

Transit Oriented Development: Challenges and Opportunities in Fairfield and New Haven Counties



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What is transit-oriented development?

“the development of residential, commercial, and employment centers within one-half mile of walking distance of public transportation facilities, including rail and bus rapid transit and services, that meet transit supportive standards for land uses, built environment densities, and walkable environments, in order to facilitate and encourage the use of those services.”

- Connecticut General Statutes, 13b-79o

Why should we build TOD?

- ▶ Reduce automobile use and ownership
- ▶ Grow responsibly with less consumption of land and resources
- ▶ Improve transit performance



The East Norwalk TOD Study Area is within a 1/2-mile radius of the train station.

How do we build TOD?

- ▶ Coordination across multiple scales
- ▶ Coordination among transportation, land use, and economic development actors
- ▶ Coordination over time and risk



Two-fold research question

Connecticut has a wealth of walkable city centers and one of the busiest commuter rail lines in the nation. Given that:

1. What holds back TOD in Connecticut?
2. How are potential TOD sites affected by sea level rise?

Analysis plan

What sites have towns identified for TOD and how are they defining TOD and its goals?

Content analysis of town TOD plans

What expertise and capacity exists to coordinate plan implementation?

13 interviews with stakeholders

Are the land use, street networks, and bus service sufficiently transit-supportive?

Analysis of station area street network and bus service

Where are potential TOD sites and the transit infrastructure that serves them vulnerable to sea level rise?

GIS analysis of TOD parcels and the CIRCA 1% AEP

Content Analysis of TOD Plans

Station	Year	Parking	Walkability	Bus Network	Flooding	Sea Level Rise
Cos Cob	2014					
Stamford (1)	2013					
Stamford (2)	2016					
Noroton Heights	2018					
Darien	2006					
South Norwalk	2016					
East Norwalk	2020					
Westport	2018					
Fairfield	2019					
Fairfield Metro	2019					
Bridgeport	2007					
Barnum Station	2016					
Stratford	2015					
Milford	2017					
West Haven	2016					
Union Station (1)	2008					
Union Station (2)	2013					

Key:

Discussed in detail, maps included (if applicable).

Touched upon/discussed, but not in depth.

Not discussed

Interviews

- ▶ Both towns and state interviewees described the state as “reactive” with respect to planning for TOD
 - ▶ No specific metrics
 - ▶ No mode shift target
- ▶ State focused on new lines (Hartford Line and CT Fastrak), believing the Metro North did not need state assistance for TOD
- ▶ Bridgeport seen as a special case, possessed of walkable sites but unprofitable to build

