

Elm Heights: A Neighborhood Tree Survey

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INTRODUCTION

- Elm Heights Neighborhood Association identified an existing need for a succession plan for older trees being removed from the ROW's.
- Goals:
 - Information gathering
 - Community development
- ... for the purpose of fund development (grants) for more tree plantings.
- Our project is helping to provide the NA with a solution to their issue by presenting data that can help them strengthen their case before funding sources.

STREET TREE INVENTORY

- A 4-block by 3-block section of Elm Heights was chosen to represent the entire neighborhood, for the purpose of this study. This area reached from 2nd St E to 1st St E, and Henderson St S to Walnut St S.
- Trees along the public right-of-way were surveyed
- We collected the following data: Address, DBH (diameter at breast height), condition of the tree, suggested maintenance, the presence of an overhead power line, and any additional comments

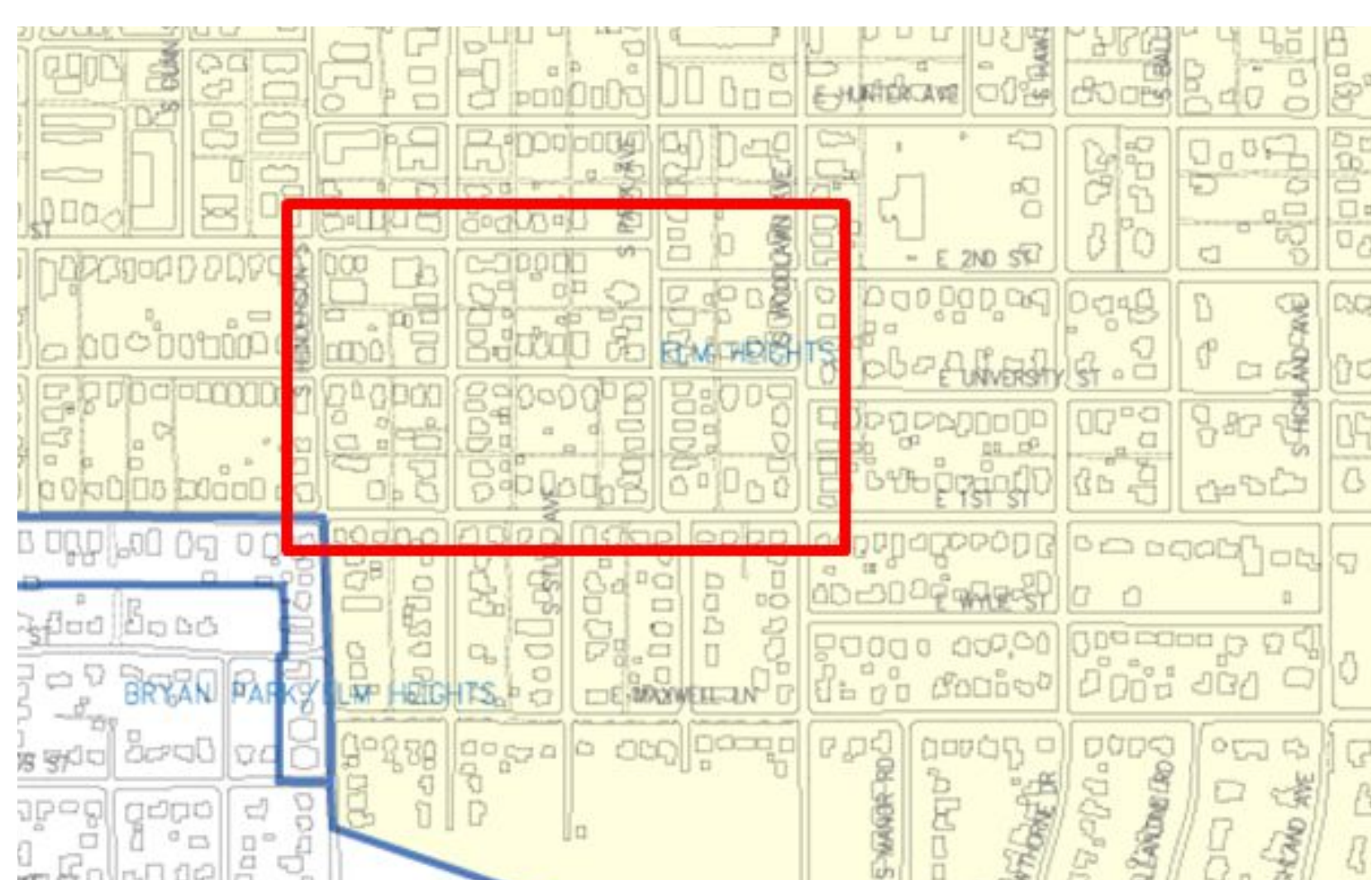


Figure 1. Partial map of Elm Heights. We surveyed the streets outlined in red.

RESULTS

- Data collected on a total of 122 trees
- The most frequent tree species were Littleleaf linden (*Tilia cordata*) at 21% followed by Red maple (*Acer rubrum*) at 15% (Figure 3)



