

# CITY of MADISON

## URBAN FORESTRY TASK FORCE FINAL REPORT

### URBAN FORESTRY TASK FORCE MEMBERS

Jeremy Kane, Chair, Resident

Jackie Suska, Vice Chair, Resident

Sheri Carter, Common Council, District 14 Alder

Keith Furman, Common Council, District 19 Alder (term April 2019 – May 2019)

David Ahrens, Common Council, District 15 Alder (term January 2018 – April 2019)

Julie Landrie, Resident

Michael Rewey, Resident

Marla Eddy, City Forester

Dan McAuliffe, City Planning Division

James Wolfe, City Engineering Division (term July 2018 – May 2019)

Lisa Coleman, City Engineering Division (term January 2018 – July 2018)

Katie Crawley of the Mayor's Office and Liz Levy and especially Tesha Pittenger of the City of Madison Parks Division have also made significant administrative and organization contributions.

# Why are we here?

- **January 21<sup>st</sup>, 2020 Council Accepted the final Urban Forestry Task Force Report.**
- **Council also passed a resolution as follows: BE IT FURTHER RESOLVED that a cross-functional staff team from Parks, Streets-Forestry, City Engineering, Traffic Engineering and Planning be created to prioritize, 3-5 specific recommendations based on the sub-committee's recommendations, with implementation timelines, specific costs and cost-benefit analysis, that will be presented to the Common Council by April, 2020 for consideration in the 2021 budget for both Operating and Capital Improvement Plan (CIP);**
- **Staff Team: Dan McAuliffe – Planning, Jim Wolfe - Engineering, Marla Eddy – Forestry, Craig Klinke – Forestry, Graham Heitz – TE, Greg Genin – Parks, Charlie Romines – Streets & Urban Forestry.**

	Recommendation	Stakeholders	Agencies
Zoning & Site Plan Review	The City Forester should recommend an <b>adequate soil volume</b> to be included within landscape zoning requirements for <b>parking lot trees and general landscape plans</b> .	Developers, Contractors	Streets, Planning

### In process

- Presentation to Plan Commission by consultant in fall 2021.
- Planning staff is working with the City Attorney's Office to draft an ordinance amendment related to:
  - minimum soil volumes
  - planting island size
  - requiring landscape architect signoff on proper installation

