



# ***City of Olean, New York Street Tree Inventory and Management Plan***

*Completed by Davey Resource Group*





# VISION STATEMENT

The City of Olean's vision to promote and enhance tree conservation and forestry management practices of its parks and public street rights-of-way was the primary inspiration for this project. This vision will encourage healthy forest development and enhance the overall tree population, which will improve aesthetic value, air quality, public health, and increase park use. A *Community Forest Management Plan* offers expertise in preserving and expanding urban canopy so the environmental, economic, and social benefits it provides continue for generations.



## Sites Included in the Inventory:

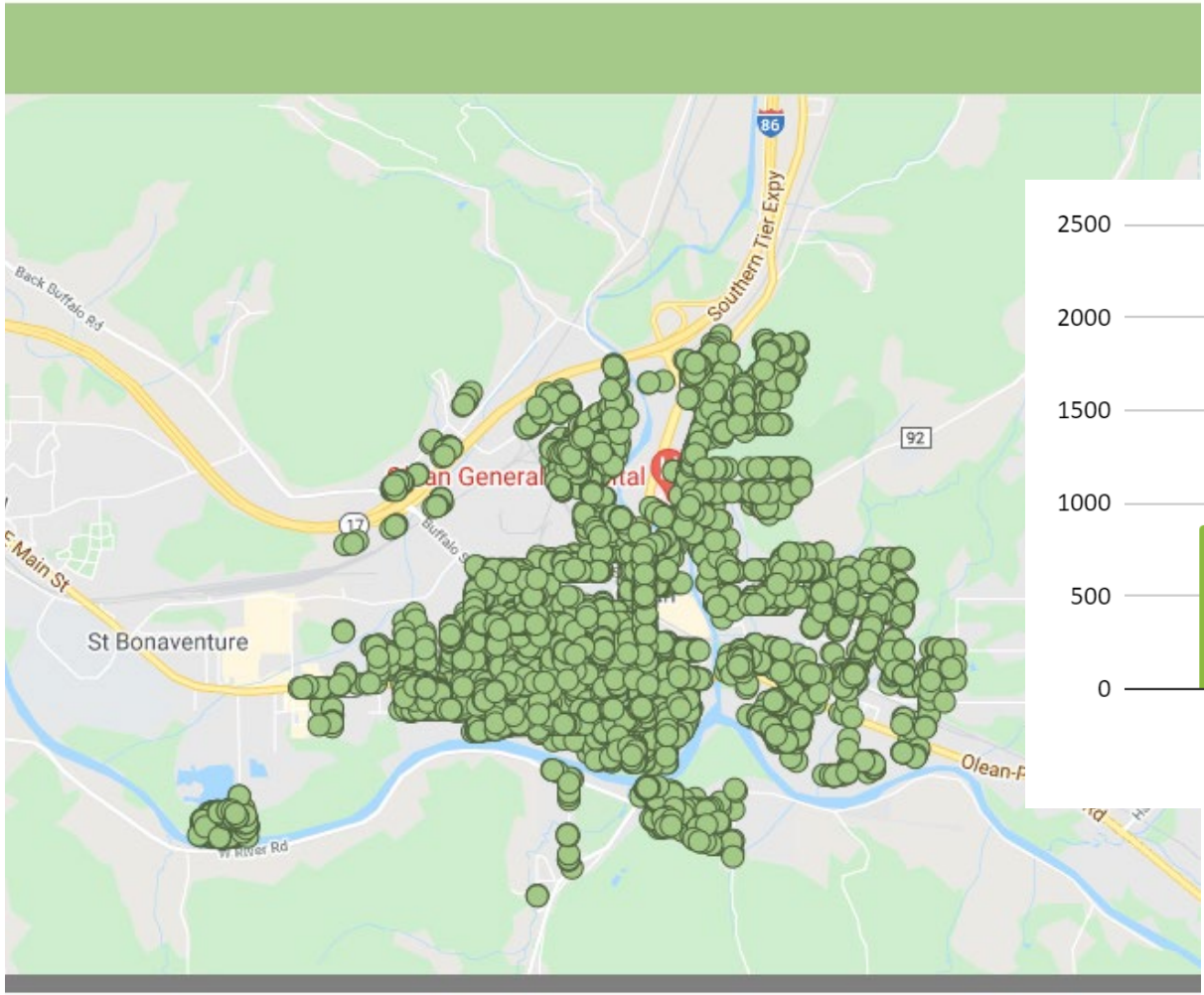
- Trees, Stumps
- Located within city-maintained street rights-of-way

