

# Resilient Connecticut Climate Adaptation Summit

Document by:

## UConn's Community Research & Design Collaborative

Director Associate Professor Peter Miniutti

Date: November 12, 2019

UConn's Community Research & Design Collaborative (CRDC) is the umbrella organization for the outreach work of the landscape architecture faculty. Our mission is to be a regional leader in sustainable planning and design. We help our client's plan and design affordable, equitable, and ecologically healthy environments. Our mission is accomplished by providing our client's with objective, multi-disciplinary, state-of-the-art planning and design expertise. We promote and encourage academic-based collaborative research with an emphasis on "real world" projects as they apply to sustainable development.

For additional information, please see:

[crdcuconn.wordpress.com](http://crdcuconn.wordpress.com)

[peteprojects.wordpress.com](http://peteprojects.wordpress.com)

or email Peter:

[peter.miniutti@uconn.edu](mailto:peter.miniutti@uconn.edu)

# UCONN



# Overview of UConn's CRDC

**UConn's Community Research & Design Collaborative (CRDC)** is the umbrella organization for the outreach work of the landscape architecture faculty.

- Our mission is to be a regional leader in sustainable planning and design. We help our client's plan and design affordable, equitable, and ecologically healthy environments.
- Our mission is accomplished by providing our client's with objective, multi-disciplinary, state-of-the-art planning and design expertise.
- We promote and encourage academic-based collaborative research (service learning) with an emphasis on "real world" projects as they apply to sustainable development.



The UConn/CRDC Team Post-Doc Mariana Fragomeni, Associate Professor/Director Peter Miniutti ,Adjunct Instructor Natalie Miniutti, Undergraduates Stephen Kelly & Sybren Hoekstra, PhD student Tao Wu

# Contents of Today's Talk

## 1. UConn's Program of Landscape Architecture/CRDC

- **Role** on this Project – Consultant to CIRCA
- **Locational** scope of project
- **Lands of Unique Value** for areas of “Shared Risk”

## 2. Maps produced:

- Topography & flooding projections (2)
- Town level resource maps (3)
- Shared risks (1)

## 3. The 1838 land use pattern worked well:

- Map comparison

## 4. What do you think?

- Work session for Fairfield, New Haven & Norwalk
  - Tell us who you are
  - Answer the questions
  - Get creative
- Your thoughts – 2 -3 minute summary

**Background information on the planning to this point**

**What do you think about the mapping to this point?**

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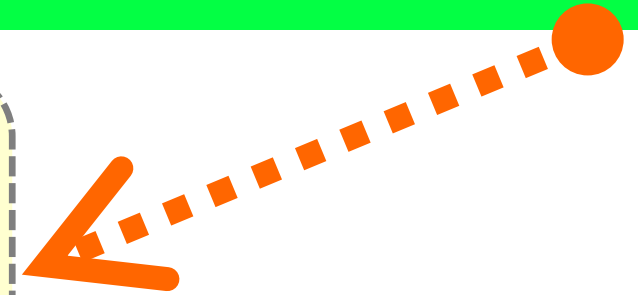
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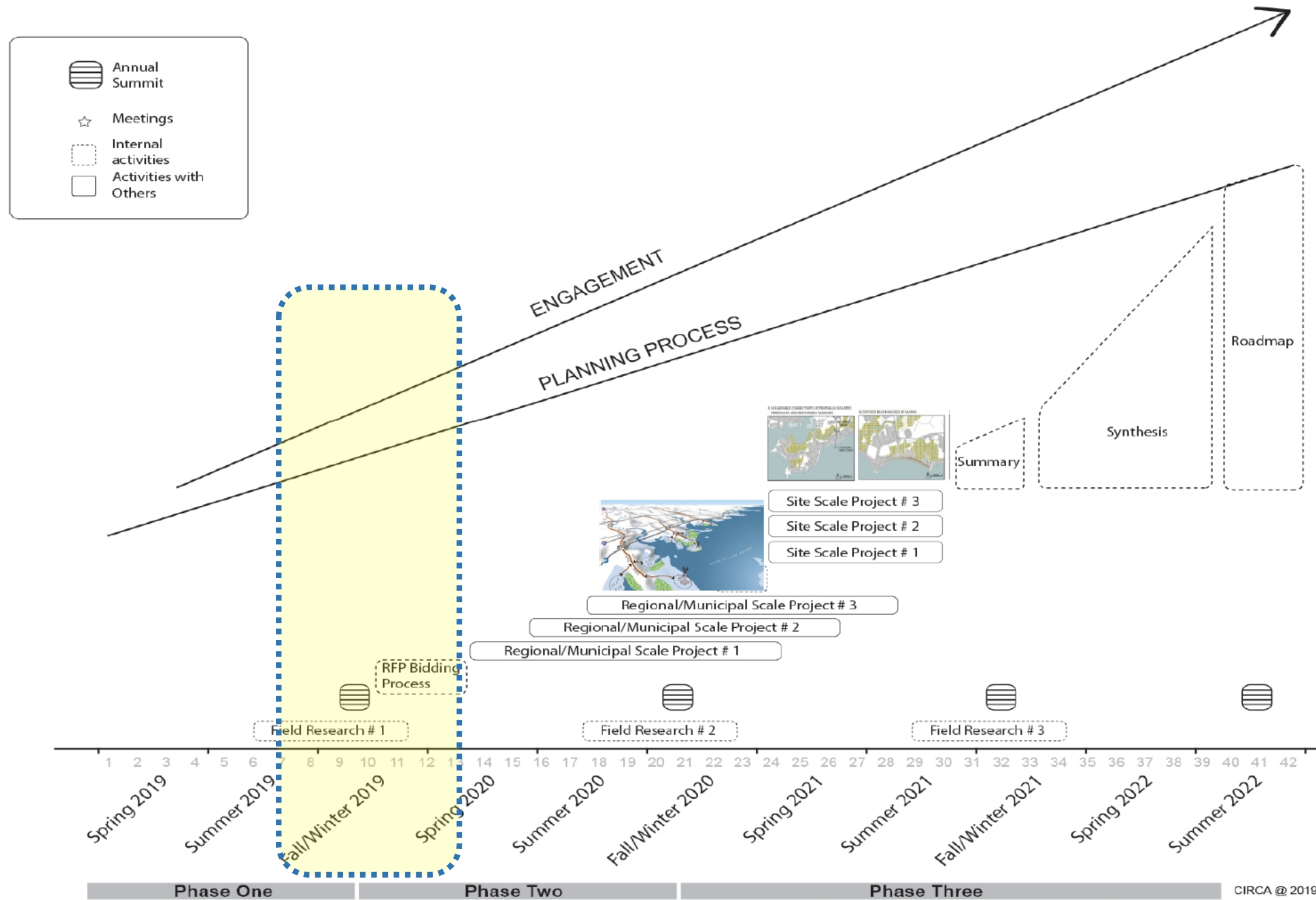
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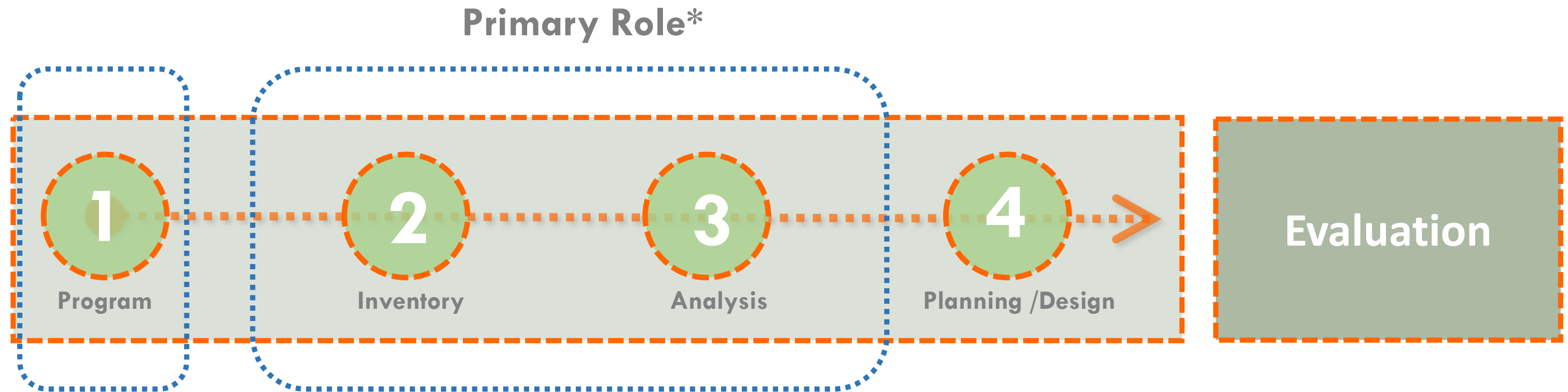




# Our Role & the "Design Process"



# Our Role & the “Design Process”



**Secondary Role**

\* Inventory and analysis of all pertinent existing information, including town, state, and federal mapping; special interest groups; and previous studies. (both from the private and public sector).



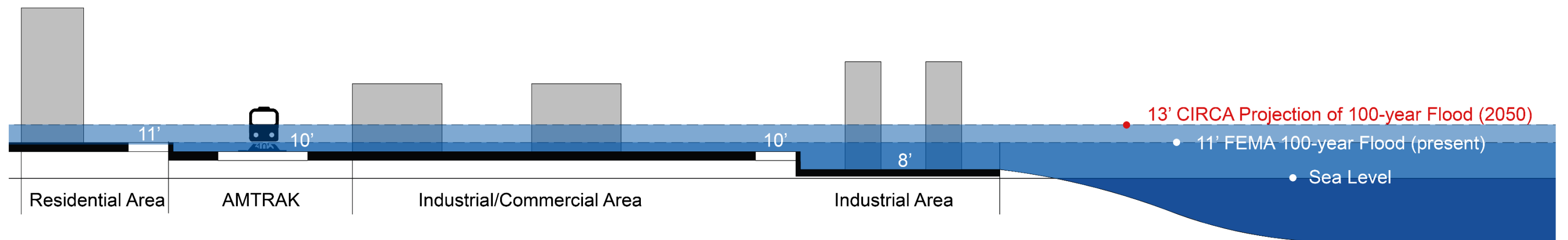
# Methodology – LUV & Shared Risk

## What is a Land of Unique Value Study (LUV)?

A land use study methodology which analyzes existing land features (natural and cultural) to determine the most logical and reasonable future land uses, **balancing conservation, preservation, and sensible development.**

Inventory and analysis of all pertinent existing information, including town, state, and federal mapping; special interest groups; and previous studies. (both from the private and public sector).

# Methodology – LUV & Shared Risk



What is the most efficient and effective method to mitigate the negative consequences of water rise while improving the quality of life for all living things (humans, flora & fauna) ?



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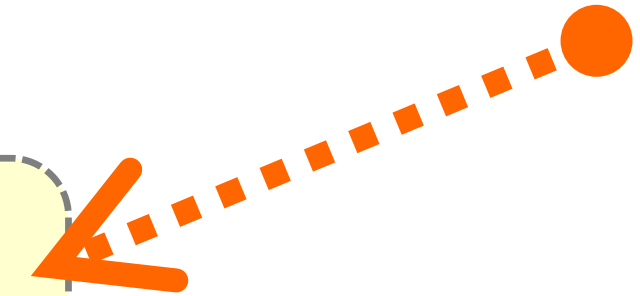
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# Our Products

