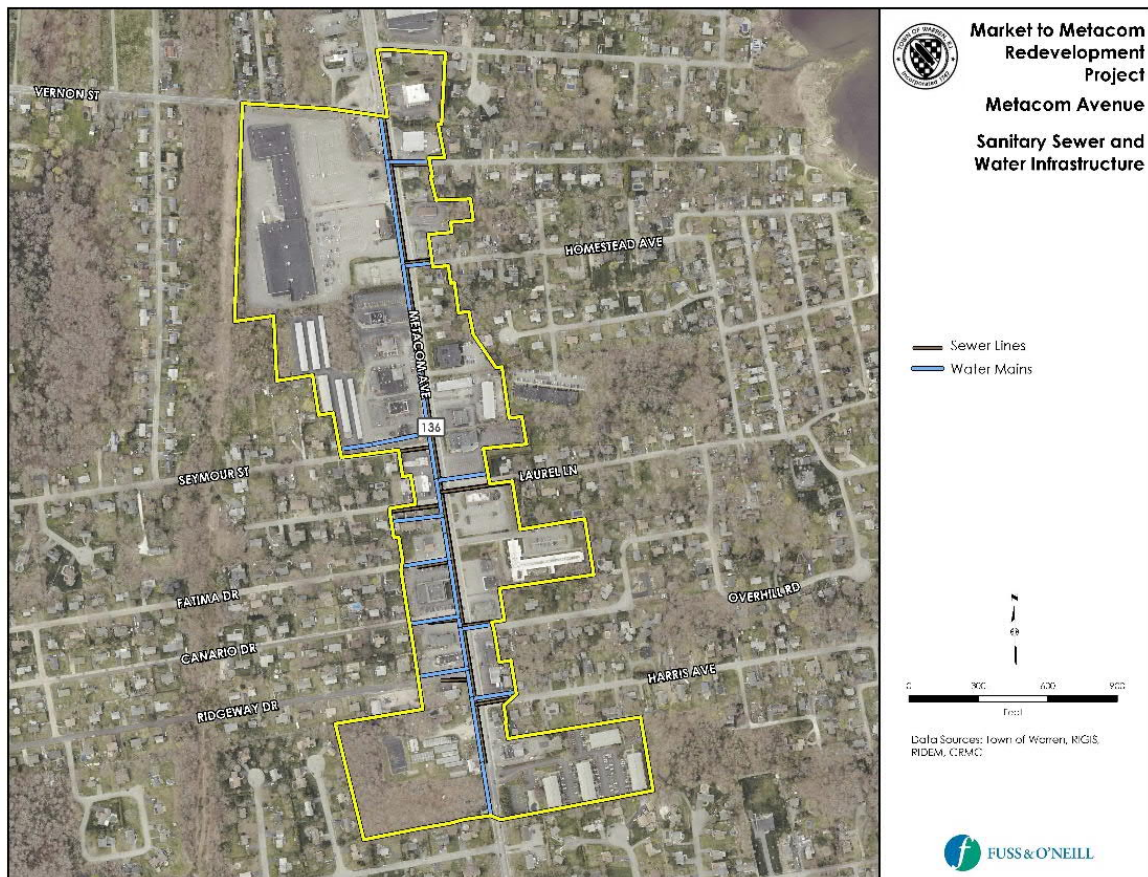


Figure 13. Metacom Avenue Sanitary Sewer and Water Infrastructure



Figure 14. Metacom Avenue Drainage Utilities/Infrastructure

3.3.3 Transportation Infrastructure

RI-136 - Metacom Avenue is a major north-south surface transportation facility that is critical to local and regional traffic. The section of Metacom within the project area is classified as a minor arterial road and an evacuation route. It serves as a segment of the north-south route connecting traffic from Bristol and Warren with points north including the connections to Interstate 195 in Seekonk and the regional highway system. It is also one of the two primary routes connecting south to Bristol and the Mount Hope Bridge. This segment of Metacom Avenue also connects just north of the project area with RI-103 – Child Street which is classified as a principal arterial road and an evacuation route. RI-103 serves as a primary east-west route connecting traffic from the Metacom Avenue corridor and Downtown Warren with points east including the connections to Interstate 195 in Swansea and the regional highway system.

3.3.4 Property Values and Tax Generation

The Metacom Avenue project area contains 116 parcels, with a total value, according to the Warren Tax Assessor, of approximately \$59 million dollars. Approximately 31% of the total value is land value and 62% is the value of existing buildings. The current tax revenue generated by the parcels in this project area is approximately \$1,025,000.

Table 4 lists the tax generation percentage for various uses within the Metacom Avenue project area.

Table 4 – Metacom Avenue Tax Generation

Land Use	Percentage of Total Tax Generation
Commercial/Industrial	50%
Single Family Residences	24%
Multi-Family Residences	22%
Other	4%
Total	100%

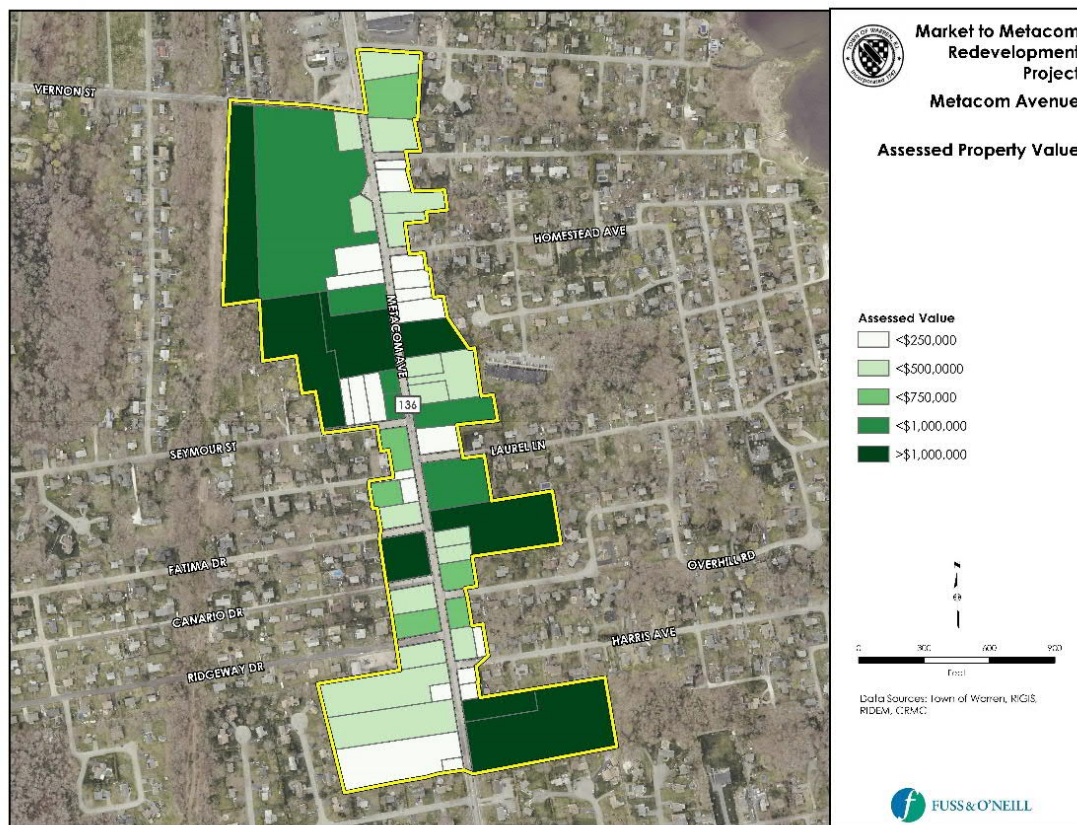


Figure 15. Metacom Avenue Property Values

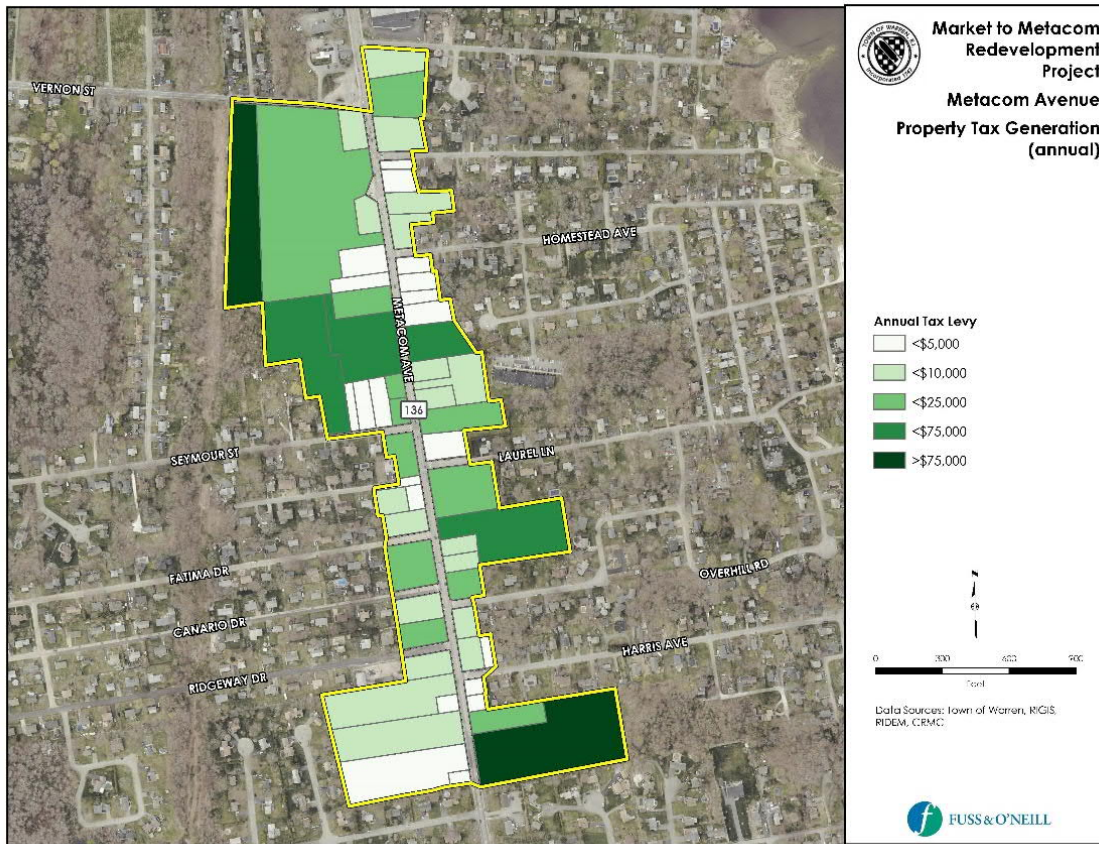


Figure 16. Metacom Avenue Property Tax Generation (Annual)

3.3.5 DEM-regulated Facilities

The Metacom Avenue area contains six (6) underground storage tanks, according to the list of RIDEM-regulated facilities. None of them are subject to forecast SLR impacts through the period 2050.

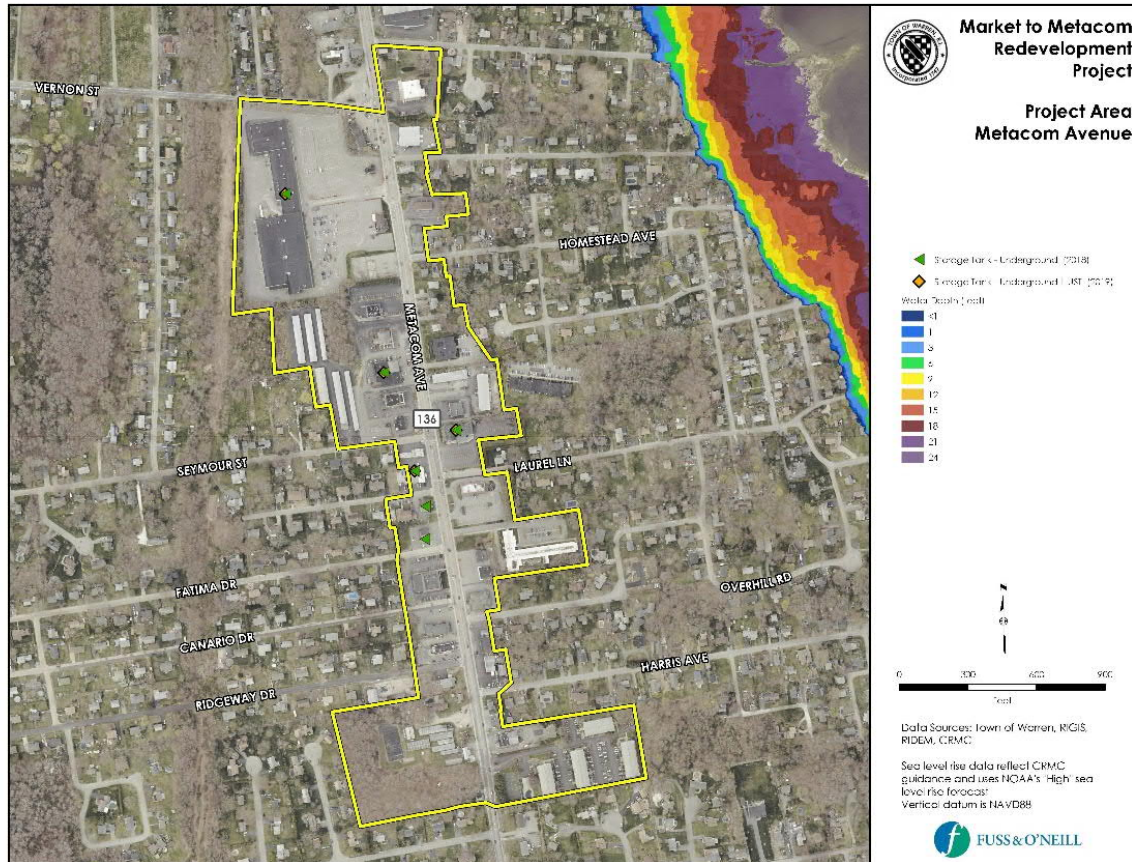


Figure 17. RIDEM-Regulated Facilities with 100-Year Storm

3.3.6 Wetlands

According to Rhode Island Department of Environmental Management (RIDEM) mapping, there are no wetlands within the Metacom Avenue project area.

3.3.7 Impervious Surfaces, Drainage Patterns, and Water Quality

The majority of precipitation that falls on impervious surfaces in the Metacom project area is captured by conventional stormwater infrastructure and directed to the Kickemuit River. Approximately 76% of the total project area, including roadways, is impervious. This high percentage of impervious area results in large volumes of stormwater runoff. Catch basins within roadways capture some runoff within this project area and the storm drains discharge at several outfalls to the Kickemuit River. Impairments listed for the Kickemuit River include fecal coliform and phosphorus.

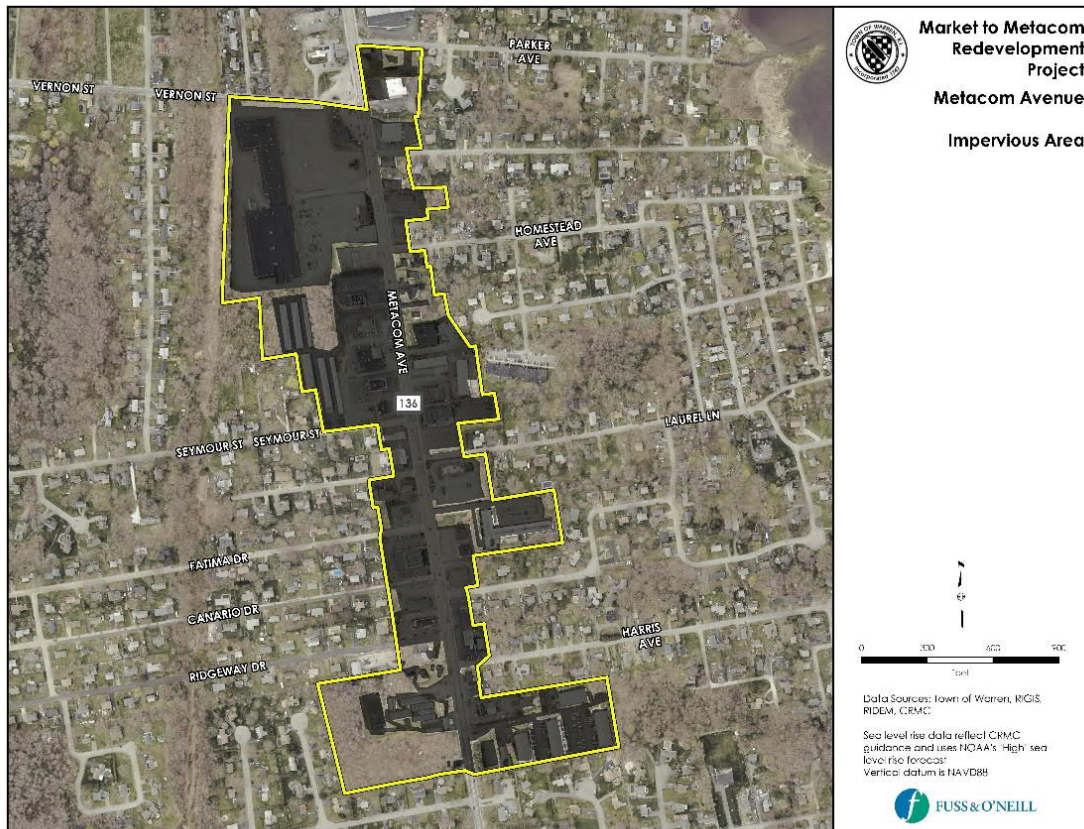


Figure 18. Metacom Avenue Impervious Area

3.4 Designated Flood Zones

Forty-eight percent (48%) of the Market Street project area lies within the 100-year flood zone (Zone AE), with a flood elevation of 13' (NAVD 88), according to FEMA Flood Insurance Rate Map (FIRM) No. 44001C0008H, effective July 7, 2014. Sixteen percent (16%) of the Market Street project area is within Zone X, an area inundated by the 500-year flood.

The Metacom Avenue project area is outside of the 100-year and 500-year flood zones (Figure 19). The 100-year flood zone is a designated area that has a 1-in-100 chance (or 1% chance) of flooding in any given year. This also means it can flood more than once within a 100-year period, and can even flood more than once in the same year. The 500-year flood zone has a 1-in-500 chance (or .02% chance) of flooding in any given year.

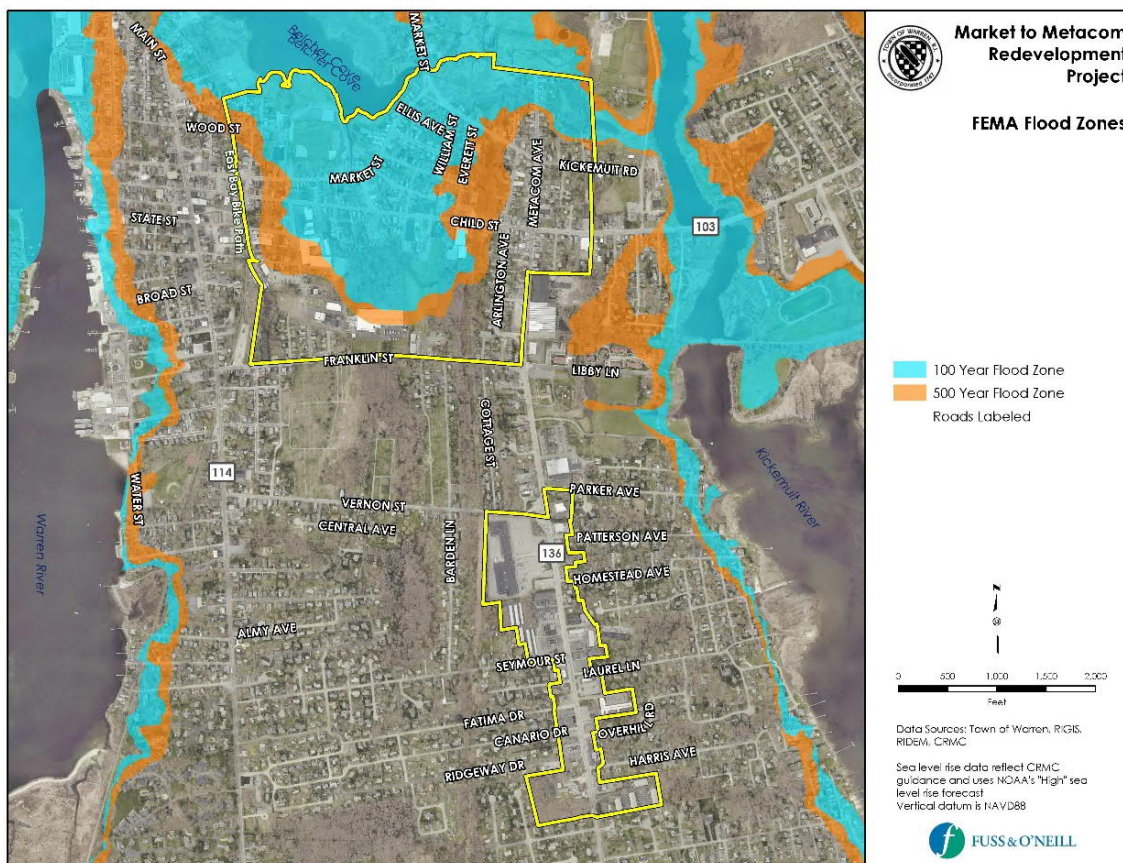


Figure 19. FEMA Flood Zones

4 Sea Level Rise Projections and Impacts

4.1 Sea Level Rise Projections – Market Street Project Area

The following figures (Figures 20 through 24) reflect the National Oceanic and Atmospheric Administration's (NOAA's) "high" SLR forecast for the Market Street project area. Figures show the mean higher high water (MHHW), which is defined as the average height of the highest tide recorded at a tide station each day during the recording period. As shown on Figure 20, MHHW in 2020 already inundates a portion of the Market Street project area east of Jamiel Park, as well as the wetland east of Route 136.

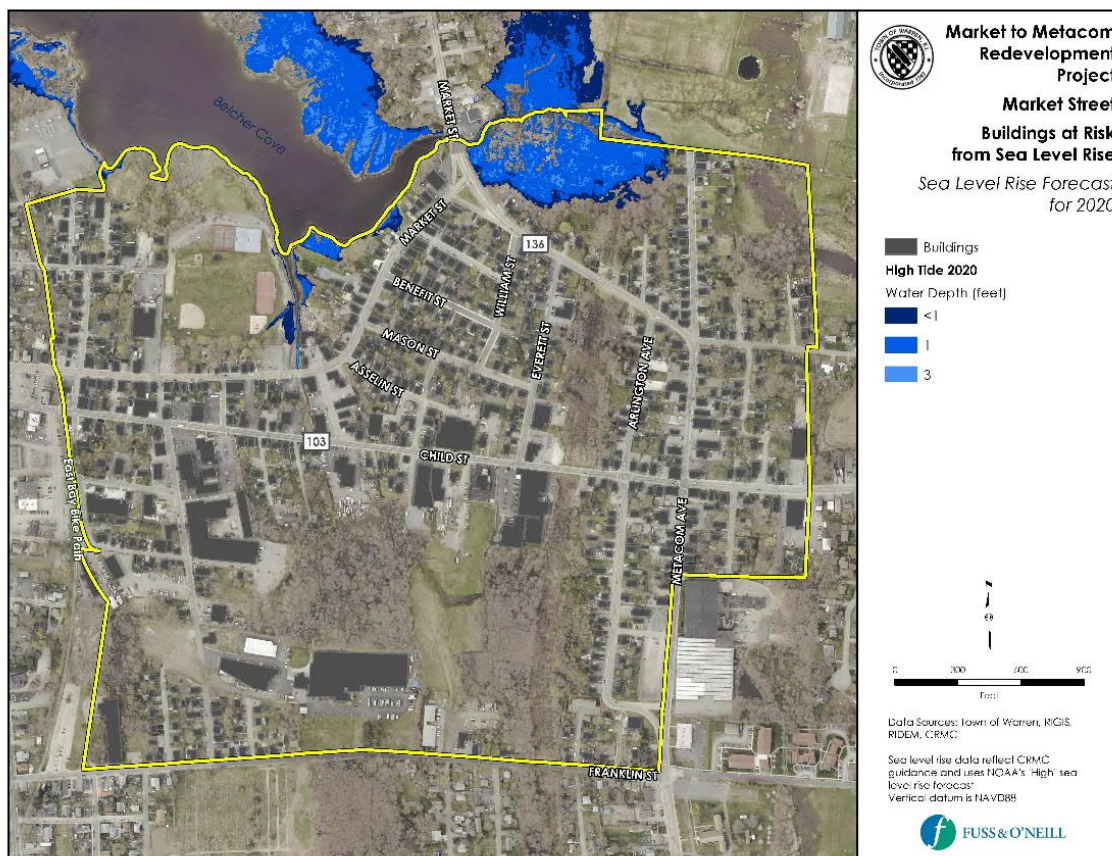


Figure 20. Market Street – Sea Level Rise Projection for 2020

These impacted areas are projected to expand over time, causing at least one foot of flooding within Market Street by 2035. By 2050, the lowest-lying portions of Market Street are projected to have three feet of flooding during MHHW, a portion of Child Street will have up to one foot of flooding, and many of the properties between Belcher Cove and Market Street will be impacted. Projections for the year 2070 indicate that a substantial portion of Market Street and the surrounding neighborhood will be inundated by three feet of water, with lowest areas, including wetlands, experiencing six-foot flood depths (Figure 23). In 2100, SLR at high tide is projected to impact the majority of the Market Street project area, with flood depths reaching nine feet within much of Market Street and maximum depths of 12 feet within the project area (Figure 24).

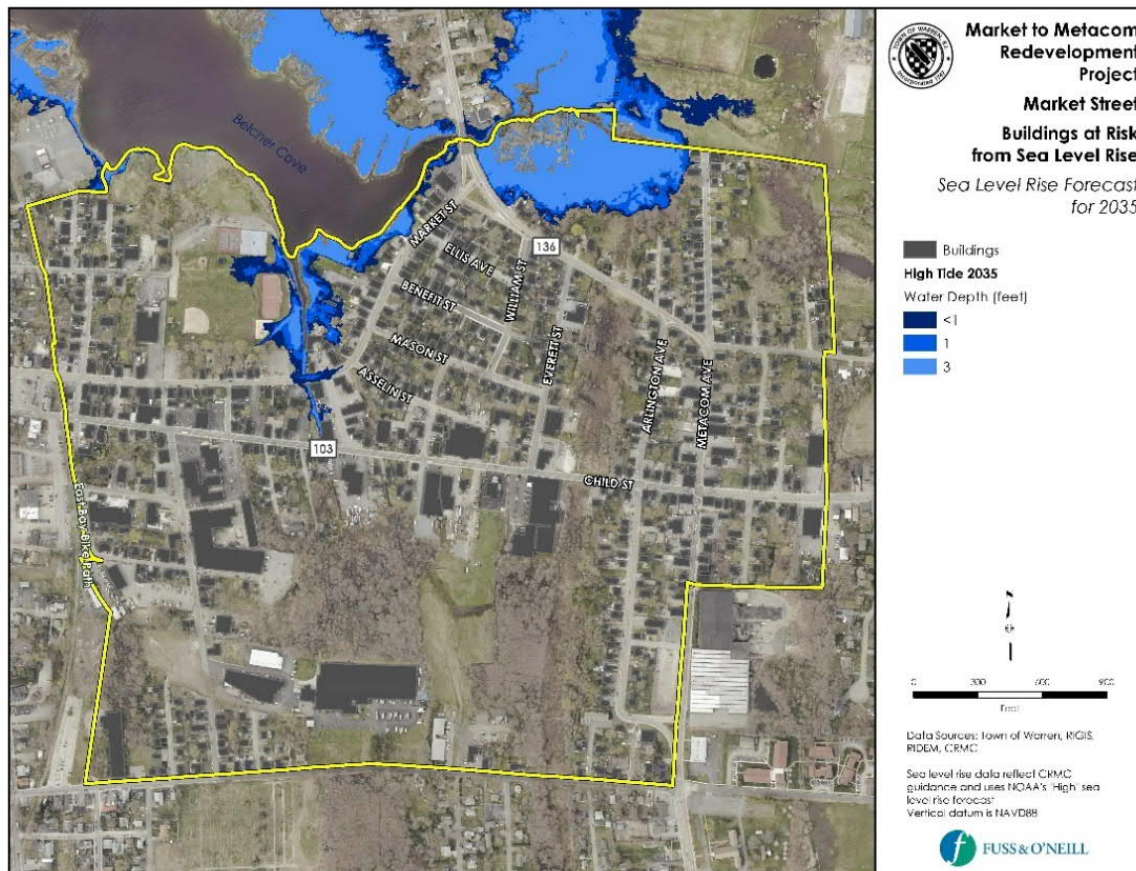


Figure 21. Market Street – Sea Level Rise Projection for 2035

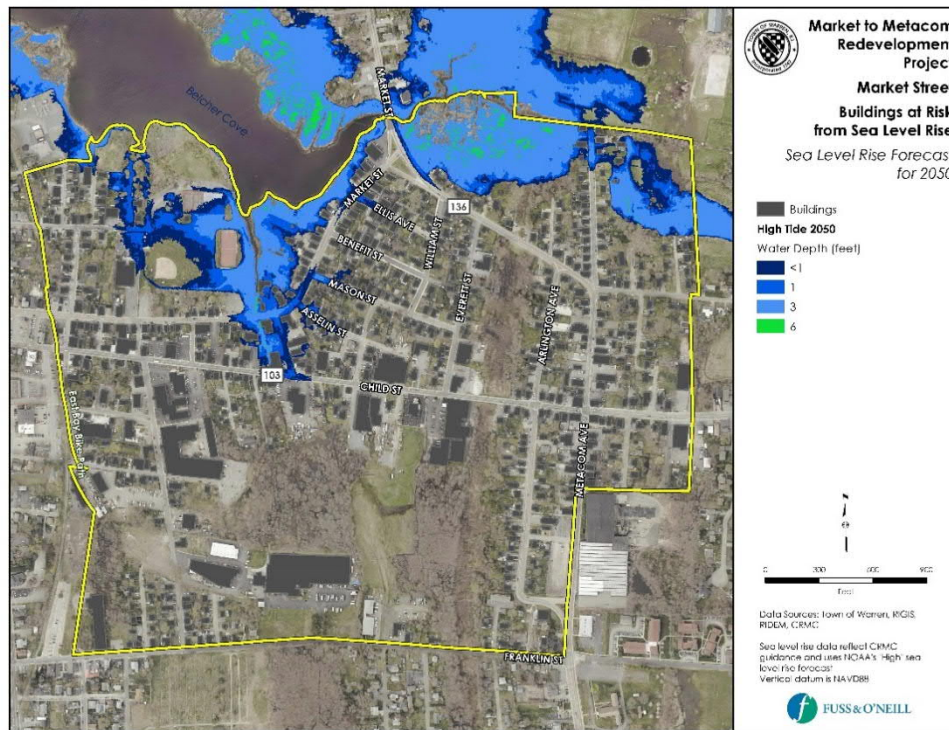


Figure 22. Market Street – Sea Level Rise Projection for 2050

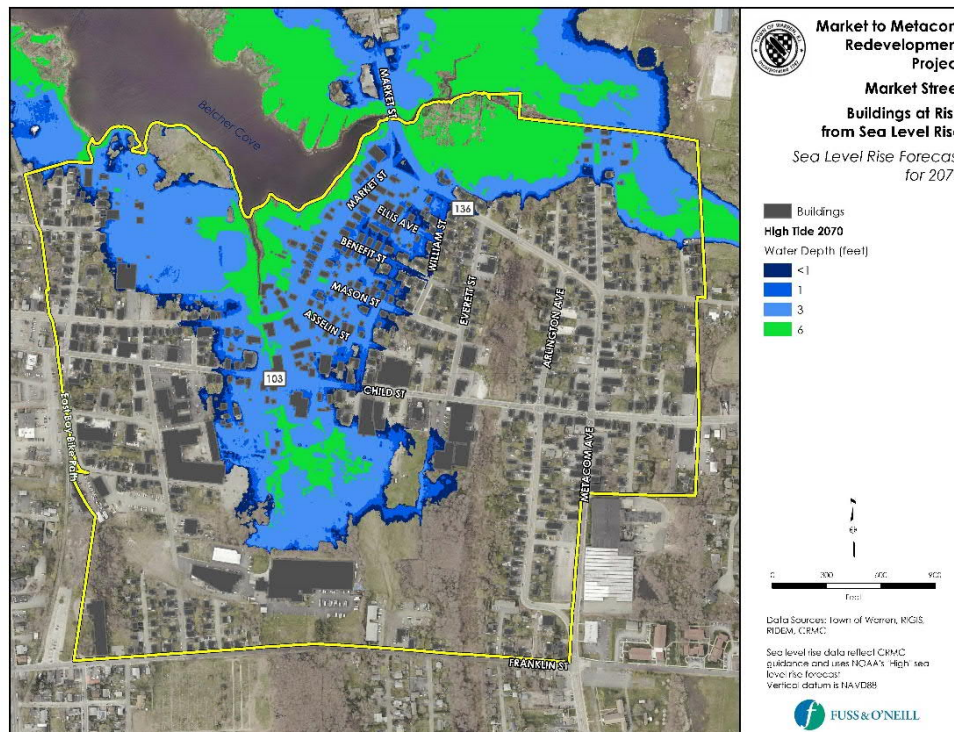


Figure 23. Market Street – Sea Level Rise Projection for 2070

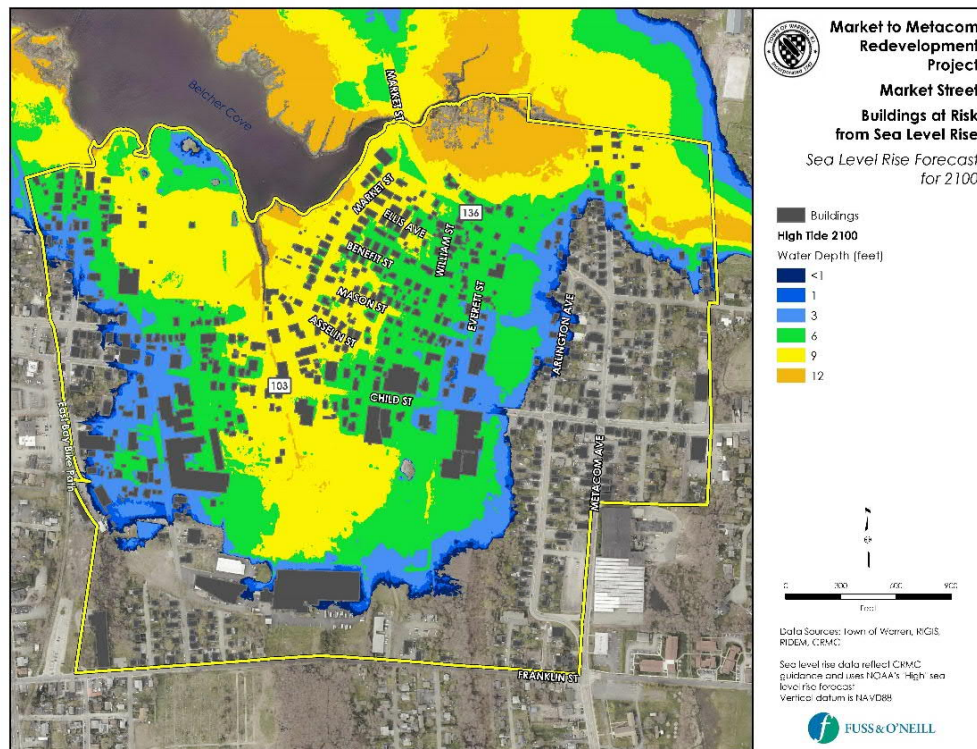


Figure 24. Market Street – Sea Level Rise Projection for 2100

4.2 Sea Level Rise Projections for 100-Year Storm Events – Market Street Area

The following figures (Figures 25 through 29) reflect CRMC SLR guidance and NOAA projections of flood depths during the 100-year storm for the Market Street project area. Under current (2020) conditions, the 100-year storm inundates the majority of the Market Street project area, with Market Street, a portion of Child Street, and many properties in the area under five to fifteen feet of water, and some wetland areas experiencing twenty feet of flooding (Figure 25). The figures for future projections show that flooding during the 100-year storm will continue to expand through the Market Street project area and will increase in severity. By 2070, almost the entire Market Street project area will be inundated during the 100-year storm, with maximum flood depths of twenty feet. Projections for 2100 show that the entire Market Street project area will be inundated by the 100-year storm, with twenty-five-foot flood depths within a large area of the neighborhood.

Sea level rise will cause flood impacts associated with the 100-year storm to increase over time along the Kickemuit River, however, the Metacom Avenue project area is not projected to be flooded under the 100-year storm through the year 2100.

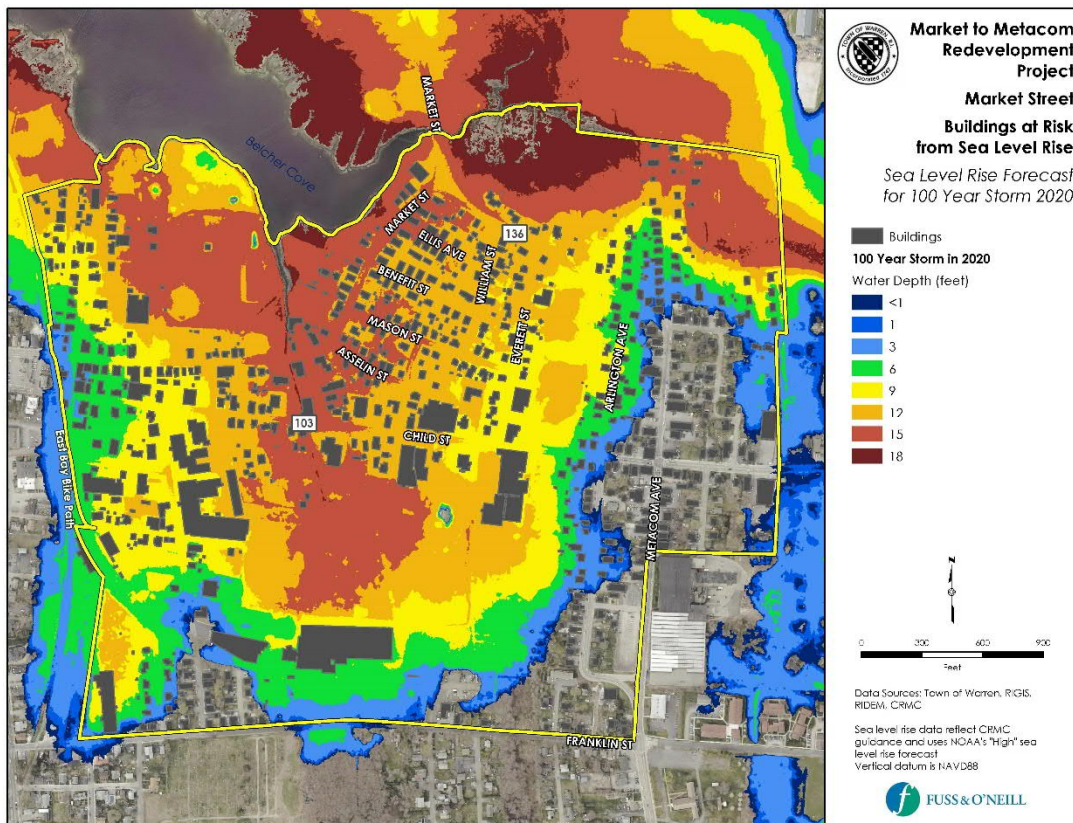


Figure 25. Market Street - Sea Level Rise Projection for 2020 (with 100-Year Storm)

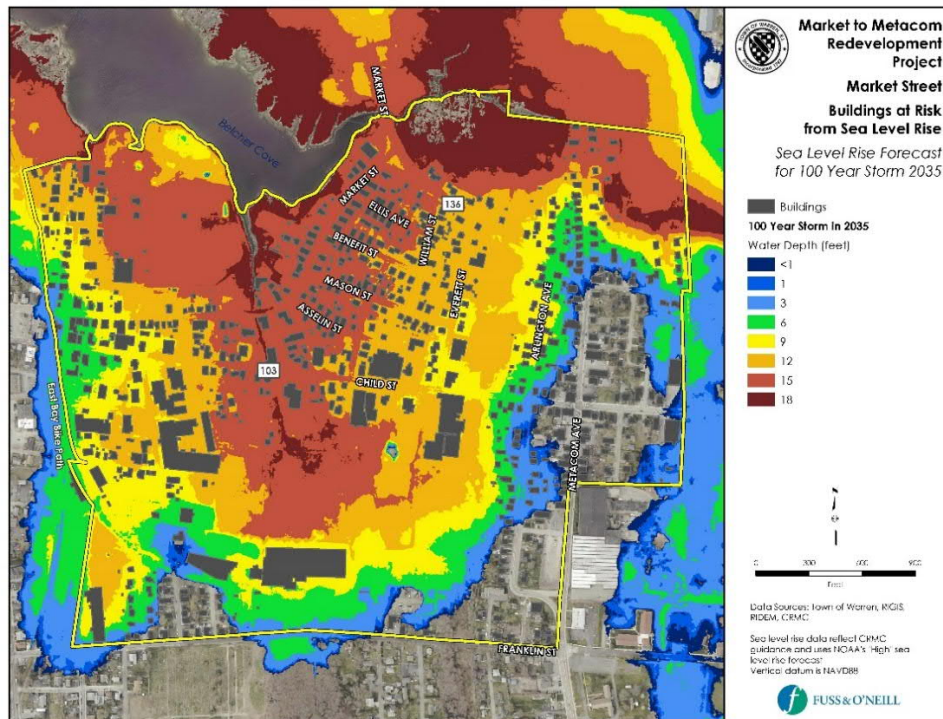


Figure 26. Market Street – Sea Level Rise Projection for 2035 (with 100-Year Storm)

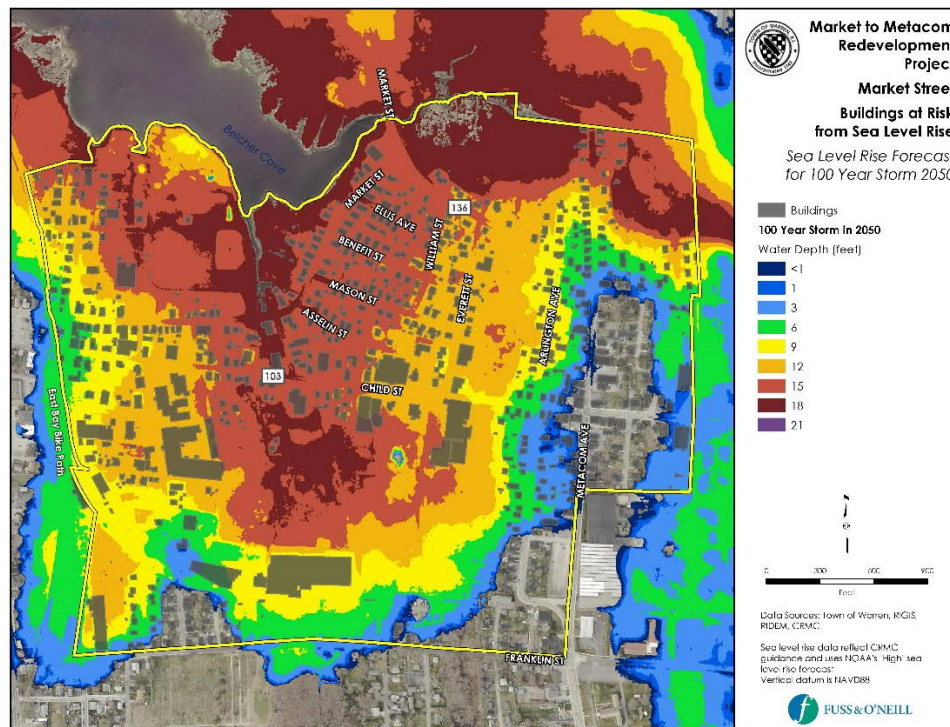


Figure 27. Market Street – Sea Level Rise Projection for 2050 (with 100-Year Storm)

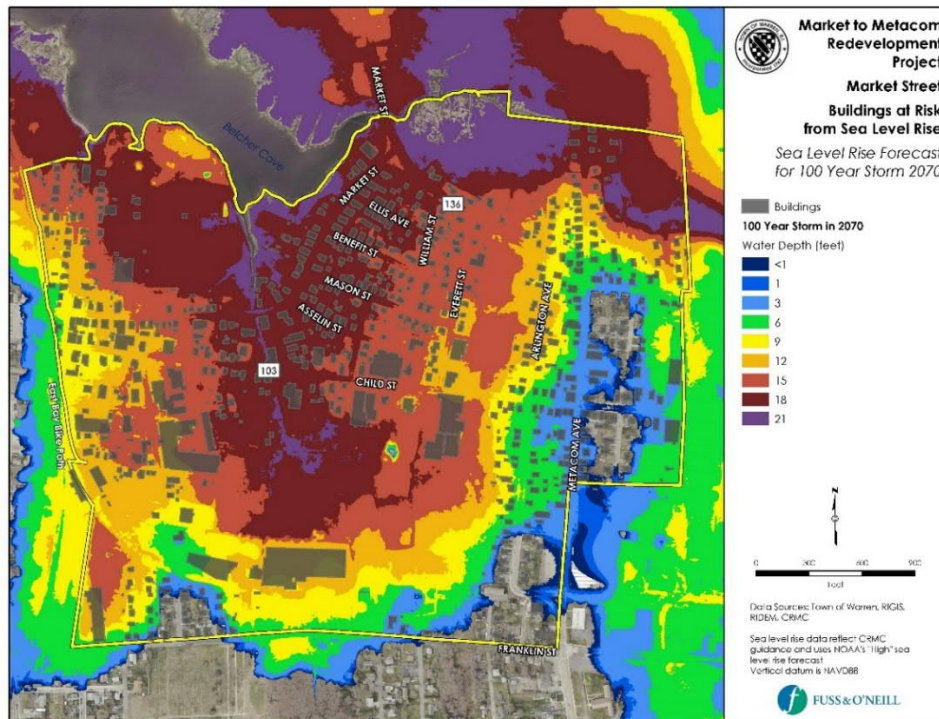


Figure 28. Market Street – Sea Level Rise Projection for 2070 (with 100-Year Storm)

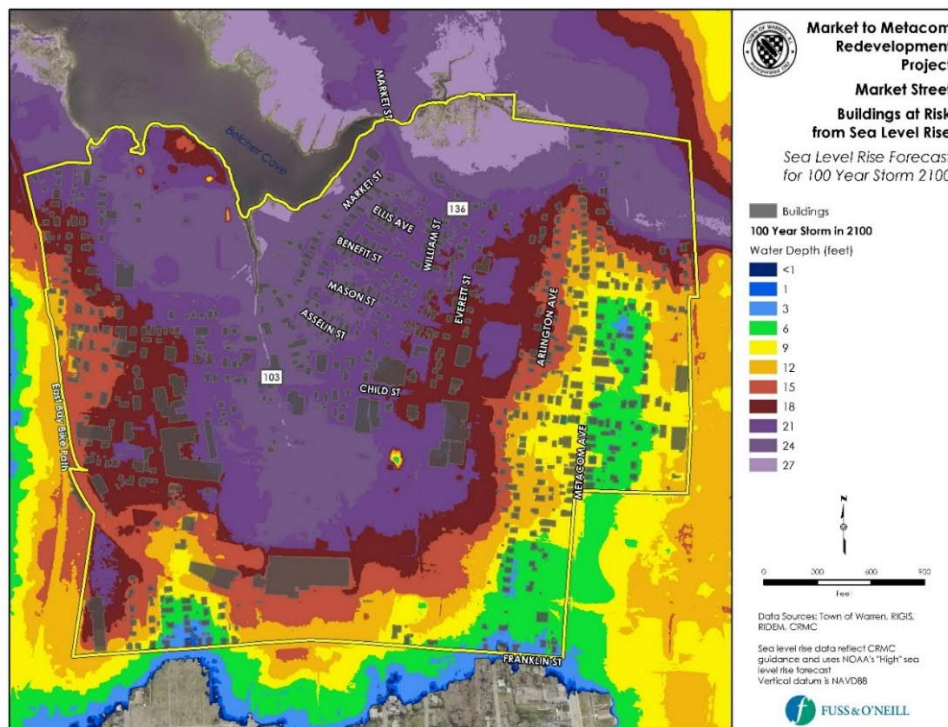


Figure 29. Market Street – Sea Level Rise Projection for 2100 (with 100-Year Storm)

4.3 Sea Level Rise Impacts – Market Street

The low-lying neighborhood around Market Street will be inundated with increasing frequency and severity due to SLR and increased severity of precipitation/storm events. This will have significant impacts including environmental impacts related to repeated flooding of existing fuel tanks, septic systems, and building materials. Existing wetlands within the Market Street project area will become increasingly inundated, eliminating these valuable resource areas that provide critical habitat and natural coastal buffers. Increased runoff from climate impacts in this neighborhood will also exacerbate water quality issues in Belcher Cove and the Palmer River. These physical impacts have the potential for extensive economic impacts that will affect residents, property owners, businesses, and the Town.

4.4 Sea Level Rise Projection – Metacom Avenue Corridor

While SLR will impact properties along the Kickemuit River, the Metacom Avenue project area is not projected to experience flooding during MHHW through the year 2100, even during the projected 100-year storm events or smaller.