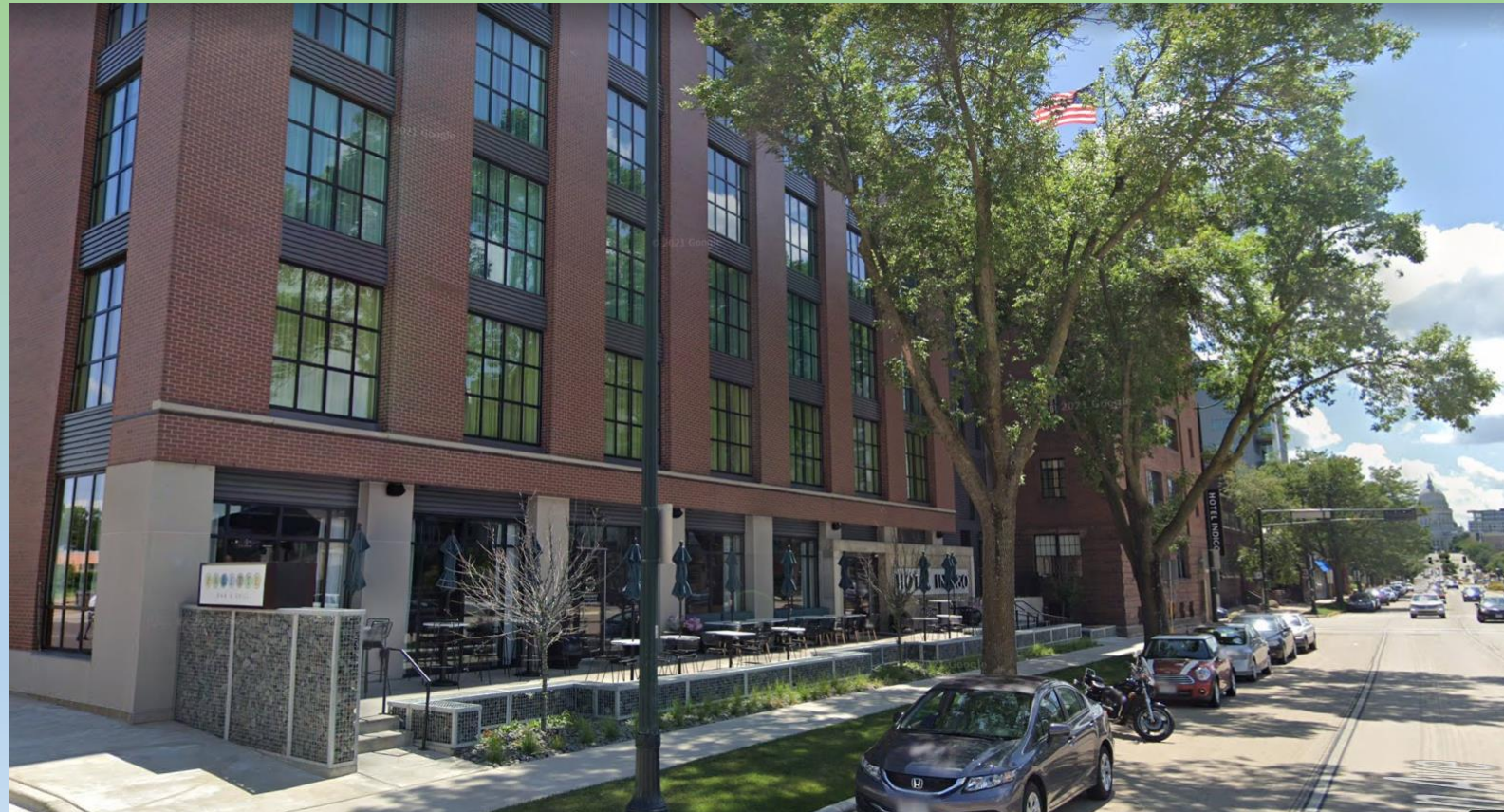




	Recommendation	Stakeholders	Agencies
Zoning & Site Plan Review	The City Forester should recommend an <b>adequate soil volume to be included within landscape zoning requirements</b> for parking lot trees and general landscape plans.	Developers, Contractors	Streets, Planning

### Implemented - 2021

- Front and side yard street setback requirements increased where less than 15 ft. between the curb and front lot line
- Several Downtown, Mixed Use and Commercial, and Employment zoning districts
- Better protects existing street trees during construction
- Allows for a larger canopy and a wider selection of new trees to be planted



	Recommendation	Stakeholders	Agencies
Street Design	Add to Madison General Ordinances: "In new developments, terraces shall have the following optimal minimum widths: Local streets – 10'; Collector streets – 10'; Arterial streets – 12'"	Developers	Engineering, Traffic, Planning

### In progress

- Trees significant factor in street designs included in plans.
- Current example: Fair Oaks Ave in Hawthorne-Truax Neighborhood Plan



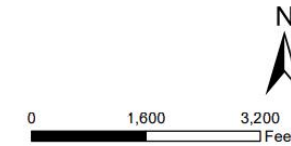


	<h2 style="text-align: center;">Recommendation</h2>	<h3 style="text-align: center;">Stakeholders</h3>	<h3 style="text-align: center;">Agencies</h3>
<p>Neighborhood &amp; Long-Term Planning</p>	<p><b>Planning documents should include an existing tree canopy inventory</b> and identify areas for tree preservation. As appropriate, it is recommended that existing plans be amended to address these issues. Neighborhood development plans <b>should consider developing connected greenspaces</b>, environmental corridors, etc. Whenever possible, efforts should be taken to <b>link existing forested lands</b>.</p>	<p>Residents, Property owners, Developers</p>	<p>Planning</p>

