Unified European City Tree Strategy

2024

Co-funded by the European Union

ArboCroatia

Editorial

European City Tree Strategy was developed as an Intellectual Output of the Erasmus+ Project "Development of Digital Forms of Learning and New Certification Programs in the Field of Arboriculture and Urban Forestry at the SE Europe Level" Project ID: 2022-1-HR01-KA220-VET-00086554

Project partners

- Urbani šumari d.o.o. (Croatia) – Project Coordinator
- Arboristická Akademie, základní organizace Českého svazu ochránců přírody , (Czech Republic)
- European Arboricultural Council , EAC, (Germany)

Recommended Reference:

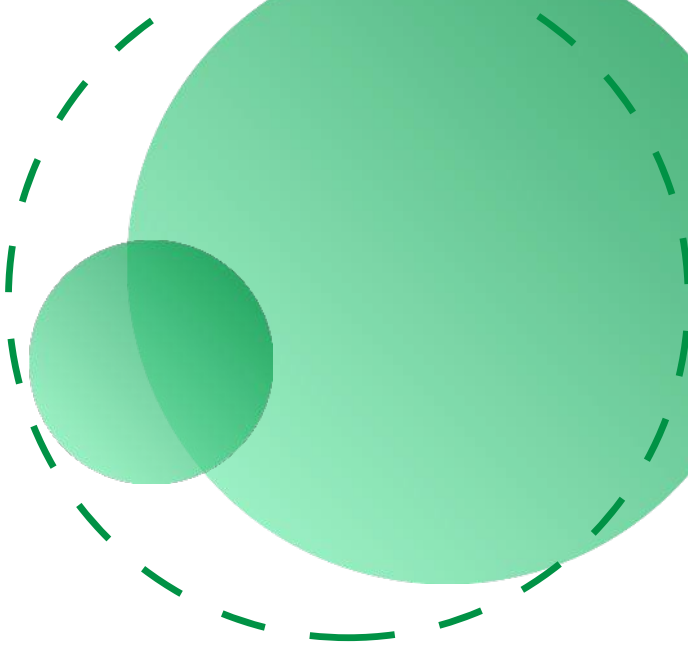
European City Tree Strategy. Developed as part of the Erasmus+ project "Development of Digital Forms of Learning and New Certification Programs in the Field of Arboriculture and Urban Forestry at the SE Europe Level." Urbani šumari d.o.o., 2024.

Translation Notice:

For translation of this document into other languages, please contact the project coordinator Urbani šumari d.o.o. at arbocroatia@urbani-sumari.hr

Co-funded by the European Union

Table Of Contents



01

Introduction

1.1. Strategic Importance of Urban Tree Policies

Urban tree policies are essential for fostering sustainable urban development. They serve as a strategic framework to ensure that the environmental, social, and economic benefits of urban trees are maximized. Unlike rural or forested areas, urban environments present unique challenges such as limited space, pollution, and infrastructure conflicts. Therefore, a well-defined tree policy is crucial for addressing these challenges, maintaining ecological balance, and enhancing the quality of life in cities.

Urban trees contribute significantly to urban resilience, particularly in the face of climate change. They help mitigate the urban heat island effect, reduce air pollution, and manage stormwater runoff. These roles are increasingly critical as European cities face rising temperatures, more frequent extreme weather events, and growing urban populations. Thus, the strategic importance of urban tree policies lies in their ability to integrate tree management into broader urban planning and environmental sustainability initiatives.

1.2. Contextualizing Urban Tree Management in Europe

European cities have a long history of integrating green spaces into urban planning, yet the pressures of modern urbanization demand more sophisticated and comprehensive approaches to tree management. Tree policies must now account for the complexities of contemporary urban environments, including the need for biodiversity, climate adaptation, and community well-being.

In many European cities, urban tree policies are not merely about planting and maintaining trees but are also about creating a resilient urban ecosystem that can adapt to future challenges. This involves selecting species that are not only suited to the current climate but are also resilient to anticipated changes. Moreover, tree policies need to be adaptable, allowing for regular updates and revisions as new data and environmental conditions emerge.

1.3. Objectives and Goals of Urban Tree Policies

The primary objectives of urban tree policies in European cities include:

- Environmental Protection and Enhancement: Urban trees are vital for improving air quality, sequestering carbon, and supporting biodiversity. Policies should aim to increase canopy cover, enhance green corridors, and ensure the protection of existing mature trees.
- Climate Resilience: Urban tree policies should be designed to enhance the city's ability to cope with climate change. This includes strategies for mitigating the urban heat island effect, managing stormwater, and selecting species that are resilient to both current and future climate conditions.
- Social and Community Benefits: Urban trees contribute to public health, social cohesion, and overall quality of life. Policies should promote equitable access to green spaces, support community tree planting initiatives, and ensure that urban trees contribute to the aesthetic and recreational value of the city.
- Economic Value: Trees in urban areas can increase property values, reduce energy costs, and provide other economic benefits. Policies should aim to maximize these economic advantages while balancing them with ecological and social goals.

