UCONN | UNIVERSITY OF CONNECTICUT

CLEAR

Geospatial Webinar Series

Some Thursdays at 1pm

Today!

CT's Digital Parcels & CAMA Data

Ashley Benitez

Leah Hodges

November 21, CT GIS Day at Mohegan Sun: Mosaic Datasets and Imagery (Emily Wilson)

Next

December 12, 1 PM: Understanding Housing in Our Communities using the CT Housing Data Hub (Sarah Hurley)

Info, recordings, registration https://clear.uconn.edu/mapping/webinars/

Webinar ideas, feedback Email: clear@uconn.edu

UCONN COLLEGE OF AGRICULTURE, HEALTH AND NATURAL RESOURCES EXTENSION

CLEAR Center for Land Use Education & Research

Connecticut GIS Office

CT's Digital Parcel & CAMA Data: What It is and What You Can Do with It

CT GIS Office

Leah Hodges (GIS Analyst)
Ashley G. Benitez (GIS Coordinator)

October 24, 2024

Data & Policy Analytics

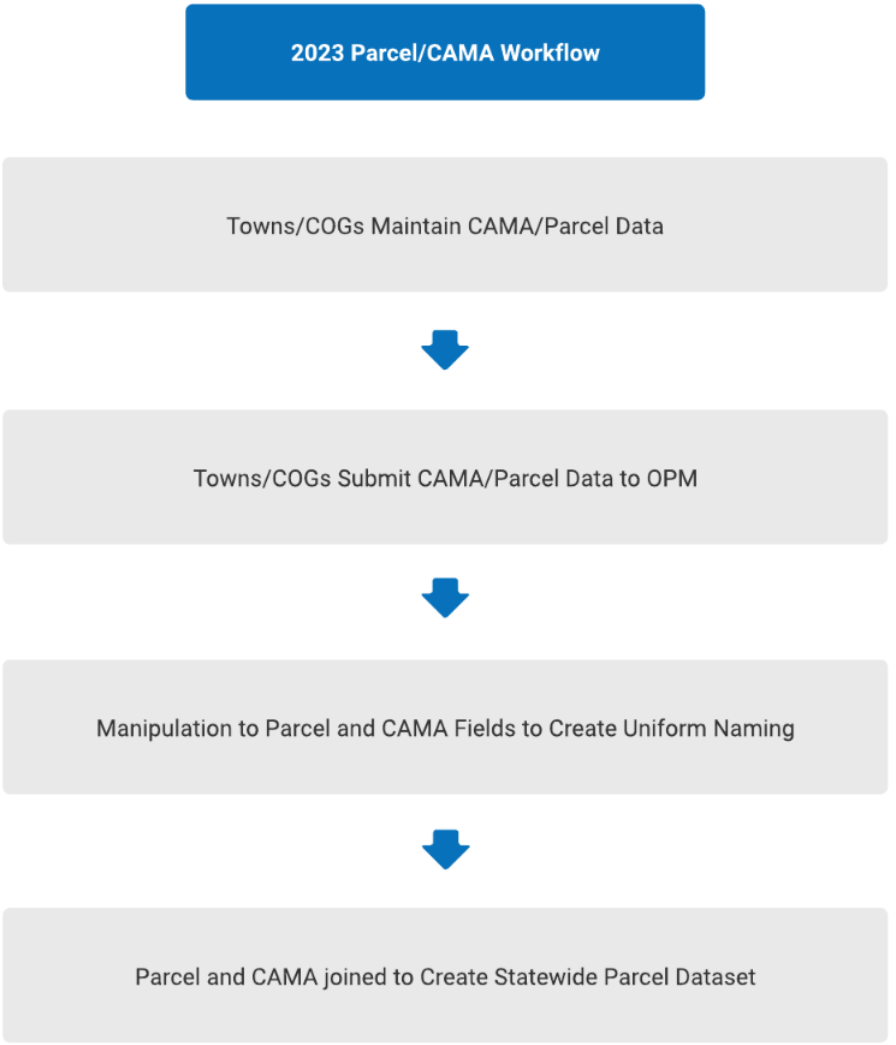
CONNECTICUT
Policy and Management

Background

The GIS Office collects municipal digital parcel files and computer-aided mass appraisal (CAMA) files from councils of government (COGs), as required annually by **CGS Sec. 7-100l**.

Previously, parcel data has been available for download via zip files. However, it was decided that providing the ability to analyze data for any town in Connecticut while incorporating municipal CAMA data would be a more effective method of distribution.

In 2023 the CT GIS Office aggregated the parcel and CAMA data into one singular dataset.



The 2023 Parcel Data Set

CAMA Data: 165 towns submitted

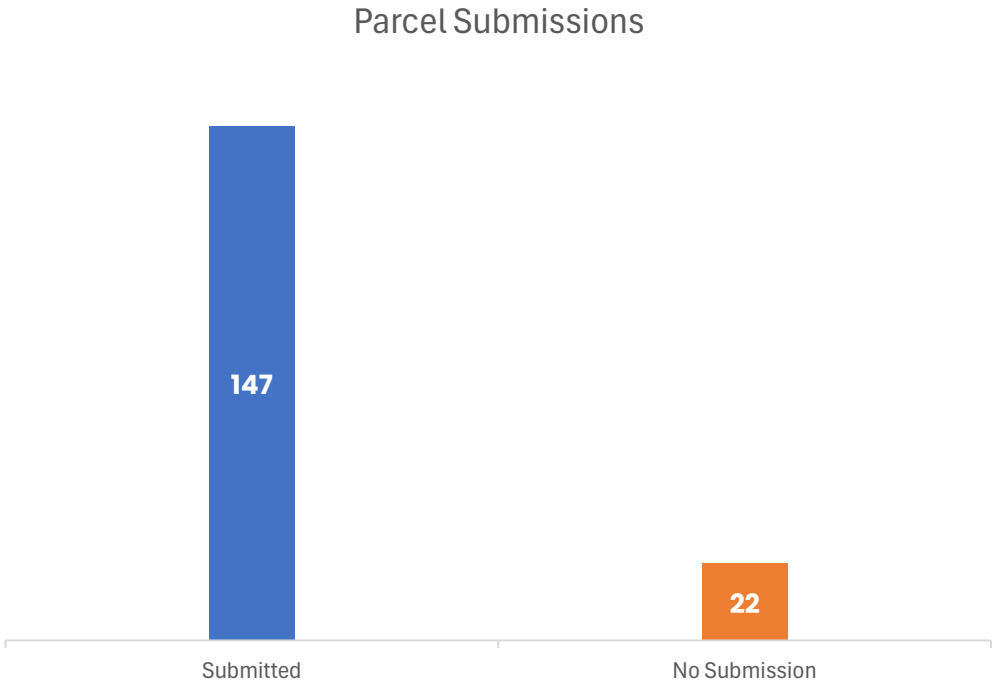
Parcel Data: 147 towns submitted

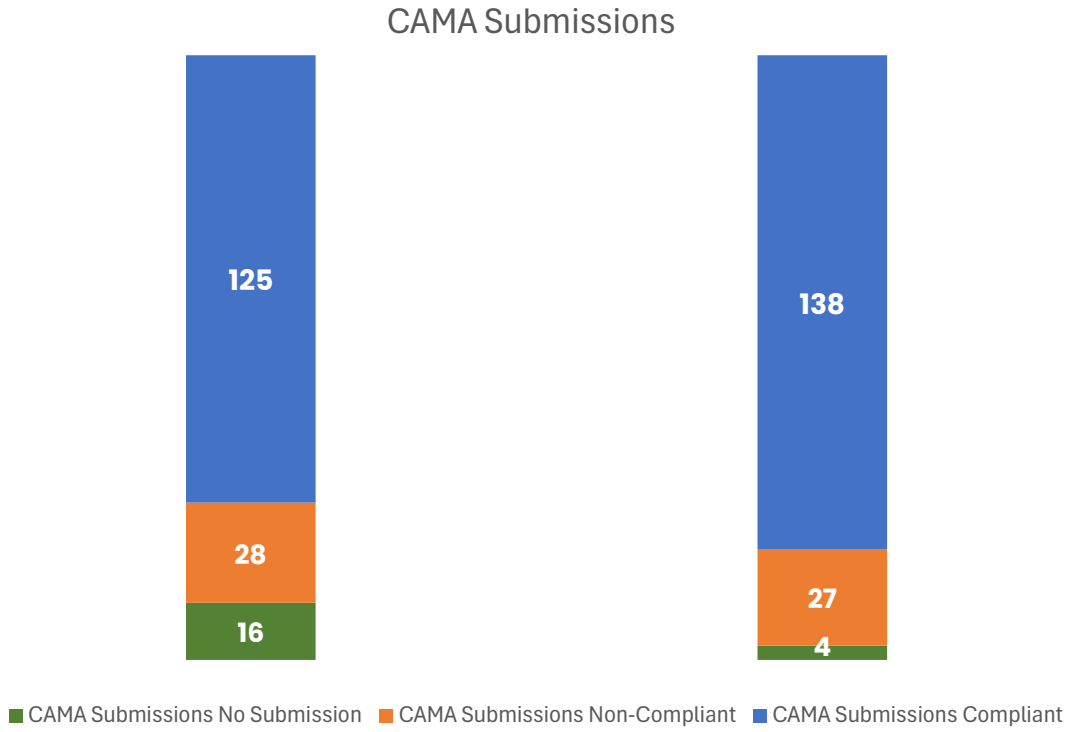
Parcel data had no schema.

2023 Submission and Collection

All municipalities were notified that they must submit their digital parcel files and accompanying files to their respective COGs by May 1, 2023.

The CAMA has a standard that was implemented prior to the 2022 collection and has seen a rise in compliance.





New Features in 2024

Created Parcel Schema

- Crosswalk and file geodatabase available on the new Parcel and CAMA Page
- Schema description also available

Updated CAMA Schema

- CAMA now has 137 fields

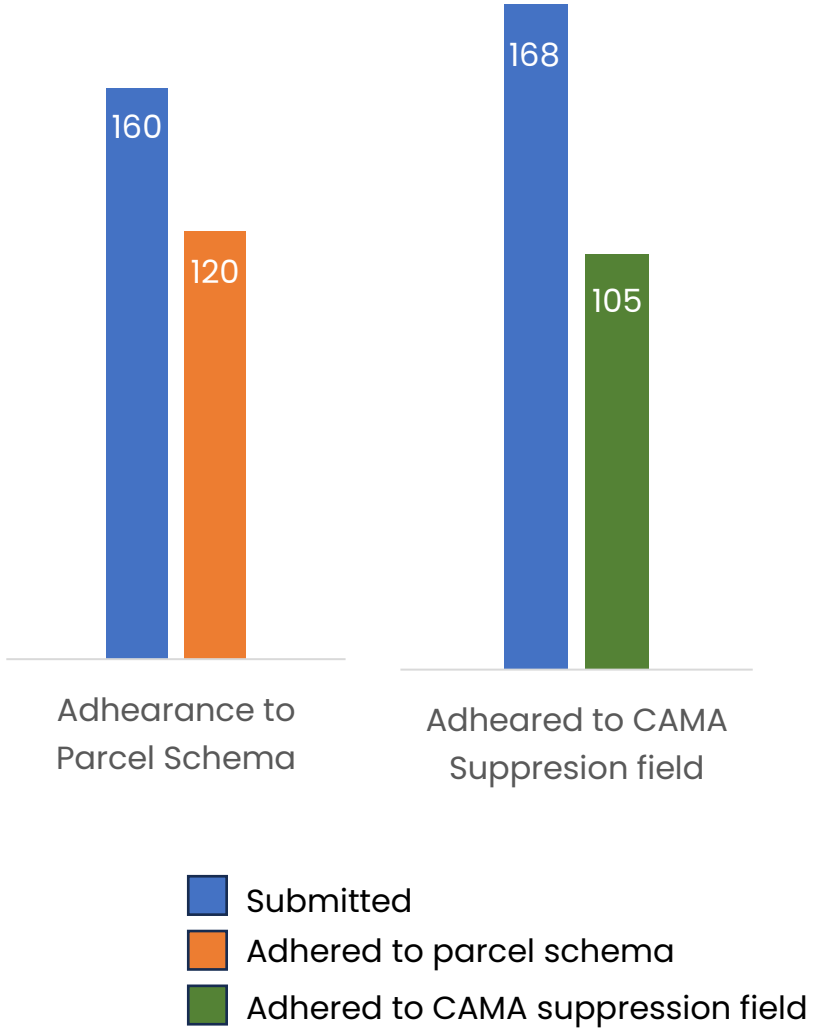
Alias	Description
Instrument	A code used to track the transaction. This system is the alternative to the archaic book/page process.
Validity Code	A code to describe the type of sale.
Occupancy	Number of Occupants/Units
Condo Main ID	The ID that all the condo units refer to.
CAMA Site Link	The web link to access the web hosted property card.
Building Photo	LInk to URL with Property Photo
Number of Units	The total number of apartments or condos in a building.
Sketch	The web link to the building floor plan or layout image.
Land Use Note	A note regarding land use information.
Suppression	Identifies that an entry should be suppressed.

2024 Parcel and CAMA Collection

The GIS Office received parcel and CAMA data from all nine COGs this year.

Metadata

- **160 towns submitted Parcels**
  - 120 adhered to the parcel standard
- **168 towns submitted CAMA**
- **127 Towns Suppress Data**
  - Out of 127 /105 towns had the proper Suppression field
  - 141 complied with the submission addition
  - 42/169 towns do not suppress information
  - 22 out of compliance for suppression