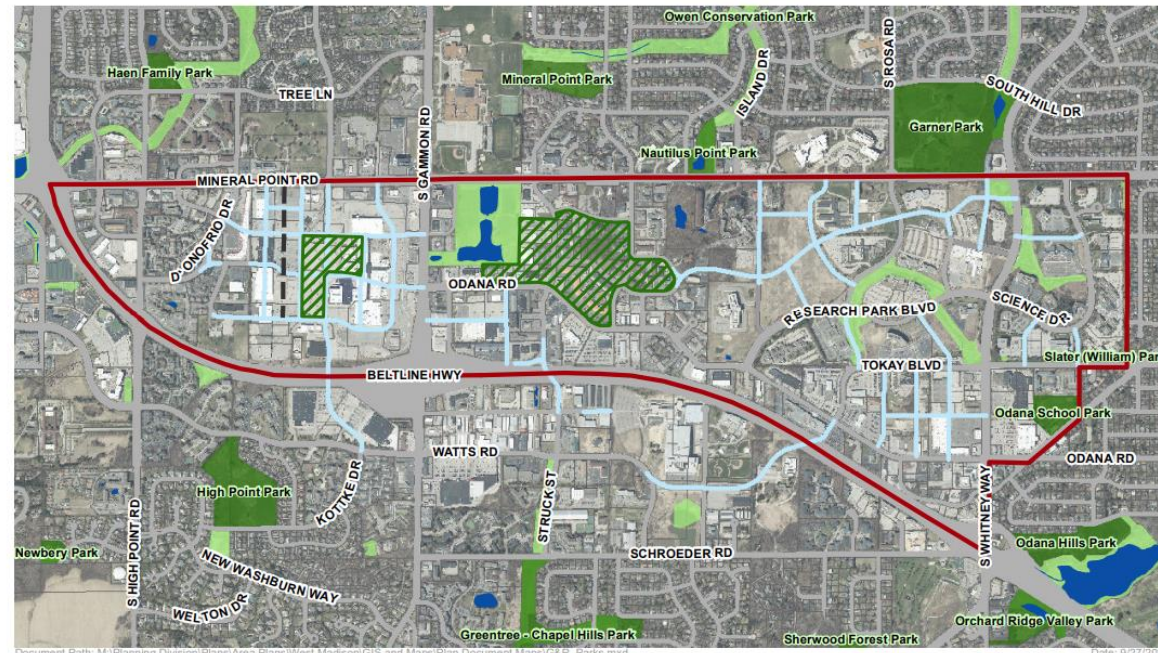
## Implemented - 2020

- Plans include tree canopy analysis to identify areas where additional planting are needed and where opportunities for tree preservation exist
- Odana Area Plan - potential Parks acquisition of wooded lots next to Oakwood Village
  - Create continuous green corridor to Owen Conservation Park

Map 7: Parks & Greenways



\* Acquire minimum of 5 acres in western overlay (out of 13 acres shown). Acquire minimum of ~10 acres in eastern overlay (out of 45 acres shown), in either one or two contiguous areas.

