Summary of Recommendations

Our urban forest is comprised of all trees on private and public lands within the city boundaries; these trees improve the environment and make our City a more desirable place to live, work, and play. Many urban forest partners play an integral role in planning, protecting, and managing our urban forest. It is important that we connect with and engage these partners to reach our shared vision for the urban forest.

These recommendations—established as a result of evaluating urban forestry practices—provide the means to achieve our shared vision and are designed to connect and engage all partners that play an integral role in planning, managing, and protecting our urban forest. The goals provide the framework for developing recommendations.

This section illustrates how these partners and stakeholders can work together to accomplish the recommendations, which are prioritized for each goal statement based on guidance from the Steering Committee. Stakeholders are categorized as federal, state, city, local non-governmental organization (NGO), private sector, and residential. Throughout the plan, these groups are collectively termed urban forest partners.

Tree Pittsburgh and Tree Tenders promoting public and private tree care and planting.

Vision Over the next 20 years, Pittsburgh's urban forest will be a *vital* and *well-managed* asset that is locally valued and nationally recognized for its positive *social*, *environmental*, *economic,* and *public health* impacts on the community and the greater region.

Keystones	**CONNECT**	**ENGAGE**	**MANAGE**	**PLAN**	**PROTECT**
Goals	• Connect urban forestry partners through a single vision. • Utilize urban forestry research in conjunction with on-the-ground operations. • Increase access to trees so that all can enjoy and benefit.	• Focus on neighborhood-based initiatives and solutions to urban forestry issues. • Implement a coordinated and comprehensive outreach and education campaign. • Encourage public and private participation in urban forest management through volunteerism.	• Match funding to desired level of service for urban forestry management. • Develop a proactive management regime for public trees. • Develop a proactive risk management program for public trees. • Ensure tree benefits for future generations through a sustainable planting program.	• Incorporate urban forestry practices into the City's stormwater management plan. • Achieve 60% urban tree canopy cover in 20 years. • Establish a comprehensive tree emergency response and recovery plan.	• Monitor the resource for exotic and invasive pests and diseases. • Protect trees and preserve their role in defining the City's character.

CONNECT

- Connect urban forestry partners through a single vision.
- Utilize urban forestry research in conjunction with on-the-ground operations.
- Increase access to trees so that all can enjoy and benefit.