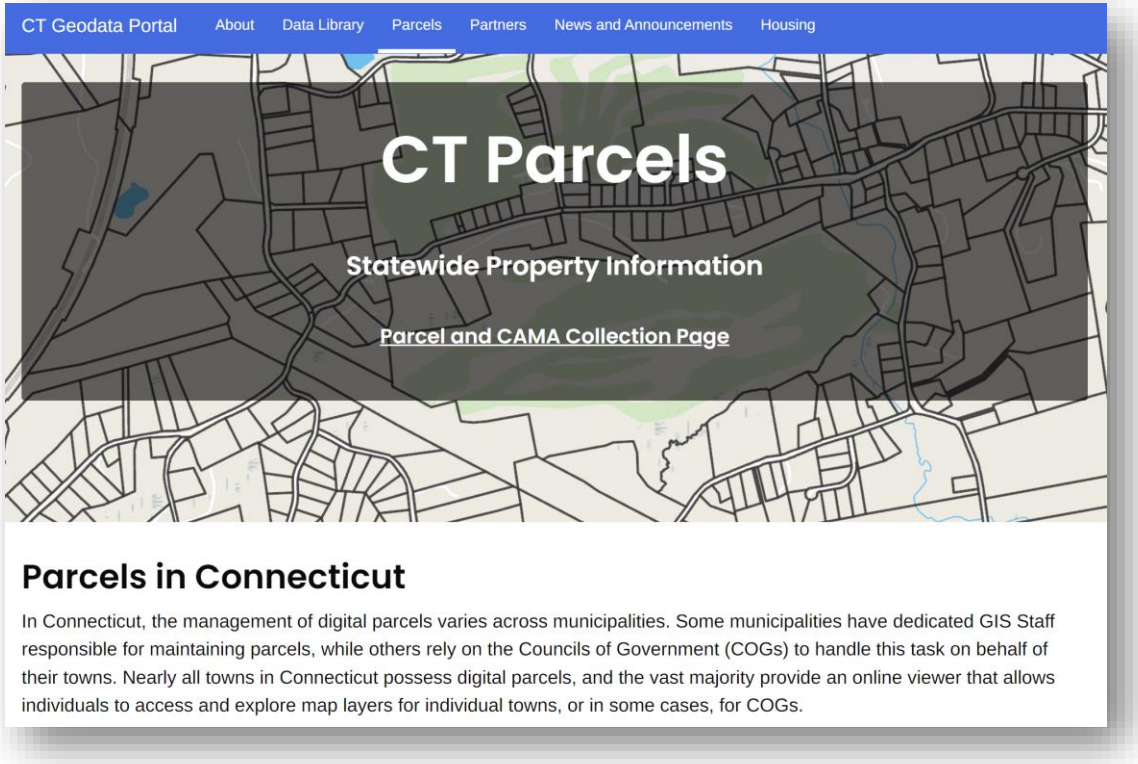
Landing Page

Parcel landing page on the Geodata Portal

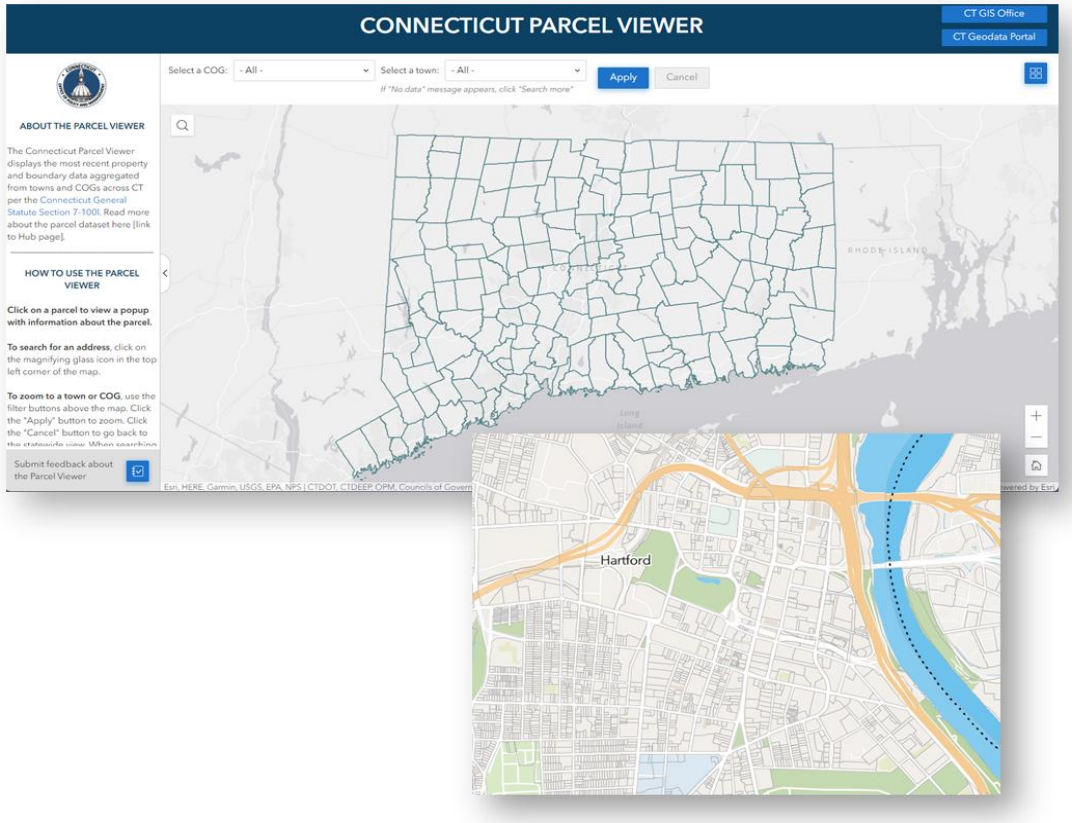
- Parcel viewer

- Downloading Parcels

- Links to other resources



Parcel Viewer



- Connecticut State Parcel Layer (2023) data

- Functionality
  - Search for an address
  - Zoom to a COG and/or town
  - Zoom in/out of the map
  - Select from different basemaps

- When you click on a parcel you can view the details.

- Links to download the parcel data.

Internet hits on the service

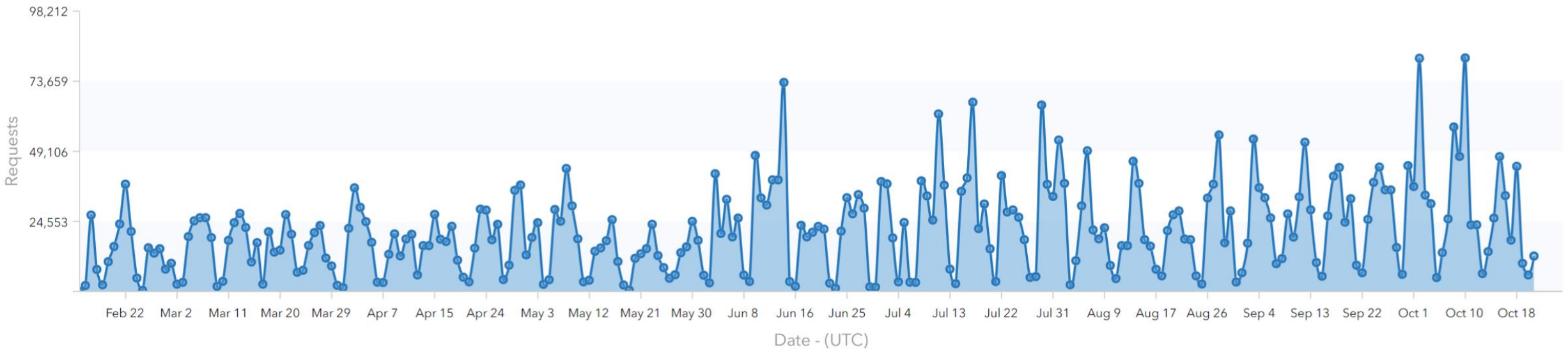
Requests this Period

5,395,141

Avg Requests Per Day

21,667.23

Usage Time Series



Data & Policy Analytics

Parcel and CAMA Website

CT.GOV STATE OF CONNECTICUT

SEARCH LANGUAGE

DATA AND POLICY ANALYTICS

HOME | GIS OFFICE | P20 WIN | EVALUATION AND IMPACT | CT STATE DATA PLAN | DATA GUIDANCE | FAQ

GIS ADVISORY COUNCIL | PARCELS AND CAMA

FEEDBACK +

General Summary & Overview

Connecticut's Regional Councils of Government (COGs) collect digital parcel files and standardized property assessment data (CAMA) from each of their member municipalities by May 1st annually, pursuant to Section 7-100l of the Connecticut General Statutes. Through the voluntary cooperation of the COGs, OPM obtains copies of these datasets and makes them available for public download in several formats.

OPM does not modify any of the parcel data files received from the COGs and only integrates the data into a standardized format. The spatial accuracy and completeness of the data can vary by COG and by municipality.

Previous years' parcel data is accessible through the following links:

CT Geodata Portal | Parcel Viewer | Open Data Portal

Submittal Process - Important Notes for Municipalities

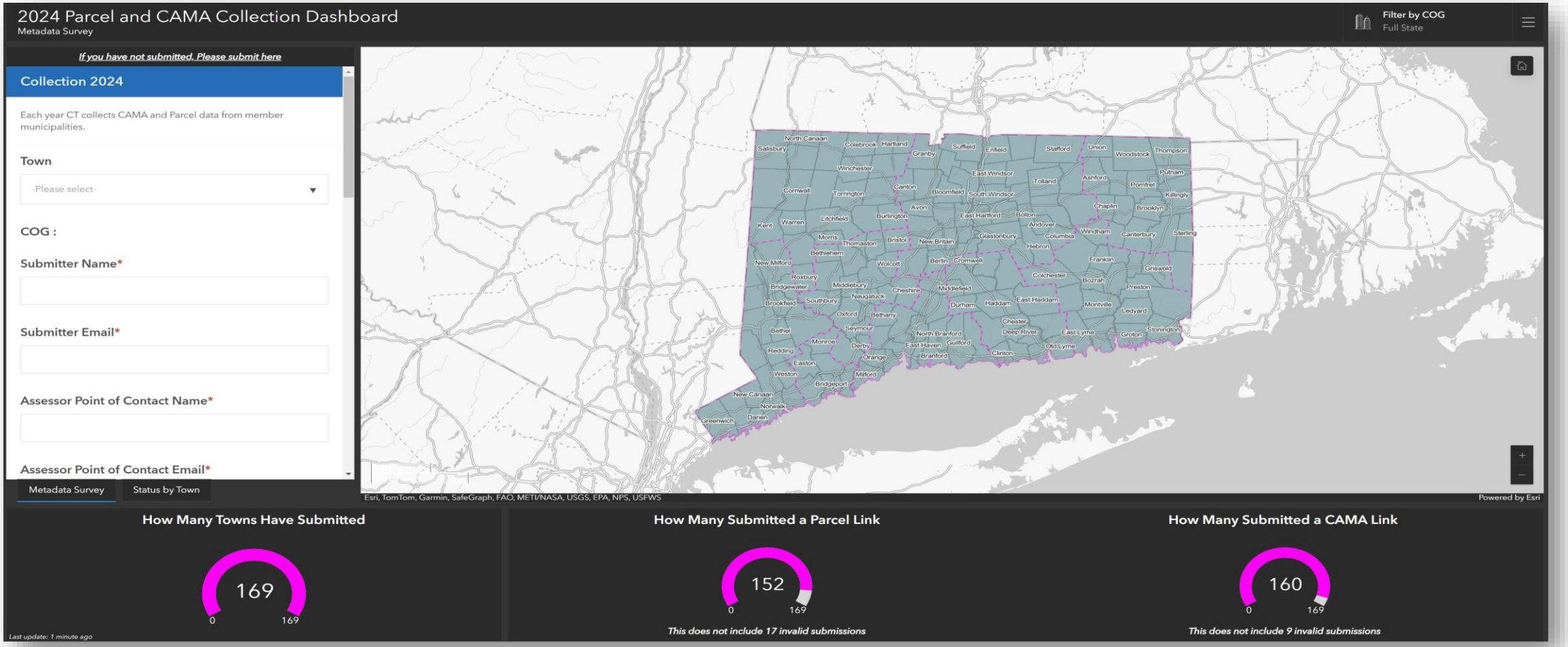
To comply with CGS Sec. 7-100l(b), municipalities must submit two separate files:

- One file for digital parcels.
- One file for a standardized CAMA report.
- One file containing metadata information (Containing the following):
  - Digital Parcel File and the **reference date** (current as of when)
  - OPM – 7-100L CAMA report and the **reference date** (current as of when – OPM is requesting the report as of October 1, 2023).
  - Name and email address of the municipal contact for the parcel file(s)
  - Name and email address of the municipal contact for the CAMA report.
  - **The field(s) used for linking your Digital Parcels to CAMA and vice-versa.**
  - CAMA Vendor and Software Name Version.

Online Metadata Form

Follow the instructions below to submit each file.

Metadata Dashboard



What can you do with the authoritative Parcel Dataset & Assessment Information?

Data & Policy Analytics

Many things!

Unique insight into neighborhood-level information

- SQL queries
  - Land trusts
  - Municipal lands
- Clusters and spatial statistics

Data & Policy Analytics

Parcel Dataset

38 attributes including:

Location	Unit Type	Assessed Total	Assessed Land
Assessed Building	Pre-Year Assessed Total	Appraised Land	Appraised Building
Condition	Valuation Year	Number of stories	State Use (Code)
Living Area	Effective Area	Total rooms	Number of bedrooms
Number of Baths	Sale Price	Sale Date	Occupancy

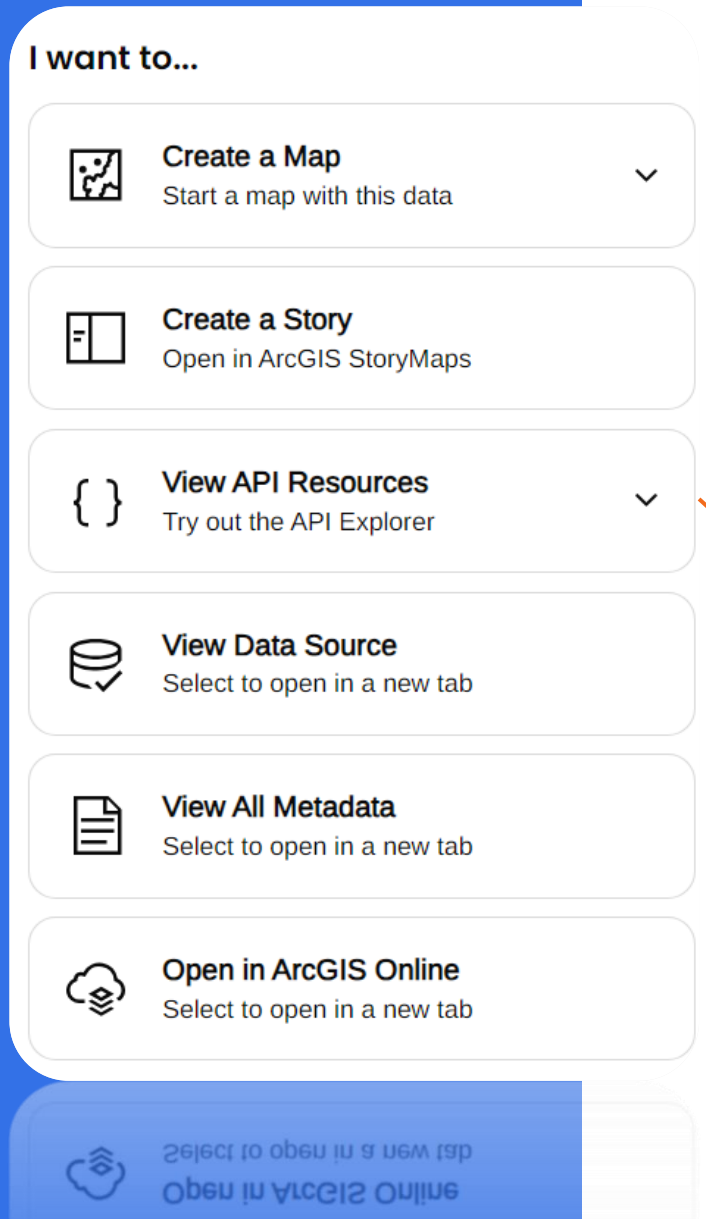
Connecticut State Parcel Layer 2023 | CT Geodata Portal

Attributes (137)

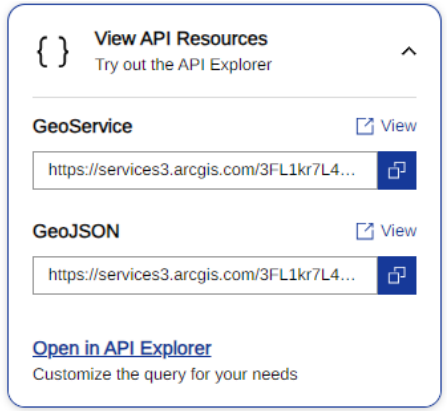
- Categories
  - ID
  - Address
  - Appraisal
  - Assessment
  - Building
  - Land
  - Owner