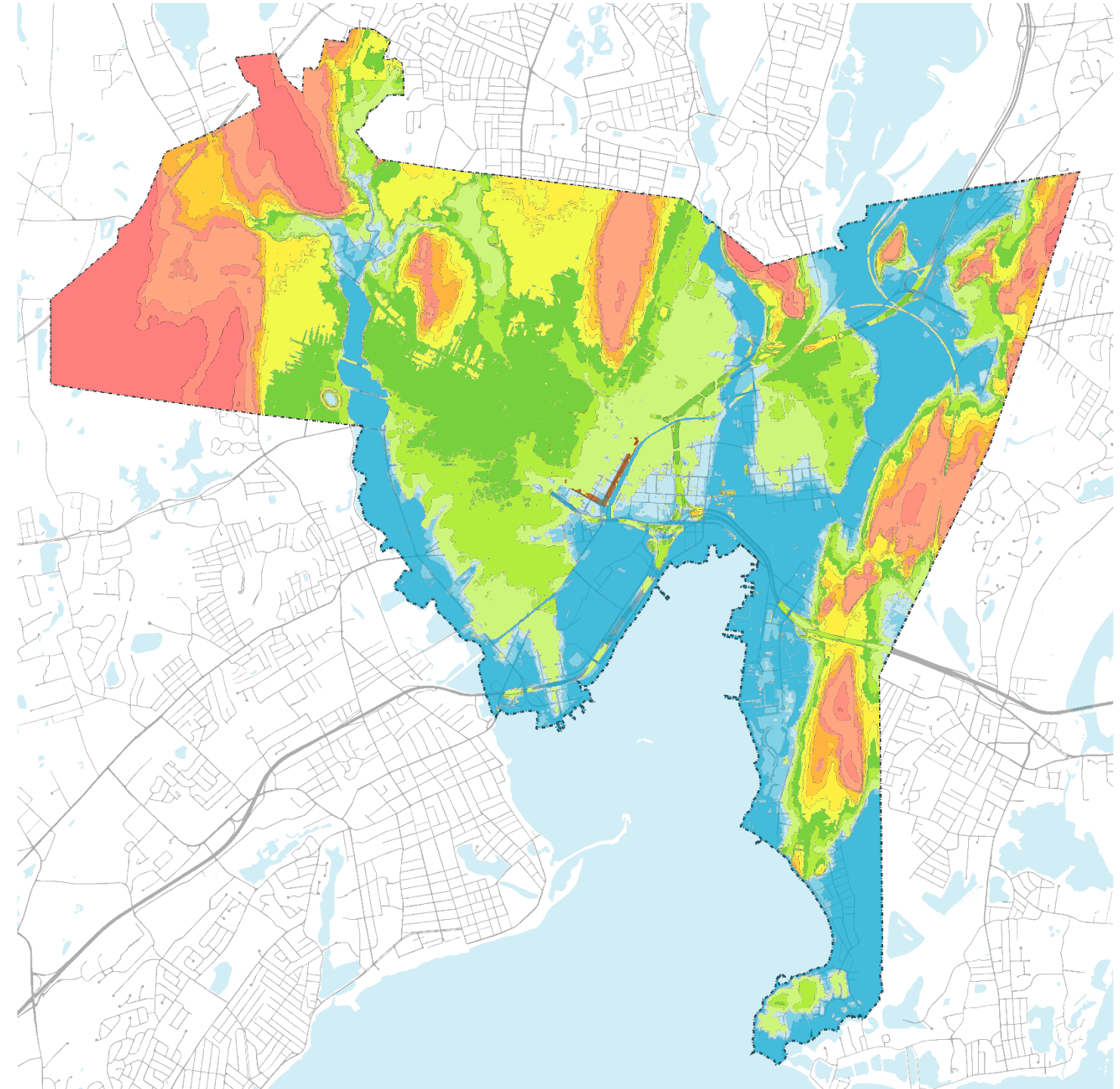
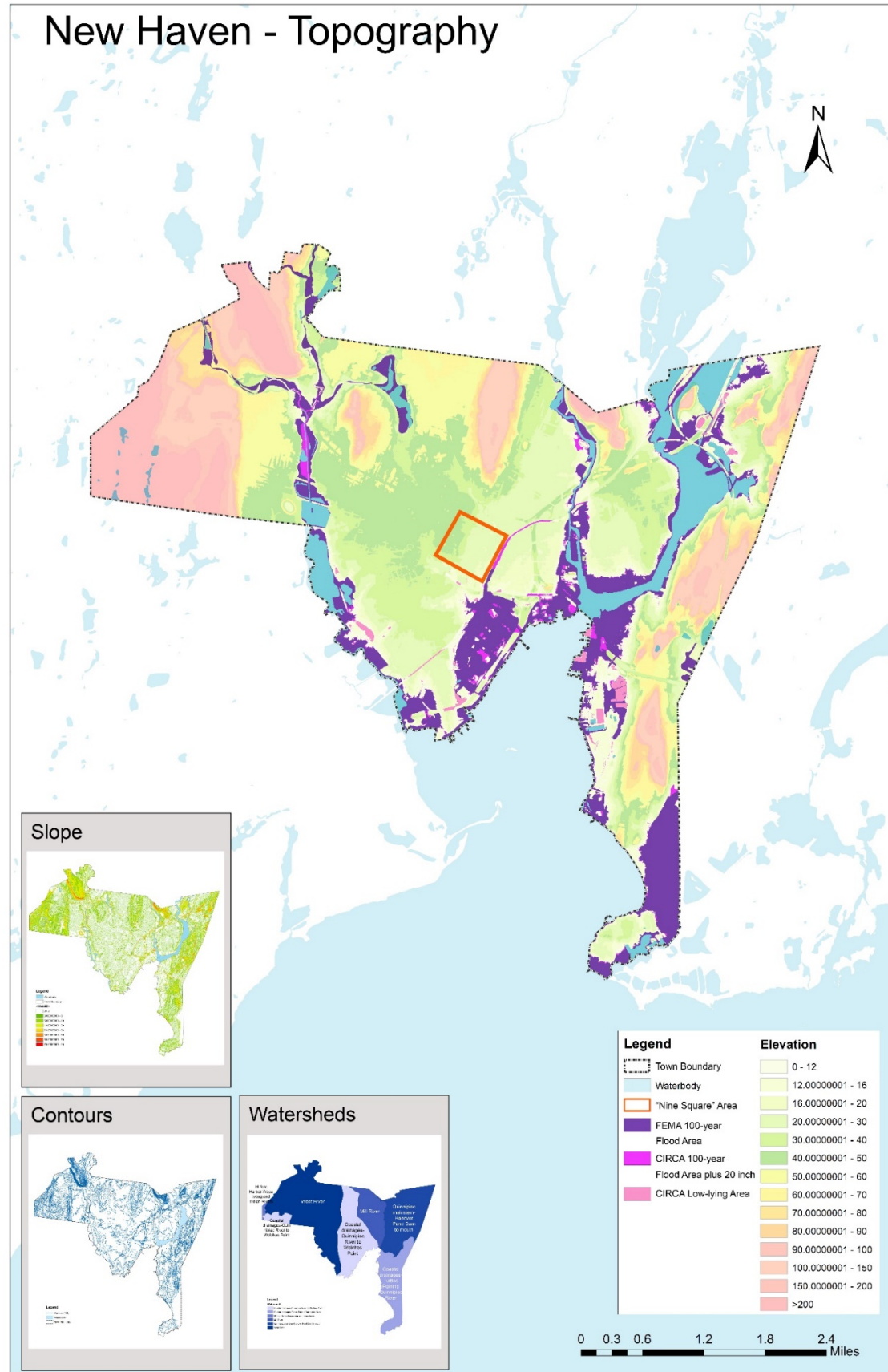
We want to provide up-to-date, easily accessible, user friendly maps to ensure this **process is a pro-active and holistic**. We want to get away from **reactive, piecemeal planning efforts**. **Multi-disciplinary team building** is a necessity.

Topography/  
Elevation  
Map

Projected  
Flooding  
Map

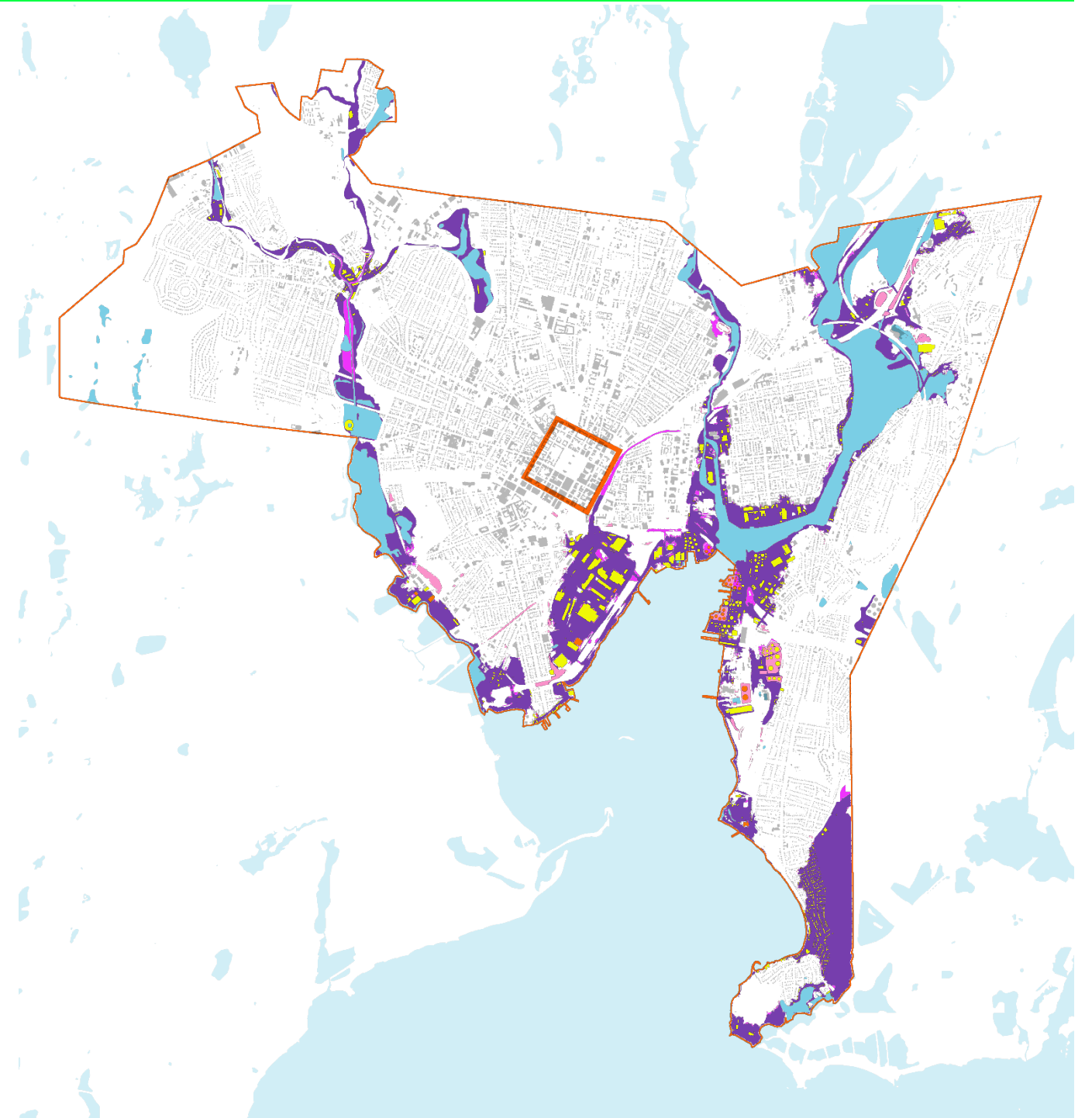
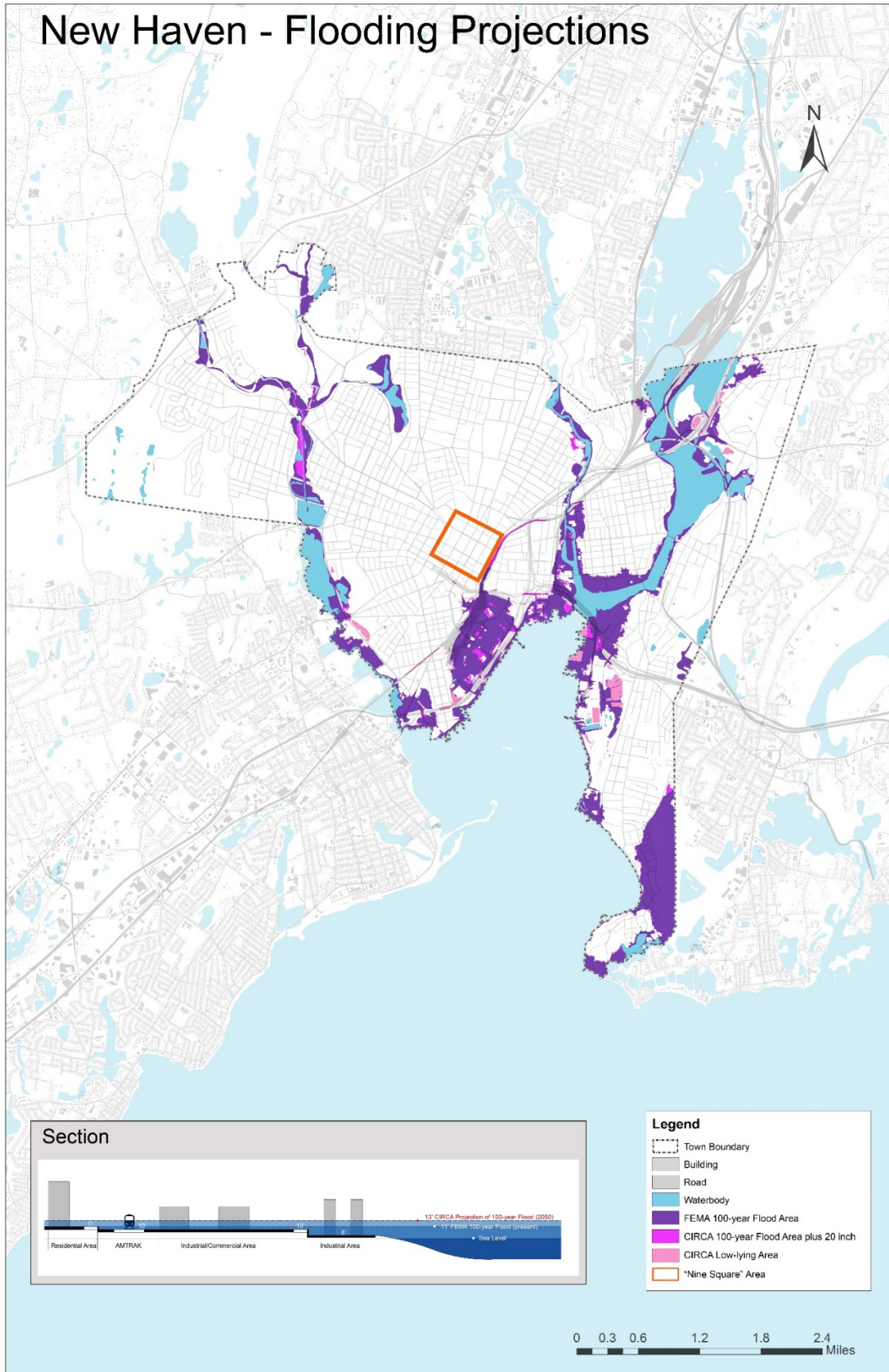
Map FEMA & CIRCA data on sea level rise and produce maps to clearly communicate the effects of projected water rise over time in New Haven and Fairfield Counties.