1.4. Integration with Urban Planning and Policy Frameworks

Urban tree policies should not exist in isolation but must be integrated into broader urban planning frameworks. This includes aligning tree policies with zoning laws, building codes, and environmental regulations. Effective integration ensures that tree protection and planting are considered in all stages of urban development, from planning and construction to ongoing maintenance and community engagement.

02

Key Components of a Tree Strategy or Policy

2.1. Policy Framework

A robust urban tree policy framework serves as the backbone for all tree-related activities within a city. This framework must integrate various levels of governance, including national, regional, and local regulations, to ensure a cohesive approach to urban forestry. Key components of the policy framework include:

- **Legal and Regulatory Foundations:** The policy should align with national and regional environmental laws, such as the European Union's Green Infrastructure Strategy, which emphasizes the role of urban green spaces in achieving climate resilience and biodiversity goals. It should also incorporate local ordinances and regulations that protect trees, such as Tree Preservation Orders (TPOs) and conservation area guidelines.
- **Roles and Responsibilities:** Clearly defined roles for city authorities, private landowners, and the community are essential. The policy should outline the responsibilities of each stakeholder, ensuring that tree management is a collaborative effort. Municipal governments typically oversee public trees, while private property owners are responsible for trees on their land, with guidance and regulation from the city.
- **Strategic Objectives and Targets:** The policy should set clear, measurable objectives for tree canopy cover, species diversity, and other key indicators of urban forest health. These targets should be aligned with broader city planning goals, such as reducing urban heat islands, enhancing stormwater management, and increasing green space accessibility.

2.2. Tree Protection and Retention

Protecting existing trees is often more sustainable and cost-effective than planting new ones. Therefore, tree protection and retention are critical components of any urban tree policy. Key elements include:

- **Protection Mechanisms:** The policy should establish strong protection measures for mature trees, including legal protections such as TPOs and penalties for unauthorized removal or damage. It should also define Tree Protection Zones (TPZs) around construction sites and other areas where tree roots and canopies are at risk.
- **Retention Criteria:** Criteria for retaining trees during development should be clearly outlined. These might include considerations of the tree's age, health, ecological value, and historical significance. The policy should require developers to explore all options for tree retention before considering removal.
- **Enforcement and Compliance:** The policy should include mechanisms for enforcing tree protection measures, such as routine inspections by city arborists, fines for non-compliance, and requirements for remedial actions when trees are damaged or removed without permission.

2.3. Risk Management

Urban trees, while beneficial, can pose risks to public safety and infrastructure if not properly managed. A comprehensive risk management strategy within the tree policy ensures that these risks are minimized while maintaining the overall health and benefits of the urban forest.

- **Tree Risk Assessment:** Regular tree risk assessments should be mandated by the policy. These assessments evaluate the likelihood of tree failure and its potential impact, helping to prioritize maintenance and removal decisions. Modern assessment methods often incorporate technology, such as GIS mapping and tree stability assessment by diagnostic instruments and methods.
- **Pruning and Removal Guidelines:** The policy should outline clear guidelines for pruning and tree removal. These guidelines should prioritize tree health and safety while minimizing unnecessary interventions. For instance, pruning should follow best practices to avoid damaging the tree, and removal should be considered only when a tree poses a significant risk or when it is dead or irreparably diseased.
- **Emergency Response Protocols:** In the event of storms or other natural disasters, the policy should include protocols for responding to tree-related emergencies. This includes pre-emptive measures, such as identifying and mitigating risks before a storm, and post-event responses, such as clearing fallen trees and assessing damage.

2.4. New Tree Planting and Species Selection

Planting new trees is a crucial aspect of maintaining and expanding the urban forest, especially in areas where canopy cover is low or where trees have been lost due to age, disease, or development.

- **Species Selection:** The policy should provide guidelines for selecting tree species that are well-suited to the urban environment and resilient to climate change. Emphasis should be placed on native species that support local biodiversity, as well as species that can withstand urban stressors such as pollution, compacted soils, and limited water availability.
- **Planting Strategies:** Strategic planting should focus on areas where trees can provide the greatest benefits, such as along streets to reduce the urban heat island effect, in parks to enhance recreational spaces, and in neighborhoods with low canopy cover. The policy should also promote the use of green infrastructure, such as rain gardens and green roofs, which integrate trees into broader environmental management strategies.
- **Maintenance and Monitoring:** Newly planted trees require significant care to ensure they establish successfully. The policy should mandate regular watering, mulching, and pruning during the first few years after planting. Monitoring should continue long-term to assess tree health and growth, with interventions as needed to support the tree's development.

