



# Challenges and Opportunities to Increase Canopy in Syracuse, NY

2022 ReLeaf Conference  
Jefferson Community College

**July 23, 2022**



# 2020 Urban Forest Master Plan

## Syracuse plans to turn down city heat by planting 70,000 trees

Updated: Feb. 12, 2020, 10:35 a.m. | Published: Feb. 12, 2020, 9:38 a.m.



Chairs in the shade on the Shaw Quadrangle on the SU campus in Syracuse, N.Y., Tuesday, Sept. 01, 2015. Kevin Rivoli | krivoli@syracuse.com

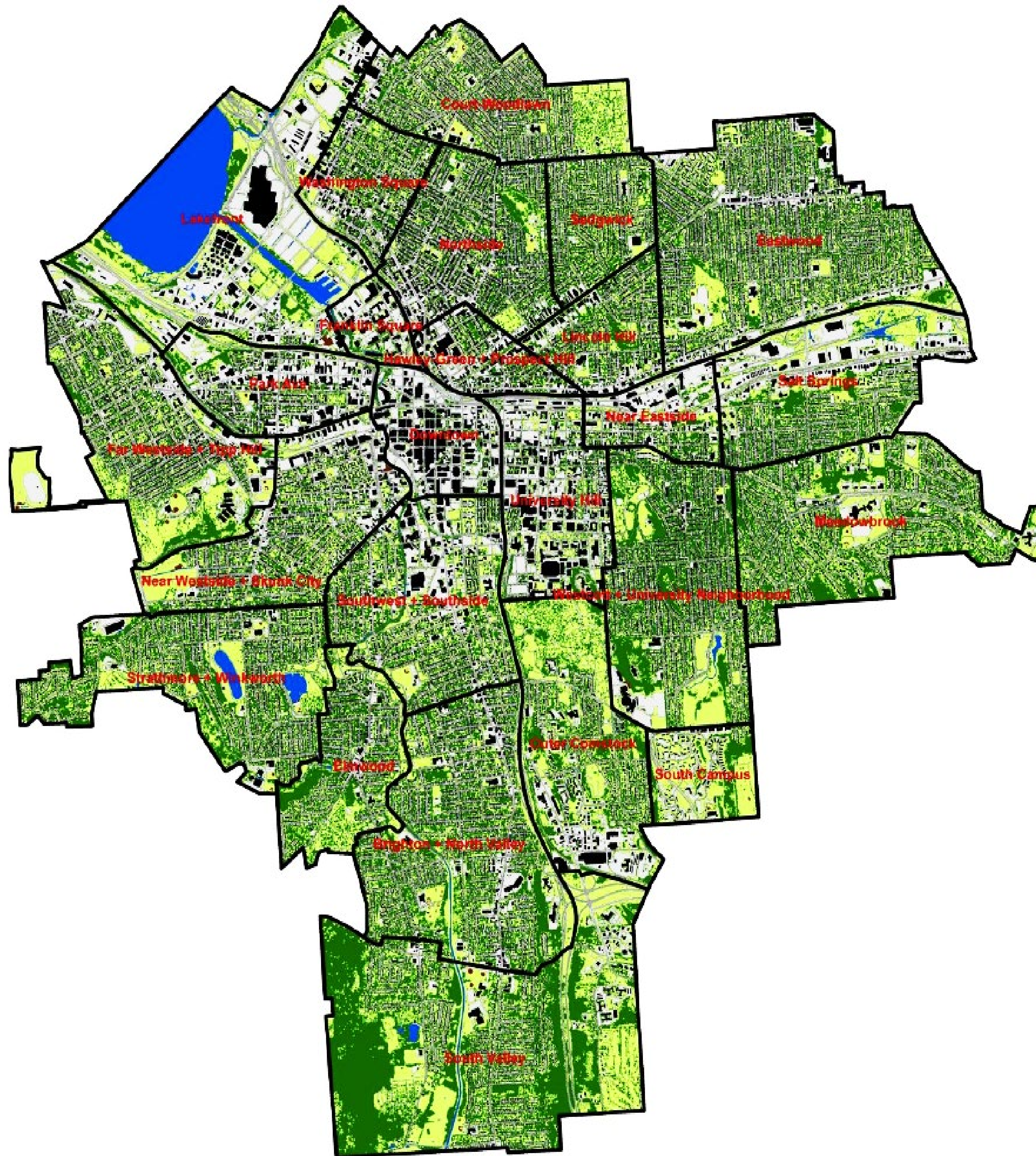


5,992  
shares



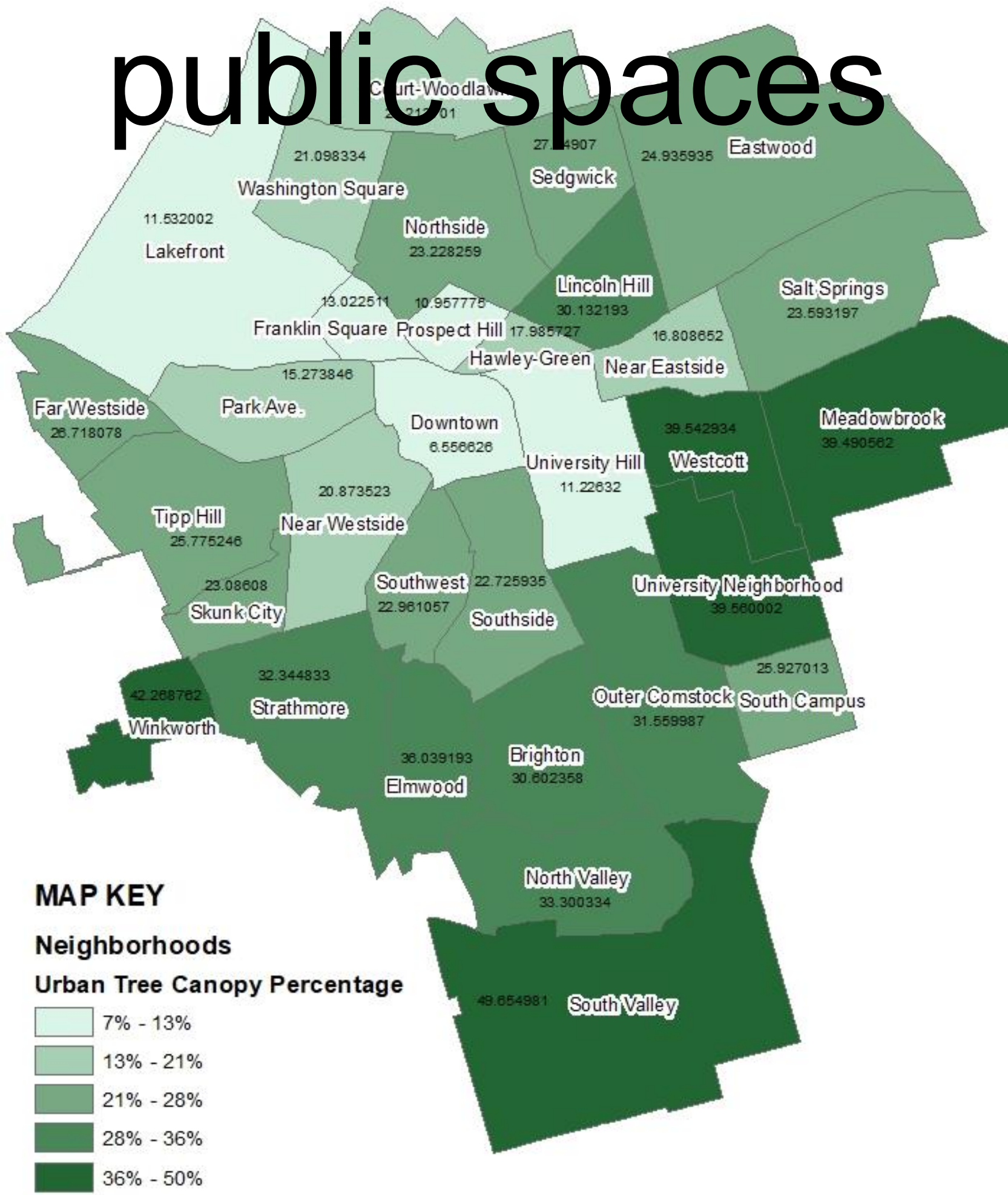
# Syracuse's Urban Forest

- City 148K; County 476K
- 1.6 million trees on all lands
- \$ 9.2 million in benefits
- 28% canopy cover