# Topography



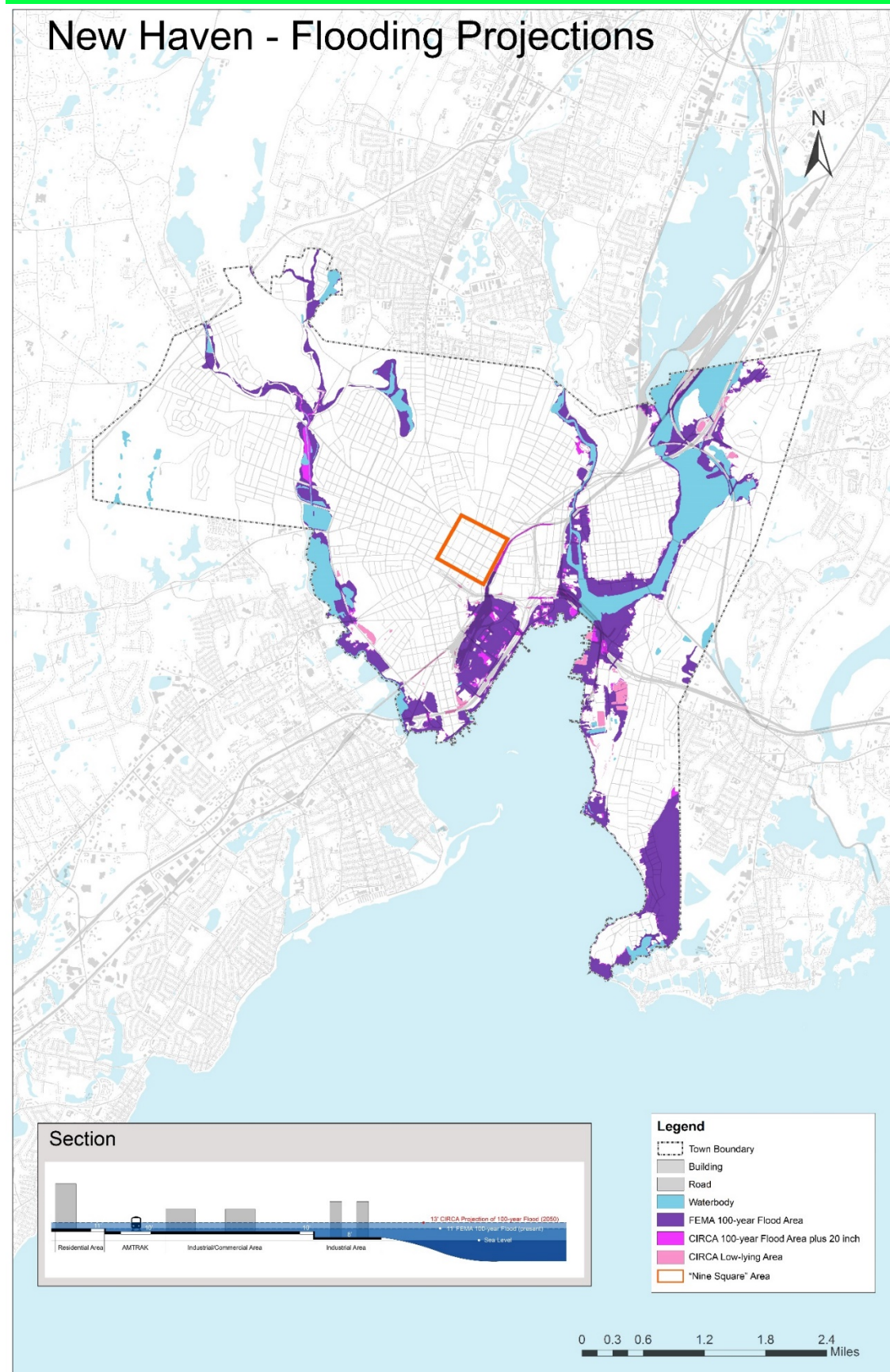


# Flood Projections





# Flood Projections



**Based on CIRCA 100 year plus 20 inches projections:**

## Watersheds

- Approximately 2193.33 acres of the watersheds would be impacted (17.92%).
- Most impacted Subregion Watershed – South Central Shoreline (912.59 acres/ 21.75%) and Quinnipiac River (736.82 acres/ 29.34%)

## Infrastructure

- A total of 1678 buildings would be under water and 116.68 acres of roadway areas would be impacted by flooding.

## Vulnerability and Opportunity

- Approximately 695.45 acres are socially vulnerable according to the Social Vulnerability Index (CDC)
- An estimated 570.48 acres are areas identified as Opportunity Zones.



# Our Products

Topography/  
Elevation  
Map

Projected  
Flooding  
Map

Ecological  
Systems  
Map

Structures &  
Roadways  
Map

Land Uses &  
Social  
Characteristics  
Map

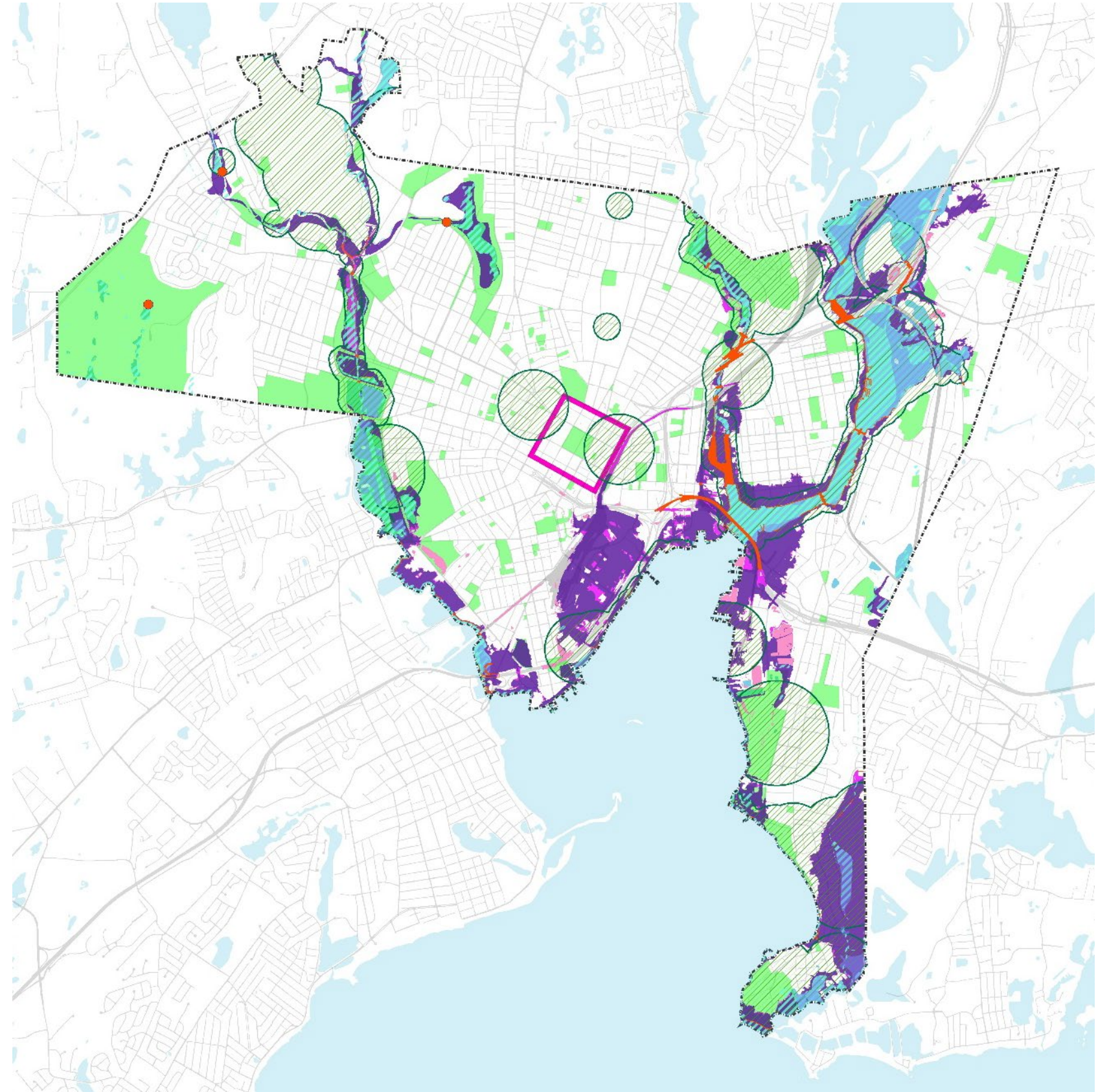
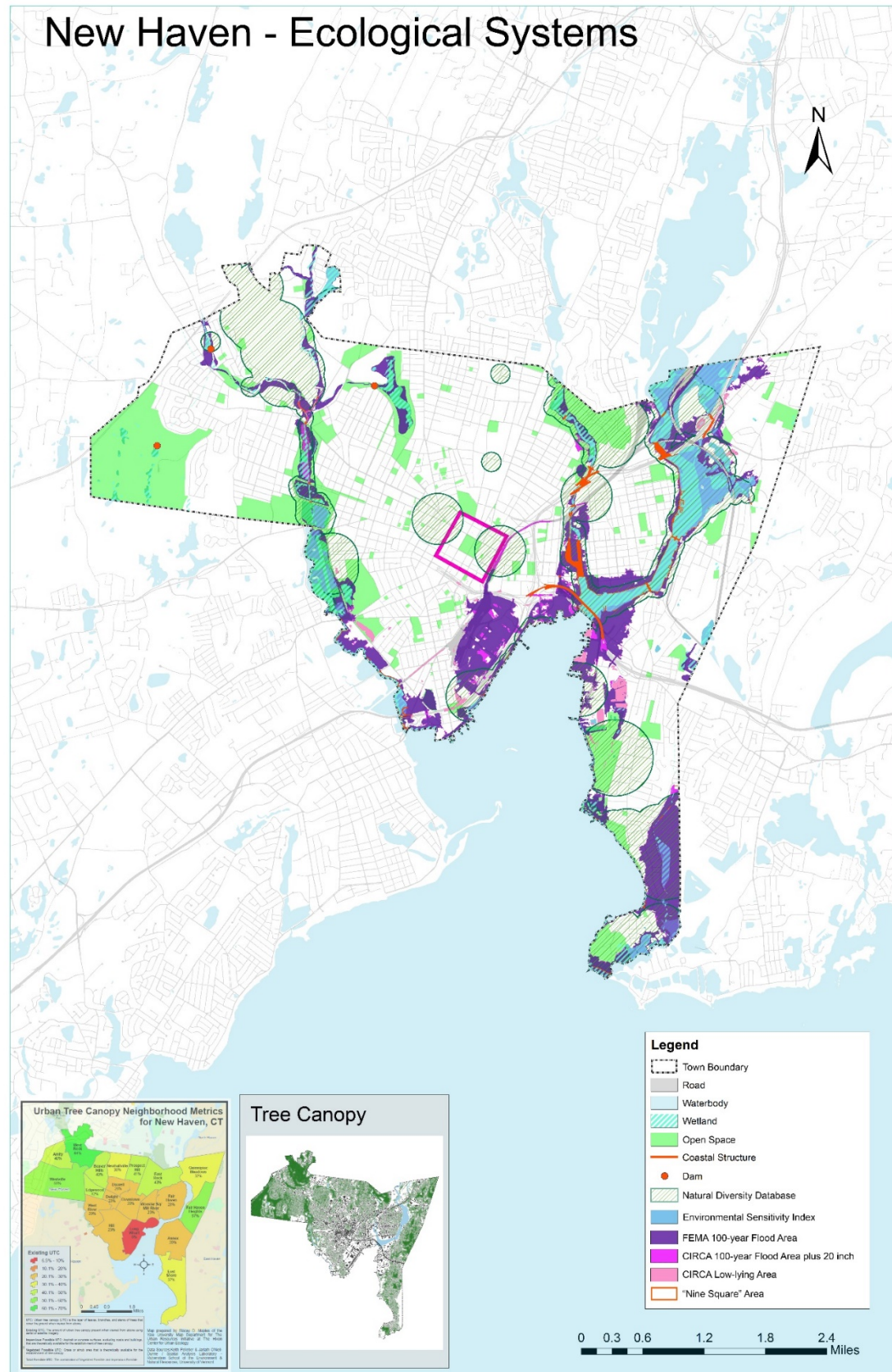
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**Create Town Level Resource Maps** to be used by designers (landscape architects, engineers, etc.), decision makers and citizens to understand the context of proposed infrastructure improvements. The goal is to mitigate the negative effects of water rise while improving the overall quality of life of residents