## DRG Data Fields

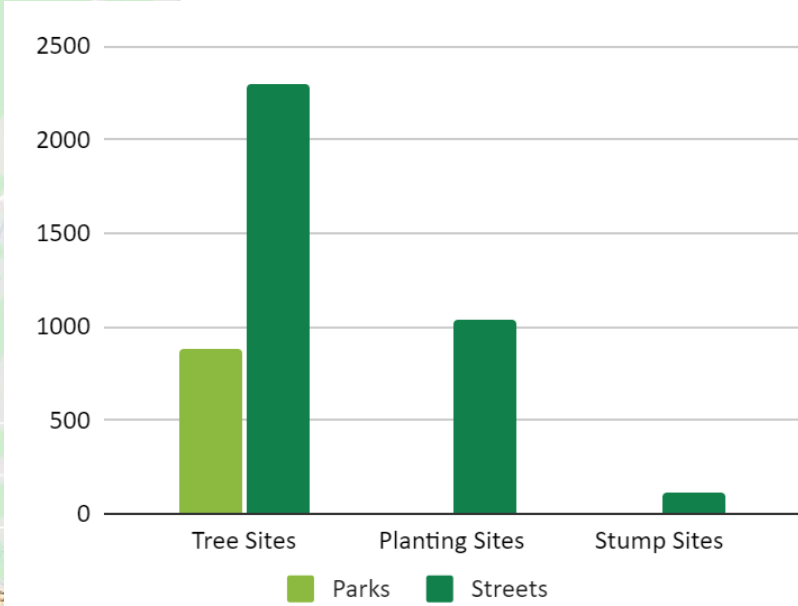
Location (Address, On Street, Side)	Defects
GPS X and Y	Risk Assessment
Species	Residual Risk
Size (DBH & multistem)	Further Inspection
Tree Condition	Overhead Utilities
Primary Maintenance Need	Grow Space Type and Dimensions