Figure 2. Tree requiring maintenance

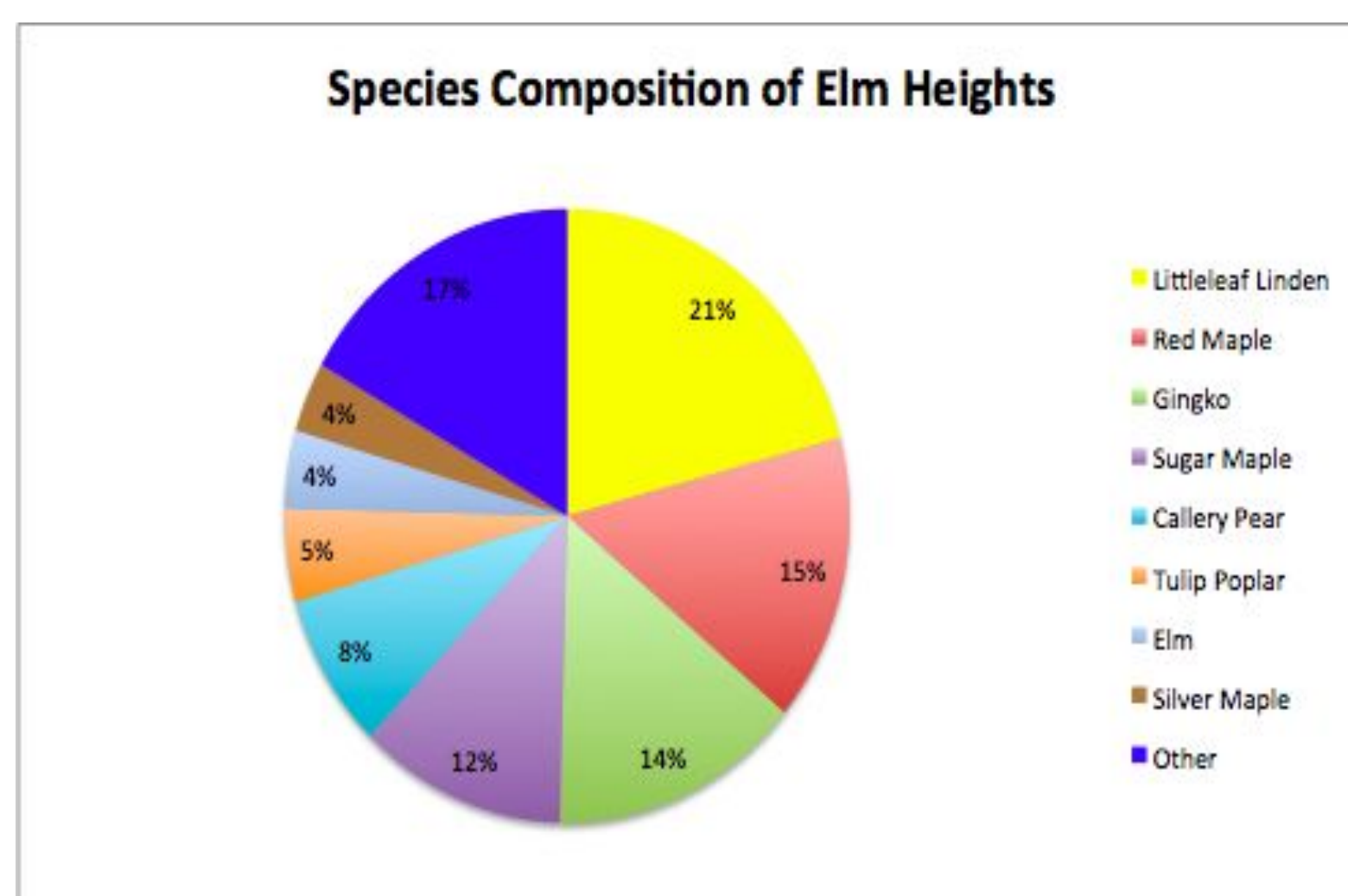


Figure 3. The distribution of tree species in Elm Heights

RESULTS CONTINUED

- The majority of trees in Elm Heights are in Good or Fair condition (Figure 4)
- However, nearly 30% of trees are either "Poor" or "Dead"
- 5% of trees have been removed since 2007, indicating possible sites for replanting
- We noted five trees as requiring a priority 1 prune

