

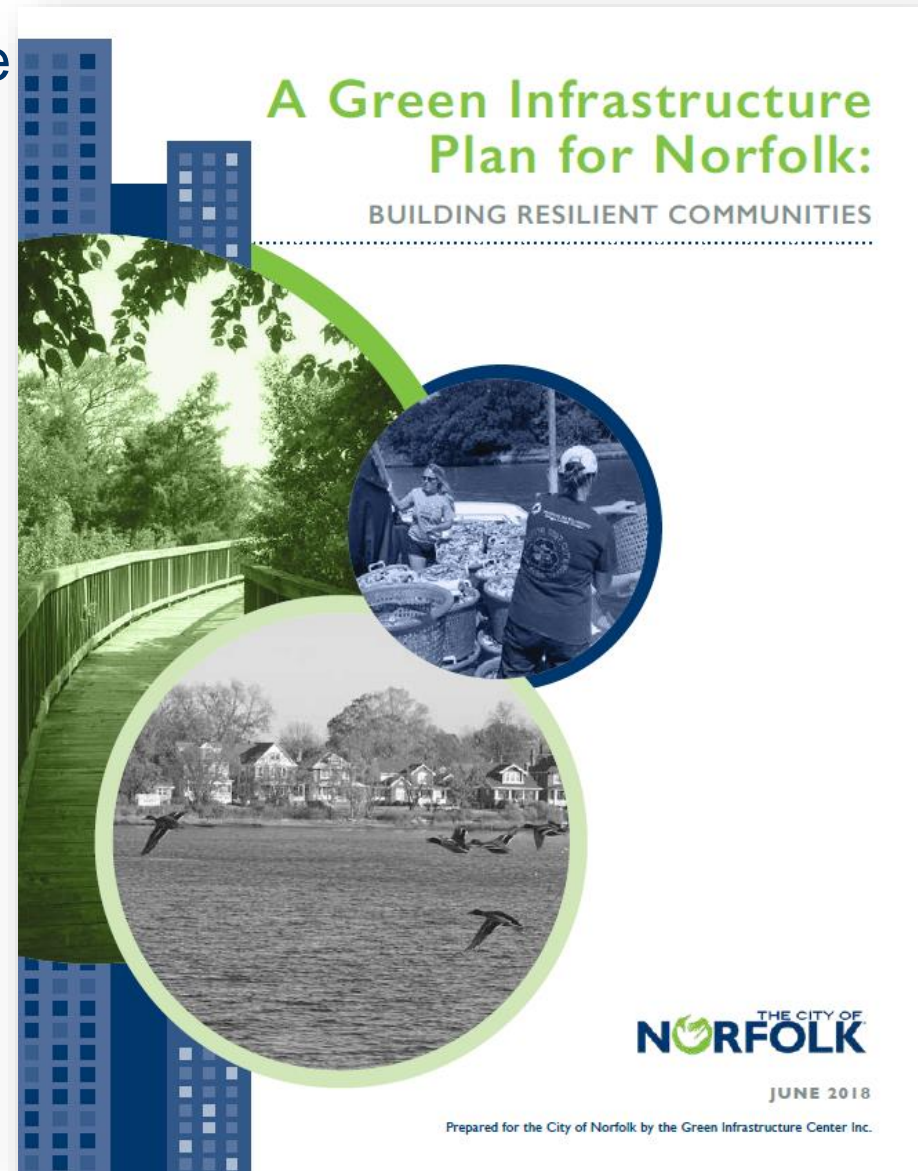
Implementation of Norfolk's Green Infrastructure Plan