2.5. Community Involvement and Education

Engaging the community is essential for the success of any urban tree policy. Community involvement not only helps to build support for tree initiatives but also fosters a sense of stewardship and responsibility for the urban forest.

- **Public Engagement:** The policy should include strategies for involving the public in tree planting and care. This could involve community tree planting events, educational workshops, and volunteer programs. Public input should also be solicited during the development and revision of tree policies to ensure that they reflect community values and priorities.
- **Educational Programs:** Education is key to raising awareness about the benefits of urban trees and the importance of their care. The policy should support educational initiatives in schools, community centers, and through public media campaigns. Topics could include the ecological functions of trees, proper tree care techniques, and the role of trees in climate resilience.
- **Partnerships and Collaboration:** Collaboration with local businesses, NGOs, and other stakeholders can enhance the effectiveness of urban tree initiatives. The policy should encourage partnerships that leverage additional resources, expertise, and community networks to support tree planting, maintenance, and advocacy efforts.

2.6. Monitoring and Evaluation

To ensure that the urban tree policy is effective, it must include provisions for ongoing monitoring and evaluation. This allows for the tracking of progress towards goals, identification of challenges, and adaptation of strategies as needed.

- **Performance Indicators:** The policy should establish clear indicators for success, such as increases in canopy cover, improvements in air quality, and reductions in urban heat islands. These indicators should be measurable and regularly reported to the public.
- **Data Collection and Analysis:** Regular data collection is essential for informed decision-making. The policy should mandate the use of modern tools, such as GIS mapping and remote sensing, to monitor tree health, canopy cover, and the effectiveness of tree management practices.
- **Policy Review and Adaptation:** The urban tree policy should be reviewed periodically, with adjustments made based on the outcomes of monitoring and evaluation efforts. This ensures that the policy remains relevant and effective in the face of changing environmental conditions, urban development pressures, and community needs.

03

Purpose of Developing a Tree Strategy or Tree Policy in a City

3.1. Environmental and Climate Benefits

The development of a tree strategy or tree policy in urban settings is crucial for the sustainable management of urban forests. This chapter outlines the multifaceted purposes of such strategies, directly referencing the insights and recommendations provided in the "Toolkit for Urban Tree Ecological and Economic Benefits" developed under the Erasmus+ project.

3.1. Enhancing Environmental and Climate Resilience

Urban trees play a significant role in improving environmental quality and enhancing the resilience of cities to climate change. The Toolkit highlights the ecological benefits of urban trees, such as improving air quality, mitigating the urban heat island effect, and managing stormwater (Toolkit, Chapter 3: Ecological Benefits of Urban Trees). These functions are critical as European cities face increasing environmental challenges, including air pollution and extreme weather events.

Urban trees help reduce ambient temperatures through shading and evapotranspiration, which is especially vital in combating heatwaves in densely populated areas. The Toolkit provides detailed examples of how cities like Madrid and Athens have benefited from increased tree canopy cover, which has led to significant temperature reductions (Toolkit, Chapter 3: Climate Regulation).

Moreover, trees contribute to stormwater management by intercepting rainfall, promoting infiltration, and reducing surface runoff. This is particularly important in urban areas with extensive impervious surfaces, where the risk of flooding is heightened. The Toolkit emphasizes the importance of integrating trees into green infrastructure to enhance water management and flood prevention (Toolkit, Chapter 3: Stormwater Management).

3.2. Supporting Social and Health Well-being

The social and health benefits of urban trees are substantial and are a core reason for developing a tree strategy. According to the Toolkit, access to green spaces, including tree-lined streets and parks, is associated with reduced stress, improved mental health, and lower rates of cardiovascular diseases (Toolkit, Chapter 3: Social and Health Benefits). This is particularly relevant in urban settings where residents may experience higher levels of stress and pollution-related health issues.

Urban trees create inviting environments that encourage physical activity, social interaction, and community cohesion. The Toolkit cites studies from European cities like Barcelona and Stockholm, where proximity to green spaces has been linked to better mental health outcomes and increased physical activity, contributing to overall public health (Toolkit, Chapter 3: Mental and Physical Health Benefits).