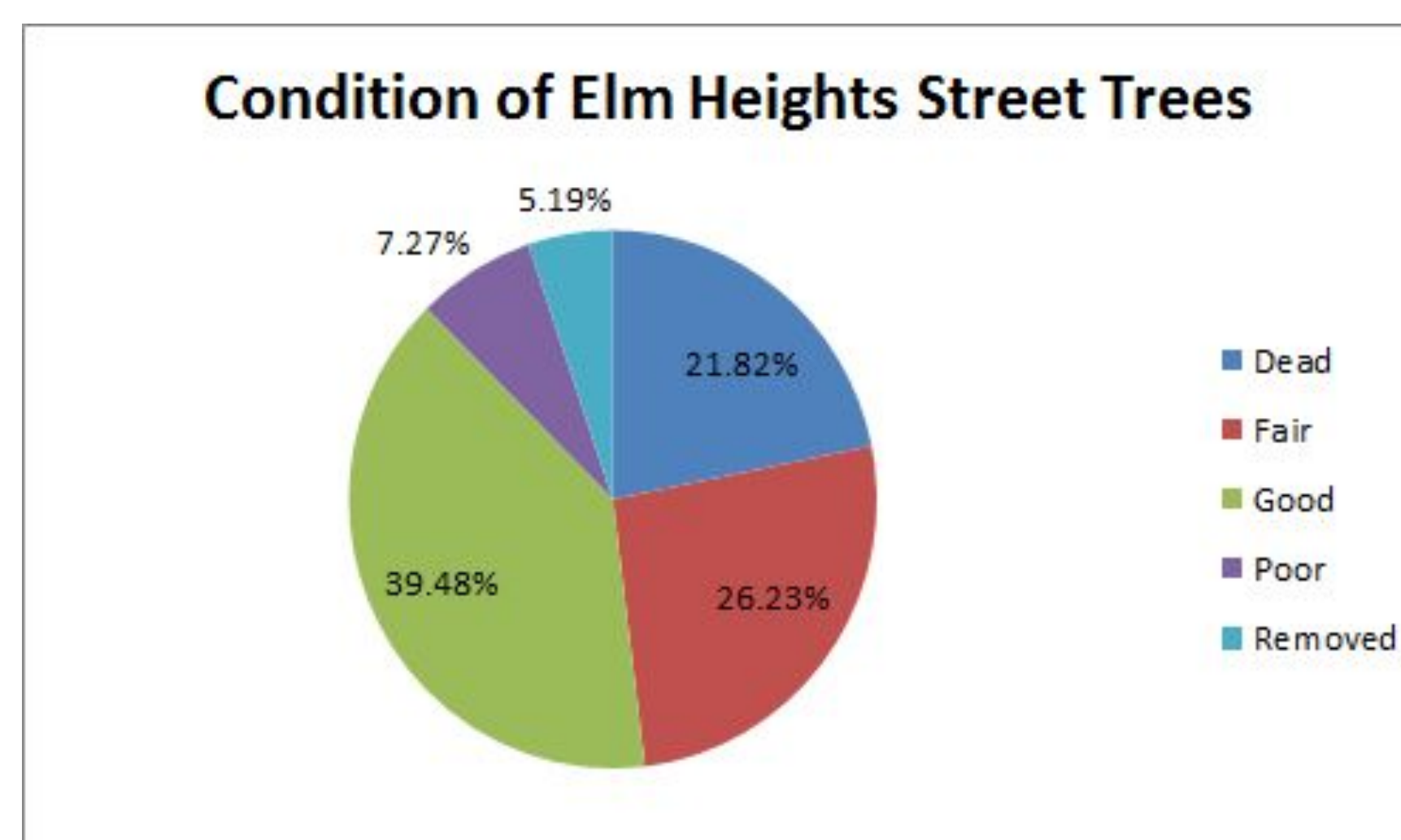