ID	Type	Field
43	Appraisal	Appraised_Total
44	Appraisal	Appraised_Land
45	Appraisal	Appraised_Building
46	Appraisal	Appraised_Extra_feature
47	Appraisal	Appraised_Outbuilding
48	Appraisal	Valuation_Year
49	Land	Land_Acres
50	Land	Parcel_Depth
51	Land	Parcel_Frontage
52	Land	Water_frontage_in_Feet
53	Land	Zone
54	Land	Zone_Description
55	Land	State_Use
56	Land	State_Use_Description
57	Building	Style_Desc
58	Building	Model
59	Building	Grade
60	Building	Grade_Desc
61	Building	Depreciation
62	Building	Condition
63	Building	Condition_Description
64	Building	Neighborhood
65	Building	AYB
66	Building	EYB
67	Building	Replacement_Cost_New
68	Building	Replacement_Cost_New_Less_Depreciation
69	Building	Gross_Area_of_Primary_Building
70	Building	Living_Area
71	Building	Effective_Area
72	Building	Stories
73	Building	Frame_Type

Attribute schema can be found at:
https://portal.ct.gov/datapolicy/gis-office/parcels-and-cama



View Map | Download | More



[Connecticut State Parcel Layer 2023 | CT Geodata Portal]

CT Parcel Data Set

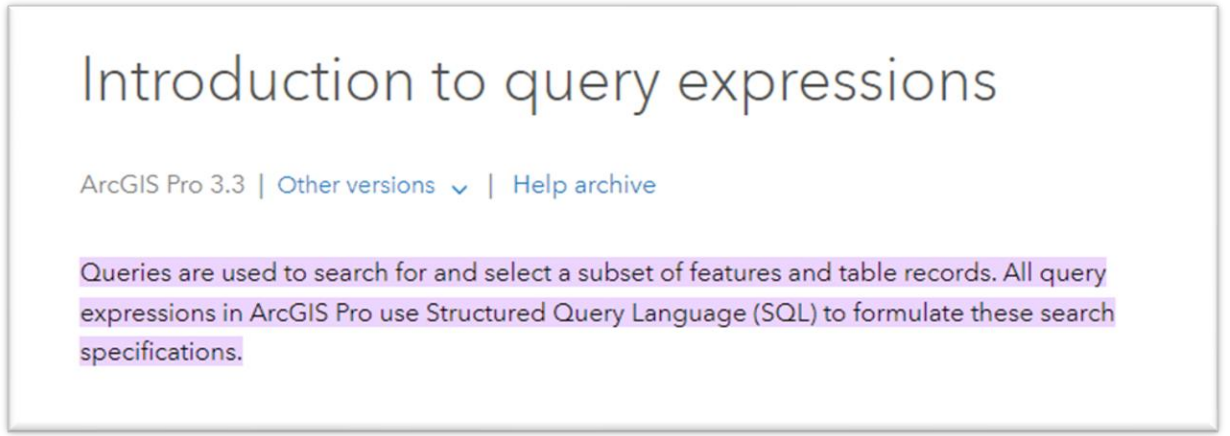
- Parcel geometry + Assessment data
- 1.25 million parcels

CT_Parcels_Export_landtrusts - GRANBY

OBJECTID_1	4636
Town_Name	GRANBY
Collection_YR	2023
Link	32640-13400080
Editor	SUE
EditDate	2/12/2019
LOCATION	80 SILVER ST
PROPERTY_CITY	GRANBY
OWNER	GRANBY LAND TRUST INC
CO_OWNER	<Null>
MAILING_ADDRESS	PO BOX 23
MAILING_CITY	GRANBY
ASSESSED_TOTAL	296520
ASSESSED_LAND	296520

SQL

- Text search in a GIS
- Account for variability in naming conventions and spacing



Introduction to query expressions

ArcGIS Pro 3.3 | Other versions | Help archive

Queries are used to search for and select a subset of features and table records. All query expressions in ArcGIS Pro use Structured Query Language (SQL) to formulate these search specifications.

Found at:
https://pro.arcgis.com/en/pro-app/latest/help/mapping/navigation/write-a-query-in-the-query-builder.htm#:~:text=Queries%20are%20used%20to%20search,to%20formulate%20these%20search%20specifications

Example 1: GreenPlan

This definition is designed to encompass all land currently used or acting as open space in Connecticut to help gauge progress towards the goal of holding 21% of the state's land area as open space as referenced in CGS Section 23-8 (b)

In order for land to be considered open space it must:

1. Meet one of the following:
    - Be protected from development by a conservation restriction[1] held by a qualified conservation organization[2]
    - Be owned in fee by a qualified conservation organization or water company

    AND

2. Be restricted[3], protected[4] or used for one of the following purposes:
    - To maintain or enhance the conservation of natural or scenic resources
    - To protect natural streams or a water supply
    - To promote healthy soils[5]
    - To promote the conservation of wetlands, beaches or tidal marshes
    - To enhance public outdoor recreation opportunities[6]
    - To preserve historic property[7] or agricultural lands

GreenPlan and Finding Land Trusts

- No single reference data set
- Older general data set with mixed categories
- Only reference PDF with no geometry

Humphrey Preserve Trails – Canton Land Conservation Trust (cantonlandtrust.org)

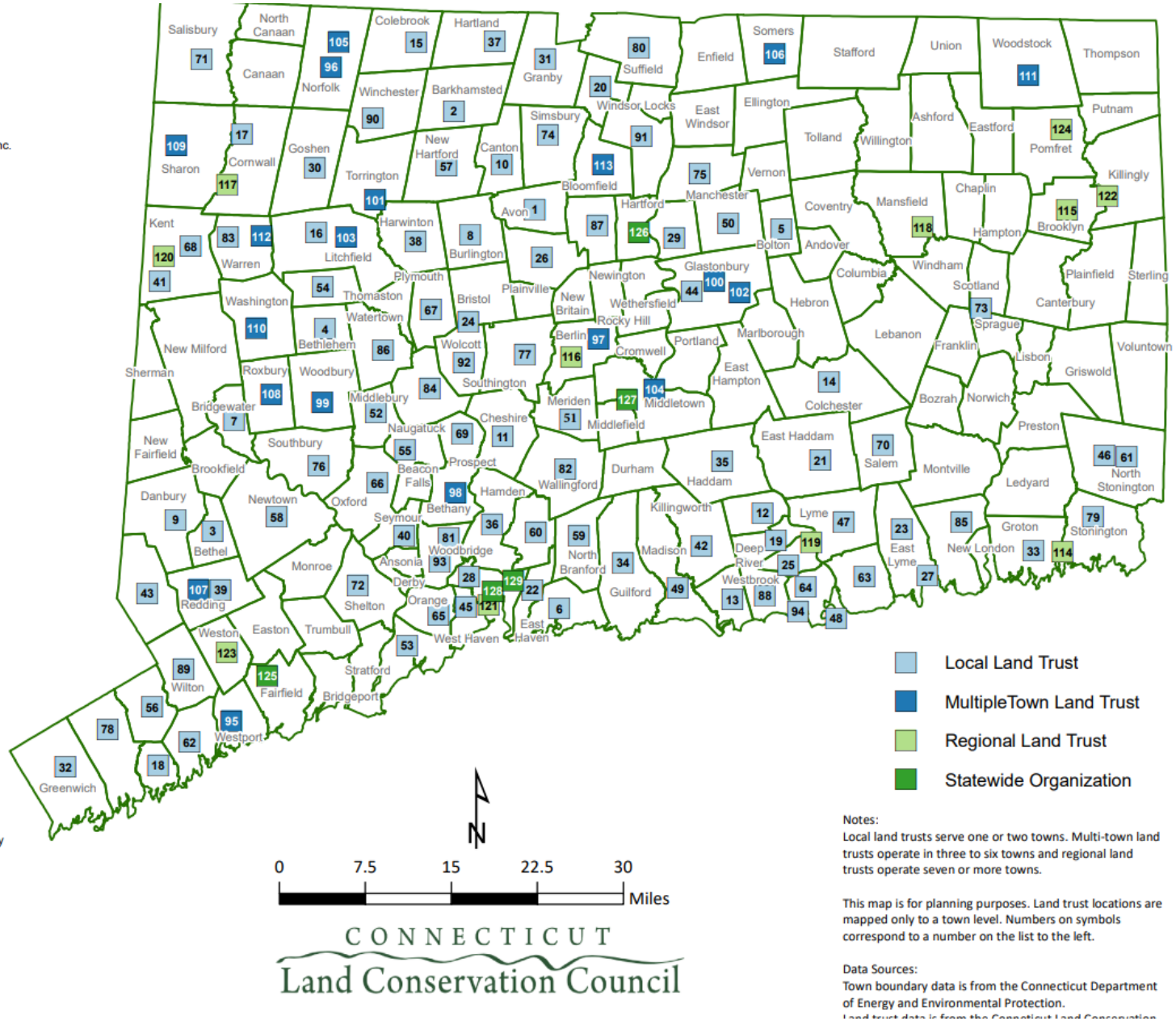
Connecticut Land Trusts 2022

LOCAL LAND TRUSTS
1 Avon Land Trust
2 Barkhamsted Land Trust, Inc.
3 Bethel Land Trust
4 Bethlehem Land Trust
5 Bolton Land Trust
6 Branford Land Trust
7 Bridgewater Land Trust
8 Burlington Land Trust
9 Candlewood Valley Regional Land Trust
10 Canton Land Conservation Trust, Inc.
11 Cheshire Land Trust, Inc.
12 Chester Land Trust
13 Clinton Land Conservation Trust, Inc.
14 Colchester Land Trust
15 Colebrook Land Conservancy, Inc.
16 Constance B. Ripley Land Trust
17 Cornwall Conservation Trust
18 Darien Land Trust
19 Deep River Land Trust, Inc.
20 East Granby Land Trust, Inc.
21 East Haddam Land Trust, Inc.
22 East Haven Land Trust, Inc.
23 East Lyme & Niantic Land Conservation Trust, Inc.
24 Environmental Learning of CT, Inc.
25 Essex Land Trust, Inc.
26 Farmington Land Trust
27 Friends of Oswegatchie Hills Nature Preserve
28 Gather New Haven
29 Goodwin University
30 Goshen Land Trust
31 Granby Land Trust
32 Greenwich Land Trust, Inc.
33 Groton Open Space Association, Inc.
34 Guilford Land Conservation Trust
35 Haddam Land Trust, Inc.
36 Hamden Land Conservation Trust, Inc.
37 Hartland Land Trust
38 Harwinton Land Trust
39 Highstead Foundation
40 Seymour Land Conservation Trust, Inc.
41 Kent Land Trust, Inc.
42 Killingworth Land Conservation Trust, Inc. 43 Land Conservancy of Ridgefield, Inc.
44 Land Heritage Coalition of Glastonbury, Inc.
45 Land Trust of West Haven
46 Long Pond Commons Land Trust
47 Lyme Land Conservation Trust
48 Lynde Point Land Trust
49 Madison Land Conservation Trust
50 Manchester Land Conservation Trust, Inc. 51 Meriden Land Trust
52 Middlebury Land Trust, Inc.
53 Milford Land Conservation Trust, Inc.
54 Morris Land Trust
55 Naugatuck Land Trust
56 New Canaan Land Trust
57 New Hartford Land Trust, Inc.
58 Newtown Forest Association, Inc.
59 North Branford Land Conservation Trust, Inc.
60 North Haven Land Trust, Inc.
61 North Stonington Citizens Land Alliance, Inc
62 Norwalk Land Trust, Inc.
63 Old Lyme Land Trust
64 Old Saybrook Land Trust
65 Orange Land Trust, Inc.
66 Oxford Land Trust, Inc.
67 Plymouth Land Trust, Inc.
68 Pond Mountain Trust, Inc.
69 Prospect Land Trust
70 Salem Land Trust, Inc.
71 Salisbury Association Land Trust
72 Shelton Land Conservation Trust, Inc.
73 Shetucket River Valley Land Trust
74 Simsbury Land Trust
75 South Windsor Land Conservation Trust, Inc.
76 Southbury Land Trust, Inc.
77 Southington Land Conservation Trust, Inc.
78 Stamford Land Conservation Trust, Inc.
79 Stonington Land Trust
80 Suffield Land Conservancy, Inc.
81 The Woodbridge Land Trust, Inc.
82 Wallingford Land Trust, Inc.
83 Warren Land Trust, Inc.
84 Waterbury Land Trust
85 Waterford Land Trust, Inc.
86 Watertown Land Trust Inc.
87 West Hartford Land Trust
88 Westbrook Land Conservation Trust, Inc.
89 Wilton Land Conservation Trust
90 Winchester Land Trust, Inc.
91 Windsor Land Trust
92 Wolcott Land Conservation Trust, Inc.
93 Woodbridge Park Association
94 Woodsmen Land Trust

MULTI-TOWN LAND TRUSTS
95 Aspetuck Land Trust
96 Aton Forest, Inc.
97 Berlin Land Trust, Inc.
98 Bethany Land Trust, Inc.
99 Flanders Nature Center & Land Trust
100 Great Meadows Conservation Trust
101 Heritage Land Preservation Trust
102 Kongscut Land Trust
103 Litchfield Land Trust
104 Middlesex Land Trust
105 Norfolk Land Trust, Inc.
106 Northern Connecticut Land Trust
107 Redding Land Trust
108 Roxbury Land Trust
109 Sharon Land Trust
110 Steep Rock Association
111 The New Roxbury Land Trust
112 Warren Land Trust, Inc.
113 Wintonbury Land Trust

REGIONAL LAND TRUSTS
114 Avalonia Land Conservancy, Inc.
115 ECFLA / Wolf Den Land Trust
116 Eversource Land Trust
117 Housatonic Valley Association
118 Joshua's Tract Conservation and Historic Trust
119 Lower Connecticut River Land Trust
120 Northwest Connecticut Land Conservancy
121 Regional Water Authority
122 The Last Green Valley, Inc.
123 Wildlife in Crisis Land Trust
124 Wyndham Land Trust