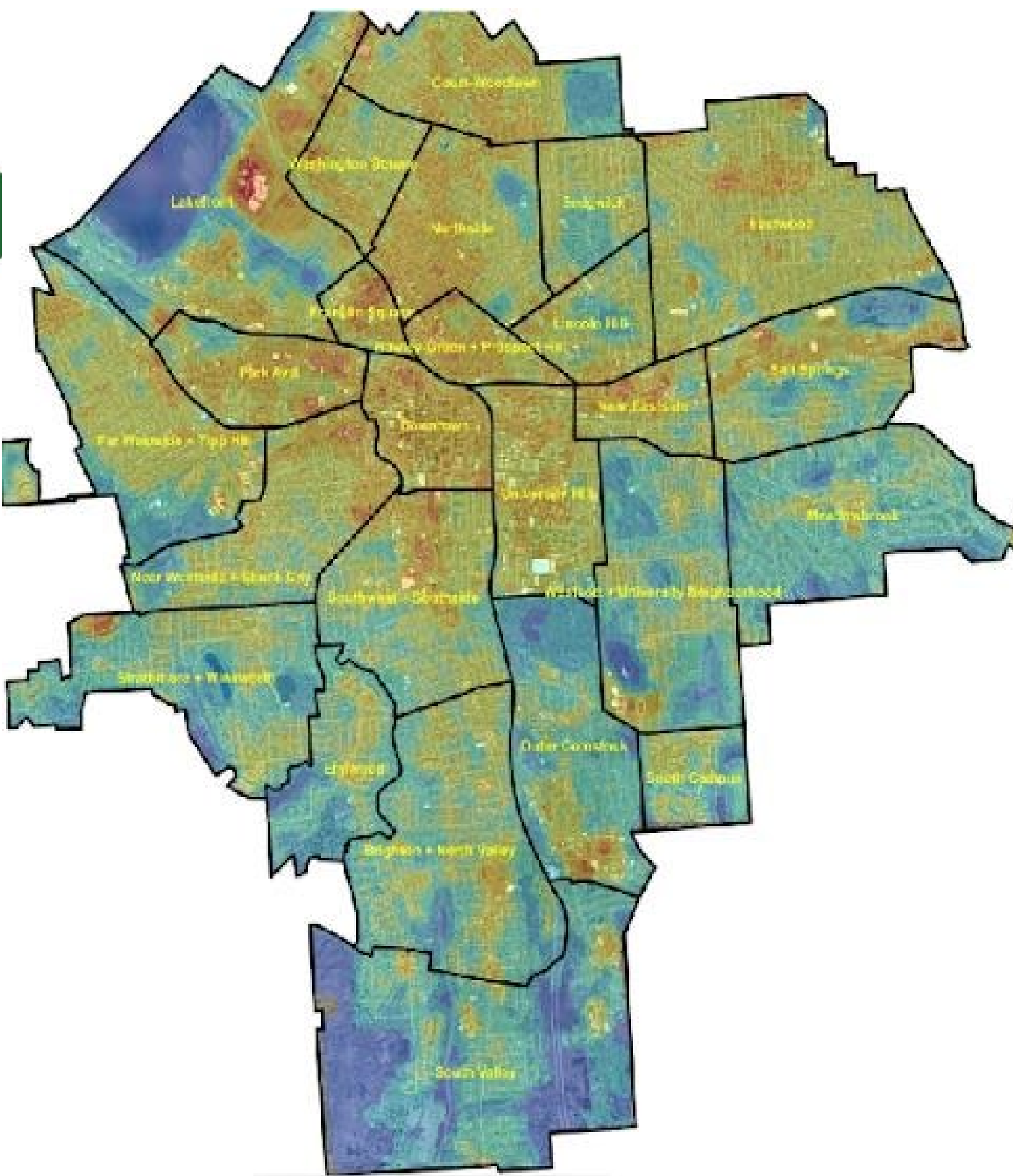




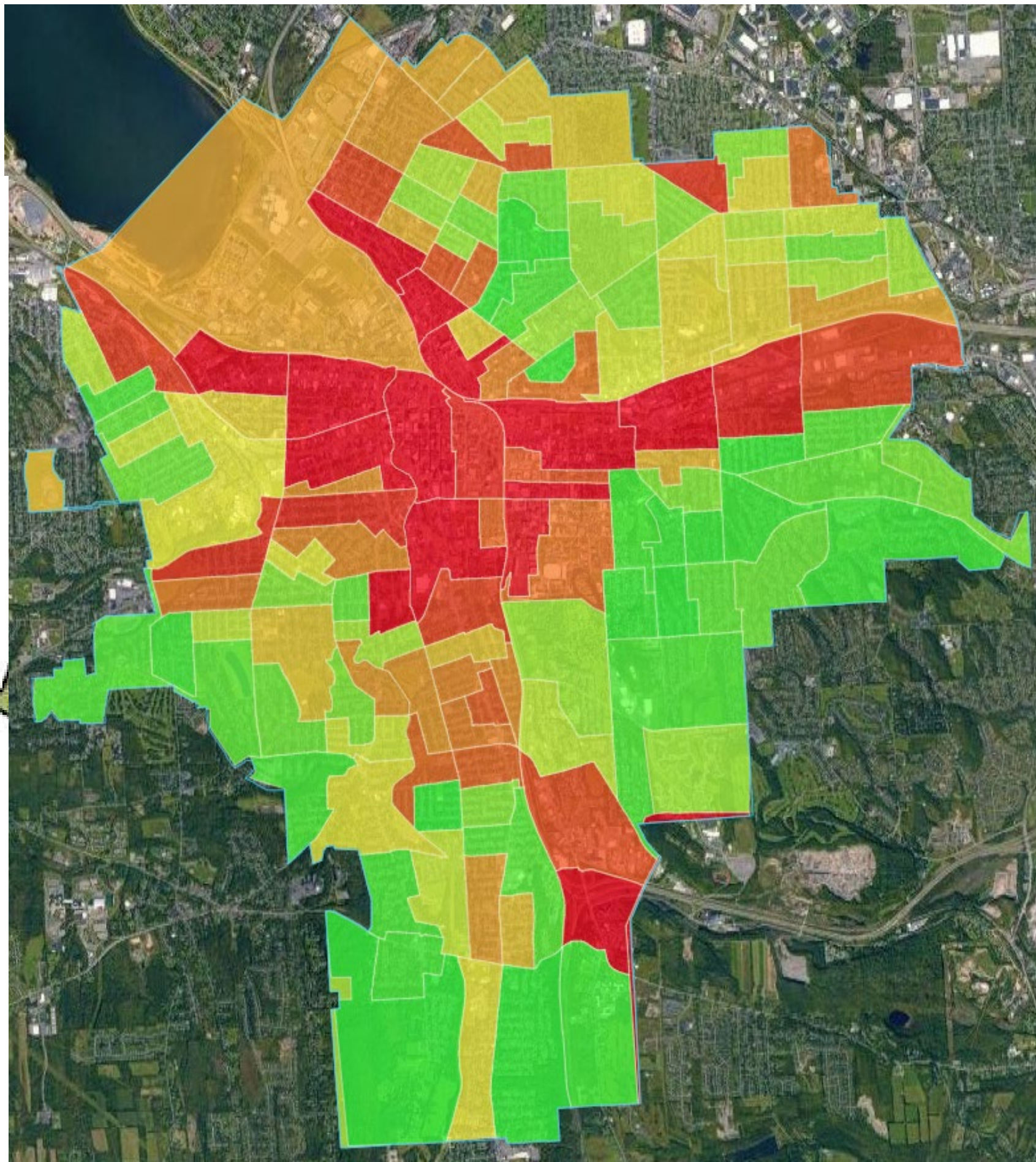
# GOAL: 1,500 trees per year in public spaces



Percent canopy by neighborhood



Surface temperature map



Tree Equity Map



<b>Assembled Steering Committee</b>	<b>Dec 2017</b>
Convened Stakeholders	Mar – May 2018
Public input meetings plus survey	Jun – Sep 2018

# Master Planning Process



- ✓ Onondaga Earth Corps led public process
- ✓ 10 public meetings, 300+ attendees
- ✓ Public survey, 1200+ responses



# 2020 Urban Forest Master Plan

Adopted April 27, 2022!!

1. Increase canopy by 7% in 20 years
2. Improve forest health and resiliency
3. Revitalize education & stewardship programs

An aerial photograph of a city, likely Syracuse, New York, showing a mix of urban buildings, streets, and green spaces. A semi-transparent green rectangular overlay is positioned in the lower-left quadrant, containing the text 'Urban Forest Master Plan' in white. A circular logo with a green serrated edge is located in the lower-right quadrant of the image, featuring the word 'Syracuse' in a script font, 'New York' in a smaller font below it, and a stylized graphic of a river and a bridge.

Urban Forest Master Plan





# Strategies & Progress

## NEED TO START

- Update tree ordinance to codify our current tree protection requirements and development standards, and to develop a process for fines and mitigation for tree loss
- Revitalize education and stewardship programs

## WORK IN PROGRESS

- Incorporate canopy goals into larger planning initiatives\*
- Increase rooting volume for tree pits and in tree lawns

## ONGOING

- Continue aggressive tree planting in the right of way
- Design standards for streetscapes and landscapes during development
- Proactive Management: 1/6 re-inventory, 1/12th rotational prune!!





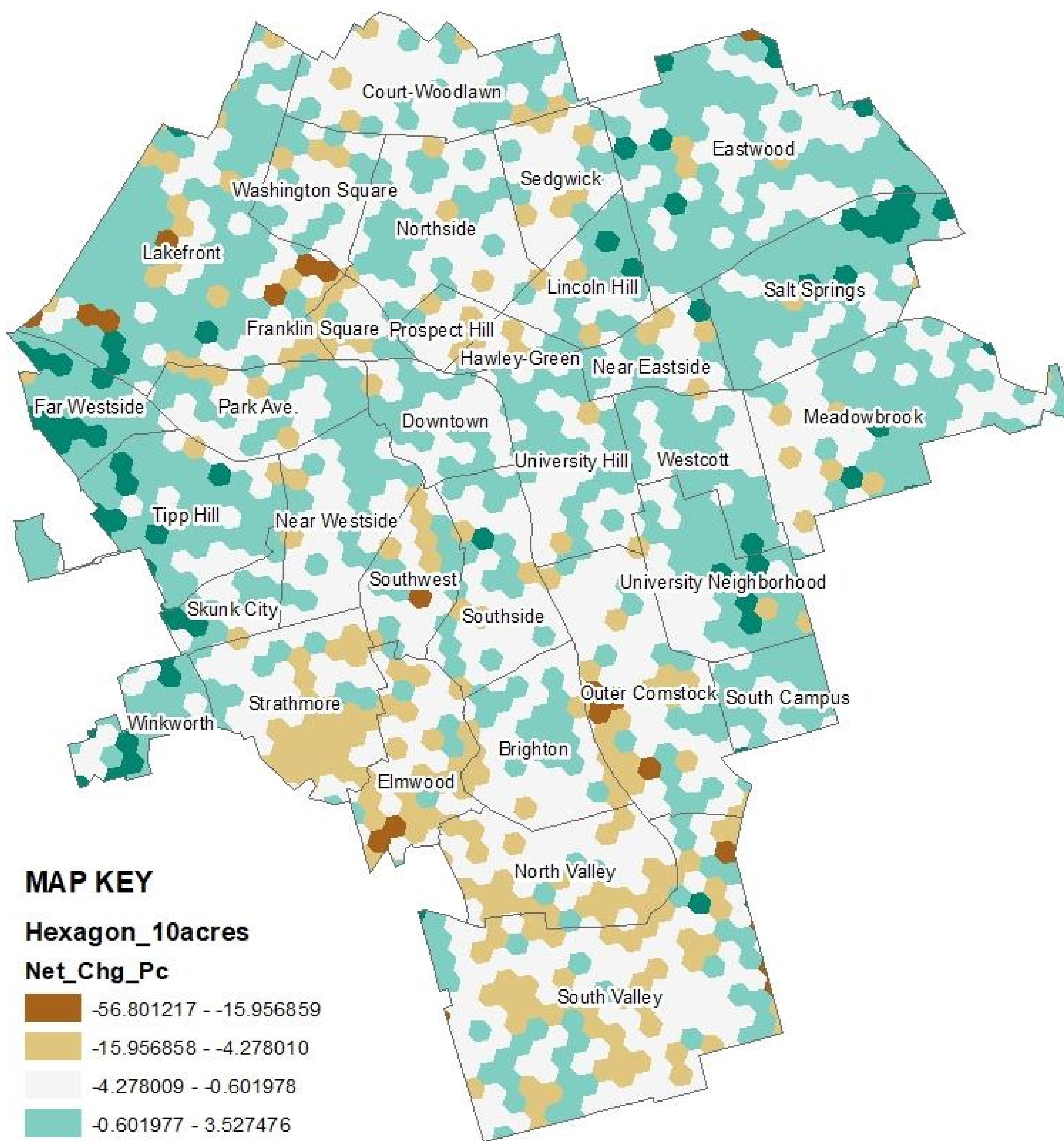
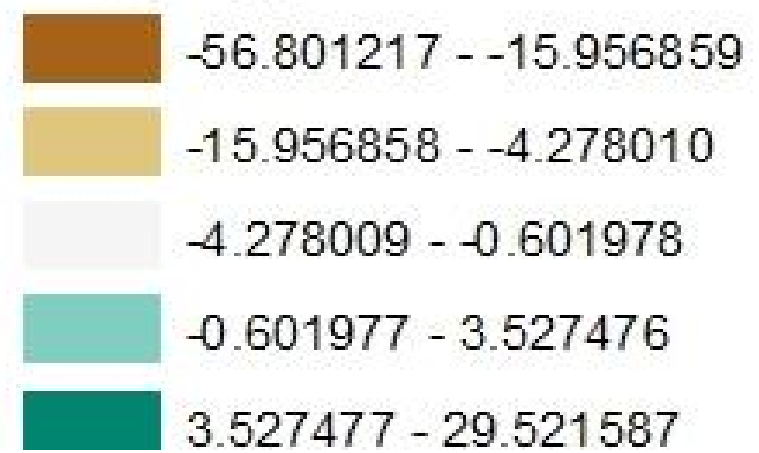
# Canopy loss continues!

Recent UTC Assessment revealed  
1% canopy loss since 2013

## MAP KEY

Hexagon\_10acres

Net\_Chg\_Pc





## Challenge & Benefit: The American Rescue Plan

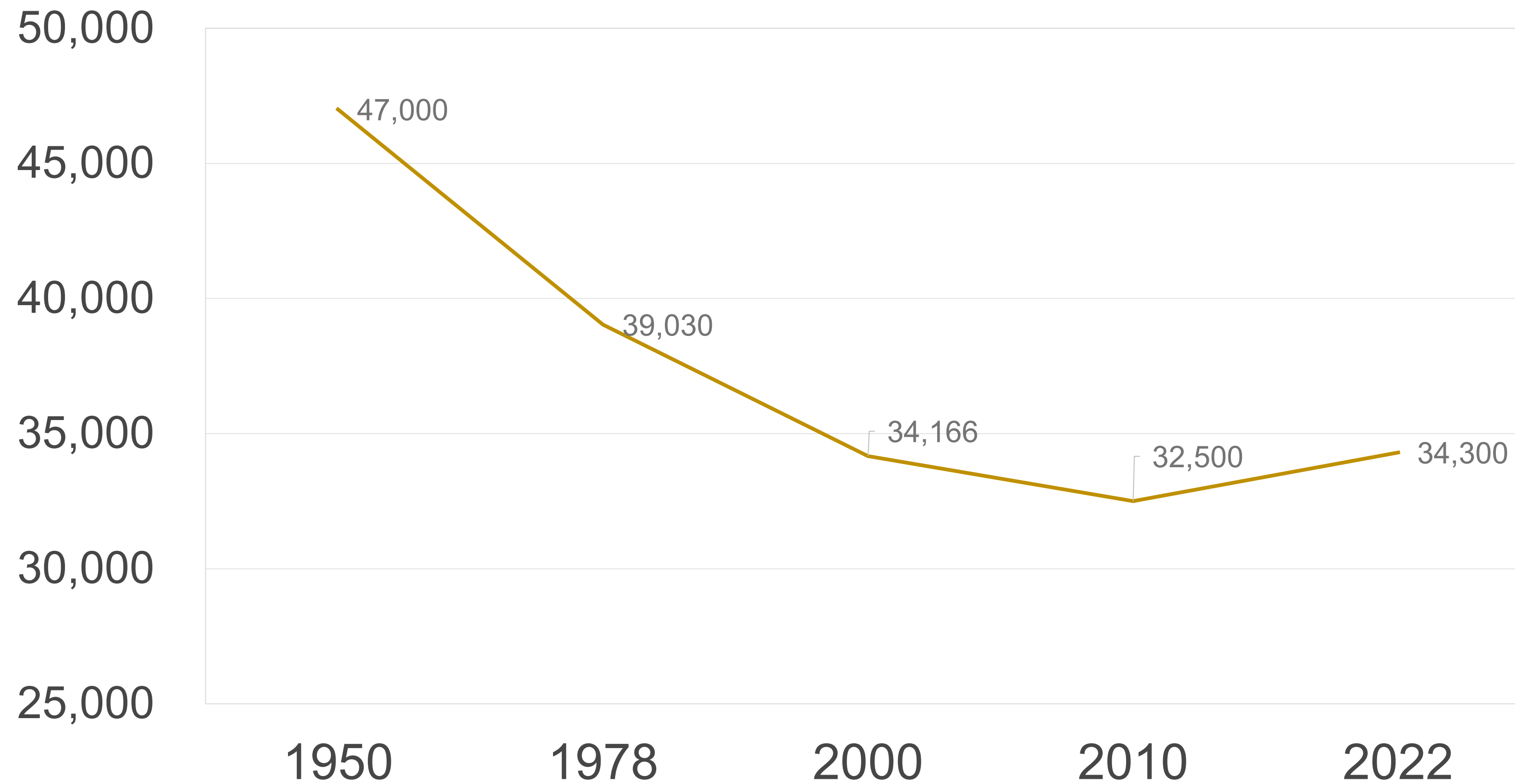
+ Urban forest tree planting	\$ 2 million
+ Neighborhood parks improvements & maintenance	\$ 2 million
– Enabling city to pursue municipal sidewalks	\$ 4.5 million
– Water Infrastructure	\$ 10 million
– Neighborhood revitalization through housing	\$ 5 million