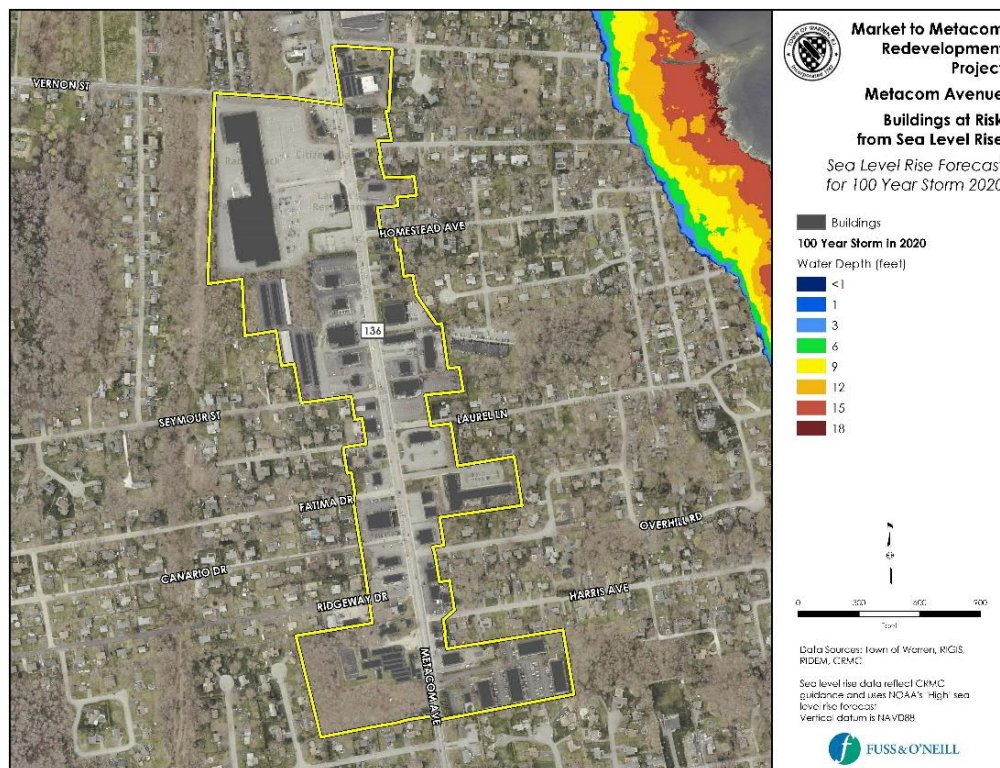


Figure 30. Metacom Avenue – Sea Level Rise Projection for 100-Year Storm for 2020

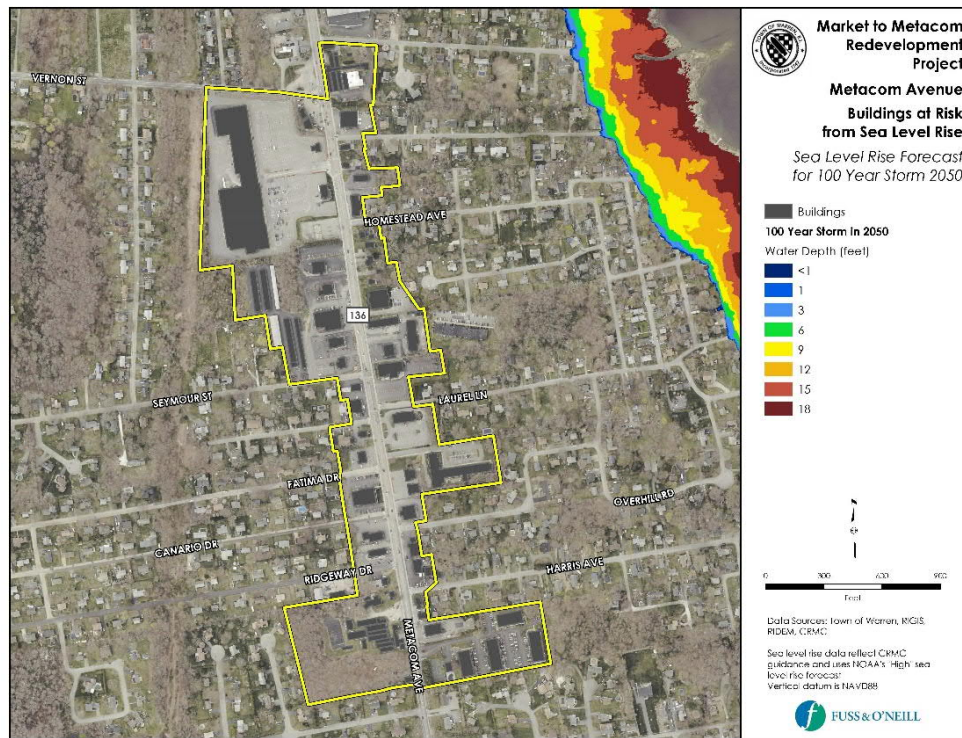


Figure 31. Metacom Avenue – Sea Level Rise Projection for 100-Year Storm for 2050

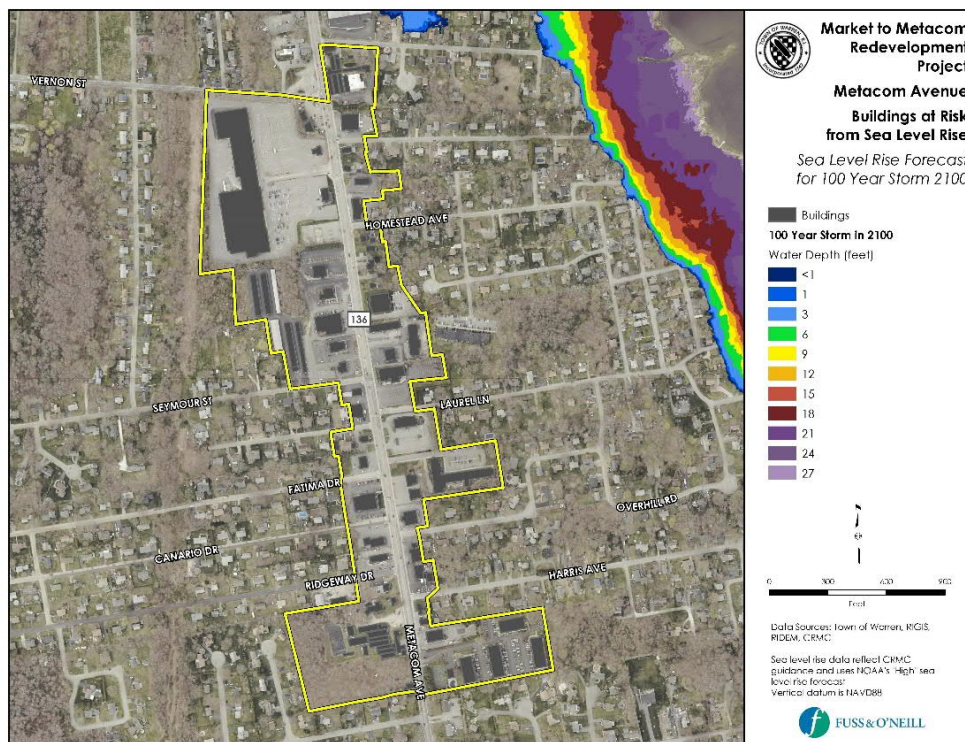


Figure 32. Metacom Avenue – Sea Level Rise Projection for 100-Year Storm for 2100

4.5 Sea Level Rise Impacts – Metacom Avenue Corridor

Because of its topography and elevation above surrounding waterbodies, the properties in the Metacom Avenue project area are less affected by SLR and flooding events directly. However, SLR will inundate the primary transportation connections to the north along RI-136 and to the west along RI-103. Unless these roadways are retrofitted or rerouted to avoid inundation from SLR and storm events, the Metacom Avenue corridor will be disconnected from the regional road network, potentially created an “island” with limited access/egress during flooding events.

The increasing frequency and severity of precipitation/storm events have the potential to overwhelm existing stormwater drainage systems that were designed and constructed to handle smaller flows. Increased stormwater runoff from these precipitation events in this area with high impervious cover will likely also exacerbate water quality issues in the Kickemuit River. Existing wetlands within the Market Street project area will become increasingly inundated, eliminating these valuable resource areas that provide critical habitat and natural coastal buffers.

5 Existing Regulations and Planning

The following section summarizes the existing local and state regulatory systems and planning documents as they relate to land use, stormwater management and transportation in the project areas.

5.1 Zoning

5.1.1 Market Street Area

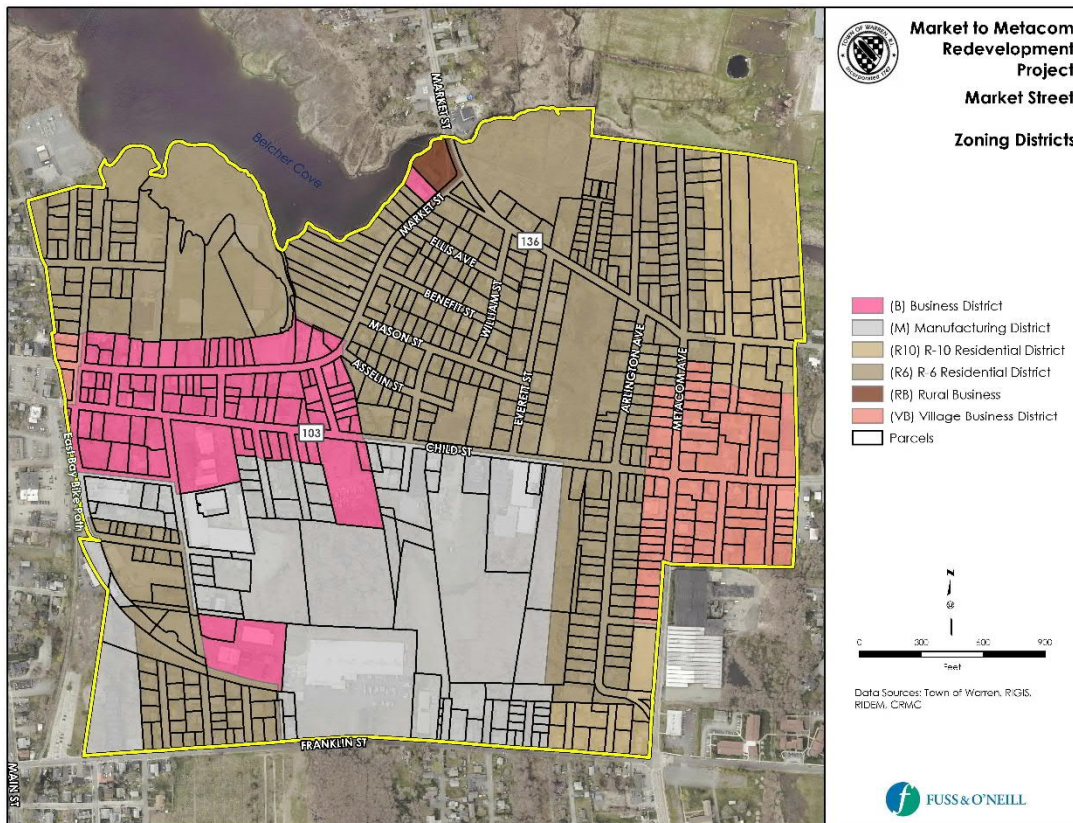


Figure 33. Market Street Project Area Zoning Map

The Market Street project area is comprised of the following zoning districts: (M) Manufacturing, R6 Residential, Village Business, Business, R-10 Residential, Special, and Conservation. The largest districts within the project area are R-6 Residential and Manufacturing, with Business and Village Business representing the next largest land use types.

Within the R-6 Residential zone, permitted uses include single-family dwellings, community residences, and Town-owned parks. Uses permitted by special permit within the R-6 zone include, but are not limited to, apartment complexes, bed and breakfasts, two-family and multi-family dwellings, and churches.

The following dimensional requirements apply to the R-6 Residential district:

- Minimum Lot Area: 6,000 SF for single family dwellings, 8,000 SF for two-family dwellings, 20,000 SF for hotel/motel
- Minimum Lot Frontage: 60 feet for single-family dwellings, 70-feet for two- and multi-family dwellings, 120 feet for hotel/motel
- Minimum Front Yard Depth: 20 feet for dwellings, 30 feet for hotel/motel
- Minimum Rear Yard Depth: 30 feet
- Minimum Side Yard: 10 feet for single- and two-family, 15 feet for multi-family, and 20 feet for hotel/motel
- Maximum Building Lot Coverage: 25%

Within the Manufacturing district, uses permitted by-right include, but are not limited to, offices for a wholesale or manufacturing use, indoor wholesale business and storage, commercial nursery or greenhouse, and Town-owned parks. Within the manufacturing district, uses permitted with a special permit include, but are not limited to, open lot storage of new building materials or machinery; utility uses, such as electrical power generating substations; and services such as plumbing, and automotive repair or body shops.

The following dimensional and parking requirements apply to the Manufacturing district:

- Min Lot Frontage and width: 100 feet
- Min Distance of Structure from residential district: 50 feet
- Min Front Yard: 30 feet
- Min Rear Yard: 40 feet
- Max Side Yard: 30 feet
- Max building Lot Coverage: 40%
- Max Building Height: 35 feet
- Business, commercial or office uses in buildings: 5 spaces plus 1 space per 250 feet floor space
- Schools, churches, theaters, restaurants: 1 space per 4 seats or per 4 persons of capacity
- Single- and two-family dwellings: 1.5/family unit
- Multi-family and apartment buildings: 2 spaces, plus 1 per rented room

A small portion of the Market Street project area is located in the Kickemuit Reservoir Watershed Overlay District. Within this overlay district, uses that could impact water quality within the reservoir are prohibited. These uses include, but are not limited to, commercial car washes, landfills, machine shops, dry-cleaning, and petroleum storage.

5.1.2 Metacom Avenue Area

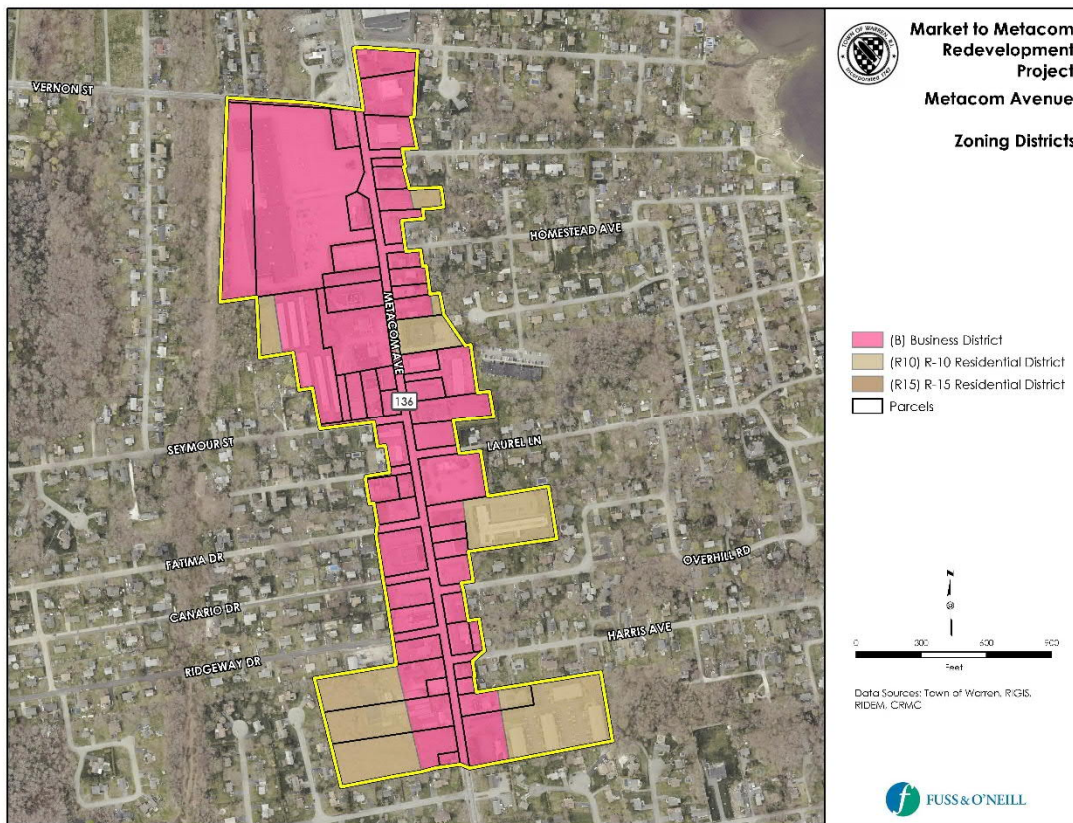


Figure 34. Metacom Avenue Project Area Zoning Map

The majority of the Metacom Project area is in the Business district. Uses permitted in the Business district include, but are not limited to, retail business; services, such as barbers, laundry, and landscaping businesses; offices; banks; public schools; town-owned recreation; and small-scale agriculture. Within the Business district, uses permitted by special permit include, but are not limited to, restaurants, hotels/motels, private schools, gas stations, auto repair shops, light manufacturing uses, and retail spaces larger than 1,500 square feet. In regard to residential uses, within the Business district multi-family, two-family and single-family dwellings are not permitted. Hotel and mixed-use residential is permitted by special use permit only.

The following dimensional requirements apply to the Business district:

- Min Lot Frontage and Width: 100 feet
- Min Distance of Structure from Residential District: 40 feet
- Min Front Yard: 25 feet
- Min Rear Yard: 20 feet
- Max Side yard: 10 feet
- Max Building Lot Coverage: 25%
- Max Building Height: 35 feet

The remaining portion of the Metacom Project area is located in the R-10 Residential district. Uses permitted in the R-10 district include, but are not limited to, single-family dwellings, community residence, cluster development, residential agriculture; Town-owned park/recreation facility; and public schools. Within the R-10 district, uses permitted by special permit include, but are not limited to, two-family and multi-family dwellings; assisted living homes; and private schools.

Within the R10 district, the following dimensional regulations apply:

- Minimum lot area: 15,000 SF for two-family dwellings; 10,000 SF for all other uses
- Minimum lot frontage: 110 feet for two family dwellings; 90 feet for all other uses
- Minimum Front Yard: 25 feet
- Minimum Rear Yard: 35 feet
- Minimum Side Yard: 15 feet
- Maximum Building Coverage: 20% of lot area

Parking regulations for the most common permitted uses within the Metacom project area are as follows:

- Business, commercial or office uses in buildings: 5 spaces plus 1 space per 250 feet floor space
- Schools, churches, theaters, restaurants: 1 space per 4 seats or per 4 persons of capacity
- Single and two-family dwellings: 1.5/family unit
- Multi-family and apartment buildings: 2 spaces, plus 1 per rented room

5.1.3 Special Flood Hazard Areas

Article XCII of the Zoning Ordinance establishes the development standards for special flood hazard areas and flood fringe lands within the Town. Special flood hazard areas are defined as areas identified as "A" zones and "V" zones by FEMA Flood Insurance Rate Maps (FIRMs). Flood fringe lands are continuous lands adjacent to and within one foot higher than special flood hazard areas. The special standards required by Section 32-100 of the Zoning Ordinance include setback requirements, demonstration that construction will not increase the base flood elevation by more than one foot, and prohibition of encroachment within the regulatory floodway. This ordinance also requires that all construction or other development projects in these regulated areas obtain a development permit from the building inspector.

According to FIRM No. 44001C0008H, effective 07/07/2014, the Market Street project area is in Zone AE and is therefore subject to the standards of this Article of the Zoning Ordinance. The Metacom Avenue project area is not located within an "A" or "V" zone and is not considered a Special Flood Hazard Area.

5.2 Local Stormwater Regulations

Under the Post-Construction Stormwater Control Ordinance (Chapter 22 of the Town Ordinances), development and redevelopment projects require Planning Board approval of a stormwater management plan, site plan, and maintenance agreement. This excludes construction or alteration of single-family and multi-family homes less than 1,000 square feet, provided it is not within 100-feet of a watercourse and does not require disturbance of slopes steeper than ten percent. Minor earthwork activities are also exempt from

this ordinance. Projects subject to this ordinance are required to conform to the standards of the Rhode Island Stormwater Design and Installations Standards Manual (RISDISM).

5.3 State Regulations

The State of Rhode Island's regulations regarding stormwater do not generally require stormwater improvements for projects on small, residential lots that are not part of a common development plan. Instead, the State recommends conformance with regulations and offers resources for best practices. Most regulation and support information is from the RI Department of Environmental Management (RIDEM).

A Rhode Island Pollution Discharge Elimination System (RIPDES) permit is required for projects that disturb one acre of land or greater (or that are part of a larger project that will disturb at least one acre). Projects requiring a RIPDES permit must construct stormwater management systems in accordance with the RISDISM.

5.4 State Transportation Planning

The project areas are served by several State Roads. The planning for these roadways by the State and Federal agencies, municipalities and associated planning entities determines upcoming physical work on the roads that will affect planning within this project.

5.4.1 State of Rhode Island Transportation Improvement Program FFY 2017-2025

The Rhode Island State Transportation Improvement Program (STIP) adopted September 2016 is a list of transportation projects that the state intends to implement in the period of 2017 through 2025 with the use of United States Department of Transportation funds.

Route 136 in Warren from the Bristol Town line to the Massachusetts State Line is planned to be resurfaced, along with limited sidewalk replacement and extension and installation of handicapped ramps in 2023-2025 (STIP Financial Tables, page 259). Route 136 in Bristol from the Warren Town line to Ferry Road is planned to be resurfaced, along with limited sidewalk replacement and installation of handicapped ramps in 2023-2025 (STIP Financial Tables, page 213). The section of Vernon Street between Route 114 and 136 is planned to be resurfaced in 2024-2025 (STIP Financial Tables, page 258). Safety Improvements were planned for 2018 on Main Street (RI 114) at Market Street/Miller Street and Metacom Avenue (RI 136) at Seymour Street/Laurel Lane (STIP Financial Tables, page 298). Bridge preservation work was planned for 2017-2019 on the Kickemuit Bridge at Child Street and the Belcher's Cove Bridge at Market Street (STIP Financial Tables, page 99).

5.4.2 Moving Forward RI 2040: State Guide Plan Element 611 Report

Number 123, December 2020

The Moving Forward RI 2040 plan establishes a long-range course for investing in Rhode Island's transportation system over the 20 year period of 2020-2040. There are no projects mentioned in this plan that are in or near Warren, RI.

5.4.3 RI Statewide Planning Program Warren, RI Coastal Sea Level Rise and Storm Surge: Transportation Fact Sheet

The *Coastal Sea Level Rise and Storm Surge Transportation Fact Sheet* provides a survey of Warren's transportation infrastructure that may be affected by sea level rise and storm surge and outlines strategies that may help in adapting to these conditions. The document notes that "Warren's roads (state and local) are the tenth most vulnerable in the state of Rhode Island to sea level rise" (page 2).

Several roadways in the section of Market Street (RI-136) within the project area are listed in the "Top 10 Road Assets in Warren Vulnerable to Sea Level Rise" table and the "Top 10 Road Assets in Warren Vulnerable to 100-Year Surge Events" table.

- Market Street between Main Street and Kickemuit Road is classified as a minor arterial road and an evacuation route. 1,104 feet of Market Street is predicted to be inundated by three feet of SLR (SLR) with an additional 1,381 feet impacted by five feet of SLR and another 361 feet impacted by seven feet of SLR. The current 100 year storm surge event effects 5,669 feet of Market Street. One foot of SLR would increase the storm surge impact by 218 feet, three feet of SLR would increase it by another 419 feet, five feet of SLR would increase it by another 191 feet, and seven feet of SLR would increase the impacted length of road by another 158 feet.
- Child Street is classified as a principal arterial road and an evacuation route. One foot of SLR would inundate 27 feet of Child Street, three feet of SLR would impact an additional 327 feet, five feet of SLR would impact an additional 892 feet, and seven feet of SLR would impact an additional 903 feet of street. Child Street is also vulnerable to storm surge as 4,196 feet of road is currently impacted by the 100 year storm surge event. One foot of SLR would increase the impacted road length by 551 feet, three feet of SLR would increase it a further 420 feet, five feet of SLR would increase it a further 571 feet, and seven feet of SLR would increase it a further 122 feet.
- Arlington Avenue is a minor arterial road connecting Kickemuit Road and Metacom Ave. Currently 1,242 feet of Arlington Avenue is vulnerable to the 100 year storm surge event. One foot of SLR would cause another 233 feet of the road to be affected, three feet of SLR would impact another 181 feet, five feet of SLR would impact another 461 feet, and seven feet of SLR would impact an additional 407 feet of road.
- Kickemuit Bridge which carries Child Street (RI-103) over the Kickemuit River is an evacuation route with an average annual daily traffic of 7,800 vehicles. Seven feet of SLR would cause the bridge to have zero inches of freeboard normally and negative 172 inches of freeboard during a 100 year storm surge event. Kickemuit Bridge is ranked 20th in assets vulnerable to SLR in the state and ranked 36th in assets vulnerable to 100 year surge events under SLR.

The section of Metacom Ave (RI-136) within the project area will not be greatly affected by SLR and storm events because of its elevated topography. However, the section of RI-136 that connects the Metacom Avenue corridor to the north is in a very low-lying area and will be greatly impacted by SLR and storm events. From Franklin Street northward for a distance of 1.3 miles the roadway is listed in the “Top 10 Road Assets in Warren Vulnerable to Sea Level Rise” table and the “Top 10 Road Assets in Warren Vulnerable to 100-Year Surge Events” table.

- The section of Metacom Avenue (RI-136) north of Kickemuit Road is a local road vulnerable to SLR. With three feet of SLR, 234 feet of Metacom Ave would be inundated, five feet of SLR would cause an additional 75 feet to be impacted, and seven feet of SLR would impact a further 66 feet of the road. The section of Metacom Avenue north of Franklin Street is classified as a minor arterial road and an evacuation route. This section of the Metacom Avenue is vulnerable to storm surge with 795 feet of the road impacted by the current 100 year surge event. An additional 59 feet would be impacted by 100 year storm surge with one foot of SLR, another 760 feet with three feet of SLR, another 1,152 feet with five feet of SLR, and another 152 feet with seven feet of SLR.
- Belcher’s Cove Bridge which carries Market Street (RI-136) over Belcher’s Cove is an evacuation route with an average annual daily traffic of 10,000 vehicles. Seven feet of SLR would cause the bridge to have negative 18 inches of freeboard normally and negative 194 inches of freeboard during a 100 year storm surge event. Belcher’s Cove Bridge is ranked 13th in assets vulnerable to SLR in the state and ranked 35th in assets vulnerable to 100 year surge events under SLR.

6 Key Findings from Existing Conditions Assessment

Review of the existing conditions show us that the Market Street area is facing severe impacts from climate change, including SLR and severe precipitation and storm events. These impacts will negatively affect the community in the coming ten to thirty (10-30) years and will have the potential to severely damage and destroy private homes and businesses, State- and Town-owned facilities, disrupt local and regional transportation routes, flood environmentally sensitive sites and damage utilities. Forecast impacts have the potential to destroy or degrade hundreds of housing units.

The Metacom Avenue corridor is a largely commercial corridor which is similar to many auto-centric districts in RI and the United States. Demand for real estate in these environments continues to decline and there is a potential opportunity for redevelopment of the Metacom Avenue corridor as a mixed-use Main Street that contains retail, employment facilities and housing in a Main Street setting.

The Town, working with property owners, State government and regional partners has a limited-time opportunity to plan for a linked future for both Market Street and Metacom Avenue where it may be able to adapt to climate change impacts and minimize flood vulnerability and environmental risk. At the same time, an improved Metacom Avenue corridor can be the location for replacement of housing lost to climate change and a livable center for Warren’s citizens.

Scenario Planning

In order to compare potential futures for the Market Street area, staff from the Town of Warren and the project consultant team created two alternative scenarios. The No Action Scenario assumes that the stakeholders take no proactive actions to mitigate against the impacts of climate change and that SLR continues as forecast. The Relocation and Restoration Scenario assumes that the Town of Warren, in concert with local, State, Federal and regional partners take proactive actions to buy-out properties in danger of repetitive flooding and storm damage, remove most local streets and utilities and restore vegetated wetlands for protective buffering and flood storage.

7 No Action Scenario

7.1 Overview and Assumptions

This analysis of the No Action Scenario seeks to quantify the Market Street area which will be potentially impacted by sea level rise and precipitation/storm events, as well as describe the potential impact resulting from discharge of pollutants and infrastructure failure/degradation due to flooding/storm damage. For the purposes of this analysis, sea level rise is assumed to be consistent with NOAA projections for Rhode Island of one foot of rise by 2035, three feet by 2050, and six feet by 2070.

The No Action Scenario assumed that the Town of Warren takes no actions to prepare for climate change impacts. It is also assumed that state agencies and utilities take no action to prepare for climate change impacts. Sea level rise is assumed to be aligned with NOAA projections of one foot of rise by 2035, three feet of rise by 2050, and six feet of rise by 2070. An increase in frequency and severity of precipitation and storm events including hurricanes and nor'easters is assumed under future conditions compared to historical averages.

7.2 Impacts to the Market Street Area

7.2.1 Overview of Community and Financial Impacts

This section assesses the financial and community impacts that are estimated to occur in the Market Street project area because of flooding from sea level rise and future 100-year storm events. (The 100-year storm event refers to an event that has a 1% chance of occurring within a given year.) These SLR impacts are estimated for four time periods between 2025 and 2100 in this analysis:

- 1.75 foot by 2035,
- Three (3) feet by 2050,
- Five (5) feet by 2070 and
- Nine (9) feet by 2100.

For each of these four time periods, the quantified impacts include properties and buildings flooded, housing units lost, residents displaced, and the associated financial impacts due to sea level rise, as well as the costs of flood damage and lost business revenue caused by flooding from the 100-year storm event. These estimates reflect the National Oceanic and Atmospheric Administration's (NOAA's) 2017 "high" sea level rise (SLR) projection and RI Coastal Resource Management Council's (CRMC) projections of flooding depths during the 100-year storm for the Market Street project area. It should also be noted that these are "still water" depths and do not include wave action, which can increase flooding levels.

Financial impacts assessed in this report for each time period include:

- Costs to Property Owners/Insurers
 - The number of properties and buildings that are predicted to be flooded by sea level rise has been determined based on the MHHW for a given time period. These buildings include residential and commercial properties. The total building loss cost was determined by totaling the assessed values of the buildings predicted to be flooded.
 - The estimated damage to these affected buildings from future flood events has been calculated based on the extent of SLR over time combined with projections for the frequency of future 100-year storm events.
- Business Losses
 - The number of commercial buildings flooded has been calculated based on the extent of SLR over time combined with projections for the frequency of future 100-year storm events. An estimate of the number of lost operational days for these flooded businesses was used to predict the total business revenue loss due to the flooding.
- Municipal Financial Impacts
 - The total loss of annual tax revenue has been estimated based on the current tax information for the properties that are predicted to be regularly flooded by SLR during each time period (separated from storm events).
 - Environmental pollution and clean-up costs have been assessed for future damage to the landfill at Jamiel's Park and DEM-registered sites in the project area.
 - The financial impact of future repair or replacement of municipal infrastructure effected by sea level rise and flood events has been assessed.

Community Impacts assessed in this report include:

- Housing Units Lost and Residents Displaced
 - The predictions for number of properties lost is based on projections for SLR and its impacts to specific properties and their existing type (i.e., single family, multi-family, etc.) and unit density. The number of residents displaced by sea level rise in the project area was estimated based on the number of housing units lost and a demographically typical density of two person per unit.

7.2.1.1 2025-2035 Time Period

MHHW in 2020 already inundates a portion of the Market Street project area east of Jamiel Park, as well as the wetland east of Route 136. These impacted areas are projected to expand over time, causing at least one foot of flooding within Market Street by 2035.

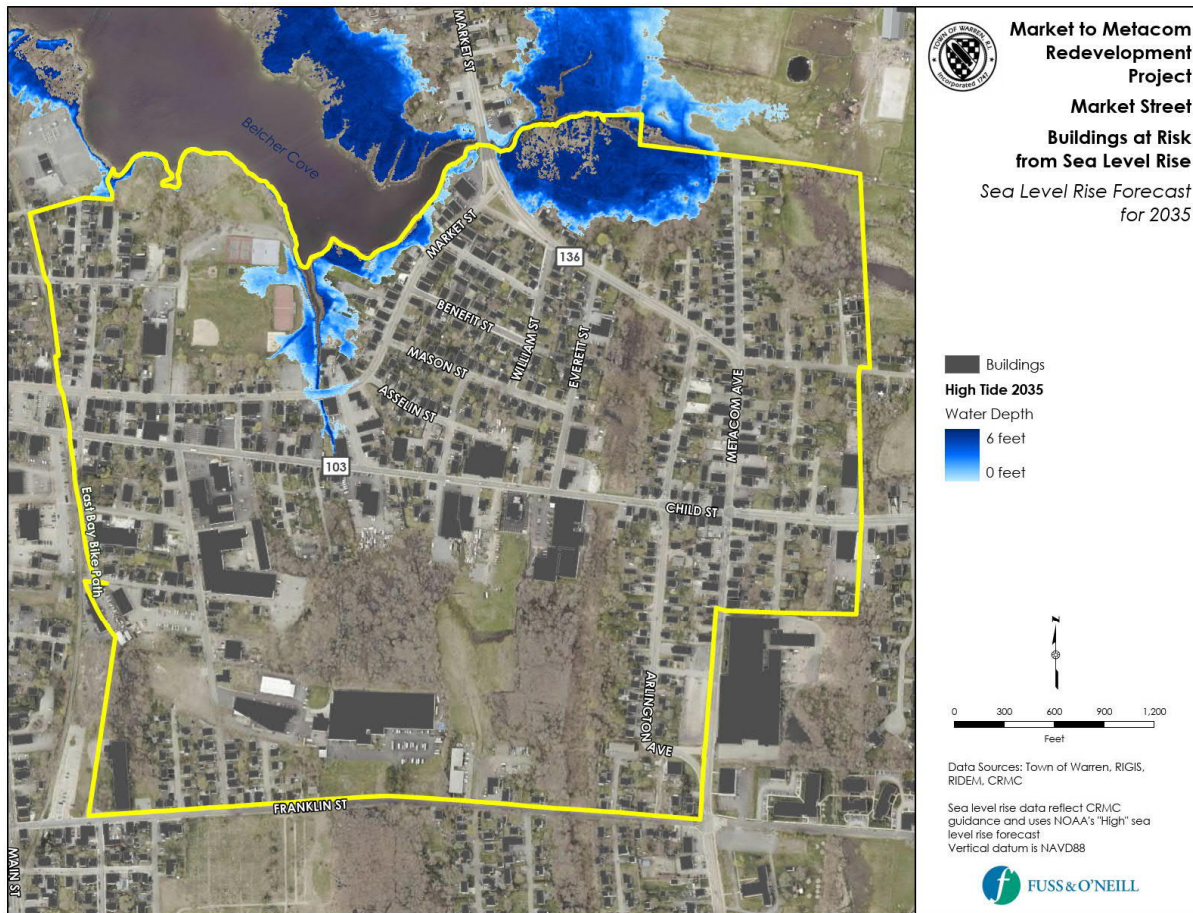


Figure 35. Market Street – Sea Level Rise Projection for 2035

Table 5 – 2025-2035 Sea Level Rise Impacts

Properties Flooded	58
Buildings Flooded	31
Housing Units Lost	57
Residents Displaced	86
Lost Annual Tax Revenue	\$200,000
Building Loss Cost	\$8,100,000

Under the projected conditions for 2035, the 100-year storm will result in flooding to the majority of the Market Street project area, with Market Street, a portion of Child Street, and many properties in the area under five to fifteen feet of water, and some wetland areas experiences twenty feet of flooding (Figure 25).

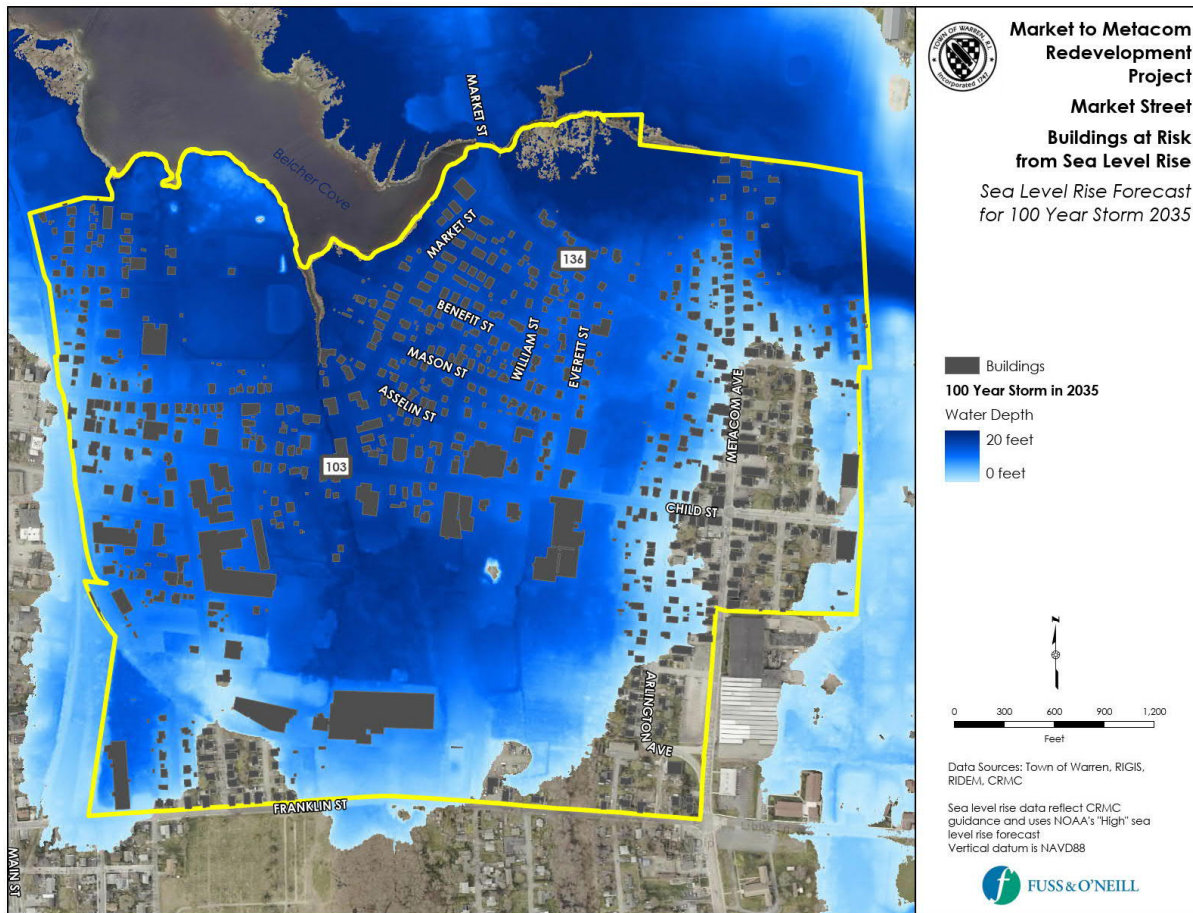


Figure 36. Market Street – 100-Year Storm Event Sea Level Rise Projection for 2035

Table 6 - 2025-2035 100-Year Storm Event Impacts

Flood Damage	\$3,500,000
Lost Business Revenue	\$5,400,000
Total Flood Impacts	\$8,900,000

7.2.1.2 2035-2050 Time Period

By 2050, the lowest-lying portions of Market Street are projected to have three feet of flooding during MHHW. A portion of Child Street will have up to one foot of flooding and many of the properties between Belcher Cove and Market Street will be impacted.

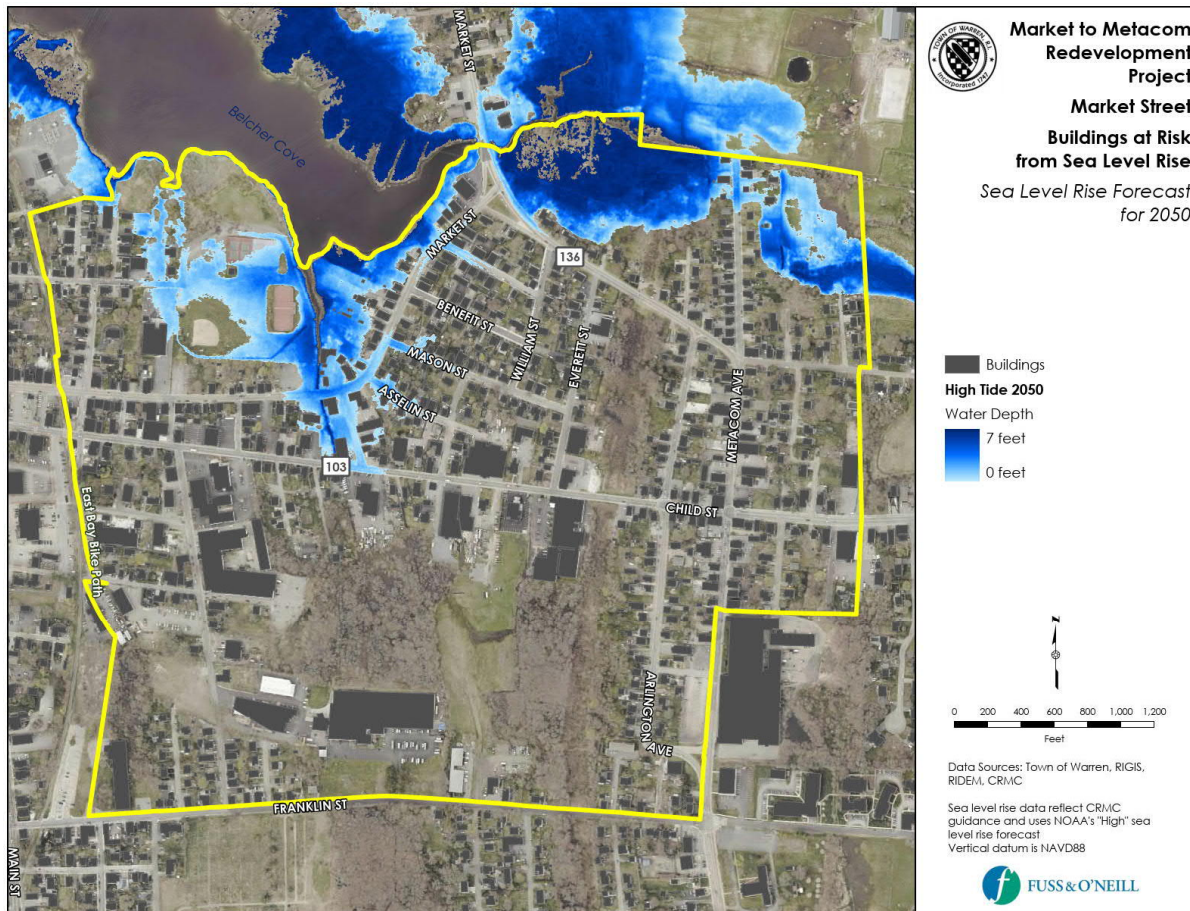


Figure 37. Market Street – Sea Level Rise Projection for 2050

Table 7 - 2035-2050 Sea Level Rise Impacts

Properties Flooded	75
Buildings Flooded	65
Housing Units Lost	121
Residents Displaced	182
Lost Annual Tax Revenue	\$300,000
Building Loss Cost	\$16,600,000

Projections for 2050 show that flooding during the 100-year storm will continue to expand through the Market Street project area and will increase in severity by increasing in depth.

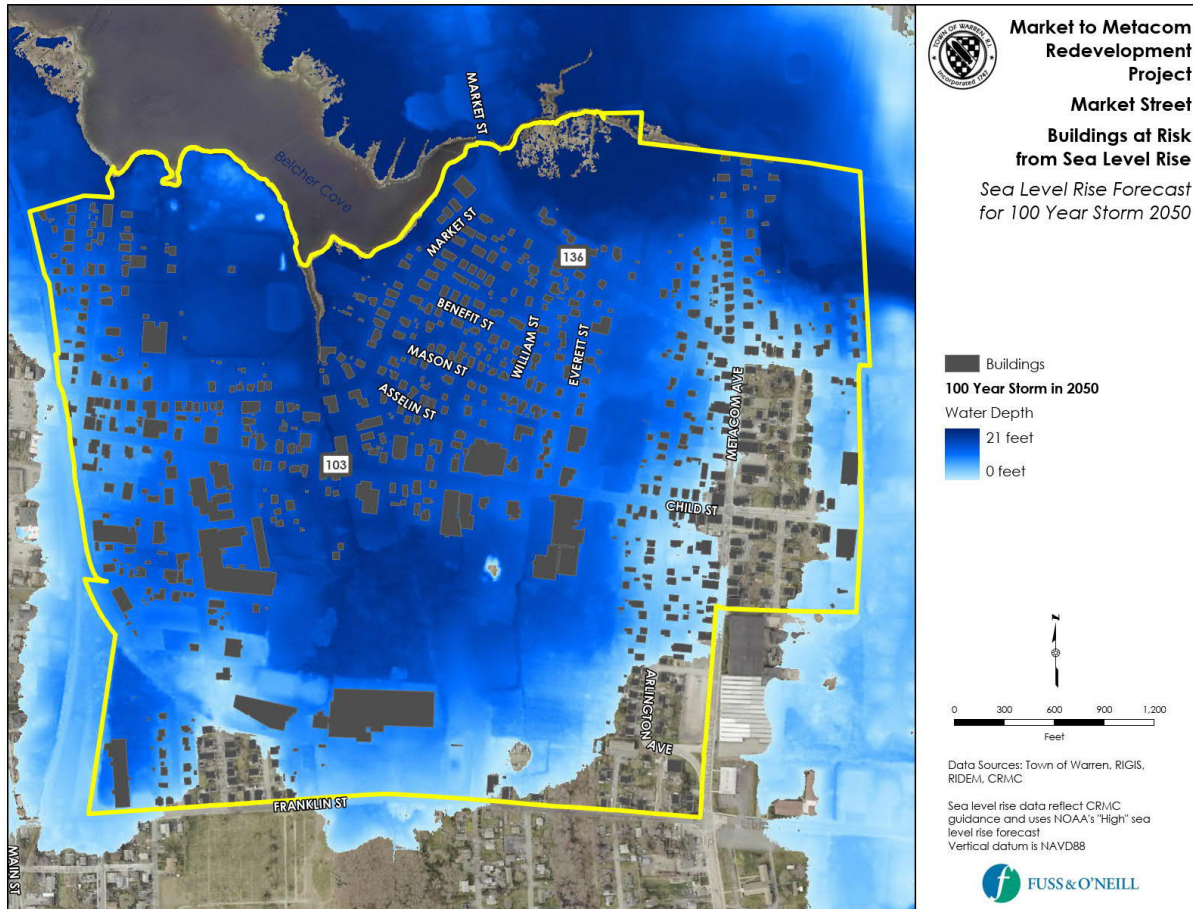


Figure 38. Market Street – 100-Year Storm Event Sea Level Rise Projection for 2050

Table 8 - 2023-2050 100-Year Storm Event Impacts

Flood Damage	\$8,500,000
Lost Business Revenue	\$3,600,000
Total Flood Impacts	\$12,100,000

7.2.1.3 2050-2070 Time Period

Projections for the year 2070 indicate that a substantial portion of Market Street and the surrounding neighborhood will be inundated by three feet of water, with the lowest elevation areas, including wetlands, experiencing six-foot flood depths.

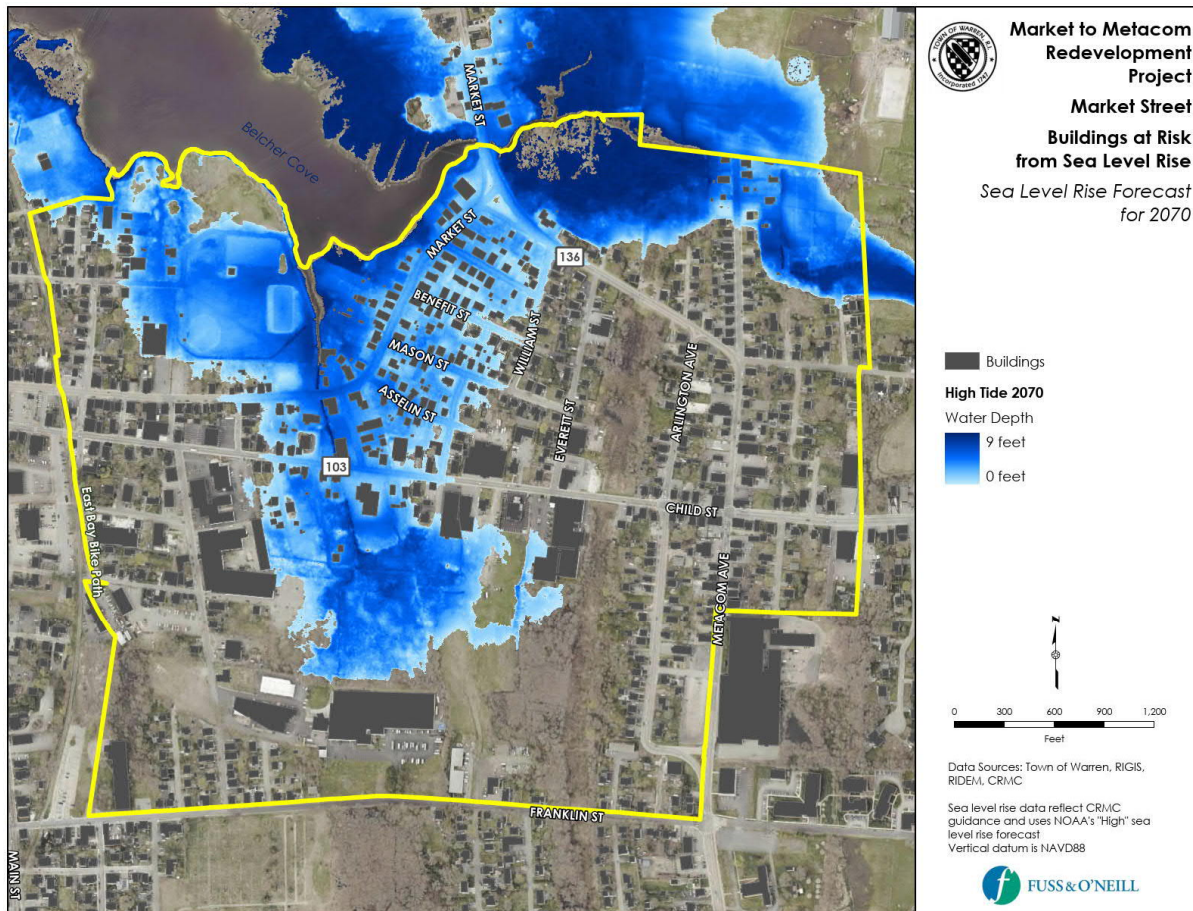


Figure 39. Market Street – Sea Level Rise Projection for 2070

Table 9 – 2050-2070 Sea Level Rise Impacts

Properties Flooded	113
Buildings Flooded	92
Housing Units Lost	162
Residents Displaced	243
Lost Annual Tax Revenue	\$400,000
Building Loss Cost	\$23,000,000

By 2070, almost the entire Market Street project area will be inundated during the 100-year storm, with maximum flood depths of twenty feet.