## Data Collection:

Summer 2021

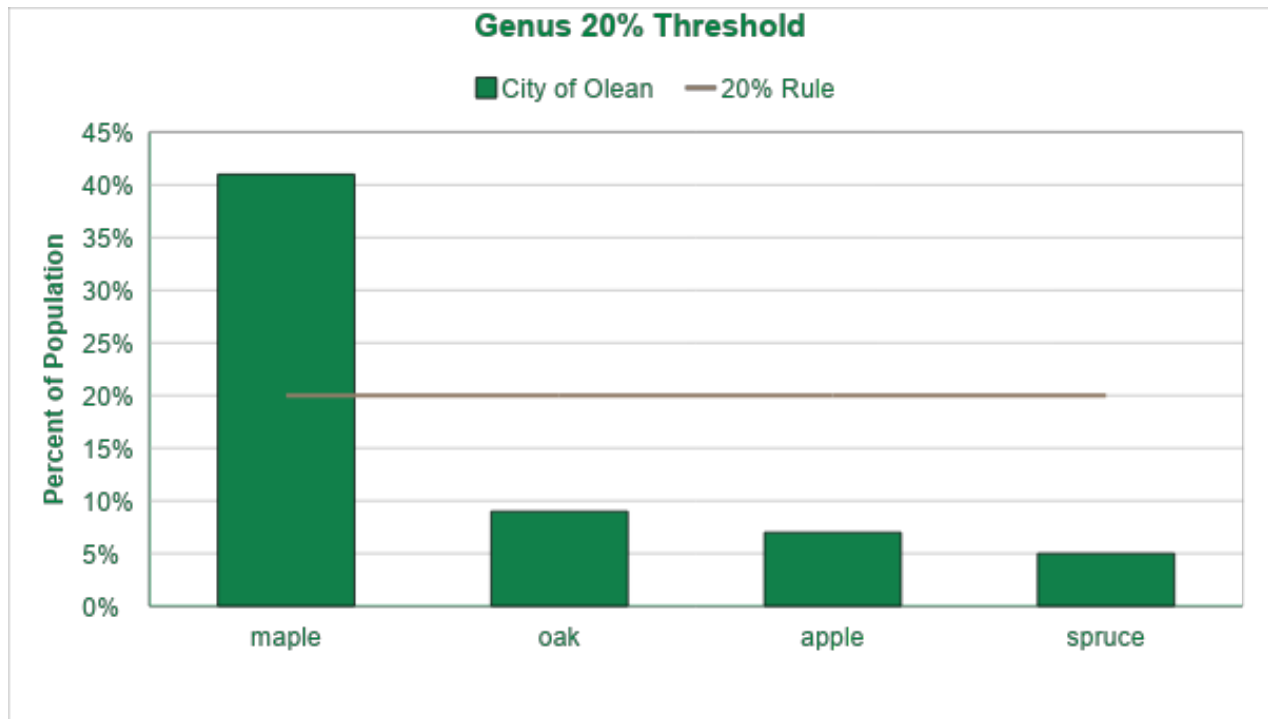


Inventory:

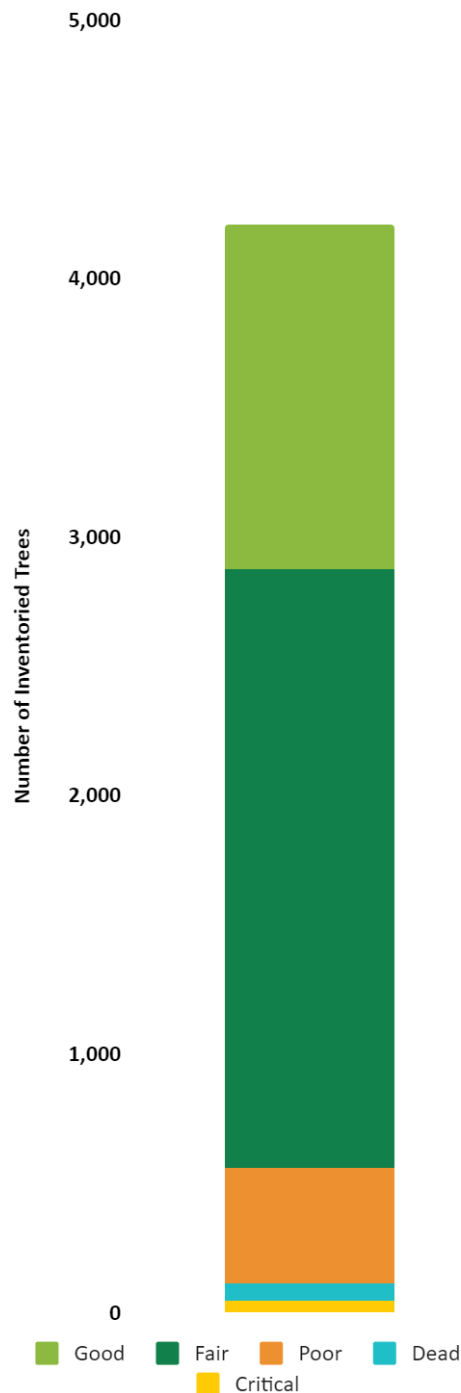


Inventoried sites by type

# Inventory Results: Species Diversity



Species distribution of the top 4 most common species.