## Challenge: Keeping pace with removals

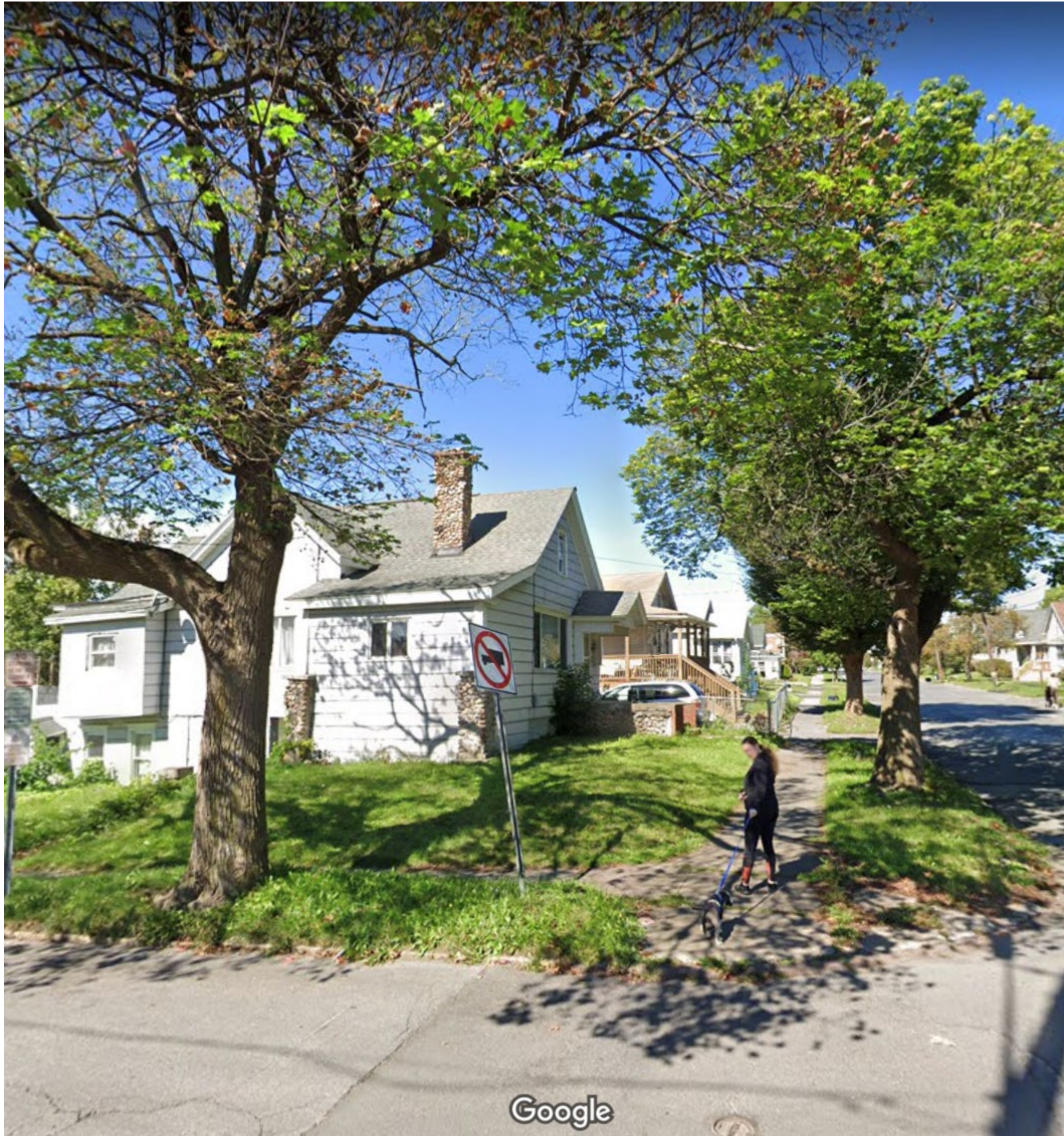
### Number of Street Trees



- Removals per year: 600 to 700 (2%)
- Plantings per year: 800 to 1,100



# Challenge: Construction







**Challenge:  
Commercial  
development**





# Challenge: Vacant Land Management

- Large portfolio
- Hazard trees
- Dumping
- Gathering place for illicit activity
- People don't like to live next to this
- Generates negative attitude towards trees
- Need to rebuild the urban forest as much as housing stock





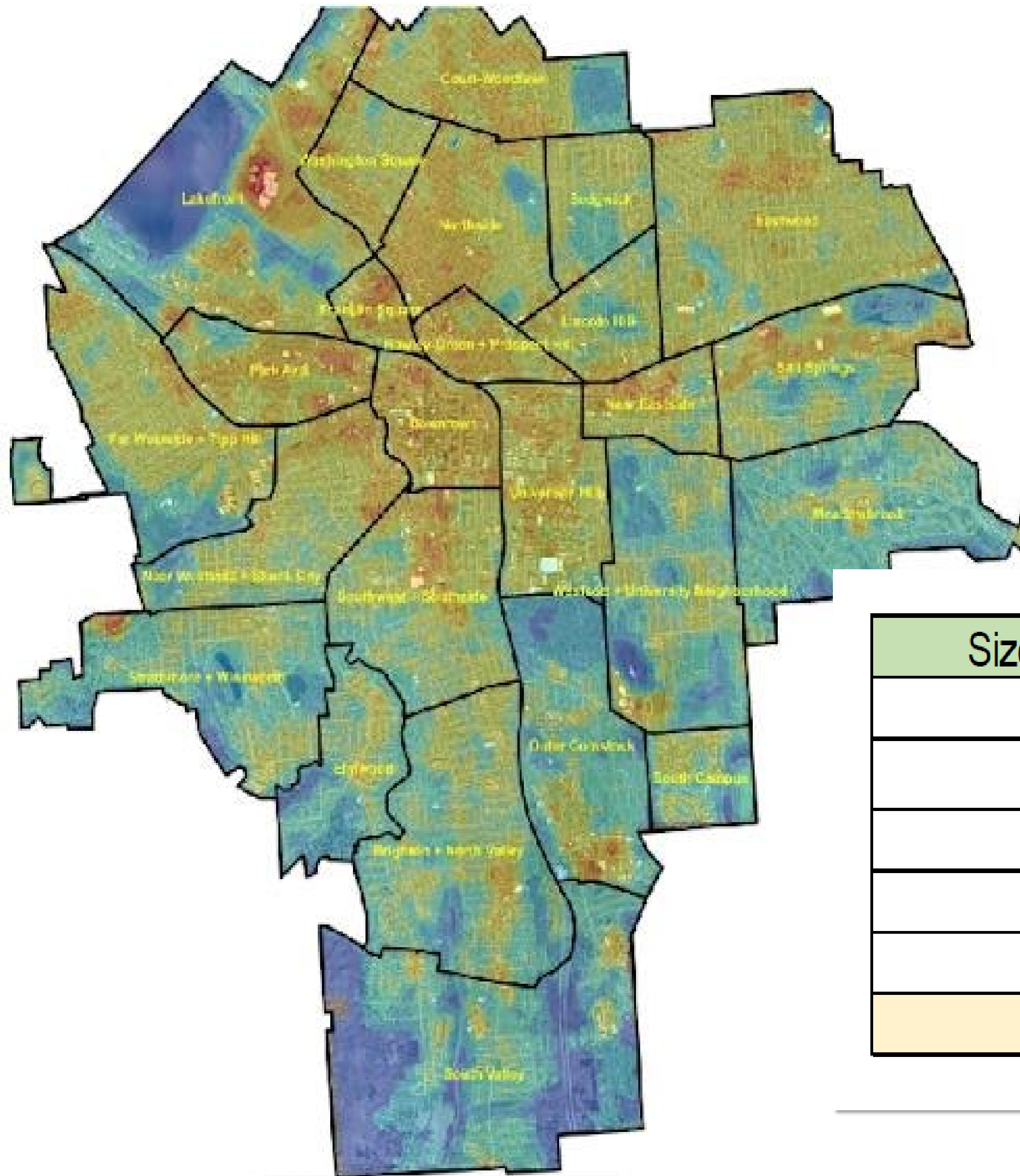
## Challenge: Housing Demos & Infill

- Often poor-quality trees
- No hazard tree assessment
- Where quality exists, no tree protection program
- Initial clearing often leaves legacy issues on site
- Planting new trees not part of the project





# Challenge: Small patches most of our forest



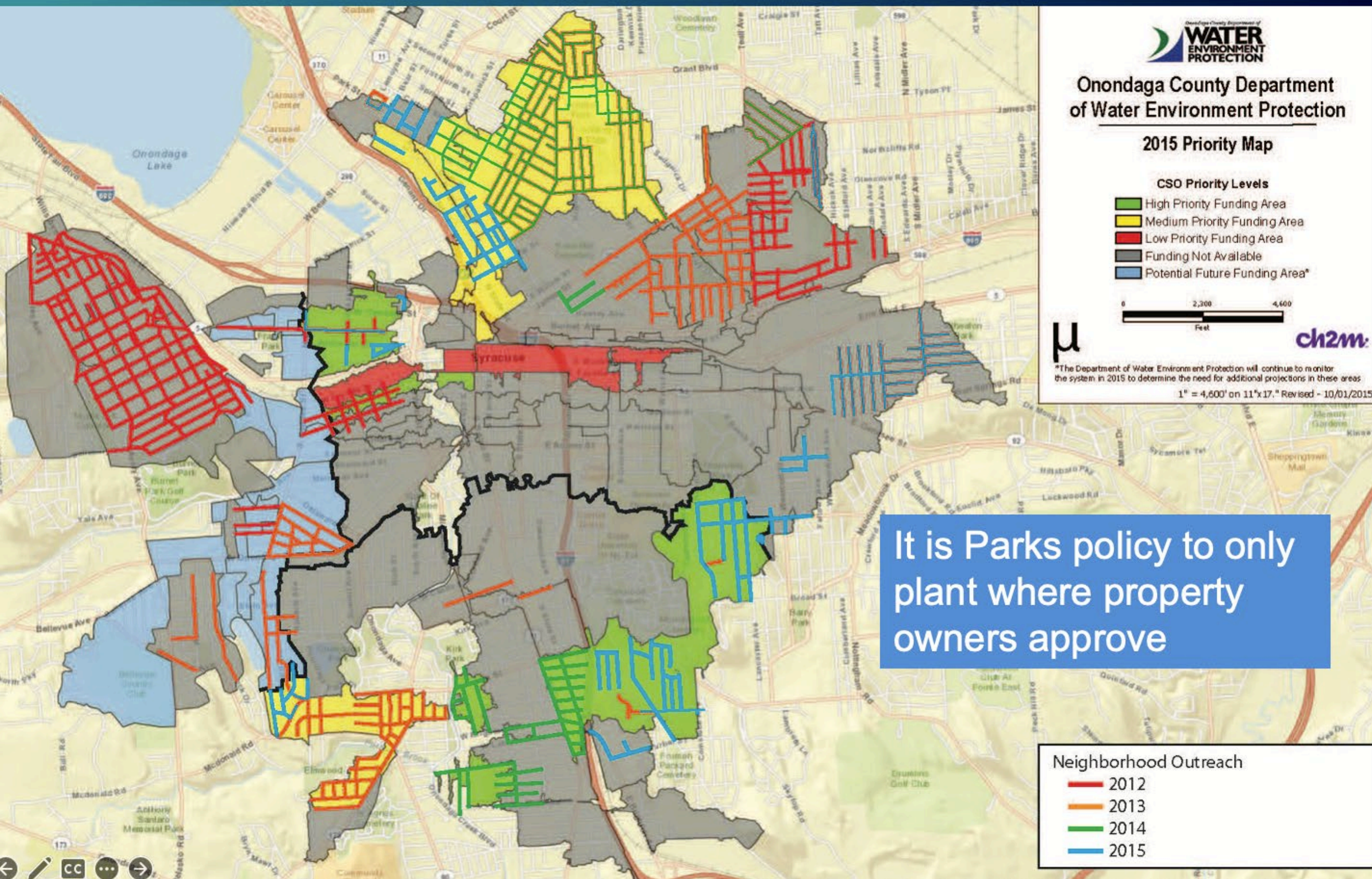
Size Class (acres)	No. of Patches	Total Acreage	%
0-1	61,593	2467.02	56.16
1-2	296	407.12	9.27
2-5	143	411.93	9.38
5-10	43	293.09	6.67
10+	25	814.06	18.53
Total	62,100	4393.22	100

*Acreage and Number of Patches by Size Class*





# Door-to-Door Outreach



**Challenge:**  
Only plant  
where property  
owners  
approve





# Opportunities

- 1) Potential canopy in Right of way
- 2) Break up concrete and plant trees
- 3) Identify vacant lands to reforest