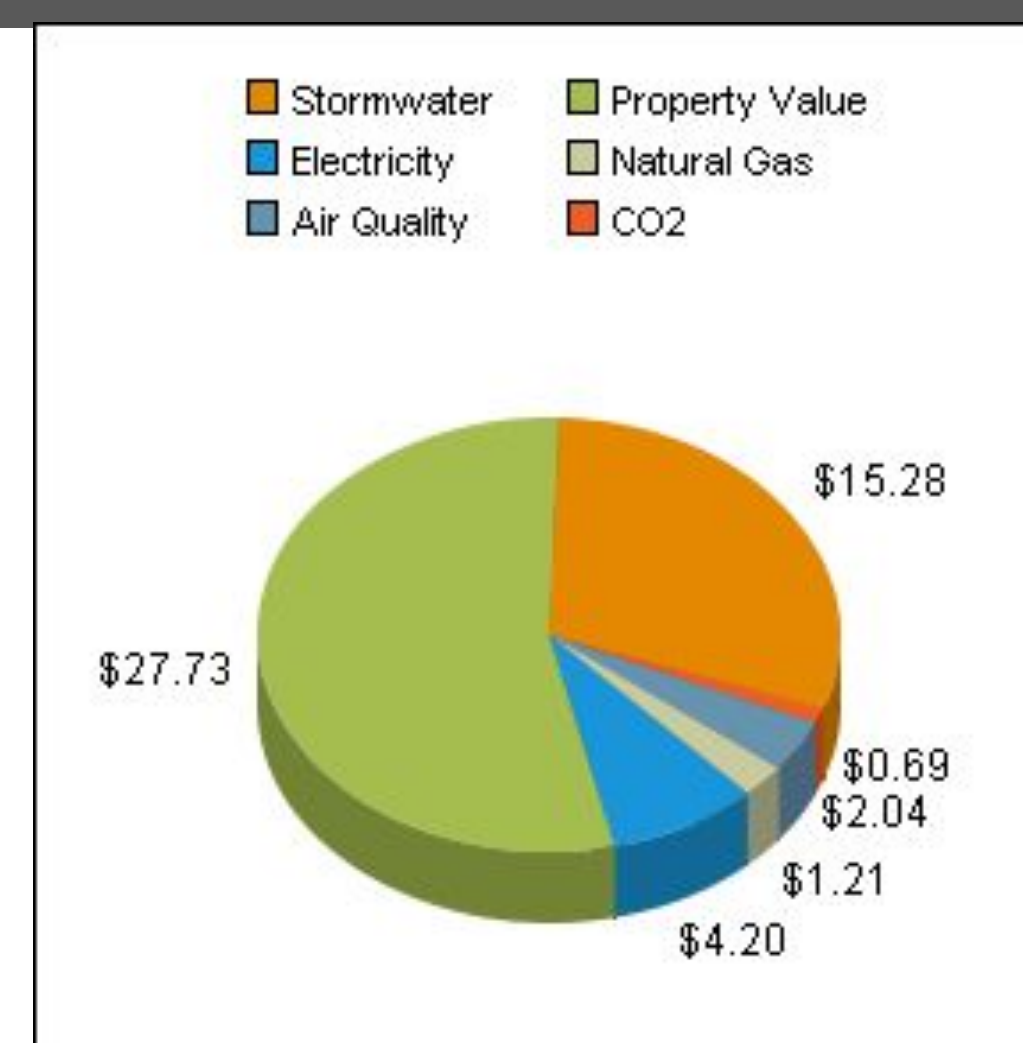


