

Urban Forestry

Led by: Director of Parks & Open Spaces

Service Description

This service manages public trees and promotes tree stewardship to Calgarians. Trees increase climate resiliency by improving air quality, reducing storm water runoff, and providing shade, cooling and wildlife habitat. Trees increase property values and create attractive, stress-reducing environments. The City plants public trees to replace those lost from construction and natural decline and grows the urban canopy to benefit future generations. The City also receives public trees from the development industry. The City waters newly planted trees for healthy establishment, and inspects and prunes trees to increase their lifespans. Urban Forestry reviews development projects to protect trees.

Service Updates

Key Service Results

The Branching Out private tree giveaway, supporting Urban Forestry Initiative 8, was extremely well received by Calgarians. Due to high public demand in past years, the number of trees provided in 2023 was increased by 400 per cent. In 2023, all 2,000 trees were claimed within hours during registration. In collaboration with Parks & Open Spaces, we offered guided tree walks, volunteer tree planting opportunities and in-person presentations to increase and support tree-related public education.

Canopy Expansion planting program was completed in mid-June with 91,000 seedlings being planted in various communities. This initiative is above and beyond Urban Forestry's regular planting program of 6,385 caliper (large) trees planted in 2023. Seedlings take longer to establish (and to contribute to the urban canopy growth) than the caliper trees. This initiative focuses on mass planting of smaller trees (whips and plugs) that, when planted in optimal areas, can establish and provide increased canopy cover and biodiversity.

Service Challenges

We have identified drought as a key challenge to increasing tree planting for canopy growth. Our current practice for newly planted trees requires a 5-year watering cycle post planting. Increased drought periods result in stressed trees and an overall decrease in canopy health and resilience. Water restrictions pose a risk to the survivability of any trees planted in the past 5 years. As the prevalence of drought periods increase, we continue to explore opportunities to increase tree watering from the current 5-year cycle to a 7-year program.

Construction and development activities continue to impact the service's ability to grow the urban tree canopy. We are collaborating closely with staff in all departments to advocate for a balanced approach to achieving housing density targets, while also achieving climate targets related to the Climate Emergency. The increasing number of mature trees lost to development is a risk without improved policies, planning and planting standards.

Trends & Potential Uncertainties

Risks include severe weather events (snow, winds, drought, etc.), tree pests and diseases.

The City is at risk of not meeting the Municipal Development Plan's (MDP) long-term urban canopy target at our current planting levels. Replacement planting of 3,500 trees per year will maintain the current urban canopy level. Planting an additional 4,000 trees per year will get us to the MDP target by 2060. Current capital funding supports planting 5,600 trees (1,900 less than required) annually through 2026.

Urban Forestry has applied for significant grant funding from the federal government for tree planting. Successful grant proposals will be confirmed by end of Q2 2024. This poses both opportunity and potential uncertainty for quantity of tree planting and staff resources required in 2024.