	Stakeholder					
	Resident	Private Sector	Local NGO	City	State	Federal
INTERAGENCY COOPERATION						
• Convene a summit of all agencies with a major impact on our urban forest to formalize communication methods, identify cooperative projects, and seek synergy.		✓	✓	✓	✓	
• Recommendations presented in this plan should be implemented by appropriate urban forest partners with lead agencies assigned to coordinate and oversee implementation.	✓	✓	✓	✓	✓	✓
• This plan should be adopted and appended as part of City code.				✓		
• Formally describe urban forest management responsibilities across all agencies and partners.	✓	✓	✓	✓	✓	✓
• As long as urban forestry responsibility and funding are divided among various agencies, the City should ensure the means to increase interdepartmental communication and cooperation for plans and projects that may affect the urban forest.				✓		
• Identify cooperative projects that connect private land owners to the City's urban forest goals.	✓	✓	✓	✓		
• Perform a comprehensive operational review of the City's Forestry Division.				✓		
• Encourage nearby colleges and universities to attain Tree Campus USA status.		✓	✓			
• Strengthen cooperation with the community by securing a seat on Campus Tree Advisory Committees for the City Forester or a member of the Pittsburgh Shade Tree Commission.	✓		✓	✓		
RESEARCH						
• Convey the benefits of local urban forestry research to all stakeholders.	✓	✓	✓	✓	✓	✓
• Feature pertinent urban forestry research in media.		✓	✓	✓	✓	✓
• Build consensus within city government for a municipal forestry research component and establish that component as an appropriate function with formal approval by incorporating it in city code.			✓	✓	✓	✓
• Identify or propose research that would provide tangible benefits to the urban forestry operation and to the City in general.			✓		✓	✓
• Collaborate and cooperate with urban forestry researchers for mutual advantage.			✓	✓	✓	✓
• Support urban ecosystem-focused and collaborative research.		✓	✓	✓	✓	✓
• Partner with USDA Forest Service Research Station in Pennsylvania.		✓	✓	✓	✓	✓
• Reach out to educationl institutions with offers of study locations or volunteers for data collection to engage the public and provide additional information that increases urban forest health.	✓	✓	✓	✓	✓	✓
EQUITABLE URBAN FOREST BENEFITS						
• Give priority for urban forestry and outreach activities to disadvantaged communities that are currently gaining the least benefit from the urban forest.			✓	✓		
• Align communications actions with the Vibrant Cities & Urban Forests 2012 Recommendation #9. *Ensure equal access to urban forestry and green infrastructure resources.*			✓	✓		
• Prioritize neighborhoods for future tree planting and protection efforts to increase deficient tree canopy figures and allow for more equitable canopy cover across the City.	✓		✓	✓		
• Recruit volunteers from disadvantaged neighborhoods.		✓	✓	✓		
• Respond to resident requests for trees rather than property owner requests.			✓	✓		
• In neighborhoods with long-term vacant properties, respond to adjacent residents' requests to plant trees in front of the vacant properties.			✓	✓		
• Do not allow absentee landlords to veto tree planting on adjacent public property.		✓	✓			
• Increase education efforts regarding urban forest benefits, such as reduced energy costs, to increase demand for and support of public tree planting.		✓	✓			

ENGAGE

- Focus on neighborhood-based initiatives and solutions to urban forestry issues.
- Implement a coordinated and comprehensive outreach and education campaign.
- Encourage public and private participation in urban forest management through volunteerism.

	Stakeholder					
	Resident	Private Sector	Local NGO	City	State	Federal
NEIGHBORHOOD TREE ADVOCACY						
• Solicit feedback and input directly from neighborhood tree advocates about how to increase activism and interest in the urban forest.	✓	✓	✓			
• Educate and inform the neighborhood tree advocates on larger citywide issues, such as changes and improvements to urban forestry legislation and funding, and engage them to collectively support these important issues as appropriate.	✓	✓	✓	✓		
• Engage citizen groups and local organizations to identify neighborhood issues that trees and their benefits can help address. Use trees and urban forestry projects as tools to make positive change at the neighborhood level.	✓	✓	✓	✓	✓	✓
• Tree Pittsburgh should continue to be the primary agency that facilitates neighborhood urban forestry needs and opportunities.			✓			
• Tree Pittsburgh should strengthen the relationship with the community development entities to help develop neighborhood-focused, urban forestry projects.			✓			
PUBLIC OUTREACH AND EDUCATION						
• Create and sustain a comprehensive communications plan that addresses effective ways to engage all stakeholders.	✓	✓	✓	✓	✓	
• Expand the neighborhood communications network by identifying advocate groups or representatives in every neighborhood.	✓		✓	✓		
• Hire staff who are dedicated solely to public outreach and education.			✓			
• Consider direct advertising of Pittsburgh's urban forest "brand" to reach more citizens and decision-makers.	✓	✓	✓			
• Identify the most effective means of communication for residents in each neighborhood.	✓		✓	✓		
• Create an education program for orienting newly elected public officials to Tree Pittsburgh's and the City's urban forestry program, efforts, and goals, and promote interdepartmental education opportunities.			✓	✓		
• Explore potential funding opportunities for public outreach efforts and projects with foundations, private firms, and government grants.		✓	✓	✓	✓	✓
• Align communications actions with the Vibrant Cities & Urban Forests 2012 Recommendation #1, *Create a national education and awareness campaign*.	✓	✓	✓	✓	✓	✓
VOLUNTEERISM						
• Concentrate volunteer efforts on disadvantaged neighborhoods where tree canopy is lowest.			✓	✓		
• Examine similar programs in the US and Canada and adopt innovative practices for use in Pittsburgh.			✓	✓	✓	
• Formalize the relationship between the Tree Tenders program and the City of Pittsburgh with a Memorandum of Agreement or other contractual understanding.			✓	✓		
• Create an advanced Tree Tenders course aimed at arborist certification for veteran Tree Tenders.	✓		✓			
• Create synergy by increasing collaboration with other organizations involved in environmental efforts such as the Pittsburgh Parks Conservancy Urban Ecosteward Program and Western Pennsylvania Conservancy's extensive volunteer program.	✓		✓			
• Foster corporate and university volunteer programs by engaging the principles of civic stewardship.		✓	✓	✓		