Figure 4. The overall condition of trees in Elm Heights. 75% of trees are either "Good" or "Fair"



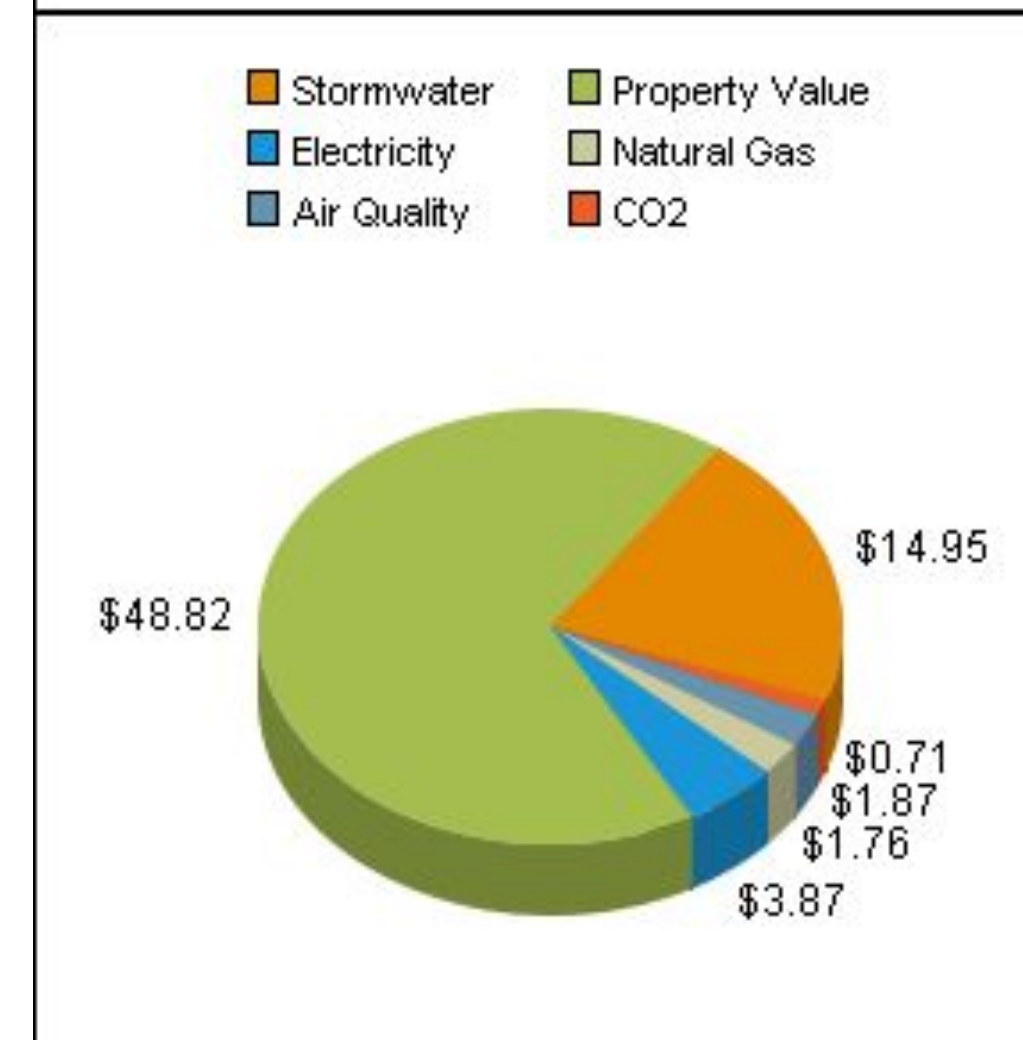
Figure 5. Tree requiring maintenance

COSTS/BENEFITS OF ELM HEIGHTS STREET TREES



