Grandview Heights' Tree Program

Review & Recommendations

Prepared by Brian Will, Sustainable Grandview

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BACKGROUND & PURPOSE

In March 2020, Matt Jordan and Brian Will of Sustainable Grandview met with Councilmember Melanie Houston to discuss her interest in better understanding the Grandview Heights community tree program and how it compares to those programs of other nearby communities such as Bexley. Mr. Will offered to undertake a related research effort.

This memo outlines Mr. Will's findings and provides several recommendations based on this research. Sustainable Grandview's goal with this effort is to encourage and enable the City to continue to invest in the program's strengths, as well as address comparative weaknesses. With a bit more focus, and at next to no additional cost, the City could quickly become a leader in urban forestry in Ohio.

KEY FINDING & RECOMMENDATIONS

Following our research, Sustainable Grandview's recommendations include the following:

Set and Pursue a Clear, Ambitious Goal

As far as we could discover, Grandview Heights does not have a tree canopy goal. As it reflects contemporary best practice – and is the minimum threshold recommended for climate change resiliency by the American Forest Institute for cities in our region – Sustainable Grandview recommends a canopy goal of no less than 40%.

Establish, Track and Communicate Program Metrics

As of this writing, Sustainable Grandview could not establish a reliable estimate of Grandview Heights' tree canopy. Surrounding neighbors have such estimates. Establishing this statistic will be important to set goals, develop or restructure programmatic initiatives, and communicate progress and success.

The City has recently invested in a new urban forestry software tool that will be launched publicly in September 2020 that provides an excellent overview of the City's tree inventory. However, it does not provide data with respect to canopy coverage. The City should consider make a recurring investment in the GIS data needed to understand its baseline tree canopy, and to make smart choices with respect to its tree program on the basis of that baseline.

Leverage the Parkways

The City owns and maintains the parkway trees in most residential neighborhoods, which is a significant strength of the Grandview Heights urban forestry program because it has control over these assets and can protect them. Canopy-focused choices with respect to what is planted in these parkways could go a long way toward achieving City goals.

Additionally, we view City ownership and maintenance of the trees in parkways and other public areas as a strength of the City's urban forestry program because it provides routine pruning and arborist care for approximately 2,500 trees in Grandview Heights. Typically, the City's parkway trees are promptly replaced if they die, and there are ordinances in place to ensure residents do not damage or remove these tree assets without approval from the City.

The City has designated Andy Grau as arborist, who seems knowledgeable and responsive to residents' questions on urban forestry matters. Additionally, recent discussions with him clarified that he prefers planting native trees, which Sustainable Grandview views as critical to supporting wildlife and battling the detrimental effects of climate change. Making native trees that contribute to canopy-coverage an explicit priority of the City's parkway tree efforts would be a smart next step.

Stronger Communications & Outreach

The City should do much more to engage residents in the tree program and its goals and successes. The City's urban forestry web page could benefit from an update, particularly as more and more residents become better informed as to the detrimental effects of climate change. For example, the City's urban forestry web page could provide tips on why planting more native trees benefits wildlife and the community, how trees reduce the use of water and energy during the summer, and specifics on why quality of life is enhanced because of trees. Andy Grau's recent acquisition of the new tree inventory plotter tool will assist in this regard, but we also recommend at least once per year City staff hold a public meeting to discuss the "State of the Tree," as well as the successes of the urban forestry program, and upcoming opportunities for residents to help achieve goals (e.g., tree planting events).

Commented [MJ1]: As noted below, this needs to be fleshed out. Why is this a strength? I just made some stuff up here.

METHODOLOGY

Using publicly available sources, attending several workshops, and consulting local leaders, Sustainable Grandview researched nearby urban forestry programs, including those of Bexley, Columbus, Grandview Heights, Marble Cliff, and Upper Arlington. However, in some cases, deep insights into the structure and efficacy of these programs was difficult to come by—either limited information exists online, or program representatives were non-responsive.

Sustainable Grandview also reached out to city arborists in Bexley and Grandview Heights to clarify elements of their respective urban forestry programs, such as how residents may obtain trees through the city.

To gain insight into tree canopy issues in the community, Sustainable Grandview met with leaders from Friends of Lower Olentangy Watershed (FLOW), which coordinates the planting of hundreds of trees in

the watershed annually to support native habitat, wildlife and water quality. Sustainable Grandview has partnered with FLOW in the past to acquire trees for residents to plant in their yards, and will be working with FLOW again this fall to encourage residents to plant larger trees on their property.