# Ecological Systems

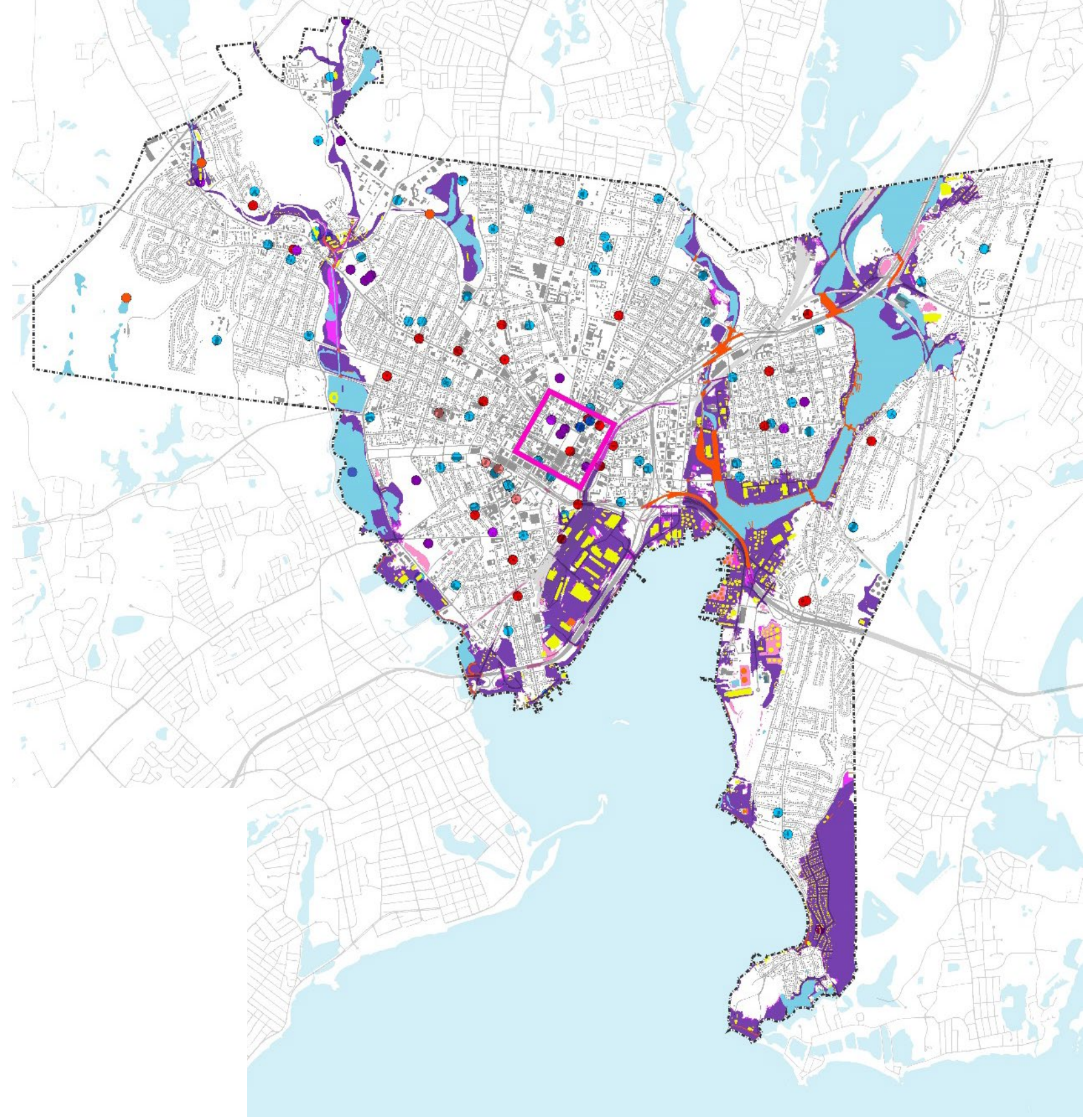
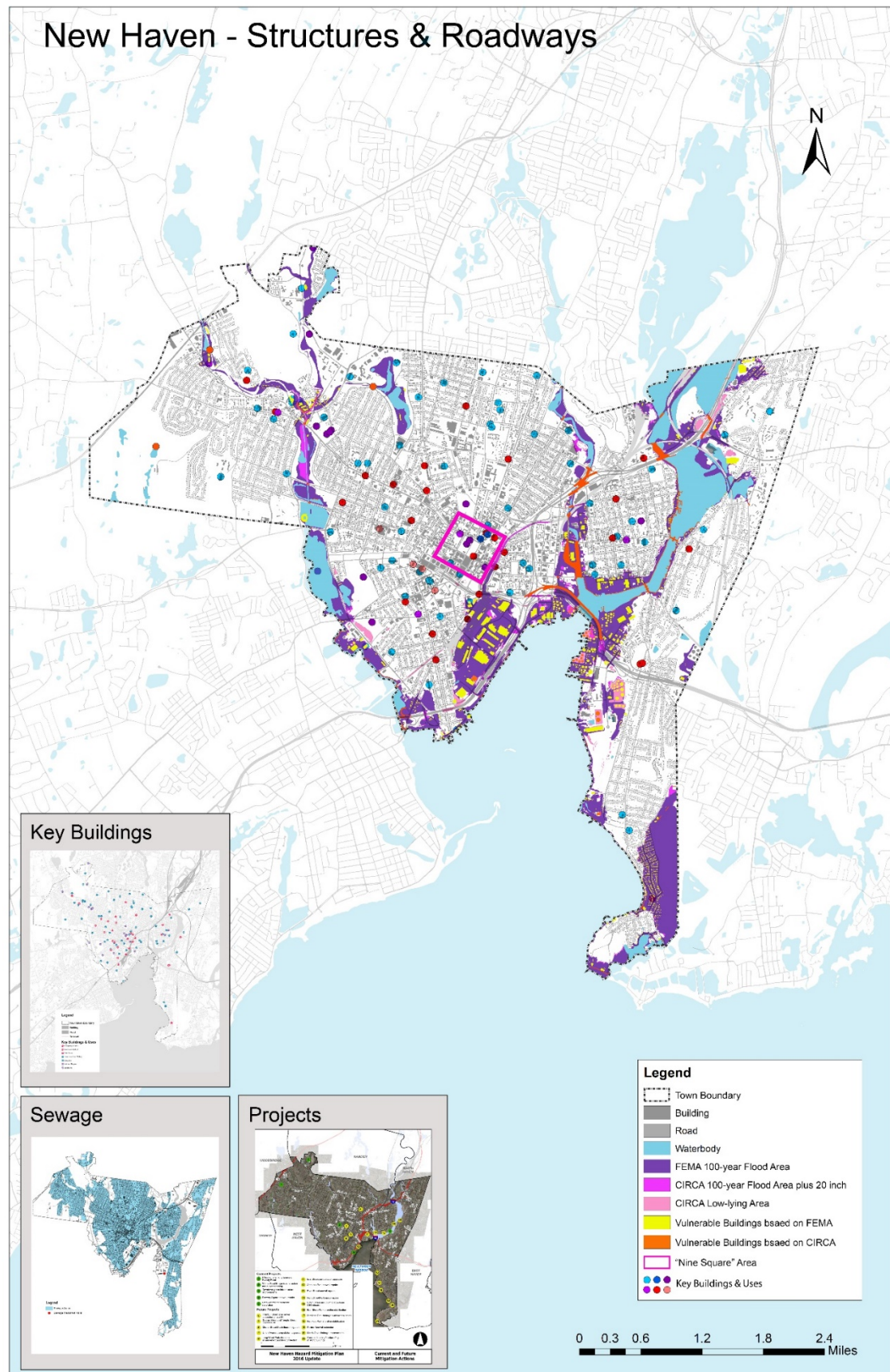
## New Haven - Ecological Systems





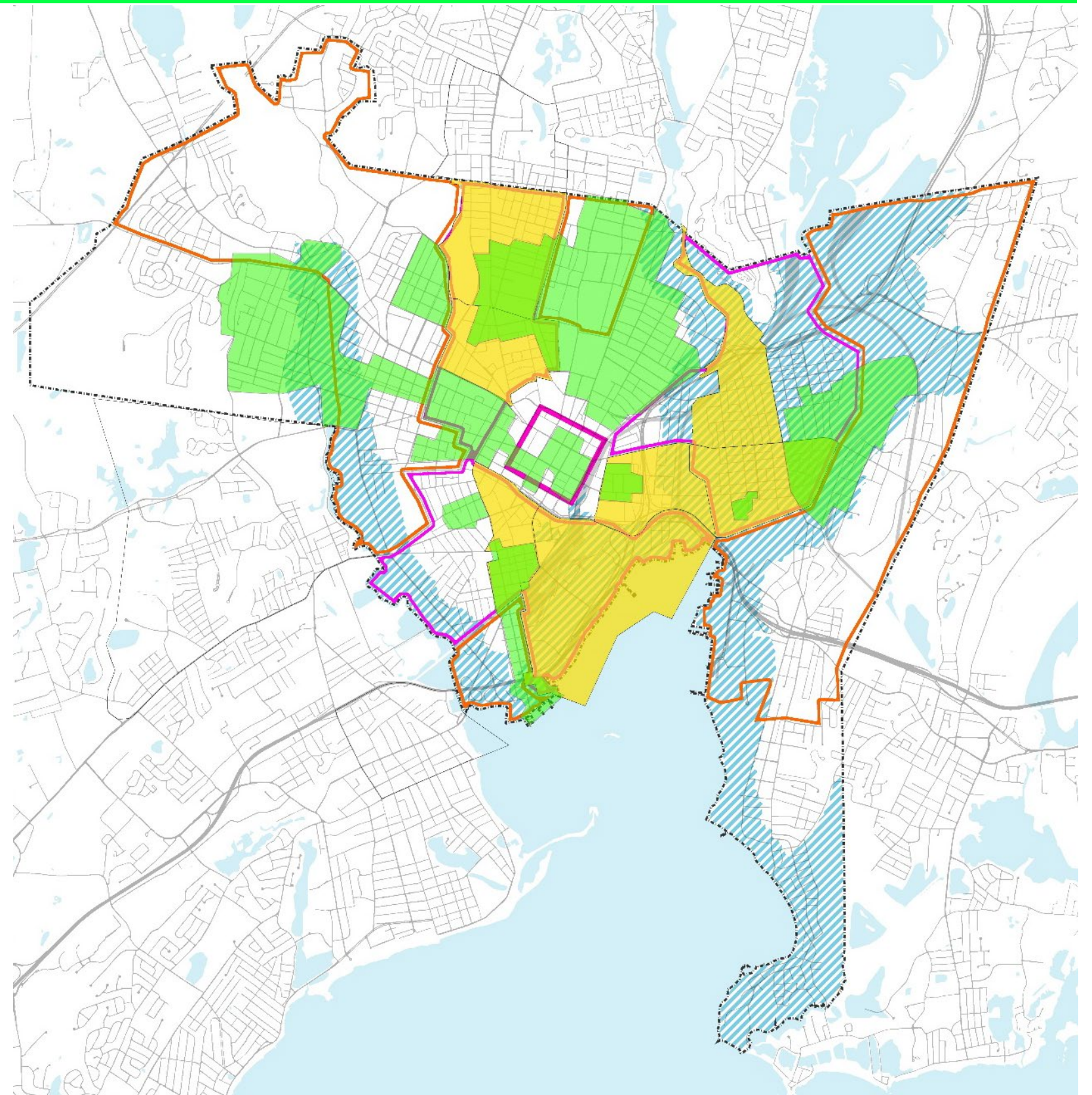
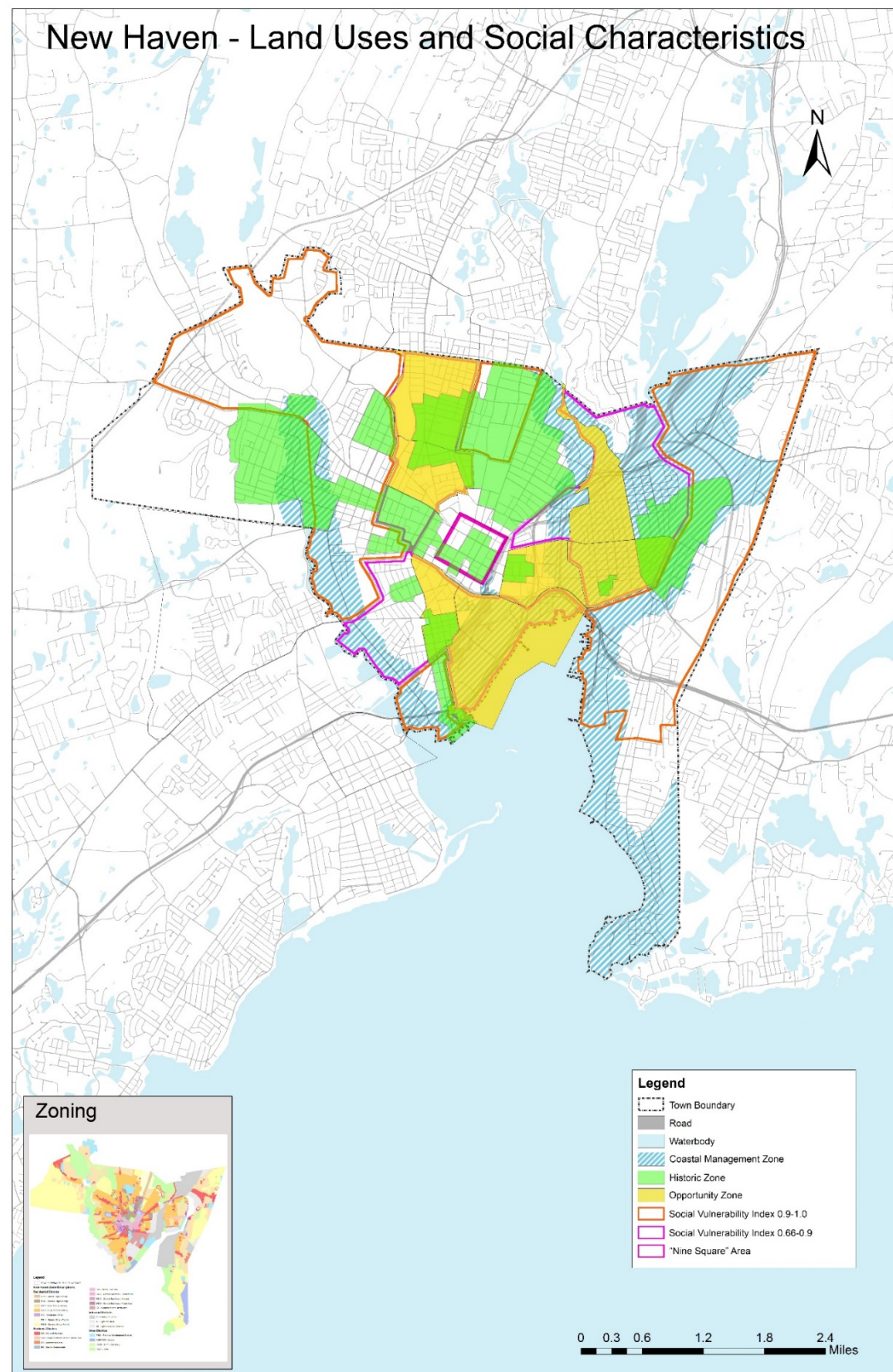
# Structures & Roadways