Justin Shafer – Project Manager
Division of Environmental Storm Water Management

12/1/22

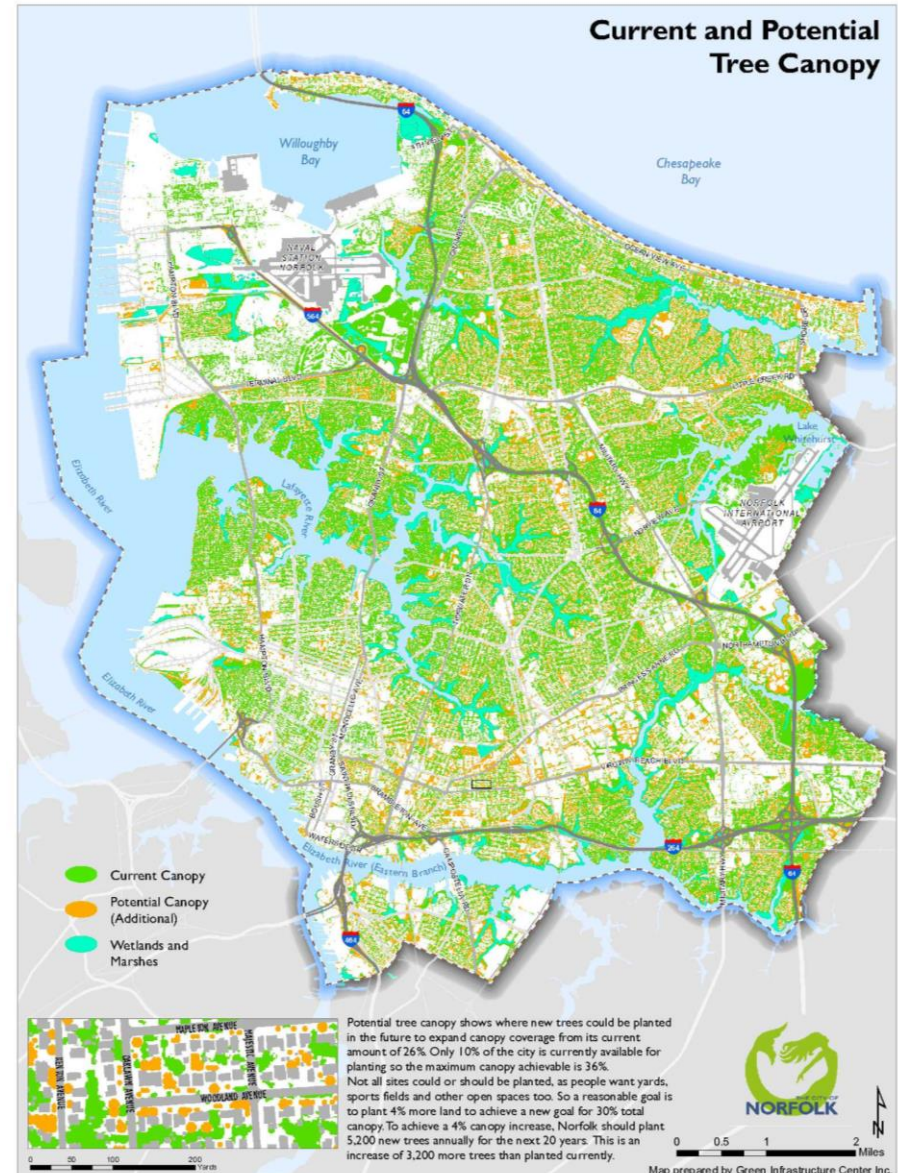
Green Infrastructure Plan Development

- Funded through NFWF Hurricane Sandy Coastal Resilience grant
- Developed over two years by Green Infrastructure Center
- Adopted in July 2018
- Goal of preserving and expanding Norfolk's green infrastructure to assist with:
 - Resilience
 - Water Quality
 - Flood Reduction
 - Neighborhood Quality
 - Recreation
 - Wildlife Habitat