Furthermore, the presence of trees in urban areas can enhance social well-being by providing spaces for recreation, cultural events, and community gatherings. The Toolkit underscores the importance of these social benefits, suggesting that tree strategies should prioritize equitable access to green spaces across different neighborhoods to ensure that all residents can enjoy these advantages (Toolkit, Chapter 3: Social and Health Benefits).

3.3. Driving Economic Growth and Savings

Urban trees offer significant economic benefits, which are thoroughly explored in the Toolkit. These benefits include energy savings, increased property values, and reduced healthcare costs due to improved public health (Toolkit, Chapter 4: Economic Benefits of Urban Trees).

Trees can reduce energy costs by providing shade in the summer and acting as windbreaks in the winter, which lowers the demand for air conditioning and heating. The Toolkit highlights studies from cities like Seville and Stockholm, where trees have led to substantial reductions in energy consumption, contributing to economic savings (Toolkit, Chapter 4: Energy Savings).

Additionally, the presence of trees can enhance property values, making neighborhoods more attractive to residents and investors. The Toolkit references research from London and Amsterdam, showing that properties near green spaces or tree-lined streets can have significantly higher market values, reflecting the economic return on investment in urban forestry (Toolkit, Chapter 4: Property Value Enhancement).

Urban trees also contribute to cost savings in stormwater management by reducing the need for expensive infrastructure to manage runoff and prevent flooding. The Toolkit discusses how cities like Malmö and Rotterdam have successfully integrated trees into their stormwater management strategies, resulting in considerable financial savings (Toolkit, Chapter 4: Cost Savings in Stormwater Management).

3.4. Fostering Urban Resilience and Sustainability

Developing a tree strategy is a key element in fostering urban resilience and sustainability. Trees are integral to creating sustainable urban environments that can adapt to climate change, support biodiversity, and provide long-term ecological benefits. The Toolkit emphasizes that urban tree strategies should be aligned with broader sustainability goals, such as achieving carbon neutrality and enhancing urban biodiversity (Toolkit, Chapter 4: Economic Benefits of Urban Trees).

Urban resilience is also enhanced by the role trees play in mitigating environmental risks, such as heatwaves and flooding. The Toolkit provides case studies from European cities that have successfully implemented tree strategies to enhance their resilience to climate change and other environmental challenges (Toolkit, Chapter 5: Best Practices for Urban Tree Management).

Moreover, the integration of trees into urban planning and development projects is crucial for ensuring that cities grow sustainably. The Toolkit suggests that tree strategies should be embedded in urban development plans to ensure that green infrastructure is prioritized in new projects (Toolkit, Chapter 6: Policy and Funding Resources).

3.5. Aligning with Broader Urban Planning Goals

A well-developed tree strategy should align with and support broader urban planning goals, including sustainability, health, and economic development. The Toolkit stresses the importance of integrating urban trees into city planning to achieve these broader objectives (Toolkit, Chapter 6: Tools and Resources for Urban Tree Advocacy).

Urban tree strategies can contribute to public health initiatives by improving air quality and providing spaces for physical activity, which are critical components of a healthy urban environment. The Toolkit highlights how cities can leverage the benefits of trees to enhance public health outcomes and reduce healthcare costs (Toolkit, Chapter 4: Health Care Cost Reductions).

Furthermore, urban tree strategies can support economic growth by making cities more attractive places to live, work, and invest. By enhancing the aesthetic and environmental quality of urban areas, trees can drive economic development and improve the quality of life for residents (Toolkit, Chapter 4: Economic Benefits of Urban Trees).

04

Development of Action Plan and Implementation Strategies

4.1 Setting Objectives and Targets

An effective tree strategy must begin with clear, measurable objectives and targets that align with the city's broader environmental, social, and economic goals. Setting these objectives provides a roadmap for action and helps to ensure that all stakeholders are working towards common outcomes.

Canopy Cover Targets: One of the primary objectives in any urban tree strategy is to increase or maintain the city's tree canopy cover. This target should be based on current canopy assessments and future projections, taking into account factors such as urban development, population growth, and climate change. The policy might set a specific percentage of canopy cover to be achieved by a certain year, with incremental goals to track progress.

Species Diversity and Resilience: To enhance biodiversity and resilience to pests, diseases, and climate change, the strategy should include targets for species diversity. This could involve setting a minimum number of different species to be planted within a given period or ensuring that no single species accounts for more than a certain percentage of the urban forest. The aim is to create a diverse, resilient urban forest that can adapt to changing conditions.

Community Engagement Goals: Involving the community is essential for the success of any urban tree strategy. The policy should include targets for public participation in tree planting and maintenance activities, as well as goals for increasing public awareness and education about the benefits of urban trees. This might involve setting a target number of community-led planting events per year or the development of educational programs in schools.