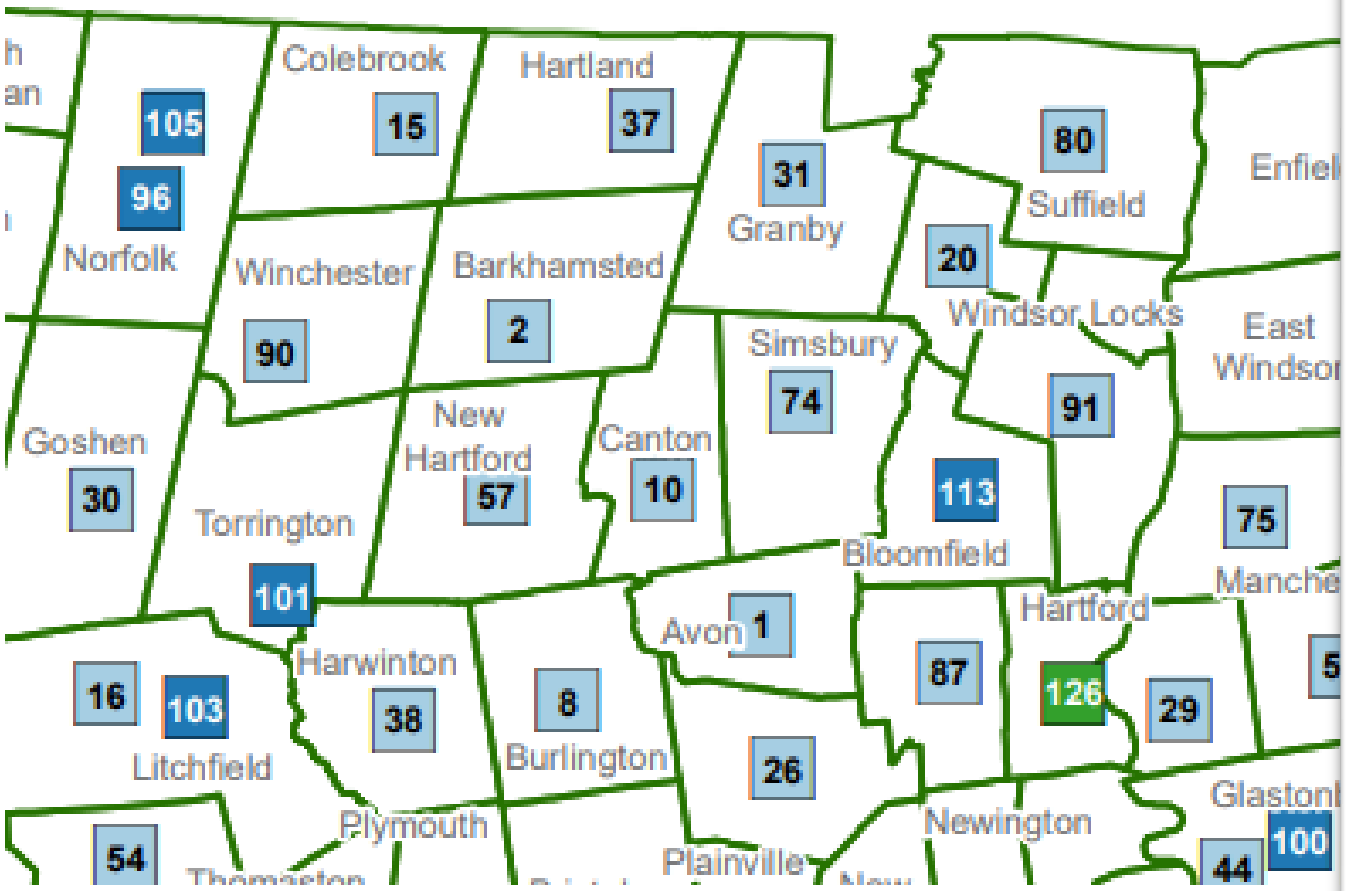
STATEWIDE ORGANIZATIONS
125 Connecticut Audubon Society
126 Connecticut Farmland Trust
127 Connecticut Forest & Park Association
128 The Nature Conservancy - CT
129 The Trust for Public Lands

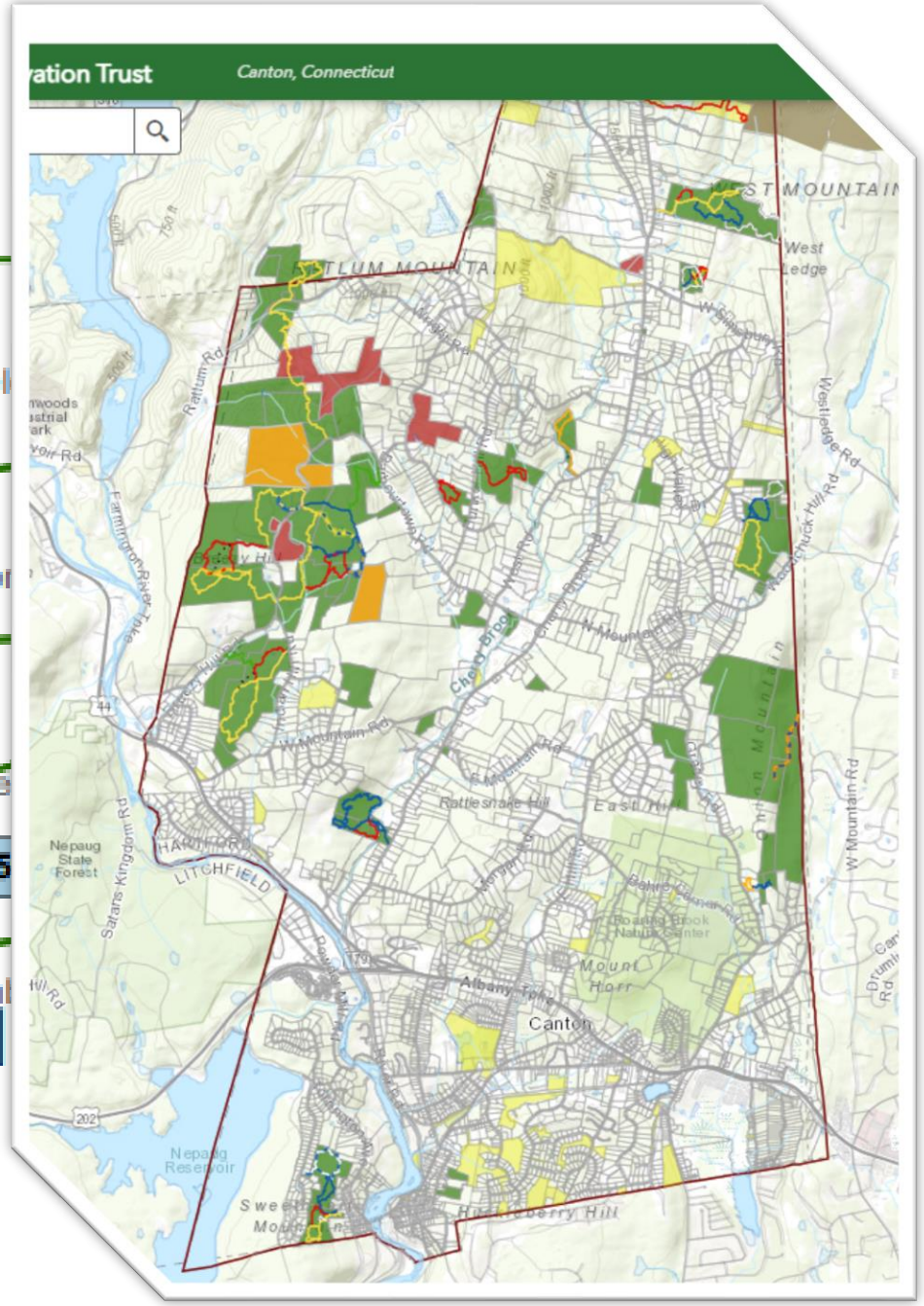


Notes:
Local land trusts serve one or two towns. Multi-town land trusts operate in three to six towns and regional land trusts operate seven or more towns.

This map is for planning purposes. Land trust locations are mapped only to a town level. Numbers on symbols correspond to a number on the list to the left.

Data Sources:
Town boundary data is from the Connecticut Department of Energy and Environmental Protection.
Land trust data is from the Connecticut Land Conservation


Colebrook
15
Hartland
37
105
96
Norfolk
31
Granby
80
Suffield
Enfiel
Winchester
90
Barkhamsted
2
20
Windsor Locks
East
Windsor
Simsbury
74
91
Goshen
30
New
Hartford
57
Canton
10
113
Torrington
101
Bloomfield
75
Manche
Avon
1
Hartford
16
103
Litchfield
Harwinton
38
8
Burlington
87
126
29
26
Plymouth
Newington
Glastonb
100
54
Plainville
44


ation Trust
Canton, Connecticut
West Ledge
Rattlesnake Hill
East Hill
Nepaug State Forest
Mount Horr
Canton
Nepaug Reservoir
Huckleberry Hill

Write a Query to Take Advantage of Owners' Names – LAND TRUSTS

Select By Attributes

Input Rows
CT_Parcels

Selection Type
New selection

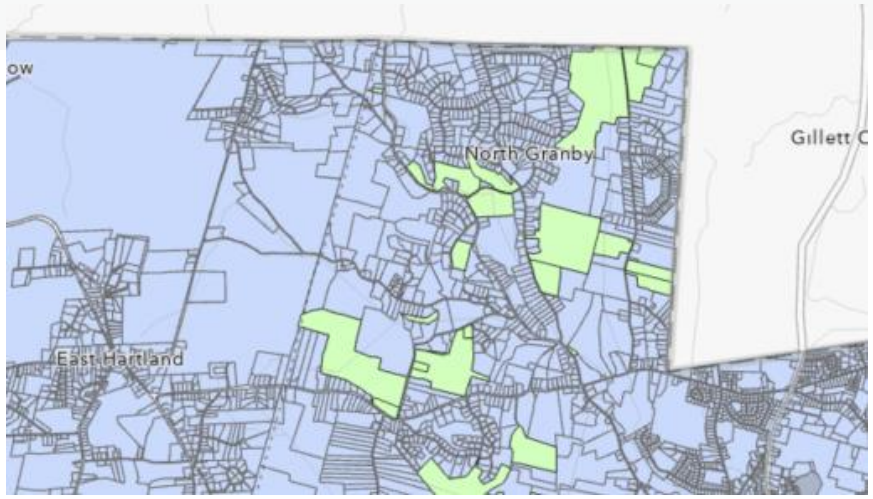
Expression

Load Save Remove

SQL

```
OWNER LIKE '%LAND TRUST%' OR OWNER LIKE '%LAND_TRUST%' OR OWNER LIKE '%CONSERVATION TRUST%' OR OWNER LIKE'%CONSERVATION TRUST
%' OR OWNER LIKE '%LAND CONSERVATION%' OR OWNER LIKE '%EVIRONMENTAL LEARNING%' OR OWNER LIKE '%OPEN SPACE%' OR OWNER LIKE '%
LAND ALLIANCE%' OR OWNER LIKE '%CONNECTICUT AUDUBON SOCIETY%' OR OWNER LIKE '%CONNECTICUT FARMLAND TRUST%' OR OWNER LIKE '%
NATURE CONSERVANCY%' OR OWNER LIKE '%LAST GREEN VALLEY%' OR OWNER LIKE '%LAND CONSERVANCY%'
```

The expression can't be edited in Clause mode.

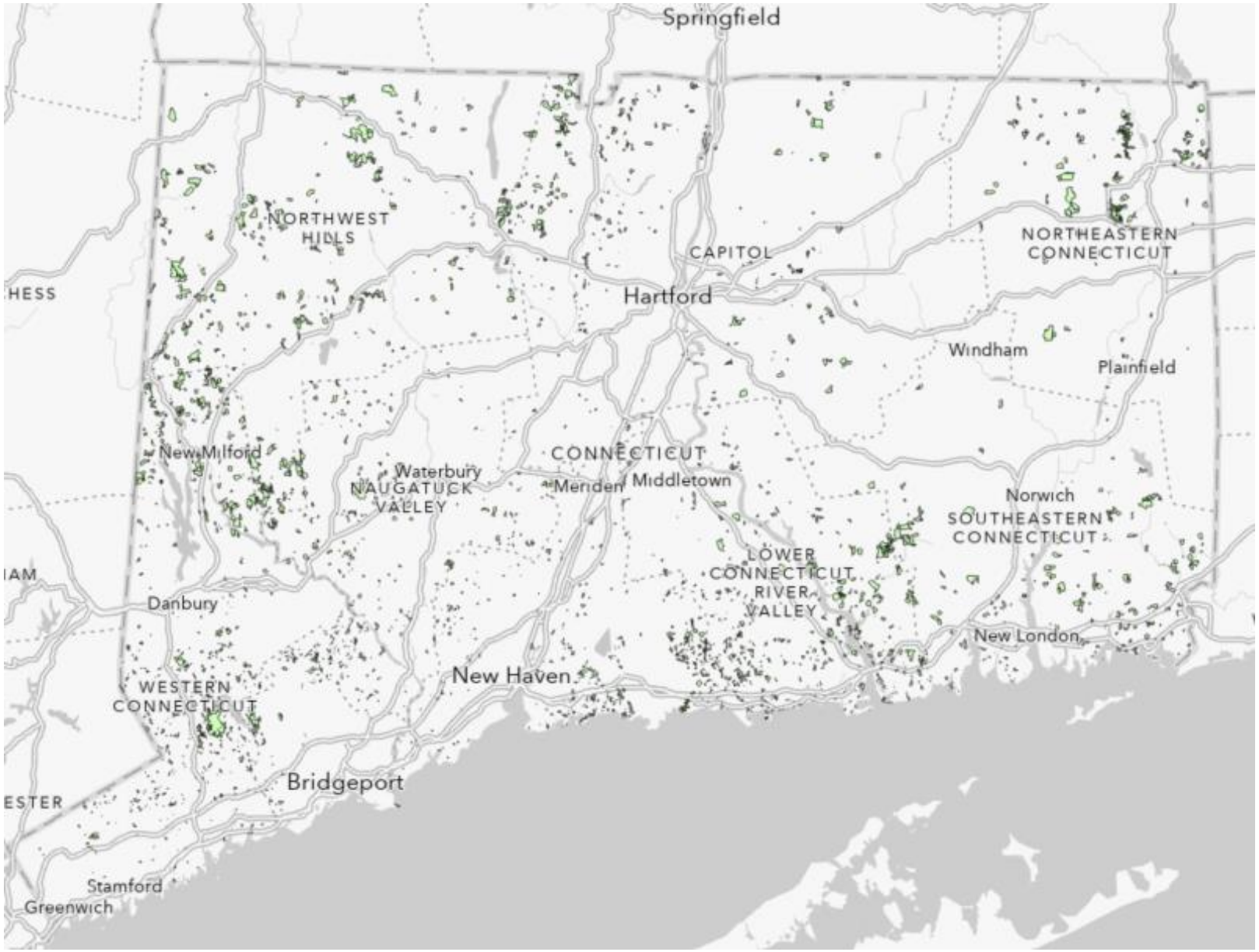


Highlighted:

	PROPERTY_CITY *	OWNER *	CO_OWNE
OF GO...	WESTON	NATURE CONSERVANCY INC	<Null>
HILL RD	WOODBURY	FLANDERS NATURE CENTER & LA...	<Null>
IN RD	SHARON	NU LAND TRUST INC	<Null>
RD	POMFRET	WYNDHAM LAND TRUST INC	<Null>
ILL RD	SCOTLAND	NATURE CONSERVANCY OF CT INC	<Null>
	NORFOLK	NATURE CONSERVANCY INC	<Null>
D	ROXBURY	ROXBURY LAND TRUST INC	<Null>
OAD	COLEBROOK	COLEBROOK LAND CONSERVANC...	<Null>
I RD	POMFRET	WYNDHAM LAND TRUST INC	<Null>
	NORFOLK	NORFOLK LAND TRUST INC	<Null>
	CORNWALL	CORNWALL CONSERVATION TRU...	<Null>
	MONTVILLE	NATURE CONSERVANCY INC	<Null>
	NORTH STONINGTON	AVALONIA LAND CONSERVANCY...	<Null>
AD	EASTON	ASPETUCK LAND TRUST INC	C/O DAVID
	SOMERS	NORTHERN CONNECTICUT LAND...	<Null>
E RD	SHARON	SHARON LAND TRUST INC	<Null>
AD	<Null>	NATURE CONSERVANCY OF CT	<Null>