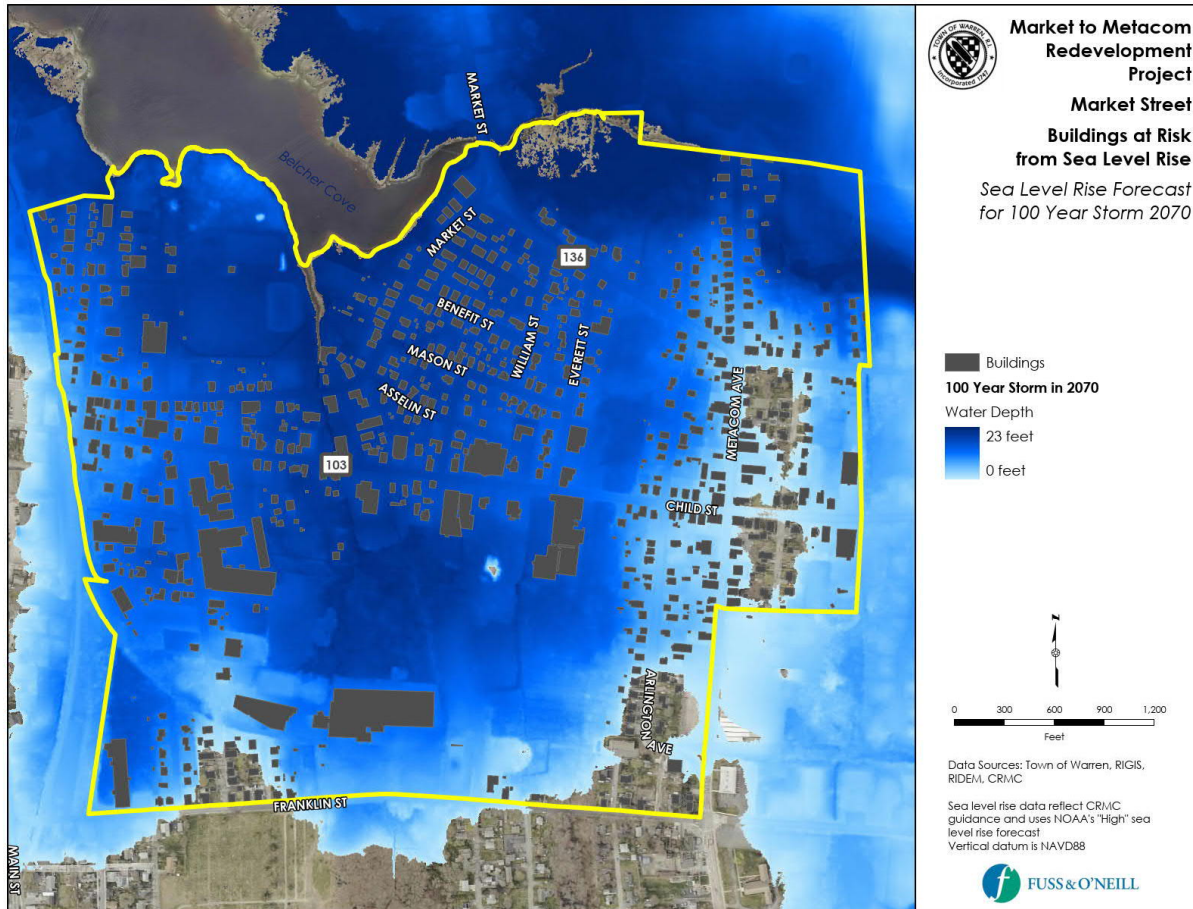


Figure 40. Market Street – 100-Year Storm Event Sea Level Rise Projection for 2070

Table 10 – 2050-2070 100-Year Storm Event Impacts

Flood Damage	\$13,100,000
Lost Business Revenue	\$22,000,000
Total Flood Impacts	\$35,100,000

7.2.1.4 2070-2100 Time Period

In 2100, high tide with a projected sea level rise of is projected to impact the majority of the Market Street project area, with water depths reaching nine feet within much of Market Street and maximum depths of 12 feet within the project area.

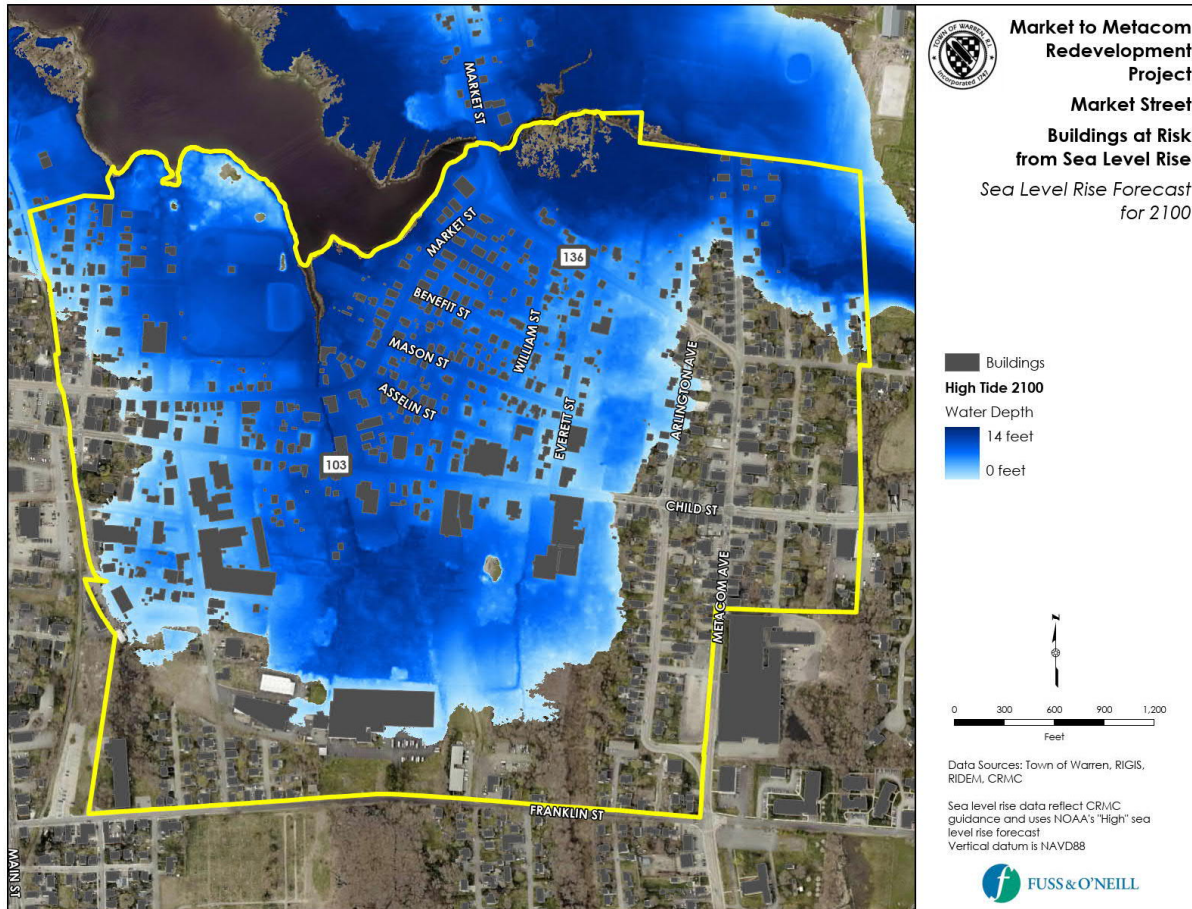


Figure 41. Market Street – Sea Level Rise Projection for 2100

Table 11 – 2070-2100 Sea Level Rise Impacts

Properties Flooded	137
Buildings Flooded	118
Housing Units Lost	201
Residents Displaced	302
Lost Annual Tax Revenue	\$700,000
Building Loss Cost	\$38,100,000

Projections for 2100 show that the entire Market Street project area will be inundated by the 100-year storm, with twenty-five-foot flood depths within a large area of the neighborhood.

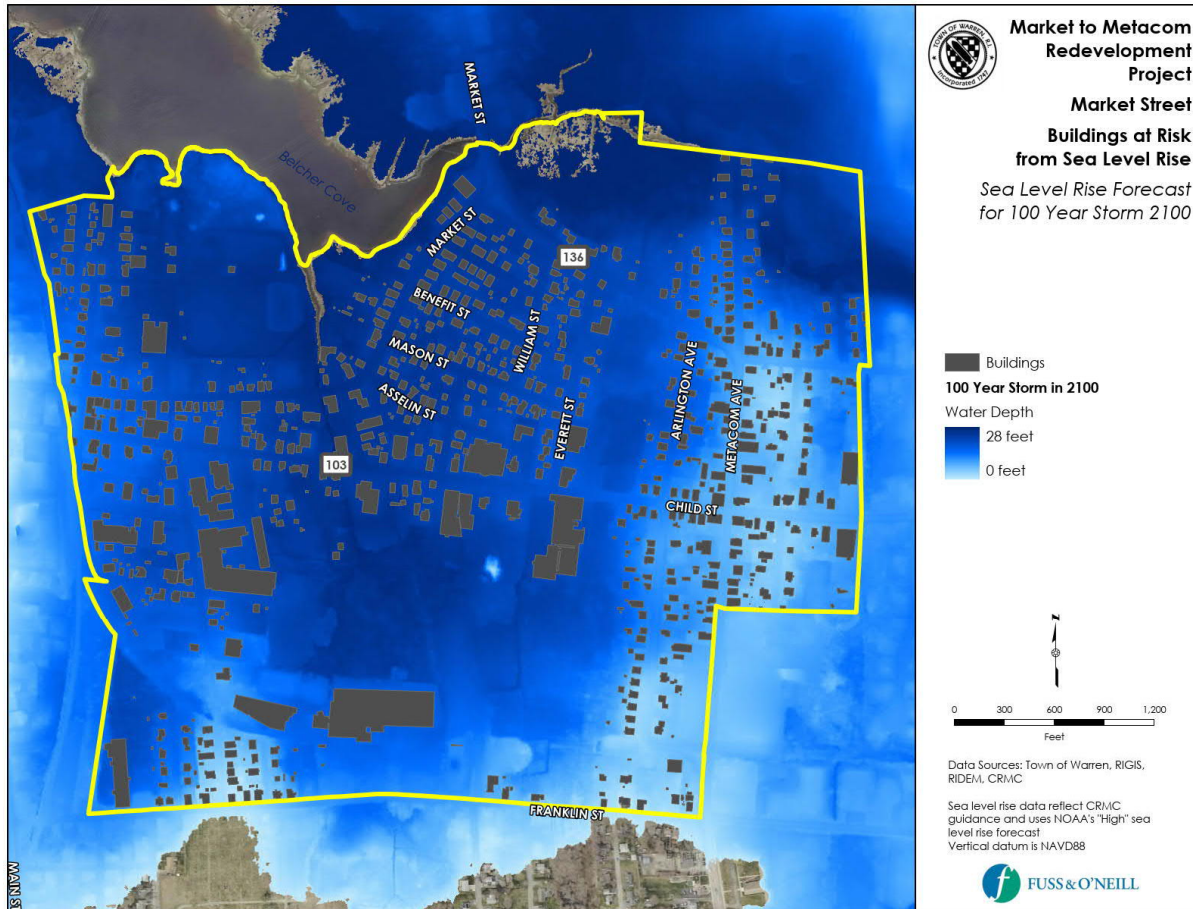


Figure 42. Market Street – 100-Year Storm Event Sea Level Rise Projection for 2100

Table 12 – 2070-2100 100-Year Storm Event Impacts

Flood Damage	\$27,500,000
Lost Business Revenue	\$95,200,000
Total Flood Impacts	\$122,700,000

7.2.1.5 Summary of Community Impacts and Costs

As seen in the summary table below, the community impacts due to sea level rise continue to increase in each time period. Between now and 2100, a total of 812 residents in the Market Street project area are predicted to be displaced due to flooding resulting from sea level rise. This represents approximately 7% of the current population of the Town of Warren that may lose their residences before 2100.

Table 13 – No Action Scenario – Community Impacts Summary Table

Time Period	2025-2035	2035-2050	2050-2070	2070-2100	Total by 2100
Properties Flooded by Sea Level Rise	58	75	113	137	383
Buildings Flooded by Sea Level Rise	31	65	92	118	306
Housing Units Lost	57	121	162	201	541
Estimated Residents Displaced	86	182	243	302	812

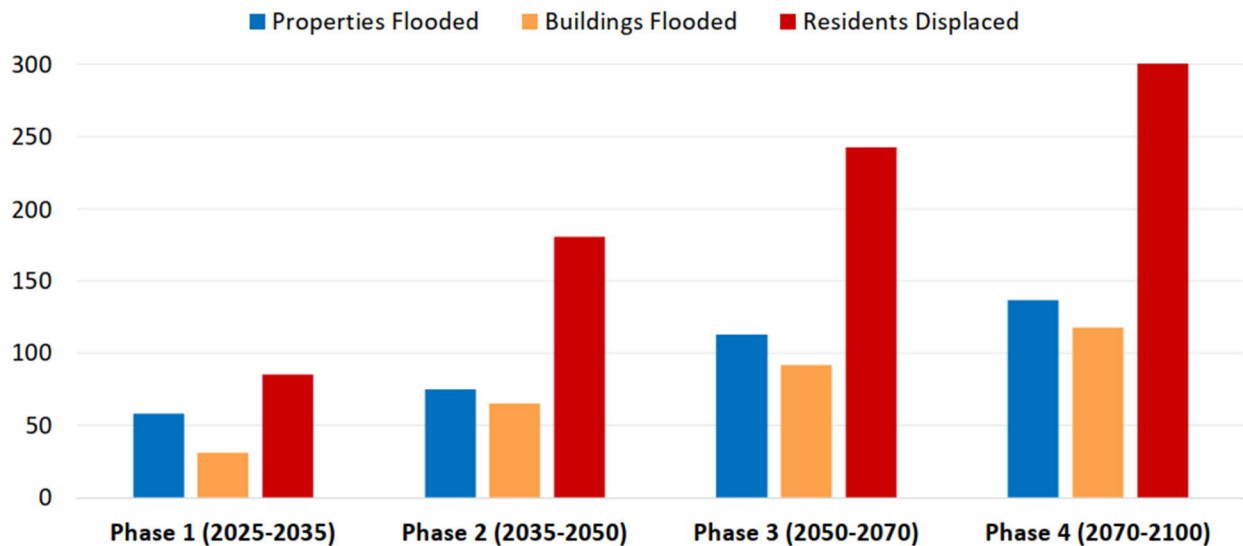
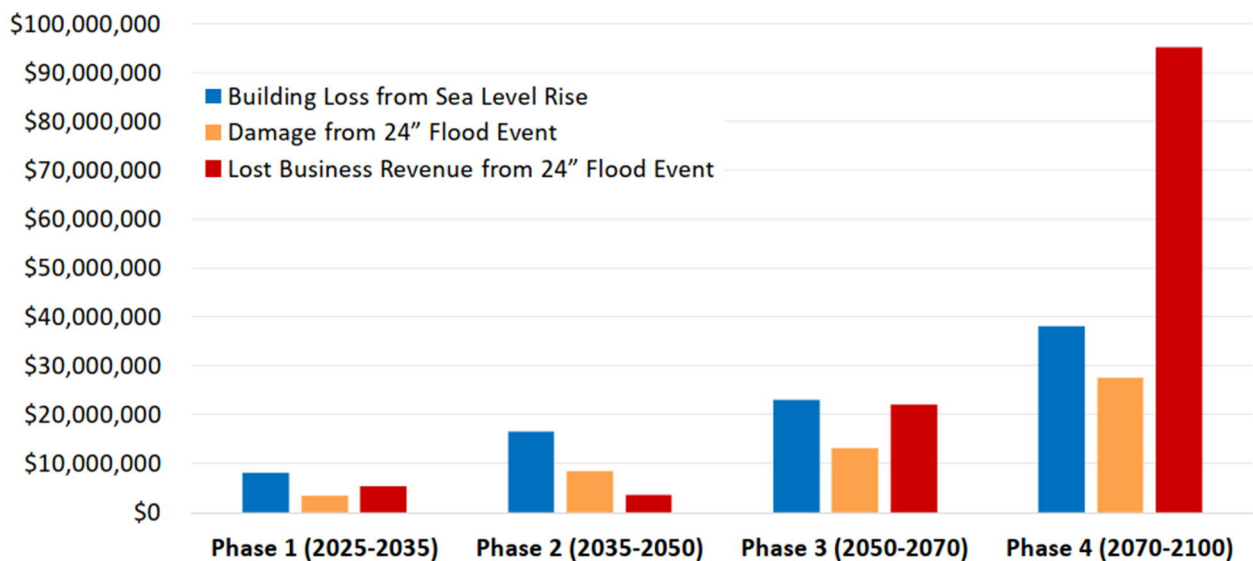


Figure 43. No Action Scenario – Community Impacts Summary Chart

Table 14 – No Action Scenario Estimated Costs Summary Table

Time Period	2025-2035	2035-2050	2050-2070	2070-2100	Total by 2100
Properties Flooded by Sea Level Rise	58	75	113	137	383
Buildings Flooded by Sea Level Rise	31	65	92	118	306
Building Loss Cost	\$8,100,000	\$16,600,000	\$23,000,000	\$38,100,000	\$85,800,000
Damage from 24" Flood Event	\$3,500,000	\$8,500,000	\$13,100,000	\$27,500,000	\$52,700,000
Lost Business Revenue from 24" Flood Event	\$5,400,000	\$3,600,000	\$22,000,000	\$95,200,000	\$126,300,000

Table 15 – No Action Scenario Estimated Costs Summary Chart



7.2.2 Environmental Impacts

The Market Street project area is located within the Palmer River Subwatershed (RI 0007022E-01A). Water quality in the Palmer River is degraded with elevated concentrations of the nutrient nitrogen and fecal coliform bacteria, and reduced concentrations of dissolved oxygen. Because of the elevated fecal coliform concentrations, a total maximum daily load (TMDL) has been established for fecal coliform. A TMDL is a regulatory calculation that sets the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. The Palmer River is also a Special Resource Protection Water identified by the State of Rhode Island as a critical habitat for rare and endangered species, and a locally designated conservation area. The majority of stormwater from the Market Street project area drains untreated overland and through storm drains directly to this the Palmer River.

Increased runoff from climate impacts in this neighborhood will exacerbate water quality issues in Belcher Cove and the Palmer River. Increased frequency and intensity of storm events causes increased volumes of stormwater runoff, which results in increased migration of pollutants and sediment into storm drains and waterways. Existing wetlands within the Market Street project area will become increasingly inundated, eliminating these valuable resource areas that provide critical habitat and natural coastal buffers.

As sea level rise and storms cause damage to buildings and infrastructure, some owners may decide to abandon their properties. Abandonment of properties without appropriate removal or disposal of potential hazardous material has the potential to have significant environmental impacts related to repeated flooding of existing fuel tanks, septic systems, and building materials.

The Landfill at Jamiel's Park is predicted to be fully inundated during the 100-year storm in 2035 and partially flooded at high tide, even in the absence of a storm event, by 2050. The U.S. EPA has identified typical potential risks to landfills because of climate change². Although this site is capped, flooding here poses a risk of contaminants leaching into Belcher Cove, and erosion of the soil cap and shoreline. Extreme storm events and significant floods may cause landfill waste along the shoreline to be washed away.

The flooding of Rhode Island Department of Environmental Management (RIDEM) registered sites in the project area could also cause environmental pollution. The Market Street area contains twelve (12) underground storage tanks and one RIPDES Sanitary Waste Site, according to the list of RIDEM-regulated facilities. As shown in Figure X-X, these sites are already within the area subject to flooding due to the current 100-year storm. As sea level rise increases, all of these sites will be regularly flooded at high tide by the year 2100.

² <https://semspub.epa.gov/work/11/175853.pdf>

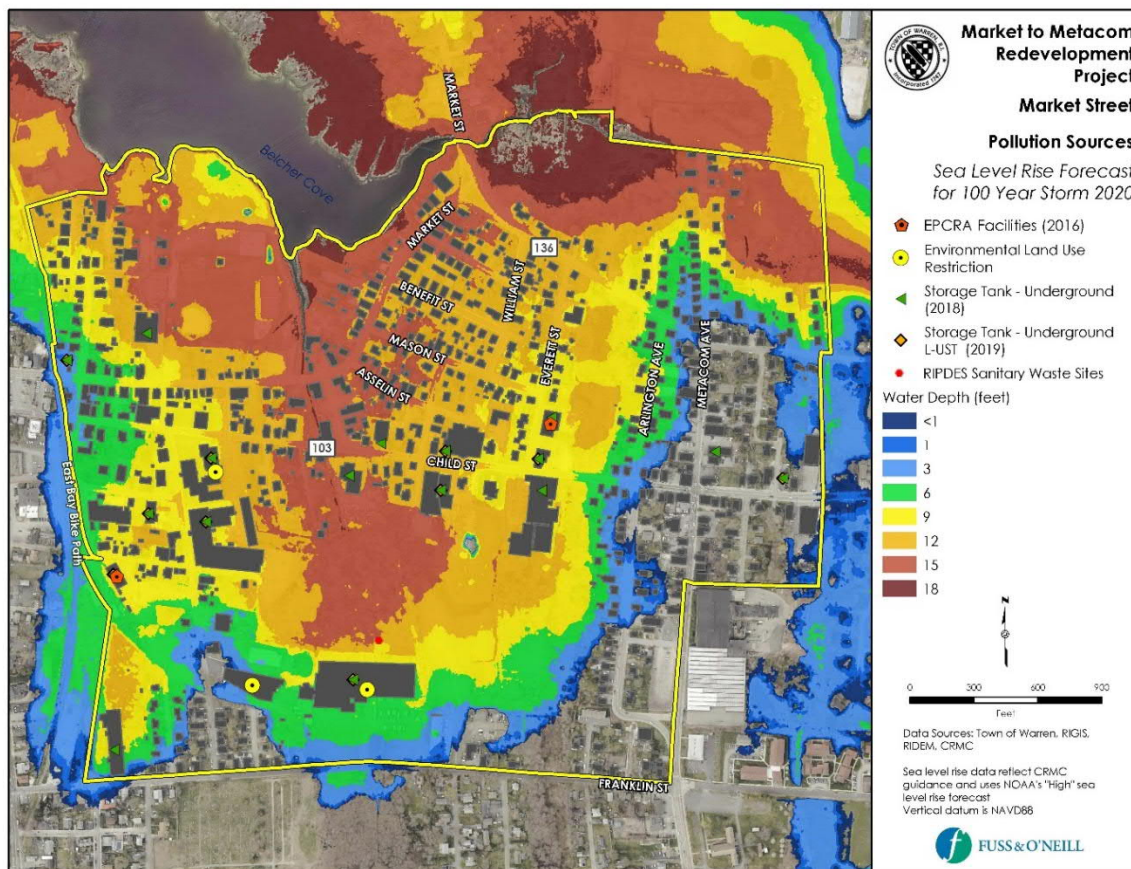


Figure 44. RIDEM Regulated Facilities (with 100 Year Storm)

7.2.3 Roadway Impacts

The Market Street project area includes several major surface transportation facilities that are critical to local and regional traffic, including:

- RI-136 – Market Street/Kickemuit Avenue is classified as a minor arterial road and an evacuation route. It serves as a segment of the north-south route connecting traffic from the Metacom Avenue corridor and Downtown Warren with points north, including the connections to Interstate 195 in Seekonk and the regional highway system.
- RI-103 – Child Street is classified as a principal arterial road and an evacuation route. It serves as a primary east-west route connecting traffic from the Metacom Avenue corridor and Downtown Warren with points east, including the connections to Interstate 195 in Swansea and the regional highway system.

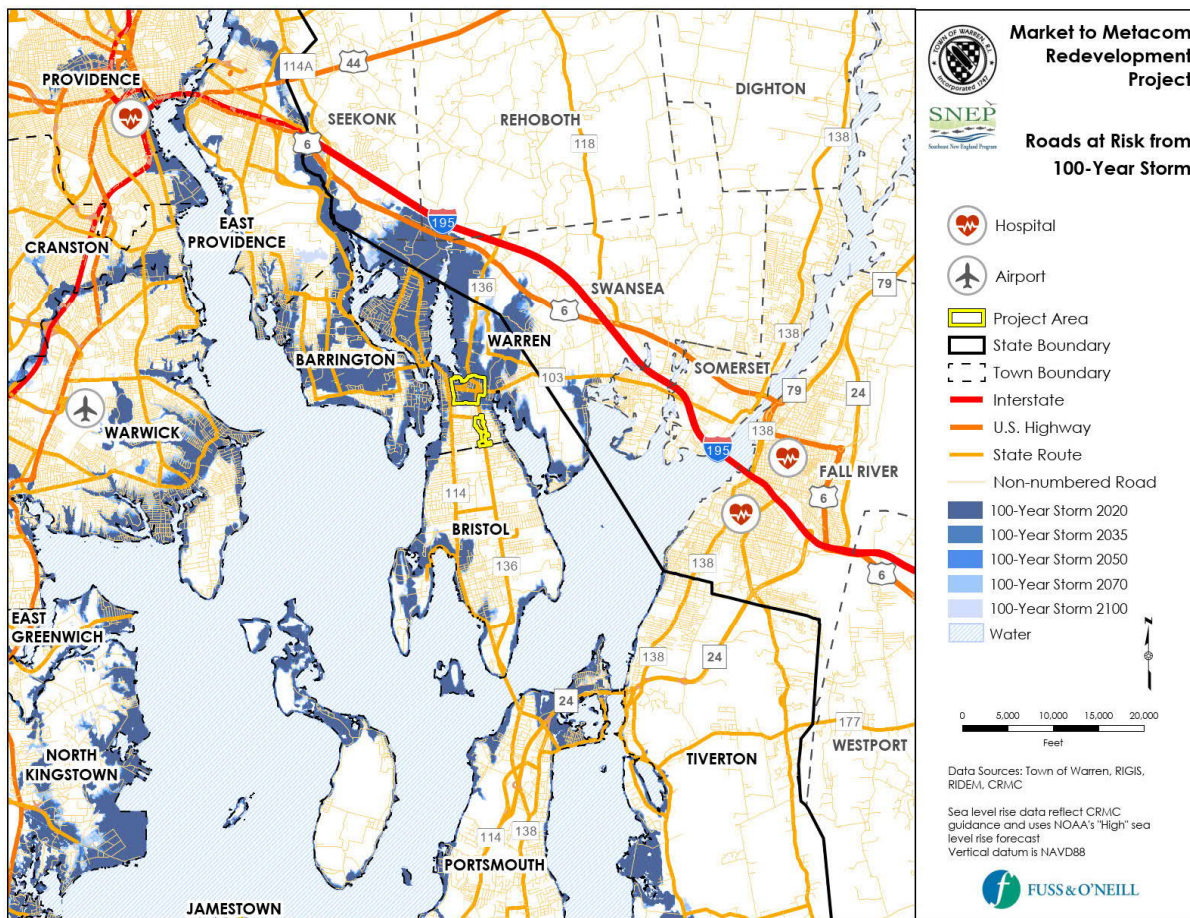


Figure 45. Major Routes at Risk from 100-Year Storm Impacts

7.2.3.1 Impassible Roads

During 100-year storm events, many of the roads in the project area are predicted to be flooded by the year 2035. Market Street at Redmond Street is predicted to be flooded at high tide by 2035. Child Street and Belcher Cove Bridge are predicted to be flooded every day by 2050 due to sea level rise and tidal flooding.

As depths and extents of roadway flooding during high tides and storm events increases, impacts to traffic and public safety will worsen. If these impacted roads are not relocated or elevated to avoid or reduce flooding, traffic will need to be rerouted away from these roads during high tide on a daily basis. This will result in an inability for road users and emergency services to access properties along the affected sections of road, as well as impacting through-traffic. Several of the roads that are projected to experience increased flooding during high tide and storm events, including Market Street and Route 136, are designated as emergency evacuation routes. Closure of these roadways due to flooding eliminates essential evacuation routes for the residents of Warren and neighboring towns.

Route 136 and Child Street (Route 103) both serve as major connections between Rhode Island and Massachusetts. They also provide access to the closest major hospitals: Saint Anne's and Charlton Memorial Hospitals in Fall River and Rhode Island Hospital in Providence. If Route 136 and 103 are both impassible, it will be difficult for residents of the Market Street area to access emergency medical care at these facilities in a timely manner. Facilities in and near the project area such as fire stations, police stations, and schools may also become inaccessible during storm events. Road closures may also compound storm-related utility outages by limiting access to restore critical utility infrastructure.

Flooding within roadways causes significant risks to public safety. Ponding water within roadways is a major hazard for drivers, as well as pedestrians and bicyclists. Shallow ponding may cause vehicles to hydroplane, and deeper flooding may cause drivers to lose control and vehicles to stall or be swept away, as flood depths are often difficult for drivers to gauge. Damage to roadways and other infrastructure due to flooding also poses significant risk to road users.



Figure 46. Image of High Tide Flooding on Market Street, 2019

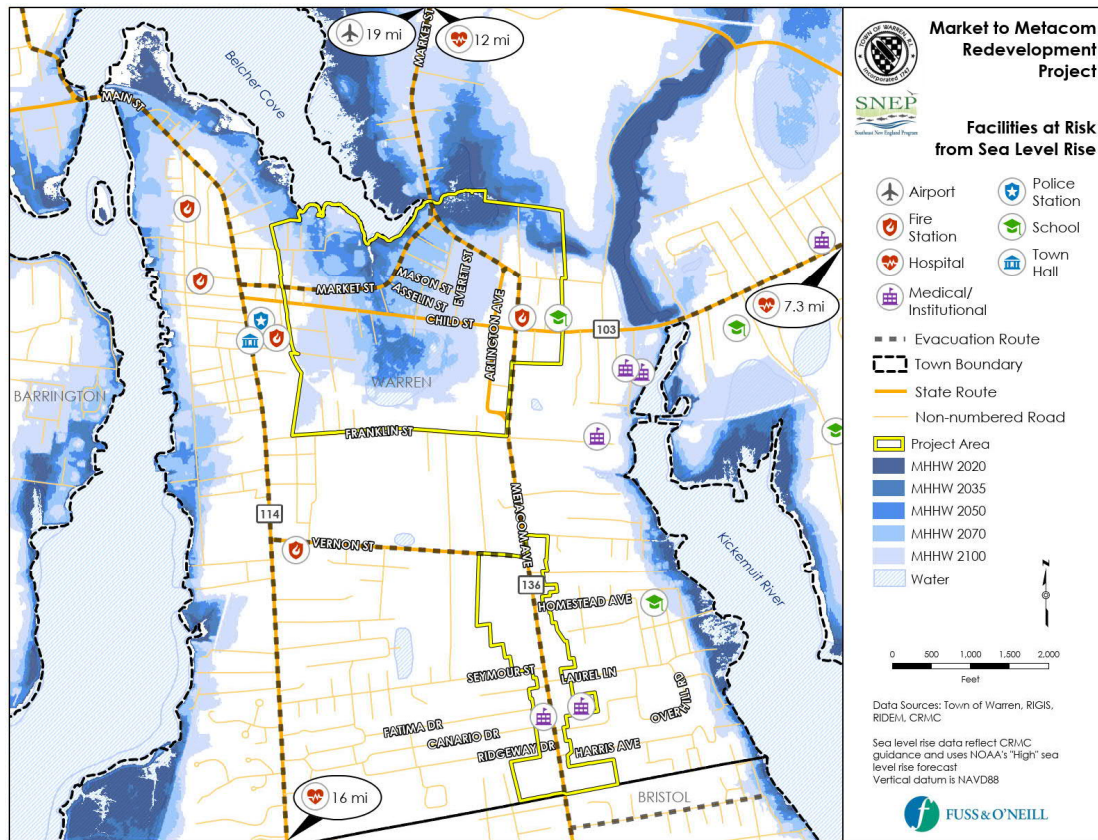


Figure 47. Emergency Facilities at Risk from Sea Level Rise

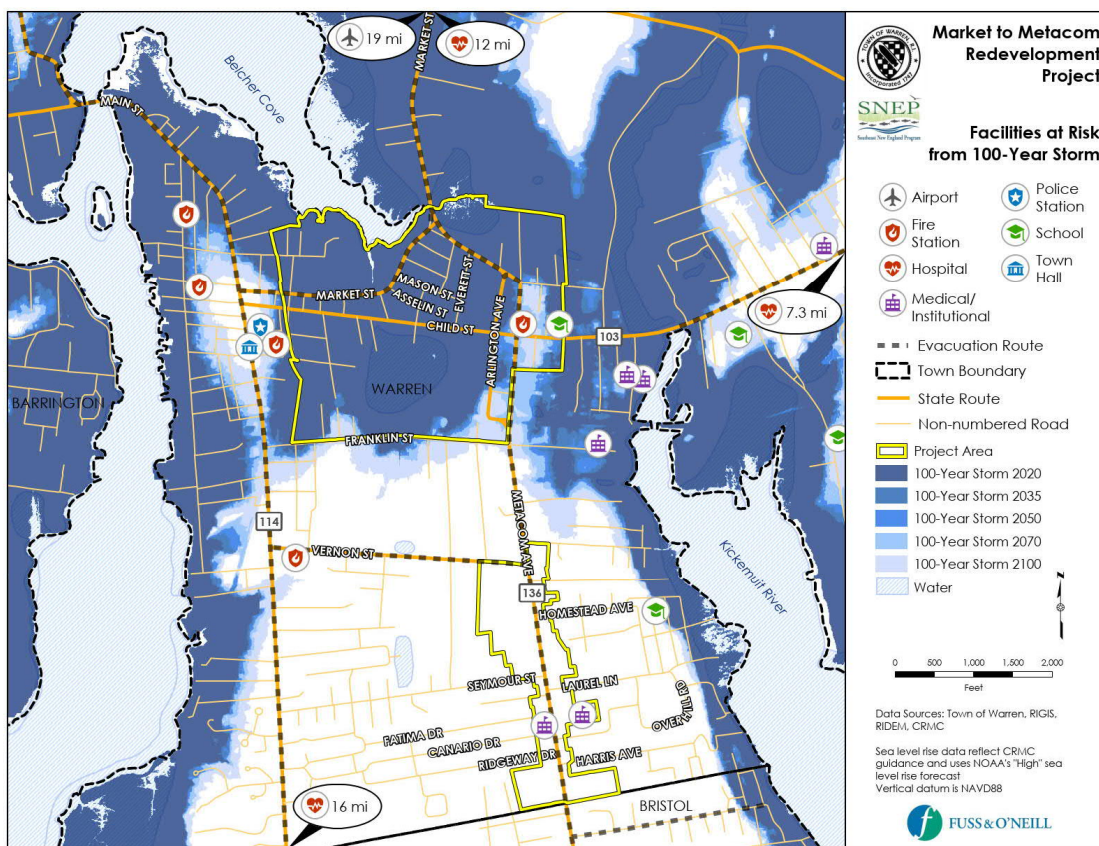


Figure 48. Emergency Facilities at Risk from 100-Year Storm

7.2.3.2 Increased Damage to Roadways, Storm Drains and Utilities

The increasing intensity and frequency of storm-related flooding in the Market Street area will exacerbate flooding impacts to roadway infrastructure. Severe flooding may cause direct damage to roadways and bridges, as upward pressure of water within pavement base materials and subsurface soils makes pavement and foundations prone to uplift. This type of roadway failure is costly to repair and can result in extended road closures. Repeated flooding also reduces pavement's overall lifespan, as flood waters increase surface pavement damage, like cracking and potholes. Accelerated deterioration of roadways caused by flooding will increase the need for routine annual maintenance costs required for state and local roadways in the area to remain operational. Flood-related failure of culverts and rupturing of stormwater systems can also cause catastrophic failure to roadways and other infrastructure.

In addition to increased needs for roadway repairs, maintenance, and reconstruction, the increasing severity of storms will result in increased costs associated with post-storm-event cleanup. Flooding causes migration of debris and sediment into roadways, which requires additional municipal maintenance to remove. In order for stormwater infrastructure to remain functional, sediment and debris will need to be removed from catch

basins and storm drains with increased frequency. Storm events may also cause roadway obstructions due to large debris and downed trees, which put additional strain on the Town's Public Work staff and funds.

7.3 Precedents for Reactive Community Response

For the most of communities in the U.S. faced with SLR and flooding from storm events, are not taking major actions to adapt on a large scale to reduce future impacts. There are many historical and recent precedents for communities struggling to recover from disastrous storm and flooding events after the fact. These communities rely largely on the after-incident responses from State and Federal agencies such as FEMA and the Department of Housing and Urban Development (HUD) for rebuilding. Typically, a successful response relies on a disaster declaration and federal appropriations of disaster recovery funds.

7.3.1 Superstorm Sandy

Superstorm Sandy hit Rhode Island in October of 2012 and caused winds up to 86 miles per hour along the coast of Rhode Island. Moderate to major coastal flooding occurred along nearly the entire Rhode Island shoreline. Most of the damage was caused by a five-foot storm surge and waves up to 30 feet in height³. In the most severely affected areas, Sandy destroyed thousands of homes, eight million residents lost electrical power and an estimated 181 people in the U.S. died due to the storm. Total property damage is estimated at a total of \$65 billion of damage.

7.3.2 Hurricane Katrina

Hurricane Katrina struck the southeastern U.S. in August of 2005. It was one of the most powerful Atlantic storms on record with up to 170 mile per hour winds. It caused a storm surge of more than 26 feet and flooded 80% of the city of New Orleans with up to 20 feet of water. Hurricane Katrina caused more than \$160 billion of damage and resulted in the deaths of 1,800 people. It is currently ranked as the costliest natural disaster in U.S. history.

7.3.3 Louisiana Bayou Communities

Many bayou communities along the coast of Louisiana face repeated flooding and massive damage from hurricanes. One community of 3,700 residents called Pointe-aux-Chênes was devastated by Hurricane Ida in late August 2021. After the storm, 80% of the homes in the area were uninhabitable and the entire community was left without power or running water and the community has faced similar damage from other storms in the past. Many residents raised their homes 12 feet off the ground when they rebuilt after hurricane Katrina in 2005, but they were unable to avoid the damage caused by hurricane Gustav in 2008, hurricane

³ https://www.weather.gov/media/box/science/Sandy_summary_BOX.pdf accessed 9/24/21

Isaac in 2012 and again by hurricane Ida in 2021.⁴ This type of repetitive loss may become more frequent in the future and there is uncertainty if Federal and State programs will have the capacity to support rebuilding given the likelihood of more severe storms in the future.



Figure 49. Flooding in Louisiana on August 30, 2021, caused by Hurricane Ida
(Source: Washington Post)

⁴ <https://www.wsj.com/articles/after-hurricane-ida-louisiana-bayou-community-contemplates-moving-or-rebuilding-11631439002> - accessed 10/15/21

8 Phased Relocation and Restoration Scenario

8.1 Overview and Assumptions

The Phased Relocation and Restoration Scenario seeks to avoid the negative impacts that would occur under the No Action scenario. This scenario involves taking proactive steps to adapt and make Warren more resilient to climate impacts. This scenario involves the relocation and restoration of properties in the Market Street project area. It is divided into four phases over the next fifty (50) to seventy (70) years. In each phase, the owners of properties at risk of repetitive flooding and storm damage would be offered the opportunity for a buy-out of their property at fair market value. This would allow owners to utilize their financial equity in the purchase of a new residence in a safer location of their own choosing.

The buildings on the buy-out properties would be demolished and the foundations, driveways, utilities and other site improvements removed. Local streets within the area of projected flooding that are no longer serving as access to existing residents or as regional transportation connectors would be removed. The Market Street project area would be redeveloped as a restoration area that provides recreation and/or coastal access, flood storage, and coastal buffering. Reuse of this area, for example as a floodable park, would significantly reduce the threat to life and property associated with both chronic sea level rise and the impact of coastal storm events.

Consistent with the information presented in earlier sections, SLR impacts are estimated for four time periods between 2025 and 2100 in this analysis:

- 1.75 foot by 2035,
- Three (3) feet by 2050,
- Five (5) feet by 2070 and
- Nine (9) feet by 2100.

The total cost of each phase of relocation and restoration has been estimated on an order of magnitude scale, and is the sum of the cost to acquire the properties, demolish the existing buildings on the properties, remove existing utilities, and clear and restore the land to wetlands.

- The costs of acquiring properties within the project area are assumed to be consistent with their current tax assessed values.
- The costs to demolish the existing buildings are based on per square foot demolition cost estimates from R.S. Means Construction Cost Estimating Service. Quantities of building square footages to be demolished are based on the building area provided by the Warren tax assessors database.
- Costs for removal of water supply and sewer lines are based on cost estimates from R.S. Means Construction Cost Estimating Service. Quantities for removal of water supply and sewer lines are based on estimates of main and service line lengths from the Town of Warren GIS mapping.
- Costs for clearing non-building site improvements and restoring the area with native species . Quantities of land area for clearing and replanting are based on the lot area of the properties within the specific scenario phases from the Warren tax assessors database

Government-led acquisition and removal of flood-prone properties are often known as floodplain buyouts programs and are frequently used by communities to reduce future flood damages. Funding sources are available from several existing Federal and State programs, such as the Hazard Mitigation Assistance programs of the Federal Emergency Management Agency (FEMA) including Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC) and Flood Mitigation Assistance Grant Program (FMA). There are some restrictions to these programs; they can take a lengthy amount of time to secure funding and implement buyouts. Some funding sources are limited to areas identified in FEMA's often outdated federal flood maps and others are restricted for use on properties that have already suffered documented flood damage. Under these programs, FEMA has funded over 40,000 buyouts across the United States since the 1980s.

There are additional programs through the Environmental Protection Agency (EPA) through its Pre-Disaster Mitigation Grants, the Department of Housing and Urban Development (HUD), the Army Corps of Engineers (ACE) and Natural Resources Conservation Service (NRCS). Many of the Federal programs require a match from non-Federal sources, frequently 25%. Locally, Rhode Island offers funding for coastal adaptation through the RI Infrastructure Bank and its Municipal Resilience Program. There are also multiple programs available for improvements to the water supply, sewer and stormwater management systems through Federal and State agencies.

Locally, Warren can establish a Tax Incremental Financing (TIF) program from future tax income from redevelopment within Metacom Avenue corridor. This is an opportunity to link the separate issues in Market Street area and Metacom Avenue corridor together and use the opportunity to help fund the capital costs of property buy-outs with adaptation activities and infrastructure improvements.

8.2 Relocation and Restoration Phases and Costs

8.2.1 Phase 1 (2025-2035)

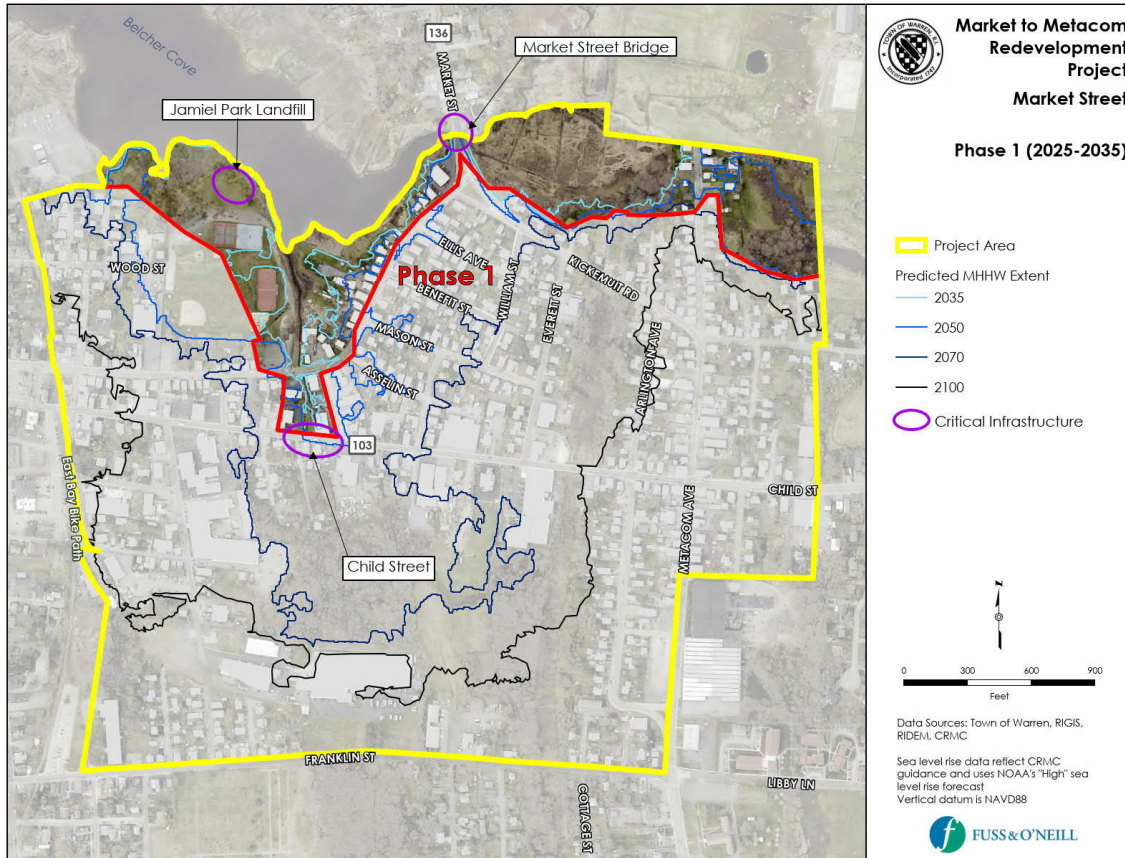


Figure 50. Phase 1 Plan (2025-2035)

Table 16 – Summary of Phase 1

Number of Properties	58
Number of Buildings	31
Property Acquisition Cost	\$9,400,000
Demolition Cost	\$2,800,000
Utility Removal Cost	\$700,000
Site Clearing and Restoration Cost	\$2,000,000
Total Cost	\$14,900,000
Federal Funding	\$11,200,000
Local/Private Funding	\$3,700,000
Lost Annual Tax Revenue	\$200,000

8.2.2 Phase 2 (2035-2050)

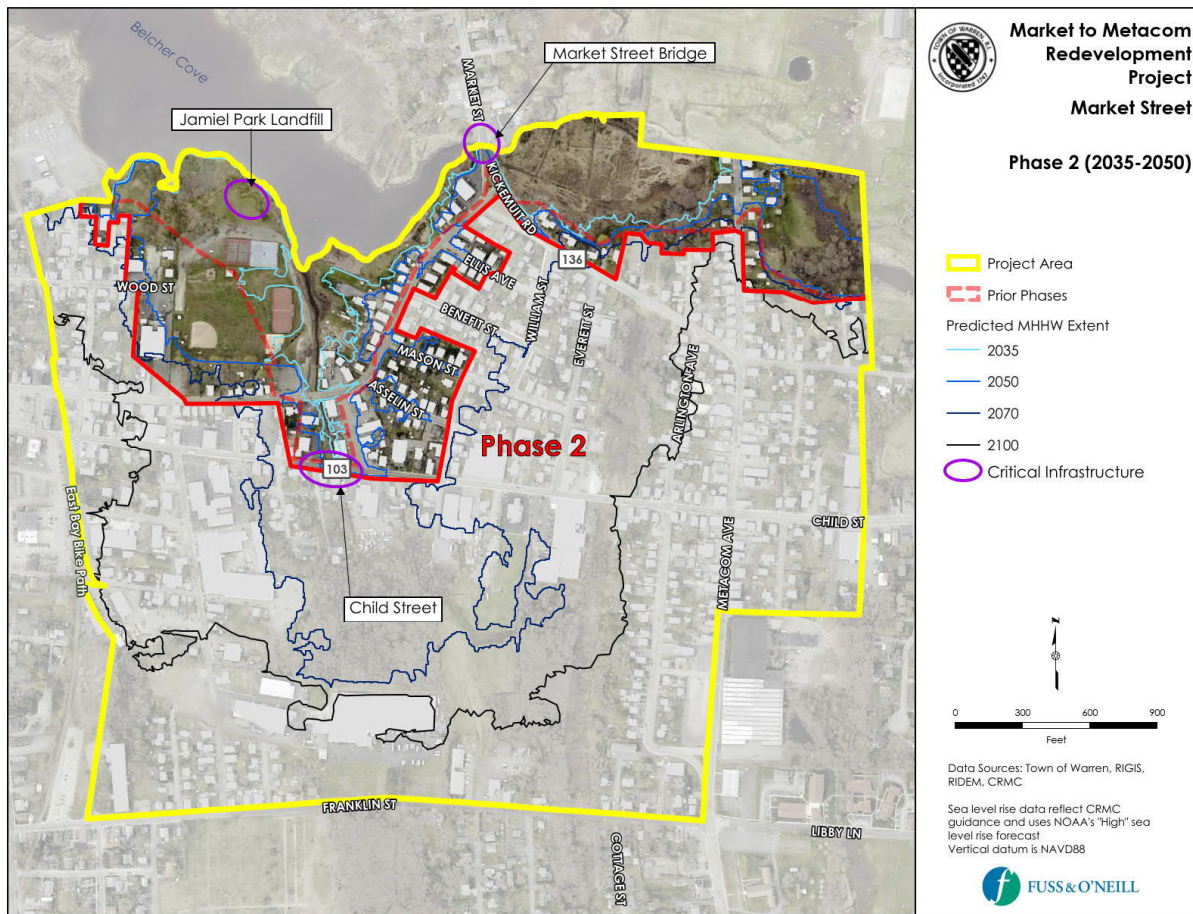


Figure 51. Phase 2 Plan (2035-2050)

Table 17 – Summary of Phase 2

Number of Properties	75
Number of Buildings	65
Property Acquisition Cost	\$17,500,000
Demolition Cost	\$5,800,000
Utility Removal Cost	\$400,000
Site Clearing and Restoration Cost	\$900,000
Total Cost	\$24,600,000
Federal Funding	\$18,400,000
Local/Private Funding	\$6,200,000
Lost Annual Tax Revenue	\$300,000

Phase 3 (2050-2070)

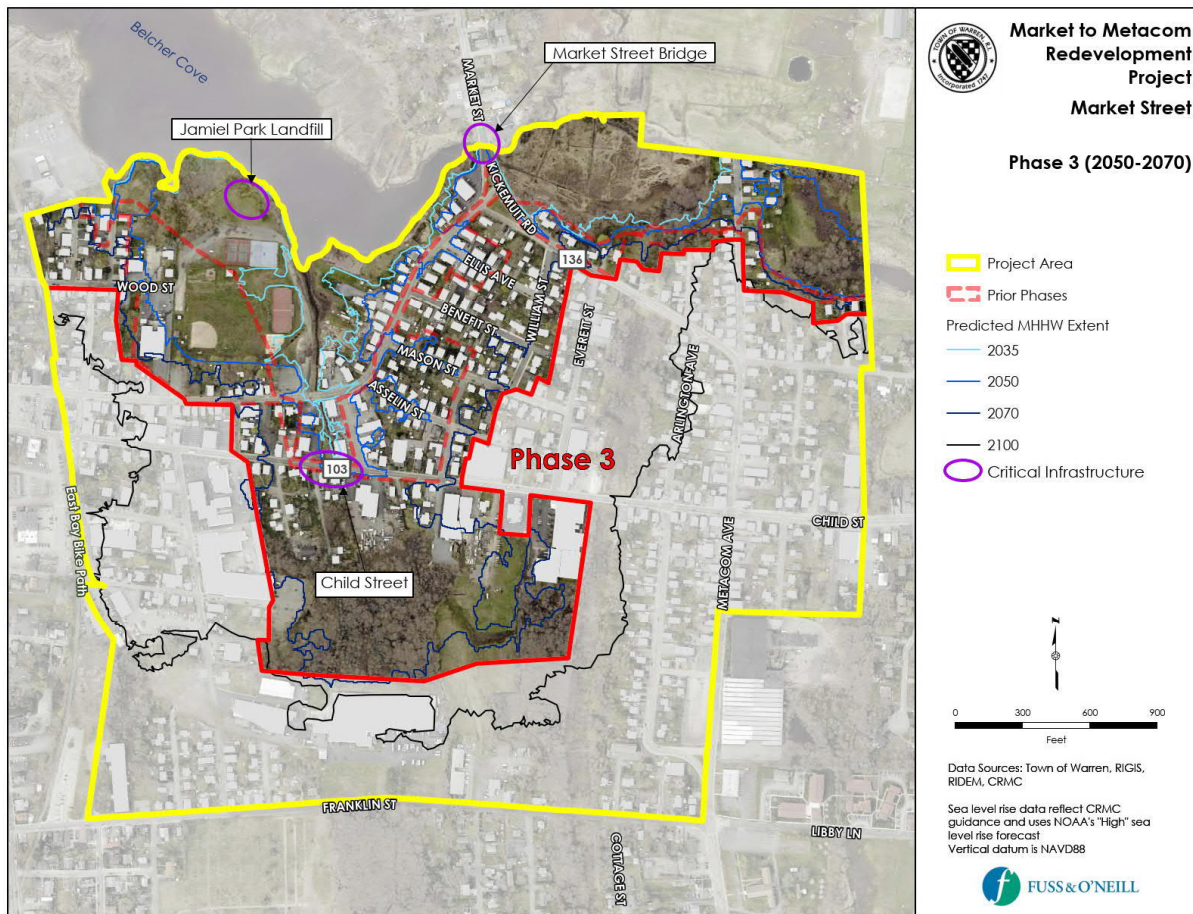


Figure 52. Phase 3 Plan (2050-2070)