Walkability

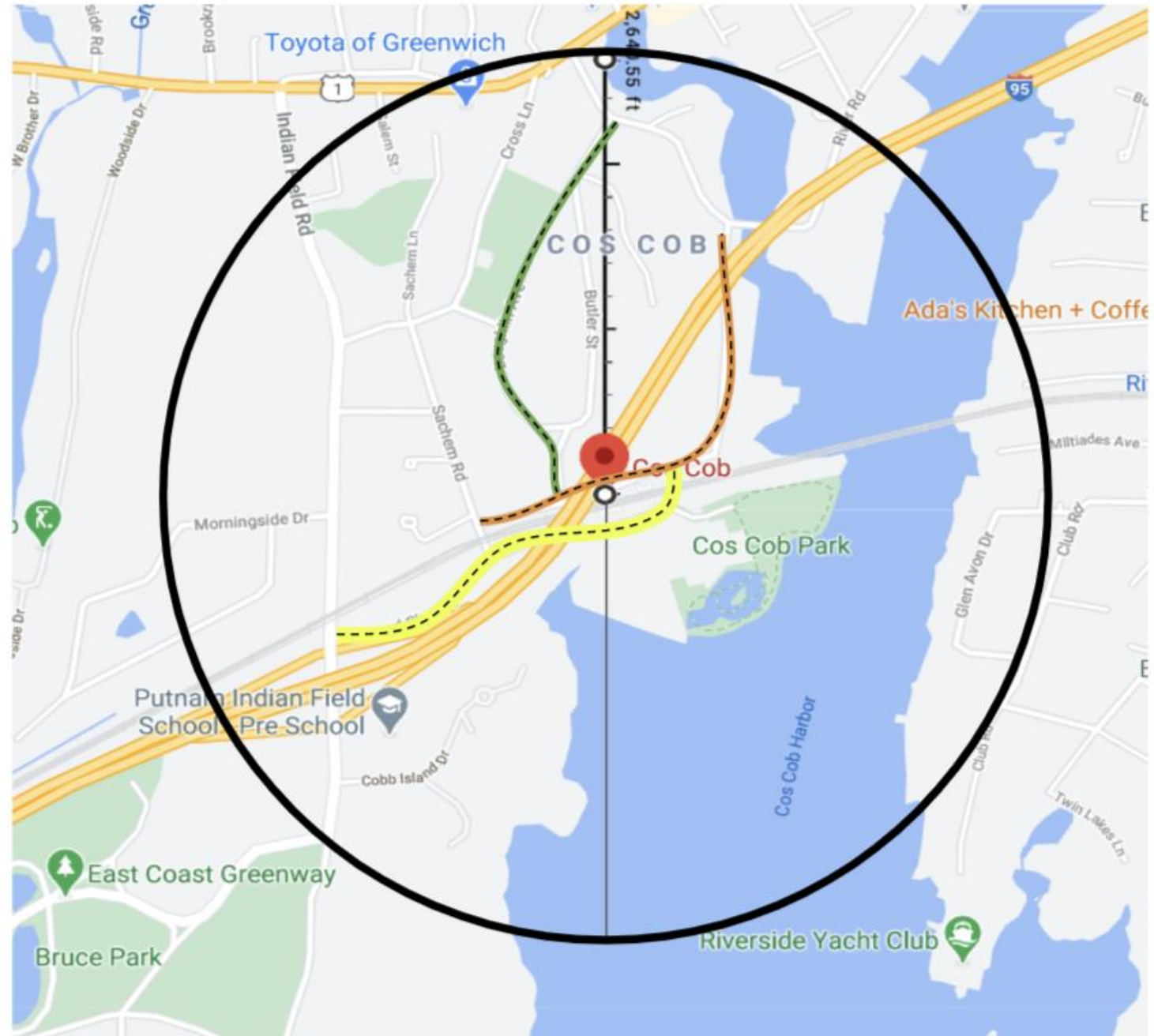
Station	Intersection Density (Intersections / Square Mile)	Link/Node Ratio	Walkability Assessment
State Street	155.3	1.55	Green
Union Station	124.8	1.76	Yellow
South Norwalk	117.1	1.63	Green
East Norwalk	113.3	1.37	Orange
Milford	113.3	1.44	Yellow
Southport	110.8	1.21	Orange
Stratford	107.0	1.39	Yellow
Stamford	105.7	1.45	Yellow
Bridgeport	104.4	1.60	Yellow
Noroton Heights	100.6	1.35	Orange
Fairfield Metro	96.8	1.41	Red
Darien	86.6	1.35	Yellow
Fairfield	86.6	1.52	Green
Rowayton	82.8	1.33	Orange
Greenwich	77.7	1.21	Green
Riverside	77.7	1.31	Yellow
West Haven	76.4	1.46	Orange
Old Greenwich	68.8	1.34	Green
Westport	58.6	1.31	Orange
Green's Farms	38.2	1.35	Red
Cos Cob	31.8	1.25	Yellow

Street Network Analysis: Cos Cob

of Intersections: 25

Intersection density: 31.8/sq. mi.