Environmental and Health Metrics: The strategy should also include specific environmental and health-related objectives, such as improving air quality, reducing urban heat islands, and increasing access to green spaces for all residents. These objectives can be measured through indicators like reductions in pollutant levels, temperature decreases in high-canopy areas, or increases in the number of residents living within a short distance of a park or tree-lined street.

4.2. Implementation Phases

The successful implementation of a tree strategy requires a phased approach, allowing for gradual progress towards long-term goals while ensuring that resources are allocated efficiently and effectively.

Initial Assessment and Data Collection: The first phase involves conducting a comprehensive assessment of the current state of the urban forest. This includes mapping existing trees, assessing canopy cover, identifying gaps in green infrastructure, and evaluating the health of the urban forest. Advanced tools like GIS mapping, LiDAR technology, and tree inventories should be utilized to gather accurate data.

Planning and Prioritization: Based on the assessment, the next phase is to develop detailed plans for tree planting, protection, and maintenance. This involves prioritizing areas for intervention, such as neighborhoods with low canopy cover, streets with high traffic pollution, or regions vulnerable to flooding. The plan should also consider the timing of planting to coincide with optimal growing seasons and to ensure that resources are available for ongoing maintenance.

Phased Roll-Out of Planting and Maintenance Programs: The actual implementation of tree planting and maintenance should be phased over several years, starting with priority areas. This phased approach allows for the gradual allocation of resources and ensures that new trees are given adequate care to establish and thrive. Each phase should be followed by a period of monitoring and evaluation to assess the success of the interventions and inform subsequent phases.

Integration with Urban Development Projects: To maximize the impact of tree planting, the strategy should be integrated with other urban development projects. This might involve incorporating tree planting into road construction, housing developments, and public space improvements. The policy should ensure that all new developments include provisions for tree planting and that existing trees are protected during construction.

4.3. Stakeholder Engagement

Engaging a broad range of stakeholders is critical to the success of a tree strategy. Stakeholders include local governments, private landowners, community organizations, businesses, and the general public. Each has a role to play in the implementation and long-term success of the strategy.

Local Government and Municipal Agencies: Local governments are typically responsible for the management of public trees and green spaces. They should lead the development and implementation of the tree strategy, ensuring that it is integrated with other municipal policies and plans. Municipal agencies, such as parks departments and urban planning divisions, play key roles in executing the strategy on the ground.

Private Landowners and Developers: Private property owners and developers are crucial stakeholders, as a significant proportion of urban trees are located on private land. The strategy should include incentives and regulations that encourage private landowners to plant and maintain trees. This could involve tax incentives for tree planting, grants for tree maintenance, or requirements for developers to include green infrastructure in new projects.

Community Organizations and NGOs: Community groups and non-governmental organizations often play a vital role in advocating for urban trees and mobilizing local residents. The strategy should seek to partner with these organizations to deliver community-led planting projects, educational programs, and advocacy initiatives. These partnerships can also help secure additional funding and resources.

Public Involvement and Education: Public involvement is essential for fostering a sense of ownership and stewardship of the urban forest. The strategy should include comprehensive public outreach and education programs to engage residents in tree planting and care. This could involve workshops, school programs, volunteer planting days, and public campaigns to raise awareness of the benefits of trees.

4.4. Funding and Resources

Adequate funding and resource allocation are critical for the successful implementation of a tree strategy. The strategy should outline the financial mechanisms and resources required to achieve its objectives.

Budgeting for Tree Planting and Maintenance: The strategy should include a detailed budget for tree planting, maintenance, and protection. This budget should cover the costs of acquiring trees, site preparation, planting, watering, pruning, and long-term maintenance. It should also account for the costs of monitoring and evaluation, as well as public engagement and education programs.

Exploring Funding Sources: To support the strategy, cities should explore a variety of funding sources. This might include government grants, such as those available through the European Union's Green Deal and LIFE programs, as well as local funding sources like municipal budgets or environmental levies. Private sector partnerships, sponsorships, and community fundraising initiatives can also provide significant financial support.

Resource Allocation: The strategy should prioritize resource allocation based on the greatest need and potential impact. This means focusing resources on areas with low canopy cover, high environmental stress, or significant social and economic benefits. Resource allocation should also be flexible, allowing for adjustments based on ongoing monitoring and emerging challenges.

4.5. Monitoring, Reporting, and Review

Ongoing monitoring and evaluation are essential to ensure that the tree strategy is achieving its objectives and to make necessary adjustments along the way.