Table 18 – Summary of Phase 3

Number of Properties	113
Number of Buildings	92
Property Acquisition Cost	\$24,500,000
Demolition Cost	\$9,000,000
Utility Removal Cost	\$800,000
Site Clearing and Restoration Cost	\$2,300,000
Total Cost	\$36,600,000
Federal Funding	\$27,500,000
Local/Private Funding	\$9,100,000
Lost Annual Tax Revenue	\$400,000

Phase 4 (2070-2100)

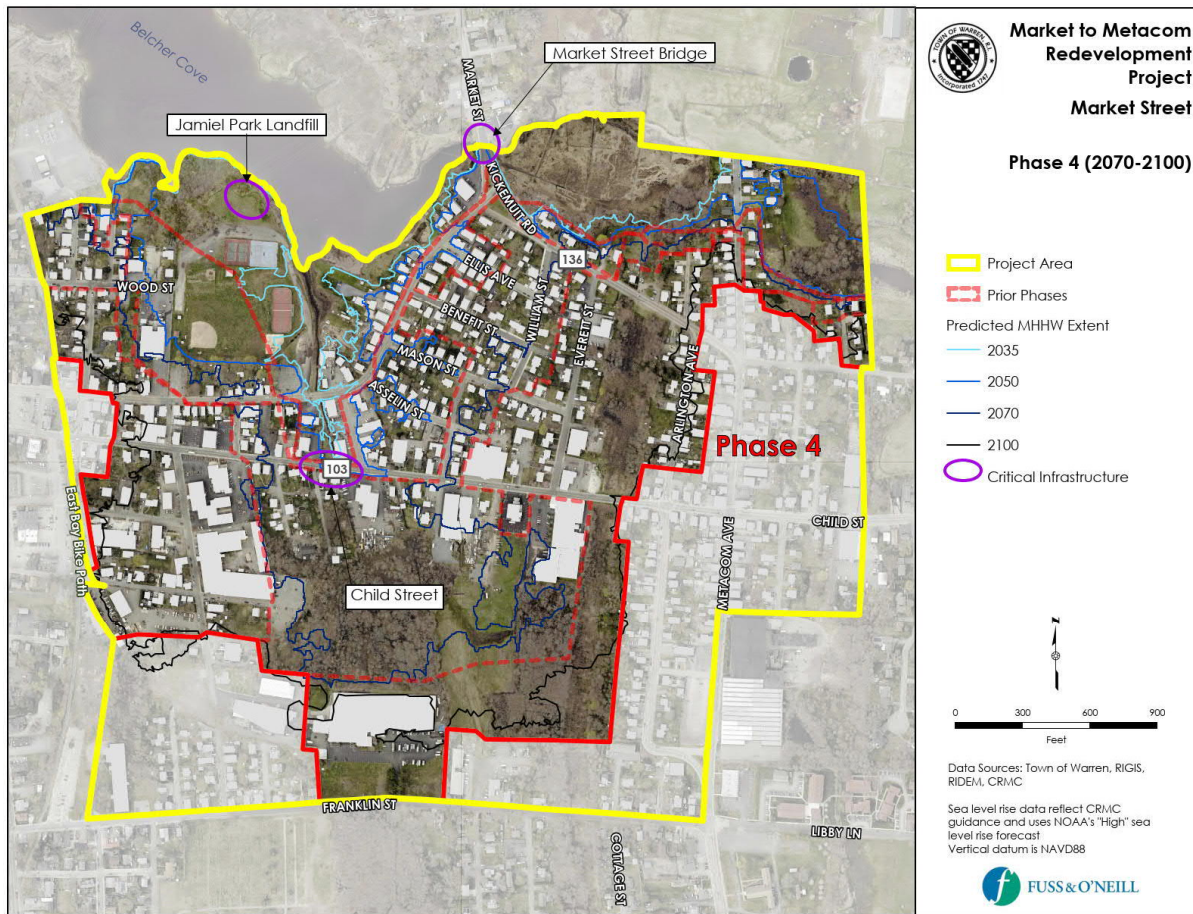


Figure 53. Phase 4 Plan (2070-2100)

Table 19 – Summary of Phase 4

Number of Properties	137
Number of Buildings	118
Property Acquisition Cost	\$39,700,000
Demolition Cost	\$18,800,000
Utility Removal Cost	\$1,100,000
Site Clearing and Restoration Cost	\$2,500,000
Total Cost	\$62,100,000
Federal Funding	\$46,600,000
Local/Private Funding	\$15,500,000
Lost Annual Tax Revenue	\$700,000

8.2.3 Summary of Phased

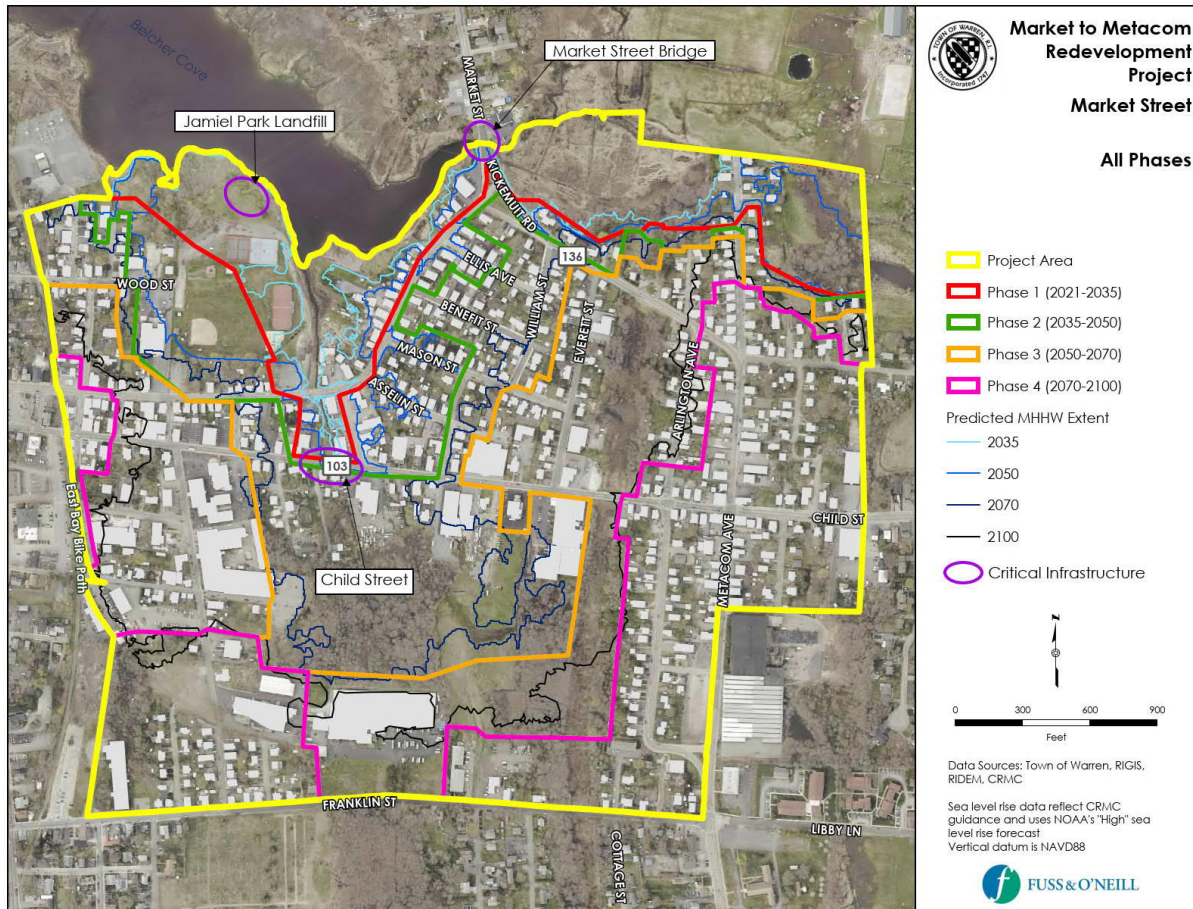


Figure 54. Overview of All Phases

8.3 Utility Adaptation

In addition to the parcel-based utility service removals included in the above Phase 1 through 4 cost estimates, utility mains within each of the roadways will need to be considered as part of the phased retreat planning process. Existing utilities within the Market Street project area include sanitary sewer, water, overhead electric, and drainage infrastructure. Each of the public rights-of-way within the project area have public sanitary sewer and water mains, as well as overhead power lines operated by National Grid. Several drainage structures and pipes exist within the project area. One drainage outfall discharges to Belcher Cove northwest of Jamiel's Park. Two additional drainage outfalls exist just north of Franklin Street.

Utility main removals will need to consider the connectivity of utilities beyond the boundaries of each phase, including areas outside of the project area that are serviced by these mains. Phasing of utility removals, realignments, and/or modifications may be separate from the four phases discussed above. For example, large areas north and east of the Market Street project area rely on the sewer mains within Market Street and Child Street. The Wood Street pump station also serves the majority of the Market Street project area, and thus, will be a critical component of the utility planning for this area and resilience-planning for other areas of Warren. Some of the utility mains within local roadways, such as Mulberry Street, may be removed during the roadway removal associated with their respective phase of retreat. Further assessment of utilities will be required and will need to be coordinated with roadway removals/realignments to ensure that utilities remain operational and accessible until utility relocation and/or adaptation can be achieved.

8.4 Environmental Impacts

There are several potential positive environmental impacts of the Relocation and Restoration Scenario.

- The removal of environmental contaminants that are stored in the project area can result in significant risk reduction, avoiding the potential environmental damage that may result during flooding events. There are more than thirty (30) fuel and chemical tanks and twelve (12) underground storage tanks and one RIPDES Sanitary Waste Site, according to the list of RIDEM-regulated facilities. There are an estimated 200 unregistered domestic fuel oil tanks as well as storage of household chemicals and fuel containers.)
- The removal or encapsulation of the landfill at the Town-owned Jamiel Park can prepare the site for future inundation and avoid potential pollution impacts.
- The removal of impervious cover from the areas of relocation has the potential to improve water quality by filtering stormwater runoff through reestablished negotiated wetland areas and associated stormwater control structures.
- The reestablishment of natural vegetated and wetland areas between the remaining developed areas and adjacent bodies of water creates habitat for a variety of species as well as a natural buffer to minimize wave action and flood storage areas that can protect remaining residences, businesses, infrastructure, and roadway/transportation connections.

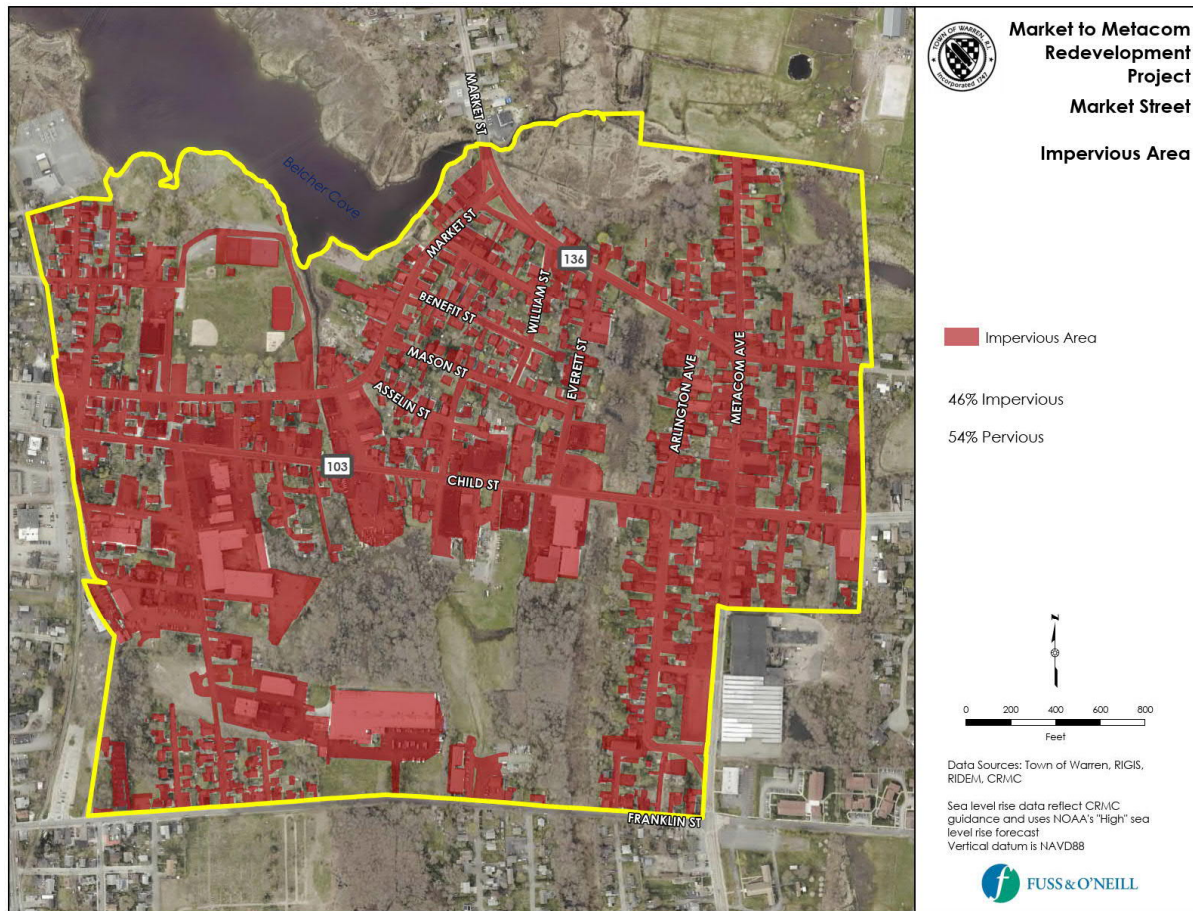


Figure 55. Impervious Area within the Market Street Project Area

Table 20 – Impervious Area Removed and Vegetated Area Created Phase

Phase	Impervious Removed			Vegetated Area Created (acres)
	Area of Impervious Surfaces Removed (acres)	% Roofs	% Pavement	
Phase 1	8	33%	67%	34
Phase 2	10	55%	45%	21
Phase 3	17	49%	51%	42
Phase 4	29	60%	40%	56
Total	63	53%	47%	153

These quantities are based on the assumption that Route 103 and Route 136 will remain but all other roads and buildings within the phase areas will be removed and revegetated.

8.5 Recreational Value of Revegetated Land

The revegetated land created in the Relocation and Restoration Scenario has the potential to provide recreational as well as environmental benefits to the community. Conceptually, the land would be utilized as an accessible recreation and conservation area. Site design would include elevated walking paths and view platforms to observe the natural scenery and views to Belcher Cove. The paths would provide recreational opportunities for the community including walking, running, and bird watching. A kayak launch is proposed to provide access to Belcher's Cove. The figure below shows a conceptual plan for the marsh park that could be constructed following the 2070 phase of the relocation and restoration plan.



Figure 56. Conceptual Plan for Market Street Area in 2070

Recreation area similar to the one proposed in this plan already exist in several locations along the coast of New England. An example of a similar park can be seen at the Cape Cod Marsh Walk. The park's trail network provides views of a salt marsh, barrier beach, pine woodlands, and a harbor. The wildlife sanctuary attracts visitors with an educational nature center and excellent opportunities for bird watching. Another example of a marsh park can be seen at Ocean View Farm Reserve in Dartmouth, MA. This park overlooks a coastal salt pond system that is recognized as one of the most significant coastal habitats in Southern New England. The reserve provides views of Buzzard's Bay as well as a protected space for grassland birds and migratory songbirds.



Figure 57. Images of the Cape Cod Marsh Walk

8.6 Precedents

8.6.1 Gloucester County, Virginia

Gloucester County, Virginia has been repeatedly flooded by storms, especially the Guinea area residing in the low-lying southeast portion of the county. After the damage caused by Hurricane Isabel in 2003, the county enrolled in FEMA and VDEM Hazard Mitigation Grants to establish a voluntary property acquisition and home elevation program. The goal of this program was to reduce potential loss of life and property by assisting residents in relocating to safer, less flood-prone areas.



Figure 58. Image of Flooding in Gloucester County, Virginia

The County-run program ran from 2003 to 2016 and utilized FEMA grants to acquire properties and assist with elevating houses. Property owners were able to voluntarily enroll in the program to either sell their properties to the County or receive financial assistance to elevate their homes. The owners who elected to sell their properties to the County received the properties' pre-storm market value. The structures on the acquired properties were demolished and septic tanks were crushed or filled, and the land was placed under the management of the County's Open Space Hazard Mitigation Plan. Funding for the property acquisition and home elevation program included \$11 million in grant money between 2003 and 2016. Property owner requests for assistance exceeded the funds available, prompting the County to prioritize repetitive flood loss properties and residential properties. A total of 59 buildings were removed and over 57 buildings were elevated through the program. As a result, more than 100 acres of flood-prone land was converted to open space.⁵

⁵ <https://vims-wm.maps.arcgis.com/apps/MapJournal/index.html?appid=bea8d4142fcf47bc90078e845e296d64#>

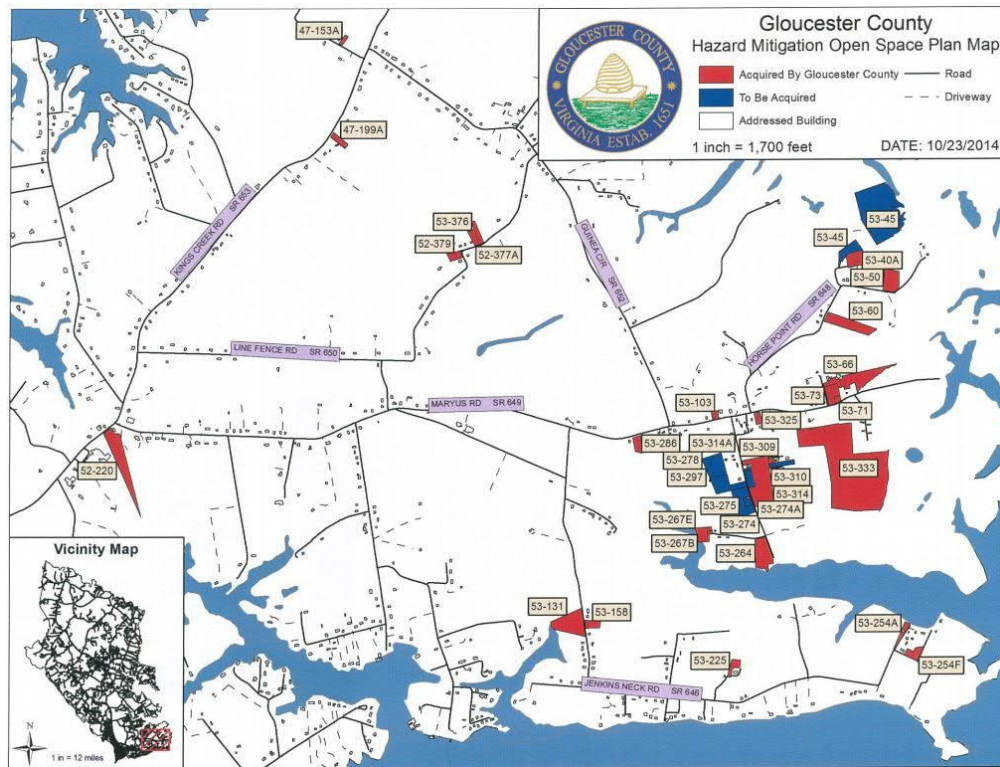


Figure 59. Gloucester County Buy-Out Map

Onion Creek, Austin, Texas

The Onion Creek watershed is one of the largest watersheds in Austin, Texas. The creek received rainfall from 344 square miles of land, producing deep flood flows in the downstream sections of the creek. Much of the development along the downstream portion of Onion Creek occurred before current floodplain regulations were established and before the full breadth and depth of the floodplain was determined. As a result, many of the homes in the area were constructed within the floodplain and are subject to severe repeated flooding.



Figure 60. Image of Flooding in Austin, Texas

In response to flooding in October 2013, the City of Austin initiated a study of the Onion Creek watershed and a feasibility study for the area was completed in 2017. This study recommended buyouts for 138 houses in the Onion Creek area to mitigate flood risk. The buyout project was divided into a recovery phase and phases one through three. The recovery and phase one buyouts are complete and included the purchase of 58 of the 59 homes indicated for the first phase. Phase two indicated 79 homes for buyouts and was approved by the City Council in March of 2019. The second phase is currently in-progress with 70 homes purchased as of July 2021. Phase three includes the buyout of eight homes that may become isolated by the buyout of neighboring properties. This phase was approved in March of 2019 and as of July 2021, the City has purchased two of the homes.

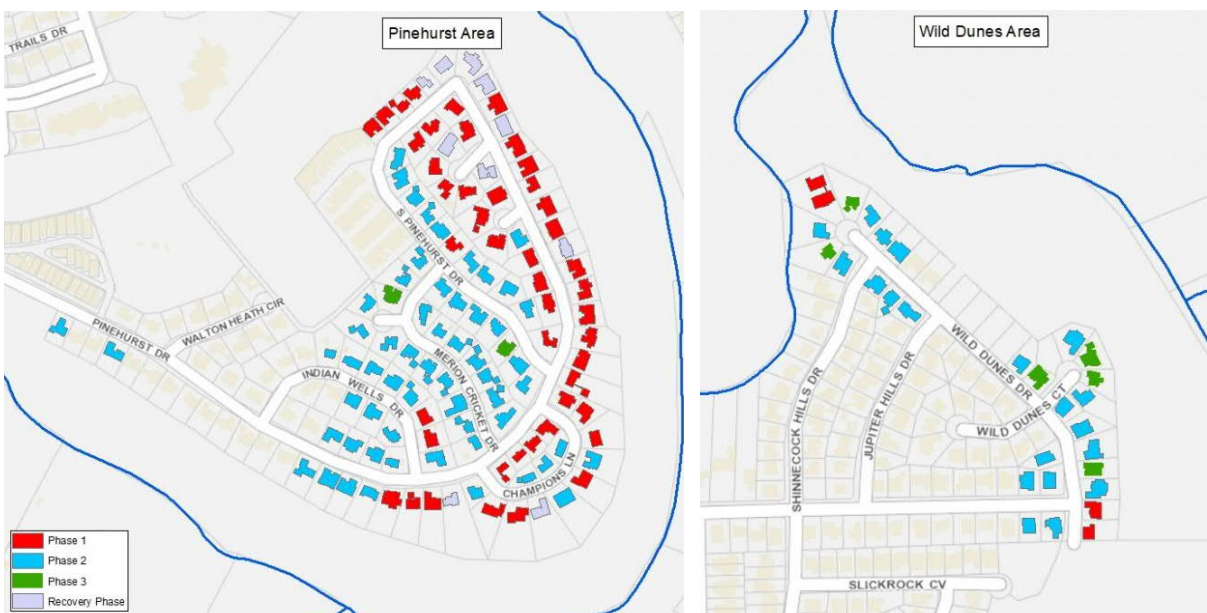


Figure 61. Onion Creek Buy-Out Map

The buyout program prioritized acquisition of homes based on their risk of structural flooding, proceeding from the highest risk to the lowest risk as funding became available. The estimated cost for the project is \$77,500,000 and the estimated annual operation and maintenance cost for the land is \$105,000. These estimates include real estate services, appraisals, acquisition costs, relocation/moving expenses, asbestos testing/abatement, demolition, and property management.

The homes purchased through this program are demolished and foundations, walkways, driveways, and utility lines are removed to the edge of the right of way. The lots are then regraded and revegetated, and the land is designated for open space. Over 290 acres of Onion Creek flood zone has been acquired and converted to open space so far. The purchased properties have been added to the City's vegetation control schedule for regular mowing during the growing season. The City plans to work with the neighborhood to develop plans for the land in the future. Possible options being considered include nature trails, community gardens, wildflower meadows, and open space. ⁶

⁶ <http://www.austintexas.gov/departments/upper-onion-creek-flood-risk-reduction-project> accessed 9/15/21

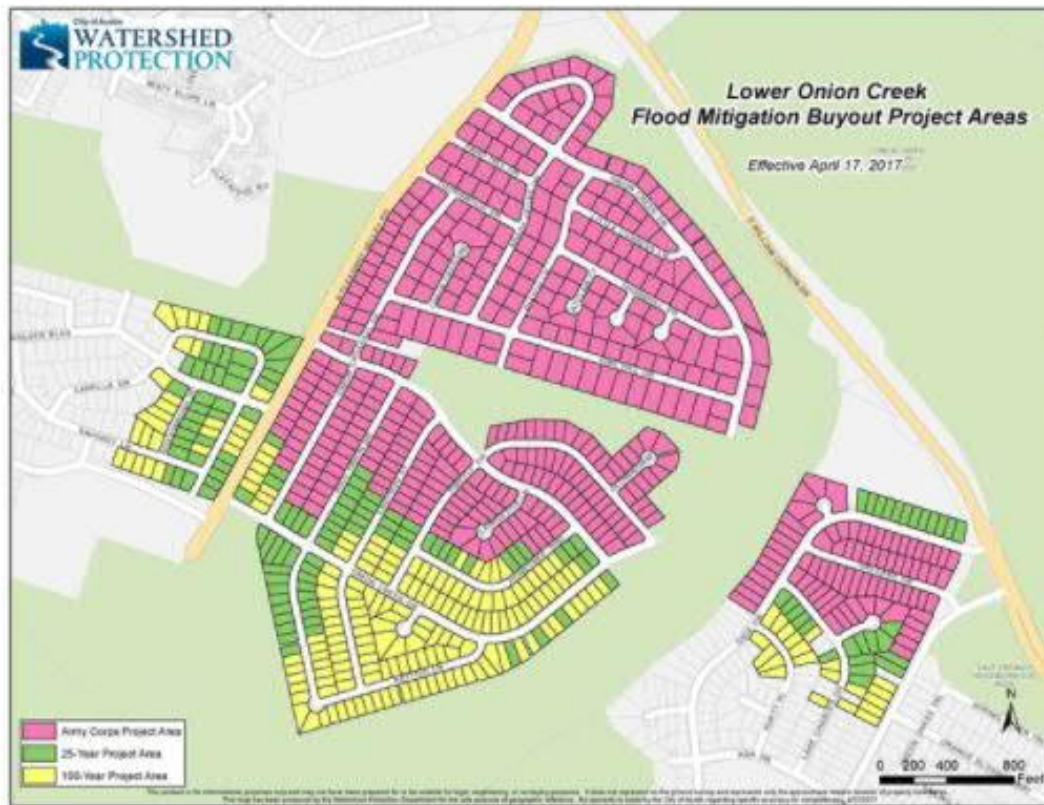


Figure 62. Onion Creek Buy-Out Map

Warwick, Rhode Island

As sea levels rise and storms hit the Warwick coastline, streets that once led to the beach are now dangerously close to high tide. These roads are vulnerable to erosion and flooding and convey untreated stormwater directly to the Narragansett Bay. The marshes at the ends of several dead-end roads have already eroded and past hurricanes have crumbled the pavement at these sites. In the summer of 2014, Save the Bay worked with the City of Warwick to remove pavement at the end of five dead-end roads along the Bay. After the pavement was removed, filter strips were installed to slow and filter road runoff. These filter strips will reduce the flow of pollutants into the Bay. The restored coastal areas were planted with grasses and incorporated improved public access to the shore. The end of road retrofits improved coastal habitat, coastal protection, and public access while reducing stormwater pollution and road maintenance. The retrofits cost \$5,000 to \$10,000 per road and could be implemented in similar locations throughout Warwick.



Figure 63. Image of End of Road Retrofit Construction on Mill Cove Road

This project was funded by a \$1 million National Oceanic and Atmospheric Administration (NOAA) grant. This grant also funded the recontouring of the beach at City Park after Hurricane Irene. The storm eroded the beach, damaging the boardwalk and overlook. The damaged structures were removed, and the beach was pulled back.⁷

⁷

<https://johnstonsunrise.net/stories/end%20of%20road%20projects%20respond%20to%20rising%20sea%20level.94200> accessed 9/15/21

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8.6.2 Brookhaven, NY

In 2019, the Audubon Society received a grant to support wetland restoration in partnership with the Town of Brookhaven, NY. The area includes Mastic Beach which was severely impacted by Superstorm Sandy and continues to be impacted by sea level rise. The wetland restoration project is part of a larger ongoing multi-faceted coastal retreat and floodplain restoration on the 7,600-acre Mastic Beach/Shirley peninsula. Restoration will target priority coastal habitat to return the area to a tidal marsh and remove portions of a coastal road that regularly floods due to sea-level rise. Funding came from the National Coastal Resilience Fund and the total project cost was \$488,944.



Figure 64. Image of Flooded Roadway at Mastic Beach

8.7 Implementation

8.7.1 Recommendations for Actions

In order to affect change in the Market Street Project area, the Town of Warren, in partnership with State, Federal and regional partners should take the following actions:

- Educate property owners about impending climate change impacts and their role in the process
- Prepare for increased impacts from storm and flooding events
- Update Comprehensive Community Plan for Market Street including language to support goals for:
 - property buyouts and retreat in Market Street area
 - increased resilience for evacuation routes and regional transportation connections
- Amend local zoning ordinance for Market Street
 - Risk reduction through strict zoning and building height policies
 - Limitations on hazardous materials storage in flood zones
- Advocate for supportive State actions
 - RIDOT adapts vulnerable sections of Routes 136 and 103 to withstand sea level rise and storm events and potentially become part of flood control system
- Secure funding for property buyout programs from State and Federal sources
- Set up property buyout programs
- Set up redevelopment agency to facilitate actions to achieve Comprehensive Plan goals
- Remove infrastructure and utilities as property buyouts occur

8.7.2 Funding Sources

Warren and its partners at the State and Federal levels should establish partnerships and seek funding from programs and funding sources who share the mission of risk reduction and adaptation to climate change impacts. This includes the following sources of potential funding:

- Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance programs
 - Hazard Mitigation Grant Program (HMGP),
 - Building Resilient Infrastructure and Communities (BRIC) and
 - Flood Mitigation Assistance Grant Program (FMA).
- US Environmental Protection Agency (EPA) Pre-Disaster Mitigation Grants
- Department of Housing and Urban Development (HUD)
- US Army Corps of Engineers (ACE)
- Natural Resources Conservation Service (NRCS)
- RI Infrastructure Bank
 - Municipal Resilience Program
 - Water supply infrastructure financing and grants
 - Wastewater infrastructure financing and grants
 - Stormwater infrastructure financing and grants
- Tax Incremental Financing (TIF) program

9 Metacom Avenue Corridor Redevelopment Scenario

9.1 Overview

Due to its higher elevation, the Metacom Avenue project area lies outside of the area subject to flooding as a result of both sea level rise and 100-year storm events through 2100. See [Figures X and X](#) below.

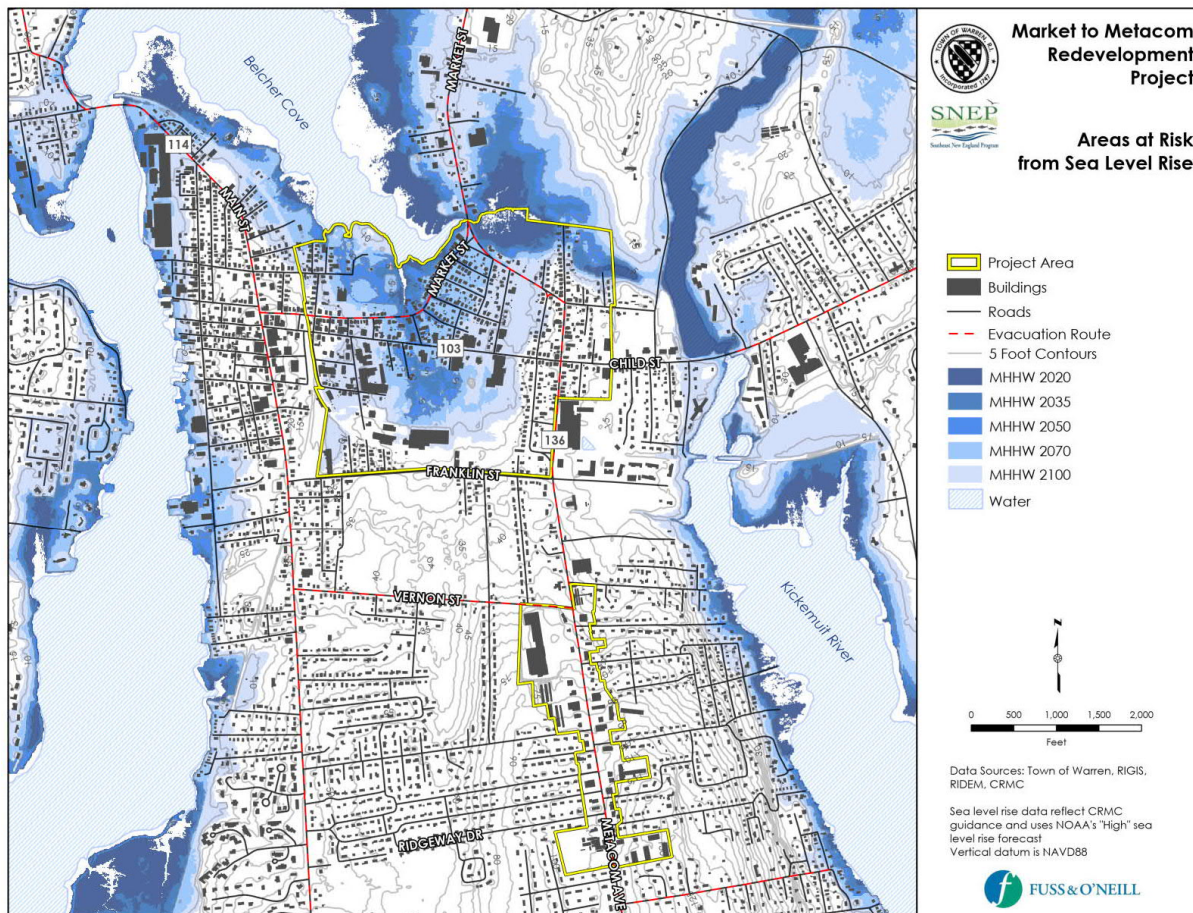


Figure 65. Project Area Topography and Sea Level Rise

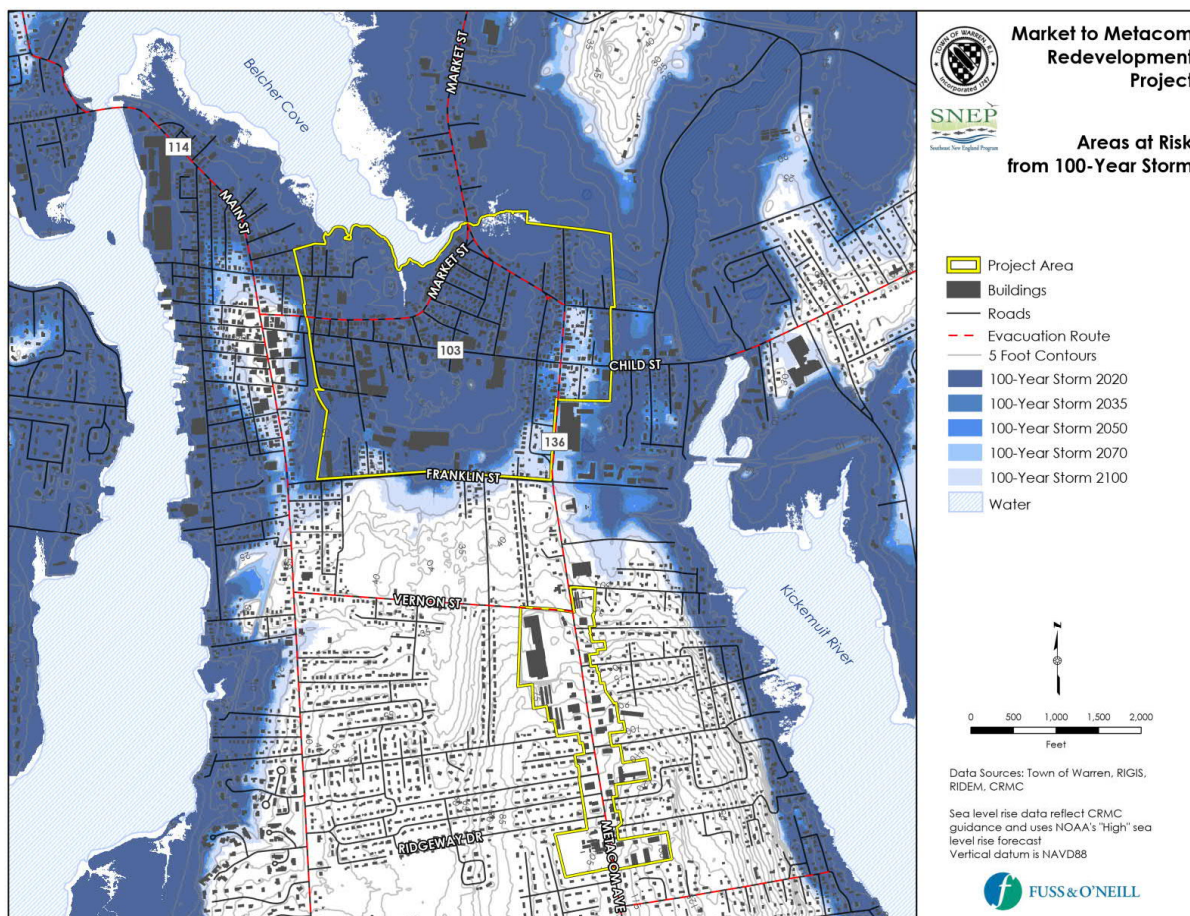


Figure 66. Project Area Topography and 100-Year Storm

The Metacom Avenue corridor has very low risk from flooding due to its location on an elevated ridge. This makes it an ideal location for redevelopment and a replacement of housing units and business that may be relocated from the Market Street area. The current development of the Metacom Avenue consists primarily of strip retail commercial buildings and parking lots, which lack a sense of place, connectivity, and pedestrian and bicycle-inclusive infrastructure. The Metacom Avenue Corridor Redevelopment Scenario reimagines this area as a denser mixed-use center, which interfaces gradually with the surrounding residential neighborhoods.

This Scenario would involve Town changes to the Zoning Ordinance to create a new framework for redevelopment focused on form-based code rather than dimensional and use-based zoning. The code would permit mixed-use/residential uses within this area and allow for increased density within the form-based guidelines. The goal would be to encourage replacement of large parking lots and strip retail with development that improves the streetscape and overall character of the built environment within this vital corridor of the Town.

This Scenario also presents an opportunity for improved stormwater management within this project area. The majority of precipitation that falls on impervious surfaces in the Metacom project area is captured by conventional stormwater infrastructure and directed to the Kickemuit River. Approximately 76% of the total project area, including roadways, is impervious. Most redevelopment projects within this area would be required to conform to current (or improved) Zoning, which would likely result in increased pervious area/green space. Redevelopment projects would also be required to conform to RI Water Quality Regulations and the Town's Stormwater Regulations. This will require projects one-acre or larger obtain a Rhode Island Pollution Discharge Elimination System (RIPDES) permit and construct stormwater management systems which provide treatment of stormwater prior to discharging it to the Town's storm drain system and the Kickemuit River.

In addition to existing regulations, this Scenario could involve improved Town Stormwater Regulations to require increased stormwater management treatment for redevelopment projects in this corridor. Under RI Water Quality Regulations, projects which qualify as "redevelopment" have reduced water quality requirements, as well as exemptions from several of the Minimum Standards of the Rhode Island Stormwater Design and Installations Standards Manual. However, in order to maximize the water quality improvement impacts that are possible in this Metacom Avenue corridor, full treatment of the water quality volume (one-inch of runoff from proposed impervious areas) could be required under a more stringent local stormwater regulation.

9.2 Roadway and Utility Reconfiguration

Metacom Avenue currently consists of four travel ways, each eleven feet wide, with a one-foot paved shoulder and five-foot-wide sidewalk on each side. The current configuration is vehicle-centric and there is currently no bike lane within this section of Metacom Avenue.

The width of Metacom Avenue presents an opportunity to reconfigure the roadway to accommodate bicycles, and incorporate a center turning lane. The resulting roadway would consist of two eleven-foot wide travel lanes, one 12' wide turning lane, and two six-foot wide accessible shoulders. Existing five-foot wide sidewalks would be improved to be more accessible. This configuration would allow existing curb lines to be maintained and would not require relocation of stormwater infrastructure or utilities. Costs for this type of reconfiguration are typically moderate, since the main changes are to lane striping and signage while paved surfaces are maintained in their existing configuration.

This type of alternate road configuration has traffic calming effects and is associated with vehicular and pedestrian safety improvements. The center two-way left-turn lane (TWLTL) would allow for reduced traffic disruption related to vehicles turning off this dense portion of Metacom Avenue. The reduction in number of travel ways also improves the ability for vehicles to make left turns across traffic. A study conducted by The Federal Highway Administration showed significant reductions in head-on and rear-end crashes resulting from installation of TWLTLs. TWLTLs may reduce head-on collisions by creating a buffer between travel lanes.⁸

⁸ Safety Evaluation of Center Two-Way Left-Turn Lanes on Two-Lane Roads
<https://www.fhwa.dot.gov/publications/research/safety/08046/index.cfm> accessed 9/12/21

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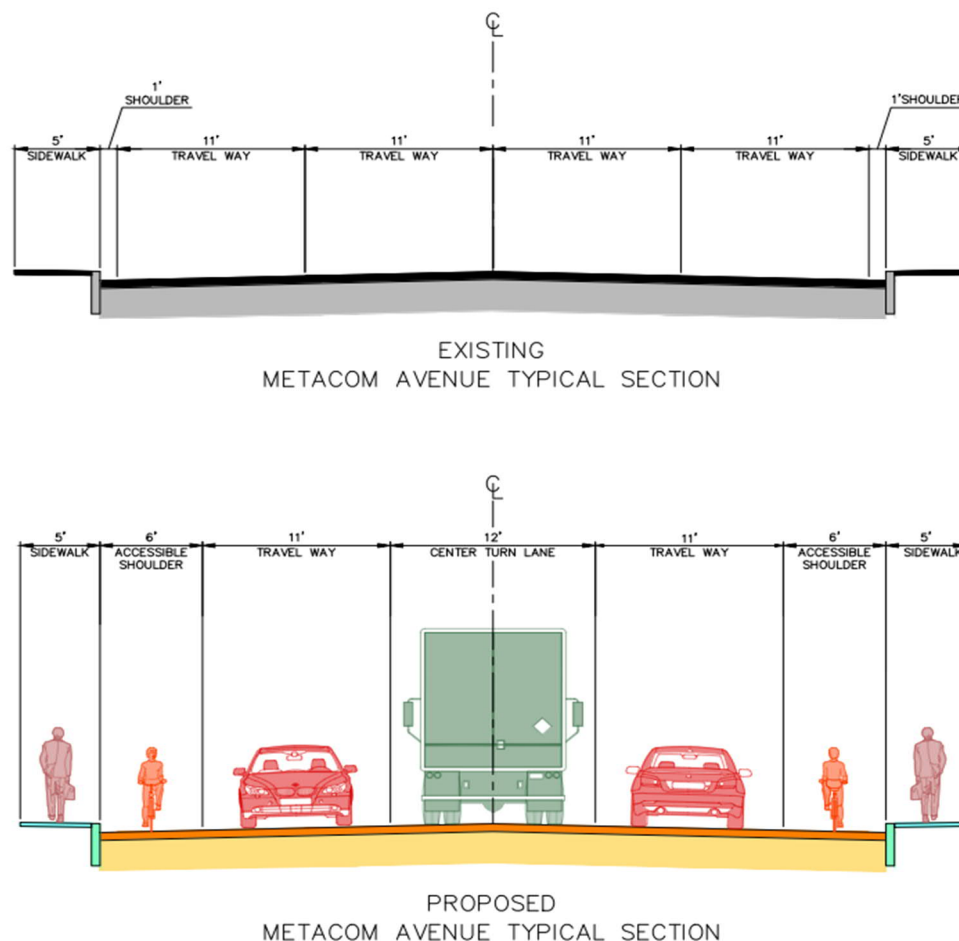


Figure 67. Existing and Proposed Metacom Avenue Configurations

There are available State and Federal funding for these types of infrastructure upgrades, including transportation funding through the RI Department of Environmental Management and Federal Highway Administration. The Town of Warren can apply to the Department of Planning as the Metropolitan Planning Organization to have a Metacom Avenue infrastructure revitalization process placed on the State Transportation Improvement Program (STIP) as a top priority.

The redevelopment of Metacom Avenue offers an opportunity for the improved management and volume reduction of impervious cover from the project area. This, in turn, has the potential to improve water quality by filtering stormwater runoff through new and improved stormwater management systems. Stormwater management system upgrades that affect an impaired watershed like the Kickemuit River can qualify for the RIDOT Stormwater Credit program. They can also qualify for funding through the RI Infrastructure Bank and associated Federal funding sources for clean water and environmental protection. Nature-based stormwater system design has become common as a best practice and there are many precedents within commercial areas like Metacom Avenue.

9.3 Redevelopment Scenarios

To assess the capacity and potential for redevelopment within this Metacom Avenue corridor, several conceptual plans have been developed by Union Studio Architecture and Community Development. For this Master Plan assessment, six different “blocks” demonstrating varying scales of development opportunity within this project area were chosen. These Master Plans do not indicate intent from these properties’ respective owners to redevelop their properties at this time.

Figure X, below, illustrates the overall master plan for Blocks “A” through “E” within the Metacom Avenue area. The following Sections provide detail regarding each of these blocks.