MANAGE

- Match funding to desired level of service for urban forestry management.
- Develop a proactive management regime for public trees.
- Develop a proactive risk management program for public trees.
- Ensure tree benefits for future generations through a sustainable planting program.

	Stakeholder					
	Resident	Private Sector	Local NGO	City	State	Federal
FUNDING						
• Reassess the City's urban forestry program budget in terms of achieving street tree and UTC planting goals, the recommended seven-year preventive maintenance cycle, and the young tree maintenance programs.				✓		
• Each major entity providing services should accurately account for urban forestry-related income and expenses.			✓	✓		
• Each major entity providing urban forestry services should perform a cost-benefit analysis to inform future management decisions that maximize benefits.			✓	✓		
• Launch a public, education campaign to develop the political support needed for any necessary budget increases, emphasizing sound resource management as a positive investment.	✓	✓	✓	✓		
• Sustain established partnerships and create new partnerships as a means to leverage resources needed to accomplish urban forestry goals.		✓	✓	✓	✓	✓
• Increase penalties for developers and builders who damage trees and ensure enforcement.				✓		
PROACTIVE MANAGEMENT						
• Regularly monitor public trees for maintenance needs, risk, and pests.	✓		✓	✓	✓	
• Develop a protocol that provides for regular updating of the public tree inventory.			✓	✓		
• Implement a cyclical maintenance schedule of all street trees that provides for a seven-year cycle of inspection.				✓		
• Ensure that cyclical maintenance includes pruning of medium-sized and large trees to reduce risk and extend the productive life.				✓		
• Ensure cyclical pruning also includes care for newly planted and young trees in their formative years.				✓		
• Communicate and engage with the community regarding the urban forest plan.	✓	✓	✓	✓		
• Ensure the Tree Tender program continues so that the City can narrow its focus on mature tree care.			✓			
RISK MANAGEMENT						
• Facilitate a systematic tree maintenance program for public trees.				✓		
• Maintain an updated tree inventory with risk rating data that utilize the tree risk assessment standards in ANSI A300 (Part 9) and *Best Management Practices* published by the ISA that address both tree inventories and tree risk assessment.			✓	✓		
• Create a prioritization scheme in the public tree inventory that rates trees based on risk levels.			✓	✓		
• Use qualified individuals such as ISA Certified Arborists to monitor public infrastructure improvements for potential increase in tree risk and to identify potentially high-risk trees as part of regularly scheduled inventory updates.			✓	✓		
• Perform re-inspections after storms that include heavy winds or snow that may increase branch loading.			✓	✓		
• Promptly remove and prune trees identified with severe and high risk.			✓	✓		
• Integrate a sidewalk repair program with proper arboricultural practices and a permit system that tracks proposed work near public trees.				✓		
• Maintain adequate funding levels for risk management using in-house funding or partnerships with non-profits or obtain new funding stream.			✓	✓		
TREE PLANTING						
• Choose performance-based planting strategies geared towards improving specific benefits, such as planting conifers to improve air quality through year-round particulate matter removal.			✓	✓		
• Establish street tree stocking goals for each neighborhood and the entire City.			✓	✓		
• Expand the Pittsburgh Shade Tree Committee's recommended species list to include options for parks and private property.			✓	✓		
• Emphasize the preferential use of locally grown trees and locally sourced seeds for nursery trees, such as those of the Tree Pittsburgh nursery, to improve the liklihood of tree survival, offset the impact of abiotic stressors on urban trees, and to preserve genetic diversity.	✓	✓	✓	✓	✓	✓
• Adopt Tree Pittsburgh's Tree Diversity Goals and Recommendations for all agencies that plant trees.	✓	✓	✓	✓	✓	
• Reduce or minimize conflicts between trees and infrastructure by careful species selection, site evaluation, and the tenants of the *Right Tree Right Place* concept.	✓	✓	✓	✓	✓	✓
• Enforce city codes that require tree planting to be a part of development projects.				✓		
• Facilitate tree planting on private and public properties to help the City sustain and improve its overall tree canopy cover and resulting benefits.	✓		✓	✓		
• Develop programs that assist private property owners with tree purchase, selection, and planting.			✓	✓		
• Target natural areas and forested hillsides for restoration planting projects.			✓	✓		
• Ensure there is sustainable funding for necessary levels of tree maintenance to grow newly planted trees into safe and healthy, mature trees.			✓	✓		
• Track all new tree plantings in an accurate and reliable inventory system to faciliate the use of tree data for research purposes, project costs, maintenance needs, and to evaluate progrees towards diversity objectives.			✓	✓		