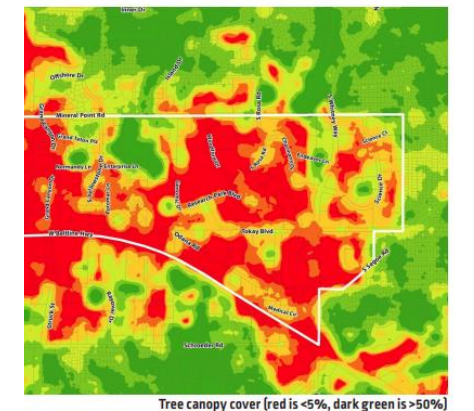


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Date: 9/27/2021

### Stormwater Management

Some of the Odana Area experiences flooding during significant rainfall events. The most recent and severe event was in August of 2018. The map on the following page shows impervious surfaces in the Odana Area. Many areas, including West Towne Mall, were developed prior to the City establishing stormwater regulations and landscape requirements, and therefore those areas have virtually no pervious surfaces to infiltrate stormwater. Improvements are needed to help mitigate flooding impacts, and future redevelopment will need to account for the increasing amount of rainfall our area is seeing due to climate change. The City Engineering Division has updated the City's stormwater management ordinance and undertaken watershed studies that recommend specific improvements to the area's stormwater management systems.



Tree canopy cover (red is <5%, dark green is >50%)



	Recommendation	Stakeholders	Agencies
Forestry Operations and Public Lands	<ul style="list-style-type: none"> <li>Forestry should obtain the appropriate software licenses and permissions to coordinate more extensively with other agencies involved in Public Works projects and permits.</li> <li>Update and upgrade the process of inventorying street trees to include up-to-date information.</li> <li>An assessment of the street tree inventory should be prioritized in order to assess current and future needs. The assessment should include, but not be limited to, opportunities for public access to data, mobile applications for fieldwork orders and data editing, and strategies for a comprehensive update.</li> <li>Inventory trees on all City-owned properties including parks and greenways, in order to maintain and add new trees. The inventory would be used to mitigate and respond to threats to the urban forest as well as prioritize growth of the forest.</li> </ul>	Residents	Streets, Finance

### In Process

- Vendor for inventory update just selected through RFP process
- StUF's first GIS position is filled and working to ensure successful implementation of TreeKeeper GIS Software
- New Inventory will have a meaningful public component
- Parks and Engineering are able to add on to the inventory



	Recommendation	Stakeholders	Agencies
Forestry Operations and Public Lands	Dedicate additional resources to Forestry for more frequent pruning and maintenance of new and existing street trees. The current approximately 21-year pruning cycle of street trees should be evaluated in order to identify methods and resources needed to shorten the cycle.	Residents	Streets, Finance

## Complete

### Pruning cycle is being reduced

- Increased hours from Streets Division (minimum 5,700 hours)  
Increased hours due to EAB removals being complete (6,400 per year)
- Near ideal pruning cycle of 10-12 years





# Current Highlighted Initiatives

- Tree Rebate Program <sup>(5)</sup>

- Framework has been approved by City Attorneys Office
- Likely administered thru a third party non profit
- Encourage tree planting on non City owned property
- Parameters for tree types, sizes and planting seasons and locations (canopy deficient areas of the City) to be provided by Forestry
- Eligibility will have a focus on equity.
- Seed money provided from the City TBD but can't come from UFSC

- ROW Requested Tree Removals <sup>(4)</sup>

- Plans identify what ROW trees need to be removed, would cover planned & unplanned removals
- Trees are inventoried and measured
- The total value of trees to be removed is calculated, valuation method TBD

Applicant has the following options at the determination of the City Forester:

- Pay for Silva Cell, Root Space or other alternative approved by City Forester that enhances replanted trees viability.
- Pay equal dollars to the value of trees removed to a segregated fund.
- New fund would support purchasing tree guards and grates, fund the Rebate Program as well as Terrace Tree Support Structure installation at direction of the City Forester

# UFTF Driven Expenditures

## **Spent or encumbered**

- \$500k on new Tree Inventory for ROW, Parks and Engineering land. Contract awarded, work to commence in 2023
- \$150k Rebuilding Grate sites. 25 sites are being rebuilt by Engineering in addition to tree grate and tree guards purchased.