New Haven - Structures & Roadways





# Land Uses & Social Characteristics





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Topography/  
Elevation  
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Projected  
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Ecological  
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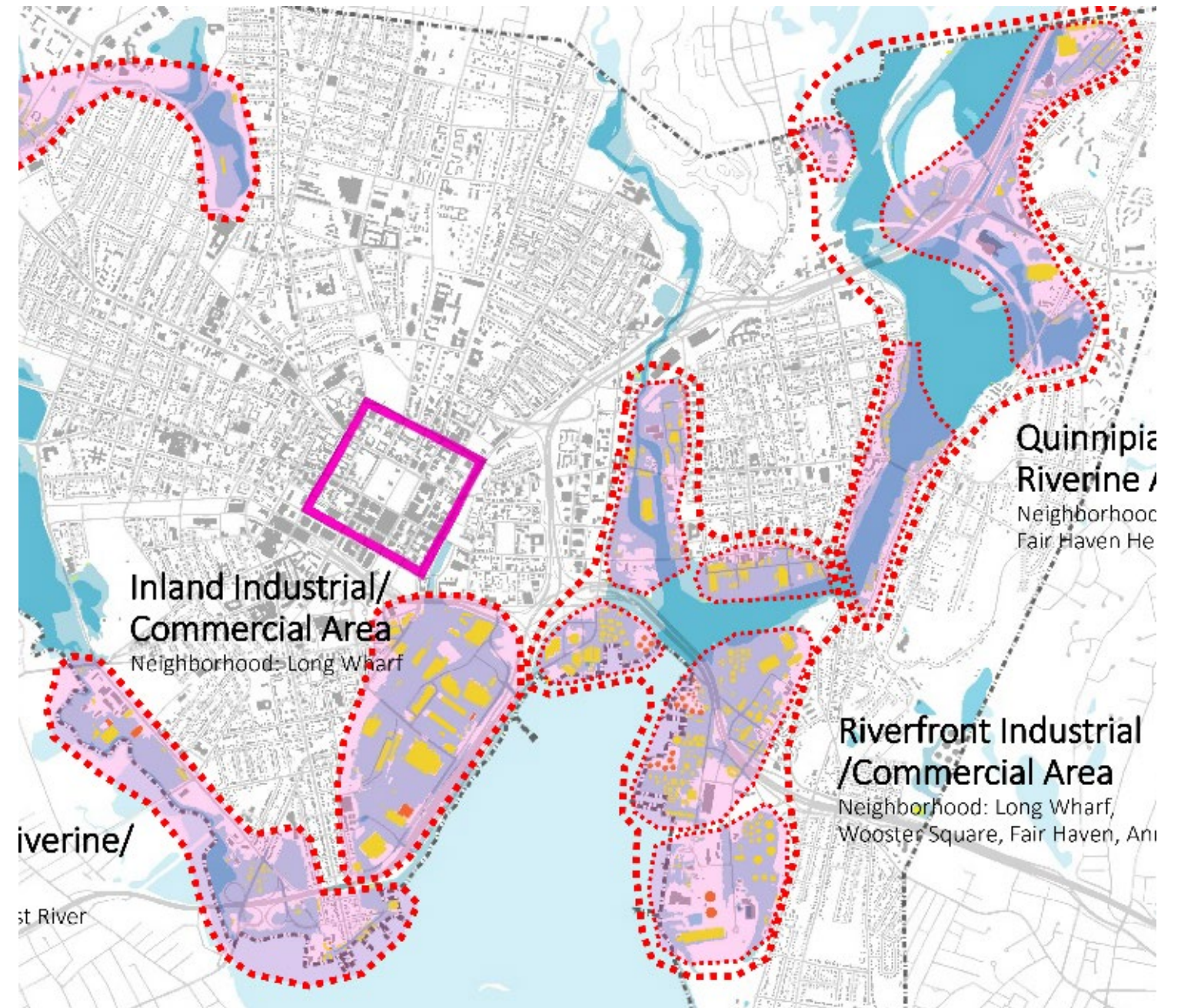
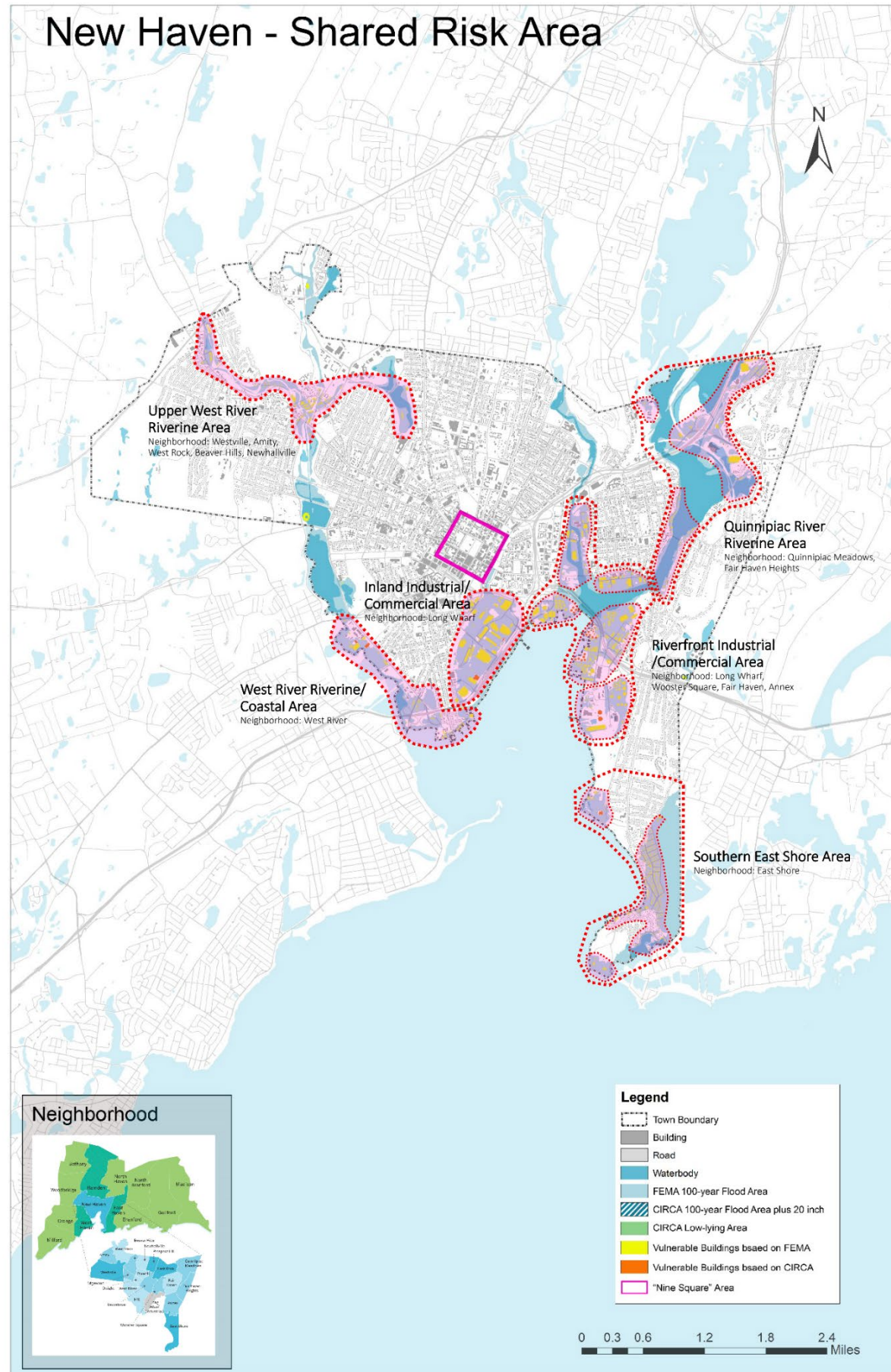
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Areas of Shared Risk  
Map & Data

**Areas of Shared Risk**



# Shared Risk Zones





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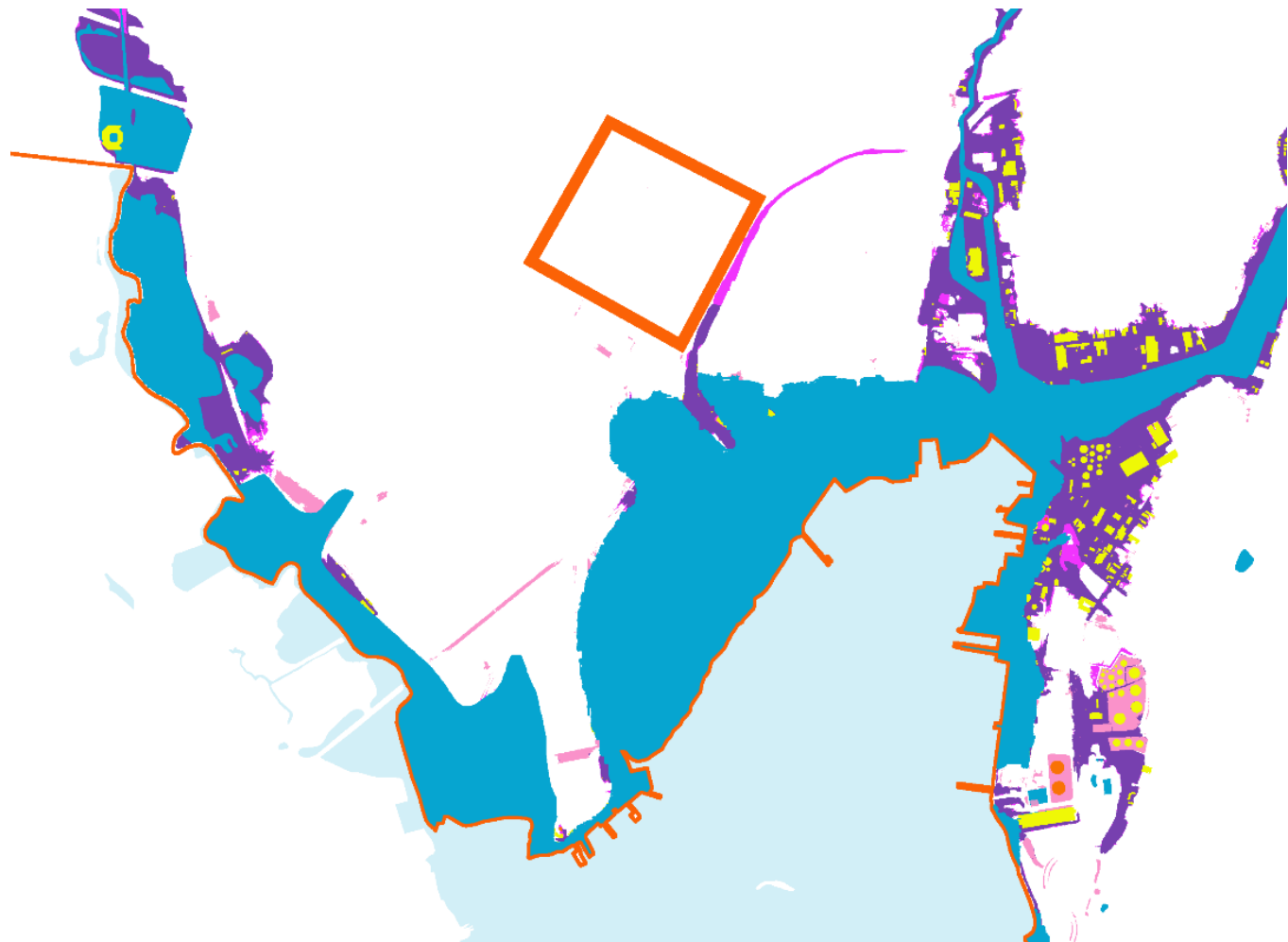
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# 1838 – 2019 New Haven Harbor