PLAN

- Incorporate urban forestry practices into the City's stormwater management plan.
- Achieve 60% urban tree canopy cover in 20 years.
- Establish a comprehensive tree emergency response and recovery plan.

	Stakeholder					
	Resident	Private Sector	Local NGO	City	State	Federal
STORMWATER MANAGEMENT						
• Target urban tree planting and tree canopy expansion efforts based on increasing stormwater benefits.		✓	✓	✓	✓	
• Identify local stormwater improvement needs at the neighborhood level and prioritize feasible tree planting schemes, site design elements for trees, and stormwater management systems that can be implemented.			✓	✓		
• Target parking lots as a feasible land use for green infrastructure retrofits, utilizing porous pavement, structural soils, and trees.		✓	✓	✓		
• Advocate for the use of suspended pavement and structural cells during appropriate redevelopment projects.		✓	✓	✓		
• Utilize stormwater tree pit designs to increase infiltration and limit compaction, and engineer them to receive and process street and rooftop runoff.		✓	✓	✓		
• Prioritize streets where forested bioswales and green street systems may be most feasible or preferred to traditional streetscape design.			✓	✓		
• Whenever space limitations allow, large, maturing trees should be the preferred choice to decrease stormwater peak flows.		✓	✓	✓		
• Encourage and assist homeowners to help reduce stormwater runoff by planting large-growing trees on their property.	✓		✓			
• Require that sufficient rooting volume should be planned for and engineered in the design of new and retrofitted sidewalks and parking lots to support large-growing trees.		✓	✓	✓		
• Current City code should be enforced consistently by all City Departments.				✓		
• All stormwater plans should have urban forestry as a component.			✓	✓	✓	
• Prioritize watersheds for future tree planting and protection efforts.			✓	✓	✓	
URBAN TREE CANOPY GOALS						
• Develop achievable, minimum canopy cover goals for each land use type, neighborhood, and watershed utilizing UTC and i-Tree data.		✓	✓	✓		
• Develop a backyard tree planting program and education campaign designed to increase canopy cover on residential land.	✓	✓	✓	✓		
• Utilize the UTC analysis in conjunction with the i-Tree analyses to increase awareness about the relationship between trees and environmental quality and to engage stakeholders in tree planting.			✓	✓		
• Set a goal to maximize street tree stocking levels.			✓	✓		
• Target parks and other public land to maximize possible canopy coverage.			✓	✓	✓	✓
• Adopt performance-based planting strategies by selecting species based on desired benefit outcomes rather than canopy cover alone.	✓	✓	✓	✓	✓	✓
• Design a backyard tree planting and tree care toolkit for private landowners interested in planting trees to increase benefits that guide people to choose species and planting locations that maximize benefits.	✓	✓	✓	✓		
• Share established tree canopy goals and share the UTC analysis with stakeholders concerned with the urban forest.	✓	✓	✓	✓	✓	✓
• Budget adequately to maintain trees after planting.	✓	✓	✓	✓		
• Generate positive canopy impacts on small-scale development and redevelopment projects by incorporating canopy goals into municipal landscape requirements for streetscapes, parking lots, and other sites.	✓	✓	✓	✓		
STORM PREPAREDNESS						
• Create a comprehensive Tree Emergency Response and Recovery Plan to analyze existing resources, risk levels, funding, and partnerships and to recommend protocols and strategies to increase emergency response efficiencies, decrease costs, and improve communication.	✓	✓	✓	✓	✓	✓
• Implement i-Tree Storm.				✓		
• Create an urban forest emergency maintenance fund earmarked only for severe weather response when an emergency is declared by the Mayor and ratified by the City Council or by the Emergency Management Director.				✓	✓	
• Strengthen the partnership with Duquesne Light to find synergies and define pre-storm and post-storm roles and responsibilities.	✓	✓	✓			
• Cross-train appropriate staff in other departments in proper tree pruning, removal, and debris handling and safety procedures to increase the number of qualified personnel available to assist during an emergency.				✓	✓	✓
• Establish a preventive maintenance program/cycle for public trees, plant storm-resistant tree species, and perform structural pruning on all newly planted trees.				✓		
• Change the city policy prohibiting the sale of wood products recovered from storms, such as firewood, sawlogs, and mulch to allow for reuse and be a source of revenue.				✓		
• Create public education messages for use during and after a storm event appropriate for all types of media.				✓	✓	✓

