City of Saskatoon
Communications & Public Engagement

ENGAGE

# Urban Forest Management Plan

*Green Strategy Workshop 2 – What We Heard*
April 24, 2019

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## Background

The purpose of a strategic Urban Forest Management Plan for Saskatoon is to provide a structured approach to protecting and enhancing the environmental, social, and economical services provided by our urban forest and ensure it is healthy and robust for the benefit of citizens now and into the future.

City Council Policy C09-011 (Trees on City Property) was released in 1989 and updated in 2010. In this policy, Council affirms "that trees on City Property are 'living' assets owned by the City of Saskatoon and maintained as a legacy for the citizens of the city of Saskatoon."

Saskatoon's urban forest is changing however, due to urban growth, redevelopment in established areas, impacts from invasive pests, diseases and weather events, and aging trees. In order to adapt to the changes and feel confident in future investments, an Urban Forest Management Plan (UFMP) is needed.

Development of the UFMP will address several key findings from the Green Strategy and will include a combination of research, visioning and options identification, and selection of preferred options or actions to recommend to City Council. The deliverables of the project are described below in terms of three Steps: Research, Visioning and Options Identification and Action Plan Development.

**Research**

- Identify gaps in the City's existing urban forestry management program, service levels, policies and bylaws;
- Complete a baseline criteria and indicators analysis of the City's urban forestry program;
- Complete a tree canopy analysis and a canopy change analysis (preferably 10 years) for Saskatoon;
- Research strategies, plans, policies and best practices from other jurisdictions related to urban forestry management plans and tree protection policy and bylaws;
- Review and confirm relevant existing, and under development, City of Saskatoon policies and standards, guidelines and service request criteria related to or impacting the urban forest;

**Visioning and Options Identification**

- Create a vision document, The Urban Forest Management Plan, for Saskatoon's future forest condition and list clear objectives for developing and managing this important resource into the future.

**Action Plan Development**

- Create a prioritized action plan, with both short and long term recommendations, to achieve the desired urban forest condition including setting targets (Biodiversity, age-diversity, region appropriate canopy cover, etc.) and identifying strategic planting areas to maximize benefits.

## Strategic Goals

Council has identified the renewal of the Urban Forestry Strategy and adoption of Urban Forest Risk and Mitigation Strategies as strategic goals for 2018-2021 as a function related to identification and management of green infrastructure. Success in these areas will be measured by the number of trees planted and trees removed due to disease, safety or development. The UFMP aims to address the renewal/adoption of these strategies.

UFMP will also contribute to the climate change adaptation initiative as trees are considered an asset in protection of our City in the face of changing climate and extreme weather events.

The UFMP will also contribute to safety and wellbeing of citizens through development of a coordinated approach to management of trees that impact neighbourhood safety and property maintenance.

## Summary of Engagement Strategy

Public input will inform several project decisions, including:

- Visioning and Options Identification:
    - Identify how the community values and interacts (both positively and negatively) with different categories of trees in different situations.
    - Identify how current processes and policies for urban forest management align with community values and interactions.
    - Identify opportunities or options to align urban forest management with community values.
    - Identify options for internal process to improve delivery of urban forest management across the City to meet recommended targets.

- Action Plan Development:
    - Select preferred options to recommend to Council for inclusion in the UFMP (action plan).
    - Prioritize preferred options for implementation to recommend to Council as part of the UFMP.

## Green Strategy Workshop 2

Green Strategy Workshop #2 took place over two sessions (afternoon and evening) at Francis Morrison Library on October 29, 2018. Subject matter experts from the City of Saskatoon and external organizations were invited to attend one of two sessions. A total of 44 participants attended the afternoon session, and 14 participants attended the evening session.

The workshop provided a combination of wall station and table top activities on the topics of natural areas and urban forest management. Three activities related to urban forestry were designed to seek feedback from subject matter experts to inform development of the Urban Forest Management Plan. Each activity is described below in terms of the questions posed to participants and decision(s) that participant comments informed.

*Table 1 What We Asked*

| Activity | What we asked |
|---|---|
| **Activity A: Urban Forest – Tree Categories** | This wall station included a single poster with map of Saskatoon that identified 10 distinct tree categories within Saskatoon's urban forest. A brief description, initial benefits and challenges related to each category were provided. Participants were asked to comment on each category.<br><br>*Decisions:*<br>• Identify how the community values and interacts (both positively and negatively) with different categories of trees in different situations.<br>*Questions:*<br>• Does this tree category make sense?<br>• Did we miss any? Should some not be included? |
| **Activity B: Urban Forest – Benefits, Challenges, Opportunities** | For this table activity, participants were provided with a description of each tree category and a worksheet on which to identify benefits, challenges and opportunities associated with each category.<br><br>*Decision:*<br>• Identify how the community values and interacts (both positively and negatively) with different categories of trees in different situations.<br>*Questions:*<br>• What benefits, challenges and opportunities apply to each tree category? |
| **Activity C: Urban Forest Levels of Compensation** | For this table activity, participants were provided with a "Level of Compensation" matrix and an assigned scenario to review and discuss.<br><br>*Decisions:*<br>• Identify how the community values and interacts (both positively and negatively) with different categories of trees in different situations.<br>*Questions:*<br>• Based on the levels of compensation described, which level is most appropriate to address the scenario? Why? |

## Analysis

Both qualitative and quantitative data was collected during the workshop. Thematic analysis was completed on qualitative (open ended) data, while quantitative analysis was conducted on restricted response data (multiple choice questions).

Data was analysed at two scales: question specific and decisions specific. Participant comments provided in response to a specific question were analysed for emergent themes specific to that question.

## What We Heard

Benefits, challenges and opportunities associated with each tree category are summarized in this section. Each urban forestry scenario provided as part of the Levels of Compensation activity discuss a specific tree category. Results from both activities are organized below in tables 2 to 20 and grouped according to the tree category that best applies.