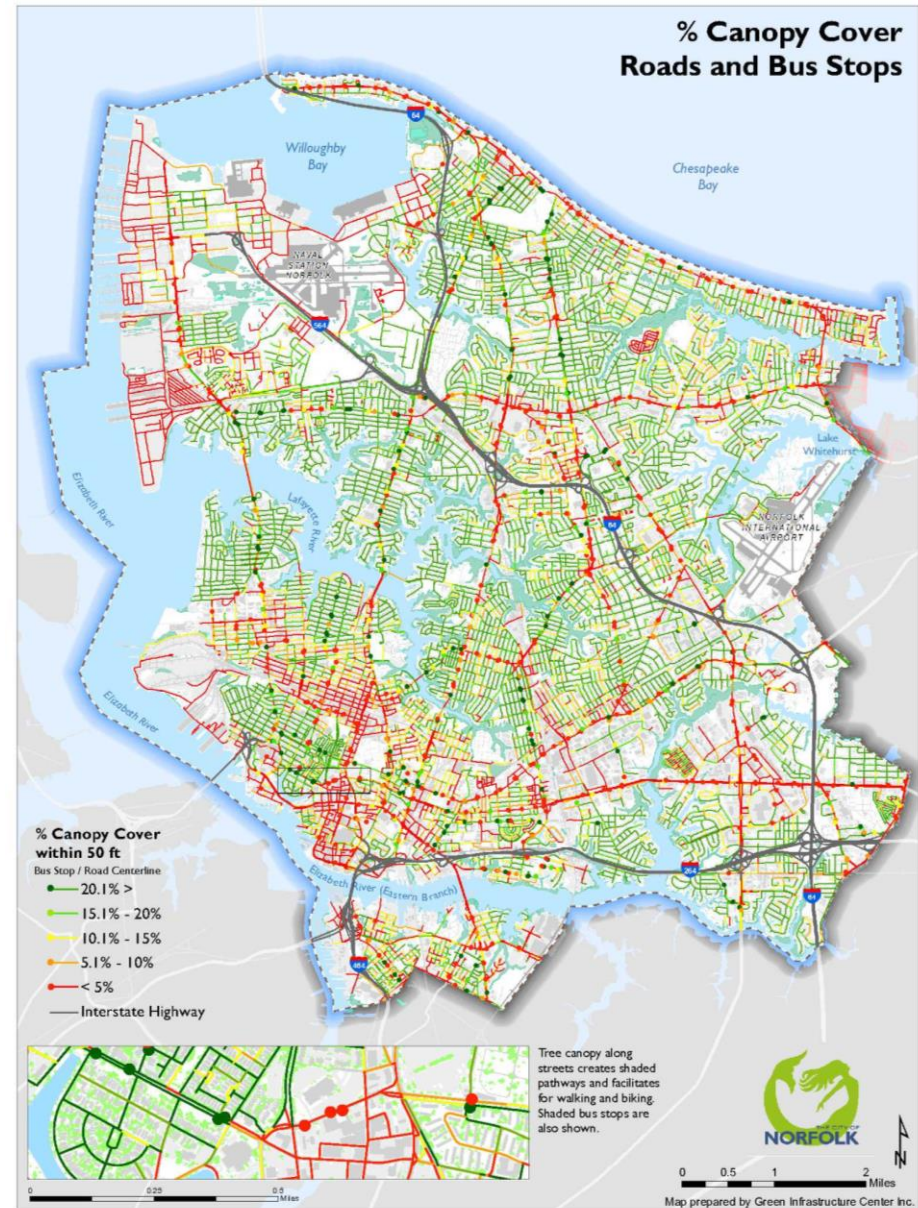
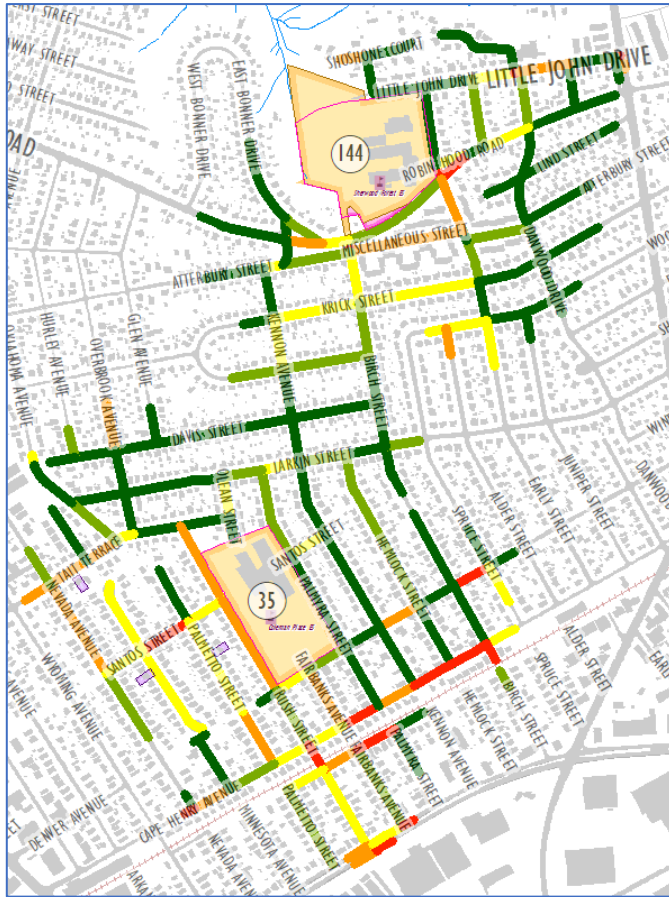