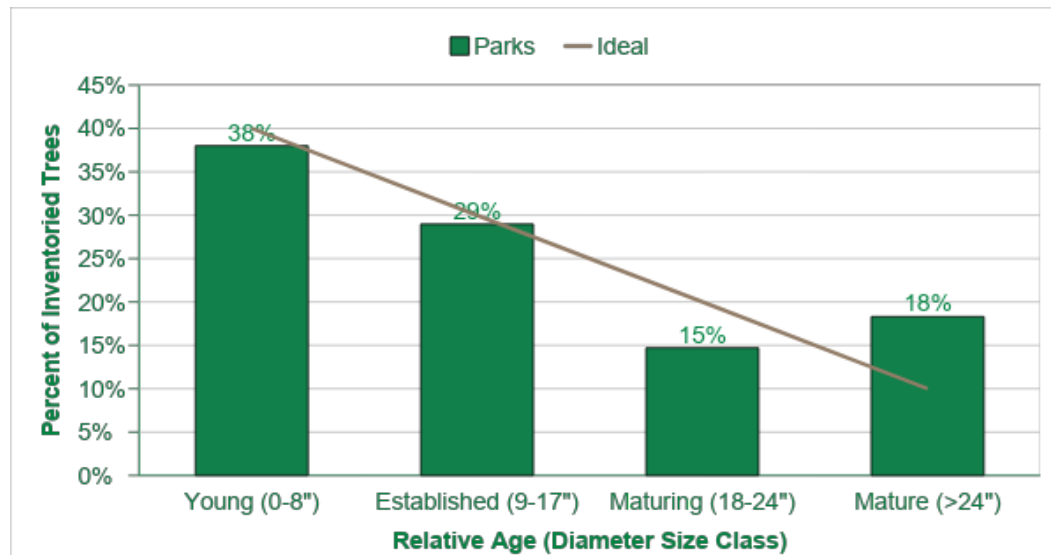
## Results: Tree Condition

### Recommendations

- remove Dead and larger Poor trees as soon as possible
- prune younger trees in Fair/ Poor condition to improve long-term health
- prune good/ fair trees on a routine basis to prevent long-term health issues and improve structure and vigor



# Inventory Results: Age/ Size Distribution



## Goals

### Recommendations

- establish a planting and maintenance program that ensures young trees are in place to fill in gaps in tree canopy and replace older, declining trees
- focus on tree preservation and proactive care, which will reduce unnecessary removals and help prevent health issues



# Functions & Benefits

Trees provide a wide array of ecological benefits:

## Environmental

- decrease energy consumption and moderate local climates by providing shade and acting as windbreaks
- help to slow and reduce the amount of stormwater runoff that reaches storm drains, rivers, and lakes
- reduce street-level air pollution by up to 60%

## Economic

- increase residential property values by an average of 7%
- consumers will pay about 11% more for goods in landscaped areas
- moderate temperatures in the summer and winter, saving on heating and cooling expenses