IMPORTANT TO NOTE | TREE CANOPIES ARE NEEDED, NOW MORE THAN EVER

Grandview Heights and other nearby communities benefit from continued improvement in the tree canopy, particularly due to the detrimental "heat island" effect cities experience in the summer and fall (see Appendix 1). Because of proximity to Downtown Columbus and the lack of tree canopy, Bexley, Grandview Heights and Upper Arlington experience summer and fall temperatures significantly hotter than outlying suburbs such as Westerville or New Albany. The heat island effect creates greater demand for energy, adds more carbon to the environment because of the use of fossil fuels to create electricity for air conditioning, and negatively impacts residential quality of life. The Columbus metro area is one of the fastest-warming in the country, ahead of other major cities such as Dallas, Atlanta, and Atlantic City. And this will get worse in the coming years if more is not done to address climate change. The time to act is now by encouraging the planting and protection of more trees and wise use of land.

The Byrd Polar and Climate Research Center at Ohio State University warns that due to global warming, by the end of the century Central Ohio's climate will be similar to what Mississippi experiences today, and as a result Central Ohio will lose many animal and plant species it now enjoys With temperatures and humidity climbing to record levels year after year, the cyclical effect of increased use of air conditioning will result in an increase demand for electricity, which in turn will send more carbon into the environment, thus speeding up global warming. The Grandview Heights City Council may wish to think ahead and encourage an aggressive, canopy-focused tree planting effort now to provide some resiliency against the dangerous effects of accelerating climate change. It is likely the most cost-effective action the City can do on the topic of climate resilience and presents the most benefits.

The American Forest Institute recommends cities east of the Mississippi achieve at least a 40% tree canopy to counteract the worst effects of climate change. Below is a summary of the tree canopies of areas surrounding Downtown Columbus as well as a few other major cities in the region.[1]

- Beachwood: 28%
- Cincinnati: 39%
- Columbus: 22%
- Eastmoor 1 (borders Bexley): 26%
- Eastmoor 2 (borders Bexley): 35%
- **5th by Northwest: 14%**
- German Village: 20%
- **Grandview South: 20%**
- Greater Hilltop: 23%
- Louisville: 37%
- **Marble Cliff: 30%**
- Mill Run: 10%
- Polaris: 5%
- Pittsburgh: 40%

[1] Columbus Urban Forestry Master Plan; City of Columbus Urban Possible Tree Planting Site Plotter

- **Tri-Village: 14%**
- Victorian Village: 23%

Note that we could not find reliable data on Grandview Heights' canopy coverage, though based on surrounding neighborhoods we might estimate it to be somewhere in the 14-30% range.

Sustainable Grandview attended a community stakeholders' meeting of the Columbus Urban Forestry Master Plan (URMP) to better understand the city's goals for trees in neighborhoods near Grandview Heights, especially Fifth by Northwest (5XNW). 5XNW unfortunately has one of the lowest tree canopy coverages (14%) of all Columbus neighborhoods. Columbus is committing financial and staff resources to achieve significant improvement in its tree canopy to at least 40% within ten years.

COMPARITATIVE ANALYSIS

Bexley's Tree Program Highlights

Bexley's urban forestry program is similar to Grandview Heights' in terms of having ordinances protecting parkway trees. One significant difference, however, is that until 2018, Bexley offered residents a $100 rebate at Oakland Nurseries for purchases of native trees, shrubs, and flowers. Bexley recently ended the program but still commits significant budget resources to trees. Bexley has an arborist on staff, and has established a resident advisory committee for urban forestry. The community arborist offers his assistance to residents in determining suitable tree planting locations in their yards.

Bexley does a better job than Grandview Heights in promoting its tree program, specifically the city's accreditation by the Morton Register of Arboreta as an arboretum. In effect, Bexley uses its urban forestry as a marketing tool to attract residents, students, tourists, and small businesses to the city. Many residents of Bexley point with civic pride to the community's success with planting and protecting trees.

Upper Arlington's Tree Program Highlights

In our view, Grandview Heights' urban forestry program is superior to Upper Arlington's in that Grandview residents do not have to cost share if they wish to plant a tree in the parkway. In Grandview Heights, if a resident's parkway tree dies, the resident may request a replacement tree for free, where in Upper Arlington the resident would have to pay for 50% of the cost of the tree to have it replaced. UA residents may request a specific variety of tree, however.

Like Bexley, Upper Arlington has achieved national recognition for its urban forestry program, as it has been recognized by the Society of Municipal Arborists for excellence in its tree program. For reference, other communities which have received the arborists' recognition include Carmel, Indiana; Glencoe, Illinois; Portland, Oregon; and Westerville, Ohio.