Tree Canopy Expansion Analysis

- Tree canopy is currently 26%
- Only 36% canopy possible
- Goal of 30% by 2040 will require over twice as many trees be planted per year by City and community
- Opportunities for planting and preserving:
 - Parks
 - Schools
 - Streets
 - Bike Lanes
 - Bus Stops
 - Shorelines
 - Private Property



Roadway Tree Canopy Analysis



CBPA Buffer Expansion Analysis

- 378 acres (22%) of the current 50ft buffer could be forested
- 69 acre will be lost to SLR
- 1402 new acres will become part of coastal 50 ft buffer within 20-30 years



Land Cover

Tree Cover	Impervious	Wetlands
Pervious/Turf	Bare Earth	Water



Prepared by
Green Infrastructure Center Inc.

Tidal Marsh Expansion Analysis



Existing Marshes Expand

- Marsh Migration under SLR1.5
- Marsh Migration under SLR2.5

New Marshes Form Along Shoreline

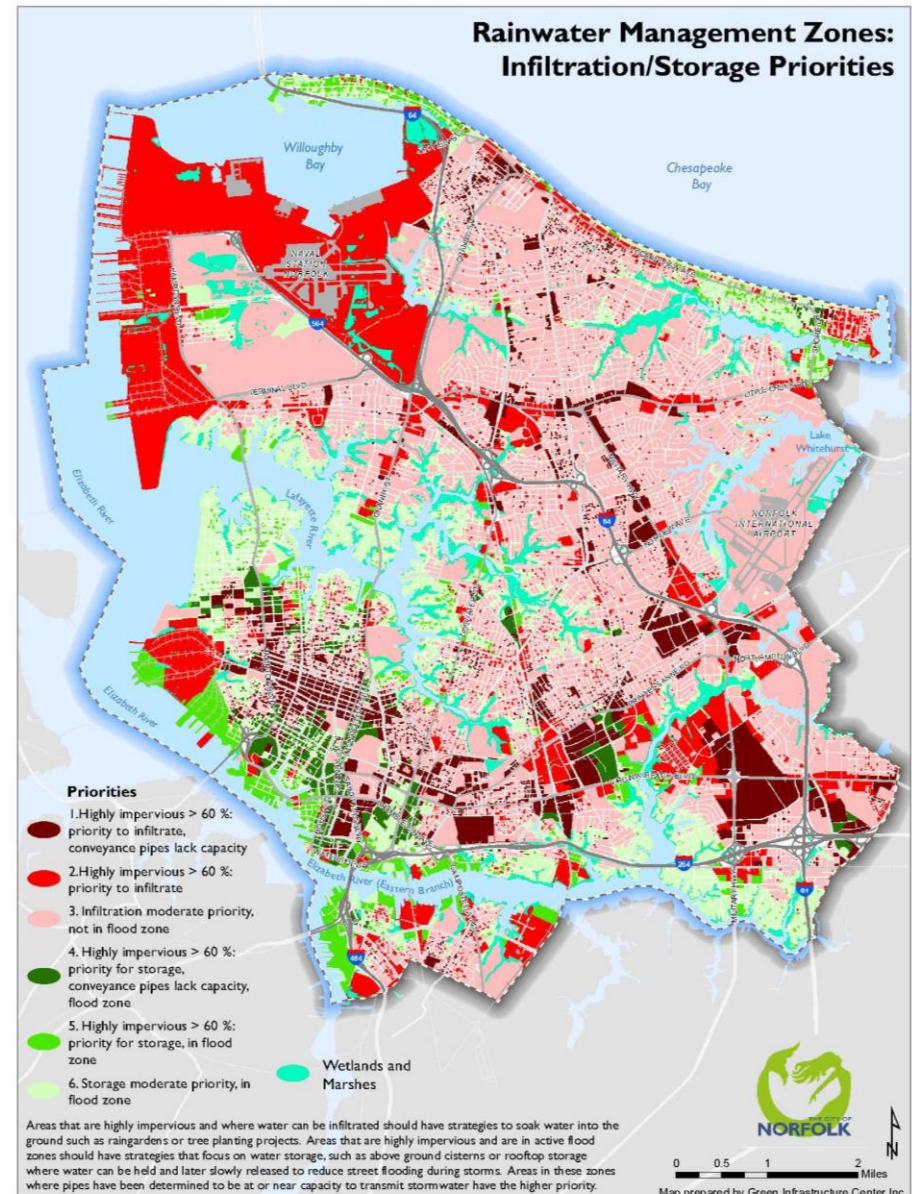
- Marsh Formation under SLR1.5
- Marsh Formation under SLR2.5