*Table 2: All Trees*

| All Trees | | |
|---|---|---|
| *In the process of working through the activities, participants noted that some responses were applicable to all trees, and developed a separate category to capture input regarding ideas, benefits, challenges and opportunities related to all trees in the urban forest. "All trees" includes trees in all categories located within Saskatoon's urban forest.* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Ecosystem Services**<br>Mitigate urban heat island<br>Carbon sequestration<br>Stabilize soil, prevent erosion<br>Understory dissipates energy from flowing water.<br>Climate change mitigation<br>Storm water retention/management<br>Shelter/Shade<br>Cooling effect<br>Air quality<br>Wind reduction<br>Noise attenuation<br>Traffic calming<br>Snow breaks<br><br>**Ecological Integrity**<br>Dead trees and understory provide wildlife habitat<br>Mature trees provide important bird habitat and need protection.<br>Source of pollination - support pollinators<br>Food<br><br>**Social/Wellbeing** | **Infrastructure**<br>They grow into utilities/heave sidewalks<br>Can conflict with infill<br>They end up collecting garbage<br><br>**Ecological Integrity**<br>Pests and disease<br>Some are (or attract) invasive species<br>Get damaged in dog parks<br>Decaying trees result in carbon release<br><br>**Social/Wellbeing**<br>Can cause safety issues<br>Crime prevention through environmental design<br>Fire hazard<br><br>**Economic/Service Levels**<br>Costs with regard to diseases/invasive pest and changing Climate<br>Costs if they need to be removed<br>Maintenance – unirrigated center medians<br>Maintenance, pest issues | **Regulatory Tools**<br>Bylaw protection for trees that would be enforceable.<br><br>**Ownership/Management**<br>Successional planting for green infrastructure - age diversity# trees and can label with species or hints to help ID tree |

| All Trees | | |
|---|---|---|
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| **Benefits** | **Challenges** | **Opportunities** |
| Aesthetics/visual screening<br>Social wellbeing, quality of life goes up<br>Education/learning<br>Food | **Ecosystem Services**<br>Can result in too much shade on private property | |
| **Does this category make sense?** | | |
| Participant comments touched on increasing biodiversity of trees and encouraged exploration of species that are better suited to adapt to climate change. Participants also suggested planning with climate change impacts and monitoring in mind. Protection of additional trees was mentioned by participants as well as exploration and incorporation of unique and innovative urban forest designs with examples shared from other municipalities. | | |

*Table 3: Civic Facility Trees*

| Civic Facility Trees | | |
|---|---|---|
| *Trees that are on civic facility sites such as Leisure Centers, Cemeteries, Golf Courses, Libraries, Fire Halls, etc. Unique benefits: facility character, shade. Unique challenges: pests and disease.* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Ecological Integrity**<br>Overall forest has value over individual or small trees<br>Biodiversity<br><br>**Social/Wellbeing**<br>Mental Wellbeing/ Public health - sun exposure<br>Place making<br>Psychological effect, calming<br>Heritage<br><br>**Economic/Service Levels**<br>Tourism<br>Job creation | **Economic/service levels**<br>Economics dictates whether the trees stay or go.<br>Consistent levels of service<br><br>**Social/Wellbeing**<br>Needs to be more education on the value of trees<br><br>**Ownership/Management**<br>Defining jurisdiction and ownership - ex. parks or facilities?<br>Liability<br>Conflicting uses | **Ecological Integrity**<br>Diversify species<br>Add on civic facilities<br><br>**Planning**<br>Need tree protection when facility plans are modified.<br><br>**Ownership/Management**<br>Area specialists should be responsible for specific sites - clear delineation of responsibilities<br>Experts take care of their own area - figure out a budget later<br><br>**Social/Wellbeing**<br>Public gardens |
| **Does this category make sense?** | | |
| Participants suggested development of a bylaw that protects both public and privately-owned trees. | | |

*Table 3: Scenario 1 Results – Civic Facility Trees*

| What level of compensation should apply Scenario 1? |
|---|
| ***Scenario 1:*** *At Woodlawn Cemetery there is an identified need for more parking. The plan requires the removal of two large elm trees along Memorial Avenue. These trees are part of a National Historic Site. They are appraised at $30,000.00. The appraisal does not include the unique heritage value of the trees.* |
| **Highest (7 entries)** |
| REMOVAL OF THIS TREE WOULD NOT BE AN OPTION. THESE WOULD BE TREES YOU WOULD INVEST IN COSTLY AVOIDANCE MEASURES. THIS MAY BE A HISTORICALLY SIGNIFICANT TREE.<br>Discussion:<br>Through responses to this scenario, it appears that participants place great value and importance on the cultural significance of the trees at this site using terms to describe them like heritage value, remembrance, memorial, honors veterans, and "National Historical Site plus cemetery equals don't cut them down". Responses also indicate that the trees are valued for the time and money that has already been invested, the age of the trees, unique habitat they provide, their aesthetic qualities and shade value at this location.<br><br>While many participants indicated that the cultural significance of the trees is enough justification for protection, others felt that the species of the tree would have more bearing on the decision, explaining that American elm trees are valued differently from Siberian Elms. It was mentioned that American Elms may become a species at risk due to presence of disease.<br><br>Participants also mentioned importance of secondary or successional planting to protect cultural significance and ecological integrity of the site indicating that all damaged trees should be replaced, a plan for backup planting should be in place in case of disease, and even the lowest valued trees should require compensation with funds being used for replacement. Enforcement was also mentioned as a necessary component of urban forest management.<br><br>Some participants applied a climate change lens, noting that trees are not contributing to climate change, but the parking lot will. Participants urged for better communication between the City and developer to explore alternatives like better transit to the site that may also contribute to increased opportunities for tourism, carbon sequestration and education. |
| **High (1 entry)** |
| THE REMOVAL OF THE TREE(S) WOULD ONLY BE CONSIDERED AFTER MITIGATION OR AVOIDANCE OPTIONS HAVE BEEN FULLY CONSIDERED AND THEN IF NOT POSSIBLE AT THE COST OF THE FULL APPRAISAL VALUE OF THE TREE AND THE COST OF REMOVAL (IE $10,000-$20,000). THIS MAY BE A HIGHLY VALUED TREE PLANTED IN AN APPROPRIATE PLANT SITE AND WOULD BE EXPECTED TO LIVE FOR MANY MORE (>20) YEARS. THIS MAY BE A TREE THAT THE CITY PLANTED AND INVESTED IN OR A TREE A PREVIOUS PROPERTY OWNER PLANTED AND IS IN AN APPROPRIATE PLANT SITE.<br>**Discussion:**<br>Participants discussed the importance of parking in relation to the ecosystem service value of trees suggesting that removal of two trees would accommodate only two parking spots. |