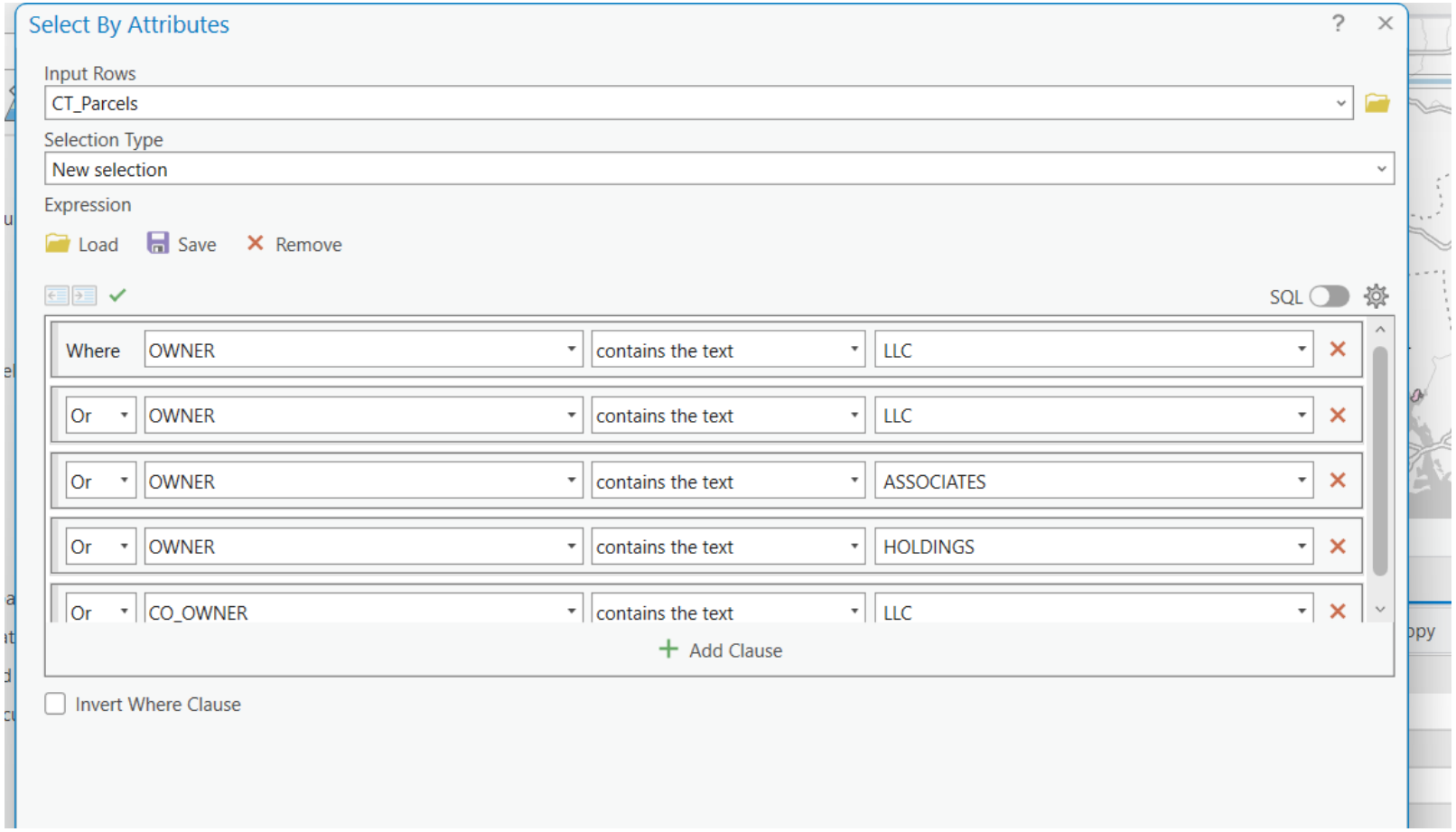
Land Trust Data Set

- 5107 parcels
- False positives and false negatives
- Vendor to identify missing parcels



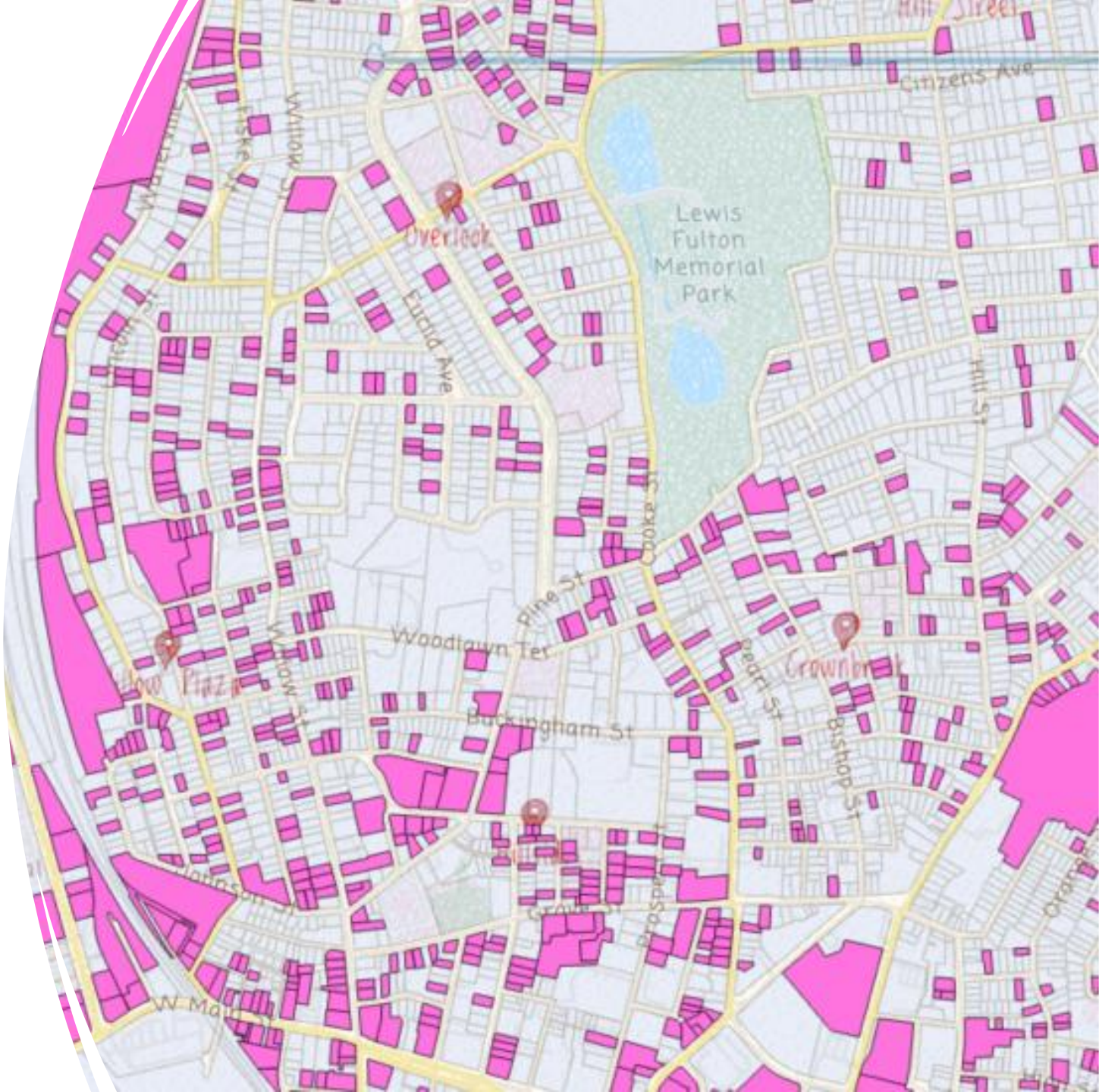
Example 2: Identifying commercial properties for land use and taxation

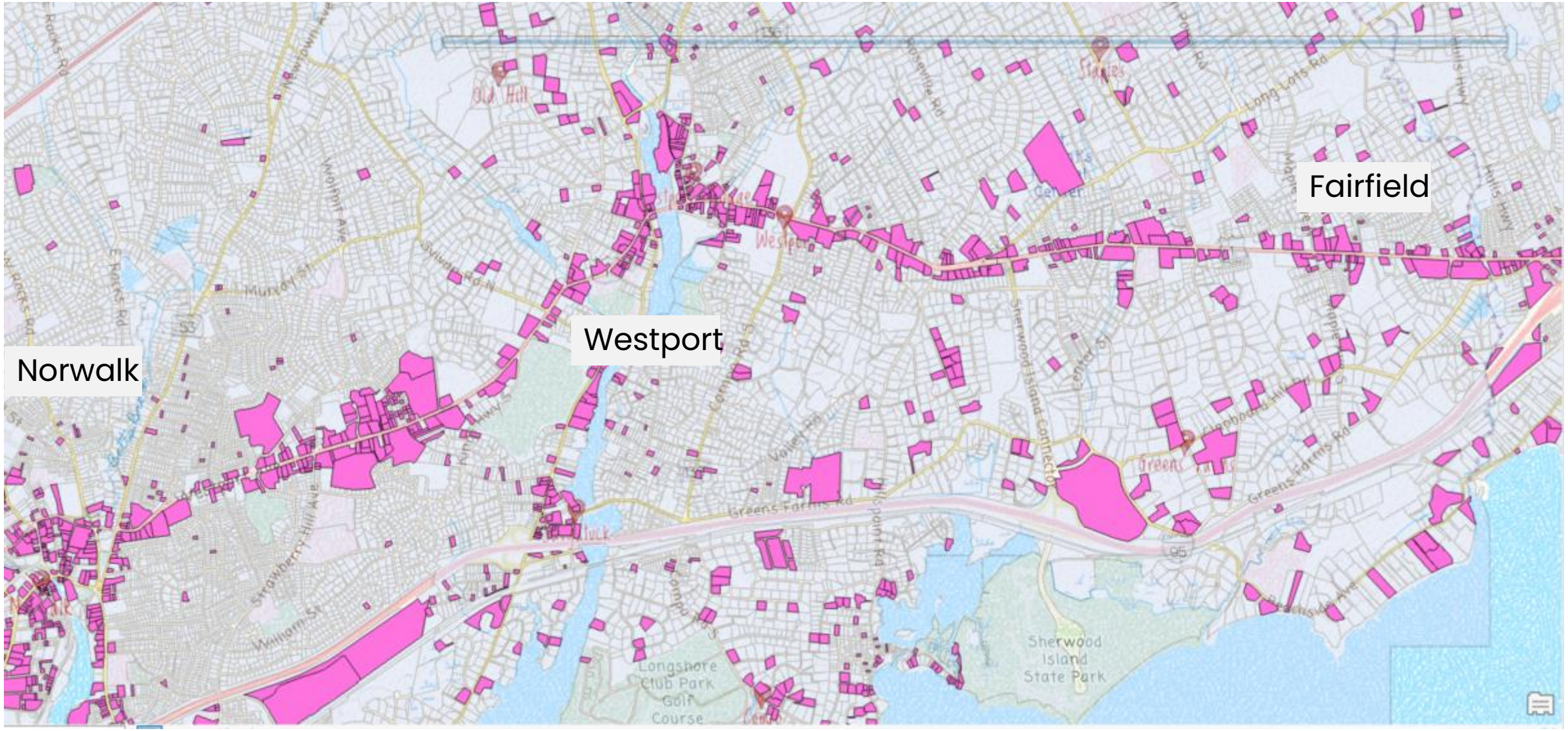
- How do you identify commercial properties?
- LLC is a limited liability company
- Protects personal assets of owner from bankruptcy and lawsuits
  - firewall



Waterbury

90,300 parcels

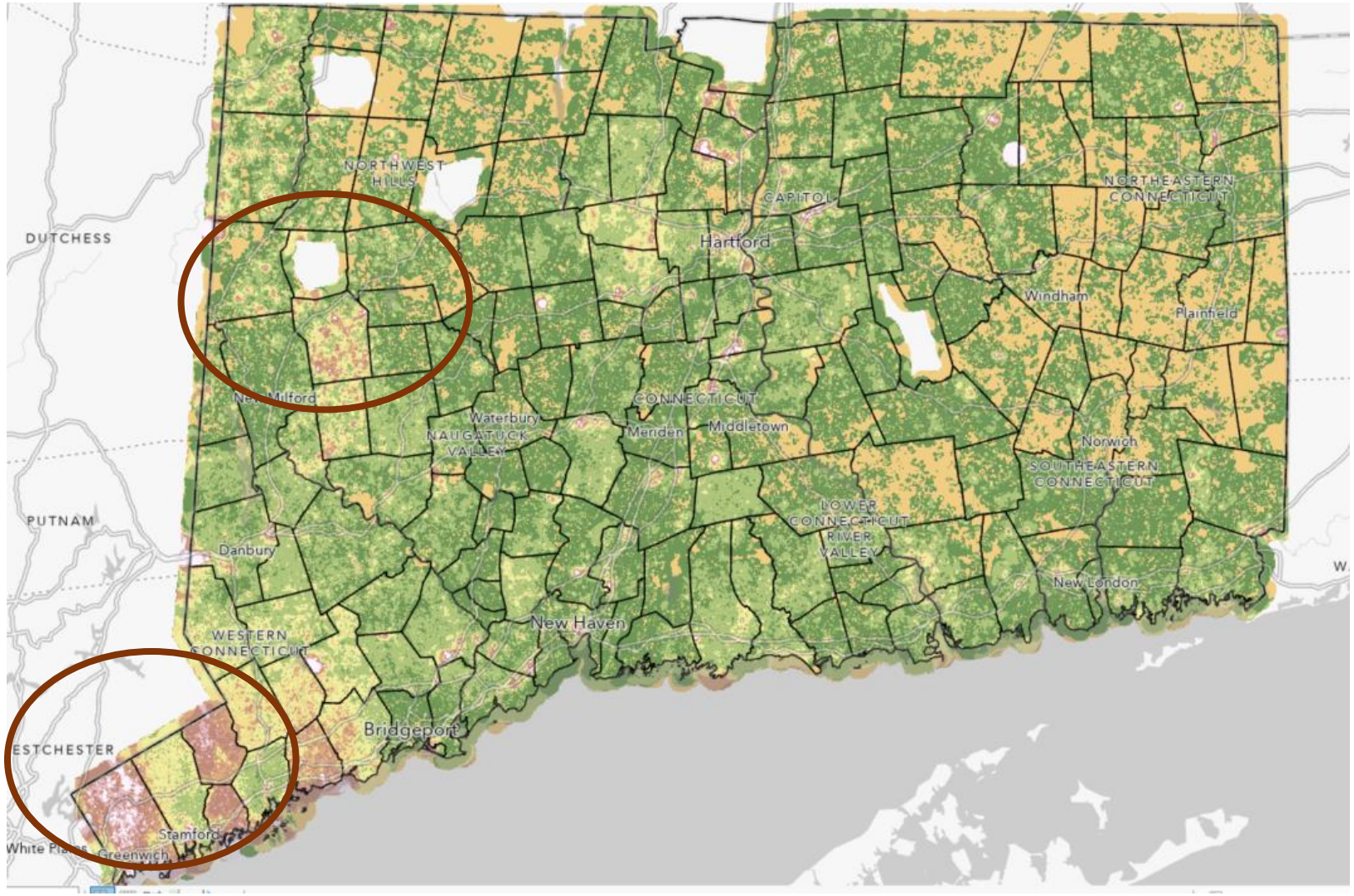



Fairfield
Westport
Norwalk
Old Hill
Westport
Greens Farms
Greens Farms Rd
Sherwood Island Connector
Sherwood Island State Park
Longshore Club Park Golf Course
Long Lots Rd
Hills Hwy
Wolfpit Ave
Murray St
Strawberry Hill Ave
William St
Valley Rd
Center St
Beachside Ave
Rocks Rd
Newtown Ave
Sylvan Rd N
Rosevale Rd
Cleveland Hill Rd
Napier St
Hills Hwy
95
136
53

Spatial Statistics

Definition: Metrics based on statistical tools used to characterize the distribution of events across space and find patterns. Methods can be descriptive, deterministic, statistical and local or general.