## **Planned for 2023-24**

- \$50k Tree Canopy analysis
- \$50k Tree Technical Manual
- \$250k City Forestry directed Silva Cells, further rebuilding of grate sites, seed tree rebate program



# Why the Tree Rebate Program?

Outreach and Education	Create a grant program that includes the City providing trees to be planted on RESIDENTIAL private property.	Property owners	Finance, Streets	Deferred Item	Tree Rebate program
Outreach and Education	Multi-year programs intended to plant trees in areas not covered by the city's operations such as private homes, schools, and multi-family housing should be designed and supported. Such a program is key to planting more trees and providing direct outreach in the city.	Urban Tree Alliance, Property owners	Finance, Streets	Deferred Item	Tree Rebate program
Canopy Coverage	The city should institute a range of policies and program designed to increase canopy coverage at the neighborhood level. In conjunction with neighborhood groups, staff should develop strategies for increasing tree population. Canopy trends should be evaluated with particular attention paid to rates of coverage in neighborhoods of higher poverty and greater concentrations of persons of color.	Neighborhood associations, Property owners, Low-income renters	Planning, Streets	Deferred Item	Tree Rebate Program
Canopy Coverage	Public plantings along streets, in parks, and within greenways should be prioritized according to a need-based neighborhood analysis. The city should consider subsidies for street or private trees in neighborhoods or census districts with household incomes below the area mean and neighborhoods that have not historically had street trees.	Residents	Parks, Engineering, Streets, Planning	Deferred Item	Tree Rebate Program
Canopy Coverage	The city should support multi-year programs to support tree planting for private homes in neighborhood with low canopy coverage, apartment/rental housing, schools, and other areas not currently covered with existing municipal plantings.	Property owners, Residents, Urban Tree Alliance	Streets, Finance	Deferred Item	Tree Rebate Program

	Recommendation	Stakeholders	Agencies	Year Implemented	Actions
<b>Policy</b>					
Forestry Operations & Public Lands	When planting on arterial and collector streets, City Forester should consult with Engineering Division to identify long-term plans for street design (e.g., bike lanes).	Residents	Streets, Engineering	2020	On Going. Better communication between Forestry and Engineering.
Forestry Operations & Public Lands	Property owners should not have the ability to veto a planting site identified by the Forestry section as an appropriate site.	Property owners	Streets	2020	Implemented. Forestry is supported in maintaining and increasing tree canopy within the public right of way.
Neighborhood & Long-Term Planning	Neighborhood development plans should consider developing connected greenspaces, environmental corridors, etc. Whenever possible, efforts should be taken to link existing forested lands.	Developers	Planning	2020	Implemented
Neighborhood & Long-Term Planning	Planning documents, such as Neighborhood Development Plans and Neighborhood Plans, should include an existing tree canopy inventory and identify areas for tree preservation. As appropriate, it is recommended that existing plans be amended to address these issues.	Residents, Property owners, Developers	Planning	2020	Implemented. Moving Forward. New Projects
Forestry Operations & Public Lands	The City Forester and Engineering Division should work cooperatively to develop standards for tree plantings in greenways and other stormwater management areas and identify strategies to minimize erosion from shaded exposed soil that can result with trees and moving stormwater while maintaining the inherent functions of the greenways.	Residents	Streets, Engineering	2021	In Progress. Engineering has greenway vegetation coordinator. Coordination has not been implemented.
Street Design	Explore requiring zones free of laterals (e.g., water, sanitary) and parallel utilities for redevelopments at the beginning of the process in order preserve open and contiguous areas used to maximized soil volumes for tree plantings.	Developers	Engineering, Streets	Deferred Item	