| What level of compensation should apply Scenario 1? |
|---|
| **Medium (1 entry)** |
| THE REMOVAL OF THE TREE(S) WOULD BE CONSIDERED IF THE COST OF REMOVAL AND REPLACEMENT COSTS ARE COVERED (I.E. $500.00-$3,000.00). THESE WOULD BE TREES YOU MAY INVEST MINIMALLY IN MITIGATION OR AVOIDANCE. THIS MAY BE A VALUABLE TREE PLANTED IN A POORLY SELECTED SITE OR TREES IN A SITE THAT IS LIKELY TO CAUSE DETERIORATION OF ITS VALUE OVER TIME<br>**Discussion:**<br>Participants who selected the medium level of compensation explained that Siberian Elm are an invasive species. While it was suggested that this species is considered to be of lesser value, participants also suggested consideration of alternatives like transit, shuttle services, purchase of a private lot elsewhere and implementation of a city train along 2nd Avenue with a cemetery stop to mitigate the need for additional parking on site. |
| **Low (0 entries)** |

*Table 4: Fruiting, Orchard, Food Forest Trees*

| Fruiting, Orchard, Food Forest Trees | | |
|---|---|---|
| *Trees that produce edible fruit or other food crops and are accessible to the public to harvest and support wildlife.*<br>*Unique benefits: provide fresh local food for the community, support wildlife*<br>*Unique challenges: fallen fruit on sidewalks or other nuisance spots; public eating fruit before ripening, territoriality.* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Ecological Integrity**<br>Berry species: Saskatoon, choke cherry, pincherry, cranberry, currant, raspberry.<br>Wildlife Diversity<br>BEARS<br>Biodiversity<br><br>**Social/Wellbeing**<br>Food security/production<br>Community cohesion/common activity/building community<br>Knowledge/education<br>Increased food security (food desert)<br><br>**Climate Change**<br>Decreased food miles (GHG impact) | **Economic/Service Levels**<br>Water<br><br>**Planning**<br>Careful planning<br><br>**Social/Wellbeing**<br>Getting people to pick in time.<br>Grey area – don't know where they can be planted.<br>Waste of fruit. | **Ecological Integrity**<br>Planting Saskatoons<br>Biodiversity<br>Connect to school yard trees<br><br>**Social/Wellbeing**<br>Educational<br>Equity<br>Large orchards on undevelopable land.<br>Connect into community food security strategy.<br>Community involvement/ engagement/ building, e.g. community association, foodbank, and community gardens<br>E.g. Seattle food forest - but education is a must.<br>Collaboration: Usask fruit program<br>Education - urban ag.<br>Food availability<br><br>**Economic/Service Levels**<br>Economic - farmer's market<br>Where to plant? Need people to care. |

| Fruiting, Orchard, Food Forest Trees |
|---|
| *Trees that produce edible fruit or other food crops and are accessible to the public to harvest and support wildlife.*<br>*Unique benefits: provide fresh local food for the community, support wildlife*<br>*Unique challenges: fallen fruit on sidewalks or other nuisance spots; public eating fruit before ripening, territoriality.* |
| **Does this tree category make sense?** |
| Participants suggested that this category of trees belongs in parks and other public spaces as well as in linear connections between public spaces and as part of street-scaping in new areas. It was suggested that food forests and compost facilities be developed in every neighborhood. Participants also mentioned that, in addition to trees, this category should include bushes, shrubs and other plantings to be used for food and harvesting of fiber. |

*Table 5: Park Trees*

| Park Trees | | |
|---|---|---|
| *Trees located in City parks (municipal reserve).*<br>*Unique benefits: habitat, park character, creative play, shade, block unsightly views*<br>*Unique challenges: conflict with adjacent land use, rough play, risk to people and trees in high use parks (e.g. festivals), lack of age diversity leading to simultaneous die-off.* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Ecological Integrity**<br>Island habitat - diversity - edge habitat for birds | **Ecological Integrity**<br>Monoculture like a fence<br>Age - all the same | **Social/Wellbeing**<br>Heritage value<br>Design it for food and fibre and art (harvest) |
| **Social/Wellbeing**<br>Recreation, physical activity, play/adventure | **Economic/Services Levels**<br>Not irrigated | Add social and cultural value |
| **Ecosystem Services**<br>Preserve moisture<br>Land use buffer | | |
| **Planning**<br>Green space | | |
| **Does this category make sense?** | | |
| Participants mentioned awareness of tree management for species like aspen in parks and naturalized areas needs to be considered as part of the park trees category. | | |