Tree City Recognition

Bexley, Grandview Heights, and Upper Arlington all share Tree City USA recognition from the Arbor Day Foundation. Tree City USA recognition requires that a city has basic ordinances in place to manage trees, set up a shade tree commission that meets at least six times per year, and the city must hold an Arbor Day observance or release a proclamation annually. Tree City USA is not awarded to a community based on quantity of trees nor on the size of its tree canopy coverage. In Sustainable Grandview's opinion, Tree City USA recognition is good but is not really a hallmark of a truly excellent tree program.

The Grandview Heights Tree Program | Relative Strengths & Weaknesses

The Grandview Heights urban forestry program's major strengths include:

- City ownership and maintenance of neighborhood parkway trees and in public parks (see ordinance: https://www.grandviewheights.org/DocumentCenter/View/4481/City-of-Grandview-Heights-Tree-Ordinance?bidId=). This ensures that trees are protected from removal by residents without approval from the City.
- An ordinance that makes it illegal to damage, mutilate, or attach ropes and other objects to parkway and other public trees (City Ordinance 921), which serves to protect the City's mature trees and create beauty within the community.
- A staff member designated as the arborist, Andy Grau, who spends much of his time maintaining trees. Mr. Grau is also implementing the new tree inventory tracking tool that will be launched shortly.
- An annual tree sale for residents, which allows residents to buy and plant trees for their own yards or designate them for public areas. This tree sale encourages residents to plant more native trees and supports improving the quality of life for residents and wildlife (https://www.grandviewheights.org/295/Urban-Forestry).

The Grandview Heights' urban forestry program's relative weaknesses include:

- A Lack of Publicly Communicated Goals and Objectives. Based on our research, there is a lack of a publicly communicated goals for incremental increases in the City's tree canopy, as well as an understanding of what is Grandview Heights' baseline tree canopy. We recommend pursuing a ten-year tree canopy goal of at least 40% or more.

- Public Engagement & Communication. The City does not seem to have a public strategy related to promoting the tree program and improving its impact. There are many ways of developing and implementing a strategy, so we will not stress specifics here.

  If the Grandview Heights City Council is looking for ways to better engage and educate the public about the urban forestry program, an update to the urban forestry web page would be a great first step. For example, many residents may be confused by information on the urban forestry web page regarding when it is necessary to obtain a permit (i.e., is a permit necessary only when the resident wishes to plant or replace a tree in the parkway?), and what types of trees are recommended to be planted in a resident's yard. Also, information about the date of the tree sale, what types of trees are sold, the size of the trees, and the approximate cost of the trees would be helpful. General information about City's tree canopy and related tree canopy goals would be beneficial – as it is available – as well as links to sites that offer information on native and invasive trees.

  The tree plotter tool that will soon be available to the public will be a nice addition to the urban forestry web page. This tool will provide residences with information on publicly owned trees near their property as well as the environmental, financial, and social benefits of those trees. A link on the urban forestry web page to this tool would be a significant benefit to residents seeking

to better understand Grandview's urban tree inventory, and how residents can protect these assets.

It would be helpful for a staff member from the Parks and Recreation Department to present a "State of the Tree Program" event annually to discuss the benefits of trees to the community, progress toward tree canopy goals, possible threats to local trees (e.g., invasive species; pests), and how residents can protect parkway trees. Sustainable Grandview would be happy to help coordinate such an event.

Quick Comparison | Grandview vs. Region

Below is a summary of the major attributes of urban forestry programs in nearby communities in comparison to Grandview Heights.

	Bexley	Columbus	Upper Arlington	**Grandview Heights**
40% Canopy Goal	☒	☑	☒	☒
A Robust Web Page	☑	☑	☑	☒
Tree Sales	☒	☒	☒	☑
Discounted/Free Trees	☑	☒	☑	☒
Control of Parkways	☑	☑	☑	☑
Strong Public Engagement	☑	☑	☒	☒
National Recognition beyond Tree City USA.	☑	☒	☑	☒
Resident Advisory Committee	☑	☑	☑	☑
City Arborist	☑	☑	☑	☑
Native Trees Mandate	☑	☒	☑	☒
Tree Plotter Tool	☒	☒	☒	☑
Prompt Replacement of Dead Trees	☑	☒	☒	☑
Partnerships with FLOW (free trees)	☒	☑	☒	☑

RECOMMENDATIONS

1. **Assess baseline tree canopy for Grandview Heights and establish goals.** The council and staff should consider establishing a goal of an incremental net increase in the tree canopy each year for the next five to ten years, and a long-term goal to achieve a 40% or more tree canopy. Consideration would need to be given to the annual tree mortality rate, and perhaps a need for adjustments to City codes related to landscaping and retaining trees for new construction projects. Serious thought might be given to require carbon offsets for any large trees that are removed within City boundaries. Sadly when land clearing began for the Grandview Crossing project, hundreds of trees were cut down from the site. How will those trees and their environmental benefits be replaced?