# Community Forestry Programs

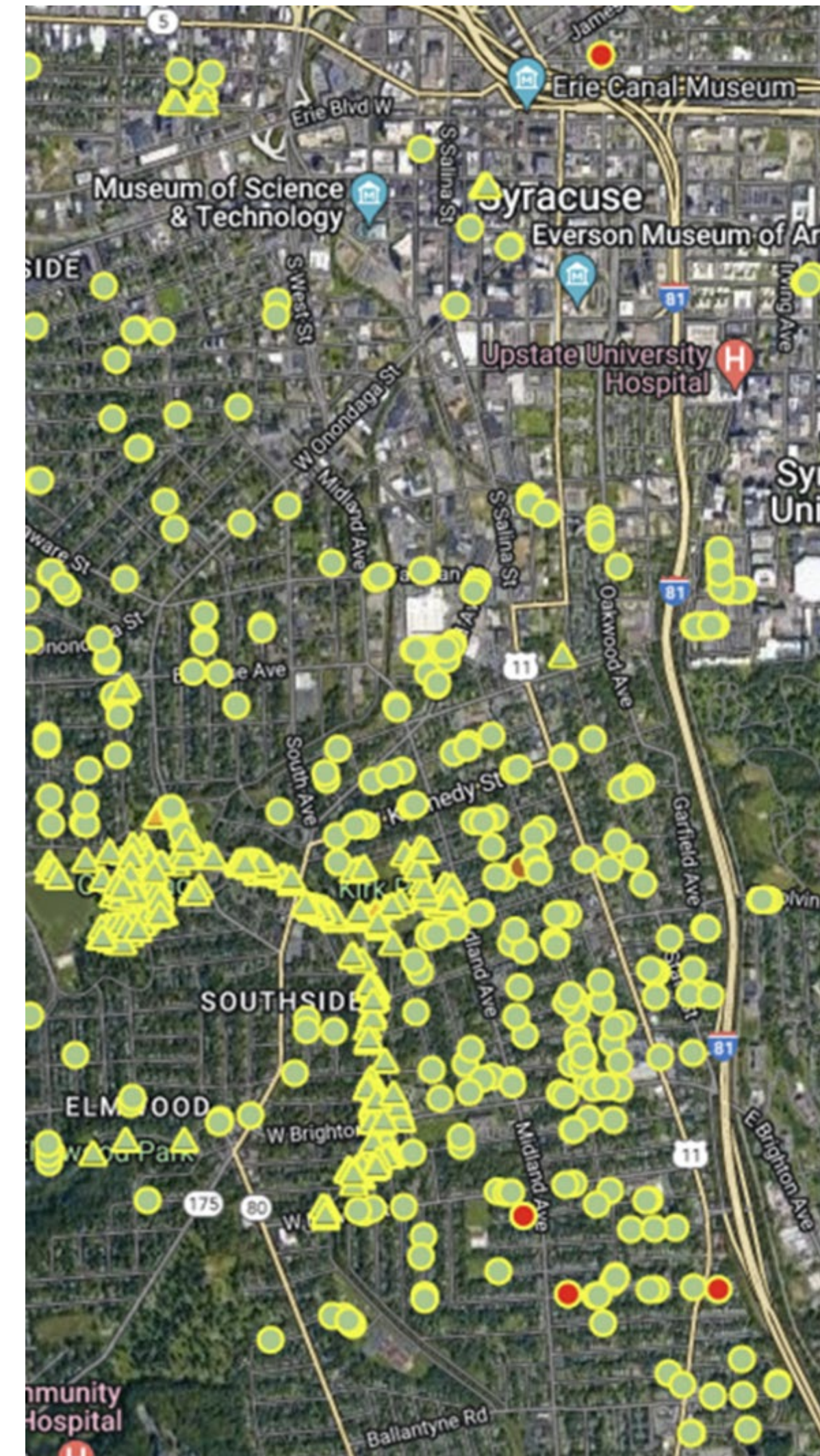




# GOAL: 1,500 tree per year in public spaces

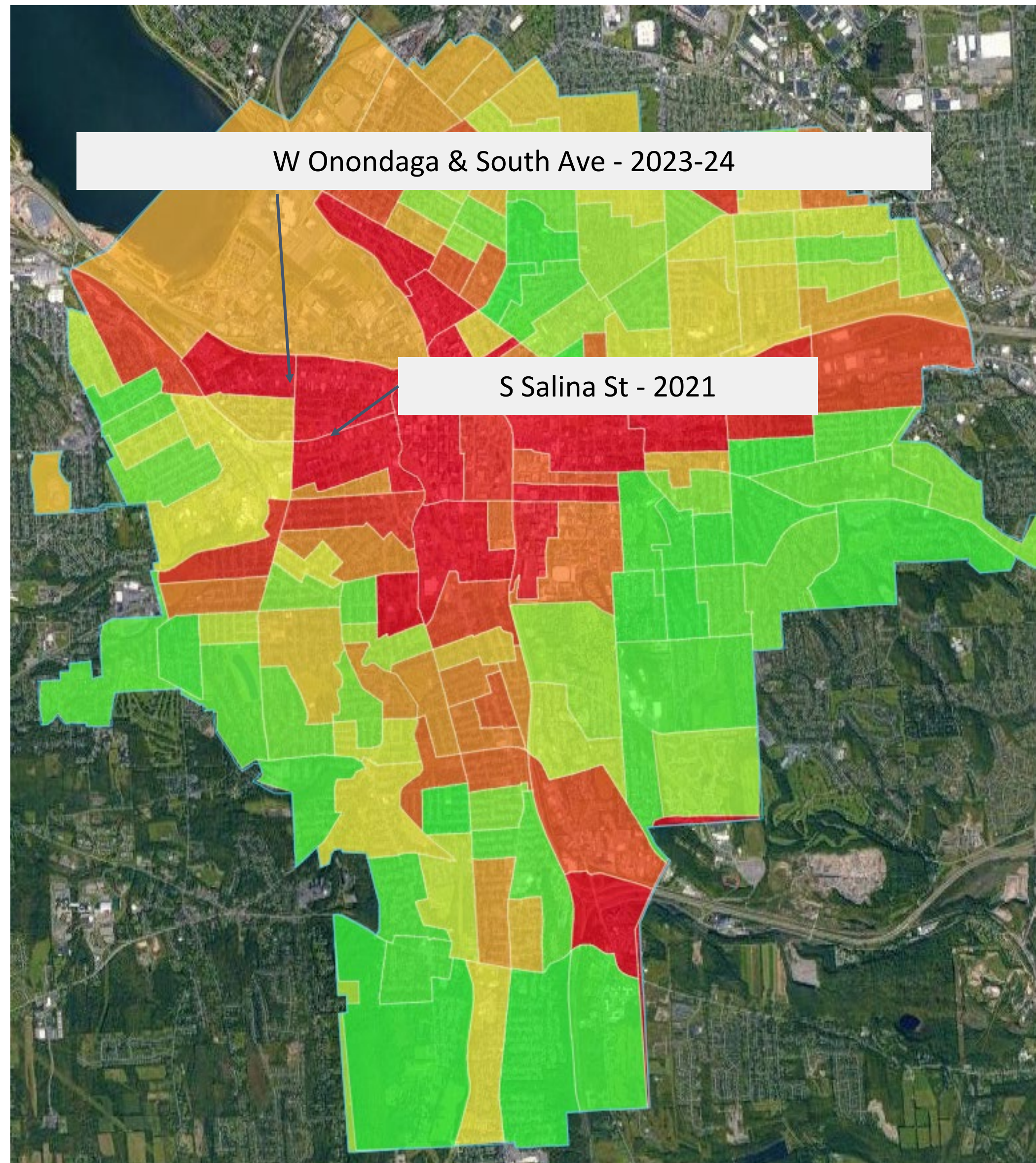
- 10 - 15% of sites are amended (fluff up soil)
- 60% planted by Onondaga Earth Corps
  - ✓ Bare-root trees (1.25 to 1.75")
  - ✓ About \$375 per tree
- 40% traditional landscape company
  - ✓ Balled & Burlap – mostly 2"
  - ✓ About \$450 per tree

## Robust Planting Program





# Turn down the heat in the business districts



- Business Districts
- Areas targeted for investment
- Low canopy areas



*S Salina St between Colvin & Elk*



# Turn down the heat in the business district

*Post County Stormwater Intervention*





# Tree Pit Retrofits

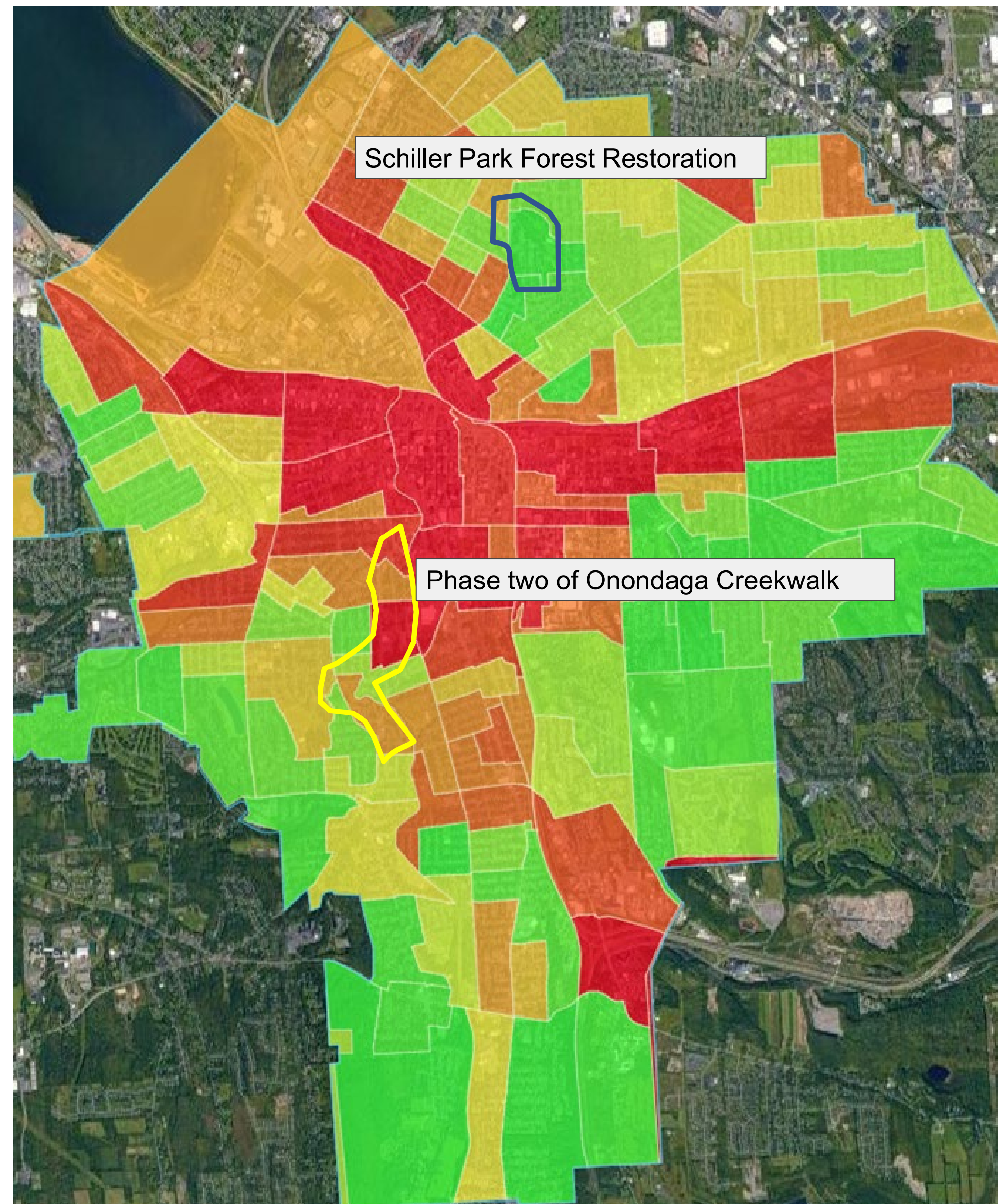


- Not replanting in tree pits
- All pits are expanded as much as possible
- Inside the yellow line will be structural soil 3-feet deep
- Will be 384 cubic feet
- 10 times more than before
- Cost is \$5,000





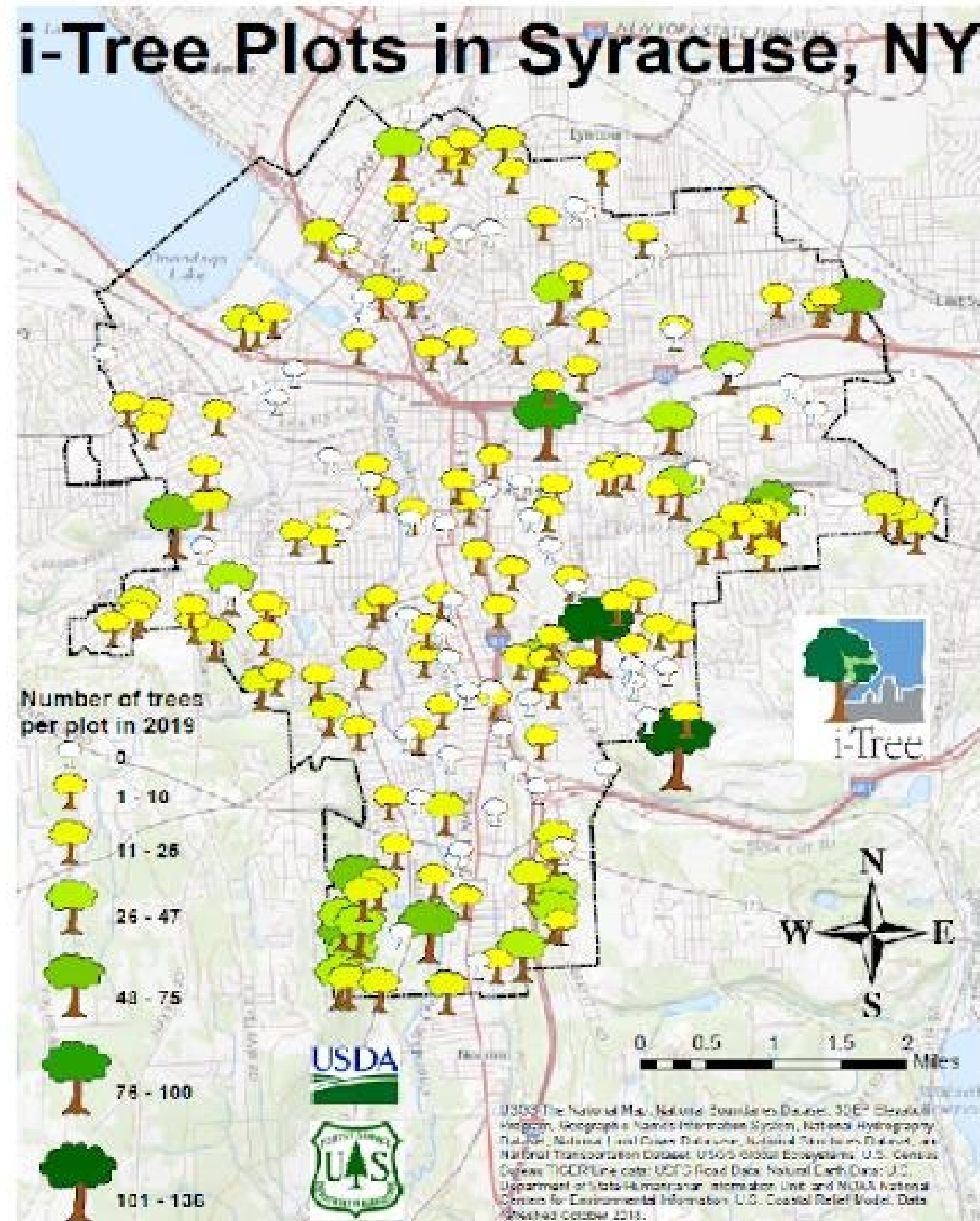
# Natural Areas



- Improve safety, aesthetics and long term viability of forests
- Manage invasives
- Replant natives and edible