*Table 6: Public Trees in Commercial Areas*

| Public Trees in Commercial Areas | | |
|---|---|---|
| *Trees planted on public property in squares and plazas or in amenity strips of the right-of-way in business improvement districts, industrial areas and other commercial areas. These areas have a concentration of business, offices, and cultural venues. High pedestrian traffic in these areas. Unique benefits: regulate temperature of streets, reduce wind and dust, traffic calming, street character, increase business traffic. Unique challenges: pests and disease, limited space, soil conditions are often too compact or nutrient/water deficient to support proper growth.* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Social/Wellbeing**<br>Always changing colors and appearances with seasons<br>Straight and long streets like 20th Street West offer a long corridor and canopy that is attractive from a distance as well as while walking.<br>Birds can be heard singing in them.<br>Improved pedestrian experience<br>Social connection<br>Peace/connection to nature, exposure to nature<br>Psychological: in space not build for humans<br>Happiness/feeling good<br><br>**Economic/Service Levels**<br>Traffic control costs<br>Tree-lined streets look and feel better. There are reports that suggest spending increases on streets with trees/ greenery/plants<br><br>**Ecosystem Services**<br>Water retention<br><br>**Planning**<br>Community tree planting program is a great resource but should be proactive about planting in certain areas. | **Ecological Integrity**<br>Lack of species and age diversity leading to disease (CAP)<br>Interference between tree and walkway<br>Lack of reliable water source<br>Isolated<br>Not planted for things to grow up<br>Vehicle damage and road salt<br>Mycorrhizal/fungal connections - underground soil food web hard to achieve in City-scape<br>Healthy tree requirements - adequate soil, good water, hard to get in city-scape<br>Mix needed to prevent disease<br><br>**Social/Wellbeing**<br>Properly pruning and ensuring leaves are cleaned in fall to prevent slip hazards during winter and clogging storm drains | **Ownership/Management**<br>Boulevards in Riversdale can easily have trees planted and nurtured to maturity – we have watered several on avenues over the past six years with success and will continue to do so.<br>Ease of partnering with property owners on public and private property.<br>Some cash incentives along with points converted to tax abatements invested into the green initiatives are ripe for the taking.<br><br>**Ecological Integrity**<br>We are missing the potential to place bird houses here and there, higher up to discourage vandalism, and perhaps the birds can eat invasive insects?? Must not locate near outdoor seating and patio areas.<br>Replacement of ash - what to plant, plant biodiverse may be better to plant species other than large trees. Look for ways to incorporate shrubs, evergreen varieties for color all season.<br>Increase the species diversity planting requirements - look at Patterson's gardens for good varieties. 40%, 30%, 20%, 10% rule - best practice for species diversity<br><br>**Social/Wellbeing**<br>Integration with lighting - increased beauty, visibility and feelings of safety<br><br>**Economic/Service Levels**<br>More trees (like in a pocket park) in commercial areas would increase business<br>Ensure when things do not survive, that plans exist to replant – not leave yucky spots with nothing (i.e. in front of Cineplex – likely most glaring example Downtown – that location deserves so much more) |

## Public Trees in Commercial Areas

*Trees planted on public property in squares and plazas or in amenity strips of the right-of-way in business improvement districts, industrial areas and other commercial areas. These areas have a concentration of business, offices, and cultural venues. High pedestrian traffic in these areas. Unique benefits: regulate temperature of streets, reduce wind and dust, traffic calming, street character, increase business traffic. Unique challenges: pests and disease, limited space, soil conditions are often too compact or nutrient/water deficient to support proper growth.*

**Ecosystem Services**

Use them to create great lighting – our city is slow to embrace what other cities do with trees – it can work if care is taken – other cities don't put lights in their trees to kill them.

## Does this category make sense?

Participants commented on the role of developers in regards to protection of trees in commercial areas. Some participants felt that developers did not value trees, while others suggested that some developers do value trees in commercial areas. Participants mentioned that trees in commercial areas can benefit both employees and consumers and are "good for business". Participants also suggested that it may be beneficial to explore alternatives to strip development on streets in commercial areas.

*Table 7: Scenario 5 Results: Public Trees in Commercial Areas*

| What level of compensation should apply to Scenario 5? |
|---|
| ***Scenario 5:*** *A business owner in a busy commercial corridor invested in a sign for their store and now a City street tree has grown and is blocking this sign. The owner agrees there is value in having a tree lined street in the business district but would like it pruned to open up a sight line to his sign or removed and replaced with a tree that won't block his sign.*<br>○ *Pruning to open up the view to the sign would require topping the tree and this is not in line with good arboriculture practices and would increase the need and cost to maintain the tree.*<br>○ *Removing and replacing a tree in a business district is costly compared to other plant sites.*<br>○ *The life expectancy of trees in a commercial corridor is shorter than a tree in a park or other space where there is more above and below ground space.*<br>○ *The appraised value of the tree is $10,000.00.* |
| **Highest (1 entry)** |
| REMOVAL OF THIS TREE WOULD NOT BE AN OPTION. THESE WOULD BE TREES YOU WOULD INVEST IN COSTLY AVOIDANCE MEASURES. THIS MAY BE A HISTORICALLY SIGNIFICANT TREE.<br>**Discussion:**<br>Participant suggested that this scenario should be approached using several strategies, but did not elaborate on what those strategies are. |
| **High (2 entries)** |
| THE REMOVAL OF THE TREE(S) WOULD ONLY BE CONSIDERED AFTER MITIGATION OR AVOIDANCE OPTIONS HAVE BEEN FULLY CONSIDERED AND THEN IF NOT POSSIBLE AT THE COST OF THE FULL APPRAISAL VALUE OF THE TREE AND THE COST OF REMOVAL (IE $10,000-$20,000). THIS MAY BE A HIGHLY VALUED TREE PLANTED IN AN APPROPRIATE PLANT SITE AND WOULD BE EXPECTED TO LIVE FOR MANY MORE (>20) YEARS. THIS MAY BE A TREE THAT THE CITY PLANTED AND INVESTED IN OR A TREE A PREVIOUS PROPERTY OWNER PLANTED AND IS IN AN APPROPRIATE PLANT SITE.<br>**Discussion:**<br>Some participants who selected a high level of compensation explained that the tree is **thriving** where it is and should not be removed. Instead, the sign should be relocated. Participants suggested that the City review the sign bylaw. Participants also indicated that the need for **pruning** should be avoided.<br>While some participants felt that the tree was valuable based on its **health**, others felt that the tree was not as valuable because it was a non-native **species** and contributes to monoculture.<br>If the tree is removed, participants explain that there is no point replacing the tree, as the situation will arise again as the tree grows. The City needs to plan for **expected growth** of the tree. Instead of replacing the tree with the same species, participants pointed out the opportunity to replace the tree with **native tree species** or **grasses**. Participants explained that the City should consider **mitigation** first instead of a permit solution, however they acknowledge that a permit system would be a mechanism to secure **compensation** from the business owner. |
| **Medium (1 entry)** |
| THE REMOVAL OF THE TREE(S) WOULD BE CONSIDERED IF THE COST OF REMOVAL AND REPLACEMENT COSTS ARE COVERED (I.E. $500.00-$3,000.00). THESE WOULD BE TREES YOU MAY INVEST MINIMALLY IN MITIGATION OR AVOIDANCE. THIS MAY BE A VALUABLE TREE PLANTED IN A POORLY SELECTED SITE OR TREES IN A SITE THAT IS LIKELY TO CAUSE DETERIORATION OF ITS VALUE OVER TIME<br>**Discussion:**<br>Participants who selected the medium and low levels of compensation to address this scenario indicated that while the tree has value in terms of place making, the location is not suitable due to limited space, conflicting uses and high stress conditions. |