2. **Require native trees be planted:** When approving new construction projects within the City, Grandview Heights might wish to consider requiring the planting of native trees at the new building sites, especially those that will be able to withstand climate change (see Appendix 2).

3. **The City takes the lead in planting trees.** The parks district can set the example by planting more native trees in public areas and host annual Earth Day and Arbor Day events.

4. **Engage the community.** City staff could enhance education for residents about the urban forestry program and how the City might assist residents in planting and maintaining trees on or near their properties.

   It is recommended that information provided on the urban forestry page for Grandview Heights be updated and expanded, possibly by adding information about the benefits of native trees, the role of climate change and heat islands, and rolling out the new tree inventory tracking tool. Also, information how a resident can apply for membership on the Shade Tree Commission?

   The Grandview Heights council and staff might consider partnering with Sustainable Grandview and FLOW to offer free trees to residents and coordinate annual tree plantings in public areas, such as Wyman Woods. Also, promote the annual observance of Arbor Day within the community and encourage planting of native trees (the next Arbor Day is April 30, 2021).

   To demonstrate interest and promote progress toward tree canopy goals, the council and public might benefit from an annual "State of the Urban Forest" presentation by the parks department. The same program could be presented a few weeks later at the library in partnership with Sustainable Grandview.

5. **Pursue national recognition for urban forestry program.** Like Bexley, Westerville, and Upper Arlington, consider pursuing a goal to achieve additional national recognition for the City's urban tree program.

CONCLUSION

It is our view that the tree program in Grandview Heights has many strengths relative to other nearby communities, especially the fact that the City owns, maintains, and protects parkway trees in neighborhoods. Additionally, the City has a designated arborist on staff who seems to be knowledgeable and responsive to inquiries from residents. Like Bexley and Upper Arlington, Grandview Heights is one of

several nearby communities designated as a Tree City USA designee because it has ordinances protecting trees and a shade tree commission.

Although Grandview Heights' program has many comparable elements to the programs of Bexley, Upper Arlington, and Columbus, it is not clear to the public what the current baseline tree canopy is for the City. This makes it difficult to establish canopy goals for the future. We believe growing the tree canopy is a cost-efficient method of addressing climate change, improves the quality of life for residents, and offsets the detriments of the urban heat island effect.

APPENDIX 1

The "Heat Island Effect"

Why are tree canopies important in cities like Bexley, Columbus, Grandview Heights, and Upper Arlington? The following is excerpted from the EPA.gov web site.

Urban areas are usually warmer than their rural surroundings, a phenomenon known as the "heat island effect." As cities develop, more vegetation is lost, and more surfaces are paved or covered with buildings. Building materials, solar reflectance, thermal emissivity, and heat capacity, also influence the development of urban heat islands, as they determine how the sun's energy is reflected, emitted, and absorbed.

Heat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality, and water quality.

The Columbus metro area is one of the fastest-warming cities in the country, ahead of other major cities such as Dallas, Atlanta, and Atlantic City. (source: https://thestacker.com/stories/3584/fastest-warming-cities-us#25)

The Environmental Protection Agency notes that the use of trees and vegetation in the urban environment brings benefits beyond mitigating urban heat islands including:

- *Reduced energy use:* Trees and vegetation that directly shade buildings decrease demand for air conditioning.
- *Improved air quality and lower greenhouse gas emissions:* By reducing energy demand, trees and vegetation decrease the production of associated air pollution and greenhouse gas emissions. They also remove air pollutants and store and sequester carbon dioxide.
- *Enhanced stormwater management and water quality:* Vegetation reduces runoff and improves water quality by absorbing and filtering rainwater.
- *Reduced pavement maintenance:* Tree shade can slow deterioration of street pavement, decreasing the amount of maintenance needed.
- *Improved quality of life:* Trees and vegetation provide aesthetic value, habitat for many species, and can reduce noise.

Source: EPA.gov

APPENDIX 2

According to the Alliance for Community Trees, the following trees would have the best chance of surviving climate change in Central Ohio. The trees in bold are considered more wildlife friendly because of their mast (fruit of forest trees such as acorns):

red maple

sycamore

shagbark hickory

black gum

hackberry

red mulberry

American elm

bur oak

eastern redbud

northern red oak

white oak

bitternut hickory

boxelder

Source: FLOW