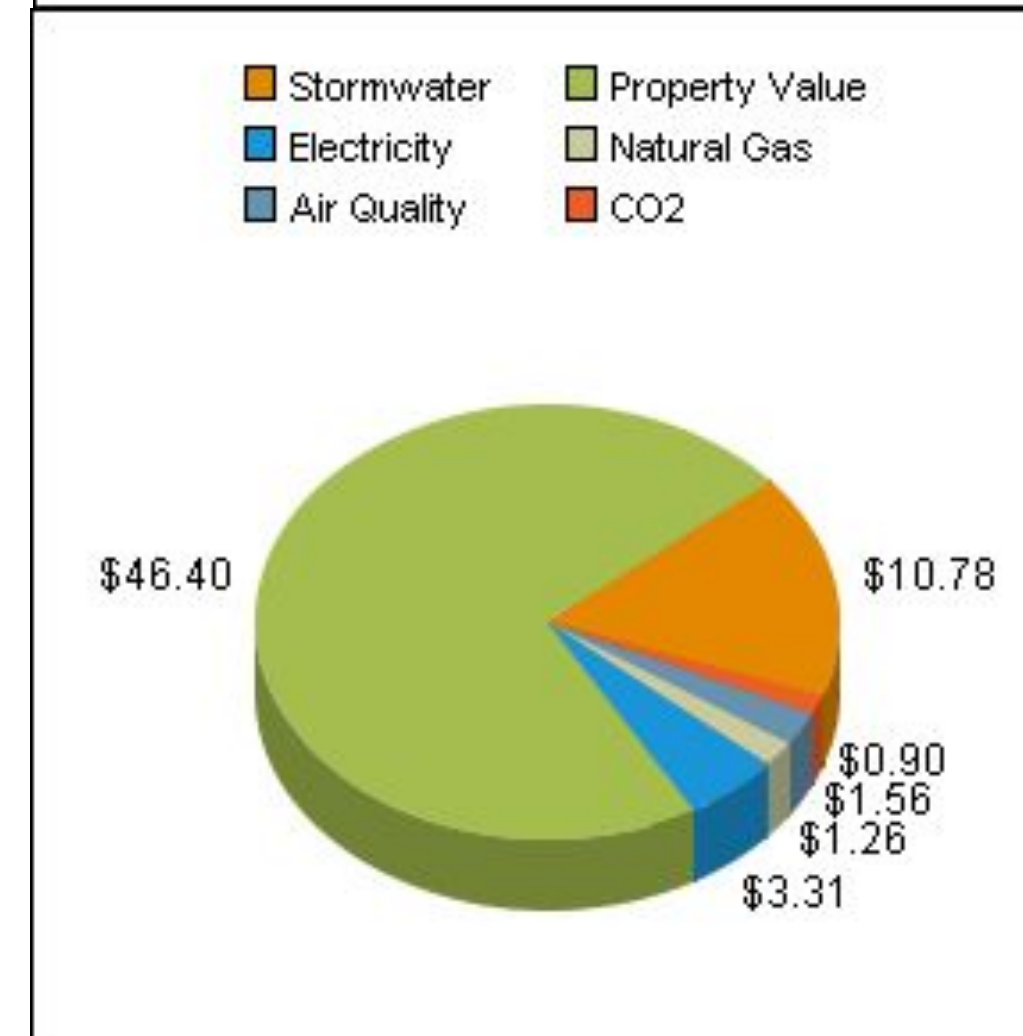
Littleleaf linden, average DBH= 15"

- Average benefits= **\$52 per tree per year**



Red maple, average DBH= 11"

- Average benefits= **\$72 per tree per year**



Ginkgo, average DBH= 10"