IDW analysis of Sale Price (500’ pixels)

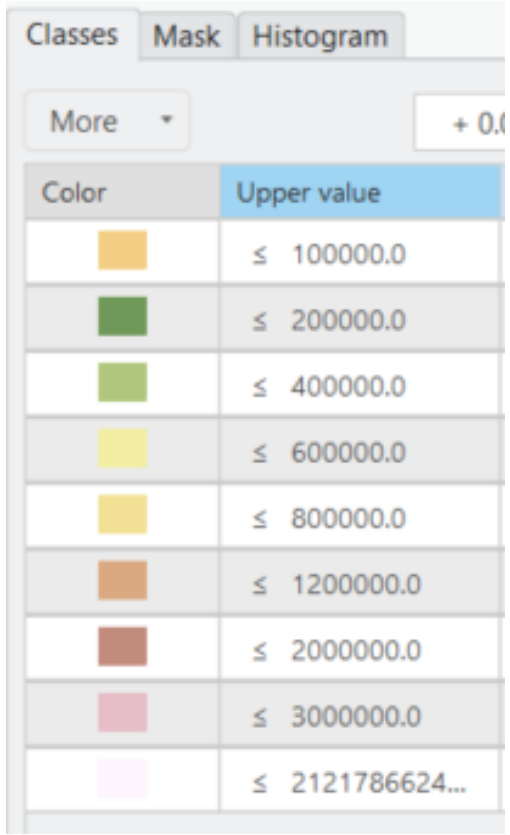


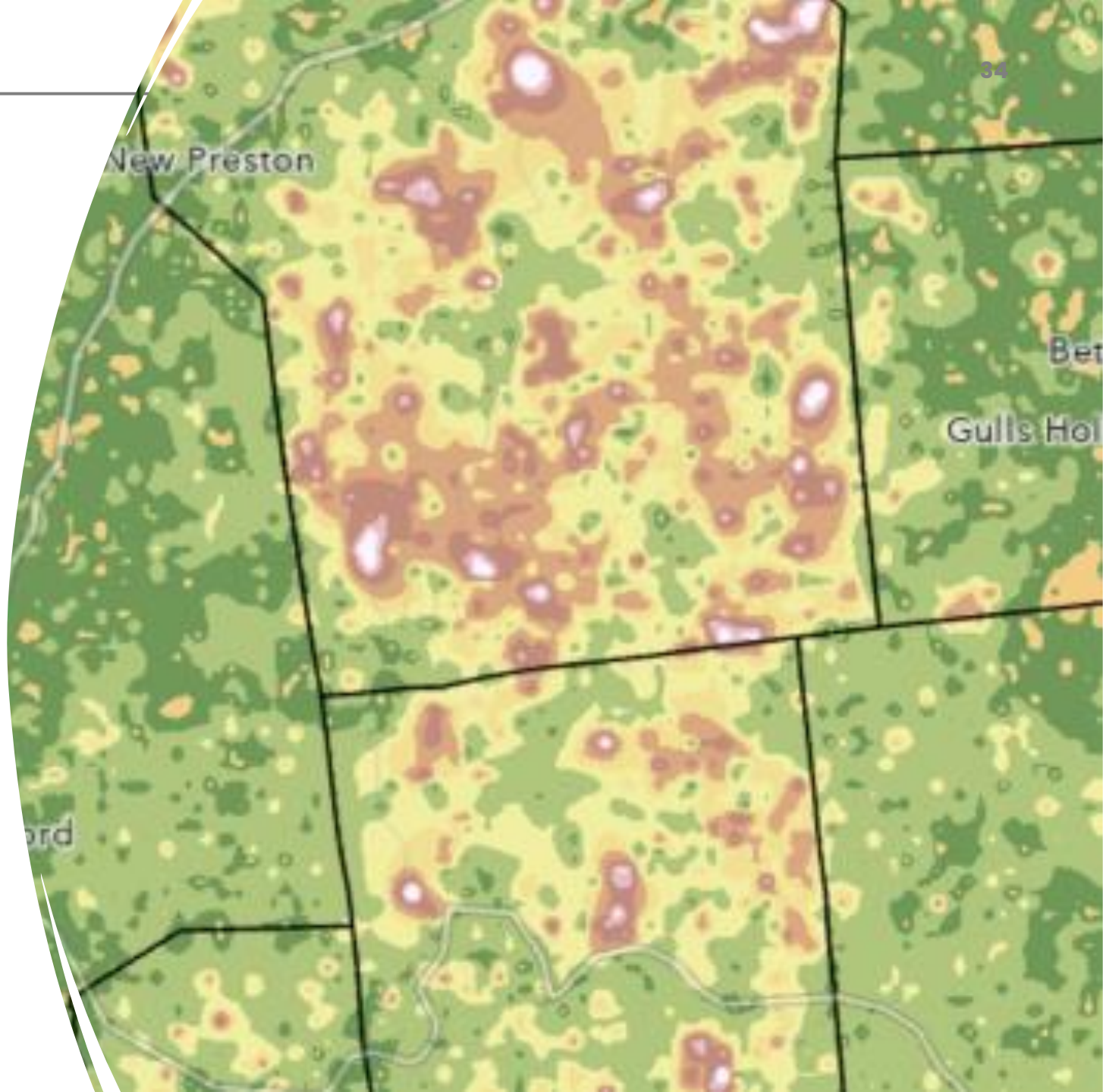
Classes | Mask | Histogram

More

Color	Upper value
	≤ 100000.0
	≤ 200000.0
	≤ 400000.0
	≤ 600000.0
	≤ 800000.0
	≤ 1200000.0
	≤ 2000000.0
	≤ 3000000.0
	≤ 2121786624...

IDW: Washington and Roxbury



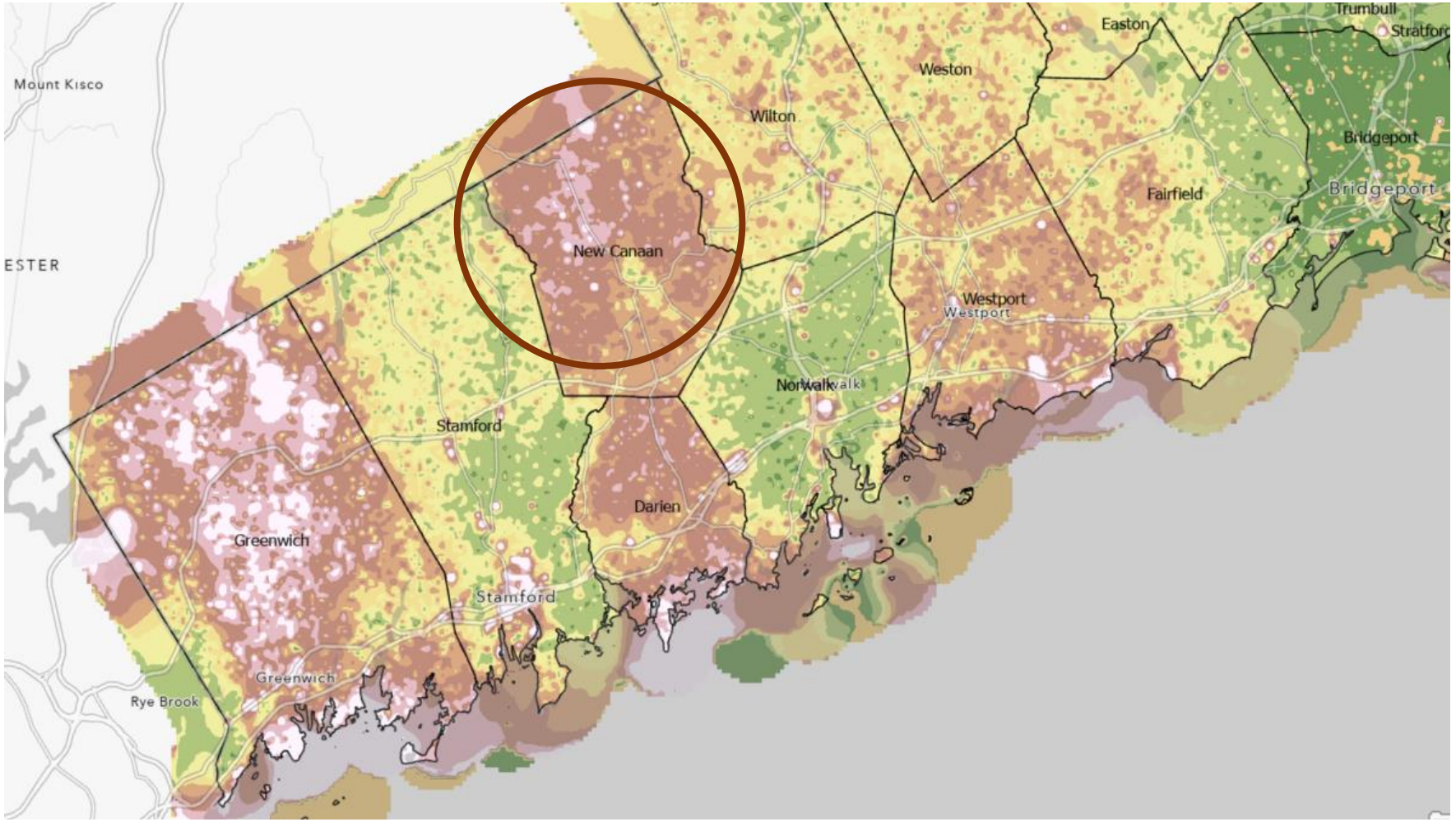


Name of town matters?

Classes | Mask | Histogram

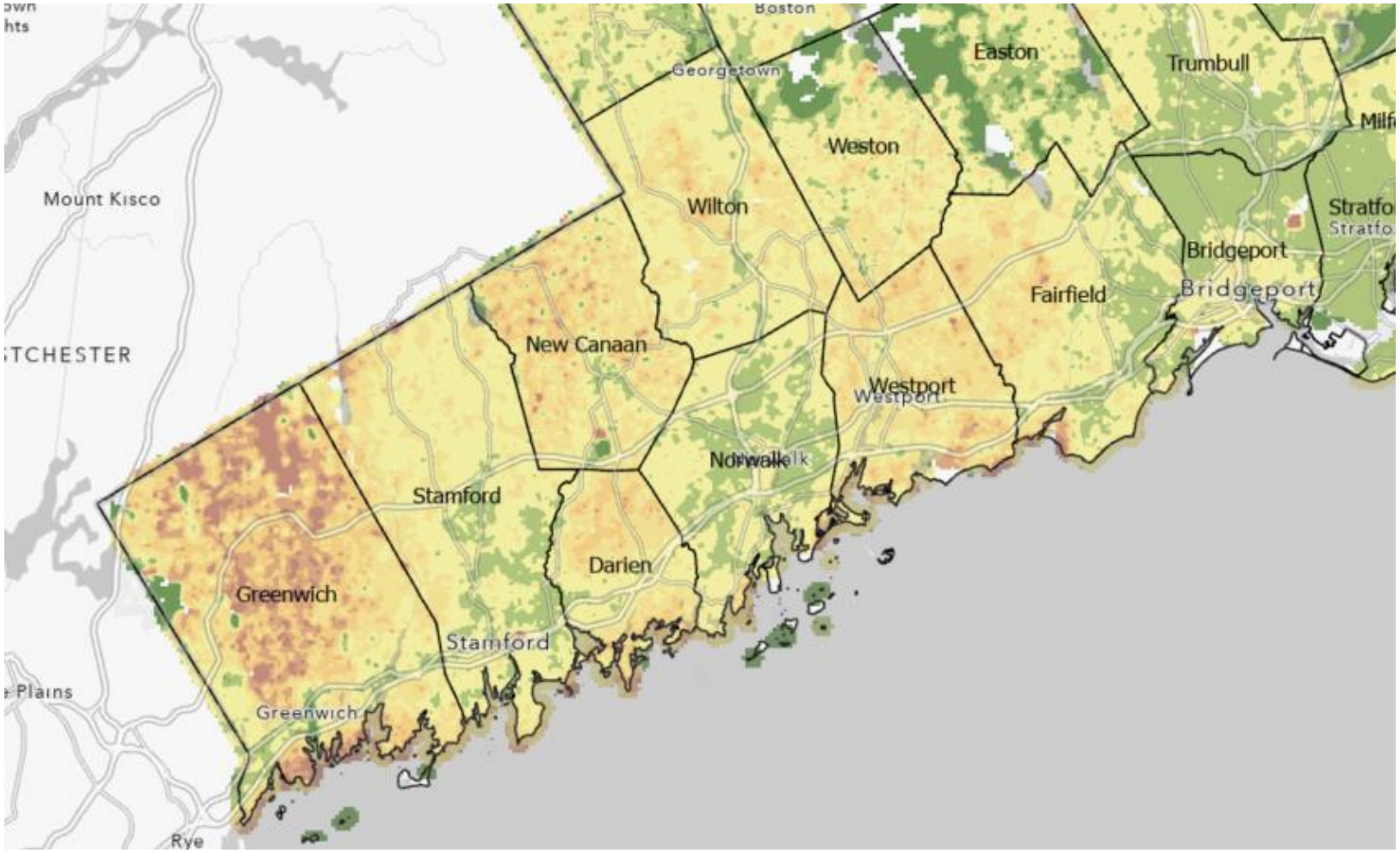
More

Color	Upper value
	≤ 100000.0
	≤ 200000.0
	≤ 400000.0
	≤ 600000.0
	≤ 800000.0
	≤ 1200000.0
	≤ 2000000.0
	≤ 3000000.0
	≤ 2121786624...