Monitoring Tree Health and Canopy Cover: Regular monitoring is necessary to assess the health and growth of newly planted trees, as well as the overall canopy cover across the city. This can be achieved through tree inventories, remote sensing, and field inspections. Monitoring should also assess the impact of tree planting on environmental indicators such as air quality, temperature, and stormwater management.

Reporting Mechanisms: Transparent reporting mechanisms should be established to keep stakeholders informed of progress and challenges. Regular reports can be published on the city's website, presented to municipal councils, and shared with the public through community meetings. These reports should include data on tree planting, canopy cover changes, and the outcomes of public engagement efforts.

Periodic Review and Adaptation: The tree strategy should be reviewed periodically, with a formal review process built into the policy. This review should evaluate the success of the strategy in meeting its objectives, identify areas for improvement, and incorporate new data and emerging trends. Based on the review, the strategy should be adapted to address any challenges or opportunities that have arisen, ensuring that it remains relevant and effective over time

05

Conclusion

5.1. Summary of Key Points

The development and implementation of a comprehensive urban tree strategy or policy is essential for the sustainable growth and resilience of cities. Throughout this document, we have explored the various components and considerations necessary for crafting an effective tree strategy. The key points can be summarized as follows:

Strategic Importance: Urban trees are integral to environmental sustainability, public health, and economic vitality in cities. A well-formulated tree strategy recognizes these multifaceted benefits and integrates tree management into broader urban planning efforts.

Policy Framework: A robust policy framework is crucial for guiding tree management activities. This includes aligning with national and regional regulations, defining roles and responsibilities, and setting clear objectives and targets for canopy cover, species diversity, and community engagement.

Environmental and Social Benefits: Urban trees provide significant environmental benefits, including air quality improvement, urban heat island mitigation, stormwater management, and biodiversity enhancement. They also contribute to public health, social cohesion, and economic development, making them a valuable asset for any city.

Action Plan Development: Implementing a tree strategy requires a phased approach, starting with data collection and assessment, followed by strategic planning, stakeholder engagement, and ongoing monitoring. Each phase should be carefully managed to ensure that resources are used effectively and that the strategy's objectives are met.

Stakeholder Engagement and Funding: Successful tree strategies involve collaboration between various stakeholders, including local governments, private landowners, community organizations, and the public. Adequate funding and resource allocation are also critical, with the need for exploring diverse funding sources and ensuring that resources are directed where they are most needed.

Monitoring and Adaptation: Continuous monitoring and evaluation are necessary to track progress, assess the health of the urban forest, and make data-driven decisions. Periodic reviews allow the strategy to be adapted to new challenges and opportunities, ensuring its long-term relevance and effectiveness.

5.2. Future Directions

As cities across Europe continue to face the challenges of climate change, urbanization, and environmental degradation, the importance of urban tree strategies will only increase. Looking to the future, cities should consider the following directions to enhance the effectiveness and impact of their tree policies:

Innovative Technologies: The use of advanced technologies such as GIS, remote sensing, and artificial intelligence can greatly enhance the monitoring, management, and planning of urban trees. These technologies allow for more accurate data collection, better decision-making, and more efficient use of resources.

Climate-Resilient Urban Forests: As climate change accelerates, cities will need to focus on creating urban forests that are resilient to new environmental conditions. This includes selecting tree species that can withstand higher temperatures, drought, and increased storm intensity, as well as planning for the long-term maintenance and protection of these trees.

Equitable Green Space Access: Future urban tree strategies should prioritize the equitable distribution of green spaces to ensure that all residents, regardless of socio-economic status, have access to the benefits of urban trees. This involves addressing green space disparities and ensuring that tree planting efforts are focused on underserved areas.

Integrating Trees into Urban Infrastructure: Trees should be viewed as an integral part of urban infrastructure, alongside roads, buildings, and utilities. This perspective will encourage cities to incorporate trees into all aspects of urban planning and development, from transportation projects to housing developments and public spaces.

Community Empowerment and Education: Empowering communities to take an active role in urban tree management will be crucial for the sustainability of urban forests. Future strategies should include comprehensive education programs, community-led planting initiatives, and opportunities for residents to participate in decision-making processes.

Global Collaboration and Knowledge Sharing: Cities can benefit from sharing knowledge and best practices in urban tree management on a global scale. Collaborative efforts, both within Europe and internationally, can help cities learn from each other's successes and challenges, leading to more effective and innovative tree strategies.

5.3. Vision for the Future of Urban Forestry

The future of urban forestry in European cities holds immense promise. By continuing to develop and implement forward-thinking tree strategies, cities can create greener, healthier, and more resilient urban environments. The vision for the future includes:

Thriving Urban Forests: Cities with diverse, resilient, and well-maintained urban forests that provide maximum environmental, social, and economic benefits.