## Social

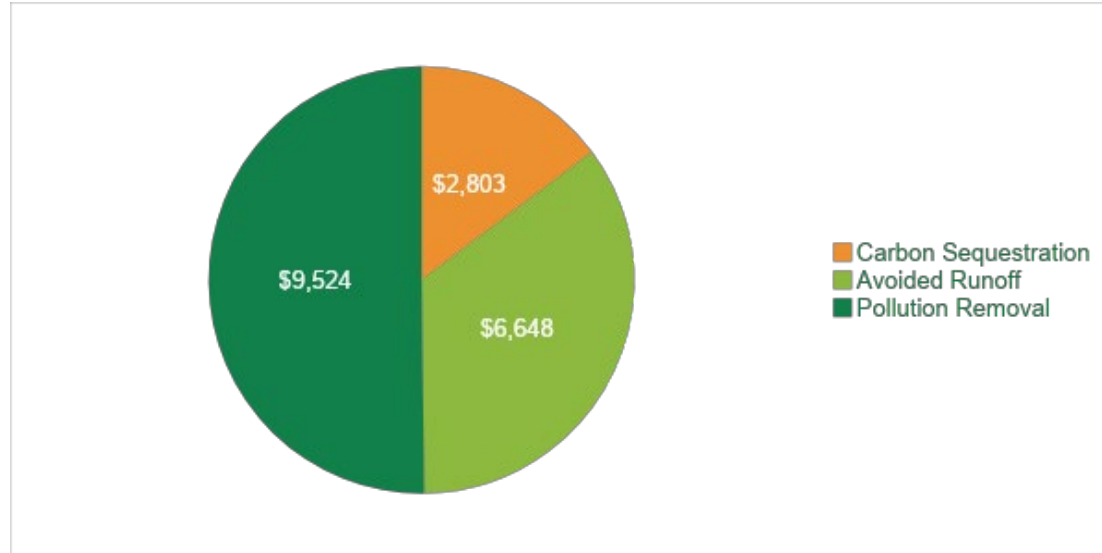
- Tree-lined streets are safer; traffic speeds and the amount of stress drivers feel are reduced, which likely reduces road rage/aggressive driving
- Employees who see trees from their desks experience 23% less sick time and report greater job satisfaction than those who do not
- Hospital patients recovering from surgery who had a view of a grove of trees through their windows required fewer pain relievers, experienced fewer complications, and left the hospital sooner than similar patients who had a view of a brick wall



# Functions & Benefits: i-Tree Eco Analysis

i-Tree Eco analysis of the inventoried trees quantified the functional benefits of three critical ecosystem services that they provide: carbon sequestration, avoided stormwater runoff, and air pollution removal

- the replacement value of the inventoried tree population is estimated at **\$8.39M**
- Olean's tree population provides **\$18,900** in function benefits annually - highest benefit in the form of air pollution removal





## Recommended Management:

Management Plan provides a scheduled framework for completing recommended maintenance over the next seven years

- This schedule will help shift maintenance from reactive to proactive over the course of the program

Activities are categorized by Priority Maintenance and Proactive Maintenance:

- **Priority Maintenance:** pruning and removals based on risk rating and diameter size
- **Proactive Maintenance**
  - **Routine Inspections:** important for detecting major defects and updating data
  - **Moderate and Low Risk Removals**
  - **Pruning cycles:** Young Tree Training (3-year cycle) and Routine Pruning (7-year cycle)
  - **Planting:** replace removed trees and plant new trees to increase population size, diversity, and canopy cover



## Recommended Management: Priority Maintenance

Tree removals and pruning of trees with an assessed risk rating of High or Extreme should be prioritized and completed as soon as possible

- High/ Extreme risk trees are likely to fail sooner than other assessed trees
- Focus on addressing the larger trees first
- Removal of these trees or the defective parts can greatly reduce the risk to public safety

Total trees:

- Prunes = 19
- Removals = 32



# Recommended Management: Proactive Maintenance

## Routine Inspections

- Routine inspections are essential to identifying major and minor tree issues.
- Inspections should be performed by an ISA Certified Arborist
- Inspect 1/7th of the city annually





# Recommended Management: Proactive Maintenance

## Moderate and Low Risk Removal

- next priority after High Risk activities have been completed
- may also be addressed when removing adjacent higher risk trees
- best to implement incrementally over time to reduce the backlog of risk

Total trees:

- Moderate Risk = 350 removals
- Low Risk = 127 removals



## **Recommended Management: Proactive Maintenance**

### **Young Tree Training**

- 1/3th of the city's young trees (DBH less than 6") should be tended to on a 3-year cycle
- Used to correct or eliminate weak, interfering, or objectionable branches to improve structure
- Ensures canopy continuity and lowers the rate of priority maintenance in the future.