Measuring Our Performance

Legend

— Actuals

■ Expected Future Performance

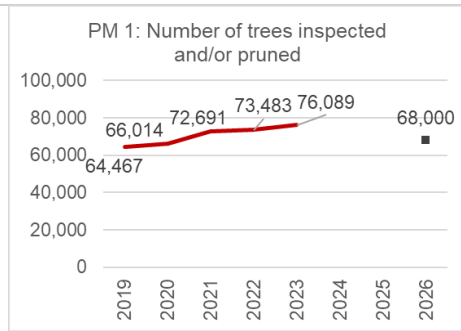
➔ Progressing as planned

⊖ Not progressing as planned

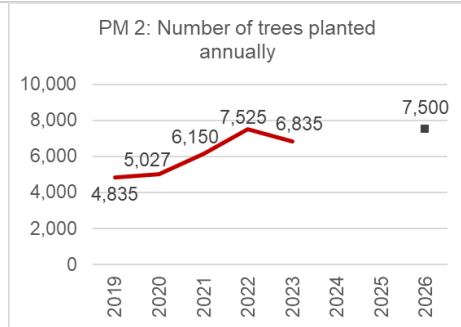
Performance Measures

Story behind the numbers

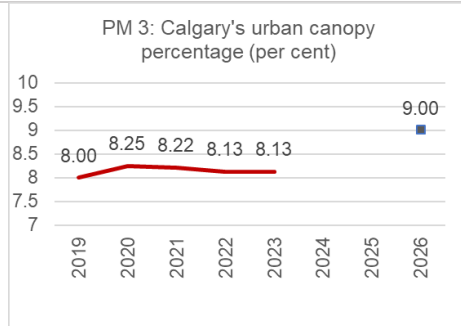
Status



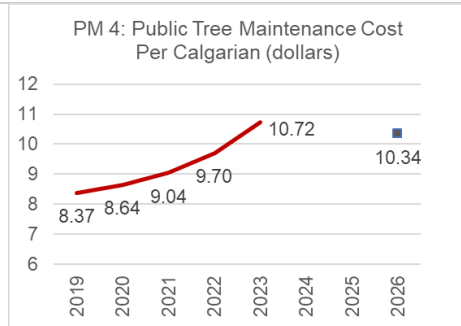
Risk-based tree inspections and pruning continue to be a service priority. This proactive work increases the resilience of the urban forest and leads to improved lifespans for trees and less damages from severe weather, such as extreme winds or late/early seasonal snowfalls. The City also completes regular tree assessments to ensure asset management data is accurate, enabling informed decision making and the efficient use of available funds. Risk-based assessments of 50,000 trees were completed in 2023, along with 26,000 trees pruned.



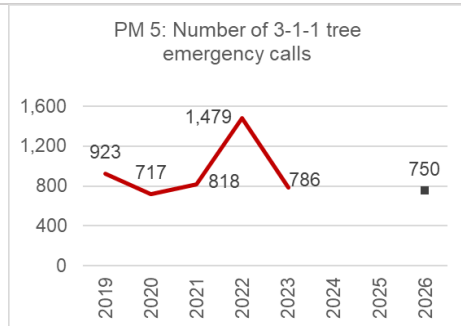
Tree planting is funded through the service's capital budget, which allows about 5,600 trees per year to be planted. To improve progress towards the MDP target, Urban Forestry must plant a total of 7,500 trees annually. There is currently a funding gap equivalent to planting 1,900 trees per year. In 2023, Urban Forestry used capital funds allocated to future years to plant an additional 1,235 trees (total of 6,835 trees planted), due to a prolonged drought period resulting in increased tree mortality. The increased prevalence of drought periods has created unpredictable conditions for tree survivability, leading to increased expenditures.



Progress towards this target has been limited by continued tree loss during development and construction activities. The City's MDP set a long-term urban canopy target of 14-20 per cent. Based on available planting land, Urban Forestry estimates 16 per cent is achievable by 2060. To accomplish this, we need to replace 3,500 existing trees and plant 4,000 new trees each year. Calgary is currently halfway to the 16 per cent target. Since trees grow slowly, progress comes in small increments. To stay on track towards Calgary's long-term urban canopy target, Urban Forestry needs to grow the canopy by 0.2 per cent each year in 2023-26.



Calgary's tree maintenance costs are low compared to most benchmarked cities. Annual cost increases are due to more public trees being added to The City's inventory each year and rising resource costs. Higher costs are anticipated as more trees mature and result in higher tree decline, removals and succession planting needed in older communities. A long period of increased drought over the past ten years resulted in a slight increase in maintenance costs in 2023 (more tree watering and higher tree mortality). Tree maintenance costs include inspections, structural pruning, watering, tree removals, tree protection and pest management.



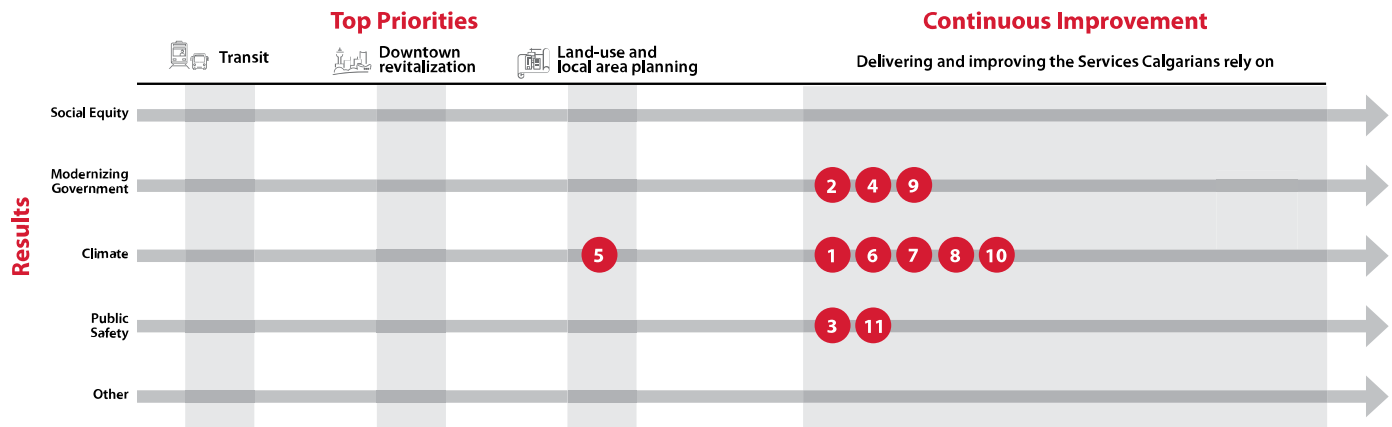
The service expects fewer 3-1-1 tree emergency calls (e.g., fallen tree branches blocking roads or damaging property) as a result of implementing a proactive resiliency strategy to prioritize the pruning of existing City trees. Tree emergency call totals have significantly decreased since 2015, when there were almost 2,000 calls per year. This is despite an anticipated increase in severe weather events. Urban Forestry will also begin the structural pruning of younger trees in 2023-26, resulting in less tree failures.