Figure 68. Overall Metacom Avenue Conceptual Master Plan

9.3.1 Job Lot Plaza Site (Block D)



Figure 69. Job Lot Plaza (Block D) Concept Plan



MARKET TO METACOM
OCEAN STATE JOB LOT CONCEPTUAL PERSPECTIVE RENDERING

PAGE 6



UNION STUDIO
ARCHITECTURE & COMMUNITY DESIGN

Figure 70. Job Lot Plaza (Block D) Conceptual Rendering

Table 21 – Block D Summary Table

Civic or Institutional Space	33,500 sf
Commercial Space	27,500 sf
Residential: Multi-Family	159 units
Residential: Single-Family	20 units
Total Residential Units	179 units
Total Parking Spaces	470 spaces

9.3.2 CVS Block (Block C)

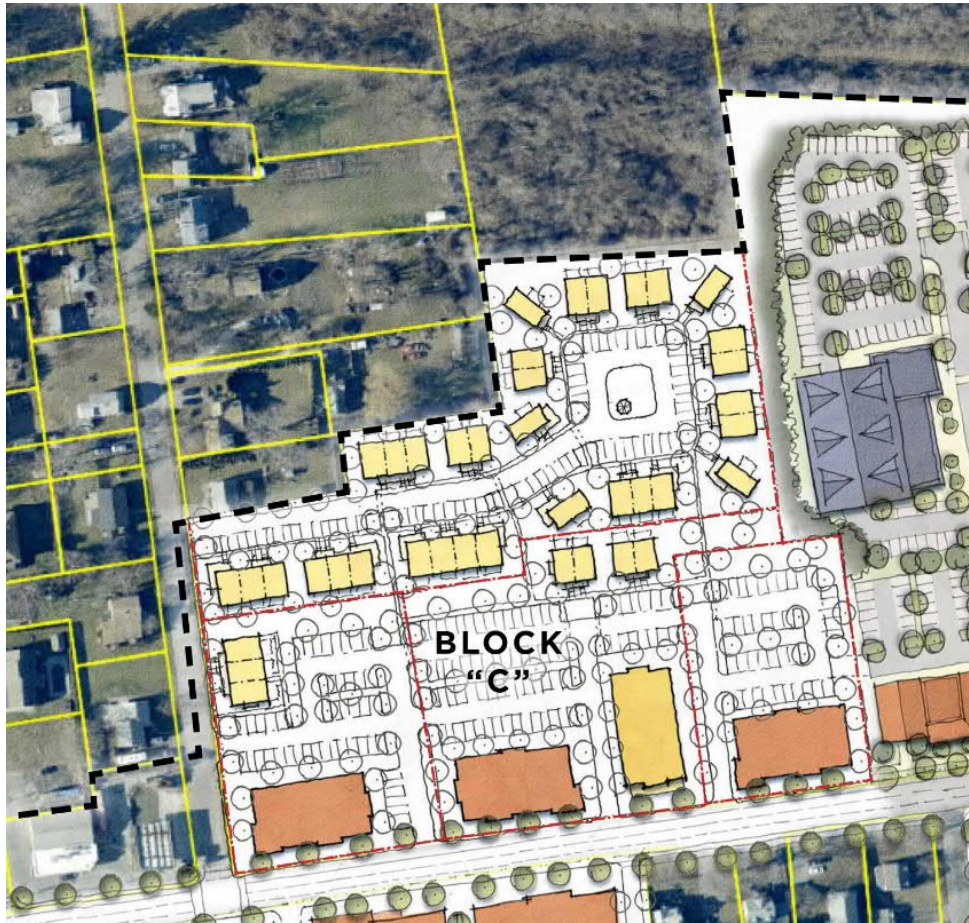


Figure 71. CVS Block (Block C) Concept Plan

Table 22 - Block C Summary Table

Civic or Institutional Space	(N/A)
Commercial Space	24,000 sf
Residential: Multi-Family	72 units
Residential: Single-Family	33 units
Total Residential Units	105 units
Total Parking Spaces	210 spaces

9.3.3 Pasqua/Healey (Block A)

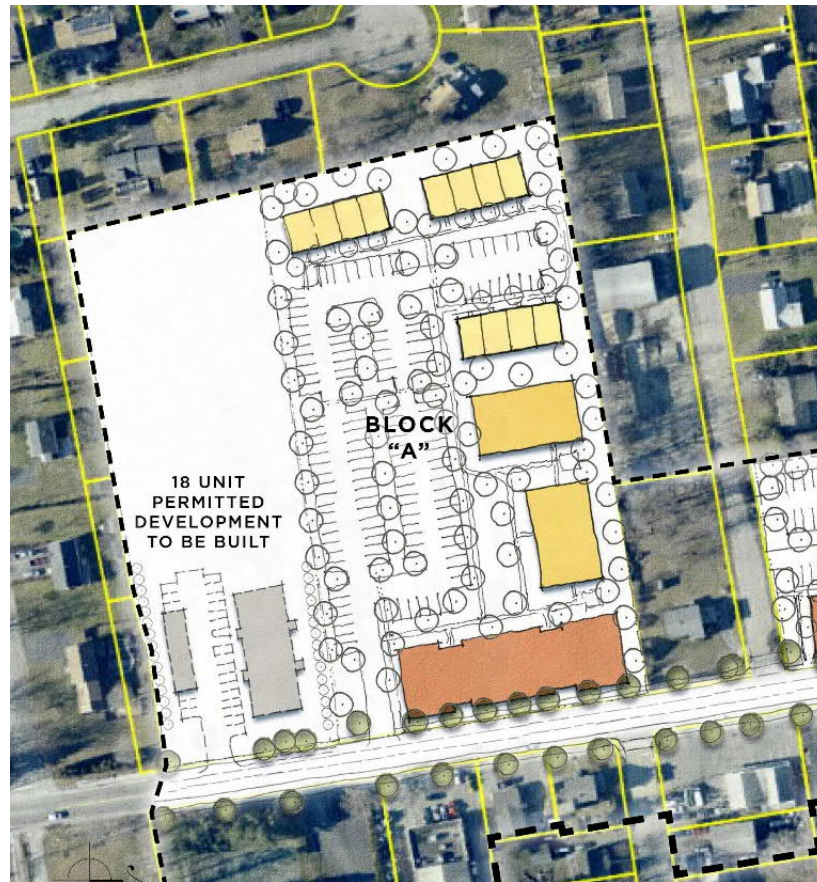


Figure 72. Pasqua/Healy Block (Block A) Concept Plan

Table 23 – Block A Summary Table

Civic or Institutional Space	(N/A)
Commercial Space	13,000 sf
Residential: Multi-Family	74 units
Residential: Single-Family	12 units
Total Residential Units	86 units
Total Parking Spaces	135 spaces

9.3.4 Ridgeway & Canario (Block B)

Between Ridgeway Drive and Canario Drive

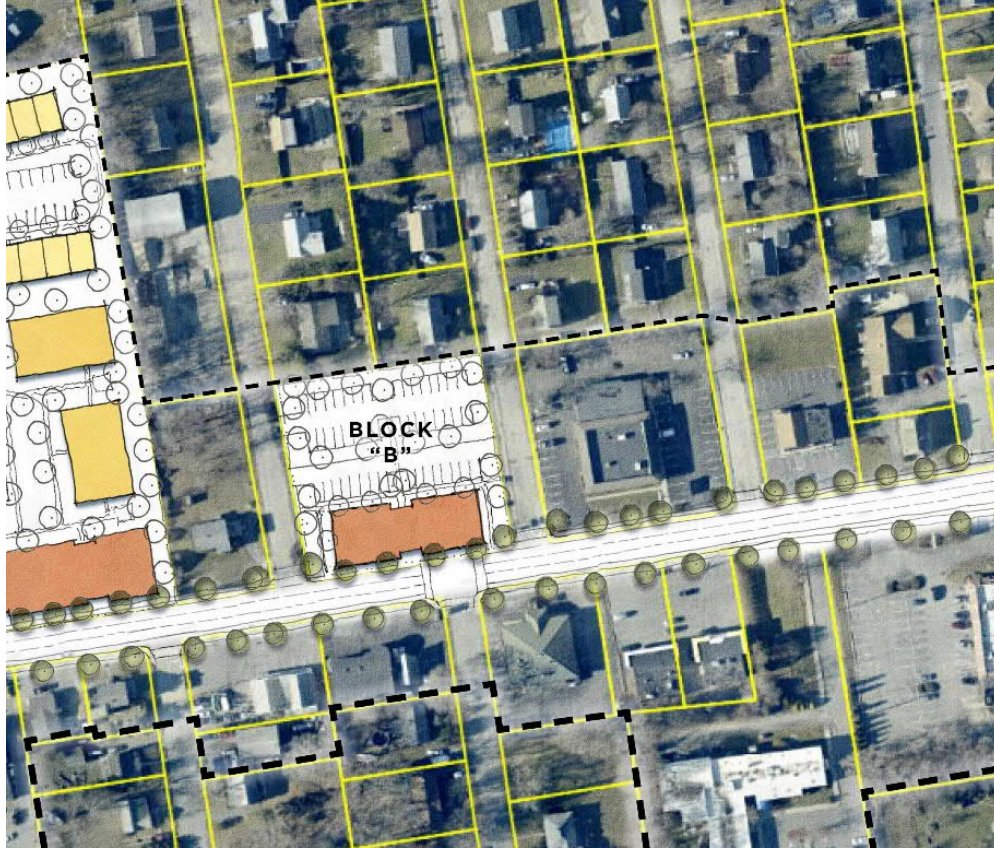


Figure 73. Ridgeway & Canario (Block B) Concept Plan

Table 24 – Block B Summary Table

Civic or Institutional Space	(N/A)
Commercial Space	9,600 sf
Residential: Multi-Family	20 units
Residential: Single-Family	(N/A)
Total Residential Units	20 units
Total Parking Spaces	48 spaces

9.3.5 Patterson & Homestead (Block E)

Between Patterson Avenue and Homestead Avenue

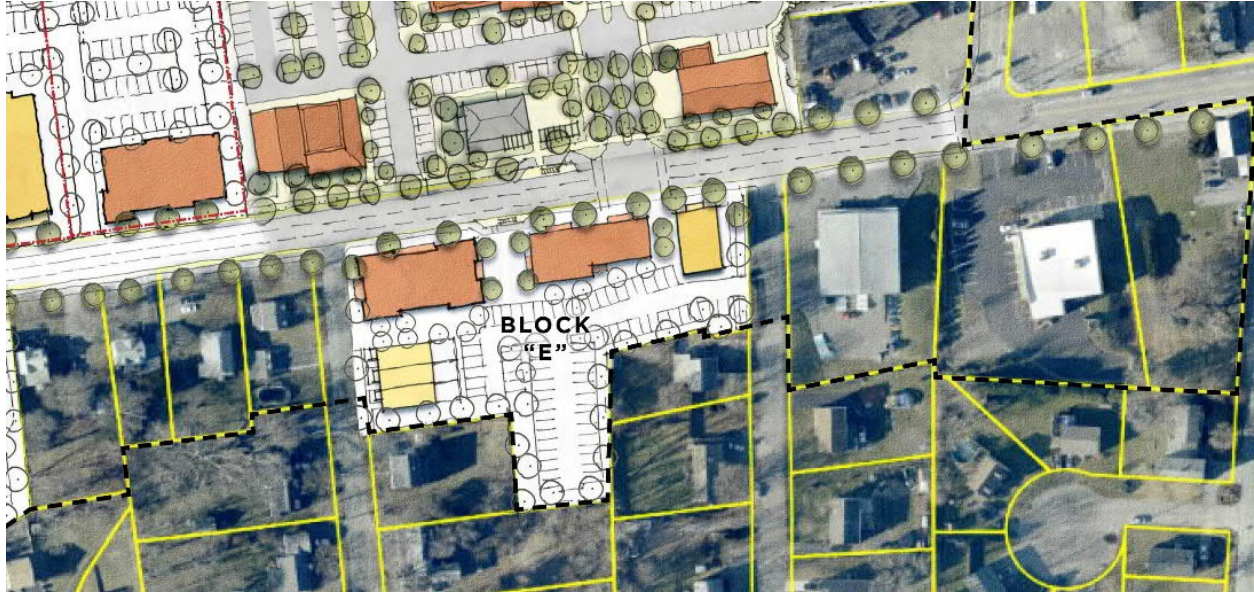


Figure 74. Patterson & Homestead (Block E) Concept Plan

Table 25 - Block E Summary Table

Civic or Institutional Space	(N/A)
Commercial Space	10,400 sf
Residential: Multi-Family	25 units
Residential: Single-Family	3 units
Total Residential Units	28 units
Total Parking Spaces	70 spaces

9.3.6 AT&T Block (Block F)

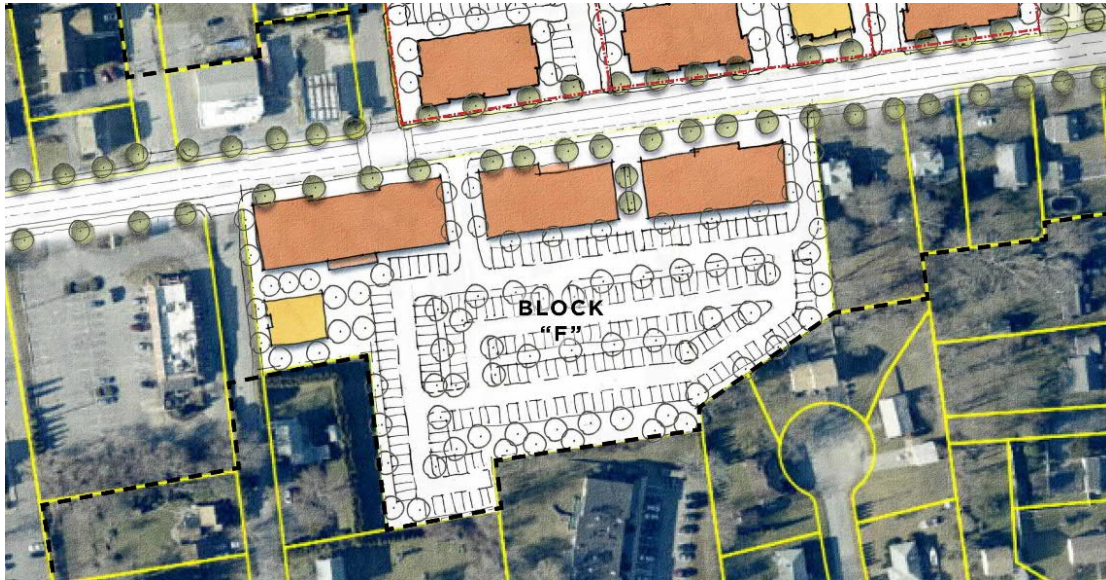


Figure 75. AT&T Block (Block F) Concept Plan

Table 26 – Block F Summary Table

Civic or Institutional Space	(N/A)
Commercial Space	23,000 sf
Residential: Multi-Family	102 units
Residential: Single-Family	(N/A)
Total Residential Units	102 units
Total Parking Spaces	197 spaces

9.3.7 Summary

Table 27 – Metacom Sample Sites Summary Table

Civic or Institutional Space	33,500 sf
Commercial Space	107,500 sf
Residential: Multi-Family	452 units
Residential: Single-Family	68 units
Total Residential Units	520 units
Total Parking Spaces	1,130 spaces

9.4 Precedents

To understand how the redevelopment of Metacom Avenue would appear upon completion, it is useful to examine precedents where communities have permitted and incentivized the development of mixed-used areas that have commercial uses on lower floors and housing units and offices on upper floors.

9.4.1 Mixed Use Buildings



Figure 76. Mixed Use Buildings and Public Space – South County Commons, RI

9.4.2 Multifamily Buildings

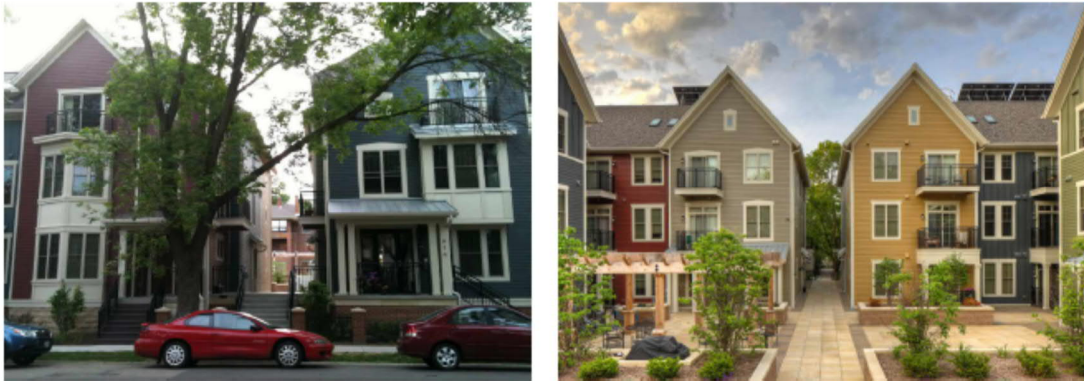


Figure 77. Multi-Family Buildings – City Row, Madison, WI

9.5 Implementation

9.5.1 Tax Income

The redevelopment of Metacom Avenue at higher density, with a mixture of land uses, allows for new buildings which have the potential to yield more taxable real estate value for the Town of Warren. Assuming the build-out shown in the six (6) scenarios above, there is the potential for a significant increase to annual tax revenues for the Town.

Table 28 – Summary of Metacom Avenue Tax Income Changes

Parcel	Commercial (square footage)	Residential Units	Existing Value	Future Value	Existing Property Tax Payment	Future Property Tax Payment	Increase in Taxes to Town
A - Pasqua/Healey	13,000	104	\$1,288,200	\$15,198,855	\$22,363	\$264,460	\$242,097
B - Ridgeway & Canario	9,600	20	\$936,900	\$3,460,567	\$16,265	\$60,214	\$43,949
C - CVS Block	24,000	105	\$6,736,900	\$17,792,728	\$116,953	\$309,593	\$192,641
D - Job Lot Plaza	27,500	179	\$7,545,600	\$37,006,435	\$130,992	\$643,912	\$512,920
E - Patterson & Homestead	10,400	28	\$1,497,000	\$5,934,071	\$25,988	\$103,253	\$77,265
F - AT&T Block	23,000	102	\$4,019,500	\$13,479,109	\$69,778	\$234,537	\$164,758
TOTALS	107,500	538	\$22,024,100	\$92,871,765	\$382,338	\$1,615,969	\$1,233,631

9.5.2 Recommendations for Actions

In order to affect these changes in the Metacom Avenue Project area, the Town of Warren, in partnership with State, Federal and regional partners should take the following actions:

- Update Warren's Comprehensive Community Plan for Metacom Avenue including language to support goals for:
 - redeveloped Metacom Avenue corridor
 - mixed-use redevelopment
 - development of workforce housing
 - complete streets redesign for Metacom Avenue
 - upgraded utilities to support higher density redevelopment
 - Increased RIPTA service
- Amend local zoning ordinance for Metacom Avenue
 - Form-based code for Metacom Avenue

- Permit mixed use development by right
 - Permit high density residential land uses by right
 - Enact Stormwater Overlay District
- Advocate for supportive State actions
 - RIDOT undertakes complete street design for Metacom Avenue
 - RIDOT adapts vulnerable sections of Route 136 to withstand sea level rise and storm events and potentially become part of flood control system
 - RIPTA increases transit service to the Metacom Avenue corridor to support high-density residential uses
- Secure funding for infrastructure improvements from State and Federal sources
- Set up redevelopment agency to enact Comprehensive Community Plan goals
- Upgrade utilities to support higher density redevelopment and make resilient to climate change impacts
- Reconfigure stormwater management systems
- Enact Tax Incremental Financing to support buy-out programs and infrastructure upgrades in the project areas

10 Conclusions

Review of the existing conditions show us that the Market Street area is facing severe impacts from climate change, including SLR and severe precipitation and storm events. Because of the high vulnerability of this area, these impacts will negatively affect the community in the coming ten to thirty (10-30) years and will have the potential to severely damage and destroy private homes and businesses, State- and Town-owned facilities, disrupt local and regional transportation routes, environmentally sensitive sites and damage utilities. Projected impacts have the potential to destroy or degrade hundreds of housing units.

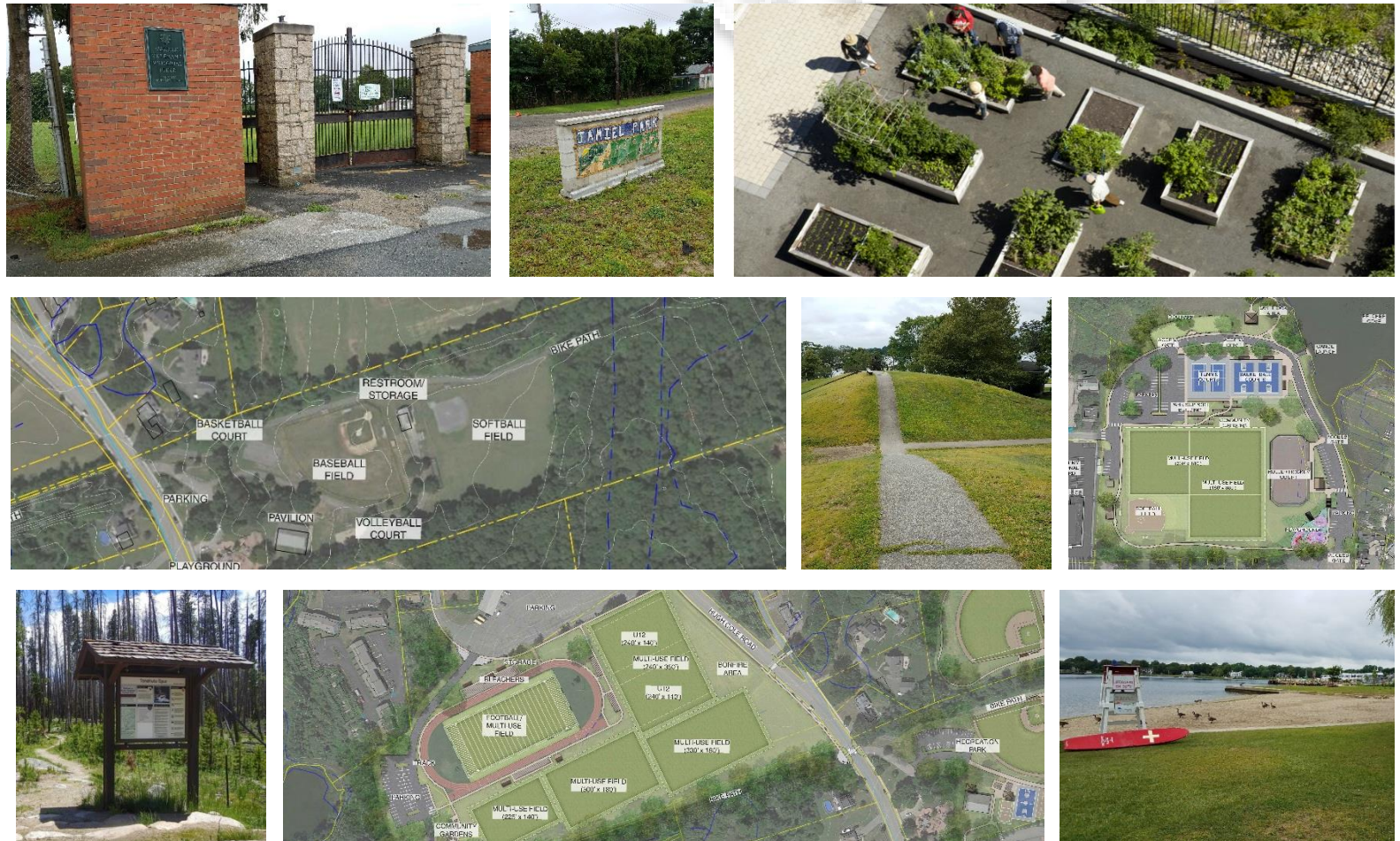
The Metacom Avenue corridor is a largely commercial corridor and similar to many auto-centric districts in Rhode Island and across the United States. It's vulnerability to climate change impacts, especially flooding, is substantially lower than the Market Street area. Demand for real estate in land use environments like Metacom continues to decline and there is a potential opportunity for redevelopment of the Metacom Avenue corridor as a mixed-use, human-scaled street that contains retail, employment facilities and housing in a "Main Street-type" setting.

The Town has a limited-time opportunity to work with property owners, State and Federal government agencies and regional partners to plan for a linked future for both Market Street and Metacom Avenue where it may be able to adapt to climate change impacts and minimize flood vulnerability and environmental risk. At the same time, an improved Metacom Avenue corridor can be the location for replacement of housing lost to climate change and a livable center for Warren's citizens.

APPENDIX B

FINAL DRAFT 6-07-18

WARREN, RHODE ISLAND RECREATION & PARKS MASTER PLAN 2018



PREPARED BY:

Weston & SampsonSM

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▪ <u>Appendix E Public Outreach Meetings Sign in Sheets</u>	
▪ <u>Appendix F Warren Parks and Recreation Facility Policy</u>	



ACKNOWLEDGEMENTS

We gratefully acknowledge the residents of the Town of Warren, Town staff members, and the many individuals representing a variety of youth sports programs whose participation at various public meetings helped forge this master plan. Their ability to understand Warren's most critical athletic facility and recreational needs, create solutions that address those needs, and develop realistic strategies for implementing the actual improvements will help yield positive benefits to all future users as key parts of the master plan are implemented in the years to come. The recommendations and priorities established within this document address the needs of the Warren community and the needs of various other stakeholders who rely on Town recreation facilities for use and enjoyment. Master plan recommendations are intended to be pragmatic and recognize that municipal governments like Warren must continue to provide a high level of service, even in times of financial uncertainty.

Athletic facilities are an important asset to the sports and recreation community. This study intends to strike the right balance by identifying and recommending renovated or new facilities to meet the needs of the Town of Warren.

When implemented, the improvements identified within the study will provide enhanced opportunities for public use and enjoyment. Recreational facilities will be more accessible and readily available to the Town sports leagues, recreational leagues, and residents of the Town.

Thanks in particular to the members of the Warren Parks and Recreation Department, Tara Thibaudeau, Director, The Town Council and Warren Recreation Board; Kate Michaud, Town Planner and Acting Town Manager; Jan Malik - Public Works Director and Steve Marques for their assistance in providing key background data and mapping for the individual properties and for their sage advice during the development of all aspects of this plan.

Town Council:

Joseph A. DePasquale, President
Keri M. Cronin, Vice President
Christopher W. Stanley
John W. Hanley
Steven R. Thompson

Warren Recreation Board:

Jillian Sypole, Chair
Carol Gafford, Secretary
Jill Fernandes
Donna Ramos Razza

Thank you to the many residents and members of the Warren sports community who attended the public meetings and expressed their likes, dislikes, and wishes regarding the past, present, and future use of the various athletic facilities/properties. In addition, our appreciation goes out to the many representatives of other Town departments, including the Fire and Police Departments and the Bristol Warren Regional School District for their critical advice and insight. The recommendations contained in this master plan represent our best professional judgments and expertise, tempered by the unique perspectives of each of the participants in the process.

The Weston & Sampson Design Team
April 2018



EXECUTIVE SUMMARY

Working on behalf of the Warren Parks and Recreation Department, Weston & Sampson explored options for renovating existing and establishing additional athletic and recreation facilities at strategic locations throughout the Town. The following study provides a comprehensive inventory and analysis of all existing conditions and a series of recommendations for improving, or the addition of new, facilities throughout the Town of Warren. We have looked specifically at the properties that the Town Parks and Recreation Department owns, operates, and manages and properties they share management with at the Bristol Warren Regional School District while considering the identification of open space properties under the jurisdiction of the Town for potential facility developments.

A needs assessment has been prepared and is based on our examination of the physical conditions of all fields and information gathered during a series of meetings with key user groups and stakeholders. As work progressed, the following became clear:



- There are insufficient playing venues to meet increasing demands of the Warren community. Refer to Appendix A – Study Facilities for field use data and the Needs Assessment section for more information.
- Due to heavy and often excessive use during all seasons of the year and during all types of weather, turf conditions are stressed at many locations.
- Poor playing conditions can demoralize users and increase the risk of injury.
- Town maintenance operations staff, which is hampered by their small numbers and lack of materials and equipment, wages an uphill battle in an effort to maintain the best conditions possible.
- Despite the limitations above, quality turf conditions have been achieved at several playing venues, including most notably the Veteran's Field practice areas.
- The lack of a clear, concise, and evenly enforced "Field Use Policy" places those responsible for field upkeep at a great disadvantage. Surrounding communities have long since adopted policies that have proven crucial to the maintenance of improved field/turf conditions by controlling use, particularly during poor weather.
- Warren should adopt such a policy so that appropriate controls govern the use of the fields and allows for improved playing conditions to be achieved.
- Warren should look for opportunities to create new playing venues at alternate properties. As an example, undeveloped lands at Recreation Park and Brito Field are suitable for the development of new field footprints. Without new venues, improved playing conditions will never be attained.
- The Town must set aside funds to renovate existing facilities as new venues come on-line. Improvements can be accomplished through a traditional public design, bid and construct process or through other creative means that have potential cost benefits. These other means are described elsewhere in the document.
- The Town should aggressively pursue other traditional state and federal funding sources in order to reduce the financial burden on residents and to match local funding authorizations.

Surrounding communities have moved aggressively to expand their field-based playing venues due to dramatically increased rates of participation in traditional (baseball, football, soccer) and emerging (lacrosse, field hockey, flag football) sports and the expanding participation rate of women and girls in general. Warren sees expansion in the number of programs offered and the number of individuals participating.

There are high levels of risks involved with the continual operation of some of the facilities in their current condition. Many facilities exhibit safety issues that include compacted turf, worn resilient surfacing, uneven playing surfaces, sharp protrusions on fencing and trip hazards. It is important to protect our users, specifically children, but it is also important to protect the Town from liability implications. Recent litigation has resulted in settlements of several hundred thousand dollars to injured athletes making use of public sports and recreation facilities



The images above identify turf conditions that could put players at risk. Many leagues throughout the country are developing policies that prohibit play on unacceptable turf. The photo at top left is of KMS Field and Burrs Hill Park Field, at right.

The most important goal of this study is to help the Town get to the point of maintaining and operating the safest possible playing facilities regardless of the level of play. Across the country, we are experiencing a heightened focus on athlete and child safety; this increased awareness has resulted in increased scrutiny of all potential contributors to injury. People using athletic fields, courts and playgrounds are inherently exposed to some risk of injury; however, the risk of head injuries is a major concern. Most concussions are the result of athlete-to-athlete collisions, but approximately 10-15% of concussions in sports are caused by head-to-surface contact. When a player falls on a field, the impact is absorbed by the playing surface and the player's body; the "harder" the surface, the greater the amount of impact that is absorbed by the player's body. This situation increases the probability that a fall will result in serious injury. Reduction or elimination of trip hazards and hard turf playing surfaces can greatly reduce the risk of injury. We support the premise that a properly constructed and properly maintained field can help reduce injury risk.

Here are some sobering facts, as outlined in a presentation by John C. Sorochnan, PhD, Distinguished Professor, Turfgrass Science, University of Tennessee Institute of Agriculture:

- Nearly 60% of high school students in the United States participate in organized sports – Center for Disease Control and Prevention, 2002
- Across high school sports, 250,000 concussions were reported in 2009 – National Research Council, 2013
- 3.5 million children under age 14 receive medical treatment for sports-related injuries – Safe Kids, 2007
- 50% of these injuries are preventable – Brenner, 2007; Safe Kids, 2007

We invite you to review the larger document that follows and to actively participate in an endeavor to provide improved recreational and athletic opportunities to all residents of Warren.



Images of Child Street Park showing no safety surfacing under the swing and the lack of ADA accessibility to the benches and poor turf conditions, left and center photos. The image at right shows hazards at the entrance to Veteran's Field and the lack of ADA accessibility.

INTRODUCTION

The Town of Warren retained Weston & Sampson in the Summer of 2017 to complete this comprehensive Recreation and Parks Master Plan. The Town of Warren has funded the work to assess current field and park properties that provide critical outlets for athletic competition and recreational enjoyment for all residents (youths and adults) of the community.



It is important to note that recreation needs relate not just to the sports/athletic programs that make use of them, but also to passive recreational pursuits like walking trails, community gardens and activities by individuals not aligned with a specific organization, like the neighborhood kids who seek a pickup game of football, baseball, or soccer within a particular venue or the parents who would like to stroll in the park with their children. In addition, we must consider that recreation is multi-generational, and the final master plan will identify strategies for improving recreational opportunities for those of all ages.

As demand for available recreational resources increases, pressures mount to establish and maintain recreation venues in good condition and to offer a sufficient number of facilities to support the desired level of use as well as provide gender equity for athletics. This master plan proposes preferred renovation designs at the study properties that, if implemented, can improve these conditions.



The image above identifies an aerial view of Veteran's Field at Kickemuit Middle School. The vast majority of field playing venues that are controlled by the Town typically receive extremely heavy use and the inevitable scheduling conflicts that occur between school athletic programs and community-based youth/recreational sports leagues. The school track is also used by residents for walking or jogging when not in-use by the student athletes.

This master plan will serve as a guide for the future development of park and recreation properties, as well as a tool to secure funding from various private, Municipal, State, and Federal sources.

The specific scope of work undertaken by Weston & Sampson included:

- Compilation of base maps and plans suitable for the development of all conceptual design plans for each of the properties being considered
- Record and report on all existing conditions at each property
- Identify safety issues and site limitations, constraints and opportunities for each property
- Formulation of a Town-wide field's user assessment to evaluate current use and identify needs.
- Compile needs assessment results and identify the most critical recreation needs
- Engage the Warren sports community in a public dialogue to further establish and confirm needs, preferences and priorities in relation to the future renovation and restoration of each property
- Develop concept plans for each property prepared specifically in response to community needs and preferences, and ultimately to be endorsed by both community participants and the Town representatives in the form of a "preferred" plan for each property
- Establish budgets and phasing, funding and implementation strategies for all desired property enhancements
- Develop and reproduce the final, finished preferred master plan

During the past several months, representatives of Weston & Sampson have developed conceptual and final "preferred" master plans for each of the designated field facility properties. The master plans were generated in response to the needs of the Town as expressed by various user groups and others in the Town Administration who are responsible for the programming and maintenance of the various sites. At the outset of the process and in conjunction with the master planning work, Weston & Sampson representatives frequently toured the properties to assess the existing conditions of all field facilities, identifying current limitations, safety and maintenance issues and potential opportunities for providing improved facilities and improved user experience. Existing conditions assessments are included in the form of a series of photographs, plans and narrative descriptions contained later in this document.

The major points of the conceptual master plans for each property were presented to key stakeholders during September and November 2017 and to the general- public at Town Council meeting held on January 16, 2018.

In addition to identifying capital improvement priorities for each site, it is important to note that this recreation master planning document also identifies important considerations pertaining to the establishment of a fields use policy. If adopted, this field's use policy will help to:

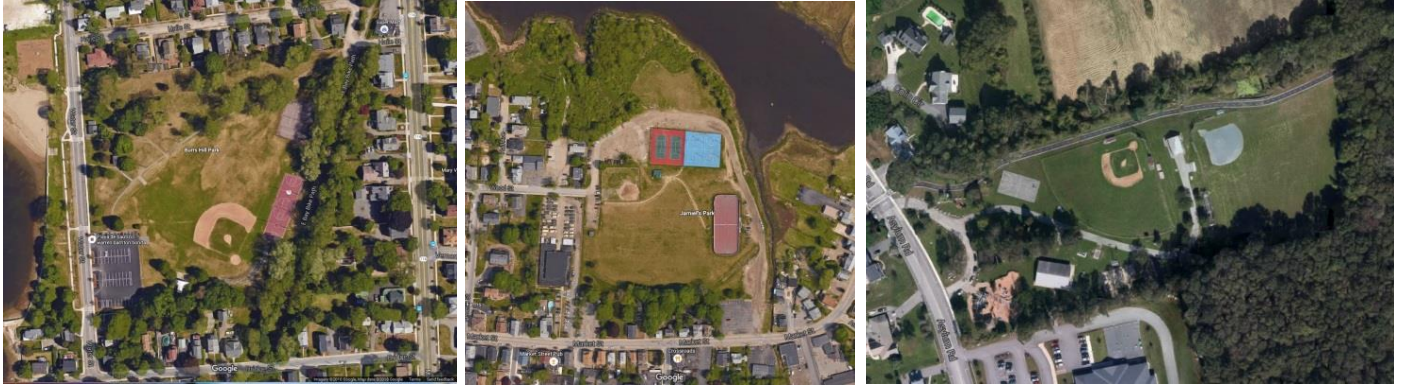
- Clearly articulate when fields are available for use and when they are closed due to inclement weather, the need to "rest" turf or for other maintenance or refurbishment efforts.
- Reduce the pressure on those making the decisions to close or delay opening a field by having clearly defined expectations and protocol.
- Improve conditions at each playing field venue by eliminating play during poor weather. Poor weather use of fields can destroy in moments what has taken months to prepare for use and enjoyment.

It was clear that the desire of all participants in this process was to improve playing conditions for all sports groups and players at all locations so that competition could be held within venues that meet minimum organizational standards and that are safe, attractive and comfortable for both users and spectators. In short, there was a strong desire to establish recreational venues that the Town could take pride in. This report represents the culmination of the master planning process. As well as the narrative and graphic depictions of the preferred master plans with descriptions of potential improvements, potential expansion scenarios and implementation strategies. In addition to identifying new and refurbished facilities that meet the needs of various programs and activities, there was an attempt to identify other important initiatives that might improve the overall performance of a property/facility including: improving turf conditions, improved parking, site access and circulation, and improved ancillary features and landscape qualities that establish the characteristics inherent to first-class park and athletic facility properties. Implementation of the improvements outlined in this master plan will require significant effort. The Funding Opportunities section of the report identifies potential granting agencies, non-profit entities and other sources of capital dollars or in-kind services that might help with refurbishment of one or more of the properties.

It is important to note that a "master plan" is typically general and dynamic; and as such, the recommendations are not "cast in stone". It is fully intended that, as particular projects are implemented, the actual scope of improvements contained in this report will again be validated or refined to meet actual field conditions through a continuing dialogue with stakeholders.

Background

The master plan focuses primarily on roughly 41 public, Town-controlled and operated venues located at twelve properties. The properties are located geographically spread out throughout the Town, providing recreational activities to most areas of Town.



Images, from left to right, of Burr's Hill Park with the Town Beach to the left, Jamiel's Park and Warren Recreation Park with a portion of the new bike path. Three major town assets that are important to recreational pursuits.

The master plan does not examine field properties that are privately operated and maintained by youth sports organizations.



The image above identifies an aerial view of the Town of Warren. The locations of the properties are indicated. Note that many of the facilities are spread out throughout the Town, providing recreational activities to most areas of Town.

The list of properties and summary of basic assets is included below.

List of Study Properties

<u>Property</u>	<u>Address</u>	<u>Acres (*)</u>	<u>Description of Facilities</u>
Recreation Park, Pete Sepe Pavilion and Unused Land	Asylum Rd	10.8	Warren's major recreation facility containing a playground, basketball court, beach volleyball court, bocce court, BBQ pit, clambake pad, baseball field, softball field, covered picnic area, concession stand, restrooms and open field space, as well as unused land on the other side of the bike path that was formerly a hay field.
Veteran's Park	Hugh Cole Road	14.0	Official game field (soccer and football) with lights and bleachers, soccer fields, track, concession stand, press box, field shed, baseball field, multi-use field space, open field space and restrooms.
Brito Field	Behind Kickemuit Middle School	4.6	South of Veteran's Field (other side of the bike path) currently a hay field
East-West Bike Connector	45 West Street	2.5	Town owned bike path from Recreation Park to the cove, with potential to connect to the East Bay Bike Path
Child Street Park	Child Street	1.2	Small park with a playground, baseball field and open field space
Jamiel's Park	Market Street	8.3	A hockey rink, softball field, playground, concession stand, 2 tennis courts, 2 basketball courts, restrooms, and open field space.
Burrs Hill Park	Water Street	7.8	Two tennis courts, two basketball courts, baseball field, band shell, small picnic pavilion, restrooms and open field space.
Warren Town Beach	Water Street	1.4	Playground, picnic area and town beach
Wujcik's Farm (Heritage Park)	Schoolhouse Road	55.0	Open space, nature walk and picnic area
Baltimore Avenue Park	Baltimore Avenue	.3	Neighborhood park with a playground, picnic area and basketball net
Baker Street Park	Water Street	.2	Tiny tot area, picnic area and Native American memorial
Homestead Park	Homestead Avenue	.5	Small neighborhood park with a new playground and basketball court
Warren Community Center (Mary V. Quirk School)	790 Main Street		Gymnasium, kitchen facilities, classroom/meeting rooms and Adult/Youth recreational programming

(*) Area dedicated to athletic facilities, not total size of property



Aerial Images, from left to right, of Homestead Park, Baltimore Avenue Park and Child Street Park.

Basic Goals and Objectives

The basic goals of the master planning process in relation to the properties referenced above included the following:

- Engage representatives of field and park programs in an organized and thought-provoking dialogue in order to develop a series of concepts for the appropriate refurbishment, redevelopment and/or expansion of all designated properties.
- Analyze current Town sports programming offerings and participation, identify shortages and limitations, gender and sport inequities and develop a strategy for providing new and refurbished facilities to specifically meet the burgeoning needs of various user groups, leagues and activities.
- Providing universal, barrier-free access to all facilities and features located within a given property. Improvements will provide new opportunities for all park patrons, especially for the disabled and elderly within the community.
- Proposing new amenities and facilities that are well-designed and self-sustainable; that are durable, long lasting, easily maintained with limited resources, economically feasible and that may be implemented by using a combination of capital improvement funds and in-kind/volunteer services and donations.
- Developing plans that provide upgraded ancillary facilities such as drives, parking areas, pedestrian connections to facilities within the property and appropriate linkages to adjacent facilities.



Many of the facilities in the study are not ADA accessible or easily accessed by the elderly. Jamiels Park, at upper left, Burrs Hill Park, at upper right and Recreation Park below, where the fields lack accessible routes and spectator viewing areas.

PUBLIC OUTREACH & NEEDS ASSESSMENT

Informational Meeting & Public Comment

The master planning process included a series of informational and public comment sessions, with primary meetings identified in the chart located below. (Refer to Appendix for all meeting Agendas.)

Meeting	Subject	Date
<i>Working Group</i>	Project kick-off meeting, outline scope of work, review project schedule requirements	July 6, 2017
<i>Town Department and Working Group Meeting</i>	Meeting with representative from various town departments and Bristol Warren Regional School District	August 31, 2017
<i>Initial Public Outreach and Input Meeting</i>	Review of initial mapping and field reconnaissance efforts, receipt of comments regarding limitations and opportunities at all playing venues	September 19, 2017
<i>Working Group</i>	Debrief on initial public meeting, discuss moving forward	September 27, 2017
<i>Working Group</i>	Review of initial site concept plans	November 9, 2017
<i>Working Group</i>	Initial Master Plan Draft Developed	November 28, 2017
<i>Draft Master Plan Review Meeting</i>	Open public meeting to review initial draft master plan concepts with Town Council	January 16, 2017

The core Working Group consisted of the members of the Recreation Board, the Parks and Recreation Director, the Town Planner and the Town Manager. Meetings with the core Working Group were primarily held at the Mary V. Quirk Community Center and larger public meetings involving sports league stakeholders, elected officials and members of the general public were held at the Community Center and Town Hall.

Large-scale colored plans and PowerPoint presentations were used to communicate master plan findings, recommendations and concept diagrams for each of the properties. Feedback from each meeting was generally constructive and positive with most participants expressing keen interest in achieving dramatic improvements to the facilities and new facilities to provide enhanced conditions for all users. Some residents expressed a concern over spending so much money on recreational improvements; however, most of the comments received after the public meetings supported improvements to the recreational facilities. At the first public outreach meeting many patrons complained about the overall condition of the facilities and the Town's ability to fund the maintenance of new facilities.



Needs Assessment

In order to assess the best use of each property, it was important to consider the most pressing needs of the entire Warren community. This Needs Assessment represents a synthesis of the information obtained during the hosting of information meetings and of the data generated during the master planning process. In order to compile the array of needs, a variety of methods and tools were used including those summarized below:

- Information obtained at informational meetings
- Information obtained at meetings with all key stakeholder groups including schools, the Recreation Department, and all other sports groups and organizations
- Information and advice from the Town staff members, including all key departments (Town Manager's Office, Public Works and Engineering Departments, Parks and Recreation Department) since these individuals are charged with the maintenance and operation of all facilities
- Anecdotal data gathered during the master planning process
- Analysis and inventory of existing facilities and conditions throughout the Warren Recreation and Parks system
- Use of recognized parks and recreation related standards and requirements

Regarding the last two items in the bulleted list above, comprehensive inspections were conducted at each of the nine venues to inventory the quantity of various facilities and to assess their conditions. The physical condition of a facility can often be a strong indicator of the degree of use or overuse, especially in a community like Warren where resources are expended to achieve quality playing conditions. Extensive wear and tear exhibited on a field always identifies a need, whether it is a need for additional fields to accommodate the sheer number of users, or the need for fields that are properly constructed and, therefore, able to be better maintained.



In the end, information compiled during the informational meeting process, the inventory of current facilities and the analysis of existing conditions were most critical in determining the needs of the community. As some of the Town's playing field needs are met at dedicated school properties, the resulting Needs Assessment considers the inherent scheduling difficulties that occur when playing field venues must accommodate school-related activities and events first and foremost, while other Town youth sports leagues must fit their events in around the schools' schedules.

In addition, there is a general lack of dedicated rectangular-shaped fields that are available for the exclusive use of football, soccer, lacrosse, field hockey, and other similar athletic programs. As a result, the sports programs that require rectangular-shaped fields often make use of “multi-use” fields that physically overlap baseball, softball, or Little League field venues. Under this scenario, the overlapping nature of the field creates scheduling conflicts, creates physical conflicts if unlike activities are attempted at the same time, and ensures that facilities are in extremely high demand during all playing seasons. Maintaining turf under these conditions becomes a major challenge.



Burrs Hill Park Field (photo at left) and Jamiels Park softball field (photo at right) are much loved and far too over-used to the point where maintaining quality playing conditions is impossible. Jamiels Park softball field is an example of a multi-use rectangular field overlaid on a softball diamond.

Warren is also in need of an additional middle school baseball field. There is only one legitimate field available for baseball at Burrs Hill Park.

It is also important to note that many respondents expressed an interest in the development or improvement of other ancillary facilities at the various playing field properties (e.g., support buildings, backstops, fencing lines, parking areas, sports lighting, irrigation, basketball courts, children’s playground equipment, etc.).

Other factors playing into the development of an appropriate recreation needs assessment for Warren include the following:

Current Trends- The popularity of certain recreational activities decreases and increases over time. For instance, lacrosse is experiencing incredible growth in many New England communities, including Warren. Soccer continues to maintain great popularity with more than 550 participants.

American colleges, through their admissions policies, increasingly promote the need for well-rounded students who are immersed in both academics and extra-curricular activities. This, in addition to a national movement toward improving “wellness” through improved diet and exercise has been cited as a possible contributor to the increase in athletic participation rates in many suburban communities, including Warren.



Increasing Athletic Field Usage – Whether it is due to the increase in the popularity of athletics, enactment of Title IX for women’s sports, Warren’s increased school-age population, or a combination of the three, the number of the users at the playing field venues is increasing. The construction of new venues has not kept pace with the increased participation rate.

And, with shrinking numbers of maintenance support staff, it is easy to see why poor field conditions prevail at numerous locations.

Field Use Analysis - Weston & Sampson concludes that the fields are used more than 200% of their safe use annually. This does not include outside regular events such as the Carnival, fireworks, rentals, passive recreation or other informal events that may occur. Refer to Appendix B for a detailed table of field usage. The following is a summary of the average study field use:

- The 10 study fields were used an estimated 7240 hours, there was an average of 720 hours per field.
- More than 1200 participants used the study fields during the year for an average of 120 participants per field during the year.

To provide a better understanding of the analysis and recommendations in this report, it is useful to compare the industry standard recommendations with the assumptions used in this report. The industry standards and report assumptions can generally be divided in two categories: “ideal utilization” and “realistic utilization” assumptions. The list below outlines some of the ideal recommendations of turf professionals (Sports Turf Managers Association (STMA) and Turf Magazine, and various Universities) regarding the use and maintenance of the athletic fields.

- Make every effort to begin each season with 100% turf coverage.
- Industry field and turf professionals recommend limiting field event scheduling to 25 to 50 events (100 to 250 hours) of use per year. Natural turf areas become noticeably thin and bare beyond this limit and unable to recover.
- Each field should receive at least eight (8) weeks rest (no use at all) during the active growing season each year to allow the turf to rejuvenate prior to the next year’s use.
- Each field should receive one inch minimum of water, through rain or irrigation, each week, to maintain healthy and vigorous growth.
- Turf should receive the same level of industry recommended maintenance during active, inactive, and field rest periods.
- Each field should receive one (1) full year of rest with a full rejuvenation program every four (4) years to permit turf to be revitalized and to develop a sufficient “thatch” layer. Although seasonal thatch removal is a normal part of turf maintenance, athletic fields require a certain thickness of thatch to protect roots from players’ cleats, to maintain moisture, and to cushion players from injury.
- Football, soccer, and lacrosse tend to be more damaging to turf than other sports such as baseball and softball. Therefore, to prevent overuse of natural turf, a shared use field (i.e., soccer teams using baseball outfields) tends to be discouraged by field maintenance professionals.

While the above recommendations are “ideal utilization”, Weston & Sampson believes that it is unrealistic for most municipal recreation and maintenance departments to administer these “ideal” recommendations as a whole. Fiscal budget, personnel and facility supply limitations require a more “realistic utilization” of athletic fields. Listed below are industry standard recommendations for realistic utilization:

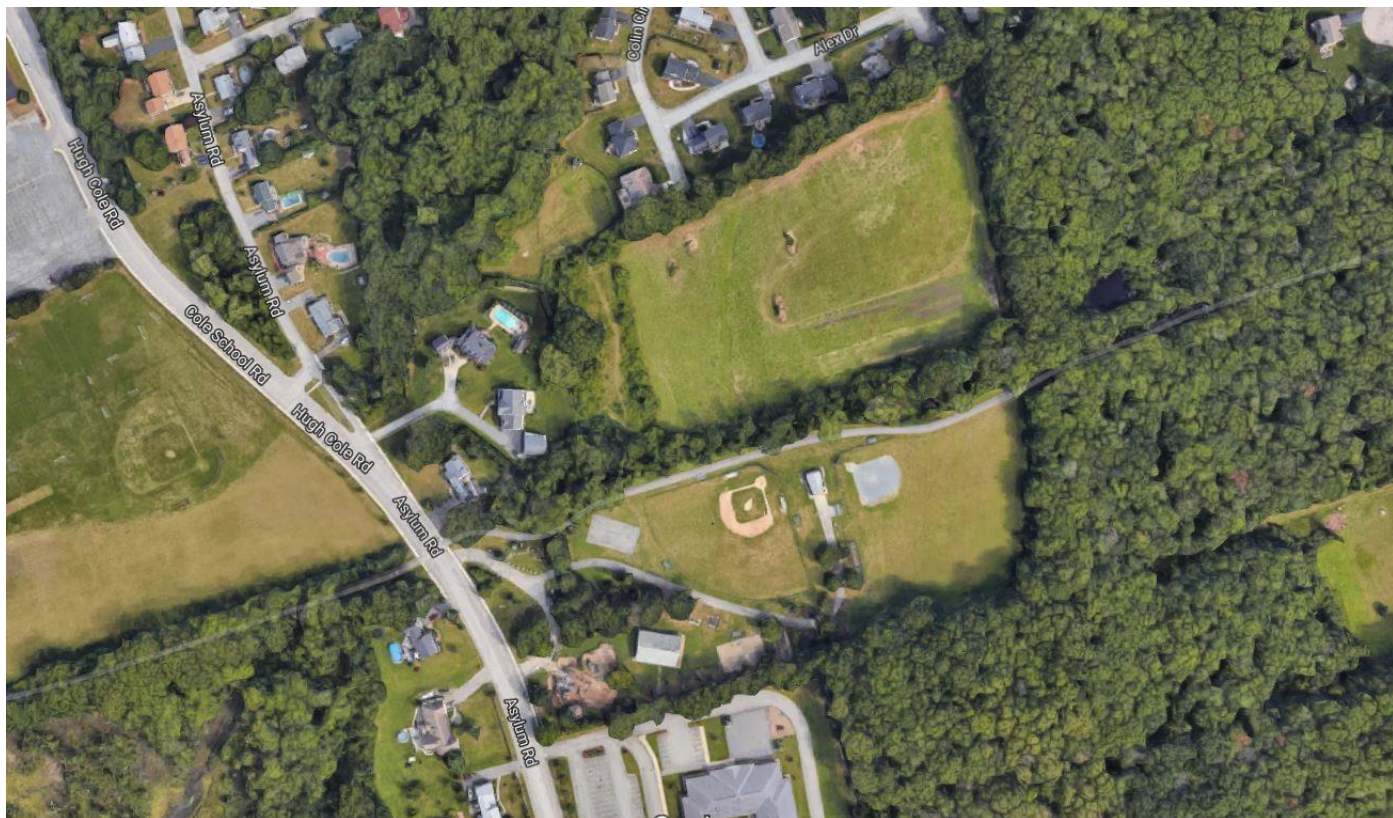
- Make every effort to begin each season with 100% turf coverage.
- Field scheduling should be limited to 75% to 90% of maximum capacity per week to allow sufficient rain date game replays; allowance for field, player, and equipment setup/takedown time; and some measure of in season field rest.
- Limit use of each sufficiently maintained natural turf field to 250 to 300 hours of use per season.
- Sufficient field quantities should exist to permit each field at least four (4) weeks rest (no use at all) during the active growing season each year to allow the turf to rejuvenate prior to the next year’s use.
- Fields that are not irrigated should be scheduled for minimal use during the summer season with play rotated frequently during the season to minimize turf damage or provide on-site irrigation or watering systems for each Town field. Exceptional damage occurs easily with use during hot and dry summer months.
- Maintain sufficient thatch levels and vigorous turf. All fields should receive the industry- recommended levels of maintenance throughout the spring and fall growing seasons.
- Play on multi-use fields should be routinely rotated, where possible, to minimize areas of turf damage and wear.
- Fields should be aerated and slice-seeded as necessary to ensure adequate root growth and turf coverage.

Given these factors, and because of the survey and master planning process, many basic needs have been identified, as summarized below:

WARREN'S PLAYING FIELD NEEDS

- More Playing Venues to Accommodate Usage
- Fewer overlapping / Multi-use Fields
- Opportunities to Rest Fields
- Greater Access to Various Facilities
- Improved Ancillary Facilities (Irrigation Systems, Bleachers, Backstops...)
- Lighting to expand Period of Usage
- More Funding for Basic Field Maintenance and Improvements
- Increased Staffing Levels to Maintain Fields
- New Capital Funding for Major Improvements at Field Properties

It is anticipated that the Town will require additional facilities in the future to meet the continued Town-wide increase in sports activity participation rates. The “preferred” plans developed for each of the athletic field sites attempt to address the needs that are most pressing, most widely supported and most realistic given the nature of the properties that are available and given the fiscal realities of the community. However, since land is tight at all venues, there are limited realistic opportunities for field expansion at existing facilities, which will cause Warren representatives to look to other potential open space properties to seriously address the poor playing conditions and lack of venues that characterize the system. There is also a need to limit the distance and amount of travel time for Middle School athletic programs. Relying on the refurbishment of existing facilities alone is risky, as capital investments may deteriorate rapidly unless the rates of use can be significantly curtailed at each playing venue.



Recreation Park contains undeveloped land that is suitable for potential field expansion pursuits and is close to the Middle School.

SITE BY SITE ANALYSIS & RECOMMENDATIONS

Overall Recommendations – General Themes for all Sites



The master planning effort presents a unique opportunity for the Town of Warren to assess their major park, recreation, open space, and athletic facility properties and develop a series of thoughtful and achievable enhancements to these spaces that will provide benefits to all members of the community.

In undertaking this planning process and developing the concept plans, several basic, recurring themes for improvements became apparent. In this section, we summarize these basic themes which can be implemented as capital improvements are planned and constructed at many or all of the properties in the master plan.