	In Progress				
Forestry Operations & Public Lands	Write a biennial urban forest report. This would accomplish the same goals as a Forestry Master Plan (e.g., assessing the current state of the urban forest, reviewing the UFTF recommendations, and evaluating the success of those goals).	Residents	Streets	2023	In Progress
Forestry Operations & Public Lands	Create a canopy tree planting program for city-owned bike path corridors and other city-owned transportation corridors that are currently rented for parking.	Residents	Engineering, Parks, Streets		Engineering has implemented a planting & restoration program in greenways, but has yet to implement anything along bike path corridors.
Forestry Operations & Public Lands	The Park Commission should prepare a policy of and develop methods for canopy growth within parks by planting 2,000 more trees above the replacement rate each year for the next five years and how it could interact with other park uses (e.g., no mow areas). An assessment for park properties should be completed in order to identify preliminary tree locations, set consistent design goals, and project both priority areas and rates for tree planting. In addition, a tree preservation plan or criteria should be developed for Parks.	Residents	Parks		Under review by Parks
Zoning & Site Plan Review	Public trees that are removed should be replaced in enhanced growing conditions, at the cost of the developer, in consultation with the City Forester. Forestry should partner with Traffic Engineering and Engineering on redevelopment projects for dedication needs to enhance the terrace and sidewalk.	Developers, Contractors	Streets, Traffic, Engineering	2022	In Progress
Outreach and Education	Among other activities, the outreach program should organize volunteer tree planting and tree maintenance programs should be developed for private property and city parks in order to include citizens in a program of tree stewardship.	Urban Tree Alliance, Property owners	Streets, Parks	Deferred item	

Zoning & Site Plan Review	<p>Private development proposals subject to city review should create and provide a Tree Management Plan. The Tree Management Plan should include, but not be limited to:</p> <ul style="list-style-type: none"> <li>a. An inventory that identifies the locations and species of trees larger than 5" DBH for both private trees and possibly affected public trees within the adjacent public right-of- ways.</li> <li>b. A statement describing the impacts of the development on the all tree resources that includes a description (size, species) of trees to be preserved and removed.</li> <li>c. A construction plan illustrating how practices may affect existing trees and details physical tree preservation measures such critical root zones protection, locations for materials storage, site access, and prescribe tree measures such as pruning.</li> </ul>	Developers	Planning	Deferred Item	<p>Yet to be fully implemented, however existing site plan review submittals require existing trees great than 8" in diameter to be shown as part of the existing conditions drawing. Tree preservation is incentivized by existing trees counting toward the landscaping point requirements, with elevated values based on diameter. ^</p>
Zoning & Site Plan Review	<p>Building set back allowances have been reduced in urban areas to increase density. These policies have likewise reduced areas for potential tree plantings in critical areas. The city should consider the loss of potential trees due to this zoning condition as a detriment to the public value of the city streets. The city should develop zoning policies that encourage, not prevent, the provision of street trees or trees on privately developed properties.</p>	Developers	Planning	2020	<p>Implemented. Passed by CC in 2021. Front and side yard street setback requirements were amended to increase setbacks where less than 15 ft between the curb and front lot line in several Downtown, Mixed Use and Commercial, and Employment zoning districts.</p>
Street Design	<p>Existing policies impacting street trees, such as Complete Streets, Rural to Urban Roads, Madison in Motion, and Comprehensive plan, should be reviewed in order to ensure consistency in tree policy.</p>	Residents, Developers	Planning, Engineering, Streets. Traffic	2020	<p>In Progress – Complete Green Streets. Forestry involved w Planning Staff and consultant in finalizing draft documents</p>



# Ordinances, Council, Committees

Street Design	Amend MGO 123.8(g) to clarify that existing trees should not be removed for the purposes of solar panel installation. Planting trees, planting location, and species would only be in effect if the building plan includes using solar.	Property owners, Residents	Attorney, Engineering, Streets	2022	
Forestry Operations & Public Lands	Forestry should work cooperatively with other City agencies to identify opportunities to enhance green space (e.g., pocket parks) in areas with low canopy cover, like downtown.	Residents	Engineering, Parks, Streets		Tree inventory
Street Design	Add to Madison General Ordinances: "In new developments, terraces shall have the following optimal minimum widths: a. Local streets – 10' b. Collector streets – 10' c. Arterial streets – 12'"	Developers	Engineering, Traffic, Planning	2022	In Progress. Standard terrace widths will be a consideration of Complete Green Streets study.
Zoning & Site Plan Review	The City Forester should recommend an adequate soil volume to be included within landscape zoning requirements for parking lot trees and general landscape plans.	Developers, Contractors	Streets, Planning	2022	Plan Commission received a presentation by Birchline Consultant at the 09/30/21 Work Session. Planning staff is working with the City Attorney's Office to draft an ordinance amendment related to minimum soil volumes.
Forestry Operations & Public Lands	Revise urban design district ordinances MGO 33.24 (8-15) to remove list of allowable trees species and grant this authority to the City Forester.	Developers	Streets, Planning, Attorney	Deferred Item	Planning staff is preparing for an in-depth, phased revision process for the Urban Design District ordinances. The tree species lists are anticipated to be part of the first phase, which is expected to occur in 2022.