| What level of compensation should apply to Scenario 5? |
|---|
| **Low (2 entries)** |
| THE REMOVAL OF THE TREE(S) IN THIS SCENARIO SHOULD BE COMPLETED AT THE BASIC COST OF THE REMOVAL (I.E. $250.00-$1,500.00). THESE WOULD BE TREE(S) THAT YOU WOULD NOT INVEST IN MITIGATION OR AVOIDANCE EFFORTS. COULD BE THE WRONG TREE PLANTED IN THE WRONG PLACE, A TREE AT THE END OF ITS LIFE CYCLE, OR A DISEASED OR INFESTED TREE. |
| **Discussion:**<br>Participants who selected the low level of compensation to address this scenario indicated that while the tree has value in terms of place making, the location is not suitable due to limited space, conflicting uses and high stress conditions. |

*Table 8: Public Trees in Residential Areas*

| Public Trees in Residential Areas | | |
|---|---|---|
| *Trees in the right-of-way including median trees, boulevard trees adjacent to the curb, boulevard trees along the back-of-sidewalk, trees in buffers. Unique benefits: regulate temperature of streets, reduce wind and dust, traffic calming, street character. Unique challenges: pests and disease, lack of age diversity leading to simultaneous die-off, soil conditions are often too compact or nutrient/water deficient to support proper growth.* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Ecosystem Services**<br>Monoculture has aesthetic benefit<br>Privacy<br><br>**Social/Wellbeing**<br>Heritage (older neighborhoods in Saskatoon)<br><br>**Economic/Service Levels**<br>Need larger fines for unlawfully cutting trees that need to be replanted.<br>Property value | **Ecological Integrity**<br>Balancing issues/needs. Wrong tree?<br>Limited numbers in newer developments<br>Replace risk trees and alternate species<br>Developer damage<br><br>**Social/Wellbeing**<br>Transportation safety<br>Street lighting - when human scale lighting isn't available<br><br>**Ownership/Management**<br>Residents asked to manage these - unwilling or unable?<br>Age of neighborhood<br><br>**Ecosystem Services**<br>Passive solar and sun protection guidelines for solar EV considerations, shade blocking solar cells | **Ecological Integrity**<br>Plant understory in shady area under trees.<br>Time to replace? Increase diversity.<br><br>**Economic/Service Levels**<br>Aggressive planting system with dedicated staff |
| **Does this category make sense?** | | |
| Participants commented that public trees in residential areas can contribute to social wellbeing for the community and can help to mitigate climate change. Participants suggested that larger fines should be charged to residents who damage or destroy trees for personal reasons. While some participants described benefits of public trees in residential areas, others cautioned that trees in this category can interfere with street lighting, road safety including line of sight, and may damage sidewalks. | | |

*Table 9: Scenarios 3A Results - Public Trees in Residential Areas*

| What level of compensation should apply to this scenario? |
|---|
| ***Scenario 3A:*** *A home owner has a one car garage off their back lane and they would like to build a driveway to add a front yard parking spot. There is a 25 year old elm on the city boulevard valued at $10,000.00. It was planted by the home owner and is now in the way of the proposed driveway.* |
| **Highest (2 entries)** |
| REMOVAL OF THIS TREE WOULD NOT BE AN OPTION. THESE WOULD BE TREES YOU WOULD INVEST IN COSTLY AVOIDANCE MEASURES. THIS MAY BE A HISTORICALLY SIGNIFICANT TREE.<br>**Discussion:**<br>Participants who selected the highest level of compensation indicated that building **permits** should only be issued where trees will not be impacted. In the event that trees are impacted, they should be replaced. Participants expressed that removal of trees impacts **street character** and that a driveway is not a **valid reason** for tree removal. |
| **High (3 entries)** |
| THE REMOVAL OF THE TREE(S) WOULD ONLY BE CONSIDERED AFTER MITIGATION OR AVOIDANCE OPTIONS HAVE BEEN FULLY CONSIDERED AND THEN IF NOT POSSIBLE AT THE COST OF THE FULL APPRAISAL VALUE OF THE TREE AND THE COST OF REMOVAL (IE $10,000-$20,000). THIS MAY BE A HIGHLY VALUED TREE PLANTED IN AN APPROPRIATE PLANT SITE AND WOULD BE EXPECTED TO LIVE FOR MANY MORE (>20) YEARS. THIS MAY BE A TREE THAT THE CITY PLANTED AND INVESTED IN OR A TREE A PREVIOUS PROPERTY OWNER PLANTED AND IS IN AN APPROPRIATE PLANT SITE.<br>**Discussion:**<br>Participants who selected a high level of compensation to address this scenario indicated that it is easy to move a driveway to **avoid impacts** to trees and that it is important to consider susceptibility of trees to **pests**. |
| **Medium (1 entry)** |
| THE REMOVAL OF THE TREE(S) WOULD BE CONSIDERED IF THE COST OF REMOVAL AND REPLACEMENT COSTS ARE COVERED (I.E. $500.00-$3,000.00). THESE WOULD BE TREES YOU MAY INVEST MINIMALLY IN MITIGATION OR AVOIDANCE. THIS MAY BE A VALUABLE TREE PLANTED IN A POORLY SELECTED SITE OR TREES IN A SITE THAT IS LIKELY TO CAUSE DETERIORATION OF ITS VALUE OVER TIME<br>**Discussion:**<br>Participants who selected a medium compensation level explained that roots will be **impacted** by development. |
| **Low (0 entries)** |