Pathways, Trails & Picnic Areas – Throughout the public input sessions of the master planning process, many stakeholders sought improvements designed for multi-generational use of the parks. One consistent theme from the user-survey was a request for amenities that would serve all ages. The preferred master plans call for incorporating new and upgraded pathways and trails, as well as picnic areas at all park and school locations. These types of passive recreational amenities provide opportunities for residents of all generations, backgrounds, and abilities to enjoy and they complement the traditional active recreational facilities located at these same properties. At most sites, pathways can be constructed in compliance with accessibility regulations since most of these sites have an abundance of gentle terrain and few extreme slopes. Pathways (especially pathways that form a loop around the perimeter of a property) are attractive for walking, jogging, skating, and biking and often become one of the most appreciated park amenities. We recommend the following improvements to enhance the park user experience, offer additional conveniences, and promote environmental stewardship in conjunction with the installation of new paths and trails.

- Install measured markers around loop paths to facilitate individual exercise programs, regardless of the varied overall length of the existing and potential loop paths at each site
- Provide multi-generational fitness stations either in “pod” areas or regularly spaced along the loop paths
- Place benches for rest and/or interaction at logical social gathering points along pathways and trails and within other peaceful and attractive settings
- Install interpretive signage to describe a site’s unique natural, cultural, and/or historical characteristics
- Provide tree plantings to lend greater shade to the pedestrian corridors, provide enhanced wildlife habitats, and improve overall site aesthetics
- Provide picnic areas where applicable and upon request
- Place drinking fountains with bottle filling stations and pet friendly features within various park settings and along pathways, especially on longer trails where dehydration could be an issue.



Access and Linkages – Another important improvement type includes provisions for new and improved access to the properties, by foot and by car. This can be accomplished by providing convenient and appropriately scaled parking amenities, reducing conflicts between pedestrians and drivers, and providing logical ADA-compliant linkages between various site features and facilities within a given space. The preferred master plans identify a series of improvements that focus on the primary park entrances and parking areas near the core of each property. Our primary recommendations for improvements to enhance park access and linkages include the following:



- Eliminate any badly deteriorated and difficult-to-maintain existing conditions
- Develop new park entrances and reconfigure drives/parking areas to provide clear travel patterns, clearly defined parking spaces, more efficient use of the overall space, and more parking spaces
- Establish pedestrian connections from all reconstructed parking areas to provide safe, convenient, and ADA-compliant access to all major park facilities and park areas
- Reconstruct the parking areas to include new pavement or porous surfaces, low-impact approaches to storm drainage, curbing, edges, and striping to achieve ADA compliance
- Install traffic-calming measures to slow vehicular traffic and provide for safe pedestrian movement throughout the area (e.g., speed bumps, tabled (or raised) crossings, and special surface textures and colors to delineate areas of pedestrian use and traffic-related signage)
- Install canoe/kayak launches where appropriate



Pedestrian/maintenance circulation at J.J. Lane Park in Natick, MA | Princeton Soccer Fields in Princeton, MA | Cushing Park in Framingham, MA (Weston & Sampson)

Community Gardens The preferred master plans identify existing and potential community gardens. Many of these gardens act as further nodes of community life. The plans identify improvements that would enhance the usefulness and aesthetics of each existing garden, while improving their sustainability, and indicate potential spaces for new community gardens. For these spaces, we recommend:



- Enhancing the garden edge conditions and entrances
- Removing, replacing, and/or upgrading individual plot borders to improve the aesthetics and maintenance of the spaces
- Installing additional site furnishings (e.g., benches, picnic tables, shade shelters, trash receptacles, bike racks, etc.) to offer new conveniences to community garden patrons and improve aesthetics



Children's Playgrounds – Playgrounds provide a destination for neighborhood children and their parents, often becoming hubs of community life. These playgrounds provide opportunities for the siblings of children involved in other recreational activities at these properties like baseball, soccer, or lacrosse. The preferred master plans call for new or relocated playgrounds at some park and school locations.

Our general recommendations for the proposed play areas at each of the park locations include:

- Installation of new, attractive, and exciting play equipment and swings that appeal to various age groups
- Installation of new and/or expanded playground infrastructure, including ADA accessible inclusive play, edging, surfacing, and utilities
- Enclosing play areas designed for younger children with attractive fence treatments
- Installation of seating, signage, and other furnishings
- Installation of trees, landscaping, shade shelters, and picnic areas

Safety surfacing should include a combination of poured-in-place rubberized surfacing in critical fall and landing zones and engineered wood fiber for the rest of the playground areas. New and improved play areas must be compliant with all ADA requirements, such as providing play equipment for children of all abilities, providing proper access and surfaces, and meeting all current CPSI safety regulations. In addition to new play equipment, we recommend that all required utility infrastructure (drainage, sub drainage, water service, etc.) be in place and that new site furnishings, including park benches, drinking fountains, signage, trash receptacles, tree plantings, and related landscaping be included in all playground refurbishment efforts.



Playgrounds at Bay View Academy Riverside, RI | Children's Grove at Cushing Park in Framingham, MA | Menino Park in Charlestown, MA (Weston & Sampson)



J.J. Lane Park in Natick, MA | Sandy Beach Park in Hopkinton, MA | stock photo of picnic shade shelter (Weston & Sampson)

Support Buildings – We have indicated potential locations for new park support buildings on the preferred master plans for many of the properties. New or updated support buildings should contain restrooms and storage accommodations. Where appropriate, larger structures could be designed to contain concession stands or office/meeting spaces. Sheltered/screened porta john structures could be a practical alternative to support buildings at certain sites. In Section – Needs Assessment, we discussed the issues surrounding the development of park support buildings.





Improved softball field at Rockwood Field in Worcester, MA (Weston & Sampson)

Athletic Fields and Courts – The master planning process identified the critical need for new and refurbished athletic facilities (i.e., fields, diamonds, courts, etc.) to better support the myriad of sports programs that operate within the community. Based on participation rates for various activities, Warren does not have enough fields to accommodate the large number of users. The resulting problem is two-fold; with heavy programming/overuse and limited facilities, the Town cannot serve their recreation programs adequately, and appropriate field conditions cannot be maintained. To this end, we have structured the preferred master plans for various properties to:

- Recognize the desire of community members to provide attractive, first-class sports facilities that can be maintained with reasonable ease in a manner that fits the Town’s (and league’s) operation and maintenance abilities
- Identify the need to develop facilities that are properly oriented, properly designed, and contain appropriate setbacks and buffers to ensure user safety
- Recognize the surrounding land use context and the need to be a good neighbor by developing safe, attractive park and recreation amenities that respect the needs of abutting property owners
- Provide perimeter fencing and appropriate gates to enclose the facilities, limit access, control use, and help maintain high-quality court, turf, and infield surfaces



Potential skating rink for Burrs Hill Park | Ty Cobb Field, Worcester, MA | New basketball facilities at Lake Street Park, Waltham, MA | new sports field lighting at Ware Memorial Field in Ware, MA (Weston & Sampson)

Dog Parks and Skate Elements – During the public outreach process there was a strong desire from staff and the general public for skate board parks or skate elements to be added to the parks. There was also strong sentiment for the installation of dog parks throughout town.

The town may not need to install a large skate park feature to satisfy this need. Many communities have added “skate elements to their parks. These are features that are installed within the parks that are considered “skateable. These features can double as landscape edging, elements or site features.



The installation of regional dog parks helps to keep dogs off the public fields and general lawn areas. Without dog parks people tend to illegally let their dogs run free, off leash, in open space areas of parks causing risk to patrons and uneasiness among those individuals who are afraid of, or just have a general dislike of dogs. Patrons also let their dogs run free in fenced in field areas causing damage to the fields and sometime leaving behind dog feces causing potential health and environmental risks. It is easier for a community to enforce leash laws and restrict dogs on athletic fields and open lawn areas if they have several dog parks in town to send people and their four-legged friends.

Type A (lower cost) Dog Parks- as part of the recreation master plan study process we identified a number of locations where the implementation of a simple, enclosed space dedicated to a dog park function might be considered. In general, Type A Dog Parks will require lower capital funds compared to the Type B Dog Parks discussed below. Basic elements could include:

- Enclosure (perhaps making use of existing fence lines that define courts or fields)
- Surfacing
- Gate system
- Signage
- Plastic bag receptacles
- Benches
- Trash receptacles

Because the Type A Dog Park approach will be relatively minimalist in order to get facilities in place at a relatively low cost, it will be important to identify potential second phases of improvements in order to meet constituent expectations and incorporate additional amenities that might be expected.



Type B (higher cost) Dog Parks- it is anticipated that this type of dog park amenity would be more elaborate and expansive compared to Type A, and as a result this would require significantly more capital funds and a lengthier timeframe to achieve. A Type B Dog Park might include:

- All Type A Dog Park elements
- Specialized surfacing
- Higher end enclosures
- Shade (shelters or tree plantings) and seating for human companions
- Play elements (for the dogs)
- Water (where available)
- Other features



Informal Playing Fields – All communities need fields/areas that can support informal play for pick-up games, informal practices, kite flying, frisbee tossing, etc. The proposed master plans address these needs, as space allows. When left unprogrammed, some fields can be used for open play. The Recreation and Parks Department may want to have the ability or options to limit this use, however, to occasionally rest the fields in the same way as they do the actively programmed fields.



Basic Park Aesthetics and Inherent Natural Qualities – The preferred master plans identify improvements that help to protect, preserve, and enhance the aesthetics and inherent natural qualities of each property, while improving sustainability in terms of the environment and maintenance. Recommendations that focus on improving the overall aesthetics of the individual park properties include certain basic elements, identified below. Please note that the Town can implement these types of improvements as funds become available within certain geographic sections of the parks. It is important to establish a standard visual appearance that becomes recognizable as the Town of Warren's "look." This standardized motif would allow for improved overall park aesthetics and ease in completing potential repairs, replacements, or expansions at a particular facility or feature. To achieve these goals, our recommendations include:

- Enhancing recreation property edges by providing new fencing, tree plantings, and associated landscaping
- Removing, replacing, and/or upgrading interior park fence lines and deteriorated systems with more visually appealing alternatives
- Enhancing and upgrading the surroundings of buildings and play areas
- Establish the "Carry in – Carry out" rule at all passive sites
- Undertaking park-wide planting and vegetation management programs that include removing invasive or diseased tree/shrub species, pruning desirable species, and installing new plantings to lend shade, better define spaces within each park, improve park aesthetics, and enhance wildlife habitats where possible
- Providing coherent, cohesive information and installing interpretive signage Town-wide and throughout each park
 - Establishing a consistent theme that becomes easily recognizable as Warren's motif
 - Providing distinct signage at historical sites that sets them apart, yet still resembles the general theme of Warren's signage
- Installing additional site furnishings park-wide (e.g., benches, picnic tables, shade shelters, bike racks, etc.) to offer conveniences to park users and improve park aesthetics



Utility Upgrades – As capital projects are planned and implemented, it will be important to confirm requirements for utility infrastructure upgrades to ensure that existing systems are replaced in a timely fashion and do not disturb recent or future park improvements. The master plans identify the following primary objectives:

- Provide wells (where feasible) for new or refurbished bathrooms, concessions stand, and field irrigation systems
- Improve stormwater management systems to replace deteriorated facilities and develop stormwater management techniques that are environmentally friendly and appropriate within the context of each particular park. In accordance with best management practices, new systems are generally required to disperse stormwater within a site and return stormwater to the soils located below, in lieu of directing untreated runoff to nearby wetlands, roadways, or parking areas.
- Move overhead electric services to below ground to improve site aesthetics and comply with the requirements of various granting agencies

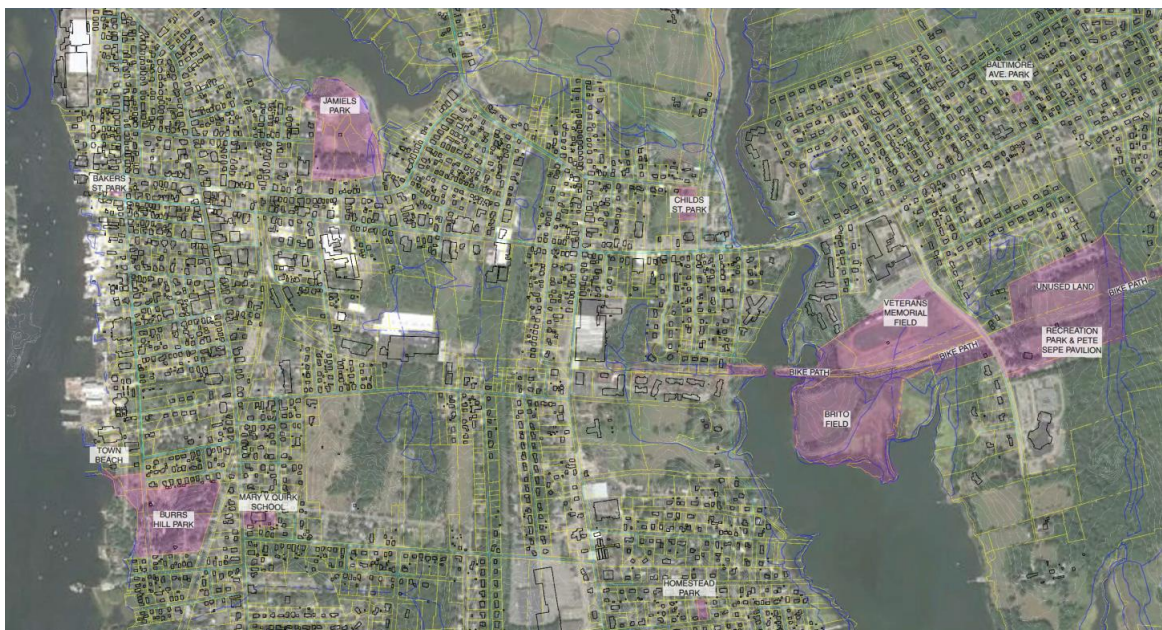
Site Analysis & Recommendations

The preferred master plans included on the following pages identify the proposed configuration of the site features at each individual property. It is important to note that most recommendations suggest the refinement, enhancement, or refurbishment of existing facilities within the properties. However, the plans also recommend the development of a modest level of new facilities and amenities that would provide new or expanded opportunities for public use and enjoyment. Importantly, if additional sites become available to the Town, the new recreational amenities at these new locations could alleviate/eliminate problems at other Recreation and Parks and School properties.

The following profile sheets articulate the properties that are not used to their full potential. These properties are valuable assets to the Town of Warren and, if properly redesigned, could provide more meaningful recreational value to the Town. These properties include, but are not limited to:

- Burr's Hill Park & Warren Town Beach (Water Street)
- Jamiel's Park (Market Street)
- Warren Recreation Park and Pete Sepe Pavilion & Unused Land (Asylum Rd)
- Warren East West Bike Path Connector
- Veteran's Field and Brito Field (Hugh Cole Rd)
- Child Street Park (Child St)
- Wujcik's Farm (Heritage Park) (Schoolhouse Rd)
- Baker Street Park (Water Street)
- Homestead Park (Homestead Ave)
- Baltimore Avenue Park (Baltimore Ave)
- Warren Community Center (Mary V. Quirk School, 790 Main Street)

It is important to note that Town representatives have provided a significant amount of input and many suggestions during the master planning development and review process. In addition, the public at large contributed to the development of the preferred plans by offering their advice at several well-attended hearings. We have developed short narratives to introduce and support each preferred master plan, which graphically depicts the basic scope of improvements. We have included larger existing conditions and preferred master plans in the Appendix.



The image above identifies an aerial view of the Town of Warren. The locations of the properties are indicated. Note that many of the facilities are spread out throughout the Town, providing recreational activities to most areas of Town

RECREATION PARK & PETE SEPE PAVILION, WITH UNUSED LAND, & EAST-WEST BIKE PATH- EXISTING

Basic Site Description and Location

Warren Recreation Park & Pete Sepe Pavilion is located on Asylum Road across from the (KMS) Middle School. Included in the site is an area of unused land, as well as the East- West bike path running through. This image shows an aerial view of the site, which contains:

- 1 natural grass LL. Baseball Field
- 1 natural grass Softball Field with Multi-Use outfield
- Bleachers
- Restroom | concession | storage building
- 1 small parking lot
- 1 Basketball Court
- 1 Playground area
- Volleyball and bocce court area
- Sepe Pavilion area with clam bake pits
- Unused land
- East- West Bike Path



Programmed Uses

- Warren Little League
- Hugh Cole School
- KMS Softball
- AAU Teams
- Music Classes
- Clam bakes and other functions



Summary of Existing Conditions

The Warren Recreation Park is widely used by the entire community. Due to its location and relation to the schools, multiple school groups and a wide range of user groups vie for use of the facilities with a high demand for play time. The fields suffers from overuse. The primary issues of concern for this site include:

- The fields are overused, and this usage exceeds their capacities.
- The space at the site is not fully utilized and lacks multi-generational facilities for community-wide use.
- The turf conditions are mostly poor to fair at the fields.
- The facility lacks adequate seating and access pathways sufficient for ADA requirements.
- There are serious drainage issues at the fields.
- There are no ADA parking spaces and parking in general is lacking
- The support buildings are in relatively good condition and need only minor improvements
- Some features are new and in excellent condition. (fencing, backstop, dugouts)



RECREATION PARK & PETE SEPE PAVILION, WITH UNUSED LAND, & EAST-WEST BIKE PATH- PROPOSED

Recommended Improvements

The recommended improvements include relocating and reconstructing the existing baseball and softball fields, improving the natural turf to increase the amount of play for each field, as well as improving the playability and safety for the players. These improvements also allow the Multi-use field to be laid over the Softball field when it is not being used. In addition, a 225' and 300' Baseball Field has been incorporated within the unused area of the site. The addition of these field could allow for baseball activities to resume at a site near the middle school and provide for AAU tournament play at the site.

Recommendations Summary

- Renovate the existing baseball and softball fields and the overlaid multi-use field with root zone mix and a sub-drainage system, expand the multi-use field into the woods to create a usable size field
- Construct a 225' baseball field suitable for 60' or 70' base paths and a 300' baseball field on the unused land
- Upgrade the irrigation system for efficient, comprehensive watering of all turf areas
- Construct a small parking area adjacent to the fields for ADA parking and access.
- Create new accessible pathways throughout the site and across the wetlands to connect the fields, these paths could also be used as an education trail by adding interpretive signage regarding wetland and woodland wildlife habitats.
- Upgrade all dugouts and add accessible spectator seating where appropriate.
- Install three new shade shelters with picnic areas near the spectator areas for the fields
- Upgrade the entrances with attractive signage, add new native plantings, and remove diseased, damaged, or invasive plant species throughout the site
- Integrate trees throughout the site to provide shade
- Construct new relocated basketball, volleyball, bocce courts
- Improved access and pathways systems
- Add a restroom facility at Pete Sepe Pavilion



Cost Considerations

The following pre-design program Budget Summary is an example estimate and identifies the initial breakdown of costs associated with the planned priority program. All costs have been rounded and are estimated based on our previous experience with similar projects.

ITEM	COST
SITE PREP	\$120,000
EARTHWORK	\$50,000
PARKING/ CIRCULATION	\$300,000
PAVILION UPGRADES WITH VOLLEYBALL, BASKETBALL,	\$200,000
RENOVATED- 225' BASEBALL FIELD (AGES 6-12)	\$150,000
RENOVATED- 300' SOFTBALL/ MULTI-USE FIELD	\$200,000
NEW- 225' BASEBALL FIELD (AGES 12-14)	\$250,000
NEW- 300' BASEBALL FIELD (AGES 14+)	\$350,000
BRIDGE STRUCTURE	\$40,000
SUPPORT STRUCTURES	\$200,000
ELECTRICAL	\$900,000
LANDSCAPE / PLANTINGS	\$100,000
Sub Total:	\$2,860,000
Mobilization, Overhead, Profit & Contingency (20%):	\$572,000
Total:	\$3,432,000

VETERANS MEMORIAL FIELD & BRITO FIELD WITH EAST-WEST BIKE PATH- EXISTING

Basic Site Description and Location

Veterans Memorial Field is located on Hugh Cole Road, and is shared with KMS as well as The Town's active recreation. Included in the site is an unused area known as Brito Field, as well as the East- West bike path running through. It offers a wide variety of recreation activities in all seasons. The image to the right shows an aerial view of the site, which contains:

- Parking at KMS
- Track with Bleachers/ concession/ storage
- Central multi-use rectangular field – primarily used as a game field
- Multi-use practice areas surrounding the track
- Abandoned baseball field
- Brito Field
- East- West Bike Path



Programmed Uses

- | | |
|--|---|
| <ul style="list-style-type: none"> ▪ KMS PE Class ▪ Youth soccer ▪ Youth football ▪ KMS boys LAX/ Soccer ▪ KMS Girls LAX/ Soccer ▪ Youth Cheer | <ul style="list-style-type: none"> ▪ Semi Pro Soccer ▪ Men's Soccer ▪ Youth LAX ▪ KMS Flag Football ▪ Band class |
|--|---|

Summary of Existing Conditions

Veterans Memorial Field is widely used by the entire community. Due to its location and relation to the schools, central location in town and available parking, multiple school groups and a wide range of user groups vie for use of the facilities with a high demand for play time. Many of the fields suffer from overuse and, with the athletic field lights, the duration of play throughout the day continues into the night. The primary issues of concern for this site include:

- The fields are overused, and this usage exceeds their capacity.
- Fields are prone to flooding and are wet in the spring.
- Existing game fields are undersized
- There is no ADA access for these facilities, and there are no formal handicapped viewing areas.
- Track is not correct orientation
- Brito Field currently unused land
- Buildings and bleachers are tired and in need of replacement
- The sports lighting is in poor condition and in need of replacement
- Bike Path has potential future bridge connection.



VETERANS MEMORIAL FIELD & BRITO FIELD WITH EAST-WEST BIKE PATH- PROPOSED

Recommended Improvements

The recommended improvements include the construction of a new central game field. As well as amending the existing practice areas suitable for safe play. With the proposed design it opens up a variety of layouts taking full advantage of the space. The addition of another full size multi-use rectangular field in the Brito Field area as well as a variety of connecting trail systems and other features of interest such as a possible dog park, community garden, overlook area.

Recommendations Summary

- Expand and amend the existing practice multi-use fields.
- Renovate the central game field.
- Upgrade the irrigation system for efficient, comprehensive watering of all turf areas
- Add ADA-compliant multi-generational pathways looped around fields as available for those who cannot use the steeper trails.
- Add spectator seating and other amenities.
- Install new shade shelters with picnic areas.
- Upgrade the entrances with attractive signage, add new native plantings.
- Integrate trees throughout the site to provide shade
- Construction of a parking area across from the track for overflow/event parking and additional parking for Brito field.
- Install Community gardens, dog park and overlooks along the trails near the fields.
- Addition of new full size multi-use rectangular field at Brito Field
- Defined connection along Hugh Cole Road and Asylum Road to Recreation Park



Cost Considerations

The following pre-design program Budget Summary is an example estimate and identifies the initial breakdown of costs associated with the planned program. All costs have been rounded and are estimated based on our previous experience with similar projects.

Veterans Memorial Field

ITEM	COST
SITE PREP	\$120,000
EARTHWORK	\$75,000
PARKING/ CIRCULATION	\$100,000
MAIN FIELD RENOVATION	\$200,000
BLEACHERS/ PRESS BOX/ STORAGE	\$450,000
RENOVATED- 240' X 360' MULTI-USE FIELD	\$300,000
RENOVATED- 180' X 330' MULTI-USE FIELD	\$200,000
RENOVATED- 180' X 330' MULTI-USE FIELD	\$200,000
RENOVATED- 140' X 225' MULTI-USE FIELD	\$125,000
COMMUNITY GARDENS	\$50,000
SUPPORT STRUCTURES	\$150,000
ELECTRICAL	\$500,000
LANDSCAPE / PLANTINGS	\$100,000
Sub Total:	\$2,570,000
Mobilization, Overhead, Profit & Contingency (20%):	\$514,000
Total:	\$3,084,000

Brito Field

ITEM	COST
SITE PREP	\$120,000
EARTHWORK	\$75,000
PARKING/ CIRCULATION	\$100,000
DOG PARK	\$80,000
CANOE LAUNCH	\$60,000
NEW- 240' X 360' MULTI-USE FIELD	\$200,000
SUPPORT STRUCTURES	\$150,000
ELECTRICAL	\$100,000
LANDSCAPE / PLANTINGS	\$100,000
Sub Total:	\$985,000
Mobilization, Overhead, Profit & Contingency (20%):	\$197,000
Total:	\$1,182,000

CHILDS STREET PARK- EXISTING

Basic Site Description and Location

Childs Street Park is located at the corner of Kickemuit, and Serpentine road. It's a smaller pocket park mainly used for passive recreation with some programmed use. The image to the right shows an aerial view of the site, which contains:

- Multi-use rectangular field
- Small children's playground
- T-Ball Field area

Programmed Uses

- Youth baseball
- Informal use by a variety of youth sports programs
- Neighborhood playground

Summary of Existing Conditions

Childs street Park is a neighborhood pocket park. The primary issues of concern for this site include:

- Parking and access is an issue since the site has one small shared access parking lot
- There is no athletic field lighting limiting the available play time
- There is no dedicated fence around the play area
- There is no safety surfacing at the playground and it is lacking accessible equipment
- There is a lack of spectator seating and viewing areas in general and there is no formal handicapped access or viewing areas
- There are no bathroom facilities



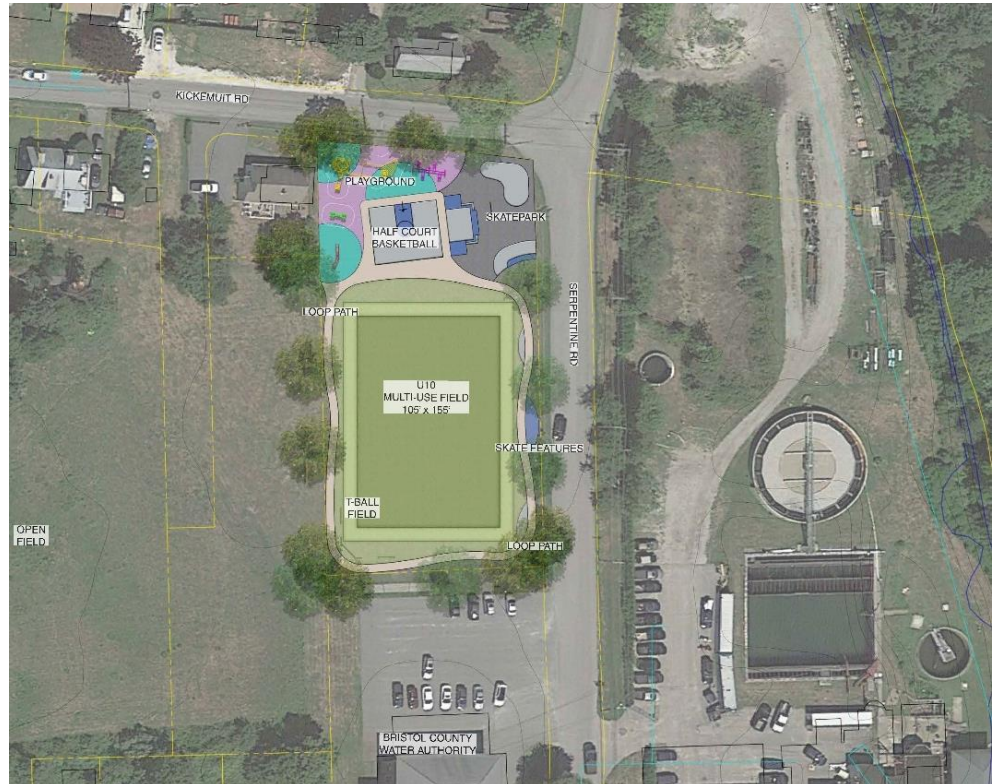
CHILDS STREET PARK- PROPOSED

Recommended Improvements

The recommended improvements include the construction of a new playground area, including a half court basketball court, potential skate park and loop trail.

Recommendations Summary

- Renovate the natural turf field
- Install a new playground area and half-court basketball
- Construct a small skate park with skate features along loop trail.
- Create new pathways for access to all amenities including a loop path for multi-generational use
- Upgrade the entrances with attractive signage, add new native plantings, and remove diseased, damaged, or invasive plant species
- Integrate trees throughout the site to provide shade



Cost Considerations

The following pre-design program Budget Summary is an example estimate and identifies the initial breakdown of costs associated with the planned priority program. All costs have been rounded and are estimated based on our previous experience with similar projects.

ITEM	COST
SITE PREP	\$50,000
EARTHWORK	\$25,000
CIRCULATION PATHS	\$30,000
RENOVATED- 105' X 155' MULTI-USE FIELD	\$50,000
PLAYGROUND	\$80,000
HALF-COURT BASKETBALL	\$30,000
SKATE PARK / SKATE FEATURES	\$40,000
ELECTRICAL	\$50,000
LANDSCAPE / PLANTINGS	\$15,000
Sub Total:	\$370,000
Mobilization, Overhead, Profit & Contingency (20%):	\$74,000
Total:	\$444,000

JAMIELS PARK- EXISTING

Basic Site Description and Location

Jamiel's Park is located on Market Street, and most of the site is used for athletics. The image to the right shows an aerial view of the complex, which contains:

- Softball Field
- Tennis Courts
- Basketball Courts
- Roller Hockey Court
- Gravel parking area
- Main building with locker rooms, bathrooms, concessions and storage
- Storage/maintenance building



Programmed Uses

- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ Co-Ed Softball ▪ Women's Softball ▪ Hockey League ▪ Lacrosse | <ul style="list-style-type: none"> ▪ AAU Teams ▪ Tennis ▪ Basketball ▪ Dog walking |
|---|--|



Summary of Existing Conditions

Jamiel's Park is widely used by the entire community. Multiple school groups and a wide range of user groups vie for use of the facility with a high demand for play time. The field suffers from wear and lack of a recent natural turf renovation. The primary issues of concern for this site include the following:

- The field is overused, and this usage exceeds its capacity.
- The buildings are in fair condition and need some renovation/updating.
- The light poles are old telephone poles that are warped, causing the lights to be twisted and the lighting is not energy efficient.
- There are no formal handicapped accessible parking spaces, pathways or viewing areas.
- The courts are faded and cracked
- Vehicular circulation is unclear and unsafe through the site.
- The Hockey Rink is newly renovated and is in good condition.



JAMIELS PARK- PROPOSED

Recommended Improvements

The recommended improvements include expansion and amending of the natural turf field to increase the amount of play for that field and improve playability and safety for the players. Further recommendations also include refurbished courts, improved circulation, parking, lighting, as well as the replacement and improvements of associated amenities and buildings. Improvements are as follows:

Recommendations Summary

- Expand and amend the natural turf field, allowing for the overlay of two multi-use fields.
- Install new, energy efficient LED sports lighting at the courts and the field
- Add an ADA-compliant multi-generational pathway looped around the field with potential fitness stations along the pathway
- Construct a children's playground for use by all residents
- Renovate all support buildings
- Upgrade the entrances with attractive signage, add new native plantings, and remove diseased, damaged, or invasive plant species along the edges of the site
- Integrate trees throughout the site to provide shade
- Renovate the existing parking lot.
- Potential dog park, community gardens, canoe launch and overlook areas



Cost Considerations

The following pre-design program Budget Summary is an example estimate and identifies the initial breakdown of costs associated with the planned priority program. All costs have been rounded and are estimated based on our previous experience with similar projects.

ITEM	COST
SITE PREP	\$75,000
EARTHWORK	\$50,000
PARKING/ CIRCULATION	\$350,000
RENOVATED- 330' X 180' MULTI-USE FIELDS	\$150,000
RENOVATED- SOFTBALL FIELD	\$25,000
PLAYGROUND	\$50,000
(2) BASKETBALL COURTS	\$120,000
(2) TENNIS COURTS	\$120,000
ELECTRICAL	\$300,000
CANOE LAUNCH	\$30,000
DOG PARK	\$80,000
COMMUNITY GARDENS	\$30,000
PARK SUPPORT STRUCTURES	\$75,000
LANDSCAPE / PLANTINGS	\$50,000
Total:	\$1,505,000
Mobilization, Overhead, Profit & Contingency (20%):	\$301,000
Total:	\$1,806,000

BURRS HILL PARK & TOWN BEACH- EXISTING

Basic Site Description and Location

Burrs Hill Park and Town Beach is located on Water street. The site is heavily used by residents. The image to the right shows an aerial view of the site, which contains:

- Beach Area
- Playground
- Stage
- Baseball field
- 2 Basketball courts
- 2 Tennis Courts
- Bike Path Connection
- Large parking area



Programmed Uses

- | | |
|--|---|
| <ul style="list-style-type: none"> ▪ Warren Summer Camp ▪ Summer Concerts ▪ Baseball Leagues ▪ Little League Baseball ▪ Warren Recreation | <ul style="list-style-type: none"> ▪ Basketball League ▪ Festivals/ Events ▪ AAU Teams ▪ Informal use by a variety of youth sports programs ▪ Beach Yoga |
|--|---|



Summary of Existing Conditions

Burrs Hill Park and Warren Town Beach are primary support facilities for the Town. Due to its location in relation to the schools and ample parking, multiple school groups and a wide range of user groups vie for use of the site. The sites have been constructed without any access paths or pedestrian circulation making it difficult for spectators, especially the elderly and handicapped patrons to view games. The primary issues of concern for this site include:

- The field is overused, and this usage exceeds their capacity.
- The turf conditions are mostly poor to fair and damaged heavily by past fairground use.
- There are drainage issues at all the field.
- There is no formal ADA access or handicapped viewing areas and no spectator seating.
- The players areas are in poor condition
- Courts are faded and cracked
- Restroom facilities are in poor condition



BURRS HILL PARK & TOWN BEACH- PROPOSED

Recommended Improvements

The recommended improvements include expanding and renovating the Town Beach area, and Playground. Construction of boat launch and trailer parking. Amending baseball field and players area. Refurbished existing courts and improve circulation. The graphic below shows other overall proposed improvements.

Recommendations Summary

- Amend the baseball field root zone mix and add drainage system
- Upgrade all dugouts and add spectator seating where appropriate
- Create new accessible pathways throughout the site to connect the fields, this pathway could also be used as an education trail by adding interpretive signage regarding wetland and woodland wildlife habitats.
- Install new shade shelters/ support building with picnic areas near the spectator areas for the fields.
- Construct new basketball and tennis courts.
- Construct small parking areas for boat launch and trailer parking next to the beach, this would require land acquisition
- Replace the playground at the beach with new accessible equipment.
- Upgrade the entrances with attractive signage, add new native plantings, and remove diseased, damaged, or invasive plant species
- Add raised crosswalks between the Burrs Hill Park and the Town Beach.
- Integrate trees throughout the site to provide shade



Cost Considerations

The following pre-design program Budget Summary is an example estimate and identifies the initial breakdown of costs associated with the planned priority program. All costs have been rounded and are estimated based on our previous experience with similar projects.

Burrs Hill Park

ITEM	COST
SITE PREP	\$50,000
EARTHWORK	\$50,000
PARKING/ CIRCULATION	\$30,000
RAISED CROSS WALKS	\$45,000
RENOVATED- BASEBALL FIELD	\$150,000
(2) BASKETBALL COURTS	\$120,000
(2) TENNIS COURTS	\$120,000
ELECTRICAL	\$100,000
SUPPORT BUILDING	\$150,000
PARK SUPPORT STRUCTURES	\$100,000
LANDSCAPE / PLANTINGS	\$25,000
Sub Total:	\$940,000
Mobilization, Overhead, Profit & Contingency (20%):	\$188,000
Total:	\$1,128,000

Town Beach

ITEM	COST
SITE PREP	\$50,000
EARTHWORK	\$50,000
BOAT RAMP/ TRAILER PARKING	\$200,000
PLAYGROUND	\$100,000
ELECTRICAL	\$50,000
PARK SUPPORT STRUCTURES	\$50,000
LANDSCAPE / PLANTINGS	\$25,000
Sub Total:	\$525,000
Mobilization, Overhead, Profit & Contingency (20%):	\$105,000
Total:	\$630,000

WUJCIKS FARM- EXISTING

Basic Site Description and Location

Wujciks Farm is located on Schoolhouse Road and is bordered by Warren Reservoir. The entire site is used for Conservation area. The image below shows an aerial view of the facility, which contains:

- Open Space areas on both side of Schoolhouse Road
- Conservation Lands

Programmed Uses

- No current programmed use
- Mainly used as Hay Field/ Conservations area



Summary of Existing Conditions

Wujciks Farm is mainly used as Conservation Area, with no current programmed usage. The primary issues of concern for this site include:

- The space is not utilized to its full potential.
- This area of the field is often wet.
- There is no formal ADA access or parking
- The entrance areas are informal and nondescript. The site lacks a sense of arrival.
- There is no parking on the site
- Located off of heavily trafficked road.



WUJCIKS FARM- PROPOSED

Recommended Improvements

The recommended improvements include implementing a loop path throughout the site with minimal disturbance to the conservation area. Also, the opposite side of Schoolhouse road could serve well as a potential community gardens area. The graphic below depicts the proposed improvements.

Recommendations Summary

- Add an ADA-compliant multi-generational pathway looped around Conservation Area.
- Community Gardens area complete with fencing, material storage area, parking, and shelters.
- Upgrade the entrances with attractive signage, add new native plantings.
- Integrate trees throughout the site to provide shade



Cost Considerations

The following pre-design program Budget Summary is an example estimate and identifies the initial breakdown of costs associated with the planned program. All costs have been rounded and are estimated based on our previous experience with similar projects.

ITEM	COST
SITE PREP	\$50,000
EARTHWORK	\$50,000
PARKING/ CIRCULATION	\$100,000
COMMUNITY GARDENS	\$125,000
ELECTRICAL	\$60,000
SUPPORT STRUCTURES	\$30,000
LANDSCAPE / PLANTINGS	\$25,000
Sub Total:	\$440,000
Mobilization, Overhead, Profit & Contingency	\$88,000
Total:	\$528,000

BALTIMORE AVENUE PARK- EXISTING

Basic Site Description and Location

Baltimore Park is a neighborhood pocket park. The entire site includes a handful of rundown play equipment and a basketball hoop. The image to the right shows an aerial view of the Park, which contains:

- Small play equipment
- Exercise bars
- 1 half court basketball
- Few benches
- Open lawn area



Programmed Uses

- Informal use by neighborhood families
- No programmed use

Summary of Existing Conditions

The facility is widely used by the neighborhood. The park is a safety concern due to its lack of upkeep. The primary issues of concern for this site include:

- Park conditions are wet even after of full day of dry conditions after a rain event.
- The half-court basketball is worn and has a cracked surface.
- There is no ADA access at the site and there are no formal handicapped viewing areas.
- The space is not utilized to its full potential and lacks multi-generational facilities for community-wide use.
- Parking is an issue since there is no formal parking on the site, park patrons must make use of the street for parking.
- Park amenities are dated, and worn, and pose a safety concern.



BALTIMORE AVENUE PARK- PROPOSED

Recommended Improvements

The recommended improvements include upgrades to all the playground features and the addition of ADA pathways throughout the site. Further recommendations include the construction of a half-court basketball, and improved entry area.

Recommendations Summary

- Rebuild the half-court basketball
- Upgrade and expand the playground equipment
- Add pathways to and amend the existing playground
- Add ADA-compliant multi-generational pathways and connections throughout the site
- Upgrade the entrances with attractive signage, add new native plantings, and remove diseased, damaged, or invasive plant species
- Replace park benches
- Integrate trees throughout the site to provide shade



Cost Considerations

The following pre-design program Budget Summary is an example estimate and identifies the initial breakdown of costs associated with the planned program. All costs have been rounded and are estimated based on our previous experience with similar projects.

ITEM	COST
SITE PREP	\$25,000
EARTHWORK	\$25,000
PARKING/ CIRCULATION	\$30,000
PLAYGROUND	\$45,000
ELECTRICAL	\$25,000
SUPPORT STRUCTURES/ BENCHES	\$15,000
LANDSCAPE / PLANTINGS	\$15,000
Sub Total:	\$180,000
Mobilization, Overhead, Profit & Contingency	\$36,000
Total:	\$216,000

BAKER STREET PARK- EXISTING

Basic Site Description and Location

Baker Street park is located at the corner of Baker and Water Street and is used as a neighborhood pocket park. The image to the right shows an aerial view of the field, which contains:

- Memorial area
- Dated play equipment
- Some bench seating
- Informal gravel parking area

Programmed Use

- No programmed use
- Neighborhood Park



Summary of Existing Conditions

Baker Street park is another neighborhood pocket park. Has no formal parking. The only major deficiency is the condition of the surfacing and lack of ADA access. The primary elements for this site include:

- Very limited on street parking
- The fencing is relatively new and in good condition.
- Play equipment is dated (Town will be replacing soon)
- Memorial area needs more identification
- The site lacks accessibly pathways and the surrounding ground is uneven and there are no formal handicapped access.



Recommendations Summary

- Upgrade the entrances with attractive signage to make the park more recognizable
- Install new play equipment to meet current ADA requirements and play value
- New ADA pathways and surfacing.

HOMESTEAD PARK- EXISTING

Basic Site Description and Location

Homestead Park is located at corner of Homestead Ave and 5th Street. It is another neighborhood pocket park. The image to the right shows an aerial view of the field, which contains:

- Basketball Court
- Playground

Programmed Use

- No programmed use
- Heavy use by neighborhood

**Summary of Existing Conditions**

Homestead Park is known as a neighborhood park. It receives heavy use by local residents. The primary elements for this site include:

- Very limited on street parking
- Play equipment is minimal but in relatively good condition
- Court is tired, faded, and cracked.
- There is no formal handicapped access.
- The site lacks ADA accessible pathways and the surrounding ground is uneven.

**Recommendations Summary**

- Upgrade the entrances with attractive signage, add new native plantings, and remove diseased, damaged, or invasive plant species throughout the site
- Add accessible pathways to the play area and basketball court.
- Install additional play equipment to meet current ADA requirements and add multi-age play value
- Integrate more trees throughout the site to provide shade

WARREN COMMUNITY CENTER, MARY V. QUIRK SCHOOL- EXISTING

Basic Site Description and Location

Mary V. Quirk School is located at corner of Main Street and Vernon. The image to the right shows an aerial view of the site, which contains:

- Mary V. Quirk School
- Classrooms
- Gymnasium
- Offices



Programmed Use

- CYO Basketball
- Warren Recreation
- EBW Cheer
- Youth Wrestling
- YMCA
- Girl Scouts
- Private rentals
- Recess and after school activities

Summary of Existing Conditions

The Mary V. Quirk School is in desperate need of upgrades if it is to sustain its current usage. The primary elements for this site include:

- Minimal on street parking
- Dated building in need of improvements, and repairs
- Lack of ADA accessibility to most of the upper floors.
- Heavily used confined space.
- Has one heavily used gymnasium with limited space and features



WARREN COMMUNITY CENTER, MARY V. QUIRK SCHOOL - PROPOSED

Recreation Center Recommendations Summary

While the primary focus of this master plan was on outdoor recreational facilities, as part of this master planning effort we were asked to consider the options for an improved or new Community Recreation Center in Warren. There are several benefits to a new or improved recreation center in town. The following is from the Sports Facilities Advisory "11 Benefits of a Community Recreation Center":

Health - Community recreation centers offer many programs that help benefit both the body and the mind. Studies have shown that people who exercise regularly have lower blood pressure, delayed onset of diabetes, lower heart disease rates, and overall increased longevity. Exercise also helps increase white blood cells and aids in strengthening your immune system.

Reduce Stress - The benefits of sports complexes not only help the body, but they also create a less stressed mind. Stress greatly affects the community at large, and people who regularly use recreation centers have lower stress levels than sedentary people. Another benefit to the mind is overall happiness. People who exercise regularly are more than twice as likely to consider themselves happy.

Benefits to Families - Couples and families that play together tend to stay together. Family ties are improved by spending leisure time with each other. This effect even works with parent-child relationships. The sports facility management team usually has unique ways to help families participate together to increase family ties.

Reduce Crime Rates with Children - Juvenile criminal rates can decrease up to 25% when the community has a recreation center for adolescents to attend. A community recreation center gives children a safe place to play, keeping them off the streets.

Recreation Centers Increase Property Value - Houses that are located closely to newly built community centers or sports centers notice increases in property values. Studies have shown that people not only love going to recreation centers, but they are also willing to pay to live closer to one.

Keep Your Employees Alert and Around - Employees who exercise regularly used almost half as many absences as employees who did not engage in physical activity. Employees who had actively paid for membership for physical recreation are more alert on the job and have a lower turnover rate than employees without similar benefits.

Cultural Diversity - Sometimes, cultural differences can cause some problems in community relations and in workplaces. Participating in group activities can help to increase cohesion in both the community and the workplace. Sports tourism also brings more cultural diversity to many types of different events.

Boost Your Students' Performance - Students who actively participate in recreational activities have increased retention rates. In tests given to more than 33,000 students, researchers verified the link between active lifestyles and retention levels.

Child Care - A lot of recreation centers are offering programs that help parents keep their children busy and having fun. Many sports complexes are including areas for after-school childcare to help keep kids out of an empty home while the parents are out working. Some sports facilities offer many summer programs that can also help further physical and mental growth in kids, which can benefit families with two working parents. Proper facility planning can keep kids off the street while helping them prepare for their futures.

Public Safety - Some recreation centers offer classes that teach CPR and first aid procedures that can greatly benefit the community. These classes usually cost very little to attend, and some even offer free enrollment. Recreation centers are also seen as safe spots since the large crowds can deter violent situations.

Tourism - Sports facilities can hold large tournaments that can bring people from neighboring states. This increase of people can help bring more revenue into a town a few times a year. Local businesses along with the recreation centers see an increase in revenue during these large events.

We investigated three options for a new or renovated recreation center and outlined the benefits and drawbacks of each options. The options considered are as follows:

- Renovate Mary V. Quirk School
- Acquire and renovate the National Guard Center adjacent to Jamiel's park
- Build a new recreation center elsewhere in town

Renovate Mary V. Quirk School

Benefits:

- Close proximity to town center
- Proximity to Burrs Hill Park and the Town Beach for recreation programs and camps
- Community space can be used for a variety of events

Drawbacks

- Older building in need of extensive renovation
- Room size and layout are not conducive to the current needs
- Two stories makes accessibility difficult
- Houses only one gymnasium making additional programming difficult
- Limited Parking
- Not directly adjacent to Burrs Hill Park and the Town Beach
- Uncertain renovation issues such as remediation and mechanical/plumbing upgrades



Acquire and Renovate the National Guard Center

Benefits:

- Close proximity to town center
- Adjacent to Jamiel's Park for recreation programs and camps
- Parking
- Community space can be used for a variety of events

Drawbacks

- Town does not own it and would need to acquire the building
- Town would need to renovate
- Houses only one gymnasium making additional programming difficult
- May be too small for current needs
- Uncertain renovation issues such as remediation and mechanical/plumbing upgrades



Build a New Community Center Elsewhere in Town

Benefits:

- Adjacent to Veteran's Field and Recreation Park for recreation programs and camps
- Town own's the land
- Flexibility of parking and building design to meet current needs
- Potential overflow parking at KMS parking lot
- New Facility
- Community space can be used for a variety of events

Drawbacks

- Would require more design and permitting than a renovation project
- Potential higher cost due to new construction



Images of the new recreation facility in South Kingstown, RI



During the master planning process discussion lead to the initial realization that constructing a new community recreation facility at Veteran's Field or another potential location may be the best option for the town. A thorough feasibility study should be undertaken if the town choose to undertake any of these community recreation facility options.

Field Use Policy & Maintenance

During the completion of the site analysis efforts at various field properties and in discussions with Town staff members, it became apparent that Warren needs a more formal field use policy. In recent years, many similar communities have adopted field use protocols in order to:

- Bring fair and equitable treatment to all user groups.
- Control use of fields during poor weather conditions (note that good field and turf conditions can be drastically deteriorated by a single use/event held during bad weather).
- Protect recent/future field improvements.
- Maintain better field conditions overall.
- Reduce pressure on and help protect decision-makers by adopting a clearly articulated and evenhanded use policy that is widely published and understood.

Field use policies have become critical tools in establishing basic order and in protecting the significant investments that have been made at field complexes throughout the region. In fact, it is the desire to maintain superior playing conditions once major capital projects have been completed. That desire has motivated many communities to establish use protocols.

- In Waltham, Massachusetts, officials will not rush the opening of a new field facility until maximum grow-in (turf establishment) has been achieved. In this way, they are protecting their significant capital investments by preventing use until facilities can withstand play.
- In Needham, Massachusetts, fields are often closed for short periods of time for minor renovation efforts (e.g., seasonal aeration and slice seeding operations). This inconveniences user groups, but the need to maintain good playing conditions takes precedent.
- Officials in Westwood, Massachusetts and in Needham all aggressively monitor field conditions and issue advisories to user groups as to field status. In Needham, a parent or player does not leave for an event without checking the field status on the town's website or recorded information line. Coaches also alert parents and players through e-mail messages. During peak seasons, updates are issued on a daily basis (typically by 3:00 PM weekdays and early morning weekends). Needham recreation programming and public works staff collaborate to determine whether a field facility will be open for use.
- Waltham and Westwood hold violators of field policies responsible for damages to facilities.
- In many communities, fields that are plagued by heavy, wet soils that are slow to drain can be closed for several days until drier conditions allow for use without risk of excessively damaging the turf and underlying soil structure.

Excerpts from Westwood's "Guidelines for Use of Town and School Athletic Fields" are included below. The field use policy has become an essential tool in the programming, operation and maintenance of all field facilities and it helps officials to protect significant recent capital expenditures at various properties. Additional field use policies are attached at the end of the report.



Town of Westwood

Guidelines for Use of Town and School Athletic & Fields

Cancellation Policy:

Due to poor field conditions, potential hazards / unsafe conditions, and or inclement weather the Westwood Recreation Department and Westwood School Department reserves the right to deny an athletic activity or event from being held on a Town field. The two main purposes of this policy are to ensure the safety of participants and to prevent Town fields from getting abused and destroyed when the sod is vulnerable. Any Westwood School Administrator, Recreation official, Department of Public Works Official, Westwood Police Officer, or any other Town Official or designated person may deny use of a field and /or require an activity to stop.

Daily updates on fields, playable or closed www.townhall.westwood.ma.us, go to Recreation Department, click on field status.

Conditions that require cancellation of an athletic or field activity:

1. *No field will open until the spring thaw is complete.*
2. *A field is automatically closed if standing water is evident.*
 3. *Footing is unsure and slippery.*
 4. *Ground is water logged and "squishy".*
 5. *Grass can be pulled out of the ground easily.*
 6. *Lightning*
 7. *Severe weather storms*
8. *If concerned or in doubt about canceling, call the Recreation Department 461-0070 after 4:00 PM weekdays, or weekends after 7:00 AM.*
9. *League Officials make their decisions if weather / field conditions change after the initial cancellation (i.e. the sun comes out and dries the fields). They must use good judgment. If in doubt do not play or practice.*
10. *All League / Organization / Coach should "police" themselves, and report infractions to the Recreation & School Departments. The Recreation Department will contact League / Organization / Coach that have used fields improperly.*

Use of a closed field, or one with standing water, jeopardizes the safety of all, in particular children. Future League / Organization / Coach use of Town fields will be in jeopardy if this happens. In addition, if the inappropriate use requires additional maintenance to restore the field to safe conditions, costs to repair will be charged to the League / Organization.