Isolated Marshes Form


- Isolated Marsh Formation under SLR1.5
- Isolated Marsh Formation under SLR2.5

Stormwater Management Analysis

- Identifies prospective locations for constructed green infrastructure / LID practices
- Two major “zones”
 - Infiltration
 - Storage
- Prioritizations based on:
 - Elevation
 - Imperviousness
 - Existing pipe capacity



Green Infrastructure Plan Implementation

- Watershed Management Task Force continues oversight role
 - Twelve large shoreline restorations complete or under design
 - Lafayette River met full oyster restoration goals and Eastern Branch approaching goals
 - Expanded tree planting and adoption efforts city-wide
 - Sixteen large retrofits complete or under design
 - Numerous community-led projects and programs developed on public and private properties
 - Amended GI Plan to added Endangered Species plan
 - Adopted zoning ordinance with green, resilient priorities and amended to add tree conservation emphasis
- 

Shoreline Restoration



Shoreline Restoration



Shoreline Restoration



Stream Restorations and Ditch Retrofits



Stream Restorations and Ditch Retrofits



Community Led Efforts



at the Ernie Morgan Center

3500-A Granby Street • Norfolk VA 23504

Take Zoo entrance and then first left
to end of parking lot.

from 10am-2pm

Rain Date: January 26, 2019

Exhibits/Information:

- Tree Commission
- Tree Planting & Care
- Bay Star Homes
- Norfolk Master Gardeners
- Norfolk Beekeepers
- Jam Tastings/ Recipes/Demo
- GrowNorfolk
- Kids Corner & Tree Trivia



THE CITY OF
NORFOLK



*500 fruit and nut trees, shrubs, and vines to be adopted out at no cost. One per household while supplies last. This tree event is in partnership with FONE, Keep Norfolk Beautiful and RPOS. Plants funded by Norfolk Stormwater and FONE.

LIST OF FRUIT & NUT TREES*

Apple**-2 varieties
Perdue pear
Celestial fig
Plum- 2 varieties
Persimmon- 2 varieties
Pawpaw**
Gold Nugget loquat
Hazelnut**- 2 varieties
Blackberry- 2 varieties
Pawnee Pecan
Angel red pomegranate
Blueberries**- 5 varieties
Arctic Kiwi**
Pineapple guava
Gojiberry

**2-per-household to ensure
adequate cross-pollination

Recipients agree to:

- Plant and maintain the tree
- Provide tree location
- Complete a follow-up survey