# i-Tree Plots in Syracuse, NY



## Natural Areas Restoration

Botanical Name	Common Name	Percent of Population
<i>Rhamnus cathartica</i>	European buckthorn	21%*
<i>Acer saccharum</i>	sugar maple	10%
<i>Ailanthus altissima</i>	tree-of-heaven	7%^
<i>Rhus typhina</i>	staghorn sumac	7%
<i>Acer negundo</i>	boxelder	6%
<i>Acer platanoides</i>	Norway maple	5%
<i>Prunus serotina</i>	black cherry	4%
<i>Ostrya virginiana</i>	eastern hophornbeam	3%
<i>Picea abies</i>	Norway spruce	3%
<i>Thuja occidentalis</i>	northern white cedar	3%

\* 550% increase

^ 912% increase





# Schiller Park Forest Restoration

- 11 acre forest – an island of nature surrounded by housing
- Many New Americans settle on Northside
- First exposure to nature in the US
- About 2,000 trees will be planted
- Good candidate for City Forest Credits





# Natural Areas Restoration







# Natural Areas Restoration

150-200 year old oaks, no native tree regeneration





# Natural Area Restoration







# Challenges and Opportunities to Increase Canopy

How do we scale up?





# Natural Area Restoration

900 trees and shrubs to be  
planted in Fall 2022 by OEC  
& Community





# Natural Area Restoration







# Trees & Planning Opportunities





# 4 Areas of Opportunity



## Large Vacant Lot Stock

- Strategic planting on public owned lots



## Infill Housing Development & Resurgent Neighborhood Initiative



## Large Scale Developments

- Interstate 81 Deconstruction
- Downtown Revitalization Initiative
- Blueprint 15



## Targeted Neighborhood Planning Projects

- Tully St Planting
- Hovey & Huron
- Urban Food Forest Project



Vacant Land Under Favorable Ownership		
Owner	Number of parcels	Acres
City of Syracuse	433	186.3
GSPDC	576	5583.42
SURA/SIDA	14	3.13
<b>Total</b>	<b>1023</b>	<b>5772.85</b>

Vacant Land Under Favorable Ownership by Type		
Type	Parcels	Acreage
Residential	746	5718.44
Commerical	265	54.1
Industrial	5	0.08
With improvements	7	0.23
<b>Total</b>	<b>1023</b>	<b>5772.85</b>

# Strategic Planting on Vacant Lots

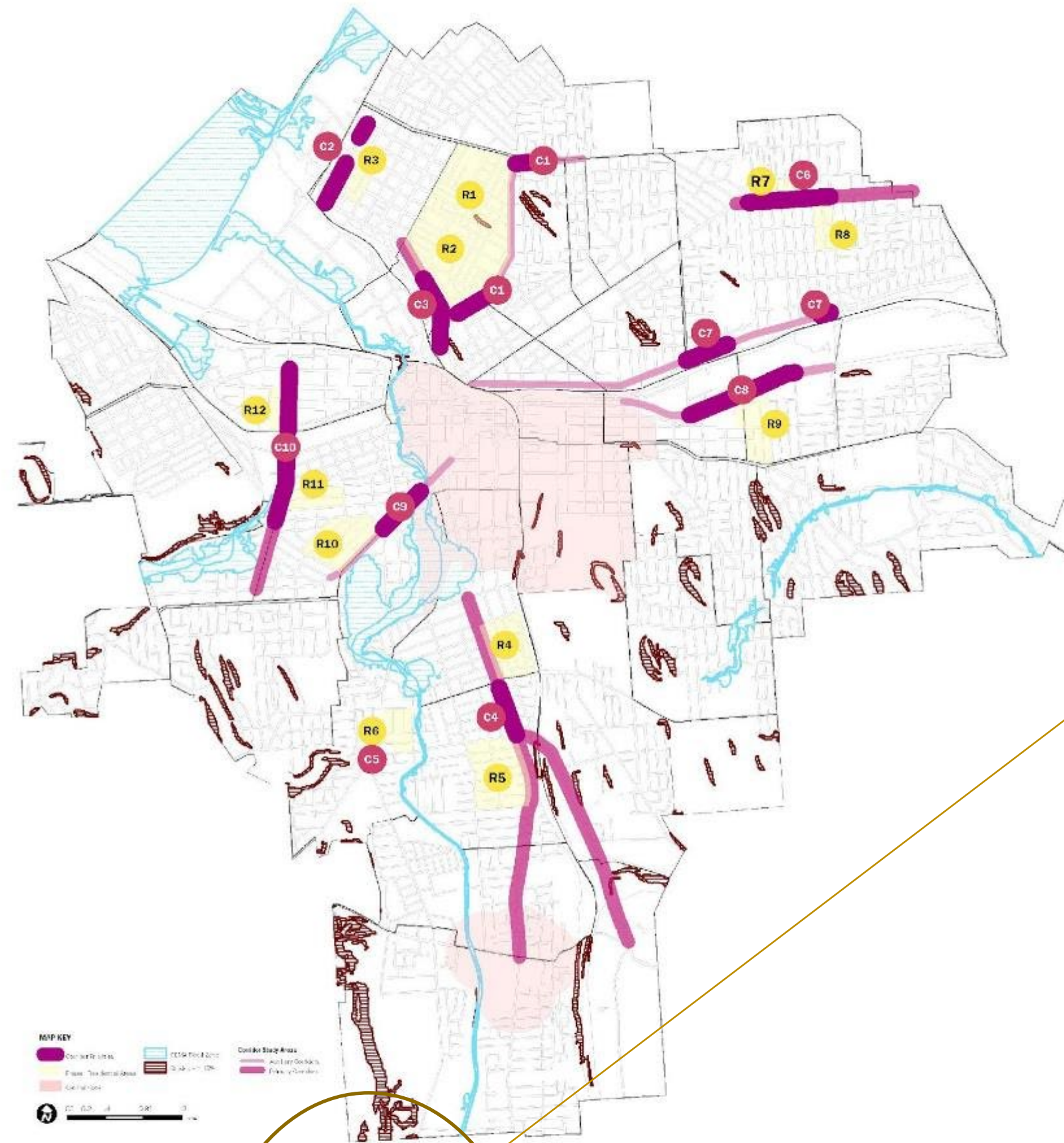
- Over 1,000 vacant lots in Syracuse under favorable ownership
- While some sites are set aside for infill housing, others are prime candidates for permanent greenspace





# Infill Housing Development: Resurgent Neighborhood Initiative

## Priority Commercial Corridors + Phase I Residential Planning Areas



### NORTHERN

#### Phase I Residential Areas

- Baker-Woodland-Garfield
- Brighton-Midland-Ostrander-Salina
- Elmhurst-Hunt-Bishop-South

#### Commercial

- S Salina St
- Wolf St
- N Salina St

**Residential Planning Strategy Overview**  
All are directly adjacent to key corridors and include two or more infill strategy blocks. Each area has pockets with high concentrations of assets, recent investments, or site control and pockets that have consistently struggled or have seen major declines in recent years (i.e. 100 Block of Wood Ave. had a 2% vacancy rate in 2012 to 24% in 2019) in close proximity to one another. Strategic planning is crucial to ensuring that priority properties are identified and moved through pipelines as efficiently as possible. Southside TNT Housing Task Force has historically been a good partner in previous efforts, but increased resident involvement is needed in Elmwood.

### SOUTHERN

#### Phase I Residential Areas

- Baker-Woodland-Garfield
- Brighton-Midland-Ostrander-Salina
- Elmhurst-Hunt-Bishop-South

#### Commercial

- S Salina St
- Wolf St
- N Salina St

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### EASTERN

#### Phase I Residential Areas

- Baker-Woodland-Garfield
- Brighton-Midland-Ostrander-Salina
- Elmhurst-Hunt-Bishop-South

#### Commercial

- S Salina St
- Wolf St
- N Salina St

**Residential Planning Strategy Overview**  
All are directly adjacent to key corridors and include two or more infill strategy blocks. Each area has pockets with high concentrations of assets, recent investments, or site control and pockets that have consistently struggled or have seen major declines in recent years (i.e. 100 Block of Wood Ave. had a 2% vacancy rate in 2012 to 24% in 2019) in close proximity to one another. Strategic planning is crucial to ensuring that priority properties are identified and moved through pipelines as efficiently as possible. Southside TNT Housing Task Force has historically been a good partner in previous efforts, but increased resident involvement is needed in Elmwood.

### WESTERN

#### Phase I Residential Areas

- Baker-Woodland-Garfield
- Brighton-Midland-Ostrander-Salina
- Elmhurst-Hunt-Bishop-South

#### Commercial

- S Salina St
- Wolf St
- N Salina St

**Residential Planning Strategy Overview**  
All are directly adjacent to key corridors and include two or more infill strategy blocks. Each area has pockets with high concentrations of assets, recent investments, or site control and pockets that have consistently struggled or have seen major declines in recent years (i.e. 100 Block of Wood Ave. had a 2% vacancy rate in 2012 to 24% in 2019) in close proximity to one another. Strategic planning is crucial to ensuring that priority properties are identified and moved through pipelines as efficiently as possible. Southside TNT Housing Task Force has historically been a good partner in previous efforts, but increased resident involvement is needed in Elmwood.

## SOUTHERN

### Phase I Residential Areas

- Baker-Woodland-Garfield
- Brighton-Midland-Ostrander-Salina
- Elmhurst-Hunt-Bishop-South

### Commercial

- S Salina St
- South Ave

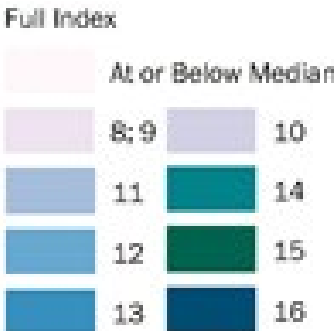
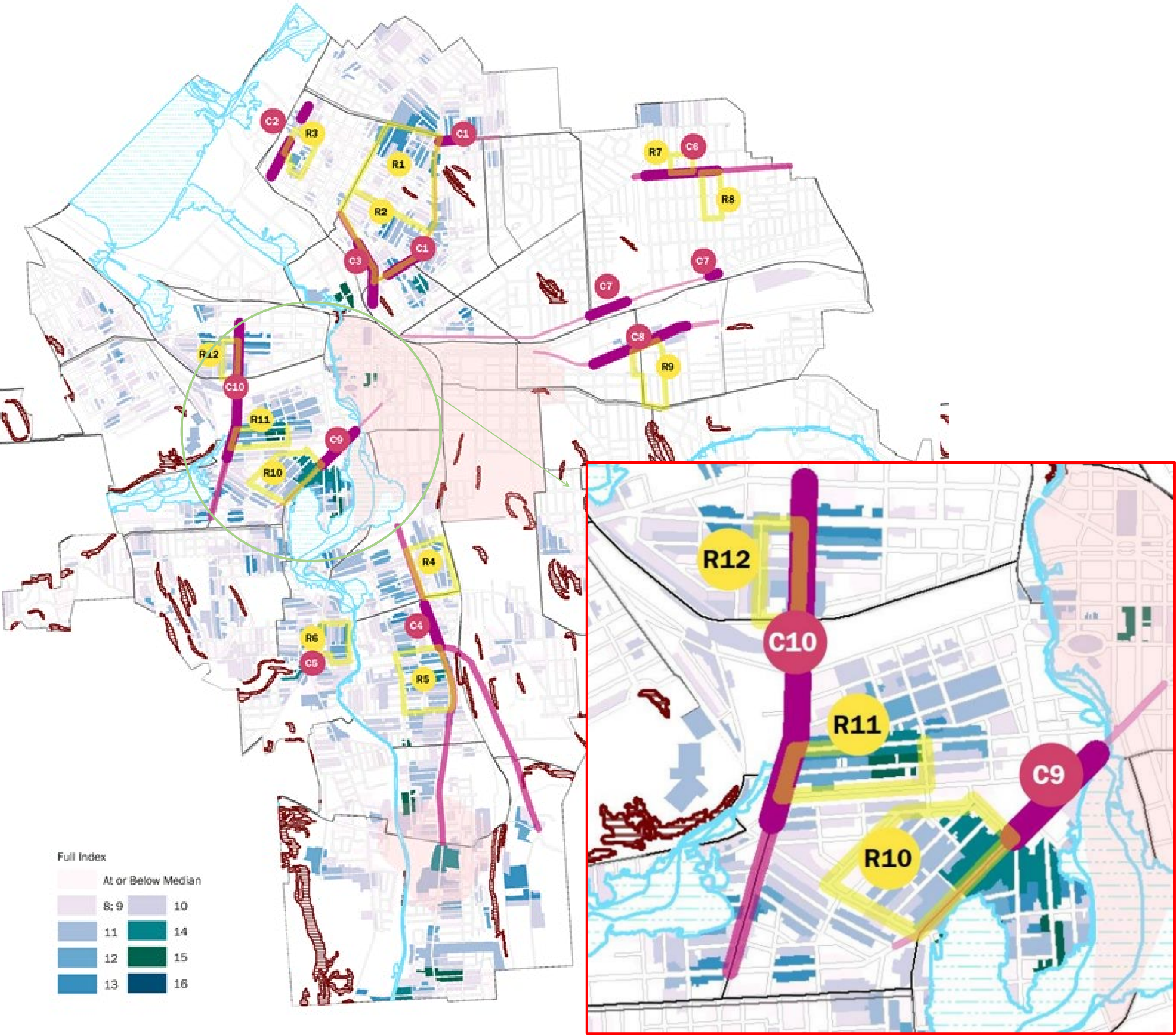
### Residential Planning Strategy Overview

All are directly adjacent or near adjacent to key corridors and include two or more infill strategy blocks. Each area has pockets with high concentrations of assets, recent investments, or site control and pockets that have consistently struggled or have seen major declines in recent years (i.e. 100 Block of Wood Ave. had a 2% vacancy rate in 2012 to 24% in 2019) in close proximity to one another. Strategic planning is crucial to ensuring that priority properties are identified and moved through pipelines as efficiently as possible. Southside TNT Housing Task Force has historically been a good partner in previous efforts, but increased resident involvement is needed in Elmwood.