As Warren considers making capital improvements to various playing field venues, it is critical to establish and adopt a field user policy to protect future improvements and to maintain desirable playing conditions. Even without new capital improvements, the policy is needed to help protect and improve current playing conditions at all playing venues. It takes considerable resources (Town funds for labor, materials, equipment, etc.) to maintain fields at present. A field use policy would allow stakeholders to manage facilities better and to achieve better playing conditions as a result. Basic steps related to establishment of a field use policy in Warren may include the following:

- Designate the responsible staff who will implement and enforce the field use policy. This includes having a dedicated supervisor on for overtime on weekends and holidays. The estimated cost for this additional labor is \$6,000 per year for the athletic season.
- Review other similar policies used in surrounding towns.
- Meet with officials from nearby communities to determine strengths and weaknesses of their respective policies.
- Draft a field use policy that best meets the needs and desires that are unique to Warren.

- Review the draft policy with key constituents and stakeholders. Establish support and buy-in.
- Adopt the policy.
- Begin implementation of the policy. Widely circulate and publicize the policy.

Field Use Policy Recommendations

It is important to note that the adoption of a clearly articulated, comprehensive field user policy in Warren is not the sole avenue to better playing field conditions. As mentioned throughout the feasibility study, conditions will only improve by:

- Earmarking additional funds through the annual budgeting process for additional public works and parks maintenance staff hires, materials and equipment such that basic improvements can be undertaken without the need to go through a costly and cumbersome public bidding process.
- At field facilities that require major refurbishment efforts, authorize capital expenditures to design, bid and construct the desired facilities. This might include the upgrading of existing facilities or the development of new facilities within undeveloped sections of existing field properties.
- It is evident that Warren has a shortage of fields. The conflicts and pressures are documented throughout this study. It is critical to establish new playing venues at other Town-owned properties (developed or undeveloped) that are suitable for field development.

As old fields are refurbished and new fields are developed, the field user policy becomes a mechanism for protecting fields and to maintaining better playing conditions overall for all users.

The Town should work with their consultants to prepare an operation and maintenance plan for the established and newly constructed turf fields, both synthetic and natural. In order to minimize adverse field conditions due to maintenance issues, as a general outline we recommend that all fields be maintained to the Sports Turf Managers Association (STMA) and Turf Magazine industry standards listed below.

Beginning of Season Conditions: The Town should make every effort to begin each playing seasons with 100% turf coverage on the fields and well-groomed infields.

Soil Testing: Perform at least once every three to five years to determine nutrient deficiencies. This allows fertilization to be tailored to each field's individual needs.

Fertilization: As a rule of thumb, fertilizers should be applied mid-spring, early June, mid-September, late October, and mid to late December.

Aeration: Perform in late March to early April, after school is out in June, and in late August before fall school sports begin. Aeration reduces ground hardness and compaction of soil, allowing roots to breathe and grow more easily, and making turf more resilient for falling players. This is the single most important maintenance element. Without it, all others are futile.

Mowing: Perform twice a week March through October and as needed from October to November. Turf maintenance professionals emphasize that mowing schedules should not be reduced when fields are resting or otherwise inactive, as regular mowing helps to ensure thick and vigorous turf growth.

Irrigation: 1 inch per week.

Lime: As needed to maintain a pH of 6.0-6.7

Seeding: Weather conditions make August to mid-September the preferred time of year to seed field areas. The method of seeding (slice seeding, hand seeding, hydroseeding) can be determined to fit the condition and size of the field being restored.

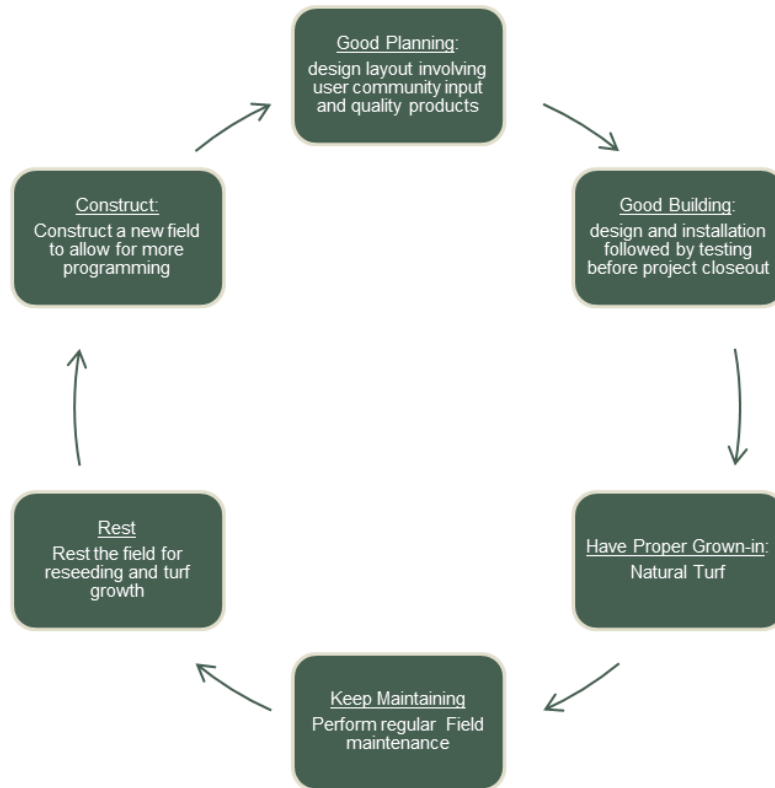
Field Lining: Before each game or as otherwise needed.

Pest Control: Any pest problems that are detected should be resolved using cultural practices. It is important to note that fields treated with pesticides must be taken out of play to avoid contact with players and children. This requires extra fields to accommodate relocated play. As part of the maintenance program and Integrated Pest Management (IPM) program should be developed.

Excess Thatch Removal: Performed in June when soil is dry.

Rolling: Perform three times per year when the ground is soft. This will help to keep playing surfaces from becoming inconsistent, uneven and lumpy, and improve player safety.

The standards need to be codified into a written plan to govern maintenance operations that all field maintenance personnel use and reference. The plan should be supported by sufficient labor savings equipment to allow implementation of all aspects of the plan.



FUNDING & ACTION PLAN

Funding Approach & Opportunities

There are many potential sources of funding from both public and private entities that could help to pay for potential improvements to the study sites in Warren. Donations, both large and small, can be lumped together to create the financing needed to undertake meaningful improvements. The Town of Warren may aggressively pursue a variety of funding and implementation strategies that could include:

- **In-house Services-** Implement improvements making use of Town labor forces, materials and equipment. This method is typically appropriate for projects that are limited in scope, such as the construction of a parking area, driveway or sidewalk, clearing and grubbing in advance of a new field site capital project, refurbishment of a baseball infield or sections of a soccer field (goal mouths, center field areas etc.). As funding, materials, equipment and human resources permit, other minor improvement efforts can be planned and undertaken. The removal of dead/diseased trees and the pruning of healthy trees around a field perimeter, the installation of player's benches, small bleacher systems, trash receptacles, limited fencing runs and signage are examples of the types of minor enhancements that can be provided using Town forces and materials.
- **Donations/Corporate Sponsorships/Community Build-** Implement improvements for projects through a variety of means that might include construction of a field or ancillary facility with funding generated through linkage or mitigation arrangements (often originating from the approval of a large in-Town development). In certain cases, improvements can also be undertaken by contractors looking to donate services, equipment or materials. The supply of volunteer labor, available through regional corporate initiatives such as Timberland's Path of Service program, can also assist with smaller improvement projects.
- **Traditional Public Bidding-** Develop plans, specifications and estimates for the desired improvements, publicly advertise, receive bids and award a construction contract to the lowest qualified bidder. Projects typically range from small (approximately \$50,000 minimum) to very large (multi-million dollars).

Partnerships

Partnerships can also play an important role in the overall plan to improve, manage and maintain park properties. As an example, in many surrounding towns there are numerous privately managed sports leagues with impressive track records for supporting certain maintenance and capital improvement initiatives for numerous facilities. Communities are increasingly relying on public/private partnerships to create facilities and the desired playing conditions needed to support sports programming.

As these companies look to expand and reach a greater percentage of youths in the region, there may be the opportunity to partner on field amenities and improvements. Although this model would be new to Warren, such an approach could accelerate improvements while offering patrons a local alternative over traveling to other sites in the state.

Funding Alternatives

For initial consideration, a number of potential funding sources have been identified. Many of the governmental sources identified allocate millions of dollars per year for parks, open space and athletic facility improvement programs, but competition is intense. The actual improvements are then implemented through a public design, bid and construction process. The alternative funding sources are as follows:

- **State of Rhode Island DEM Outdoor Recreation Grants-** Each year RIDEM offers grants for recreation pursuits. Matching funds are available for the acquisition, development and renovation of outdoor recreational facilities and are funded through state bonds and the Federal Land & Water Conservation Fund. Funding categories include Large Recreation Development grants (up to \$300K, 20% match), Small Recreation Development Grants (up to \$100K, 20% match), and Recreation Acquisition grants (up to \$300,000, 50% match). Applications are scored by the Recreation Resources Review Committee and recommendations are submitted to DEM's Director for approval.

- **State of Rhode Island DEM Recreational Trail Grants-** The Trails Advisory Committee (TAC) meets quarterly to evaluate Small Grants (up to \$3,000) and Education Grants (up to \$5,000). Small Grant and Education Grant applications can be submitted at any time. Note that submittals must be received no later than one week prior to a scheduled meeting in order to be considered by the TAC. Larger Grants, available periodically, are scored by the TAC and submitted to the DEM Director for approval. Recreational Trail Grants are facilitated by DEM, in cooperation with DOT, to encourage the development and maintenance of recreation trails and trail related projects. State & local governments, Indian tribes, and nonprofit organizations are eligible to apply for funding to: construct new trails, maintain or restore existing trails, develop or rehabilitate ancillary trail facilities, purchase or lease of trail construction and maintenance equipment, and for operation of educational programs promoting safety and environmental protection along recreational trails. Visit <http://www.dem.ri.gov/programs/planning/grants/> for further information and requirements of each grant.
- **U.S. Soccer Foundation-** The U.S. Soccer Foundation has awarded grants to over 600 non- profit organizations since 1995. They support soccer programs and field building initiatives in the U.S. with a goal of promoting more active, healthier, and safer communities. Two types of grants are awarded each year. The first grant is called *Safe Places to Play* which assists the grantees with synthetic turf fields, lighting, irrigation, and sports courts. The second is called a *Program Grant* which assists with equipment and operating costs. Visit <http://www.ussoccerfoundation.org/> for further information and requirements of each grant.
- **Land & Water Conservation Fund-** In the past 40 years, LWCF has approved over 40,000 grants to states and localities, with over 26,000 of them awarded for development of recreation facilities. LWCF grants could cover up to 50% of the total project- related costs for public outdoor recreation and for fulfilling the program's planning requirements. Visit <http://www.nps.gov/lwcf/index.htm> for information on the planning requirements.
- **The Baseball Tomorrow Fund-** BTF awards an average of 55 grants per year averaging more than \$1.8 million annually. Their mission is to promote and enhance youth participation in baseball and softball. They fund programs, renovations and construction of baseball and softball fields, equipment and other selected program expenses. For more information on the fund and application process, visit http://web.mlbcommunity.org/index.jsp?content=programs&program=baseball_tomorrow_fund.
- **United States Tennis Association-** USTA's mission is to promote and develop the growth of tennis. In order to follow this mission, they have developed a USTA Facility Assistance program. They assist grantees with anywhere from tennis court repairs to new construction. For further requirements and details, visit http://www.usta.com/About-USTA/Tennis-in-the-Parks/Tennis_In_The_Parks/.

Action Plan and Summary of High Priority Initiatives

Implementation Strategies

An action plan or implementation strategy list can now be established for the facilities, as discussed during the master planning process. The level of implementation and identification of each effort will greatly depend on available funding, the requirements of the funding source and the most urgent needs of the community. All proposed improvements should be in accordance with the preferred master plan for each site. All other improvements identified are lower priority and could be added as budget allows, added if dedicated donor funds become available or added in future phases.

APPENDIX

- Appendix A | Study Facilities Assessment Memorandum
- Appendix B | Field Usage Matrix
- Appendix C | Study Facilities Site Map
- Appendix D | Existing & Proposed Site Plans
- Appendix E | Public Outreach Meetings Sign in Sheets
- Appendix F | Warren Parks and Recreation Facility Policy

APPENDIX A

STUDY FACILITIES ASSESSMENT MEMO

MEMORANDUM

TO: Project File

FROM: Evan Andrikos

DATE: August 08, 2017

SUBJECT: Appendix A- Study Facilities Assessment Memo/ Warren Site Walk

Attendees:

Mike Moonan- Weston & Sampson
Evan Andrikos- Weston & Sampson
Tara Thibaudeau- Town of Warren (Rec. Director)
Steve Marques- Town of Warren (DPW)

Notes:

- **Jamiels Park:**
 - Other side of parking lot to be remediated. (Old Dump Site)
 - Bit parking is crushed and weeding, overflows into courts
 - Graffiti
 - Bathroom facility in good condition interior
 - Need cameras
 - Relocate scoreboard
 - Drainage swale in open field
 - 2 electrical boxes on site need updating
 - Driving on courts no barricades
 - **Tennis Courts (2)-** cracked/ Non-ADA/ Gravel on courts
 - **Basketball Courts (2)-** cracked/ gravel
 - Seagull issues
 - Benches/ trash
 - **Street Hockey-** in good shape
 - Older lights
 - Potential for Ice Rink
 - No parking
 - **Softball Field-** infield/ outfield in rough shape
 - Newer light fencing, dugouts
 - Minimal maintenance by Town
 - New Shade Shelter
 - Need storage for League equipment

- **Warren Recreation Park and Pete Sepe Pavilion/ Unused Land:**
 - Parking issues for park
 - **Basketball Court**- no fencing, cracked, faded
 - **Picnic Area**- heavy use
 - **Sepe Pavilion**- storage and concession, bath room in good shape
 - **Volleyball**- Wood Planks, weeding, older lights
 - **Bocce Court**- Overgrown, can't be used.
 - (2) Informal connections from Elementary school to Park
 - **Baseball Field**- Infield/ Outfield overgrown but in good shape
 - Drainage issues
 - Non-ADA
 - Batting cage overgrown
 - **Softball Field**- Infield/outfield overgrown
 - Stone dust infield
 - Drainage issue
 - Non-ADA
 - Multiuse potential
 - Restroom/ storage/ concession in good shape
 - Need cameras
 - **Playground**- newer condition
 - No lights
 - Has ADA
- **Veterans Field:**
 - **Track with Football/ multiuse Field**
 - Not regulation
 - Drainage issues
 - Press box/ grandstand/ concession/ restroom- need updating
 - No Upkeep
 - Bleachers Ok with ADA
 - **Practice Fields**
 - Sitting water
 - Large amount of open space/ no definition
 - **Brito Field** Connection
 - **Bike Path**
 - Needs League Storage Sheds
 - **Baseball Field**- complete Neglect
 - Potential Barn Fire location
- **Childs Street Park:**
 - Shared parking with BCWA. No other parking
 - **T-Ball Field**- no upkeep
 - **Multi-use field**- low maintenance
 - **Playground**- no upkeep
 - Non-ADA

- ***Burrs Hill Park:***
 - Parking Lot has HC Parking and Lights
 - Shared parking with Beach
 - Bathroom facilities need updating
 - Could use another shade shelter
 - **Stage-** with dwindling attendance
 - **Baseball Field-** Infield/ outfield overgrown
 - Fencing is OK
 - Older Backstop
 - Seat wall in need of repair
 - Storage Shed
 - Need Cameras
 - **Tennis Courts (2)-** Cracked/ fading
 - Sitting water
 - Older fencing
 - No connection through park
 - Sledding hills
- ***Town Beach:***
 - Sea Wall Issues
 - Guess Problems
 - Lifeguard on Duty
 - **Playground-** in flood zone
 - Non-ADA
 - No lights
 - High use
 - Showers
 - Maintenance issues with newly installed swales along water St.
- ***Homestead Park:***
 - Neighborhood park
 - No parking
 - Basketball Court- cracks/ faded
 - No lights
 - Playgrounds- older
 - Landscape structures
- ***Baker Street Park:***
 - No parking
 - No lighting
 - Memorial
 - Playground- newer condition
 - Signage
 - Theater seating
 - Fencing in Ok condition
- ***Baltimore Avenue Park:***
 - Neighborhood park
 - Not maintained at all
 - Half-Court Basketball- faded/ cracked
 - Playground- older condition
 - Need updating

APPENDIX B

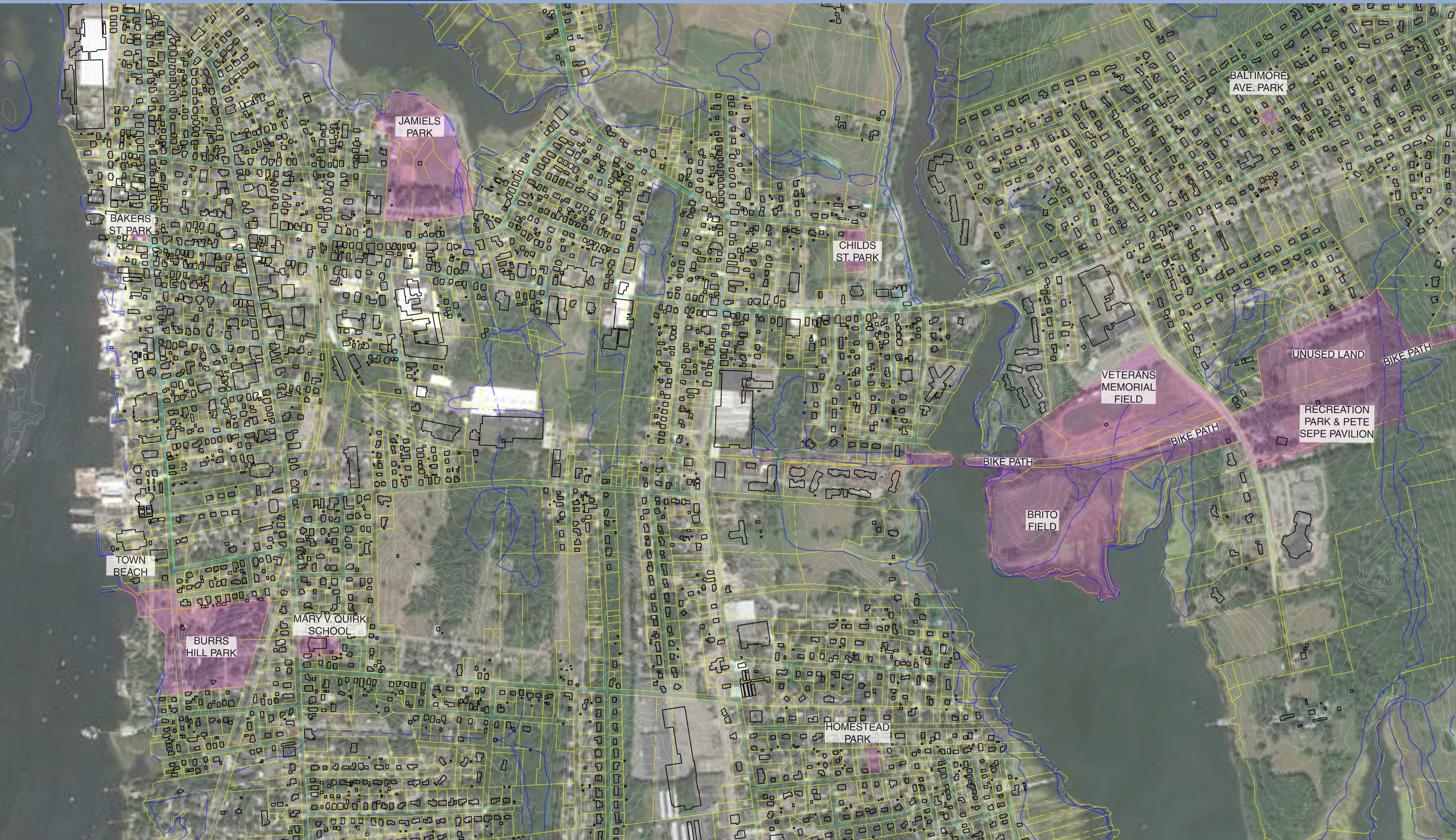
FIELD USAGE MATRIX

Site	Field Type	Sport	Teams Activity	# of Participants	Hours Per Week	# of Weeks	Total Hours of Use	Recommended Hours of Use
Recreation Park & Pete Sepe Pavilion	Baseball Field	Baseball	Little League/ AAU Teams/ Hugh Cole School	25	30	28	840	
	Total hours of field use						840	600
	Softball Field/ Multi-Use Field	Softball	KMS Softball/ AAU Teams	18		28		
		Open Space		13		28		
Total hours of field use						0	600	
Veterans Memorial Field & Brito Field with East-West Bikepath	Baseball Field	Baseball	Not In Use					
	Total hours of field use						0	600
	Main Center Field	Football	Youth Football/ KMS Flag Football	135	12	16	192	
		Soccer	KMS B/G soccer/ Youth, Semi-Pro, Mens Soccer	560	14	36	504	
		LAX	KMS B/G LAX, Youth LAX	70	4	28	112	
	Total hours of field use						808	600
	Multi-Use Fields	Football	Practice	135	10	16	160	600
		Soccer	Practice	560	45	36	1620	600
LAX		Practice	70	15	28	420	600	
Open Space		Practice, KMS PE, Youth Cheer, Band	100	50	28	1400	600	
Total hours of field use						3,600	2,400	
Burrs Hill Park & Town Beach	Baseball Field	Baseball	Little League	13	18	28	504	
		Band Shell	Festivals/ Concerts/ Events	100 prs.	6	16	96	
		Open Space	Summer Rec. Camp	26 prs.	30	12	360	
	Total hours of field use						960	600
Child St. Park	Baseball Field	Baseball	Little League	13	10	28	280	
Total Hours of Field Use						280	600	
Jamiel Park	Softball Field	Softball	Co-Ed / Womens Softball	70	8	24	192	
		Open Space	LAX/ AAU		20	28	560	
	Total hours of field use						752	600
Wujciks Farm (Heritage Park)	Consevation Land							
Homestead Park	Playground							
Baltimore Ave. Playground	Playground							
Baker St. Playground	Playground							

APPENDIX C

STUDY FACILITIES SITE MAP

OVERALL SITES





APPENDIX D

EXISTING & PROPOSED SITE PLANS

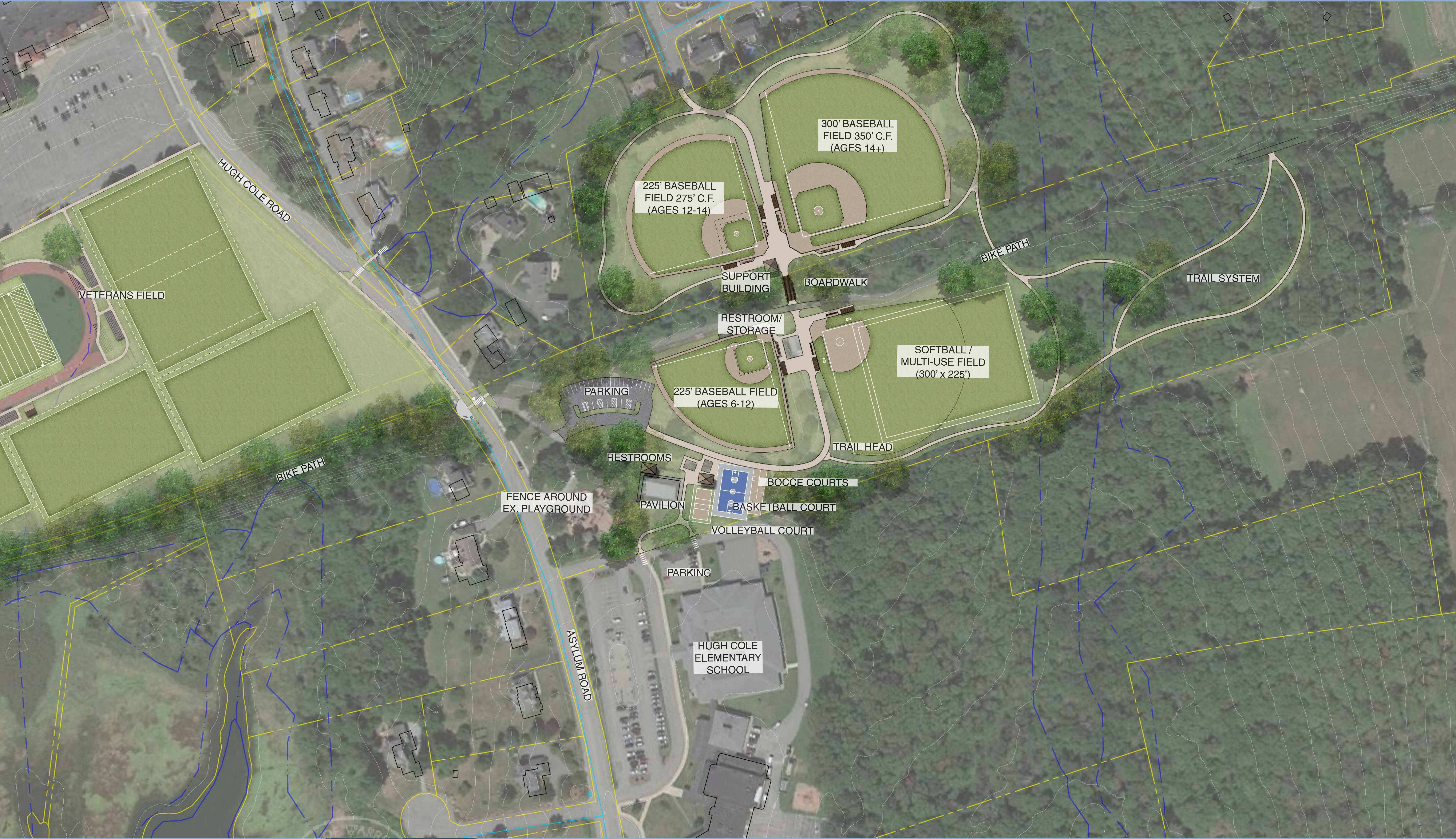
RECREATION PARK & PETE SEPE PAVILION, WITH UNUSED LAND, & EAST-WEST BIKE PATH

EXISTING



RECREATION PARK & PETE SEPE PAVILION,
WITH UNUSED LAND, & EAST-WEST BIKE PATH

PROPOSED



VETERANS MEMORIAL FIELD & BRITO FIELD, WITH EAST-WEST BIKE PATH

EXISTING



VETERANS MEMORIAL FIELD & BRITO FIELD, WITH EAST-WEST BIKE PATH

PROPOSED





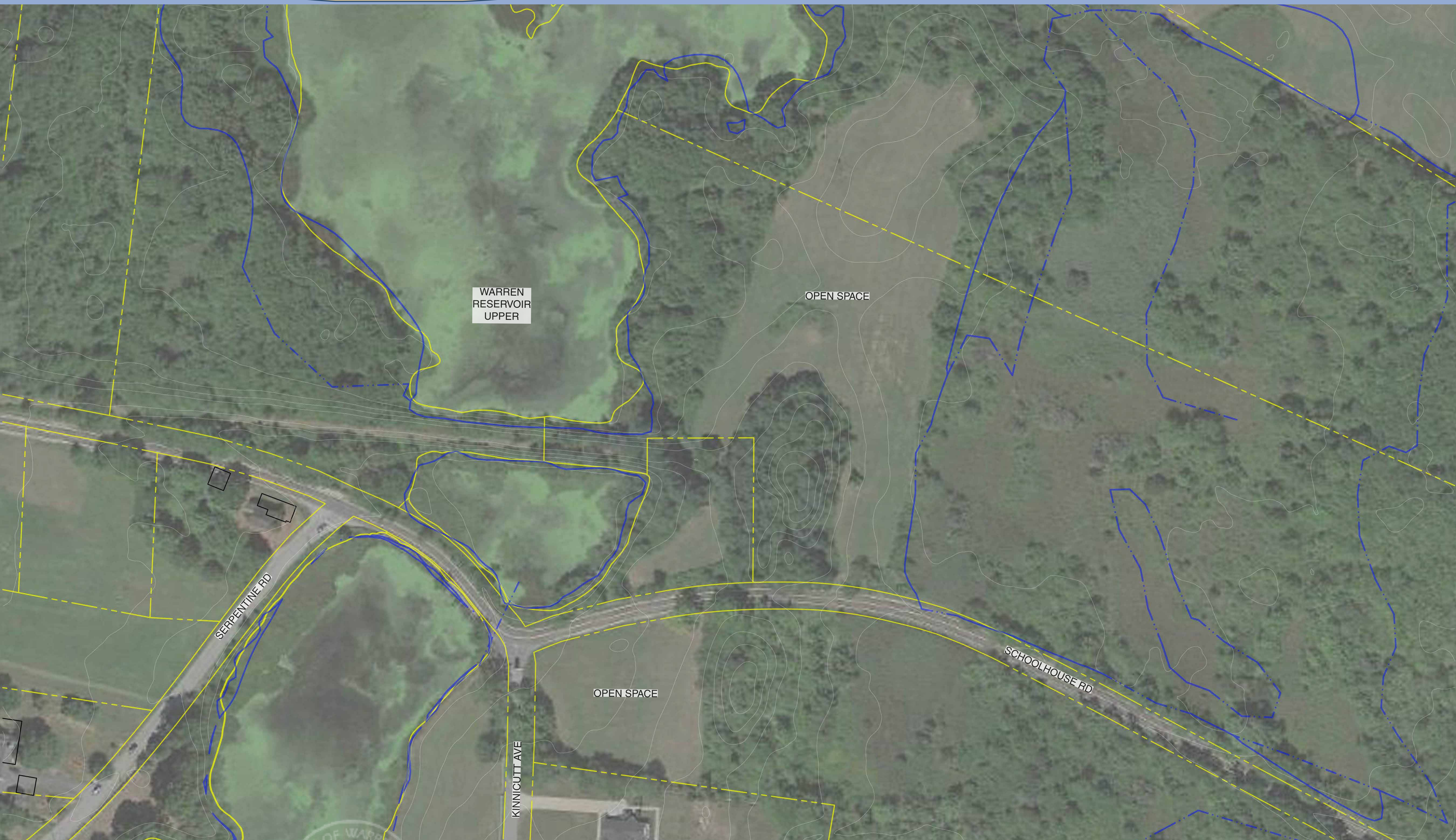




























APPENDIX E

PUBLIC OUTREACH MEETING SIGN IN SHEETS



Town of Warren, Rhode Island Town-wide Recreation and Parks Master Plan

July 6, 2017 - Kick Off Meeting

Meeting Agenda

1. Introductions
2. Review Project Goals and Objectives
3. Anticipated Project Issues
4. Existing Documents – Base Plans
 - Any existing
 - GIS
 - Aerial photography
 - Utilities – record drawings
5. Site-by-site review
 - **Burr's Hill Park** (Water Street)
 - **Brito Field** (Behind Kickemuit Middle School)
South of Veteran's Field (other side of the bike path) currently a hay field
 - **Jamiel's Park** (Market Street)
 - **Homestead Park** (Homestead Ave)
 - **Warren Recreation Park and Pete Sepe Pavilion** (Asylum Rd)
 - **Warren Recreation Park** – Unused land (Asylum Rd)
 - **Child Street Park** (Child St)
 - **Veteran's Field** (Hugh Cole Rd)
 - **Warren Town Beach** (Water Street)
 - **Wujcik's Farm** (Heritage Park) (Schoolhouse Rd):
 - **Baker Street Park** (Water Street)
 - **Baltimore Avenue Park** (Baltimore Ave)
 - **Warren Community Center** (Mary V. Quirk School, 790 Main Street)
 - **Warren East West Bike Path Connector**
6. Meetings
 - DPW | Maintenance coordination, potential walk-through to review site issues
 - Public Outreach | Approach
 - Project meetings – frequency, attendees
7. Schedule + Milestones
8. Other items, concerns



Town of Warren, Rhode Island Town-wide Recreation and Parks Master Plan

August 31, 2017 – Project Meeting

Meeting Agenda

1. Introductions
2. Review Project Status
3. Anticipated Project Issues
4. Existing Documents – Base Plans
 - Any existing
 - GIS (have)
 - Aerial photography (have)
 - Utilities – record drawings
5. Site-by-site review
 - **Burr's Hill Park** (Water Street)
 - **Jamiel's Park** (Market Street)
 - **Homestead Park** (Homestead Ave)
 - **Warren Recreation Park and Pete Sepe Pavilion** (Asylum Rd)
 - **Warren Recreation Park** – Unused land (Asylum Rd)
 - **Brito Field** (Behind Kickemuit Middle School)
South of Veteran's Field (other side of the bike path) currently a hay field
 - **Veteran's Field** (Hugh Cole Rd)
 - **Warren East West Bike Path Connector**
 - **Child Street Park** (Child St)
 - **Warren Town Beach** (Water Street)
 - **Wujcik's Farm** (Heritage Park) (Schoolhouse Rd):
 - **Baker Street Park** (Water Street)
 - **Baltimore Avenue Park** (Baltimore Ave)
 - **Warren Community Center** (Mary V. Quirk School, 790 Main Street)
6. Meetings
 - September 19th: Public Outreach Preparation
7. Moving Forward, Schedule + Milestones
8. Other items, concerns



Town of Warren, Rhode Island Town-wide Recreation and Parks Master Plan

September 27, 2017 – Project Meeting

Meeting Agenda

1. Introductions
2. Review Project Status
3. Public Meeting 1 Debrief/Review
4. Next Public Meeting
 - November: Public Outreach
5. Moving Forward, Schedule + Milestones
6. Preparing for RI Open Space Grant by Dec 1
7. Other items, concerns





Town of Warren, Rhode Island Town-wide Recreation and Parks Master Plan

November 9, 2017 – Project Meeting

Meeting Agenda

1. Review Project Status
2. Initial Thoughts – Proposed Improvements
3. Next Public Meeting
 - November or December: Public Outreach
 - Council Meeting
4. Moving Forward, Schedule + Milestones
5. Preparing for RI Open Space Grant by Dec 1
6. Other items, concerns



8/31/2017

SIGN IN

NAME

DEPT.

George Simmons

BWRSD

Bob Rulli GENT WRITER

Town of Warren

Jan Malik

Town of Warren DPW

Kate Michaud (PLANNING)

Town of Warren

Joseph DePasquale

President Town Council

Tara Thibodeau

Rec Director

EVAN ANDRIKOS

MIKE MCCANN

Al. Gelinelli Fire Chief

ROY BORGES

WARREN POLICE

Sign-In Sheet

9/19/2017

[illegible]

11/9 WARREN

SIGN-IN SHEET

EVAN ANDRIKOS
 MIKE MCENAN
 Tara Thibodeau
 Kate Michaud
 JAN MALIK
 Jim Sousa
 Jan H. Restone
 Bob Rolli

WESTON & Sampson
 Rec
 Town Planner
 DPW
 Fire Dept
 Town
 Town of Warren

***Town of Warren
Rec Commision***

Sign-In Sheet

11/28/2017

Weston & Sampson

[illegible]

Sign-In Sheet
1/16/2018

Weston & Sampson

Email

[illegible]

APPENDIX F

WARREN PARKS AND RECREATION FACILITY
POLICY

Warren Parks and Recreation Department Facility Policy

April 2016

Approved by Warren Town Council April 12, 2016

Warren Parks and Recreation Department

Tara Thibaudeau
Director
(401)824-6189
warrenrecreation@gmail.com

Warren Park and Recreation Board

Donna Ramos Razza
Chairperson
(401)524-1915
Donnawysa@aol.com

Jill Fernandes
Board member
jjackfern@yahoo.com

Carol Gafford
Board Secretary
(401)2076447
warrenparksandrec@yahoo.com

Kelly Servant
Board member
kservant@cox.net

Jillian Sypole
Board Member
treacyjm@gmail.com

Warren Recreation Facilities – Policy and Purpose

The Warren Recreation Facilities are provided by the taxpayers of the Town of Warren to meet the recreational and social needs of the community. It is the policy of the Town of Warren that access to and use of its recreational facilities shall be available to its residents and others without any limitation or special treatment that violates Federal, State or local laws or regulations. It is the policy of the Town of Warren that its recreational facilities be shared, but also that residents and resident organizations shall have preference when applying for use of fields and other facilities, to the extent demand for such use exceeds availability. The Town wants to ensure that people and organizations who desire to use its facilities can do so as much as is reasonably possible, in a manner that allows for proper protection and maintenance of the facilities, and that promotes the safety of, and enjoyment by, all users. Rules, permit requirements, fees, schedules and preferences for facility use are used by the Parks and Recreation Department to achieve these goals. The Department maintains the right to act in the event of an unsafe situation, in the best interest of all individuals, spectators, and players, and in the best interest of facilities, including the fields.

This document sets forth the rules and regulations adopted by the Town, through its Parks and Recreation Department (“Department”) and with advice from the Parks and Recreation Board (“Board”), for the purpose of properly managing the Town’s recreational fields and facilities in accordance with the above policy. This document may be updated from time to time by the Department, with advice from the Board. Changes will be posted for public review and comment prior to formal adoption.

Please make sure that you have the current version of the policy. Copies of the current policy and related documents, such as forms and schedules, are available on the Town web site, www.townofwarren-RI.gov, and also at the Department’s office in the Warren Community Center (Mary V. Quirk building), 790 Main Street, Warren.

Recreational Areas and Facilities in the Town of Warren currently include:

Burr's Hill Park:

Two tennis courts, two basketball courts, baseball field, band shell, small picnic pavilion, restrooms, and open field space.

Jamiel's Park:

A hockey rink, softball field, playground, concession stand, 2 tennis courts, 2 basketball courts, restrooms, and open field space.

Homestead Park:

A playground and basketball court

Warren Recreation Park and Pete Sepe Pavilion:

A playground, basketball court, beach volleyball court, bocce court, BBQ pit, clambake pad, baseball fields, softball field, covered picnic area, concession stand, restrooms, and open field space.

Child Street Park:

A playground, baseball field and open field space

Veteran's Field:

Official game field (soccer and football) with lights and bleachers, soccer fields, track, concession stand, field shed, baseball field, multi-use field space, open field space, and restrooms.

Warren Town Beach:

Playground, picnic area and town beach

Wujcik's Farm (Heritage Park):

Open space, nature walk, and picnic area.

Baker Street Park:

Tiny tot area and picnic area

Baltimore Avenue Park:

Playground, picnic area and basketball net

Warren Community Center (Mary V. Quirk School):

Gymnasium, kitchen facilities, classroom/meeting rooms, Adult/Youth recreational programming

FACILITY USE PREFERENCE

1. First preference is the Warren Parks and Recreation Summer Program. From the end of June until the middle of August, playgrounds and other facilities where the Summer Program offers supervised activities will be reserved for such activities and programs.
2. The Kickemuit Middle School (KMS) has first preference for Veteran's Field and first preference for Hugh Cole upper softball field. The Recreation Board acknowledges that physical education and school athletic events are an important part of the overall education of our youth. Therefore, preference is given to KMS during school hours. Permits are required after normal school hours and permits must be on file prior to the start of the season.
3. Permits are issued to Warren Youth Organizations before other requests are accommodated. This recognizes the significant contributions of parents and other supporters for athletic organizations in town and their assistance in the task of maintaining the fields.
4. Preference is next given to Warren residents, then to organizations/groups that have used the facilities previously.
5. Except as stated above, permits are issued on a first come-first serve basis, depending on open times and dates.

FACILITY USE APPROVAL PROCEDURE - GENERAL

Any person or organization/group that would like to use the fields or facilities must obtain a permit from the Parks and Recreation Department, as follows:

1. Prior to the Spring/Summer/Fall and the Winter seasons, the Department will post the permit application period and application deadlines in its office and on the Town web site at www.townofwarren-RI.gov. Fill out a permit application at the Department in the Warren Community Center at 790 Main Street, Warren. Applications may also be downloaded from the Town web site. Applicants must certify they have read the rules and regulations pertaining to the facilities, understand their obligations under the rules and regulations, and agree to be bound by them.
2. All organizations/groups must have approval from the Department Director before using the facilities. The Director issues permits with the advice of the Parks and Recreation Board; applicants may be required to attend a Board meeting prior to approval being granted. Diagrams of field layouts must be approved by the Director prior to the lining of fields.
3. Organizations/groups using fields for Carnivals, Fairs, Festivals and other events approved by the Director or the Town Council, with advice from the Board, will be required to repair the field(s) immediately, at their expense, if damage is determined by the Warren Department of Public Works

(DPW). A landscaping retainer is also required for the above events, unless deemed unnecessary by the Department, with advice from the Board and DPW.

4. Permits will be sent by email to organizations/groups approximately one (1) month before the start of the season or function, confirming practice and game schedules and applicable rules and conditions.
5. The Department reserves the right to update and modify this procedure as needed, subject to the posting and review requirements set forth in the Policy and Purpose section above.

RULES & REGULATIONS FOR RESERVATION AND USE OF FACILITIES

Organizations wishing to use the facilities must follow these rules:

1. Fill out the Warren Recreation "Facility Use Permit" application and submit it to the Warren Recreation Department, Warren Community Center, 790 Main Street, Warren, RI 02885
2. The application must identify a responsible adult as the designated Point of Contact (POC) for any facility usage. This person will be responsible for picking up and returning all necessary keys and overseeing the use of the facility. S/he is responsible for making sure that the rules are enforced.
3. To reserve a date for an event, a deposit of \$50 is required.
4. Balances **MUST** be paid 2 weeks into the season or 1 month before an event.
5. An up-to-date copy of the charter/bylaws, rulebook governing a league must be on file with the Parks and Recreation Department. Specific Game and Practice Schedules are required. Leagues will not be guaranteed facility use without it. The Department Director must approve **any changes** made to schedules in order to avoid scheduling conflicts.
6. **PARKING** – is allowed **ONLY IN DESIGNATED AREAS**. Parking is **NOT** permitted inside the Warren Recreation Park (past the chain). Parking on fields, grass, or other non-designated areas, without permission from the Department, is not allowed at any time. Cleanup fees will not be returned and organizations will lose keys if this rule is not followed.
7. **NO SMOKING** is allowed at any time. This applies to e-cigarettes and vapor cigarettes also.
8. **NO ALCOHOLIC BEVERAGES** are allowed unless properly licensed by the Warren Town Council.
9. **NO OPEN FIRES** or bonfires are allowed except in the Pavilion fire pit for clambakes or with a permit.
10. **NO ANIMALS**, except for service animals, are allowed at any athletic events or at the MVQ Community Center Building.

11. Use fields/rooms that have been approved by your permit only for the purpose for which the use was approved. The main field at Veteran's Park (with track surrounding it) shall only be used for games.
12. Leagues are responsible for lining fields.
13. Leagues are responsible for cleaning up after their practices/games. Organizations are responsible for cleaning up facilities after use. All trash should be disposed of in designated areas and all materials should be returned to their original position. **TRASH MUST BE DISPOSED OF IN THE APPROPRIATE RECEPTACLES.**
14. Organizations will be financially responsible for any damage done to a facility while they are using the facility.
15. A **CERTIFICATE OF INSURANCE** is required for Leagues using the fields and/or the Warren Community Center, and for events at which alcohol will be served (with Town Council approval). The certificate must name the Town of Warren as additionally insured.
16. Depending on the size and scope of an event, the Department may require a police officer or DPW personnel. The League or other organization using the facility will be billed by the Town for the police officer's and/or DPW personnel time.
17. The Director may close or cancel an event/activity for the protection of field conditions. In the event of inclement weather forecast or standing water on the field, the POC should contact the Director as to the status of games.
18. Keys for the Fields/Facilities will be handed out at the beginning of the season and must be returned to the Department after the season. No copies are to be made of any keys. A security deposit may be required. For events, keys may be picked up the day of the event at the Warren Police Station. You must present a permit issued by the Department. Keys must be returned to the Warren Police Station by the end of the day.
19. Port-a-john rentals are required for events with over 250 people, at renter's expense.

WARREN TOWN BEACH

1. Warren Town Beach (including the adjacent waterfront park) is generally not available for uses that displace, or restrict use by, the general public. It is not available for organized sports or recreational events other than those organized and supervised by the Recreation Department; or for other events. An exception may be made by the Town Council only, in the form of a special use permit for a special event.
2. Applications for a Special Use Permit may be obtained at the Recreation Department in the Warren Community Center at 790 Main Street in Warren, or can be downloaded from the Town web site. The application form includes general requirements, conditions and limitations.

3. Applications must be submitted to the Department at least three months prior to the event, and will be placed on the agenda for the next monthly meeting of the Parks and Recreation Board, which will review the application and forward recommendations to the Town Council, to be discussed and acted on at the next regularly scheduled Town Council meeting.
4. The Board may recommend to the Town Council that it deny the application if it determines the event is not consistent with this policy or otherwise could be detrimental to the Town beach and park, or to the public use and enjoyment thereof.
5. The Board may forward a draft Special Use Permit to the Town Council for consideration and action at its next regularly scheduled meeting, and recommend conditions, limitations and a fee as it deems necessary and appropriate, provided the recommended fee shall not exceed \$500 (not including expenses that may be associated with other permit conditions)..
6. The Town Council may impose additional conditions, raise the fee, reduce the fee or waive the fee (if the event is organized by one or more nonprofit organizations that, in the Council's judgment, significantly benefit the Town and its citizens).
7. Under no circumstances are cars or trucks allowed on the beach or the park area.
8. Rules 7 through 10 and 13 through 16 in the previous section will apply.
9. Additional approvals may be, and often are, required from the Police and Fire Departments, which must review the draft Special Use Permit prior to the Town Council meeting at which the draft Permit will be reviewed.

FACILITY FEES

Warren youth organizations will not be assessed a fee for field usage but will pay a minimum fee for use of the Pete Sepe Pavilion and Warren Community Center.

For the current chart of facility use fees, see Attachment B or the Town web site at www.townofwarren-ri.gov.

Fees must be paid in full no later than 2 weeks into the start of the season. Fees for one-time use/events must be paid no later than one (1) month prior to the event. Failure to make timely payment will result in the permit for use of the facility being denied or revoked.

Non-profit organizations whose activities significantly benefit the Town and its citizens, and organizations which can provide in-kind services, may have their fees reduced. Requests must be submitted in writing to the Parks and Recreation Department and will be reviewed at the next monthly meeting of the Parks and Recreation Board. These organizations/groups will still need to provide a landscaping binder and a Certificate of Insurance naming the Town of Warren as additionally insured, and will be financially responsible for any damages.

All leagues/organizations/groups are responsible for cleaning up facilities after each use (i.e. picking up trash, water bottles etc.) If facilities are not cleaned leagues/organizations who last used the facility will be assessed a one hundred dollar (\$100.00) cleanup fee per incident. Repeat incidents may lead to the termination of league/organizations permit for use of the field

FAILURE TO FOLLOW FIELD PROCEDURE AND POLICY

An explanation of field procedure and policy will be given to the POC of each organization/group at an assigned Parks and Recreation Board meeting prior to the start of the season calendar. This meeting will serve as a verbal warning for each organization/group.

- **First Offense:** The Department Director will send a written warning to the Point of Contact for the organization/group. The issue will be placed on the agenda for discussion at the next Board meeting.
- **Second Offense:** The Department Director will suspend the organization/group's facility use permit until the next the next Board meeting, at which the permit will be reviewed. The organization/group must present a plan to the Department and the Board which addresses the issue and how the organization/group will better comply with the rules and regulations as required.
- **Third Offense:** The Department Director will suspend the organization/group's facility use permit until the next Board meeting. The plan presented for the second offense will be reviewed as to why it has failed. In addition the Department and Board will consider termination of the permit in its entirety.

Copies of this policy are available from the Warren Park and Recreation Department Director at the Warren Community Center, 790 Main Street, Warren RI 02885, and on the Town web site at www.townofwarren-ri.gov.

The Warren Parks and Recreation Board generally meets at 7:00 pm on the third Tuesday of every month from September until May, and at 7:30 pm on the third Tuesday of every month from June through August. Meeting times may vary; check the town web site for the most up to date schedule. These meetings are held at the Warren Community Center, 790 Main Street, Warren, R.I. 02885.

*Any questions or comments about this policy can be addressed to the Chairperson of The Parks and Recreation Board and/or the Director of the Parks and Recreation Department, at 790 Main Street, Warren RI 02885.
Warren, RI 02885.*

ATTACHMENT A

Town of Warren Facility Use Permit

NUMBER OF PEOPLE _____ DATE OF FILING: _____

Organization: _____		Contact Person: _____	
Mailing Address: _____		Email Address: _____	
Phone #: _____		Purpose of Use: _____	
Date of Use: _____		Time: _____	

PETE SEPE PAVILION <input type="checkbox"/> Cookout <input type="checkbox"/> Clambake JAMIEL'S PARK <input type="checkbox"/> Skating Rink <input type="checkbox"/> Basketball Court <input type="checkbox"/> Tennis Court <input type="checkbox"/> Softball Field <input type="checkbox"/> Lights <input type="checkbox"/> Bathrooms WARREN TOWN BEACH <input type="checkbox"/> Picnic area (Southside) <input type="checkbox"/> Peninsula (Northend)	WARREN RECREATION PARK <input type="checkbox"/> Lower Field <input type="checkbox"/> Upper Field <input type="checkbox"/> Beach Volleyball Court <input type="checkbox"/> Basketball Court <input type="checkbox"/> Bocce Court <input type="checkbox"/> Volleyball Lights <input type="checkbox"/> Concession Stand <input type="checkbox"/> Bathrooms MARY V QUIRK <input type="checkbox"/> Gym <input type="checkbox"/> Meeting Room <input type="checkbox"/> Cafeteria	VETERAN'S FIELD <input type="checkbox"/> Gate Field <input type="checkbox"/> Main Field <input type="checkbox"/> Back Field <input type="checkbox"/> Concession Stand <input type="checkbox"/> Bathrooms <input type="checkbox"/> Press Box <input type="checkbox"/> Field Lights <input type="checkbox"/> Baseball Field OTHER RECREATION PARKS Park _____ Use _____	BURR'S HILL PARK <input type="checkbox"/> Tennis Court <input type="checkbox"/> Basketball Court <input type="checkbox"/> Open Field <input type="checkbox"/> Baseball Field <input type="checkbox"/> Bathrooms <input type="checkbox"/> Band Shell
--	--	--	--

PRIOR TO USE	AFTER USE	FEES	Check #
<input type="checkbox"/> Certificate of Insurance <input type="checkbox"/> Practice Schedule <input type="checkbox"/> Game Schedule <input type="checkbox"/> Approved Liquor License <input type="checkbox"/> Keys needed <input type="checkbox"/> Approved Entertainment License <input type="checkbox"/> Landscaper binder	<input type="checkbox"/> Keys returned <input type="checkbox"/> Facility Cleaned <input type="checkbox"/> Deposit returned	Deposit \$ _50_____ Dumpster Fee \$ _25_____ Clambake Fee \$ _200_____ Rental Fee \$ _____ Total \$ _____	_____ _____ _____ _____ DATE _____

I, the undersigned have read the rules and regulations regarding the use of facilities in the Town of Warren. I shall be present and assume personal responsibility. I also understand that no alcohol is allowed unless a liquor license is on file and that parking is only allowed in designated areas. Furthermore, the above organization agrees to indemnify and hold the Town of Warren harmless from any and all claims arising from the organization's use of the Warren Recreation Facilities.