Link-node ratio: 1.25

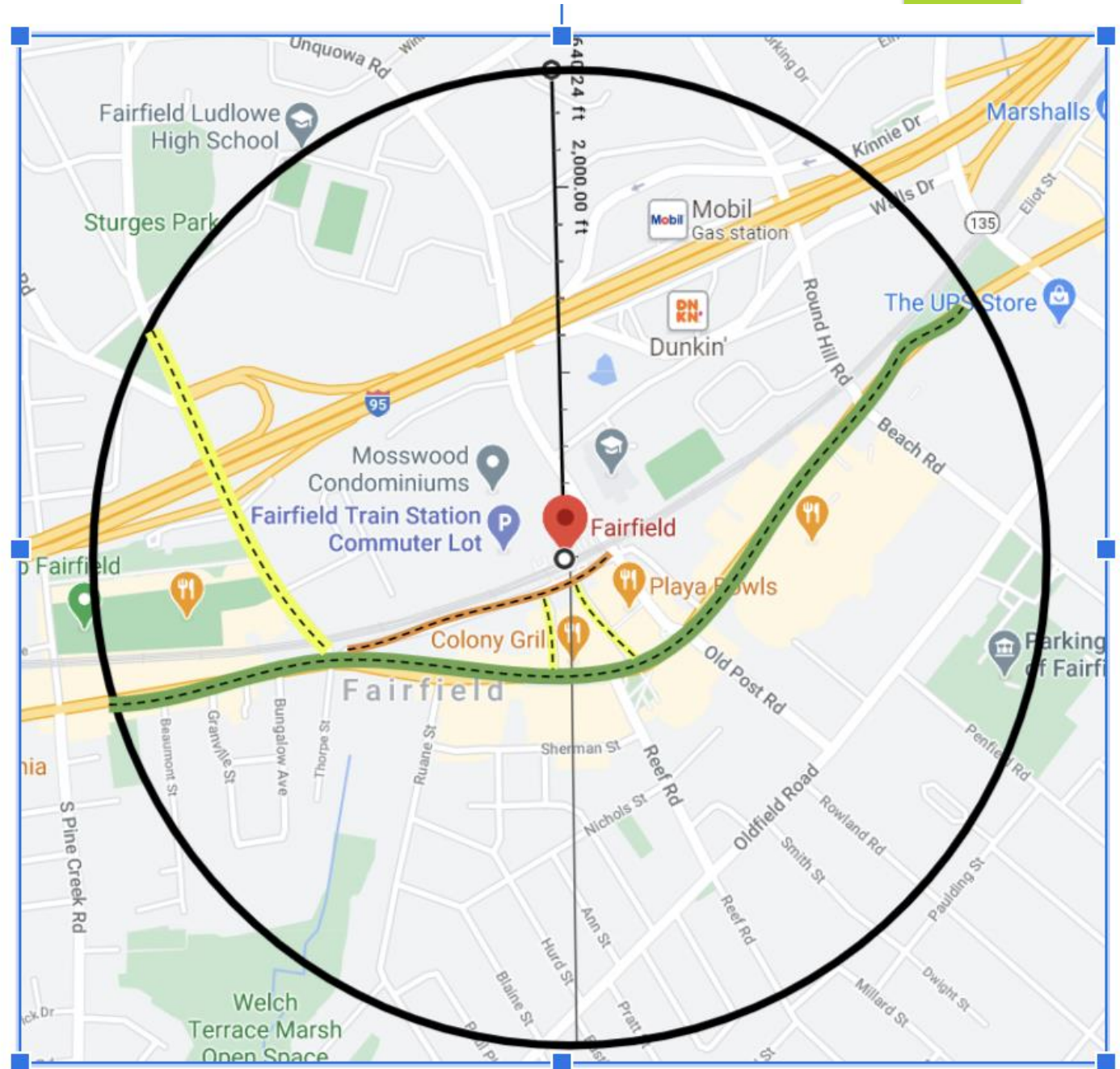


Street Network Analysis: Fairfield

Intersections: 68

Intersection density: 86.6 / sq. mi.