# RNI Planning Areas + Block Index Scores



## INFILL BLOCK PRIORITIZATION CRITERIA

### INFILL PRIORITIZATION KEY FACTORS + ASSUMPTIONS

- SITE CONTROL** AHC requires proof of site control. Selection was limited to what is already owned by GSPDC, the City of Syracuse, SURA, or HHQ.
- LOT SIZE** Lots had to be buildable (44+ ft frontage and 60+ ft of depth).
- TOPOGRAPHY** Parcels on hills with a 15% grade or more were excluded from consideration entirely. Additional parcels that were identified have been disqualified due to topo issues even though slightly under 15%.
- CLUSTERS** (Owner occupant and buildable lot mix) Effort made to find blocks most impacted by the results of blight removal that have not yet benefitted from reinvestment. Adjacent Land Bank owned vacant lots or adjacent Land Bank owned lots and vacant, Land Bank owned structures were prioritized.
- ZONING** Blocks had to be zoned RA or higher.
- FLOOD ZONE** Parcels in the flood zone were excluded from consideration.

## LAND USE + OCCUPANCY TYPE CHARACTERISTICS (I.E “3 HOUSE ON THE BLOCK”)

### FACTORS ANALYZED + MAP KEY

- Owner Occupancy** Owner Occupants account for more than 2/3 of all residential properties.
- Buildable Vacant Lots** Two or more buildable vacant lots.
- Vacancy** Less than 1/2 of structures are vacant.
- Vacant Structures in Favorable Condition** More than 1/2 of vacant properties are scored as a 4 or 5.
- Development Density** Number of vacant lots is less than 1/3 of all properties on the block.
- Residential Density** More than 2/3 of all properties are residential.
- Property Value** At least 2/3 of residential properties have assessed values above the city-wide average (\$63,300).

## PROXIMITY TO PREVIOUS INVESTMENT

MEDIAN = 1 | OBSERVED MAX= 5 | MAX POSSIBLE = 5

- SIDA Funding** One or more parcels is within 1,000 feet of a location that received SIDA funding.
- SEDCCO Funding** One or more parcels is within 1,000 feet of a location that received SEDCCO funding.
- Federal/State funds for residential Development** One or more residential properties received state or federal funds for renovation, new construction, or demolition.
- Residential New Construction or Renovation Permits Pulled** One or more Residential New Construction or Renovation permits were pulled between 2012-19.
- Commercial New Construction or Renovation Permits Pulled** One or more Commercial New Construction/ Renovation permits were pulled between 2012-19.

## PROXIMITY TO COMMUNITY ASSETS

MEDIAN = 2 | OBSERVED MAX= 6 | MAX POSSIBLE = 8

- Public Transportation** One or more parcels are within 150 feet of a bus stop.
- Commercial Corridors** One or more parcels are within 1,000 feet of a commercial corridor.
- Schools** One or more parcels are within 1,000 feet of an SCSD school building.
- Parks** One or more parcels are within 1,000 feet of a Syracuse City park.
- Community Centers** One or more parcels are within 1,000 feet of a center receiving funding from the city.
- Libraries** One or more parcels are within 1,000 feet of an Onondaga County Public Library branch.
- Health Center** One or more parcels are within 1,000 feet of a community health center.
- Grocery Store** One or more parcels are within 1,000 feet of a full-scale grocery store.

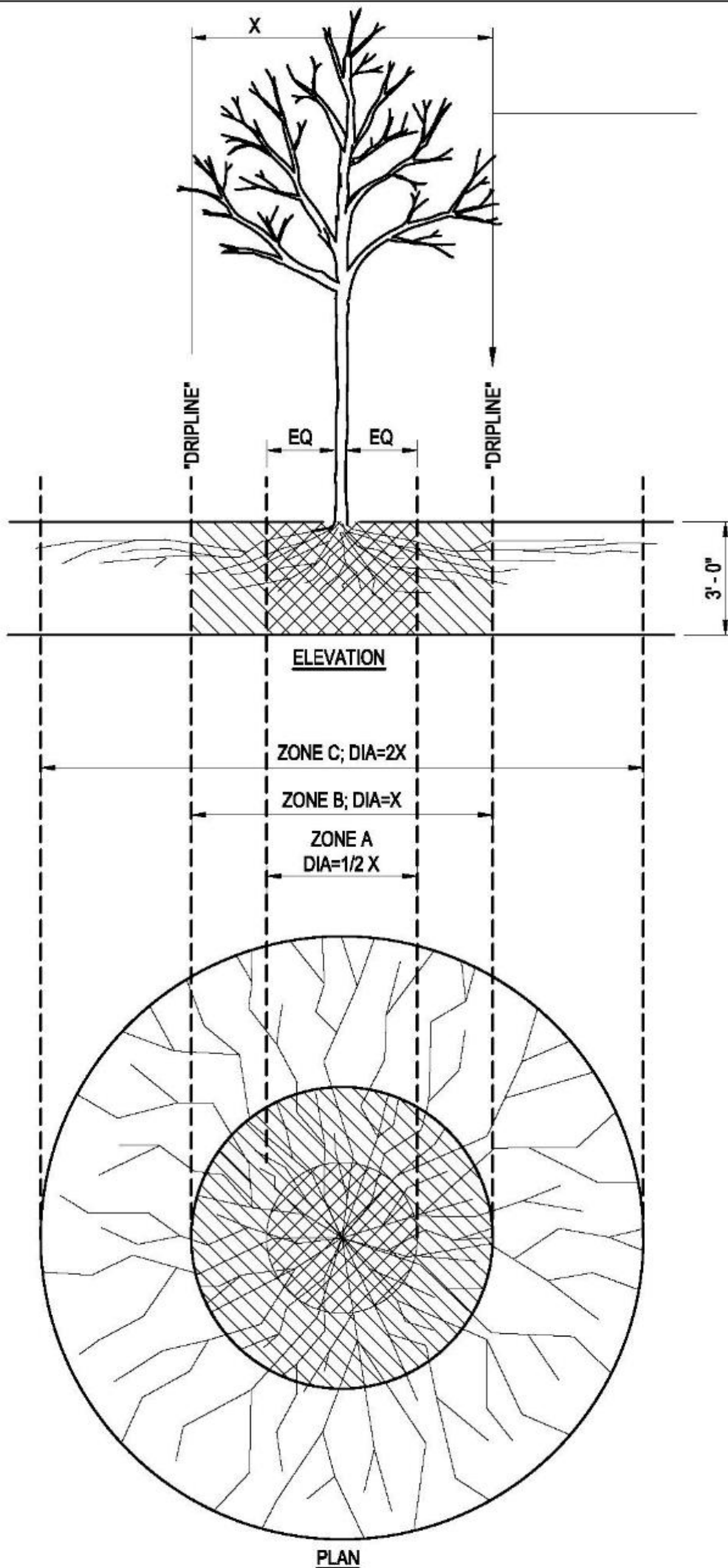
## FAVORABLE SITE CONTROL

MEDIAN = 0 | OBSERVED MAX= 4 | MAX POSSIBLE = 4

- Adjacent Vacant Lots** One or more clusters of at least two vacant lots that are seizable or owned by the city or GSPDC exist.
- Adjacent Demolition Candidates** One or more clusters of two vacant structures with a condition score of 1,2, or 3 exist that are seizable or owned by GSPDC exist.
- Demolition Candidates** One or more vacant structures with a condition score of 1,2, or 3 exist that are seizable or owned by GSPDC exist.
- Buildable Vacant Lots** One or more buildable vacant lots owned by GSPDC or that is seizable exist all properties are residential.



# Tree and Root Protection Plans



## FENCING/ROOT PROTECTION:

CHAIN LINK FENCING TO BE PROVIDED AND MAINTAINED AT DRIPLINE

CITY ARBORIST'S APPROVAL REQUIRED FOR USE/ACCESS WITHIN ZONE B. PERMISSION FOR USE/ACCESS REQUIRES SURFACE PROTECTION FOR ALL UNFENCED, UNPAVED SURFACES WITHIN ZONE B

## SURFACE PROTECTION MEASURES:

1. MULCH LAYER, 6-8" DEPTH
2. 3/4" PLYWOOD
3. STEEL PLATES

## TRENCHING/EXCAVATION:

### ZONE A (CRITICAL ROOT ZONE)

- 1) NO DISTURBANCE ALLOWED WITHOUT SITE-SPECIFIC INSPECTION AND APPROVAL OF METHODS TO MINIMIZE ROOT DAMAGE.
- 2) SEVERANCE OF ROOTS LARGER THAN 2" DIA. REQUIRES CITY ARBORIST'S APPROVAL.
- 3) TUNNELING REQUIRED TO INSTALL LINES 3' - 0" BELOW GRADE OR DEEPER.

### ZONE B (DRIPLINE)

- 1) OPERATION OF HEAVY EQUIPMENT AND/OR STOCKPILING OF MATERIALS SUBJECT TO CITY ARBORIST'S APPROVAL.
- 2) SURFACE PROTECTION MEASURES REQUIRED TRENCHING ALLOWED AS FOLLOWS:
  - \* EXCAVATION BY HAND OR WITH HAND-DRIVEN TRENCHER MAY BE REQUIRED.
  - \* LIMIT TRENCH WIDTH. DO NOT DISTURB ZONE A MAINTAIN 2/3 OR MORE ZONE B IN UNDISTURBED CONDITION
- 3) TUNNELING MAY BE REQUIRED FOR TRENCHES DEEPER THAN 3' - 0".

### ZONE C (FEEDER ROOT ZONE)

- 1) OPERATION OF HEAVY EQUIPMENT AND/OR STOCKPILING OF MATERIALS SUBJECT TO CITY ARBORIST'S APPROVAL.
- 2) SURFACE PROTECTION MEASURES MAY BE REQUIRED TRENCHING WITH HEAVY EQUIPMENT ALLOWED AS FOLLOWS:
  - \* MINIMIZE TRENCH WIDTH
  - \* MAINTAIN 2/3 OR MORE OF ZONE C IN UNDISTURBED CONDITION.

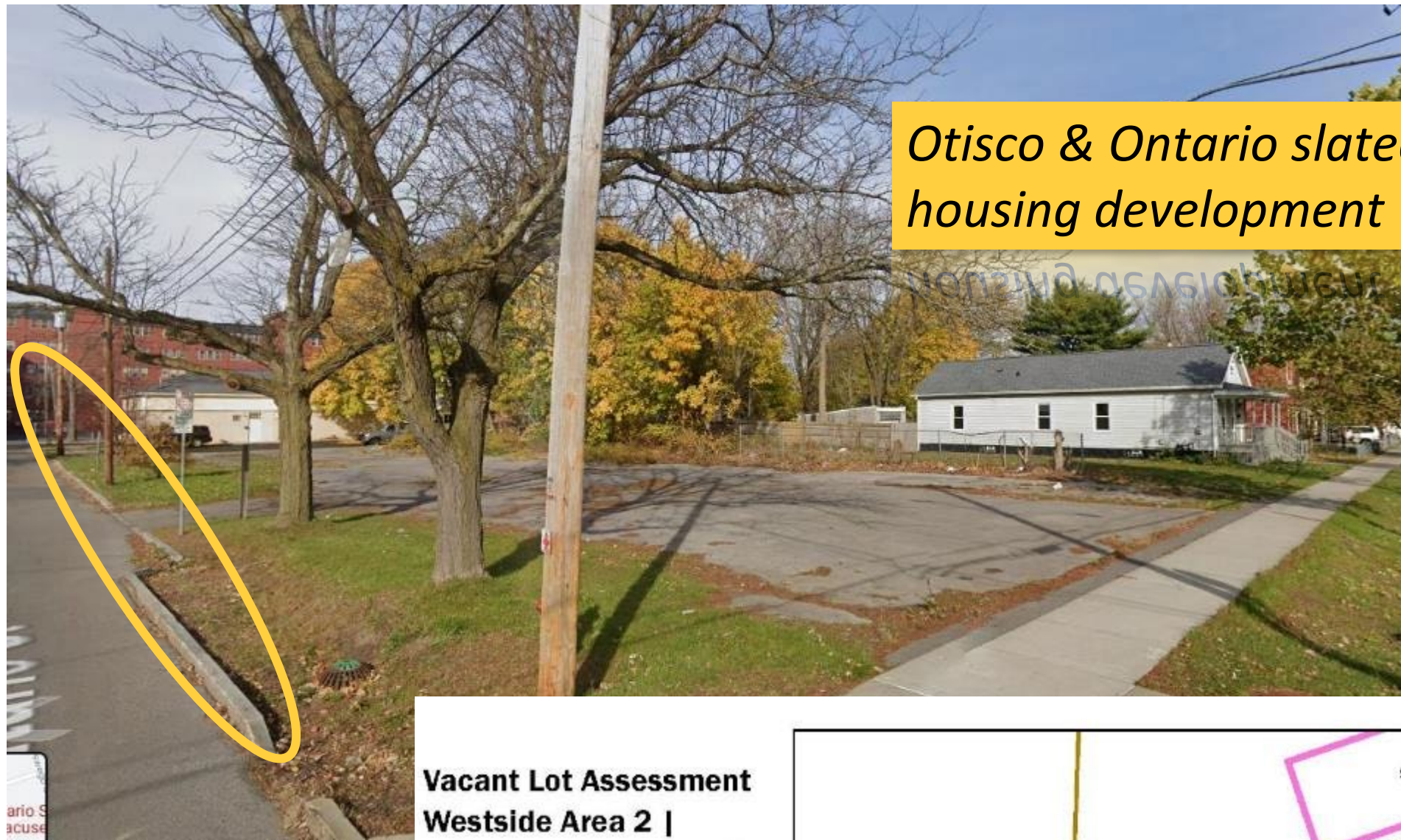
**CITY OF SYRACUSE**  
Department of Parks, Recreation  
and Youth Programs