PROTECT

- Monitor the resource for exotic and invasive pests and diseases.
- Protect trees and preserve their role in defining the City's character.

	Stakeholder					
	Resident	Private Sector	Local NGO	City	State	Federal
EXOTIC AND INVASIVE PESTS						
• Identify the highest level, exotic pest threats and develop strategies for monitoring, control, removals, and replanting. Strategies should include information about utilization of limited resources and methods to secure funding to prevent or deal with existing pest issues.			✓	✓	✓	✓
• Utilize existing street tree inventory data to monitor public street trees for high-priority, exotic pest threat zones.			✓	✓	✓	✓
• Educate city staff, stakeholders, and the general public about exotic pest threats and provide information about identification and treatment options.	✓	✓	✓	✓	✓	✓
• Create citizen watch programs to assist with early detection of exotic pests. Dovetail these programs with additional education about urban forestry issues.	✓		✓			
• Offer homeowner incentives to combat invasive species on private property.	✓		✓	✓		
TREE PROTECTION						
• Update and enforce ordinances that protect existing tree resources on both public and private lands.				✓	✓	
• Develop a set of arboricultural standards for all work that occurs near public trees. The standards should apply to permitted work by private contractors and municipal crews who perform any type of work that may impact trees.		✓	✓	✓		
• Develop ordinance protection for the City's forested hillsides.				✓		
• Create clear authority with an interagency and interdepartmental communication process for inspection, monitoring, and enforcement of protection of public trees during infrastructure improvements by public agencies, or permitted work on public rights-of-way near public trees.				✓		
• Create a dedicated account for funds from remediation and fines that is strictly for funding other tree-related projects.				✓		
• Incorporate tree protection best management practices and examples of poor practices in a public outreach campaign.			✓	✓		
• Create a private property tree protection ordinance.				✓		