Participants who left comments without selecting a level of compensation indicated that the site should be **redesigned** to address impact to the trees. **Planning** should be done early and must include sufficient set back to **protect roots**. Participants also mentioned that buildings designed near trees must include window design intended to reduce **bird strikes**.

*Table 10: Scenarios 3B Results - Public Trees in Residential Areas*

| What level of compensation should apply to this scenario? |
|---|
| ***Scenario 3B:*** *A home owner has a one car garage off their back lane and they would like to build a driveway to add a front yard parking spot. There is a 25 year old elm on the city boulevard valued at $10,000.00. It was planted by the City and is now in the way of the proposed driveway.* |
| **Highest (1 entry)** |
| REMOVAL OF THIS TREE WOULD NOT BE AN OPTION. THESE WOULD BE TREES YOU WOULD INVEST IN COSTLY AVOIDANCE MEASURES. THIS MAY BE A HISTORICALLY SIGNIFICANT TREE.<br>**Discussion:**<br>Participants who selected the highest level of compensation indicated that the level of compensation selected is not dependent on who planted the tree. |
| **High (2 entries)** |
| THE REMOVAL OF THE TREE(S) WOULD ONLY BE CONSIDERED AFTER MITIGATION OR AVOIDANCE OPTIONS HAVE BEEN FULLY CONSIDERED AND THEN IF NOT POSSIBLE AT THE COST OF THE FULL APPRAISAL VALUE OF THE TREE AND THE COST OF REMOVAL (IE $10,000-$20,000). THIS MAY BE A HIGHLY VALUED TREE PLANTED IN AN APPROPRIATE PLANT SITE AND WOULD BE EXPECTED TO LIVE FOR MANY MORE (>20) YEARS. THIS MAY BE A TREE THAT THE CITY PLANTED AND INVESTED IN OR A TREE A PREVIOUS PROPERTY OWNER PLANTED AND IS IN AN APPROPRIATE PLANT SITE.<br>**Discussion:**<br>Participants who selected the high level of compensation reiterated that it is easy to move driveway to avoid impact to trees and that it is important to consider susceptibility of trees to pests. |
| **Medium (0 entries)** |
| **Low (0 entries)** |

Participants who left additional comments but did not select a level of compensation suggested that if a tree is damaged, it should be compensated at full cost and other **fines/consequences/ penalties** should be applied.

*Table 11: Scenarios 3C Results - Public Trees in Residential Areas*

| What level of compensation should apply to this scenario? |
|---|
| ***Scenario 3C:*** *There is a 25 year old elm on the city boulevard valued at $10,000.00. It was planted by the homeowner over a water line and must be moved to provide water service to the home.* |
| **Highest (1 entry)** |
| REMOVAL OF THIS TREE WOULD NOT BE AN OPTION. THESE WOULD BE TREES YOU WOULD INVEST IN COSTLY AVOIDANCE MEASURES. THIS MAY BE A HISTORICALLY SIGNIFICANT TREE.<br>**Discussion:**<br>Participants who selected a high to highest level of compensation suggested that **addition investigation** is required to determine if the water line "must" be removed. |
| **High (2 entries)** |
| THE REMOVAL OF THE TREE(S) WOULD ONLY BE CONSIDERED AFTER MITIGATION OR AVOIDANCE OPTIONS HAVE BEEN FULLY CONSIDERED AND THEN IF NOT POSSIBLE AT THE COST OF THE FULL APPRAISAL VALUE OF THE TREE AND THE COST OF REMOVAL (IE $10,000-$20,000). THIS MAY BE A HIGHLY VALUED TREE PLANTED IN AN APPROPRIATE PLANT SITE AND WOULD BE EXPECTED TO LIVE FOR MANY MORE (>20) YEARS. THIS MAY BE A TREE THAT THE CITY PLANTED AND INVESTED IN OR A TREE A PREVIOUS PROPERTY OWNER PLANTED AND IS IN AN APPROPRIATE PLANT SITE.<br>**Discussion:**<br>See highest. |
| **Medium (1 entry)** |
| THE REMOVAL OF THE TREE(S) WOULD BE CONSIDERED IF THE COST OF REMOVAL AND REPLACEMENT COSTS ARE COVERED (I.E. $500.00-$3,000.00). THESE WOULD BE TREES YOU MAY INVEST MINIMALLY IN MITIGATION OR AVOIDANCE. THIS MAY BE A VALUABLE TREE PLANTED IN A POORLY SELECTED SITE OR TREES IN A SITE THAT IS LIKELY TO CAUSE DETERIORATION OF ITS VALUE OVER TIME<br>**Discussion**<br>Participants who selected the medium level of compensation indicated that it is worth being aware of the full compensation value in order to determine if it is **worthwhile** to re-route the water line around the tree, instead of removing the tree. The following example was shared: if the tree is worth $10k and it only costs $5k to reroute the water line around the tree, then it may be worth just rerouting the water line. |
| **Low (1 entry)** |
| THE REMOVAL OF THE TREE(S) IN THIS SCENARIO SHOULD BE COMPLETED AT THE BASIC COST OF THE REMOVAL (I.E. $250.00-$1,500.00). THESE WOULD BE TREE(S) THAT YOU WOULD NOT INVEST IN MITIGATION OR AVOIDANCE EFFORTS. COULD BE THE WRONG TREE PLANTED IN THE WRONG PLACE, A TREE AT THE END OF ITS LIFE CYCLE, OR A DISEASED OR INFESTED TREE.<br>**Discussion:**<br>Participants who selected a low/medium level of compensation explained that **essential services** take precedence over trees. While it doesn't change value of the tree it does change the perception of compensation **fairness**. |