## TREE PROTECTION ZONES

Scale:	Drawn By: E.Aversa
N.T.S.	Checked By: M.Gridley, R.L.A.
Date:	Approved By: Steve Harris, City Arborist







Otisco & Ontario slated for infill housing development



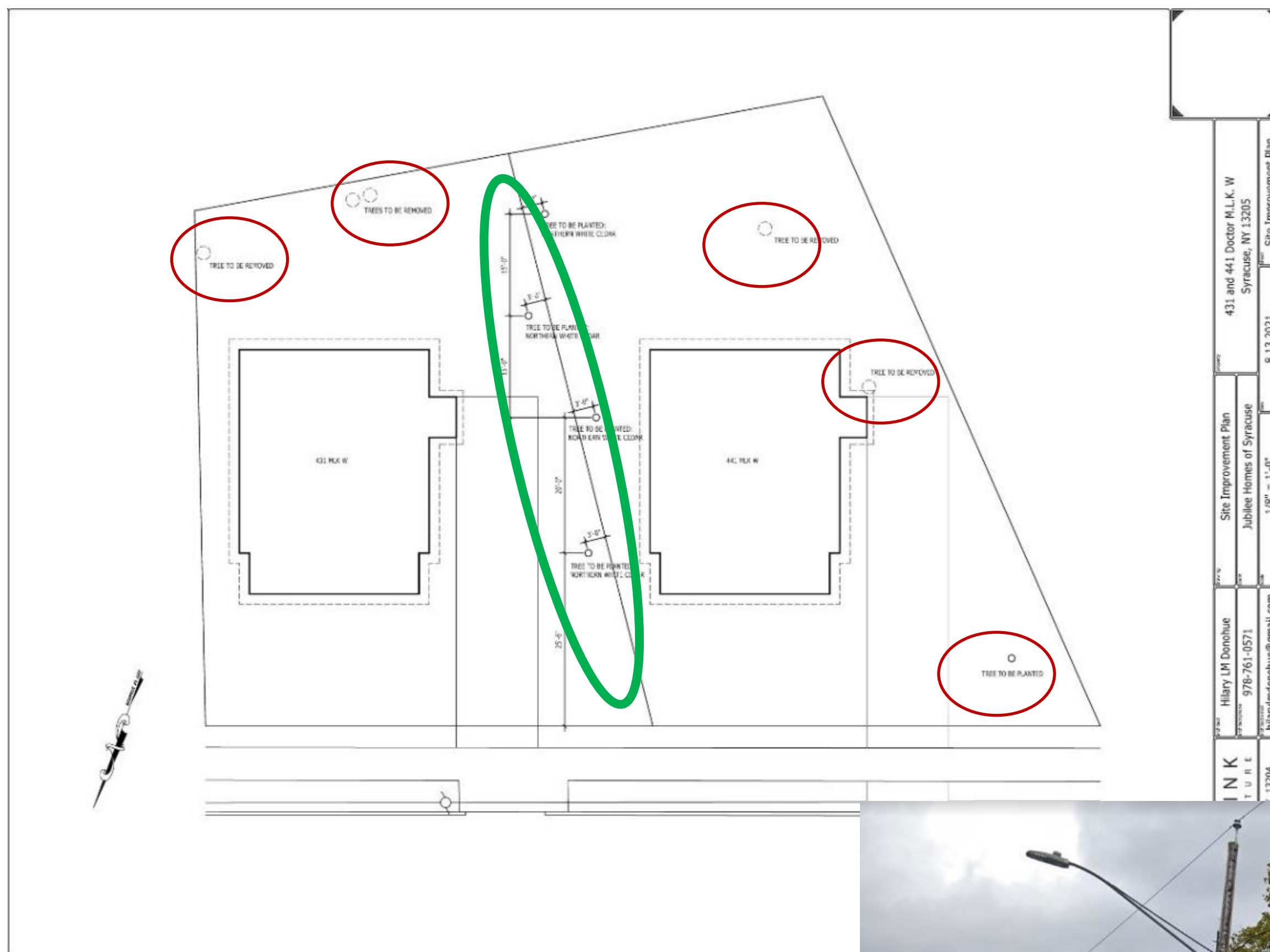
# Planting with Infill Housing

- Trees are an essential part of the neighborhood ecosystem
- Provide new homeowners and renters with all benefits (clean air, shade, decreased land surface temps, natural privacy buffer)
- Raise property values for homeowners

Vacant Lot Assessment  
Westside Area 2 |  
Gifford St, Marcellus St,  
Seneca St



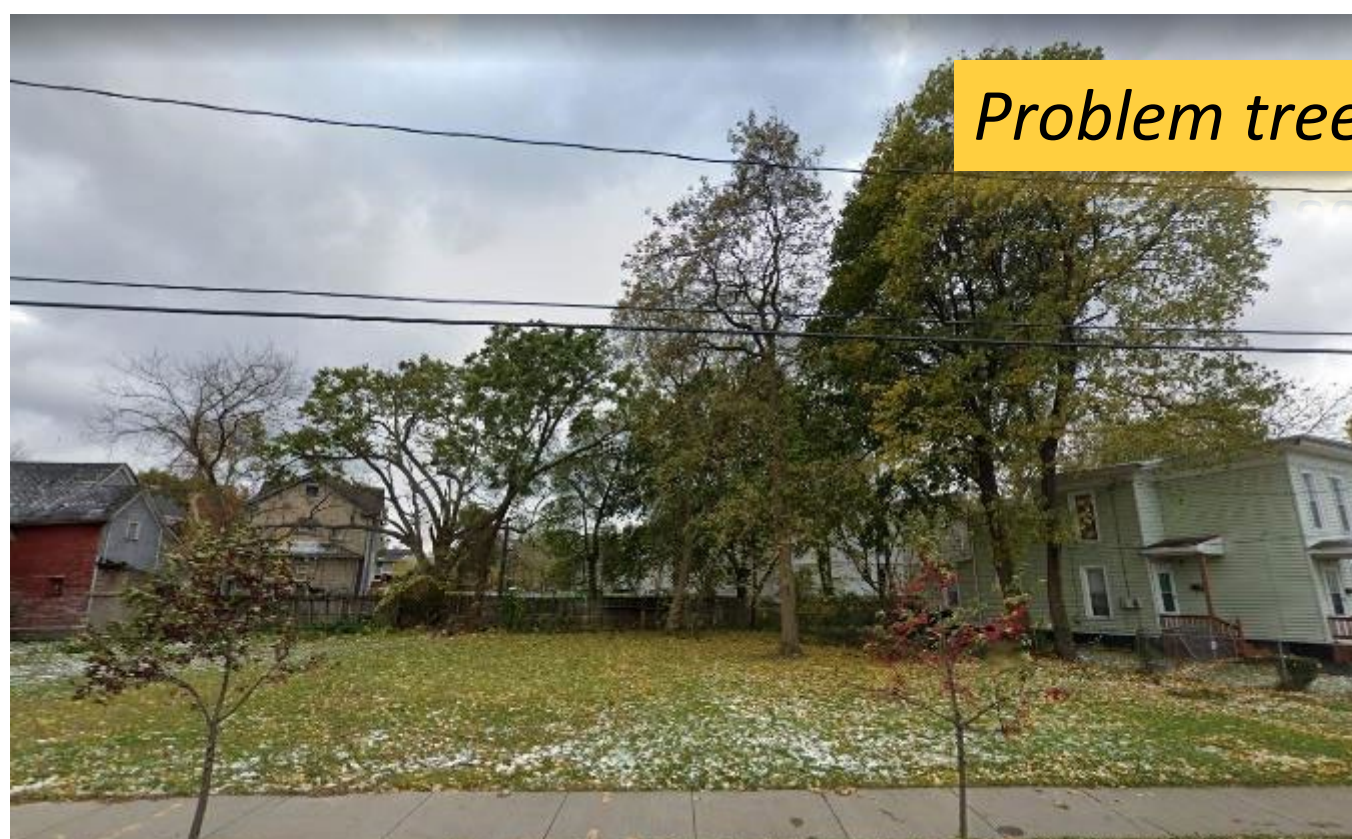




*New site plans for 443 MLK Blvd W*

# Addressing Problem trees

- When the Land Bank demolishes a property, site amendment is often left out of demolition work scopes
- This leaves rocky, debris laden soil and trees in terrible condition
- In new housing is slated for the lot, the new owner inherits the problems



*Problem trees at 441-43 MLK Blvd W*







# Large Scale Developments



# Blueprint 15 Redevelopment

## Neighborhood Plan

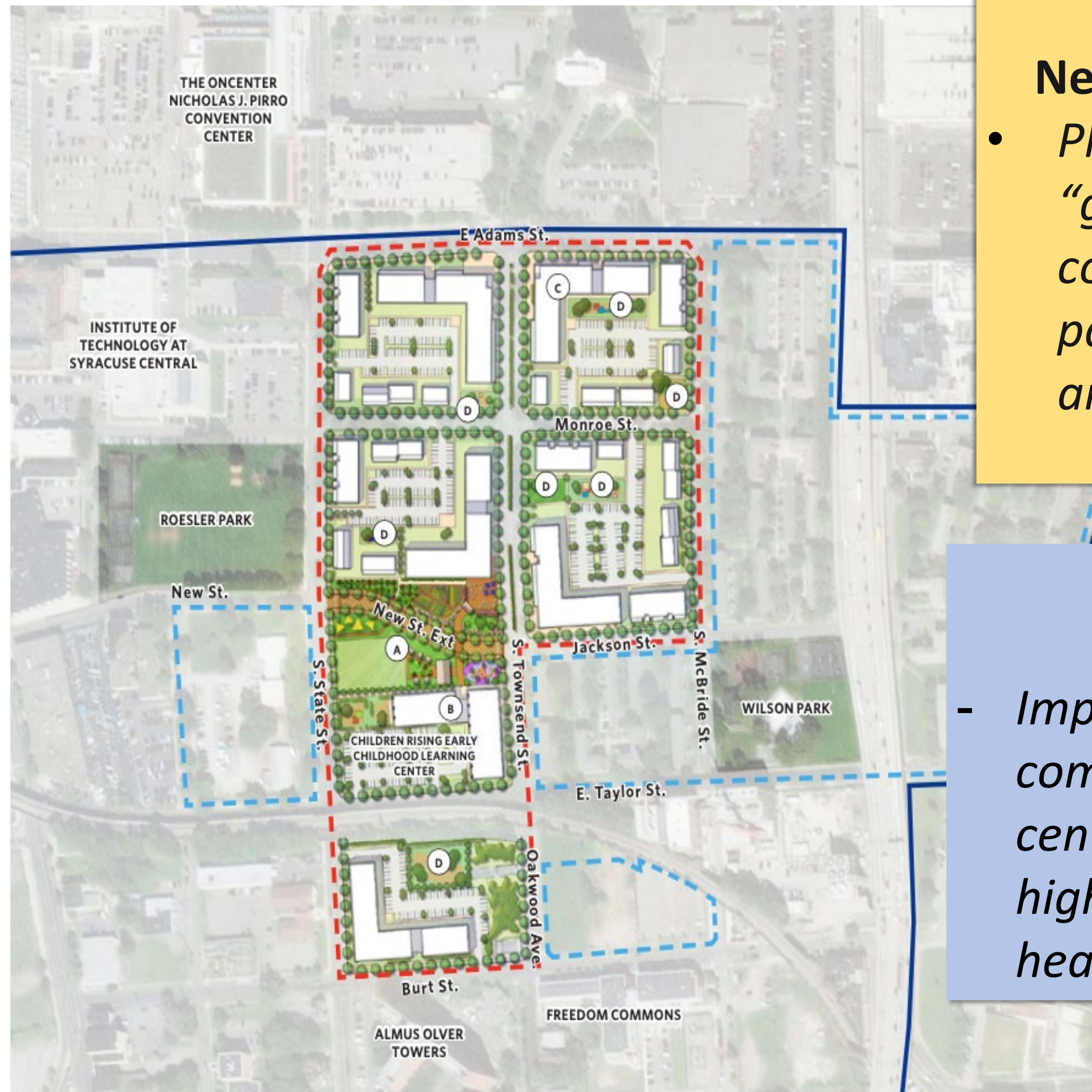
- *Plans include a new “greenway connecting two parks within the area*