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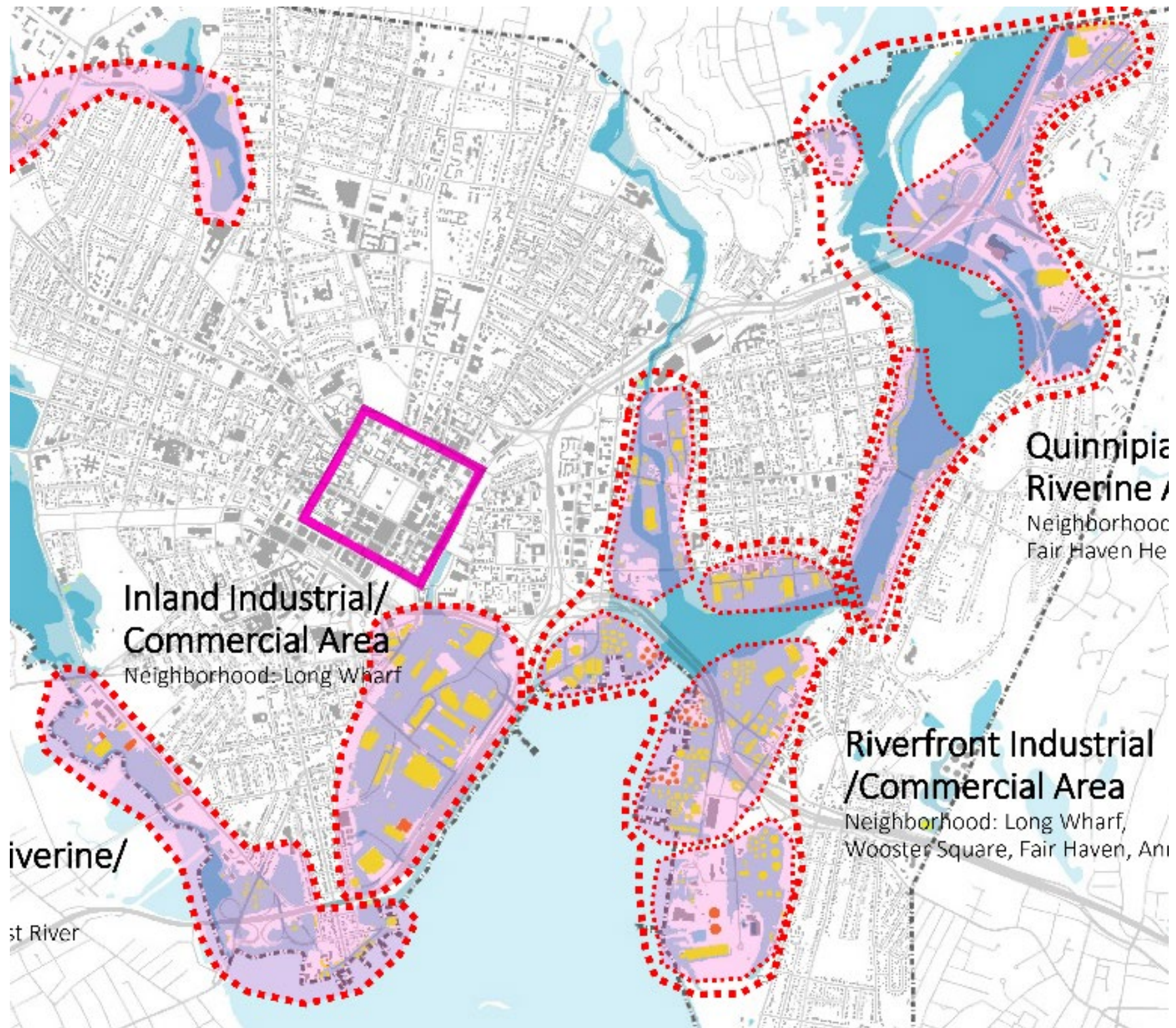


# Work session questions

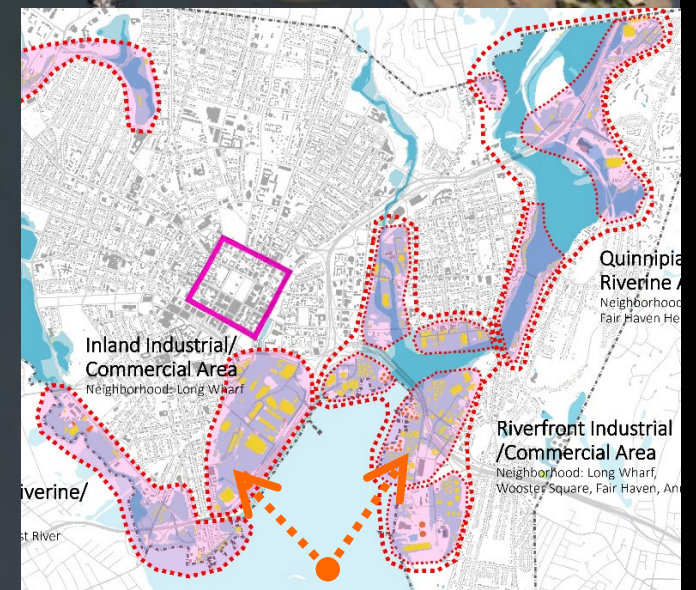
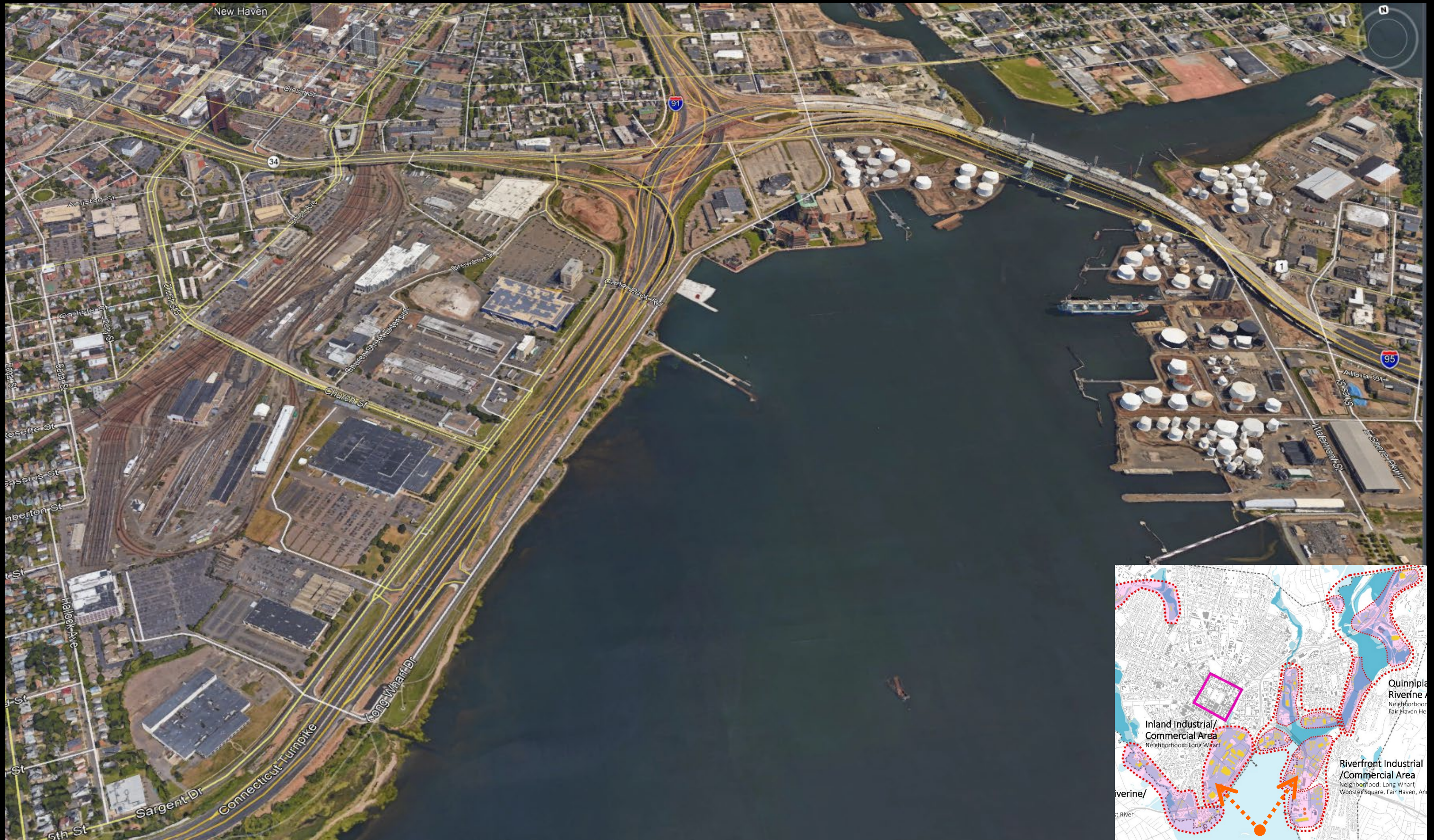
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2. Does the concept of “Shared Risk” make sense? Do you agree with the specific “Shared Risk” zones shown on your map? If not, please change the zones. What other cultural and natural attributes are missing from our maps?
3. Do you have any *recommendations* on how to protect the zones on your map?