Signature _____ Date _____

Approval _____ Date _____

790 Main Street, Warren RI 02885

Email Address: warrenrecreation@gmail.com

Town of Warren Facility Use Permit

NUMBER OF PEOPLE _____

DATE OF FILING: _____

RULES AND REGULATIONS

- Fill out the Warren Recreation Facility Use Permit and submit it to the Warren Recreation Director. Mary V Quirk Community Center, 790 Main Street, Warren RI 02885 attn: Warren Recreation Director. To reserve a date a deposit of \$50 is required.
- Balances MUST be paid 1 month prior to the event.
- There must be a responsible adult designated as a Point of contact (POC) for any facility usage. This person will be responsible for picking up and returning all necessary keys and overseeing the use of the facility. They are responsible for making sure that the rules are enforced.
- A Certificate of Insurance is REQUIRED for Organizations/Groups using the fields, MVQ Community Center, and Pete Sepe Pavilion where Alcohol will be served. The Town of Warren MUST be listed on the binder.
- Use fields/rooms, that have been approved for your permit only.
- No ANIMALS, except for service animals, are allowed at any athletic events or the MVQ Community Center Building.
- Depending on the size and scope of the event, the Warren Recreation Board may require a police officer or DPW Personnel; the Warren Police Officer will be paid for by the organization/group using the facility. The DPW personnel would be billed to the organization by the Town of Warren.
- Groups/Organizations will be financially responsible for any damage done while they are using the facility.
- No SMOKING allowed at any time.
- No ALCOHOLIC BEVERAGES allowed unless properly licensed by the Warren Town Council.
- No OPEN FIRES or bonfires at Warren Recreation Facilities EXCEPT in the Pavilion fire pit for Clambakes or with a permit.
- Keys for the Facilities may be picked up the day of the event at the Warren Police Station. You must present a receipt or acknowledgement issued by the Warren Recreation Director. Keys must be returned to the Warren Police Station by the end of the day.
- PARKING – is allowed ONLY in designated areas. Parking is NOT permitted inside the Warren Recreation Park Site (past the chain). Parking on fields, grass, or other non-parking spaces, without permission is NOT ALLOWED AT ANY TIME. Clean up fees WILL NOT be returned/organizations will lose keys, if this rule is not followed.
- Groups/Organizations are responsible for cleaning up after their event. All trash should be disposed of in designated areas and all materials should be returned to their original position.
- The Warren Recreation Director reserves the right to Close or cancel an event/activity for the protection of field conditions.
- The Warren Recreation Director must approve ANY CHANGES made to event schedules.
- Organization/groups are responsible for lining fields.
- A copy of the charter/bylaws, rulebook governing an Organization/group may be requested to have on file.
- Donation for Usage – Donations are accepted for the use of Warren Recreation Properties. Contributions support a broad array of recreational activities for residents and guests and help to maintain our facilities and programs.
- Fees may be assessed for rules and regulations that are not followed.
- Port a john rental required for guests over 250 people, at renters expense.

790 Main Street, Warren RI 02885

Email Address: warrenrecreation@gmail.com



TOWN OF WARREN PARKS & RECREATION DEPARTMENT

790 Main Street
Warren RI 02885 Phone 401-824-6189

2016 FACILITY USE FEES

	Warren Youth	Town Residents	Nonprofit	Out of Town	Fire Dept.	Leagues – Adults/ Out of town
SEPE PAVILION	M-F \$25	\$175*+	\$175*+	\$250*+	200	NA
MARY V QUIRK	\$5 /hour	\$25 /hour	\$20 /hour	\$40 /hour	NA	\$10 /hour
BURR'S HILL /BAND SHELL	FREE	\$175	\$100	\$250	FREE	\$50 a day
VETERAN'S FIELD	FREE	\$175	\$100	\$250	FREE	\$50 a day
JAMIEL'S	FREE	\$175	\$100	\$250	FREE	\$50 a day
OTHERS	FREE	\$175	\$100	\$250	FREE	\$50 a day

*\$200 NON REFUNDABLE CLAMBAKE clean up fee
+\$25 NON REFUNDABLE DUMPSTER fee

ALL Facility Use Permits require a \$50 refundable deposit – will be returned after facility is inspected following the event.

APPENDIX C

Town of Warren

Trends in Housing Report



A Report by



July 2022

Research, Analysis, and Writing:

Bryce Kelley

Annette Mann Bourne

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Introduction

HousingWorks RI was contracted by the Town of Warren to assist in an analysis of its housing to prepare the town to examine the potential appropriate use of ARPA funds for housing needs. The following report includes research and analysis of pertinent data related to housing: its affordability and its relevance across various demographics, including (but not limited to) costs, age of housing, age of householders, household type, tenure, income, and race/ethnicity. Using the most recent data available, costs come from RI Living, RIHousing, and proprietary data from The Warren Group. Demographic data comes primarily from the most recently available U.S. Census Bureau tables.

Methodology and Sources

Data presented in this report were obtained from key national, state, and local datasets, as well as industry sources.

Household Demographics, Tenure, Cost Burdens, and Income:

All come from the relevant tables within the *U.S. Census Bureau, ACS, 5-Year Estimates, 2016-2020*.

Housing Tenure and Costs

Ownership: *RI Living's Residential Sales Statistics* and *The Warren Group's Mortgage and Sales* data.

The reason for choosing both datasets is that they offer slightly different approaches to data collection and presentation.

RI Living shows us data collected from Multiple Listing Service (MLS) residential sales, and breaks out median sales price across single family, multi-family, and condos. Warren Group data is proprietary data that includes a larger universe of residential sales, showing transactions derived from deed and mortgage documents files at Town Clerks' offices in Rhode Island. Warren Group residential sales data can also be broken out on a more granular level than RI Living's data, as we can differentiate between single family, two-family, three-family, mixed-use, and condo sales. Though Warren Group's data would hypothetically show a larger picture of sales, the results didn't differ to a degree that we felt any dataset was far superior for purposes directly related to tracking costs.

Rental: *RI Housing's 2021 Rent Survey*

As elaborated on in the Rental costs section in the report, rental costs at the municipal level is far more challenging to accurately gauge than sales. We chose the *RI Housing Rent Survey* dataset for this report as it has a level of acceptance as a standard metric for rental costs in Rhode Island. We do feel that in future research, we may need to look at other options for rental cost data that reflects the changing rental market conditions.

Investment Properties in Warren:

Investment Purchases of Properties: *Warren Group Sales Data*

In order to ascertain which purchases were by investors or institutional buyers, we filtered Warren Group data first on buyers with blank first names to get only entities that were purchasing properties.

We then were able to filter out those entities that did not fit into the category of investor (non-profits, housing authorities, etc.). It is important to understand that though a buyer might be a LLC or similar entity, it doesn't necessarily mean that they are what we traditionally think of as an investor or institutional buyer.

Short-term Rentals in Warren: *AirDNA, InsideAirbnb scraping data*

Two platforms, AirDNA and InsideAirbnb provide data on short-term rentals in Warren. AirDNA looks at all short-term rentals, regardless of the platform they are listed on while InsideAirbnb shows only Airbnbs (but also provides historical quarterly data).

Age and Condition of Housing:

Age of all Housing: *Warren Tax Assessor Data and U.S. Census Bureau, ACS, 5-Year Estimates, 2016-2020*

Both US Census ACS data and Warren's Tax Assessor data were used to illustrate the age of housing overall and by type. Within the tax assessor data, we looked at the median age of different housing types, as well as how those different housing types fell into age groupings that we felt appropriately reflected different time periods that are relevant to housing in Rhode Island (prior to 1900, 1900-1939, 1940-1979, 1980-1999, 2000-present).

Age of Residential Property Transactions: *Warren Group Sales Data*

Though the Warren Groups sales data that we examined is limited (2018-2021) and doesn't cover the same amount of housing stock as tax assessor data, it is valuable to see the age and housing type of transactions that are taking place in Warren.

Condition of Housing Stock: *Warren Tax Assessor Data and Warren Housing Survey Responses*

Executive Summary

As the housing market in Rhode Island (and throughout the country) continues to tighten, with prices soaring, availability depleting, and new construction at a virtual standstill, residents of municipalities across the state are seeing affordable options for housing disappear. Warren is not different in this respect. In many ways distinct from its neighbors in Bristol County (and the state as a whole), Warren has unique challenges when it comes to housing. Not only is it the smallest municipality in Bristol County, both in population and size, it also has far more renters (Warren ranks 7th among all RI municipalities by share of renters) and a lower median income. These factors, coupled with rising housing costs for both owners and renters, an aging housing stock, and a lack of housing diversity create challenges to ensuring that Warren can become a more affordable place to live.

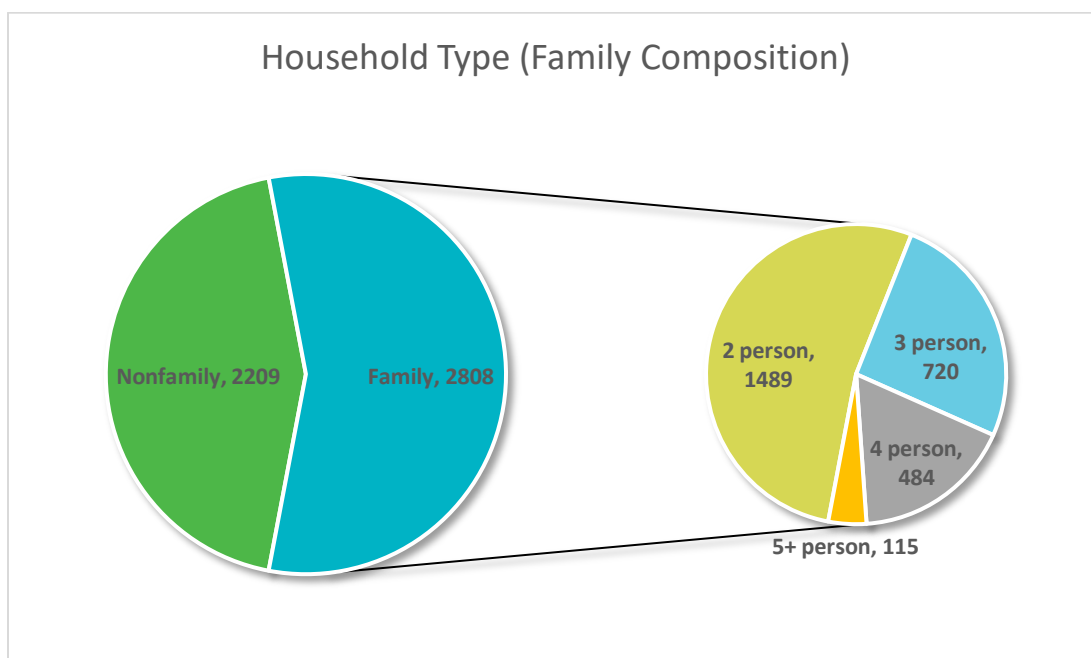
Overall, housing prices have grown exorbitantly in Warren over the last four years, regardless of housing type. Across datasets, residential prices have risen anywhere from 49 percent to almost 80 percent depending on the housing type. Though available rental price data has shown increases as well, it hasn't done as well at reflecting the large increases that are reported anecdotally and by experienced professionals. This lack of a clear picture of rental prices in Warren is especially concerning considering the significant number of renters and their disproportionate housing cost burden (52 percent for renters vs. 20 percent for owners).

Another area of concern is the age of housing in Warren. As with many other municipalities in Rhode Island, much of the housing stock in Warren is single family homes built following World War II (the median year built of single family homes in Warren is 1960). Though not exceedingly old by Rhode Island standards, those homes are still approaching eighty years old. The main cause for concern, however, is the age of those multifamily and mixed-use properties. The median age of 2-5 family and mixed-use building is 1900 and apartments are only a slight improvement with a median age of 1905. The age of these structures presents multiple problems, chief among them health and safety concerns. Older homes also increase heating, cooling, and upkeep costs that inevitably increase expenses for those who reside in them (either by direct utility costs or by costs passed on by landlords). Since Warren has such a large share of renters and many of those same renters live in these older structures, it suggests that the age of multifamily housing may be a contributing factor to the increasing costs of renting and housing.

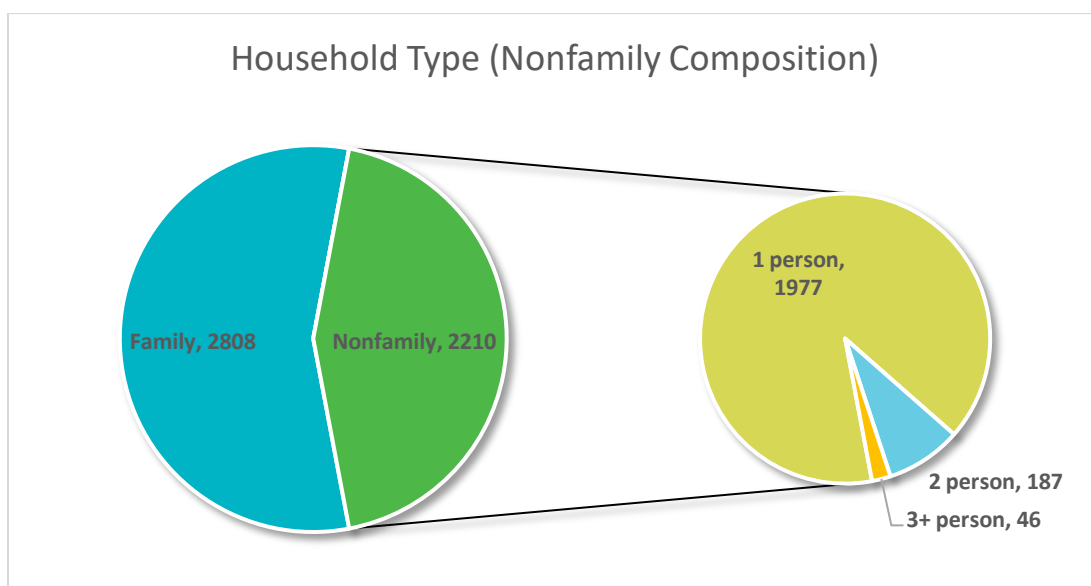
Household Demographics

Household Type by Household Size

Families represent over half of all households in Warren (56%) with nonfamily households making up the remaining 44 percent. Of those family households, 2-person households comprising slightly more than half (53%) and 3- and 4 person households making up another 42 percent, and 5+ person the remaining 4 percent. Three-quarters of family households are married couples and over 80 percent live in 1-unit structures.



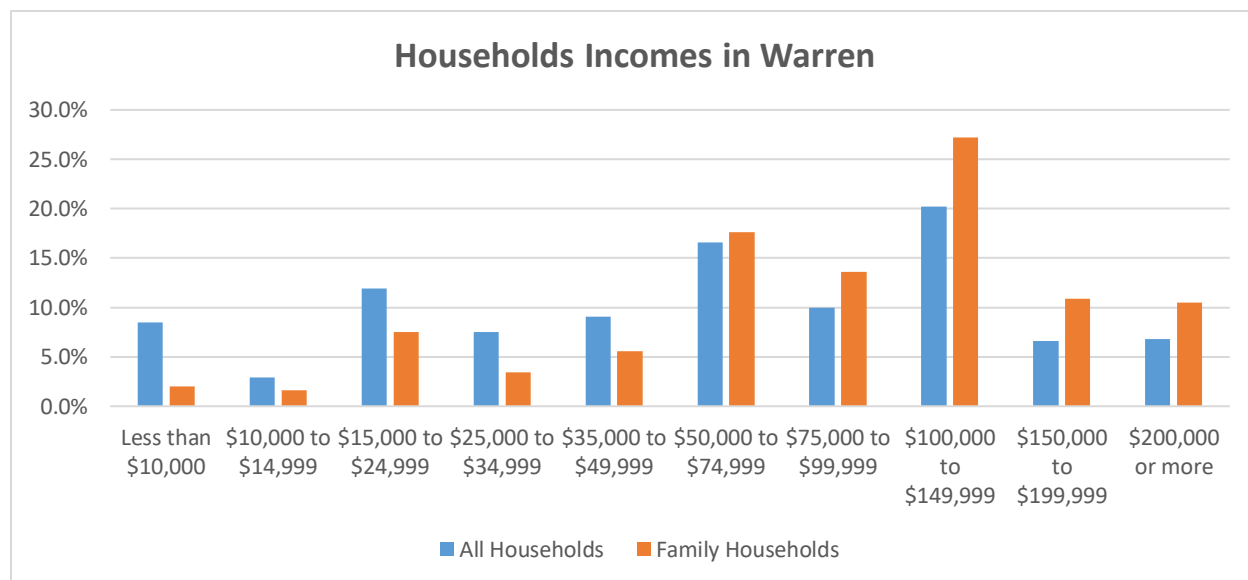
Of that remaining 44 percent of households that are nonfamily, almost 90 percent are one-person households. Two person households represent 8 percent of nonfamily households and 3+ person households make up the remainder.



78 percent of nonfamily households live in 2-or-more-unit structures, with the remaining living in 1-unit dwellings.

Household Incomes

The distribution of household incomes notes a distinct difference in family households compared to all households across the town, with family households representing a larger share of those households at the higher income levels.



This pattern is reflected when looking at median incomes by household size (regardless of relationship) as well:

- 1-person households: \$28,438 (between 30 and 50 percent AMI)
- 2-person households: \$91,344 (between 115 and 120 percent AMI)
- 3-person households: \$74,375 (between 80 and 100 percent AMI)
- 4-person households: \$128,063 (> 120 percent AMI)

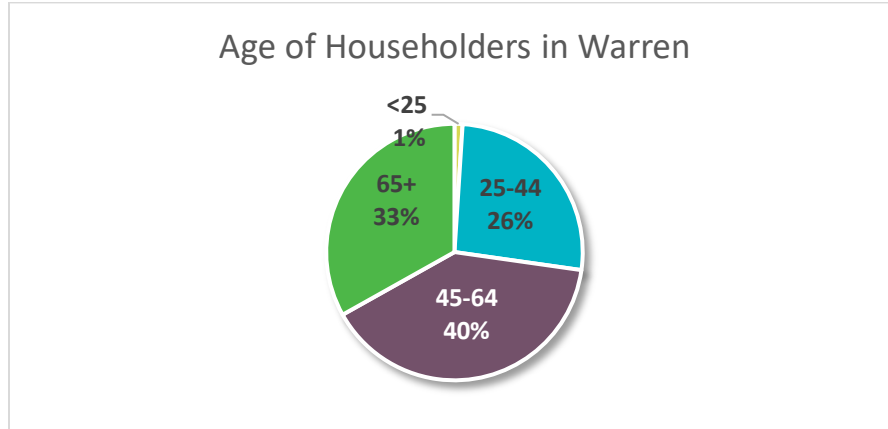
In serving housing needs, it is critical to examine these income levels in light of the annual *RI Income Limits for Low- and Moderate-Income Households*, as set by U.S. HUD and published by RIHousing:

FY2022 Rhode Island Income Limits for Low- and Moderate-Income Households
(Incomes over 80% AMI are calculated based on HUD 2008 income limits policy)

MUNICIPALITIES: Barrington, Bristol, Burrillville, Central Falls, Charlestown, Coventry, Cranston, Cumberland, East Greenwich, East Providence, Exeter, Foster, Gloucester, Jamestown, Johnston, Lincoln, Little Compton, Narragansett, North Kingstown, North Providence, North Smithfield, Pawtucket, Providence, Richmond, Scituate, Smithfield, South Kingstown, Tiverton, Warren, Warwick, West Greenwich, West Warwick, Woonsocket								
	1 person	2 person	3 person	4 person	5 person	6 person	7 person	8 person
30%	\$20,300	\$23,200	\$26,100	\$29,000	\$32,470	\$37,190	\$41,910	\$46,630
50%	\$33,850	\$38,700	\$43,550	\$48,350	\$52,250	\$56,100	\$60,000	\$63,850
60%	\$40,620	\$46,440	\$52,260	\$58,020	\$62,700	\$67,320	\$72,000	\$76,620
80%	\$54,150	\$61,900	\$69,650	\$77,350	\$83,550	\$89,750	\$95,950	\$102,150
100%	\$68,320	\$78,080	\$87,840	\$97,600	\$93,400	\$100,350	\$107,250	\$114,200
115%	\$77,860	\$89,010	\$100,160	\$111,200	\$120,170	\$129,030	\$138,000	\$146,860
120%	\$81,240	\$92,880	\$104,520	\$116,040	\$125,400	\$134,640	\$144,000	\$153,240

Age of Householder

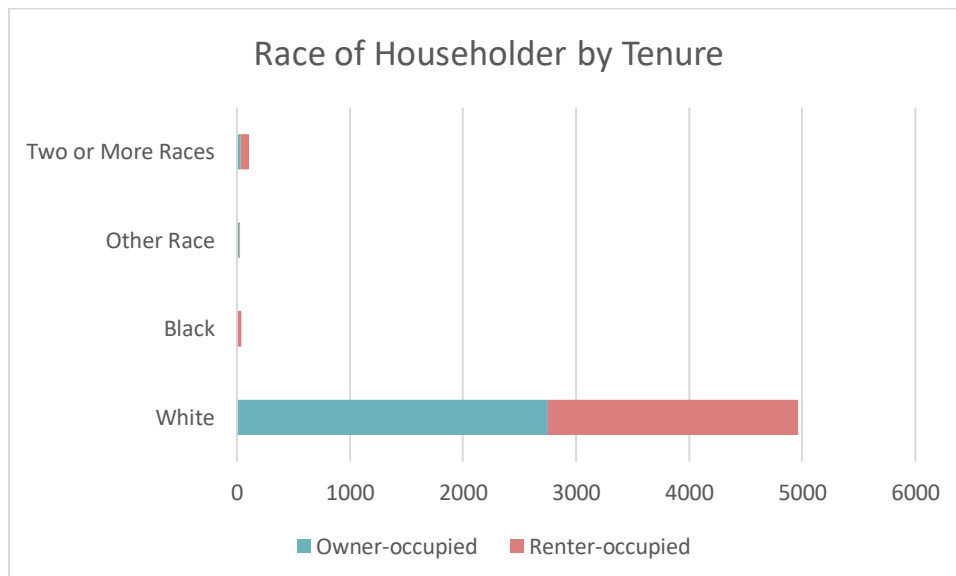
Individuals aged 45-64 years old represent the majority of householders in Warren at 40 percent, followed by those 65 and older (33 percent) and 44 years and under (27 percent). Householders under 25 years sits at 1 percent of all householders in Warren.

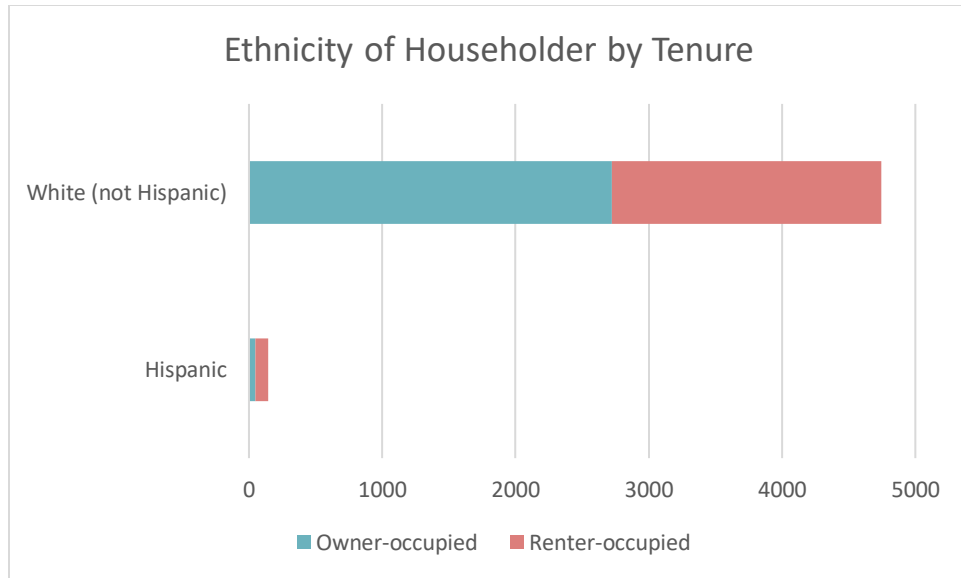


Tenure by Race and Ethnicity

Warren is predominately white and non-Hispanic or Latino. Ninety-six percent of its population is racially white; and 97 percent is ethnically non-Hispanic or Latino.

The tenure among white owner and renters are almost identical to the overall town's tenure (55 percent/45 percent). Ownership drops off significantly when looking at black residents, who almost exclusively rent. Tenure among those identifying as being two or more races as well as those identifying as Hispanic are also far more likely to rent, though not as likely as black residents. Those who identify their race as other, own far more than they rent. It should be noted that because there are so few non-white residents in Warren, margin of error is of concern when looking at tenure.





Housing Tenure and Costs

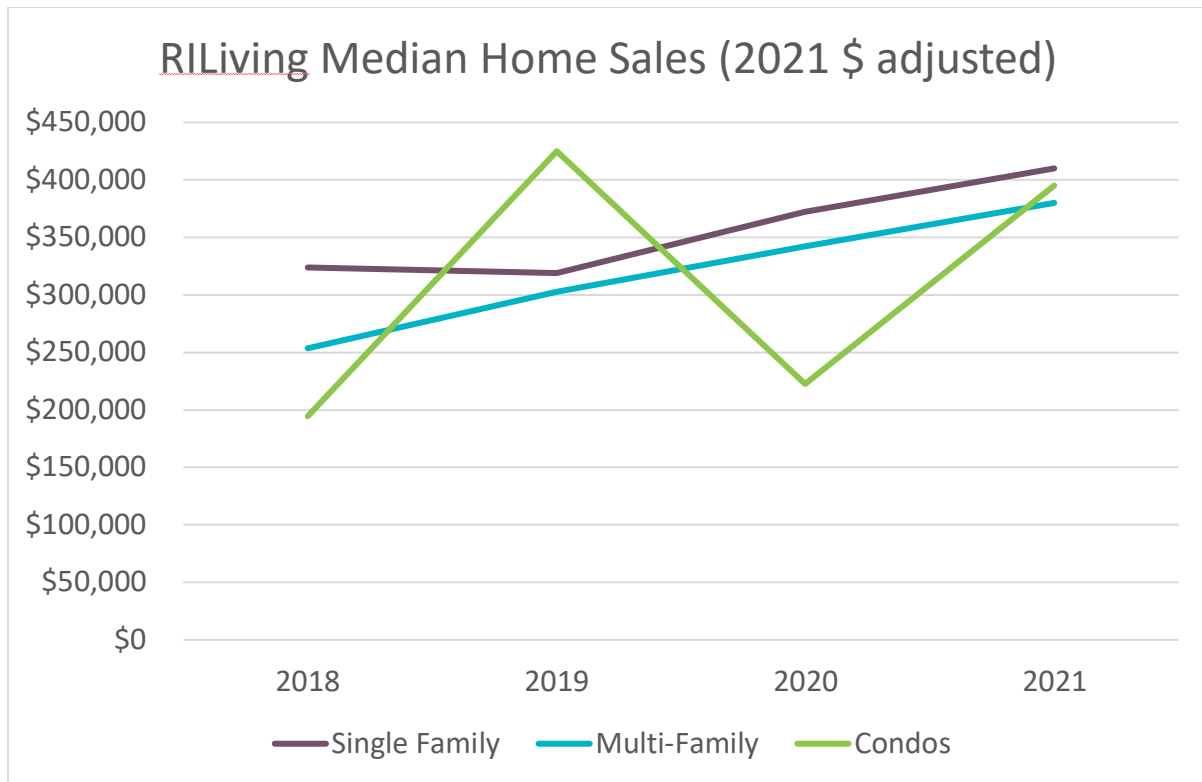
Owner-occupied housing makes up 56 percent of all housing units (2,803) in Warren with renter-occupied housing making up the remaining 44 percent (2,214).

Costs of both owning and renting have risen steadily and have been exacerbated by the high-demand, low-inventory market that has become the norm during and since the height of the COVID-19 pandemic.

Ownership

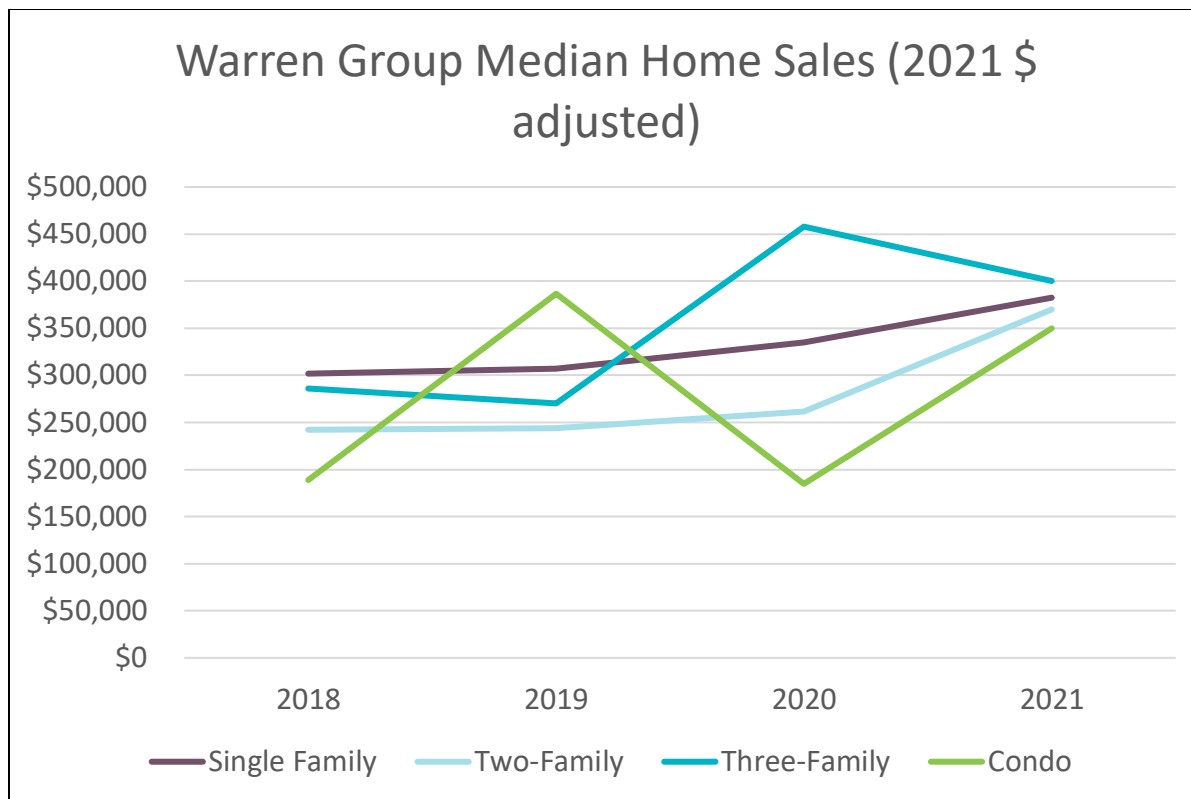
Costs associated with ownership used two primary sources: RILiving and Warren Group (a proprietary dataset annually purchased by HousingWorks RI). *All sales prices are adjusted to 2021 dollars.*

Analysis of RILiving sales data from 2018-2021 shows median sales price of single family homes rose 79 percent (\$323,688 in 2018 to \$410,000 in 2021), multi-family sales price rose 67% (\$253,556 in 2018 to \$380,000), and condos rose 49% (\$194,483 in 2018 to \$395,000 in 2021).



Warren Group’s residential sales data from 2018-2021 shows median sales prices of single family homes rose 79% (\$301,840 in 2018 to \$382,500 in 2021), two-family sales price rose 65% (\$242,227 in 2018 - \$370,000 in 2021), three-family rose 71% (\$285,925 in 2018 – 400,000 in 2021), and condos rose 54% (\$188,818 in 2018 - \$350,000 in 2021).

When viewing comparable housing types across data sets (single-family and condos), median sales prices increased in a relatively uniform manner. Even comparing median sales price of RILiving’s multi-family data to Warren Group’s two- and three-family sales data, increases are similar.



Rental

The ability to accurately ascertain rental costs within municipalities is somewhat limited in Rhode Island. Though metro areas such as Providence (typically represented as the greater Metropolitan Statistical Area) have more reliable data and greater attention paid to it by real estate analytics firms, analysis on a municipal-to-municipal basis becomes much more challenging. RIHousing's Annual Rent Survey, which estimates average rent using CoStar's data along with utility calculations from 1-year American Community Survey estimates, is the standard source used statewide.

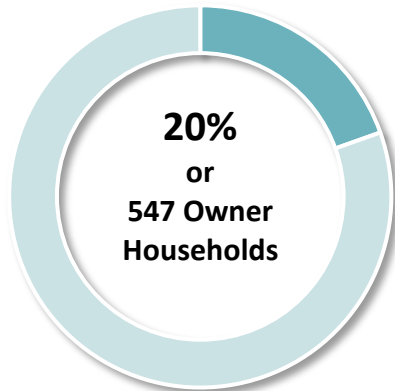
Based on RIHousing's Rent Survey, rental costs increased 9 percent from 2016-2021 (\$1,798 in 2016 - \$1,977 in 2021). The chief concern is that the relatively small increases in rental costs found by RIHousing's Rent Survey do not reflect the reality of cost increases that renters are experiencing across Rhode Island.

Cost Burdens

The high costs of housing have an impact on Warren households' ability to affordably rent and own housing as 33 percent of households are cost burdened, or spending more than 30 percent of their income on housing expenses.

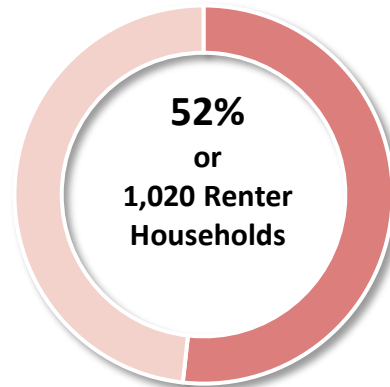
Like most other municipalities in Rhode Island, renters in Warren experience cost burdens at a much higher rate than homeowners (52 percent vs. 20 percent). In particular, when looking at renters who make less than \$50,000, over three-quarters (76 percent) are cost burdened.

Owner Cost Burdens



■ # Cost Burdened ■ # Not Cost Burdened

Renter Cost Burdens



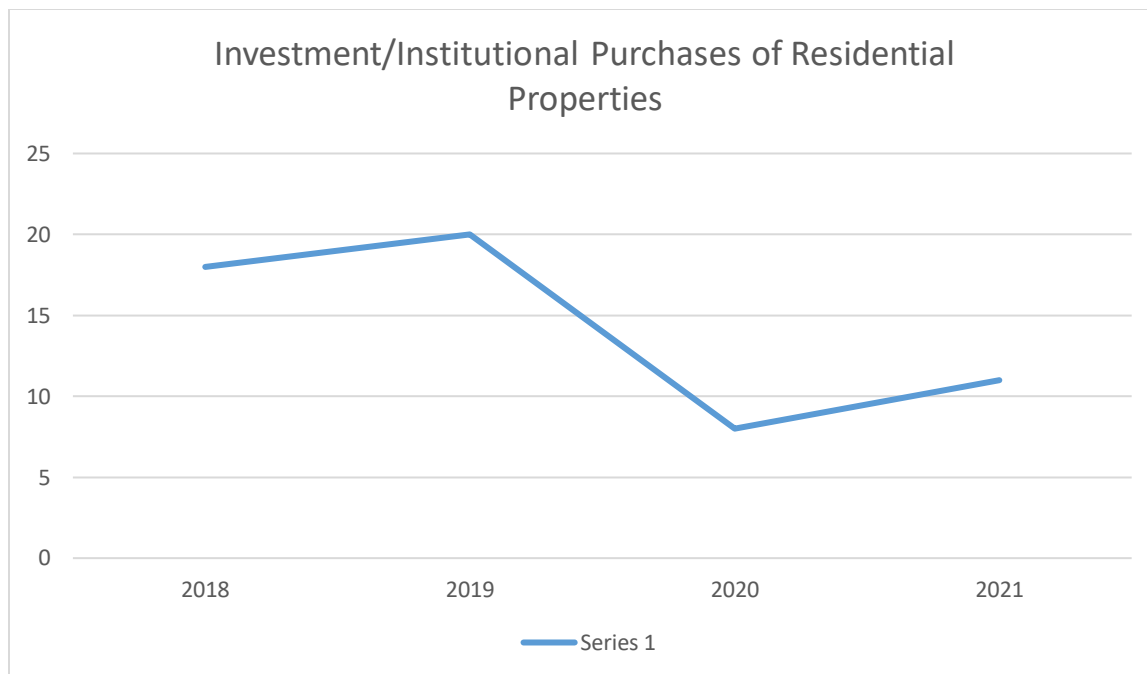
■ # Cost Burdened ■ # Not Cost Burdened

Investment Properties

Purchases of Residential Properties by Investor/Institutional Entities

Throughout the pandemic, many outlets have reported on upticks of investor or institutional purchasing on residential properties. As part of this research, HWRI leveraged the Warren Group data to attempt to track such purchases. There are inherent limitations with trying to track investor or institutional purchases due to the difficulty of unraveling LLCs and other entities. It's important to note that RIHousing and other objectively "non-investor" entities were removed.

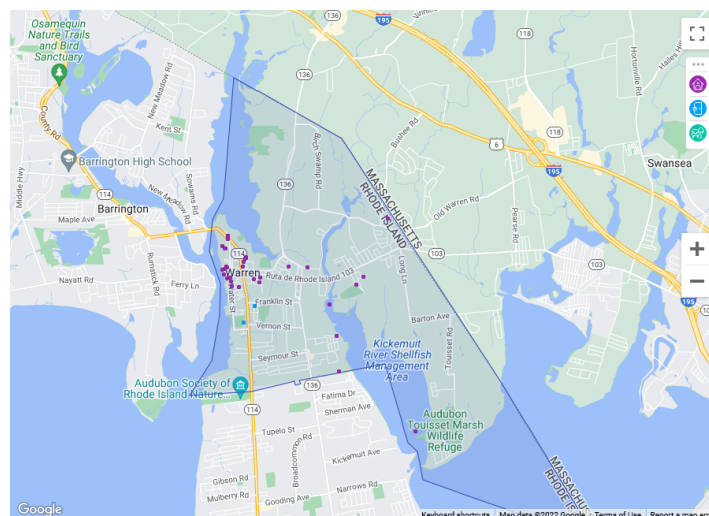
From 2018-2021, 57 properties that were acquired by LLCs or other entities. The following graph shows that there hasn't been significant movement year over year of investment or institutional purchases in Warren and that overall quantity of residential purchases fitting that definition is relatively low (8-20 properties per year).



Single family homes made up over half of all purchases, followed by two-family dwellings. This isn't entirely surprising, given residential investment purchasing trends elsewhere.

Short-term Rentals

While many coastal communities in Rhode Island struggle with the proliferation of short-term rentals, Warren appears not to experience the issue at a scale that other communities do. During peak times of the year (warmer months), active listings of short-term rentals top out at 26. Though the number may be lower compared to other communities in Rhode Island, the majority of short-term rentals are grouped tightly within Census tract 305 near Water St., which may cause pressures on rental and ownership markets in the area.



(Screen capture from AirDNA)

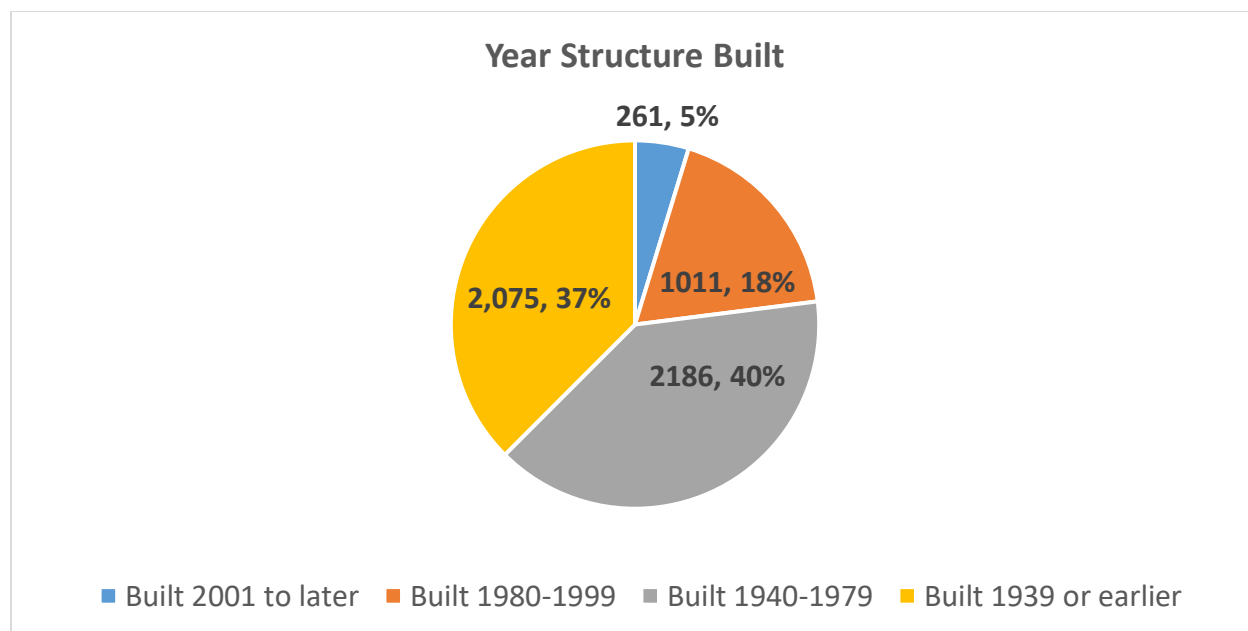
Age and Condition of Housing

Age of Housing

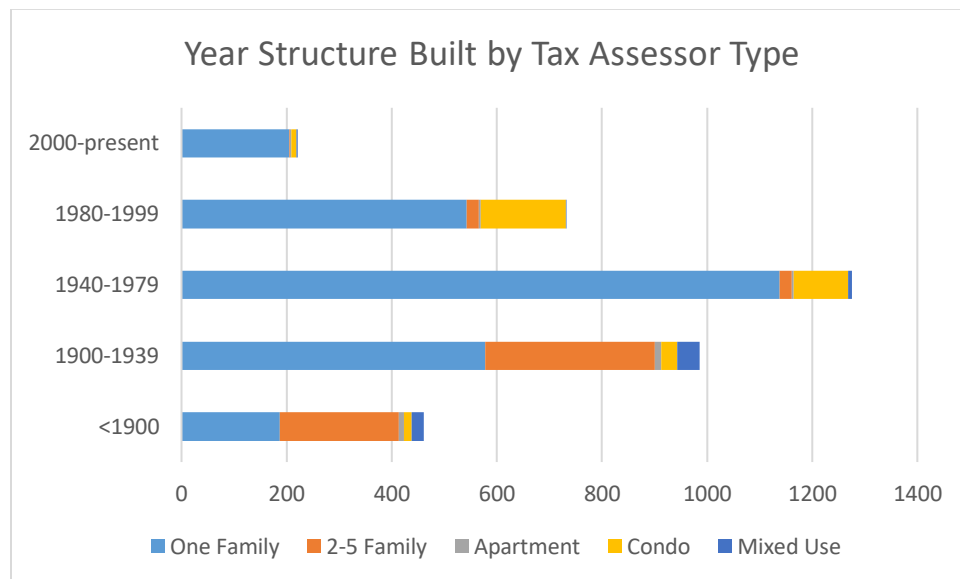
Rhode Island as a whole has a rapidly aging housing stock and Warren is not immune to this concerning trend. Older housing stock, if maintained correctly, is not inherently bad and can provide character as well as sources of pride and history within a community. However, maintenance can be expensive and may not meet the housing needs of its occupants. Lead paint, inefficient heating and cooling, infestations, air quality, structural degradation, and other issues may present problems to inhabitants' health and safety.

To understand the age of Warren's housing stock, three different datasets were used: the 2016-2020 American Community Survey, Warren Group's sales data from 2018-2021, and Warren's tax assessor data. Though tax assessor data will provide a more complete look at the age of *all* housing in Warren, integrating Warren Group's data on age of recent real estate transactions provides further context of the housing market in Warren. It's important to note that in both datasets, there is a breakout the age of specific types of housing. Ultimately, Warren's tax assessor data should be considered the authoritative source.

Warren's housing stock skews older than Rhode Island as a whole, with 37 percent of housing structures in Warren predating 1940 (compared to 30 percent for RI) and over half of Warren's housing (52 percent) having been built before 1960 (49 percent for RI). Warren's aging housing stock, when compared to national numbers, provides an even starker comparison as only 12 percent of homes in the U.S. predate 1940 and 27 percent predate 1960 as reflected in an examination of Warren Group transaction from 2018-2021, which shows the median age of all residential properties sold is almost 70 years old (median year structure built is 1953).



Using Warren’s tax assessor data, the median age of housing stock in Warren is 67 years old (1955). Condos are amongst the newest housing (1986), followed by single family homes (1960), and 2+ family and mixed use housing types (1900-1905). These findings illuminate the growing shift in Rhode Island away from building multifamily housing and towards single family housing.



Condition of Housing

Tax assessment condition ratings were used to understand approximate condition of housing, though not the best indication of true condition of housing as assessments do not inspect interior conditions of the home. According to tax assessor data, 86 percent of homes in Warren are rated Average-Good to Average conditions (49 percent Avg-Good, 37 percent Avg).

The truest measure of health and safety conditions within a home are maintained by municipal code enforcement when violations are reported. However, as noted in the 2021 Housing Fact Book, municipal records for code enforcement are not currently reported at the state level or by any entity in a collective manner.

Of the 220 responses recorded in the Warren Housing Survey, also conducted by HousingWorks RI in collaboration with the town and its Health Equity Zone, the following was reported:

Problem Noted	%	Count
Infestation of insects or vermin	12.3%	27
Mold	22.3%	49
Chipping paint	30.9%	68
Tripping and/or falling hazards	10.5%	23
Excessive heat, cold, or humidity	24.1%	53
Total	100%	220

Another question regarding responses by landlords to non-emergency repairs yielded 88 responses, of which 82 percent noted responses either immediately (42%) or within a day or two (40%).

APPENDIX D

Comprehensive Housing Affordability Strategy ("CHAS") data

Summary Level: MCD

Created on: December 14, 2023

Data for: Warren town, Bristol County, Rhode Island

Year Selected: 2016-2020 ACS

Income Distribution Overview	Owner	Renter	Total
Household Income less-than or= 30% HAMFI	125	745	870
Household Income >30% to less-than or= 50% HAMFI	170	385	555
Household Income >50% to less-than or= 80% HAMFI	455	415	870
Household Income >80% to less-than or=100% HAMFI	230	230	460
Household Income >100% HAMFI	1,825	440	2,265
Total	2,805	2,215	5,015
Housing Problems Overview 1	Owner	Renter	Total
Household has at least 1 of 4 Housing Problems	525	935	1,460
Household has none of 4 Housing Problems OR cost burden not available, no other problems	2,280	1,280	3,560
Total	2,805	2,215	5,015
Severe Housing Problems Overview 2	Owner	Renter	Total
Household has at least 1 of 4 Severe Housing Problems	245	495	740
Household has none of 4 Severe Housing Problems OR cost burden not available, no other problems	2,560	1,715	4,275
Total	2,805	2,215	5,015
Housing Cost Burden Overview 3	Owner	Renter	Total
Cost Burden less-than or= 30%	2,269	1,270	3,539
Cost Burden >30% to less-than or= 50%	280	440	720
Cost Burden >50%	245	490	735
Cost Burden not available	10	20	30
Total	2,805	2,215	5,015
Income by Housing Problems (Owners and Renters)	Household has at least 1 of 4	Household has none of 4 Housing Problems	Total

	Housing Problems	OR cost burden not available, no other problems	
Household Income less-than or= 30% HAMFI	555	315	870
Household Income >30% to less-than or= 50% HAMFI	500	54	555
Household Income >50% to less-than or= 80% HAMFI	245	625	870
Household Income >80% to less-than or= 100% HAMFI	50	405	460
Household Income >100% HAMFI	104	2,160	
Total	1,460	3,560	5,015
Income by Housing Problems (Renters only)	Household has at least 1 of 4	Household has none of 4 Housing Problems	Total
	Housing Problems	OR cost burden not available, no other problems	
Household Income less-than or= 30% HAMFI	450	295	745
Household Income >30% to less-than or= 50% HAMFI	335	50	385
Household Income >50% to less-than or= 80% HAMFI	145	270	415
Household Income >80% to less-than or= 100% HAMFI		230	230
Household Income >100% HAMFI	4	435	440
Total	935	1,280	2,215
Income by Housing Problems (Owners only)	Household has at least 1 of 4	Household has none of 4 Housing Problems	Total
	Housing Problems	OR cost burden not available, no other problems	
Household Income less-than or= 30% HAMFI	105	20	125
Household Income >30% to less-than or= 50% HAMFI	165	4	170
Household Income >50% to less-than or= 80% HAMFI	100	355	455
Household Income >80% to less-than or= 100% HAMFI	50	175	230

Household Income >100% HAMFI	100	1,725	1,825
Total	525	2,280	2,805
Income by Cost Burden (Owners and Renters)	Cost burden > 30%	Cost burden > 50%	Total
Household Income less-than or= 30% HAMFI	555	460	870
Household Income >30% to less-than or= 50% HAMFI	500	275	555
Household Income >50% to less-than or= 80% HAMFI	245		870
Household Income >80% to less-than or= 100% HAMFI	50		460
Household Income >100% HAMFI	100		2,265
Total	1,450	735	5,015
Income by Cost Burden (Renters only)	Cost burden > 30%	Cost burden > 50%	Total
Household Income less-than or= 30% HAMFI	450	365	745
Household Income >30% to less-than or= 50% HAMFI	335	125	385
Household Income >50% to less-than or= 80% HAMFI	145		415
Household Income >80% to less-than or= 100% HAMFI			230
Household Income >100% HAMFI			440
Total	930	490	2,215
Income by Cost Burden (Owners only)	Cost burden > 30%	Cost burden > 50%	Total
Household Income less-than or= 30% HAMFI	105	95	125
Household Income >30% to less-than or= 50% HAMFI	170	150	170
Household Income >50% to less-than or= 80% HAMFI	100		455
Household Income >80% to less-than or= 100% HAMFI	50		230
Household Income >100% HAMFI	100		1,825
Total	525	245	2,805

1. The four housing problems are: incomplete kitchen facilities, incomplete plumbing facilities, more than 1 person per room, and cost burden greater than 30%.
2. The four severe housing problems are: incomplete kitchen facilities, incomplete plumbing facilities, more than 1 person per room, and cost burden greater than 50%.
3. Cost burden is the ratio of housing costs to household income. For renters, housing cost is gross rent (contract rent plus utilities). For owners, housing cost is "select monthly owner costs", which includes mortgage payment, utilities, association fees, insurance, and real estate taxes.