Total trees: 758 (253 annually)



# Recommended Management: Proactive Maintenance

## Routine Pruning

- 1/7th of the city should be pruned annually to achieve a 7-year cycle
- This promotes a healthy structure and provides trees with a lower associated risk annually

Total trees: 4212 (602 annually)



# Recommended Management: Proactive Maintenance

## Tree Planting & Stump Removal

- Stumps should be removed - can be done when convenient, often as part of the planting plan: 248 stumps
- Plant using recommended methodology
- Species recommendations are based on USDA Hardiness Zone (5a and 5b)

Total new trees: 129 over 4 years (36-31 annually)



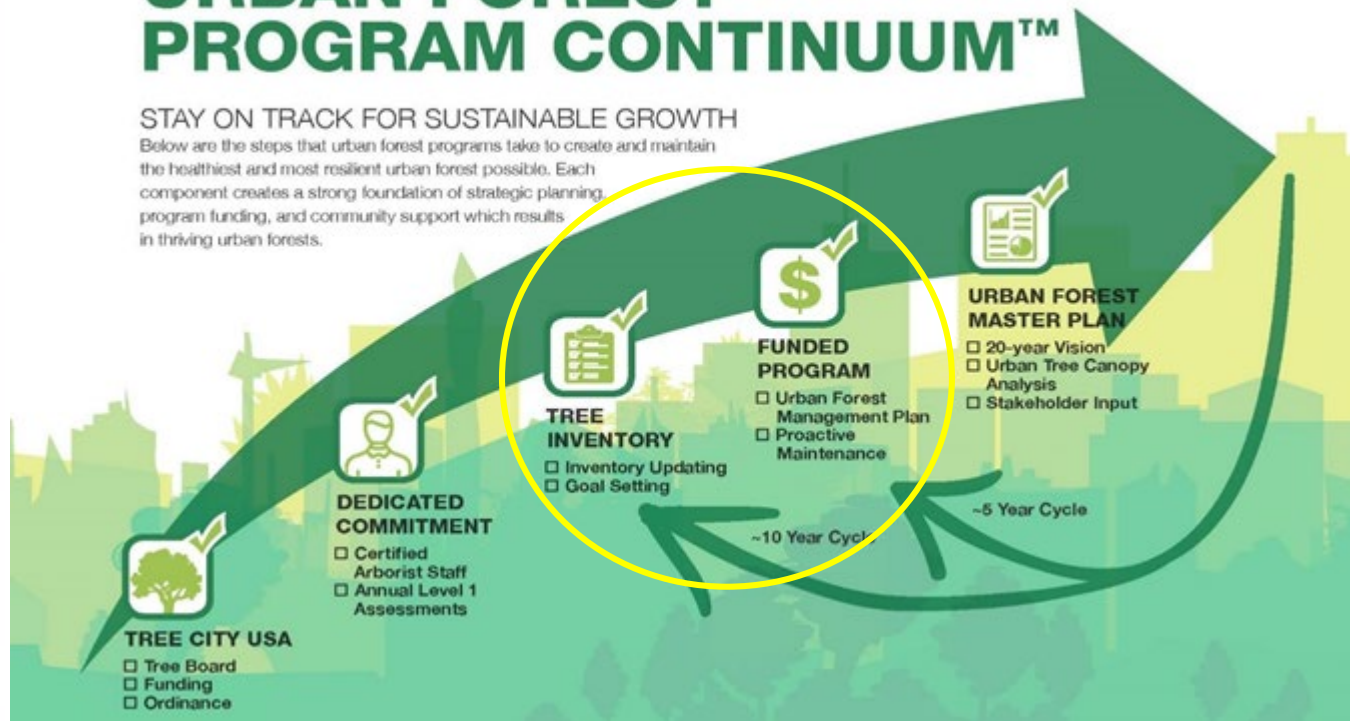


## Next Steps:

# URBAN FOREST PROGRAM CONTINUUM™

### STAY ON TRACK FOR SUSTAINABLE GROWTH

Below are the steps that urban forest programs take to create and maintain the healthiest and most resilient urban forest possible. Each component creates a strong foundation of strategic planning, program funding, and community support which results in thriving urban forests.







**Thank you for working with DRG!**

## **QUESTIONS?**

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