Progress on Service Delivery

Alignment with Council Refined Priorities and Result Areas



- Legend**
- Completed
 - Progressing as planned
 - Not progressing as planned
 - Not started
 - Initiative number

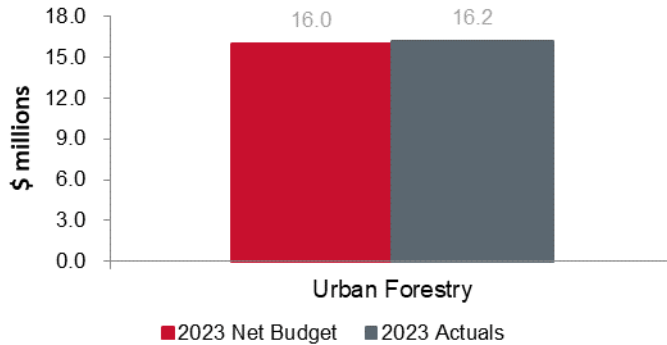
Initiative	Initiative Update	Status
1 Increase tree resilience to severe weather, invasive pests and diseases and expand tree lifespans by continuing to prioritize risk-based pruning of public trees.	This priority work was successfully completed in 2023: 50,000 trees were assessed for pruning needs, via a risk-based model. Over 19,100 trees were pruned to mitigate risk and promote tree health.	
2 Protect mature trees and sustain the urban forest by continuing to respond to Calgarians (3-1-1) and developer requests for tree health, protection and hazard mitigation.	In 2023, there was an increase in the number of non-emergency 3-1-1 service requests received. The service line responded to over 13,600 requests. It is anticipated that this increasing trend will continue annually, as new trees are added, and Calgary's population grows.	
3 Enhance public safety and mitigate damages to property by removing dead trees and select stumps.	The service completed 6,980 tree removals and ground out 2,270 stumps in 2023. There has been a significant increase in tree removals due to high tree mortality during a prolonged period of drought.	
4 Continually improve asset management and effectiveness by annually updating Urban Forestry's digital inventory of public trees.	This ongoing initiative is progressing well, with 134,000 trees inventoried in 2023. As of April 10, 2023, over 78 per cent of our public tree assets have been inventoried within the past five years. This year, Urban Forestry met its target of inventorying a minimum of 20 percent of our public trees. This will ensure accuracy and promote data-informed decision making, via a continuous five-year inventory cycle.	
5 Encourage sustainable tree planting in development and construction activities through tree inspections by aligning with land use bylaws, specifications and best practices.	Tree inspections are ongoing as part of various development streams including infill, capital and subdivision development inspections. The Urban Forestry Service Governance (UFSG) team is collaborating to increase role clarity and improved quality of tree planting. The UFSG team is also working towards improved protection of existing trees during construction activities.	
6 Sustain the urban forest by assessing the risk of, and treating public trees for, invasive pests and diseases.	In collaboration with Parks & Open Spaces, an Invasive Pest and Disease Crisis Response Plan has been developed in 2023. This response plan will guide decision making in the event (high likelihood) that our urban canopy is negatively impacted. An integrated pest management program for elm scale has been implemented with 2,475 trees receiving injection treatments this year. Various pest and disease monitoring traps (over 200) have been installed and monitoring was ongoing from June to October.	
7 Adapt trees to Calgary's harsh environment and trial new tree species in Calgary's climate by managing a civic nursery.	The civic nursery operated at full capacity in 2023. Trees were harvested (dug and wrapped) in preparation for planting throughout the City. Tree stock was procured, planted, and maintained to support future tree planting. New tree species have been trialed to determine viability in our changing climate.	