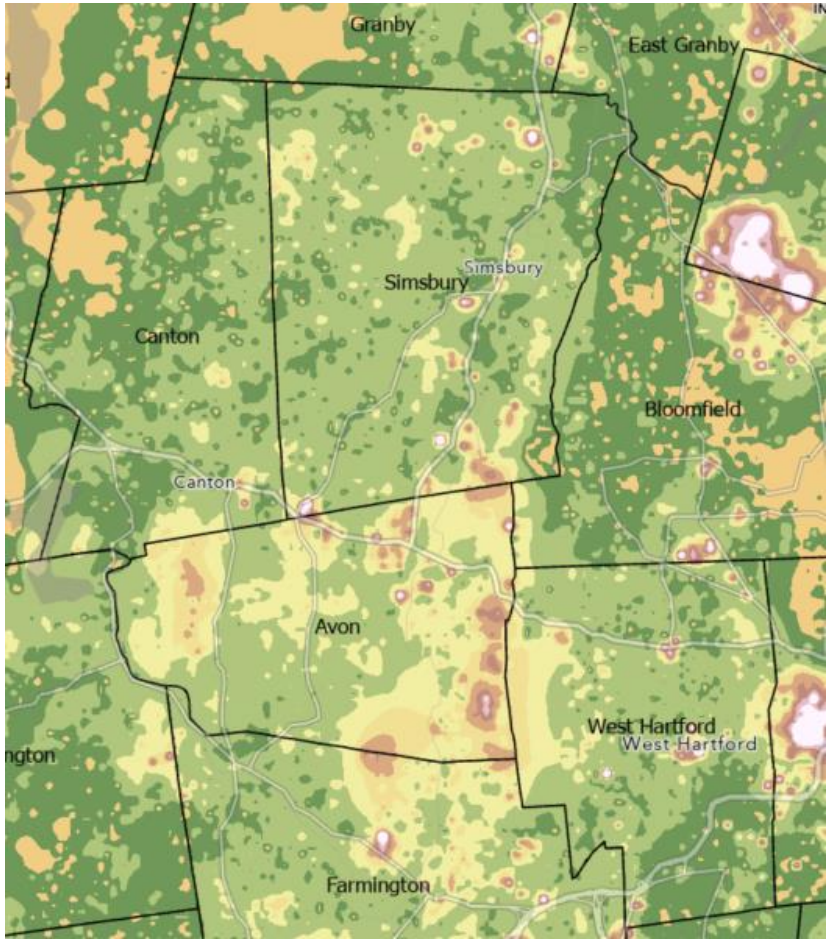


Bathrooms per dwelling

Color	Upper value	La
	≤ 1.0	-5
	≤ 2.0	1.0
	≤ 3.0	2.0
	≤ 4.0	3.0
	≤ 5.0	4.0
	≤ 6.0	5.0
	≤ 729.728879	6.0
	≤ 1664.248709	72
	≤ 3811.666992	16

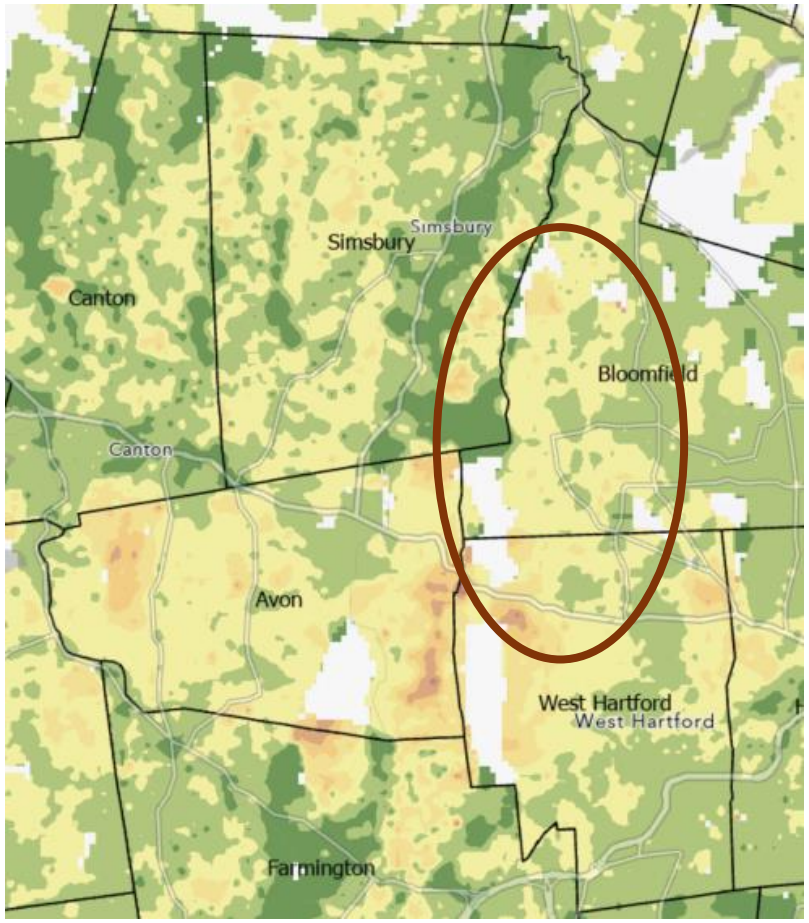


Comparison between price and bathroom count



Color	Upper value
	≤ 100000.0
	≤ 200000.0
	≤ 400000.0
	≤ 600000.0
	≤ 800000.0
	≤ 1200000.0
	≤ 2000000.0
	≤ 3000000.0

Sale price

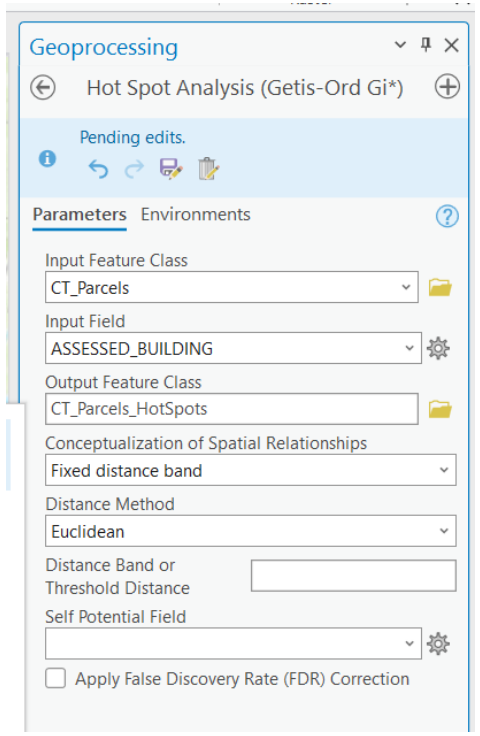


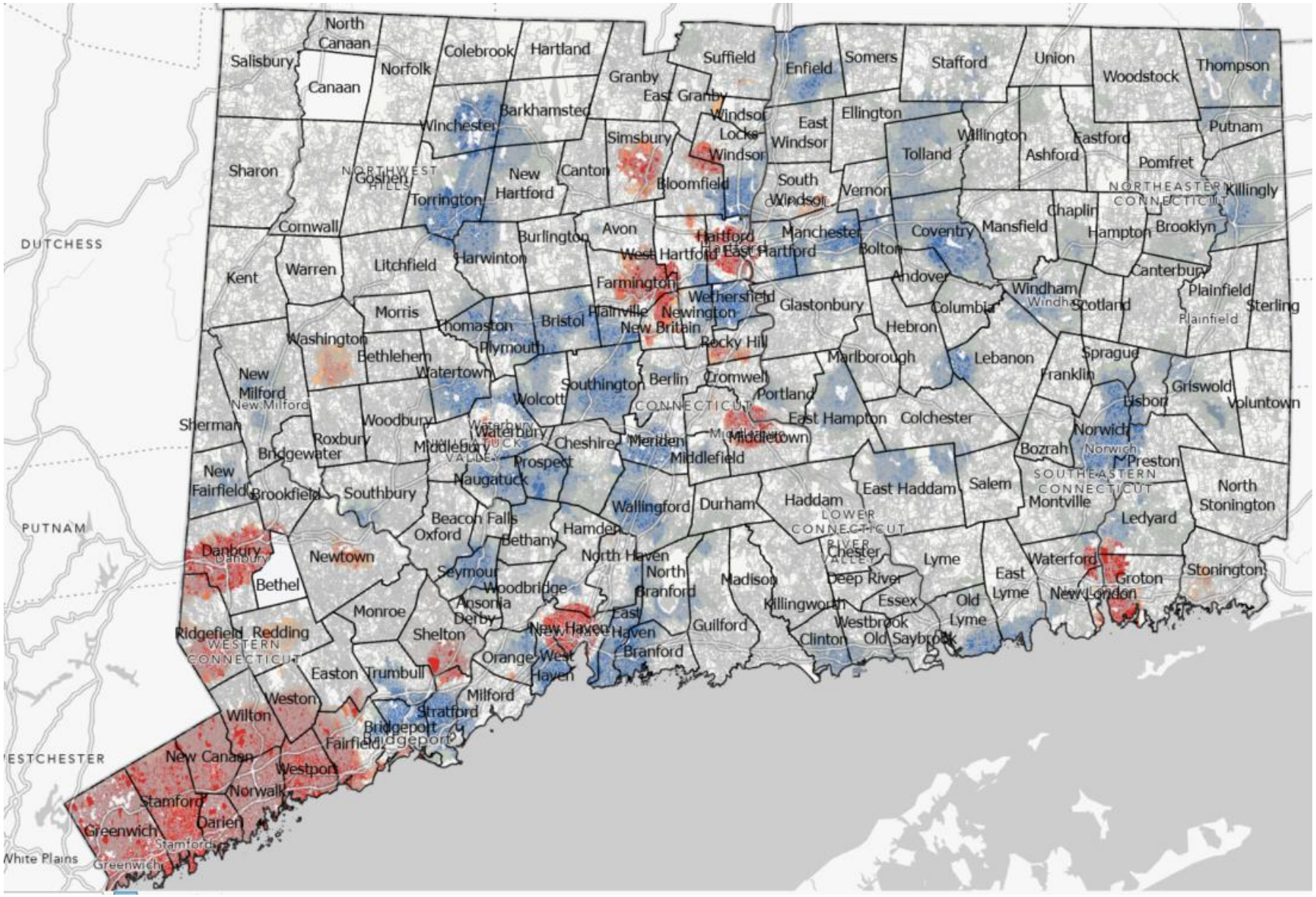
Color	Upper value
	≤ 1.0
	≤ 2.0
	≤ 3.0
	≤ 4.0
	≤ 5.0
	≤ 6.0

Bathrooms per unit

Building Value Assessment

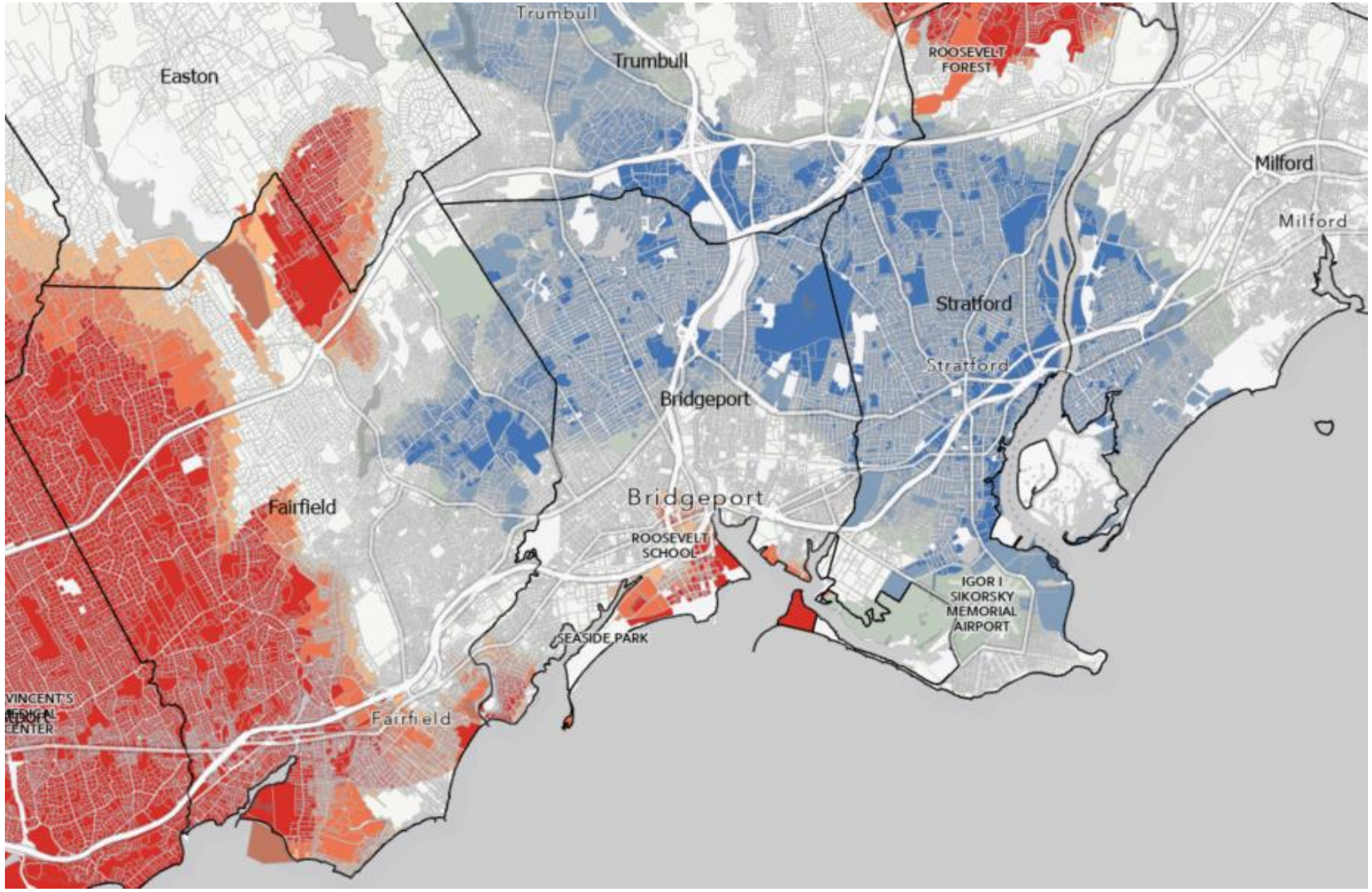
- Getis-Ord
- Hot spot and cold spot identification