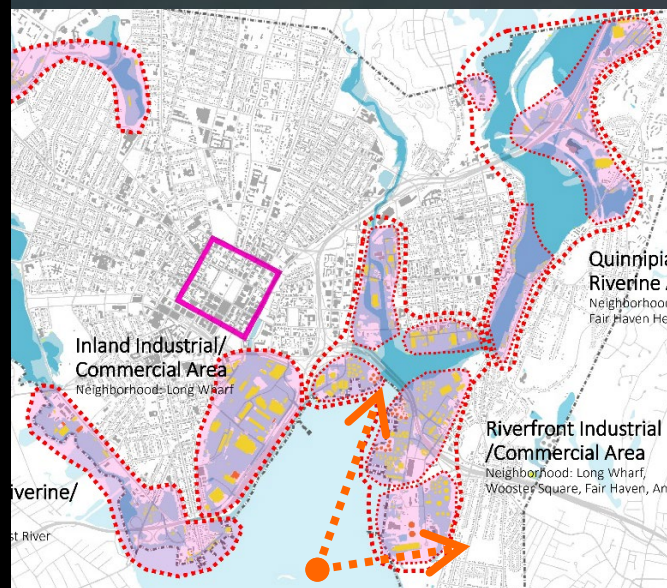
# New Haven, Fairfield & Norwalk



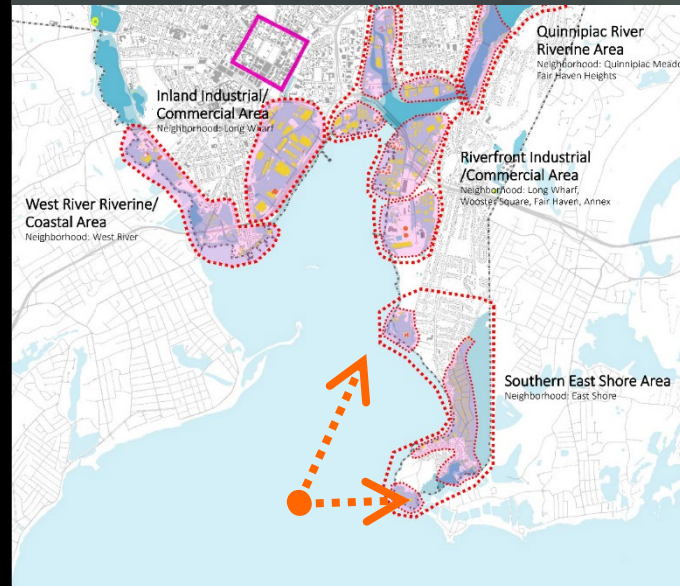




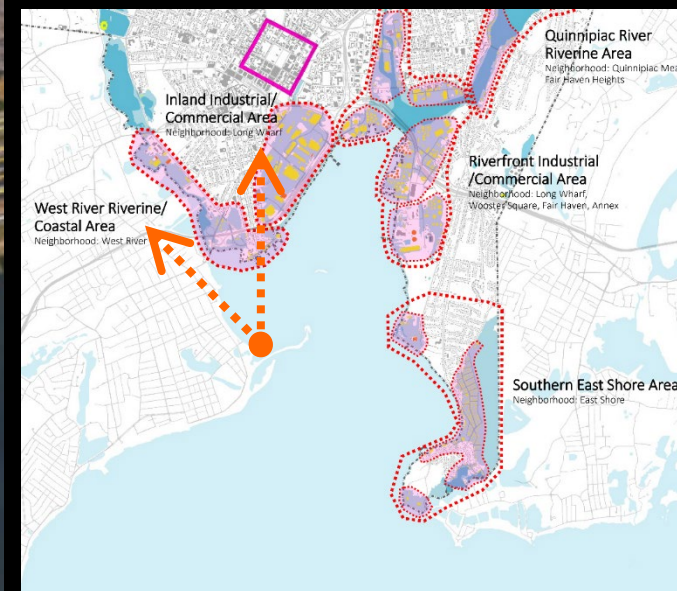
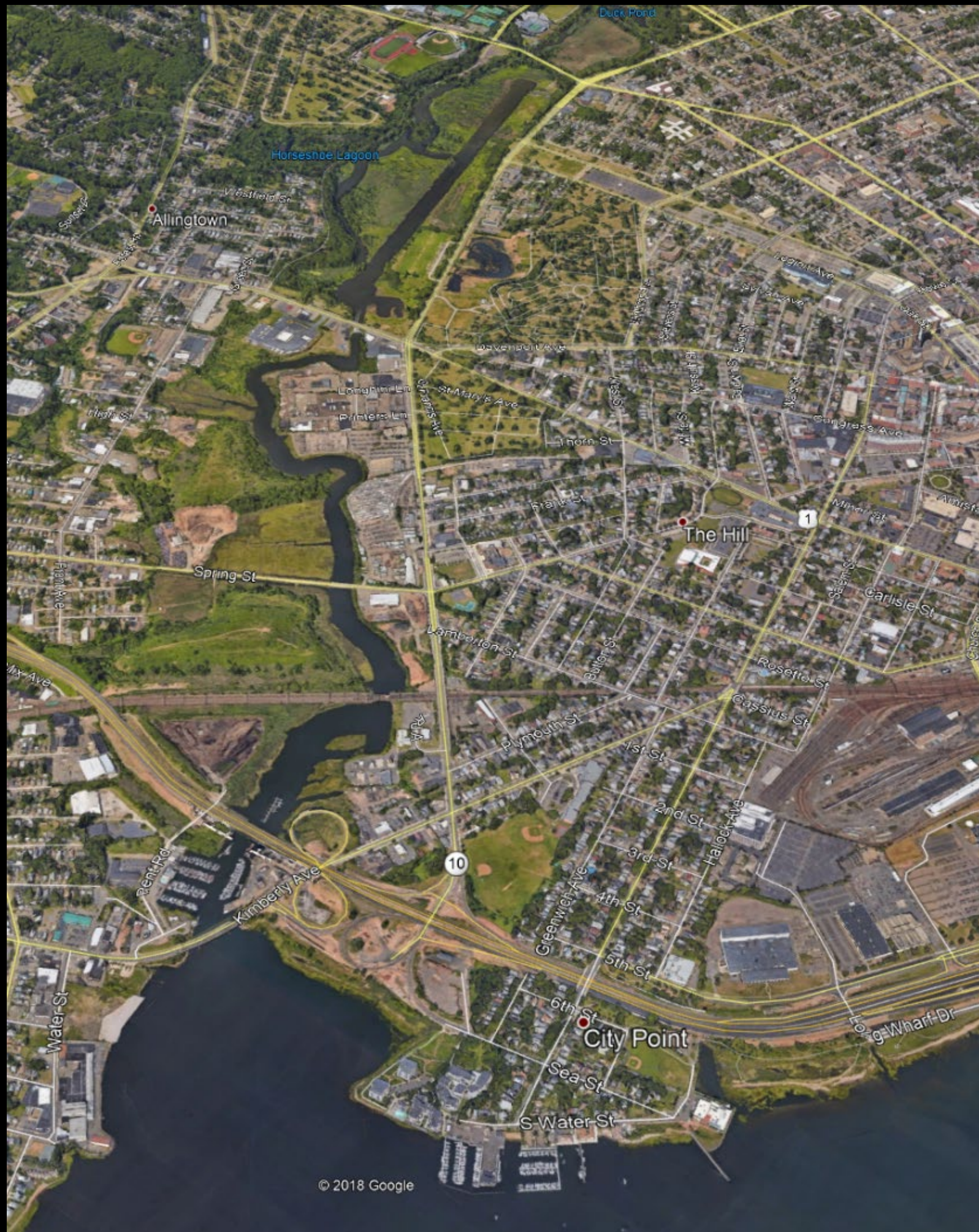














# Work session

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# Norwalk - Shared Risk Area

- Legend**
- Town Boundary
  - Building
  - Road
  - Waterbody
  - FEMA 100-year Flood Area
  - CIRCA 100-year Flood Area plus 20 inch
  - CIRCA Low-lying Area
  - Vulnerable Buildings based on FEMA
  - Vulnerable Buildings based on CIRCA



Stony Brook Riverine Area

Betts Pond Brook Riverine Area

Rowayton Coastal Area

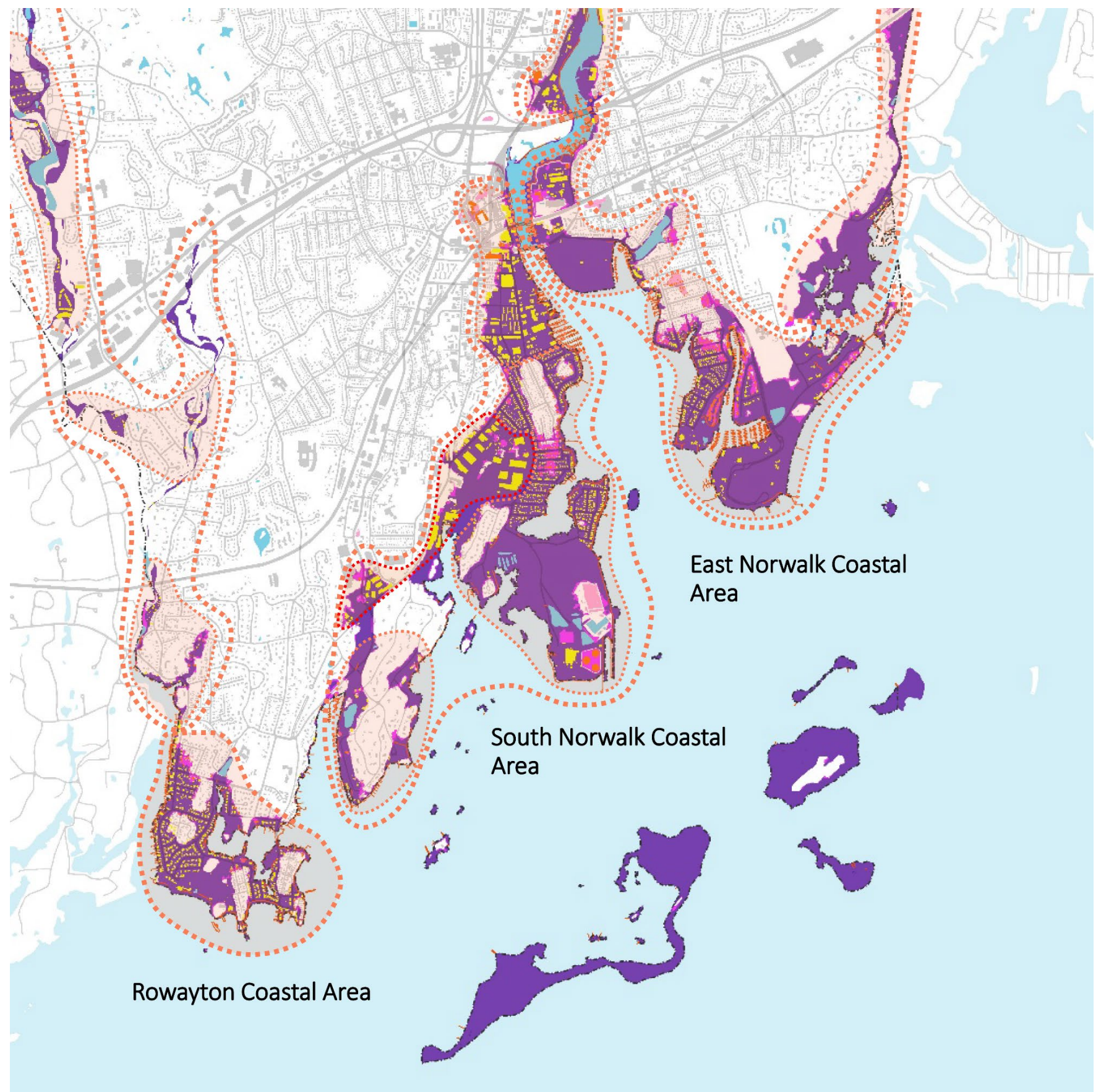
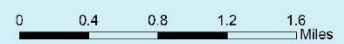
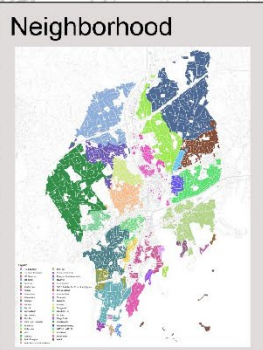
East Norwalk Coastal Area