For more information visit norfolk.gov/KNB

Tree adoptions are available to Norfolk residents only

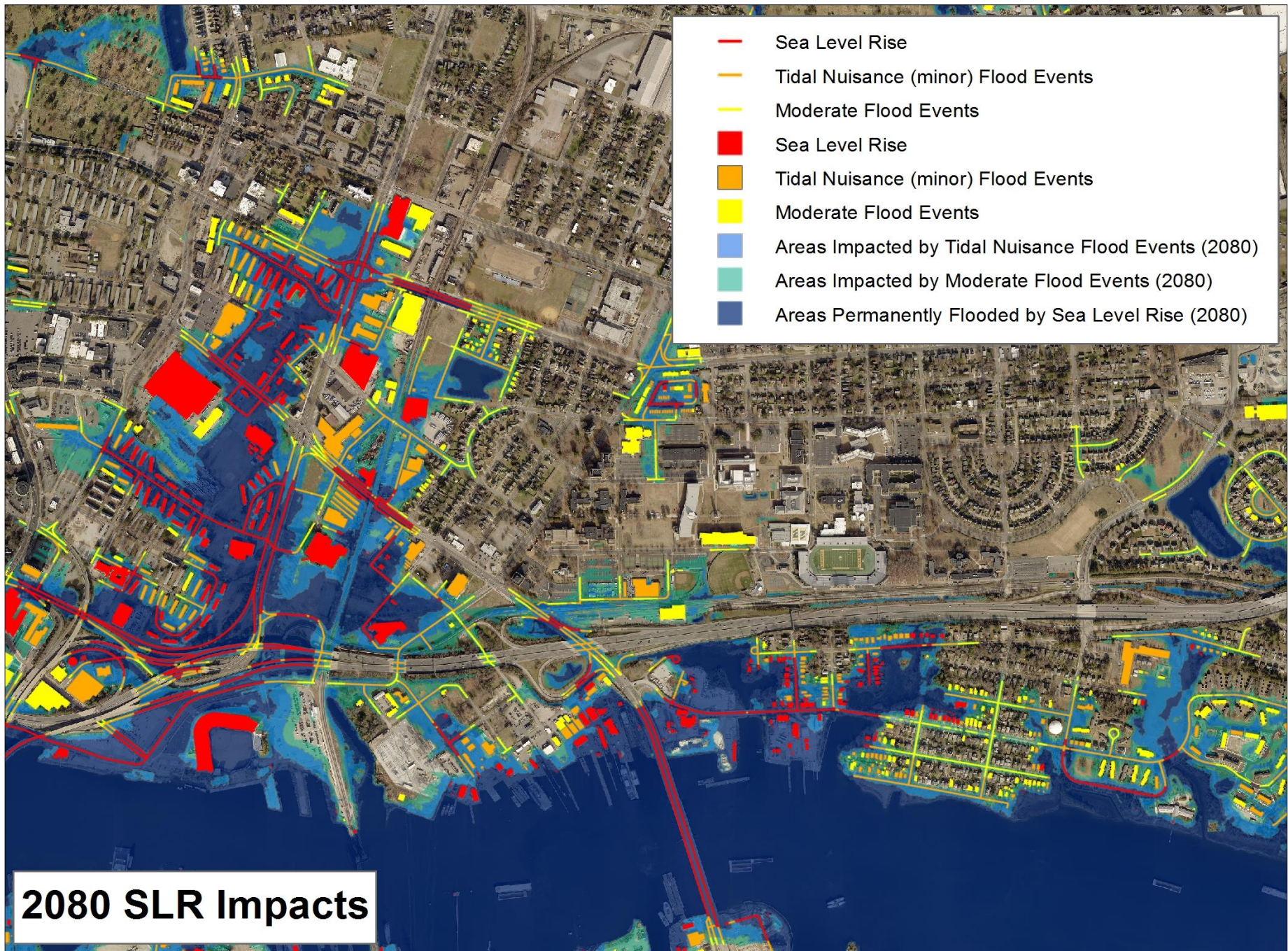


Pond Retrofits

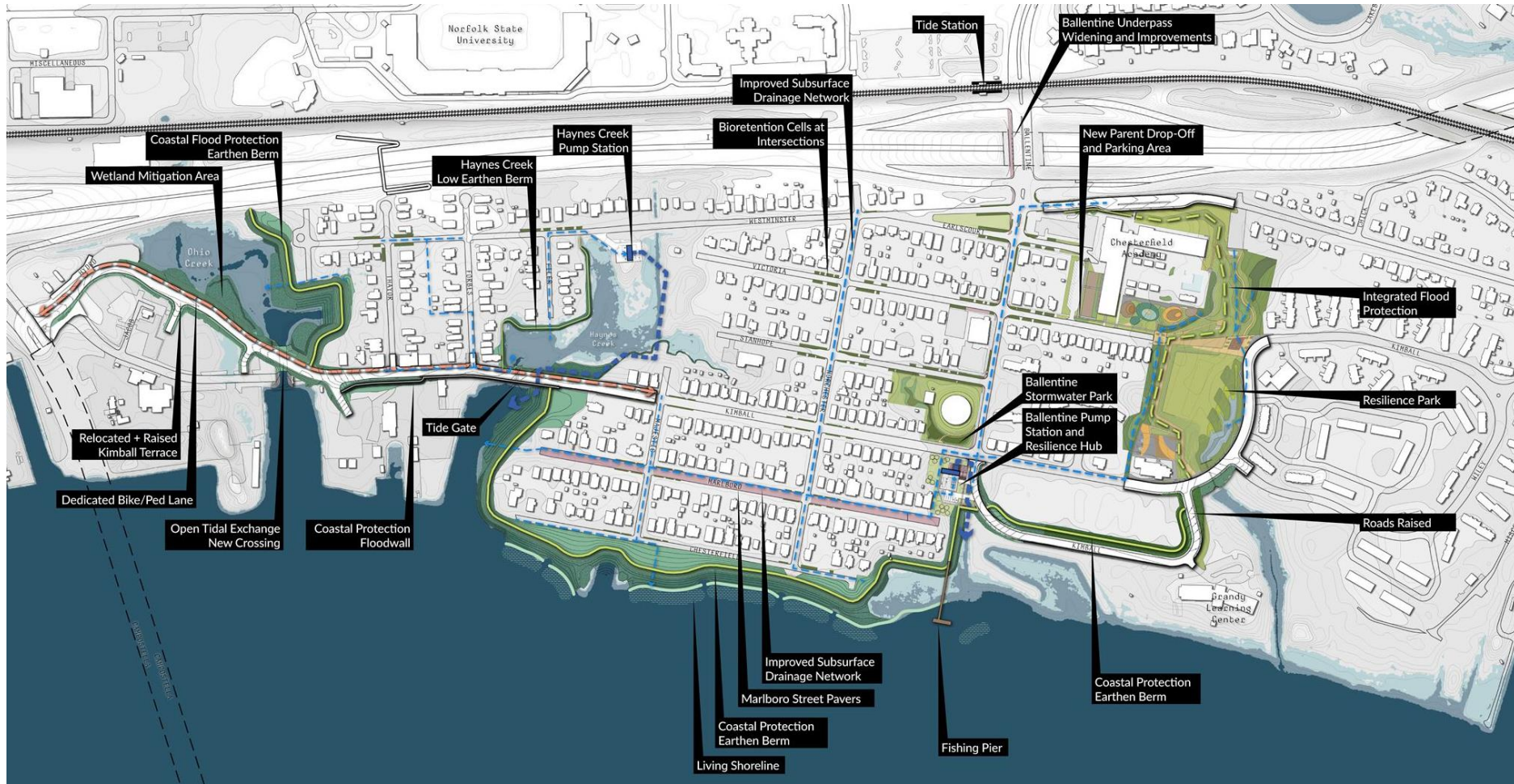


Pond Retrofits






Ohio Creek Watershed Project



St Paul's Blue-Greenway



Next Steps

- Continue developing large projects to meet multiple goals
 - Promote green infrastructure inclusion in all coastal resilience, stormwater management, and redevelopment efforts
 - Support expanded community project implementation and focus on maintenance for long term success
 - Target schools, libraries, parks, and rec centers for increased implementation, such as orchards and community gardens
 - Develop Green Norfolk website with mapper and dashboard
 - Continue outreach on benefits, particularly in higher risk areas
 - Increase legislative push for conservation options
- 

Success through Partnership



Questions?



City of Norfolk

Justin Shafer

justin.shafer@norfolk.gov