Sustainable Urban Growth: Urban development that prioritizes green infrastructure, including trees, as a key component of sustainability and climate adaptation efforts.

Engaged and Empowered Communities: Residents who are actively involved in the care and protection of their urban forests, leading to stronger communities and enhanced quality of life.

Leadership in Urban Forestry: European cities that lead the world in innovative urban forestry practices, setting an example for sustainable urban living and environmental stewardship.

06

Supporting Documents and References

6.1. Supporting Documents

In the process of developing and implementing a comprehensive urban tree strategy, various supporting documents are essential for providing guidance, ensuring compliance, and documenting progress. References will be connected to the „Toolkit for Urban Tree Ecological and Economic Benefits" (further in text Toolkit) developed in scope of the Erasmus+ Project ArboCroatia.

These documents include:

Urban Tree Canopy Assessments: Detailed reports on the current state of the urban forest, including maps and data on tree canopy coverage, species distribution, tree health, and areas lacking green cover. These assessments serve as a baseline for setting goals and monitoring progress. The Toolkit emphasizes the importance of these assessments in planning and implementing effective urban tree strategies (Toolkit, Chapter 3: Understanding Urban Trees).

Tree Inventory and Database: A comprehensive database of all trees within the city, including public and private trees. This database should record information such as species, age, condition, location, and any maintenance or interventions performed. It is a critical tool for ongoing management and planning, as recommended in the Toolkit under the best practices for urban tree management (Toolkit, Chapter 5: Best Practices for Urban Tree Management).

Planting and Maintenance Guidelines: Documents outlining best practices for tree planting, care, and maintenance are crucial. These guidelines should be aligned with the standards developed as part of the Erasmus+ projects TeST and ECoST, and detailed on the European Arboricultural Standards website (www.europeanarboriculturalstandards.eu).

Tree Assessment Reports: Regular assessments of tree-related risks, including potential hazards from falling branches, tree stability issues, and conflicts with infrastructure. These reports help prioritize maintenance activities and inform decision-making on tree removal or preservation.

Community Engagement Plans: Detailed plans for involving the public in urban forestry initiatives, which include outreach strategies, educational programs, volunteer recruitment and training, and public events such as tree planting days. The Toolkit emphasizes the role of community engagement in ensuring the success of urban tree strategies (Toolkit, Chapter 6: Tools and Resources for Urban Tree Advocacy).

Monitoring and Evaluation Reports: Periodic reports that track the progress of the tree strategy, evaluate the success of interventions, and identify areas for improvement. These reports are essential for maintaining transparency, accountability, and continuous improvement in tree management practices, and should reference the methodologies and tools recommended in the Toolkit (Toolkit, Chapter 5: Best Practices for Urban Tree Management).

Legal and Regulatory Framework Documents: Copies of relevant laws, ordinances, and regulations that impact tree management, including Tree Preservation Orders (TPOs), conservation area designations, and environmental protection statutes. The Toolkit provides insights into the policy and regulatory frameworks that support urban tree preservation (Toolkit, Chapter 7: Policy and Funding Resources).

6.2. References

The development of this tree strategy guidline has been informed by a wide range of resources, including research studies, policy documents, and best practice guidelines.

Key references include:

Standards Developed in Erasmus+ Projects TeST and ECoST: These projects have produced critical standards for urban tree care, including guidelines for tree planting, tree pruning, tree stabilisation by cabling and bracing, tree assessment, tree valuation and protection of trees affected by construction and during events. These standards, available on the European Arboricultural Standards website, are essential resources for ensuring high-quality and consistent tree management practices across Europe. The Toolkit directly references these standards as essential tools for implementing best practices in urban forestry (Toolkit, Chapter 4: Best Practices for Urban Tree Management). www.europeanarboriculturalstandards.eu

The European Union's Green Infrastructure Strategy: This strategy emphasizes the integration of green spaces into urban planning as a means of enhancing biodiversity, improving climate resilience, and supporting sustainable development. It serves as a foundational document for urban tree strategies across Europe, as discussed in the Toolkit (Toolkit, Chapter 3: Understanding Urban Trees).

Tools for evaluation of tree ecological and economical benefits: Developed various expert organizations such tools are used globally to assess the benefits of urban trees, including carbon sequestration, air pollution reduction, and energy savings. These tools are instrumental in quantifying the economic and environmental value of urban forests and are recommended for use alongside the methodologies discussed in the Toolkit (Toolkit, Chapter 6: Tools and Resources for Urban Tree Advocacy).