- Average benefits= **\$64 per tree per year**

COMPARISON OF 2007/2016 STREET TREE SURVEYS

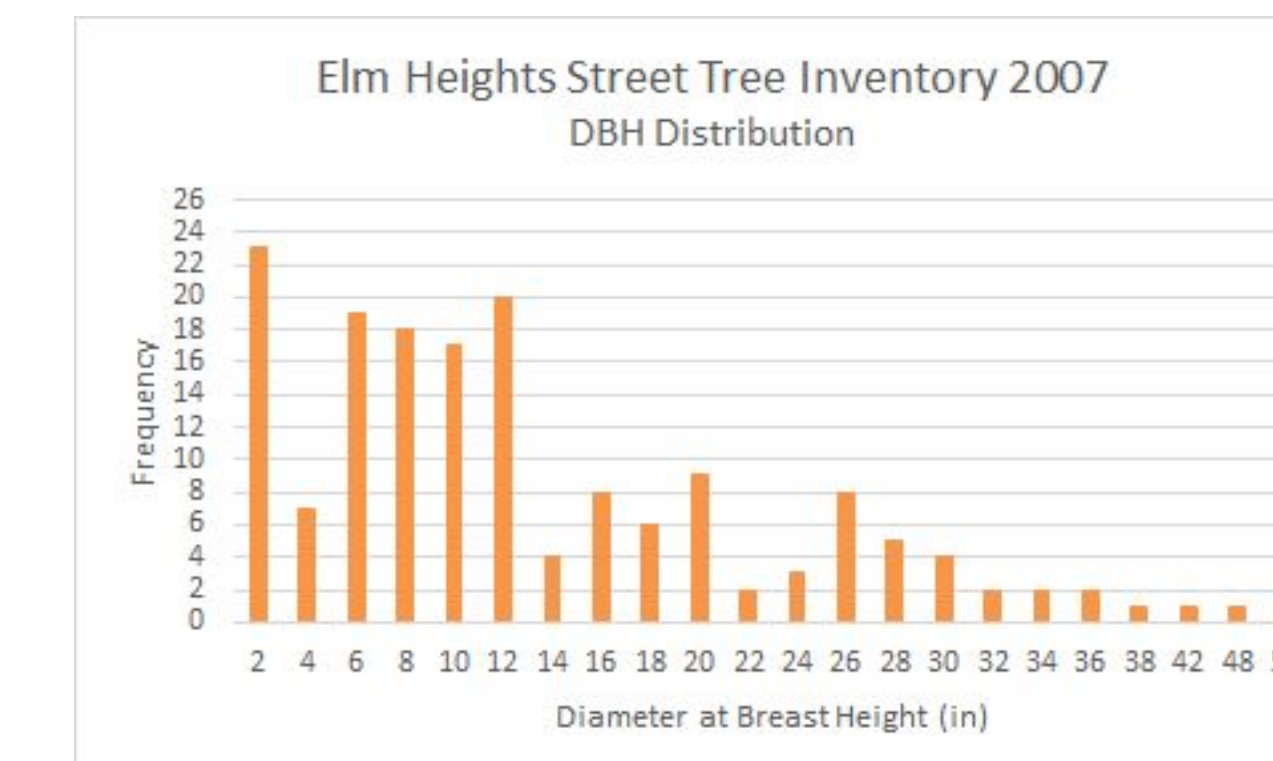


Figure 6. Size distribution in 2007 area street trees. Distribution is skewed towards the left, meaning there are many more smaller trees than larger trees.