Link node ratio: 1.52

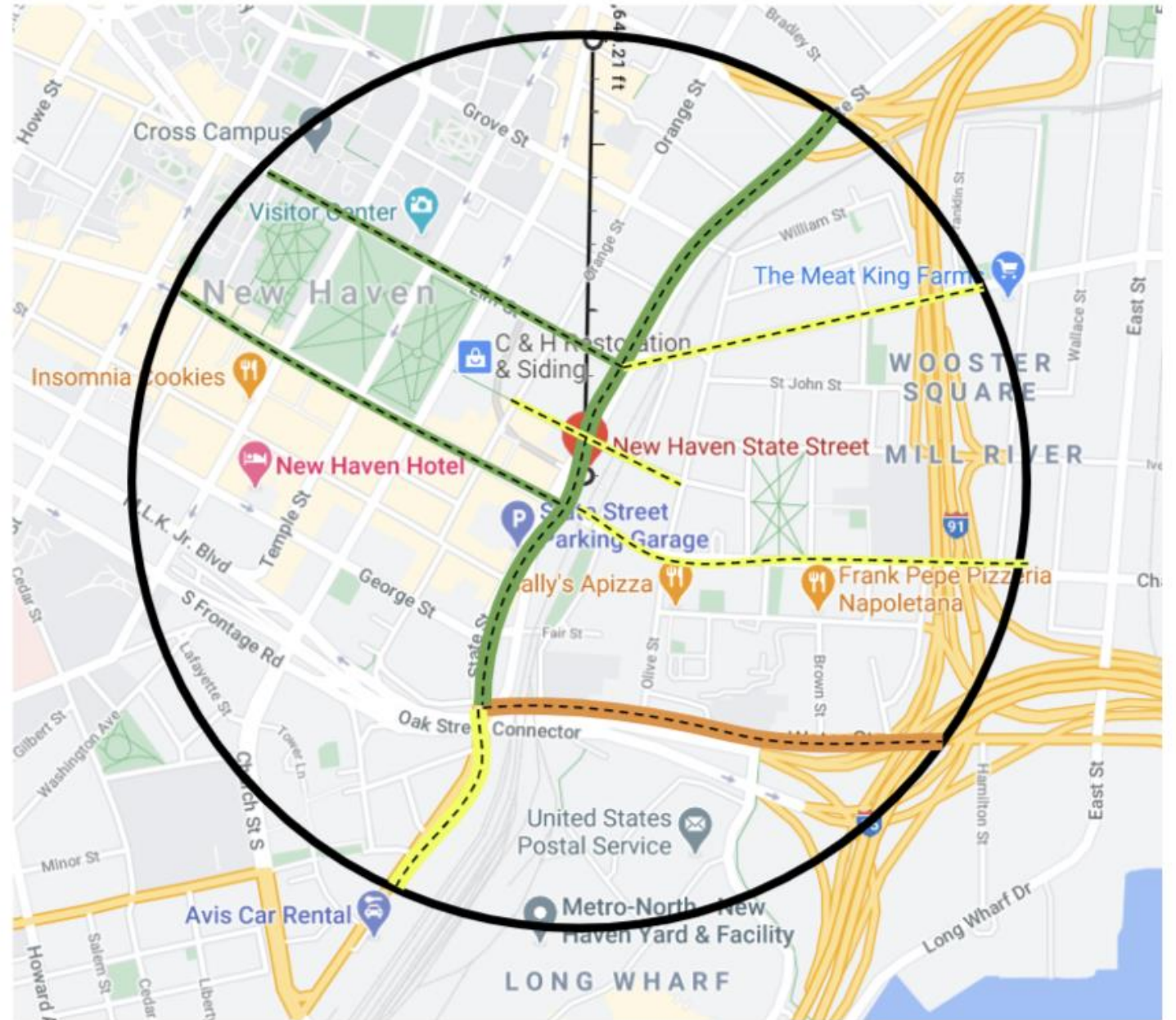


Street Network Analysis: State Street, New Haven

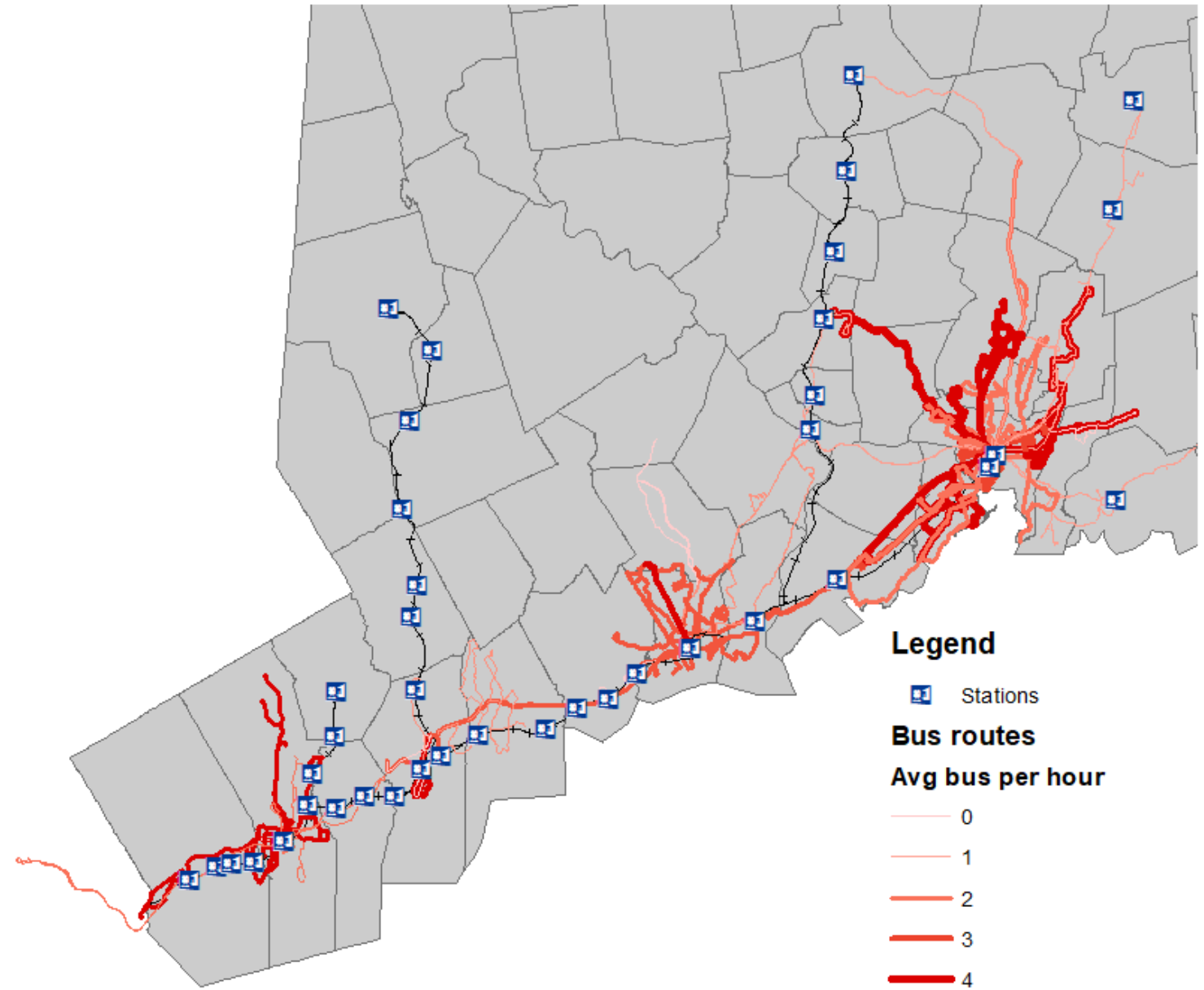
Intersections: 122

Intersection density: 155/sq. mi

Link-node ratio: 1.55