Emerald Ash Borer Response	Additional staff will be needed to care for (prune, water, etc.) 20,000 new trees. These trees require more frequent pruning and care than older, mature trees.	Residents	Streets, Finance, HR	2020	Implemented. Forestry moved to Streets Division in 2020. Streets Operations provide, at minimum, 5,700 hours of support to Forestry Operations annually.
Forestry Operations & Public Lands	Dedicate additional resources to Forestry for more frequent pruning and maintenance of new and existing street trees. The current approximately 21-year pruning cycle of street trees should be evaluated in order identify methods and resources needed to shorten the cycle.	Residents	Streets, Finance	2020	Implemented. Forestry moved to Streets Division in 2020. Streets Operations provide, at minimum, 5,700 hours of support to Forestry Operations annually.
Subdivision	Planning Division should investigate how new single-family lots, which are exempt from landscape standards in the zoning ordinance, can have a tree planting requirement. Strategies may include, but not be limited to, incentives for developers and/or homeowners to plant and maintain trees, the use of neighborhoods covenants to require trees, or direct planting programs focused on private properties. It is further recommended that the city provide guidance on best practices regarding the location of trees of lots and species selection to encourage diversity and large trees.	Developers, Property owners	Planning		May be reviewed as part of subdivision ordinance update project scheduled for 2023.
Emerald Ash Borer Response	It will be necessary to gear up enforcement of regulations pertaining to dead trees.	Property owners	Planning, Streets	2023	This will require Building Inspection involvement. The expectation is that due to EAB, there will be an increase in nuisance abatement calls.

Zoning & Site Plan Review	Mature trees lost during construction reduce the public benefit of Madison’s urban forest canopy. A required replacement of mature with new trees is not an equal exchange. Even when new trees are planted, it can be several decades until they can provide the value of mature trees. In such cases where existing canopy value is lost or diminished, the city should develop a more equitable metric than “one mature tree for one sapling” when seeking measures to remediate losses even if those measures are outside of the project bounds.	Developers, Contractors	Streets, Engineering	2021	Menu, not finished
Zoning & Site Plan Review	Include Forestry in the final approval process for any development in regards to the public right-of-way. Any street tree preservation plan shall be considered as part of the evaluation for approval at the Board of Public Works (BPW). If a tree needs to be removed that was not otherwise indicated on the plan to be removed, the plan will need to be re-submitted to the BPW and the developer will need to be present to describe the change in the plan.	Developers	Planning, Streets, Engineering	2022	In Progress. Inclusion of Forestry yes and going back to BPW is in process.
Street Design	During the public planning and design phases of street re-construction projects, alternative design scenarios, such as engineered soil volume construction methods and terrace support systems, should be investigated for street reconstruction projects in order to provide a more optimal environment, in consultation with the City Forester. Public works design specifications should be updated to allow for such innovative methods and standardized details. These methods should be further identified with educational signage to raise awareness of the methods.		Engineering, Streets	2021	In Progress. Criteria for when terrace support system would be used needs to be determined. Terrace/tree space is now regularly a consideration with any design alternatives.
Zoning & Site Plan Review	The City should increase costs associated with public tree removal related to house moves and private development projects, such as \$500 to \$1,000 per inch of diameter at breast height. This would create a financial incentive for developers to avoid public street tree removal while providing Forestry funds that could be used for improve growing environments to speed future tree growth.	Developers, Contractors	Streets, Attorney	Deferred Item	Menu, not finished
Forestry Operations & Public Lands	Develop a Tree Technical Manual to create new standards and review existing standards for improvement, to increase tree canopy. This would include a detailed guide as to the currently used and recommended spacing requirements. The rationale for spacing standards and opportunities for reduction in spacing should be documented. For example, the Technical Manual should review the relationships between trees and street lights, review the need for vision corner restrictions, and review fire department requirements (whether policy, code, etc.)	Residents, Developers, Contractors	All	2023	