*Table 12: Scenarios 3D Results - Public Trees in Residential Areas*

| What level of compensation should apply to this scenario? |
|---|
| ***Scenario 3D:*** *Sidewalks are being replaced in a neighborhood and there is a conflict with an elm tree valued at $10,000.00. There are costly options to work around the tree or it would need to be removed.* |
| **Highest (0 entries)** |
| **High (1 entry)** |
| THE REMOVAL OF THE TREE(S) WOULD ONLY BE CONSIDERED AFTER MITIGATION OR AVOIDANCE OPTIONS HAVE BEEN FULLY CONSIDERED AND THEN IF NOT POSSIBLE AT THE COST OF THE FULL APPRAISAL VALUE OF THE TREE AND THE COST OF REMOVAL (IE $10,000-$20,000). THIS MAY BE A HIGHLY VALUED TREE PLANTED IN AN APPROPRIATE PLANT SITE AND WOULD BE EXPECTED TO LIVE FOR MANY MORE (>20) YEARS. THIS MAY BE A TREE THAT THE CITY PLANTED AND INVESTED IN OR A TREE A PREVIOUS PROPERTY OWNER PLANTED AND IS IN AN APPROPRIATE PLANT SITE.<br>**Discussion:**<br>Participants who selected the highest level of compensation recognized that sidewalks are an **essential service**, however indicated that it may be **less expensive** to move the sidewalk than to remove or replace a tree. |
| **Medium (2 entries)** |
| THE REMOVAL OF THE TREE(S) WOULD BE CONSIDERED IF THE COST OF REMOVAL AND REPLACEMENT COSTS ARE COVERED (I.E. $500.00-$3,000.00). THESE WOULD BE TREES YOU MAY INVEST MINIMALLY IN MITIGATION OR AVOIDANCE. THIS MAY BE A VALUABLE TREE PLANTED IN A POORLY SELECTED SITE OR TREES IN A SITE THAT IS LIKELY TO CAUSE DETERIORATION OF ITS VALUE OVER TIME<br>**Discussion**<br>Participants who selected a medium level of compensation based their selection on the **unavoidable** nature of the situation, selecting medium only "if sidewalk vs tree is unavoidable". Participants also reaffirmed that it is worth being aware of the full compensation value to determine if it is **worthwhile** to re-route the sidewalk around the tree, instead of removing the tree. |
| **Low (0 entries)** |

Participants who commented but did not select a level of compensation suggested that the City explore **innovative mitigation options** like rubber pavement or sidewalk designed into the road. Participants also suggested that in neighbourhoods where trees have heritage value, there is opportunity to **build around** the trees as they do in Europe.

*Table 13: Scenario 4 Results - Public Trees in Residential Areas*

| What level of compensation should apply to this scenario? |
|---|
| ***Scenario 4:*** *Three residential lots were purchased by a developer that is planning to build a large 8 story condominium on the combined lots. Their plans fit with current zoning requirements. There are 12 mature elm trees on the city boulevard adjacent to the private property and they conflict with the developer's ability to access their property to construct the building. The planned balconies are also in conflict with the large canopy of the trees. The majority of the trees roots are on private property. Damage during development will likely limit the lifespan of the trees. The combined value of the trees is $60,000.00*<br>*As above and the trees are removed without consulting the City.* |
| **Highest (1 entry)** |
| REMOVAL OF THIS TREE WOULD NOT BE AN OPTION. THESE WOULD BE TREES YOU WOULD INVEST IN COSTLY AVOIDANCE MEASURES. THIS MAY BE A HISTORICALLY SIGNIFICANT TREE.<br>**Discussion:**<br>Participants who selected the highest level of compensation indicated that this option was most ideal however had concerns with how **realistic** it was to apply this level of compensation. |
| **High (3 entries)** |
| THE REMOVAL OF THE TREE(S) WOULD ONLY BE CONSIDERED AFTER MITIGATION OR AVOIDANCE OPTIONS HAVE BEEN FULLY CONSIDERED AND THEN IF NOT POSSIBLE AT THE COST OF THE FULL APPRAISAL VALUE OF THE TREE AND THE COST OF REMOVAL (IE $10,000-$20,000). THIS MAY BE A HIGHLY VALUED TREE PLANTED IN AN APPROPRIATE PLANT SITE AND WOULD BE EXPECTED TO LIVE FOR MANY MORE (>20) YEARS. THIS MAY BE A TREE THAT THE CITY PLANTED AND INVESTED IN OR A TREE A PREVIOUS PROPERTY OWNER PLANTED AND IS IN AN APPROPRIATE PLANT SITE.<br>**Discussion:**<br>Participants who selected the high compensation level suggested mitigation by reassessing the building **design** to limit impact to trees. Participants indicated that the building design was not appropriate for the site if it means impacting several valuable trees. A smaller design, set back further with no underground parking would make this a more sustainable project.<br>If trees were removed without consulting the City, eliminating opportunity for mitigation, participants suggested that the **developer should be charged** the full appraised value of the tree. |
| **Medium (3 entries)** |
| THE REMOVAL OF THE TREE(S) WOULD BE CONSIDERED IF THE COST OF REMOVAL AND REPLACEMENT COSTS ARE COVERED (I.E. $500.00-$3,000.00). THESE WOULD BE TREES YOU MAY INVEST MINIMALLY IN MITIGATION OR AVOIDANCE. THIS MAY BE A VALUABLE TREE PLANTED IN A POORLY SELECTED SITE OR TREES IN A SITE THAT IS LIKELY TO CAUSE DETERIORATION OF ITS VALUE OVER TIME<br>**Discussion**<br>Participants who selected a medium compensation level indicated that with, or without approval, the developer must **compensate damage** to the trees. With mitigation or avoidance incorporated into the **design** the condo the developer can avoid extra costs and increase **density** goals.<br>Other participants felt that the trees were not suitable for the **location** as the roots are expanding onto private property in a developable area and should have been planted elsewhere. |
| **Low (0 entries)** |

Participants who commented but did not select a level of compensation urged the City to establish an **approval process** for condo construction that requires sufficient setback of construction plans to protect tree roots. Participants also suggested heavy fines and withdrawal of construction permits as **penalties** where appropriate.