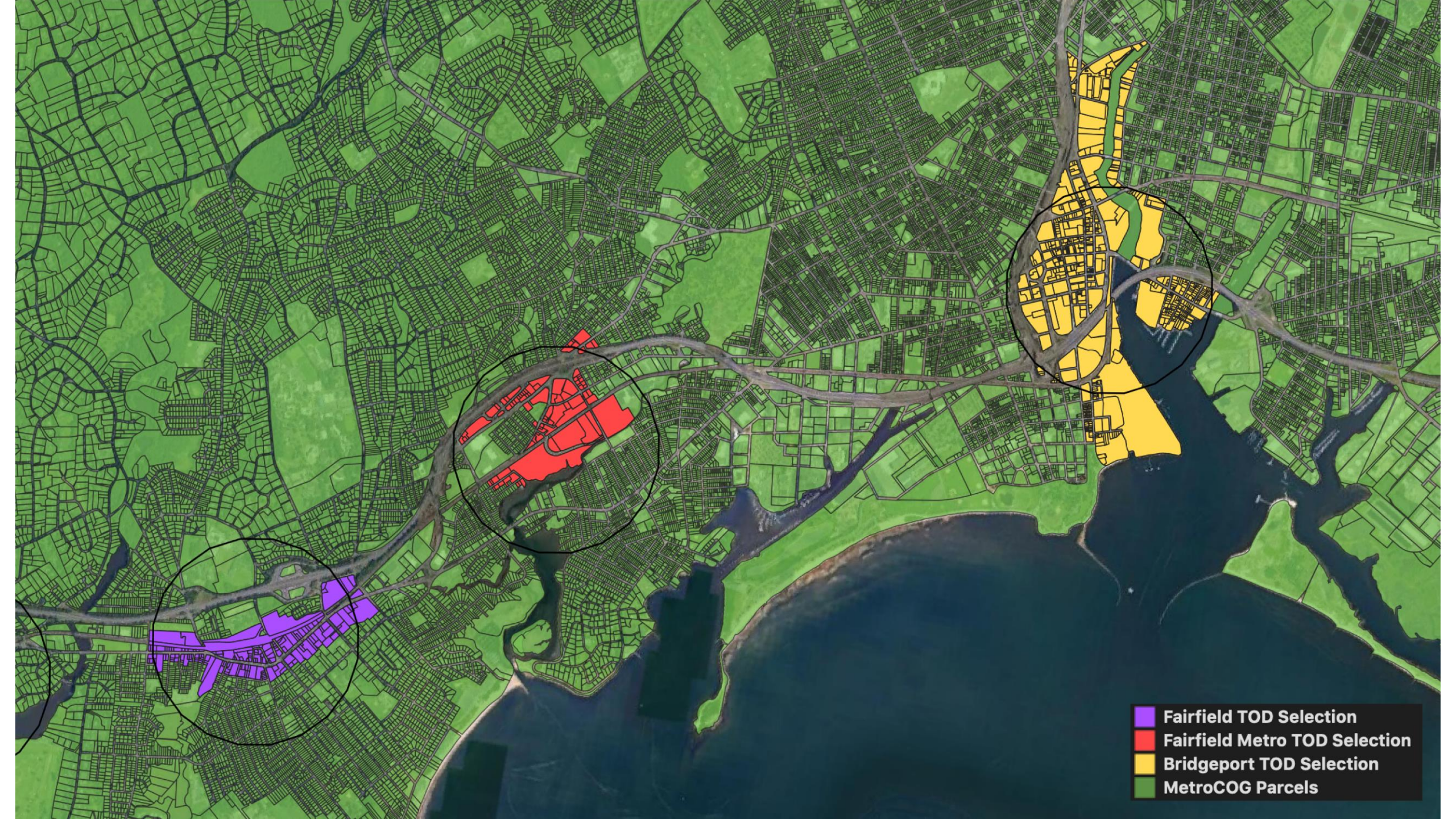
Bus Network Analysis



Sea Level Rise

- ▶ The tools for incorporating sea level rise in plans are relatively new, so only the most recent study included it.
- ▶ However, interviews revealed that town and transit planners are mostly aware of the possibility, particularly since Superstorm Sandy.
- ▶ The outstanding question is what to do with parcels that will be vulnerable in 2050 but are in demand now.