	Inventory				
Neighborhood & Long-Term Planning	Neighborhood-scaled canopy coverage assessments should be developed and conducted in order to set goals and strategies for canopy growth within those areas.	Residents, Property owners	Streets, Planning		Street tree inventory and Tree Rebate program
Forestry Operations & Public Lands	Forestry should obtain the appropriate software licenses and permissions to coordinate more extensively with other agencies involved in Public Works projects and permits.	Utility companies	Streets, Engineering, IT	2023	In process. GIS Position, integration of TreeKeeper, City Works
Forestry Operations & Public Lands	Update and upgrade the process of inventorying street trees to include up-to-date information.	Residents	Streets	2022	In Process. TreeKeeper implementation underway. Funds in place.
Forestry Operations & Public Lands	An assessment of the street tree inventory should be prioritized in order to assess current and future needs. The assessment should include, but not be limited to, opportunities for public access to data, mobile applications for fieldwork orders and data editing, and strategies for a comprehensive update.	Residents	Streets, IT	2023	In Process. TreeKeeper implementation underway. Funds in place.
Forestry Operations & Public Lands	Inventory trees on all City-owned properties including parks and greenways, in order to maintain and add new trees. The inventory would be used to mitigate and respond to threats to the urban forest as well as prioritize growth of the forest.	Residents	All	2023	Inventory RFP is out to bid. Parks and Engineering will have opportunity to be included.
Street Design	The Undergrounding of Overhead Utility Lines policy criteria should be amended to account for the impact of overhead utility lines on city terrace trees. The criteria should include but may not be limited to: ability to underground, terrace width, availability of space for private trees adjacent to the right-of way, ability to improve canopy coverage, availability of cost-share funding source (e.g., TIF), potential for place-making, etc.	Residents, Property owners, Utility companies	Engineering, Streets	Deferred	No Action

Street Design	Appropriate annual funds for full or partial underground projects as a separate budget line item.	Utility companies		Item Deferred	No Action
Outreach and Education	Create a position for a Forestry outreach and education specialist, who would combine education/communication and an arborist background. This position would help develop an Urban Forest Outreach Initiative that would provide public education; coordinate events; and create a program similar to Tree Tender, Tree Keeper, or Adopt-a-Highway, in conjunction with the City Forester. The Initiative would partner with interested groups and individuals to maintain and grow the urban forest.	Residents	Streets, HR	Item Deferred	No Action
Zoning & Site Plan Review	In the zoning code, amending landscape applicability standards should be considered to bring more legal nonconforming site plans up to current landscape standards.	Commercial property owners	Planning		The landscape applicability standard were established with the 2014 zoning code rewrite. While parking lots developed under previous standards do exist, incremental progress has been made to bring more areas into compliance with current standards as redevelopment occurs. ^
Canopy Coverage	The City Forester and Sustainable Madison Committee should create a Tree Preservation Ordinance in order to preserve, expand, and protect canopy coverage overall in Madison.	Developers, Property owners, Contractors	Attorney, Planning, Streets, Engineering		No Action
Zoning & Site Plan Review	Incentives should be established for private developments that exceed landscape requirements.	Developers	Planning		No Action