National and Local Tree Protection Legislation: Various national and local laws protect urban trees, such as the UK's Tree Preservation Orders (TPOs) and Germany's Federal Nature Conservation Act (BNatSchG). These laws provide the legal framework for tree preservation efforts and are critical references for any urban tree strategy, as discussed in the Toolkit (Toolkit, Chapter 7: Policy and Funding Resources).

Best Practice Guides from Leading Cities: Several cities in Europe have developed exemplary urban forestry programs. Case studies from such cities offer valuable insights and practical examples of successful tree management strategies. These examples are extensively covered in the Toolkit (Toolkit, Chapter 6: Tools and Resources for Urban Tree Advocacy).

Scientific Research on Urban Forestry: Numerous studies have explored the environmental, social, and economic benefits of urban trees. Key research articles and reports provide evidence-based support for the strategies and actions outlined in this document, many of which are also referenced in the Toolkit (Toolkit, Chapter 4: Economic Benefits of Urban Trees).

Community Engagement Models: Successful urban tree strategies often rely on strong community involvement. In the Toolkit are described various models for effective public engagement in tree planting and maintenance (Toolkit, Chapter 6: Tools and Resources for Urban Tree Advocacy).

6.3. Recommended Further Reading

For those seeking to deepen their understanding of urban forestry and enhance their expertise in the field, the following publications and resources are recommended:

"Urban Forests: Ecosystem Services and Management" by J. Marzluff: This book offers a comprehensive overview of the ecological functions of urban forests and the management practices needed to maintain their health and productivity.

"The Green Cities of Europe: Global Lessons on Green Urbanism" edited by T. Beatley: This collection of case studies highlights innovative green urban planning practices from leading European cities, providing valuable lessons for integrating trees and green infrastructure into urban environments. The Toolkit also includes several European case studies that illustrate the effectiveness of urban tree programs (Toolkit, Chapter 5: Best Practices for Urban Tree Management).

"Trees in the Urban Landscape: Site Assessment, Design, and Installation" by Peter Trowbridge and Nina Bassuk: A practical guide to selecting, planting, and maintaining trees in urban areas, with a focus on site-specific considerations and sustainable design principles. These topics are also covered in the Toolkit's guidelines for urban tree management.

"Urban Forestry: Planning and Managing Urban Greenspaces" by Robert W. Miller, Richard H. Hauer, and Les P. Werner: This textbook covers the fundamentals of urban forestry, including policy development, management strategies, and the ecological and social benefits of urban trees. The Toolkit aligns with these fundamentals and provides practical tools for implementing urban forestry strategies (Toolkit, Chapter 3: Understanding Urban Trees).

European Arboricultural Standards Website (www.europeanarboriculturalstandards.eu): This site offers access to the latest standards and guidelines for tree care across Europe, including detailed information on tree planting, pruning, and risk management developed in the Erasmus+ projects TeST and ECoST. The Toolkit endorses these standards as essential resources for urban tree management (Toolkit, Chapter 5: Best Practices for Urban Tree Management).

6.4. Recommended Tree strategy devolpment team

The development of the tree strategy document has to be a collaborative effort, drawing on the expertise and insights of a wide range of stakeholders. The following organisations and contributors are recommended to be included:

Arboriculture and Urban Forestry experts and consultants: For their ongoing research into the benefits of urban trees and the development of best practices for urban forestry, including the contributions made through the Erasmus+ projects TeST and ECoST, which are extensively referenced in the Toolkit (Toolkit, Chapter 7: Policy and Funding Resources).

Municipal Green Space Management Departments: For providing invaluable data, expertise, and on-the-ground insights into the challenges and opportunities of managing urban forests, as discussed in the Toolkit (Toolkit, Chapter 3: Understanding Urban Trees).

City Policy Makers and Urban Planners: For their role in integrating tree strategies into broader urban planning frameworks and ensuring that trees are recognized as essential urban infrastructure, as emphasized in the Toolkit (Toolkit, Chapter 7: Policy and Funding Resources).

The General Public: For their participation in tree planting events, stewardship of urban trees, and support for policies that promote greener, healthier cities, which is vital for the long-term success of urban forestry programs (Toolkit, Chapter 6: Tools and Resources for Urban Tree Advocacy).

Unified European City Tree Strategy - ArboCroatia

European City Tree Strategy was developed as an Intellectual Output of the Erasmus+ Project "Development of Digital Forms of Learning and New Certification Programs in the Field of Arboriculture and Urban Forestry at the SE Europe Level" Project ID: 2022-1-HR01-KA220-VET-00086554

Co-funded by the European Union

ArboCroatia