South Norwalk Coastal Area

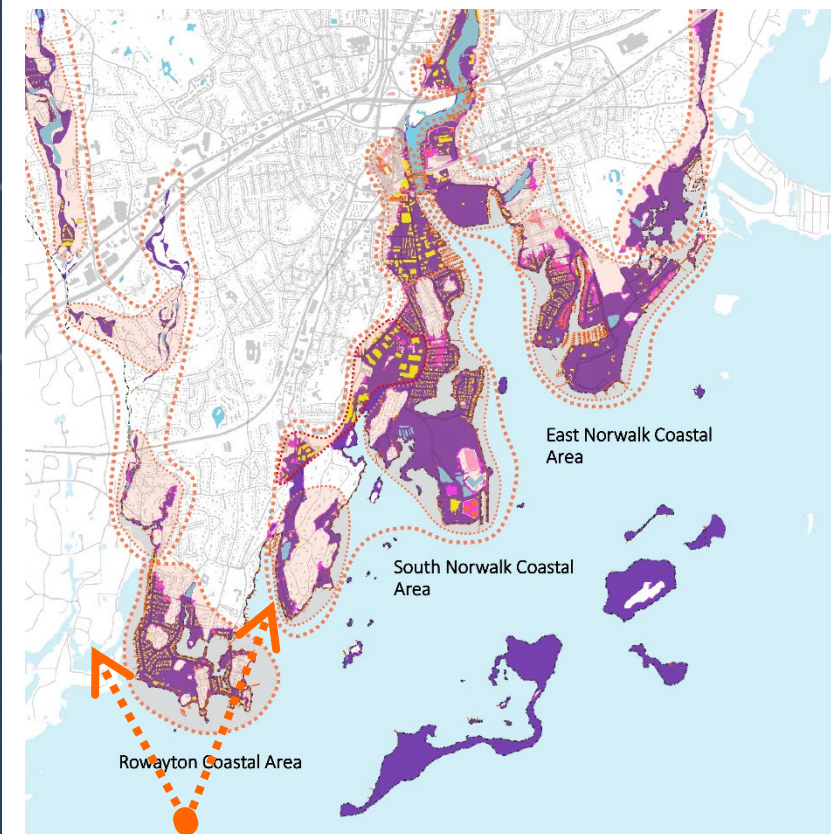
Rowayton Coastal Area

Silverman / Norwalk River Riverine Area

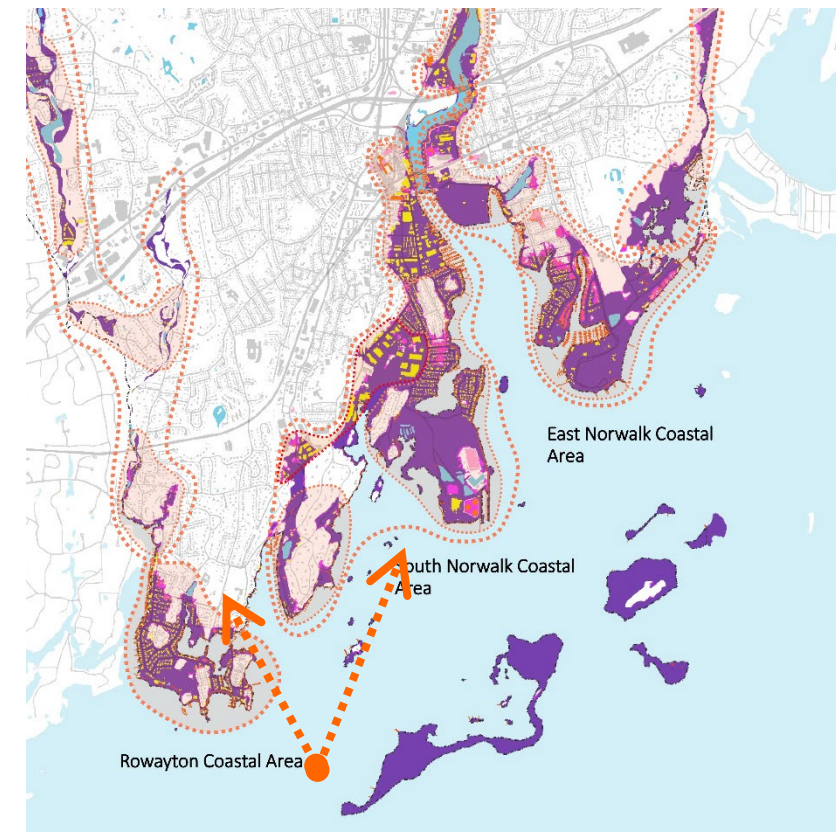
Fivemile River Riverine Area



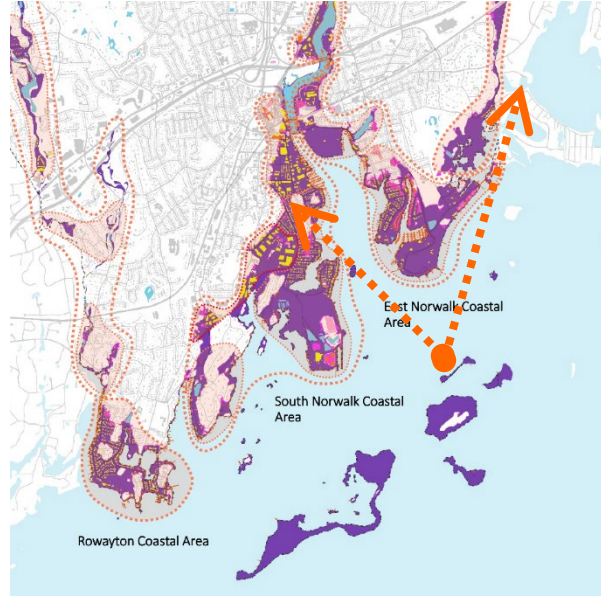






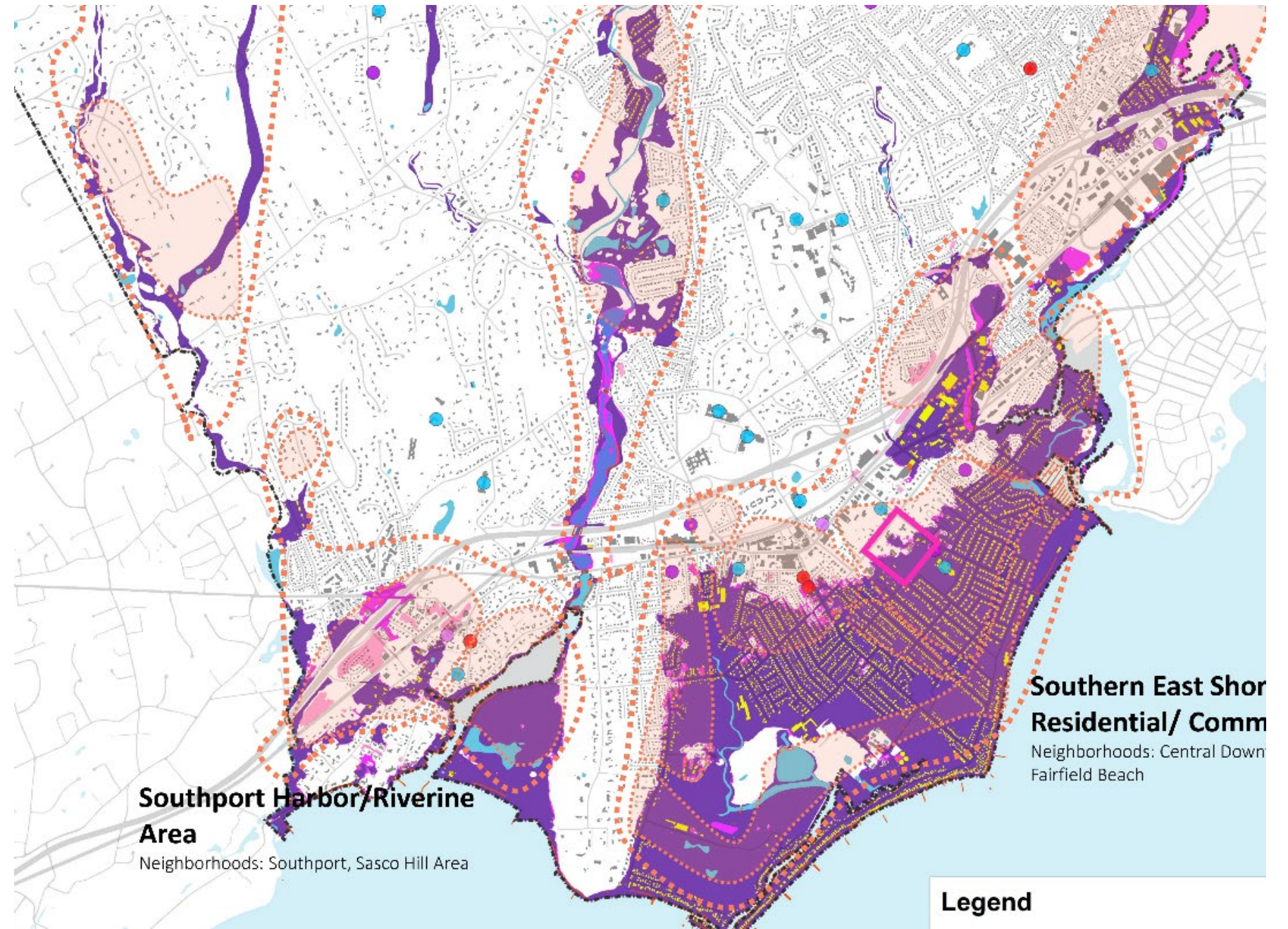
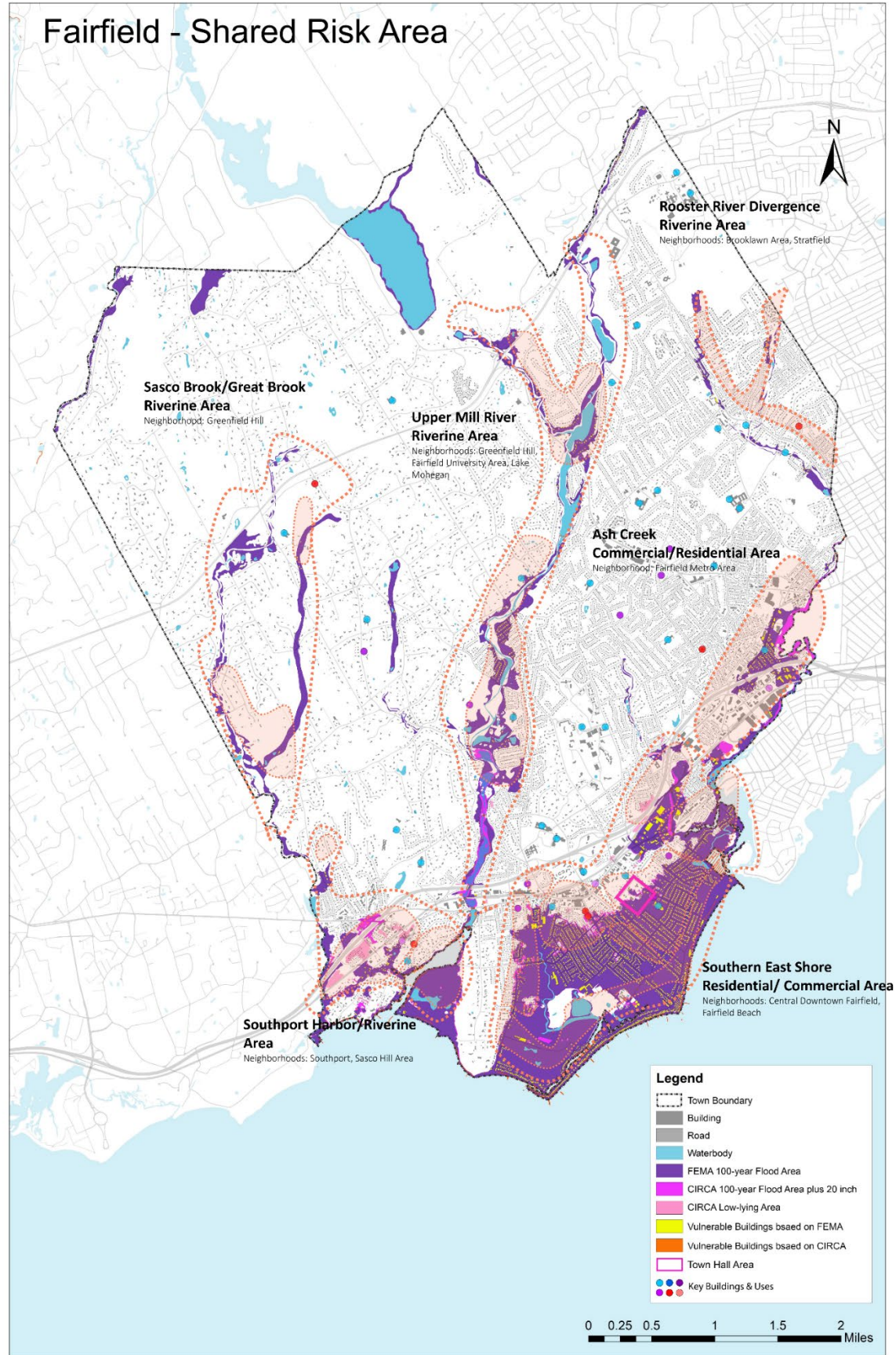




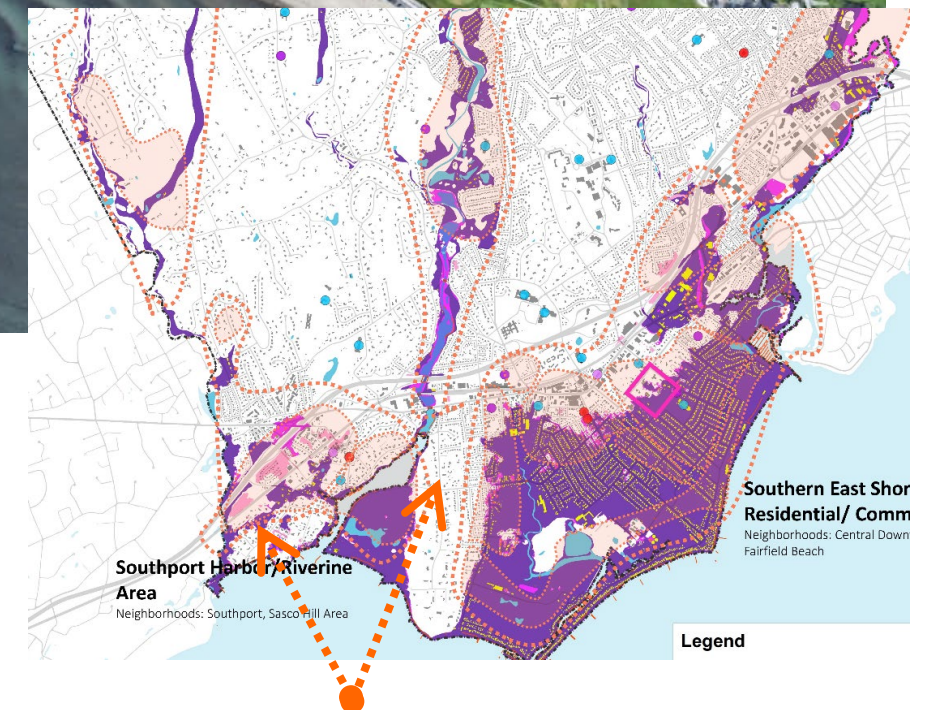




# Fairfield - Shared Risk Area





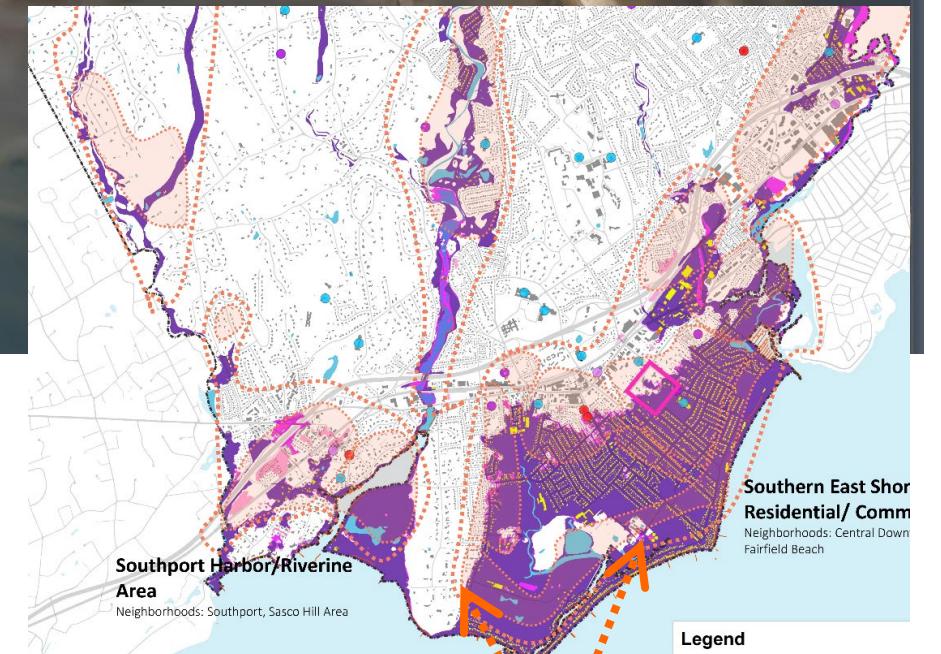


**Southport Harbor/Riverine Area**  
Neighborhoods: Southport, Sasco Hill Area

**Southern East Shore Residential/ Comm**  
Neighborhoods: Central Down  
Fairfield Beach

**Legend**





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