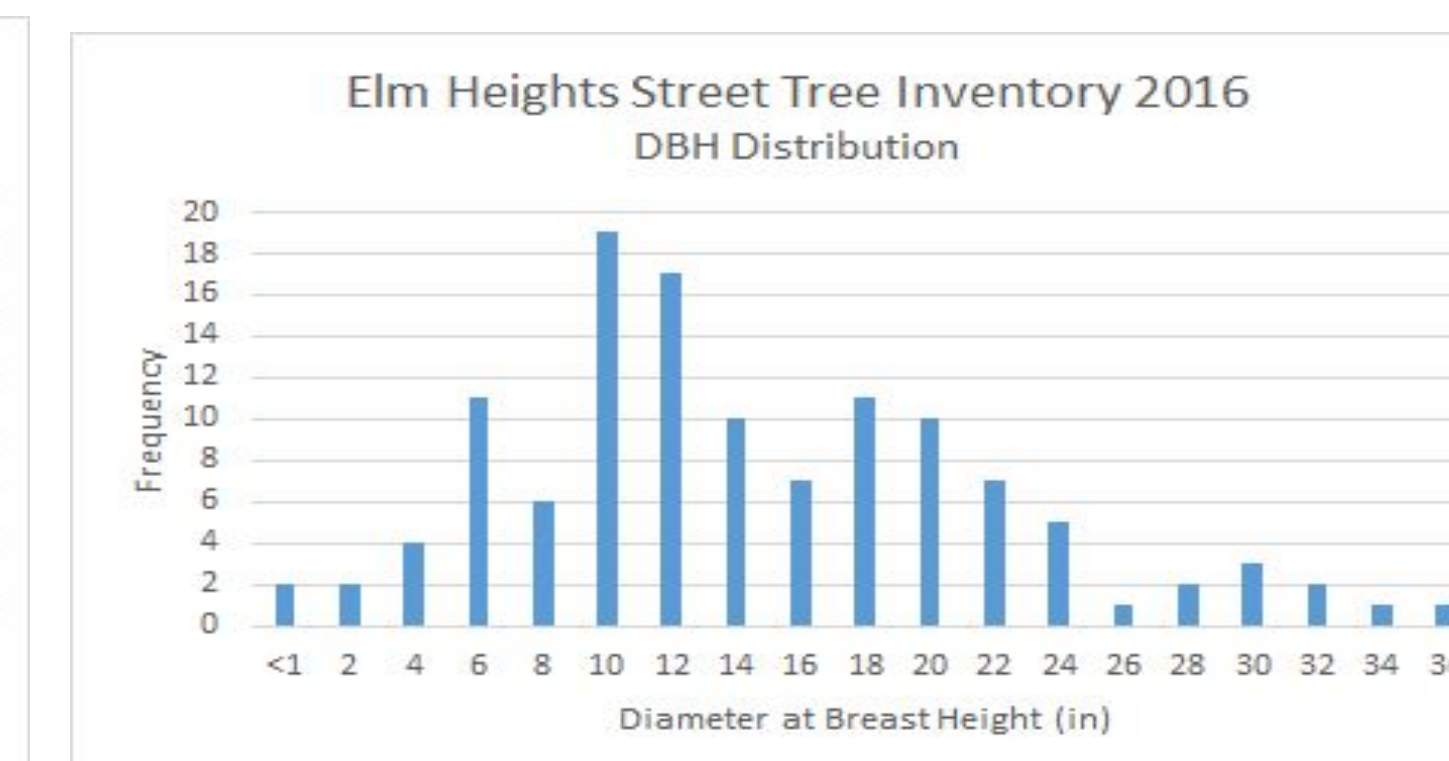


Figure 7. Size distribution in 2016 area street trees. Distribution is closer to a normal distribution, meaning there is a relatively large amount of mid-size trees.

ANALYSIS & RECOMMENDATIONS

Analysis:

- There are a number of older trees; however the main issue is lack of care in all life stages (young through mature), including:
 1. Girdling roots
 2. Broken/dangling branches
 3. Lack of care early in life- central leader never chosen, leaning or crooked trees, lack of early pruning/training leading to unstable branches over streets and sidewalks
- Species composition is relatively diverse; some species (Littleleaf & Red Maple) should be reduced
- Existing space are not being fully utilized. Within our sampling area, these spaces include:
 - 700 & 800 block of 2nd St E
 - 700 block of Henderson St S
 - 500-700 block of Fess Ave S
 - 600 & 700 block of Park Ave S
- Residents are enthusiastic and interested in learning how to improve neighborhood tree maintenance.
- Clear existing community investment; guidance is needed to expand & sustain the urban canopy
- Project (inventory and grant proposal) acts as community development-involves residents in bettering their community.

Recommendations:

- Neighborhood Association should include these 4 main priorities in grant applications:
 1. Tree care early in life, including volunteer training, pruning, & selection of leader.
 2. Continuing to plant a variety of species (30-20-10)
 3. Pruning over highly-trafficked streets and sidewalks
 4. Utilizing existing spaces that are prime locations for trees (see list above)
- May also be beneficial to meet with City officials to stress the importance of these plans.
- Explore the possibility of community pruning training & classes, including those offered through:
 - City of Bloomington
 - Hilltop Campus Gardens
 - Bloomington Community Orchard