## The People Plan

- *Improve health through comprehensive family – centered support and high-quality accessible health care services*

## Housing Plan

- Plan includes demolition of 75 units McKinney Manor and 599-unit of Pioneer Homes to make way for the construction of 1,404 units of high quality, mixed income housing







# Highway I-81 Deconstruction

- The NYS Department of Transportation has decided to introduce a community grid as an alternative to travel once highway I-81 is deconstructed
- This change will make available \_\_ acres of land
- Current plans for the new corridor include st







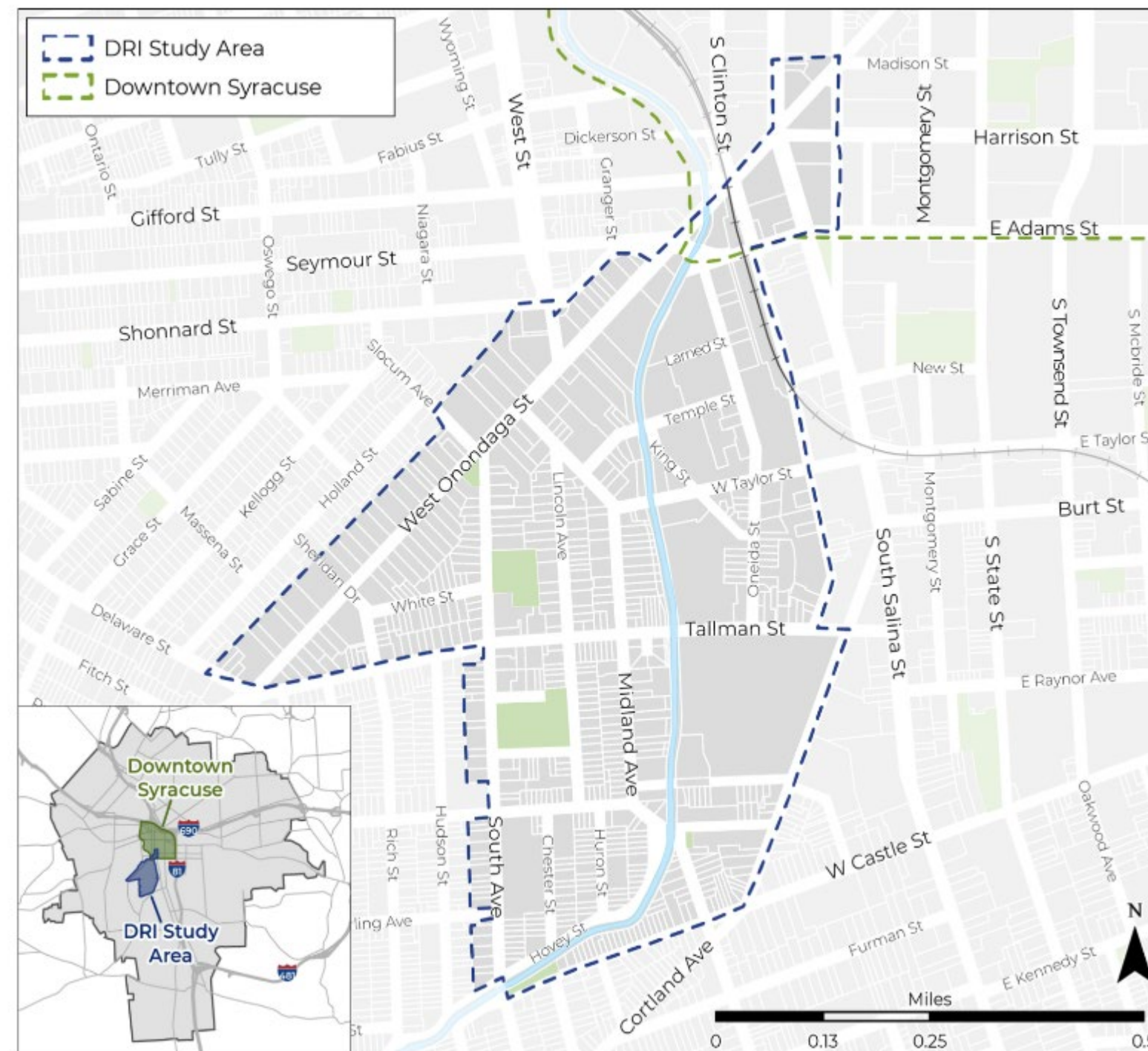
# Downtown Revitalization Initiative

- In 2021 Syracuse was selected to receive \$10 million in funding as the winner of the 5<sup>th</sup> round of Downtown Revitalization Initiative
- Funds will go towards transforming downtown neighborhoods into magnets for redevelopment, business, job creation and economic and housing diversity



## The City's Request

- The city's Department of Parks and recreation submitted a request for \$338,000 to increase street tree canopy along the Southwest Gateway
- Funding would support construction of tree pits and adjacent sidewalk infrastructure improvements to support pits







# Small Scale Neighborhood Planning Projects

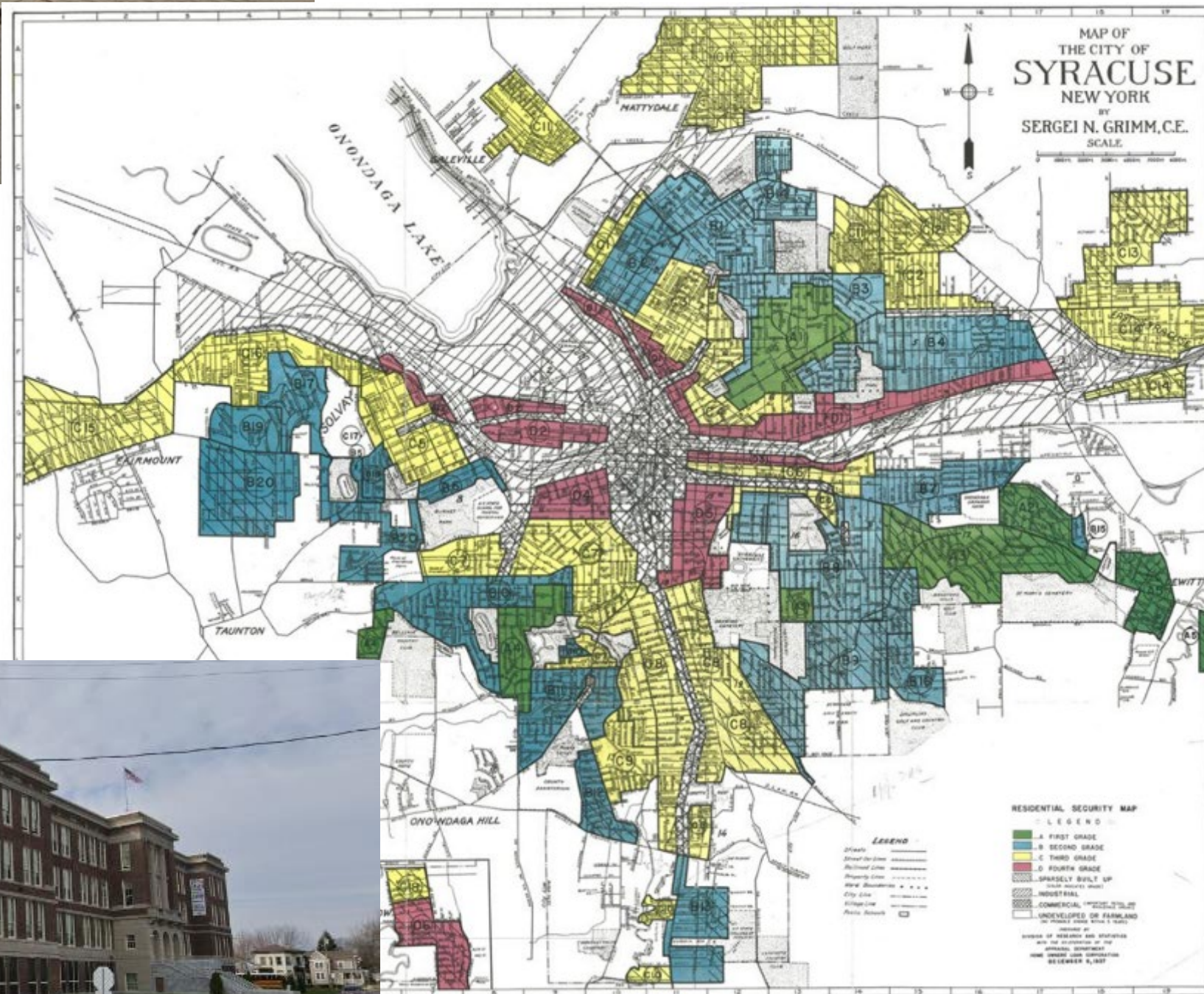




701 Tully Current Lot Conditions

# Southwest Neighborhood Tully St Planting

- High community buy in
- Formerly redlined areas
- Proximity to highly activated community spaces
- Proximity to recent investments (Real estate, housing, infrastructure, etc.)
- Site Control



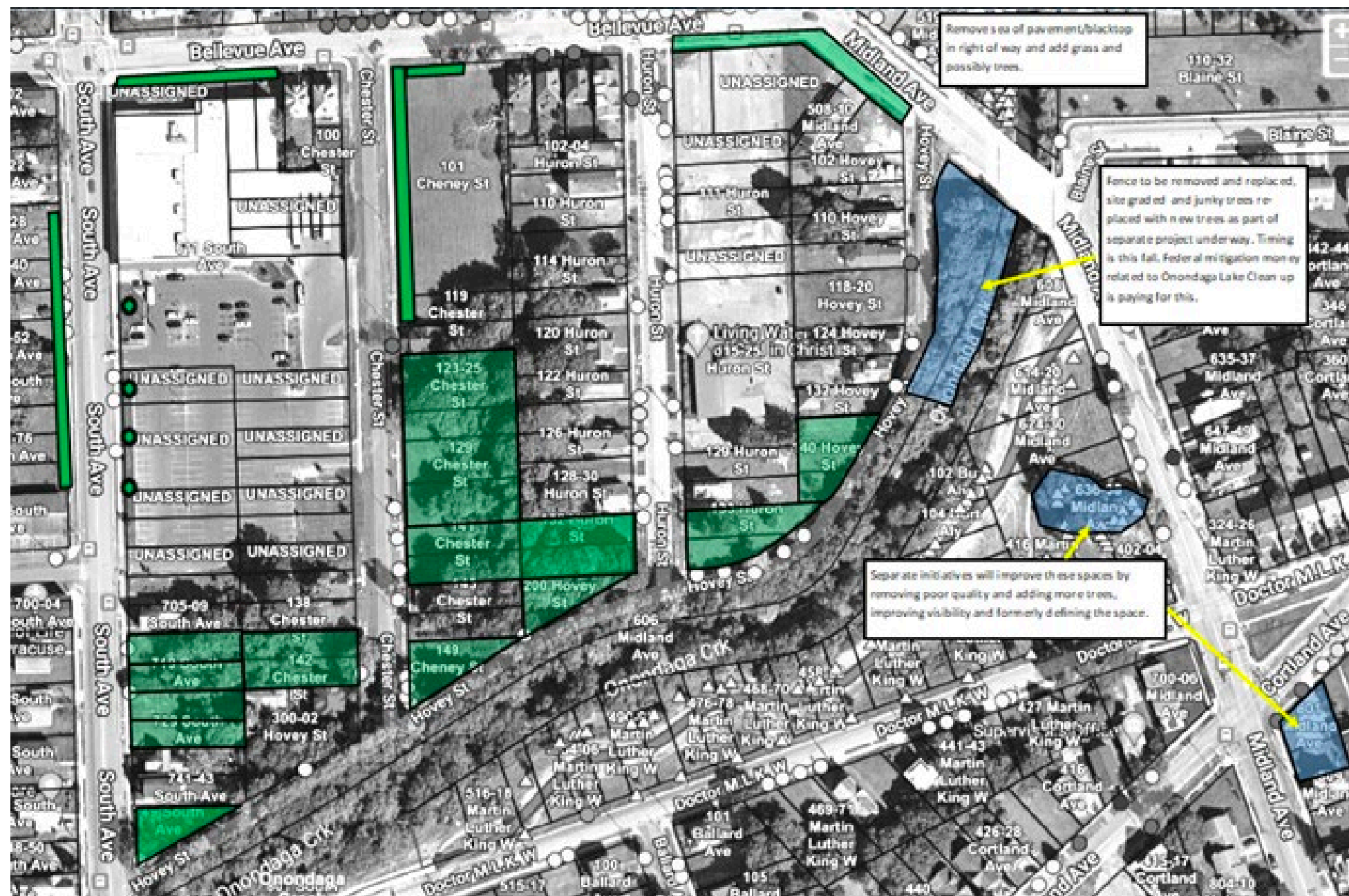




# Southwest Neighborhood: Hovey & Huron

Longstanding community complaints

- Persistent dumping
- Buy in across city departments – NBD, Parks, DPW, Codes, Assessment, SOCPA
- Located in flood plain
- Lots of site control – LB and seizable lots



*Hovey & Huron Area*





## Ideation

Finish RNI strategizing and create neighborhood housing plans with canopy goals for improving tree equity where needed

## Community Engagement

Continue to partner with service providers, community agencies and residents to boost plantings

## Workflows

Improve workflows for demolition and new development by adding Parks to the table

Strengthen vacant lot policy between City and Land Bank

# Where we are now?

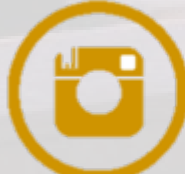






# Questions?

[cjordan@syr.gov.net](mailto:cjordan@syr.gov)

[sharris@syr.gov.net](mailto:sharris@syr.gov.net)

   @ SYRACUSE1848