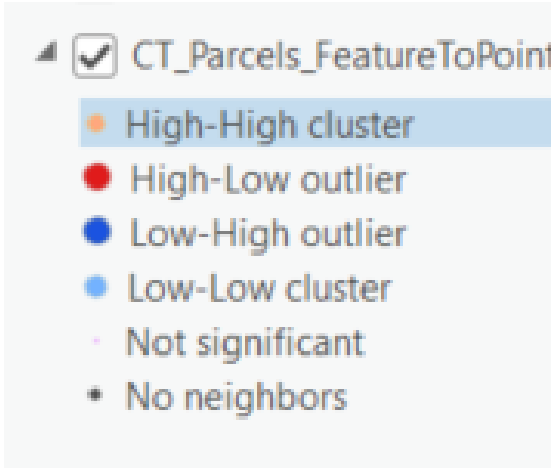
Bridgeport

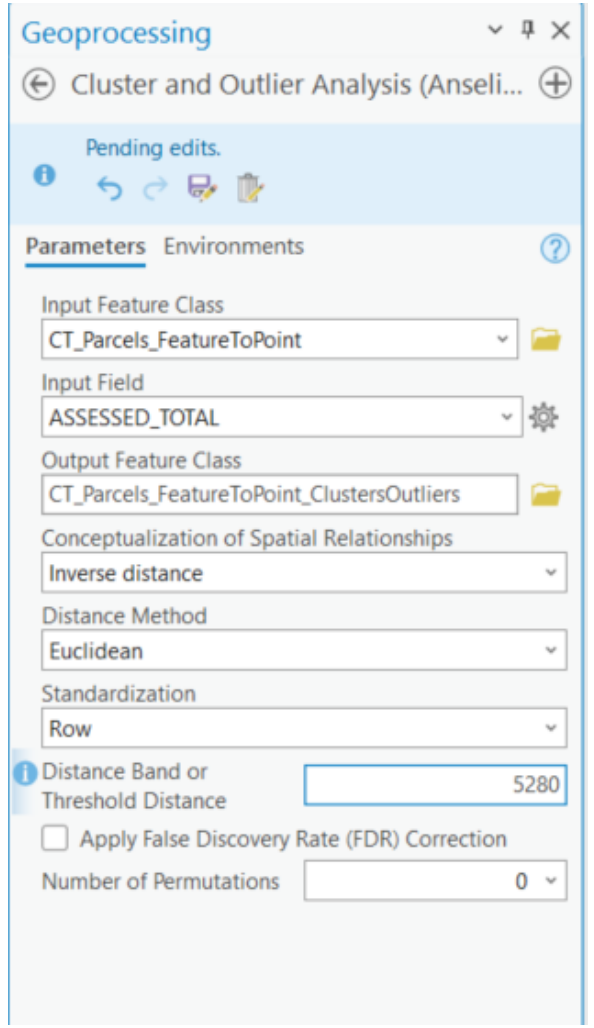
- Inside outside pattern



Spatial Statistics

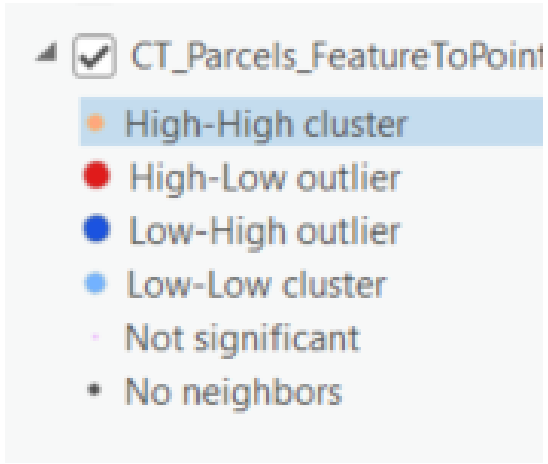
Cluster and Outlier Analysis

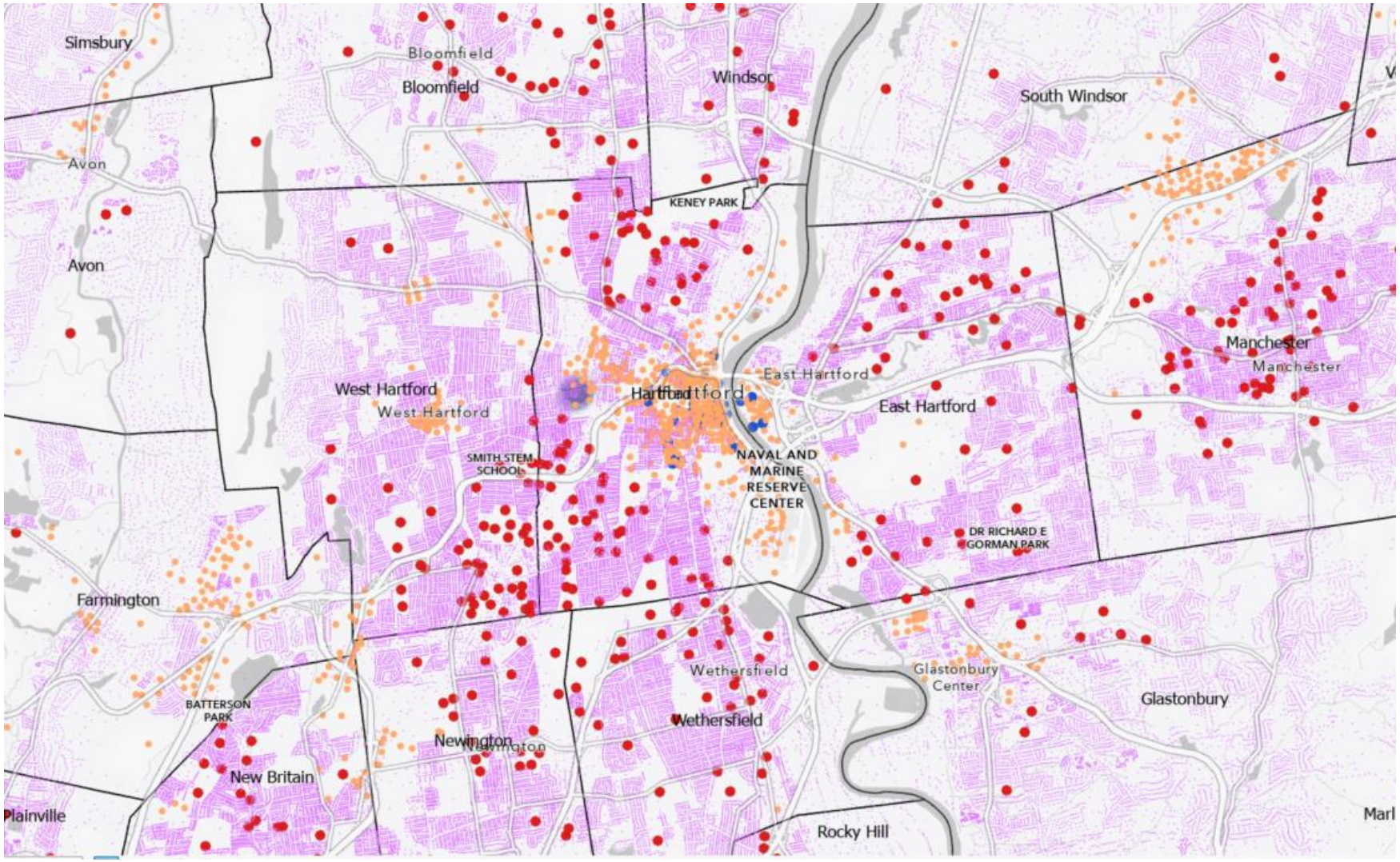




Assessed Total

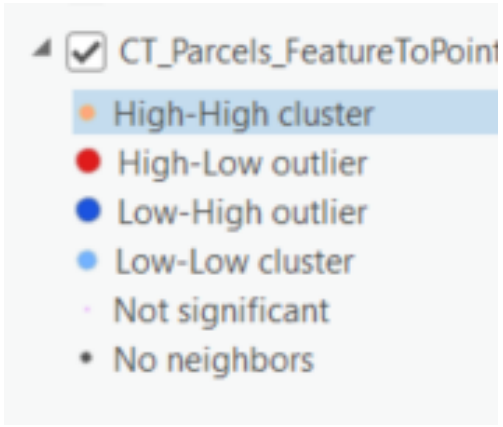
- Hot spot and cold spot

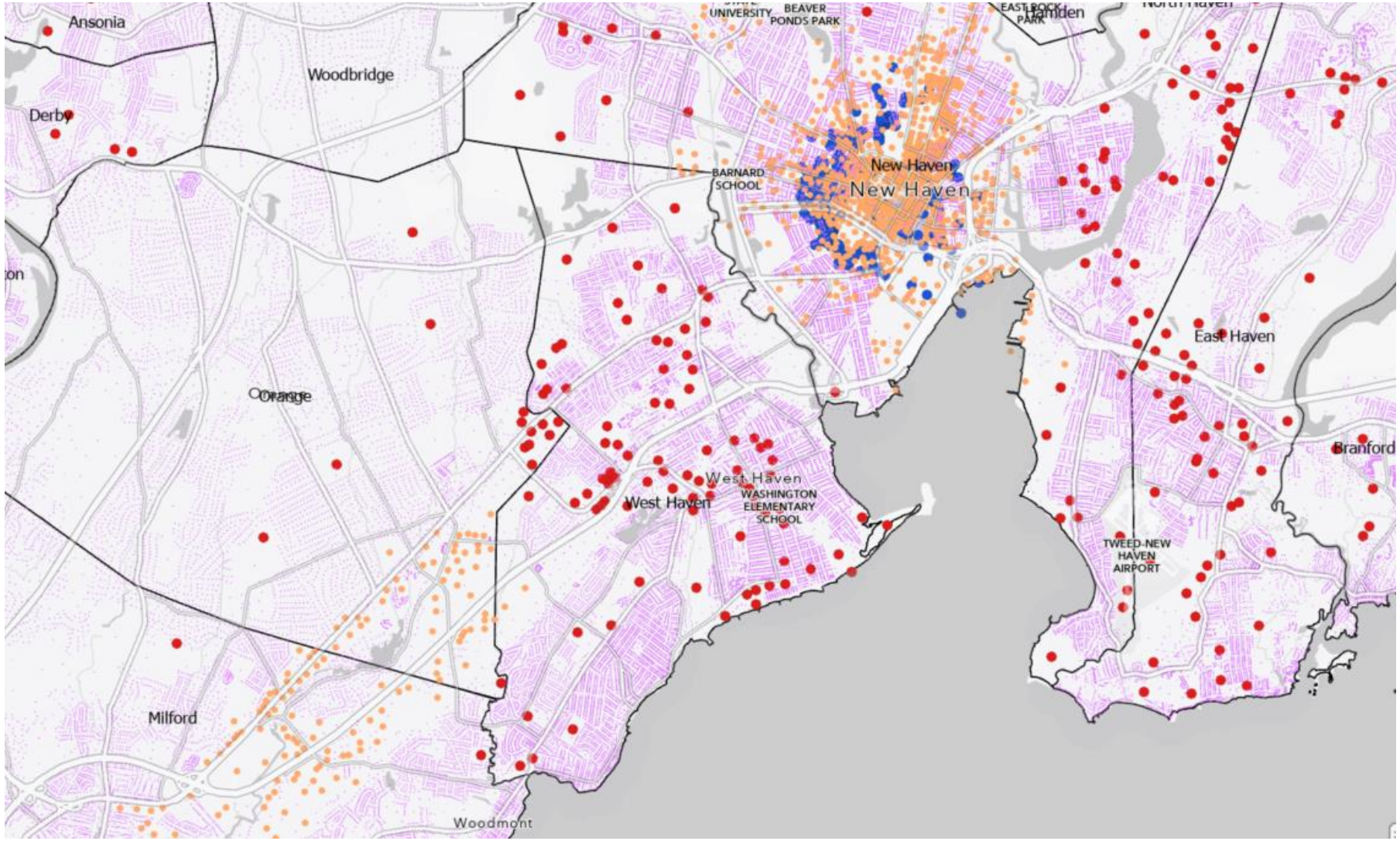




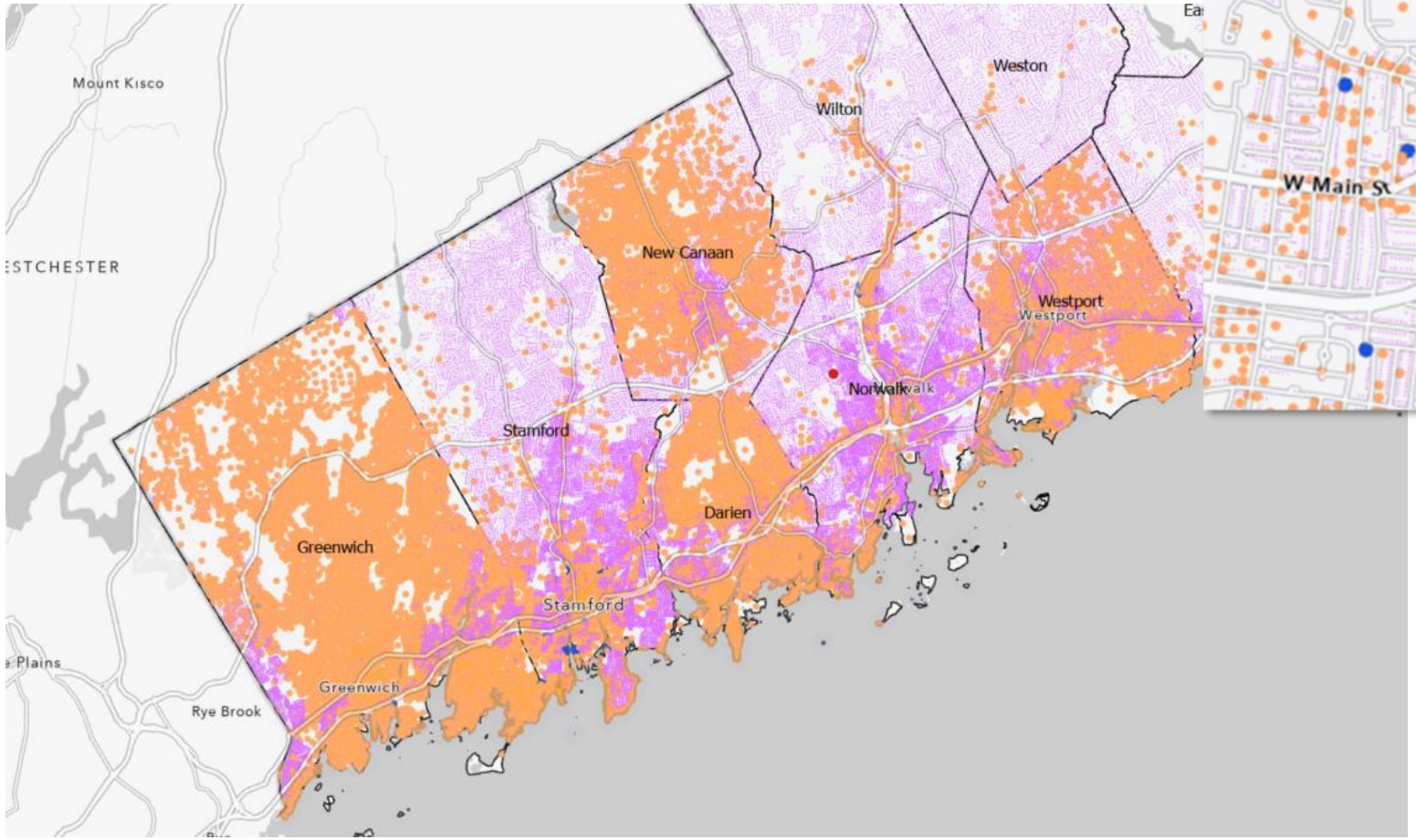
Assessed Total

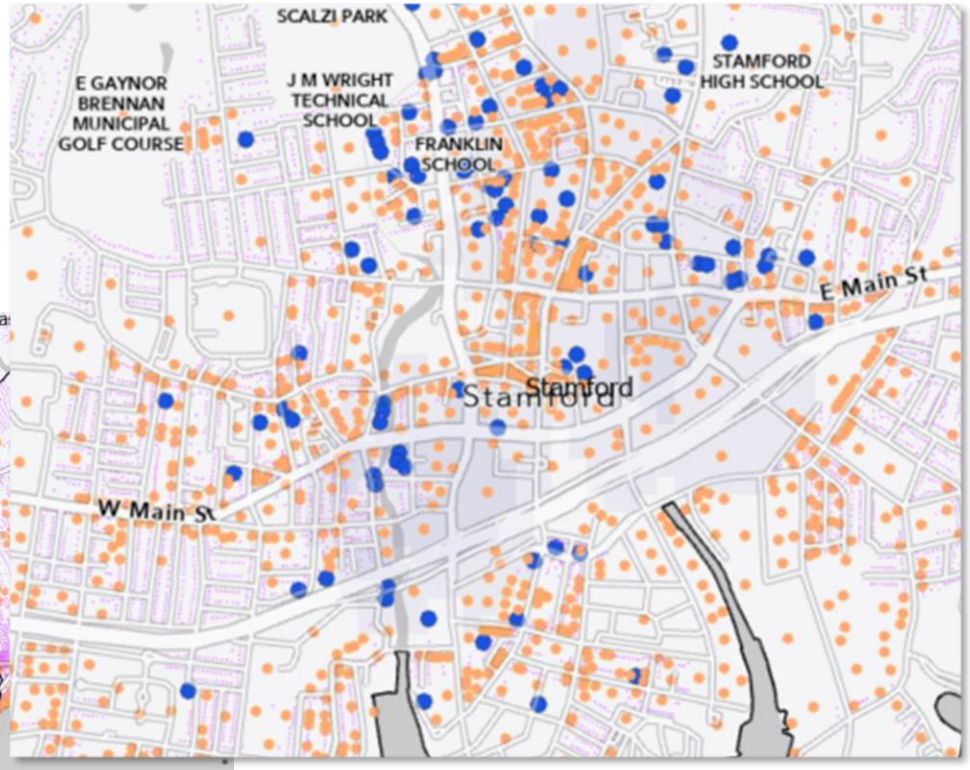
- Hot spot and cold spot





Gold Coast Hot Spots





What other data sets do we need to work on to maximize utility of Parcels?

- Addressing
- Buildings
- Land cover
- Consistent land use coding

- Can use some of the variables as proxies in other analyses…

Questions?

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