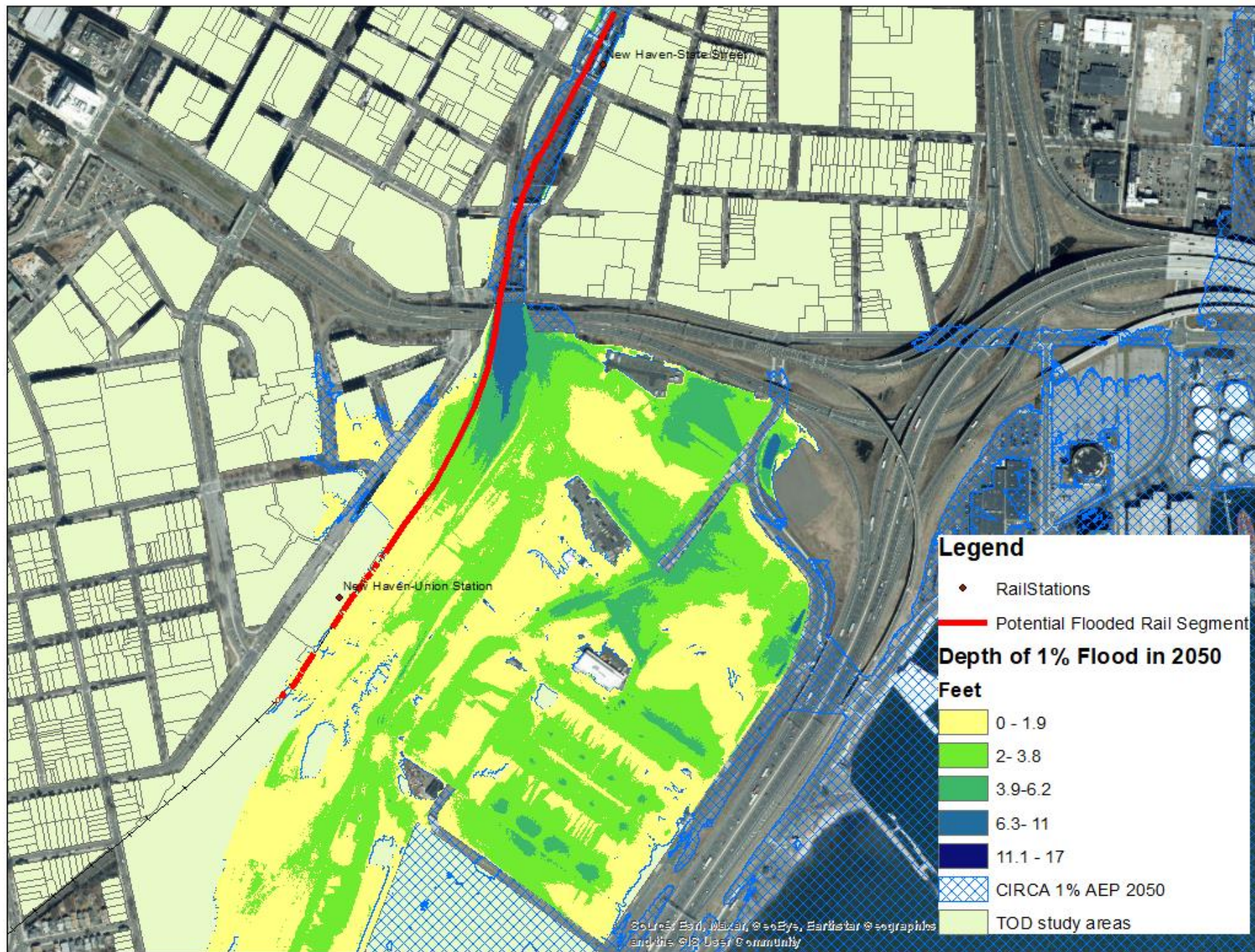


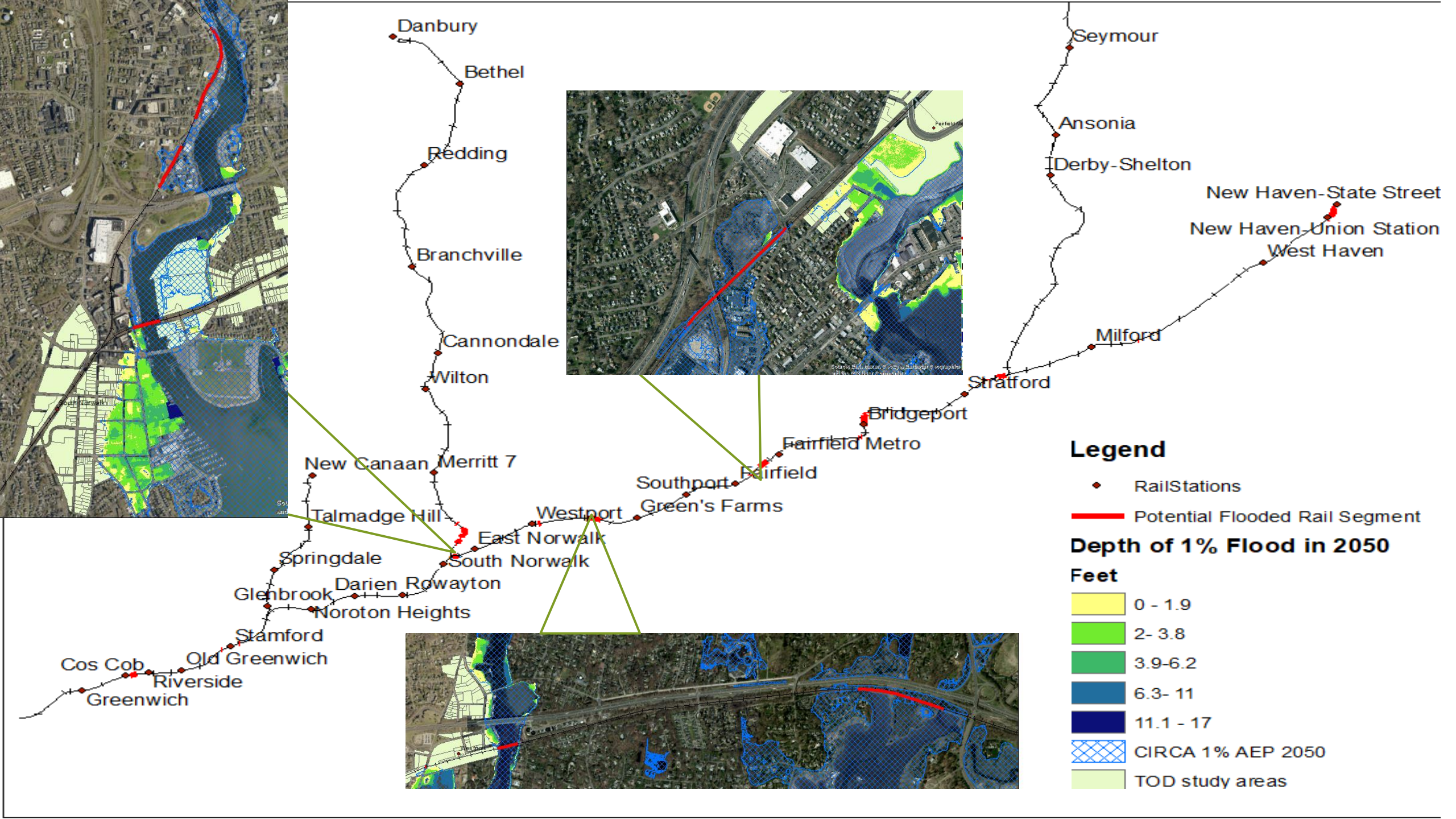


- Fairfield TOD Selection
- Fairfield Metro TOD Selection
- Bridgeport TOD Selection
- MetroCOG Parcels

Sea Level Rise

New Haven





Results of Sea Level Rise Analysis

- ▶ Overall, 18% of parcels within half a mile of a main line station are within the CIRCA 2050 1% AEP
- ▶ Fairfield has the greatest share, at 51%.
- ▶ Of parcels specifically studied for TOD potential, Stamford has 47% of affected parcels, while Bridgeport, Stratford, West Haven, and South Norwalk all have more than 40 parcels within the CIRCA 2050 1% AEP.
- ▶ Of stations with TOD plans, only Darien and Noroton Heights station areas are outside the CIRCA 2050 1% AEP.
- ▶ 3.27 miles of track are at risk of flooding, particularly in New Haven, Norwalk, Bridgeport, Westport, and Fairfield.

Recommendations

- ▶ Invest in the cities that already have transit-supportive land uses and street networks
 - ▶ Utilize specific measures for “transit-supportive areas,” including intersection density of 100+ and a link-node ratio of 1.4 or more
- ▶ Invest in the buses in those cities to facilitate car-lite living
 - ▶ Build in more scope for local governments to contribute financially to transit and support quarterly meetings between cities and transit providers
 - ▶ Target transit funding to key corridors, supported by incentives for densification
- ▶ Proactively plan for TOD at the state level
 - ▶ Improve standardized, state-wide data collection and provision
 - ▶ Support hiring of transportation staff with holistic expertise in land use and resiliency, including by developing a pipeline of trained planners in the state.