Initiative	Initiative Update	Status
8 Educate and incentivize Calgarians to plant and care for private trees by continuing to participate in public education and partnership programs.	The Branching Out private tree giveaway was extremely well received by Calgarians. Due to high public demand in past years, the number of trees provided in 2023 was increased by 400 per cent. In 2023, all 2,000 trees were claimed within hours during registration. In collaboration with Parks and Open Spaces, we offer guided tree walks, volunteer tree planting opportunities and in-person presentations to increase and support tree-related public education.	
9 Grow the urban canopy by continuing to participate in collaborative programs and funding opportunities (e.g., canopy growth, food security and volunteer planting).	The service has applied for significant grant funding through a federal tree planting program (2 Billion Trees). A pilot initiative was developed to support community associations (CAs) with installing orchards – a collaboration between the Calgary Horticulture Society, CAs and Urban Forestry will result in fruit trees being provided, along with specific pruning training to any interested CA. In 2023, 10 CAs took part in the initiative. Volunteer tree planting was completed in July, with over 1,000 trees being installed at various locations throughout the City.	
10 Maintain Calgary's existing canopy through the development of a citywide program to systematically identify and replace older, larger trees when they are at the end of their natural lifecycles.	The Large Tree Canopy Succession initiative received funding for 2023-26. Funding supported the removal and stump grinding of 200 trees in 2023. Replacement tree planting is scheduled for 2024.	
11 Provide a safe and healthy environment for park users, employees, contractors and volunteers by strengthening commitments to safety and well-being.	Promoting a positive safety culture is a key, ongoing priority in Urban Forestry. In 2023, two emergency response tabletop exercises were completed (March and June) related to storm events. This ensures staff preparedness and provides opportunity for continuous improvement. Safety culture is embedded into all tasks completed by staff and contractors including safety meetings, reporting of incidents, worksite inspections and Field Level Hazards assessment. Leadership and management have regularly been onsite to support and hear feedback directly from front facing staff.	



Service Updates on Financial Performance

Net Operating Budget and Actuals as of December 31, 2023

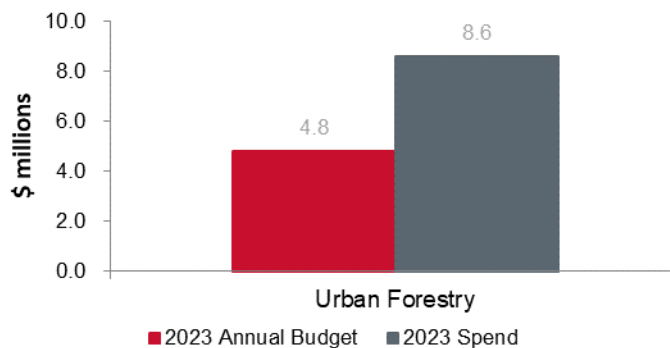


Operating Budget Updates - 2023 net operating budget vs actuals:

Urban Forestry had an unfavourable operating variance of \$0.2 million. The primary drivers of the variance were tied to increased stump grinding, tree removals and pruning, all on public land.

In 2023, Urban Forestry exceeded tree pruning, stump grinding and removal targets. Operating expenditure was also used to protect public trees during development activities and operate our Civic tree nursery. The service went to market for a new tree pruning contract in 2023 and observed an increase in vendor costs.

Capital Budget and Spend as of December 31, 2023



Capital Budget Updates - 2023 total capital budget vs 2023 spend:

Urban Forestry has spent 177.1 per cent of the 2023 approved capital budget. The overspending is mainly attributed to increased tree planting and watering. The service has accessed fundings budgeted for a future year to compensate for the current overspend.

In 2023, the capital expenditures have been primarily used to procure, plant and water trees. Calgary experienced a prolonged period of drought in 2023, resulting in higher-than-average annual tree mortality. The 2023 approved capital budget supported planting around 4,800 trees, however the service line planted 6,385 trees (42.0 per cent increase) to replace some of the lost canopy. Tree watering was also increased by 15.0 per cent to maintain survivability. The service went to market for a new tree planting contract in 2023 and observed an increase in vendor costs.