*Table 14: Remnant Tree Stands*

| Remnant Tree Stands | | |
|---|---|---|
| *Natural stands of aspen and other species, shelter belts that have been kept and incorporated in to open spaces.*<br>*Unique benefits: conserve existing natural features, habitat, ecological services*<br>*Unique challenges: tend to accumulate wind-blown garbage, can be a site for unlawful activities, presence of invasive species such as European Buckthorn.* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Ecological Integrity**<br>Relatively less susceptible to pests.<br>Cottonwoods.<br>Diversity on landscape.<br>Connectivity.<br>Belongs here: natural spaces, natural aesthetics, species are natural, informed landscape.<br>Provide islands of native habitat diversity and edge habitat.<br>Encourages more native species like song birds.<br>Preservation of local genetics.<br>New neighborhood with mature trees providing habitat.<br>Different from other areas<br><br>**Economic/Service Levels**<br>Low maintenance<br><br>**Social/Wellbeing**<br>Historical value | **Ecological Integrity**<br>Maintaining surrounding habitat for remnant stands<br>If in a natural grassland, make sure it doesn't encroach<br><br>**Economic/Service Levels**<br>Management challenges as remnant trees grow out | **Ecological Integrity**<br>Near west swale wetlands, riparian shrubbery has been removed near compost depot - chance to save?<br>Biodiversity protection - it is a stepping stone<br><br>**Social/Wellbeing**<br>Great places for play - ex. near Alvin Buckwold School<br>Just call them native tree stands, "remnant" is a sad word |
| **Does this category make sense?** | | |
| Participants commented on the importance of remnant tree stands and their contribution to habitat for declining song bird populations. Forest layering with small form bushes, shrubs and brush was also mentioned as an important component of this tree category. | | |

*Table 15: Riparian Forest Trees*

| Riparian Forest Trees | | |
|---|---|---|
| *Trees in the South Saskatchewan River Valley*<br>*Unique benefits: conserve existing natural features, habitat, ecological services, erosion control and slope stability.*<br>*Unique challenges: large area to manage, presence of invasive species such as European Buckthorn, beaver cutting trees, development pressure, unsightly disease such as black knot.* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Ecological Integrity**<br>Belong here<br>Adapted<br>Wildlife corridor/connectivity<br>Flood plain protection<br>Cottonwoods<br>Healthy ecosystems<br>Valuable bird and wildlife habitat with limited work required<br>Species richness (birds)<br>Health of the riparian area<br>Good for fish habitat<br>Natural spaces<br>Encourage more native species like birds<br><br>**Ecosystem Services**<br>Keeps water cool<br>Takes up nutrient run-off<br>O.M. to water (food chain)<br>Stabilizing slopes<br><br>**Social/Wellbeing**<br>Tourism/Sask Identity promotion.<br>Important for experiencing nature. | **Ecological Integrity**<br>Erosion from informal trails<br>Invasive species along trails.<br>Tamed river - climate change<br>Beaver damage<br>Riverlanding<br><br>**Social/Wellbeing**<br>Trail building, not just road for people<br>Constructed trails<br>Safety/camping/hiding spots | **Ecological Integrity**<br>Wildlife.<br>Natural Trails - buffer impact of trails (wood chip trail).<br>Don't need to close area or trails - not pests. |
| **Does this category make sense?** | | |
| One participant challenged the statement that "black knot is unsightly", suggesting that it is just part of nature. | | |

*Table 16: Scenario 2 Results – Riparian Forest Trees*

| What level of compensation should apply to Scenario 2? |
|---|
| ***Scenario 2:*** *There is a plan to widen the riverbank pathways and bring them up to current accessibility standards. These pathways run along the riparian forest.*<br>○ *Currently there is not a formula used to appraise these trees.*<br>○ *The riparian area consists of trees that are different sizes and species*<br>○ *The area that would be impacted is approximately 150m x 50m* |
| **Highest (1 entry)** |
| REMOVAL OF THIS TREE WOULD NOT BE AN OPTION. THESE WOULD BE TREES YOU WOULD INVEST IN COSTLY AVOIDANCE MEASURES. THIS MAY BE A HISTORICALLY SIGNIFICANT TREE.<br>**Discussion:**<br>Participants who selected the highest level of compensation to address the scenario suggested that the level selected would be dependent on the presence of specific species such as Cottonwood trees. |
| **High (2 entries)** |
| THE REMOVAL OF THE TREE(S) WOULD ONLY BE CONSIDERED AFTER MITIGATION OR AVOIDANCE OPTIONS HAVE BEEN FULLY CONSIDERED AND THEN IF NOT POSSIBLE AT THE COST OF THE FULL APPRAISAL VALUE OF THE TREE AND THE COST OF REMOVAL (IE $10,000-$20,000). THIS MAY BE A HIGHLY VALUED TREE PLANTED IN AN APPROPRIATE PLANT SITE AND WOULD BE EXPECTED TO LIVE FOR MANY MORE (>20) YEARS. THIS MAY BE A TREE THAT THE CITY PLANTED AND INVESTED IN OR A TREE A PREVIOUS PROPERTY OWNER PLANTED AND IS IN AN APPROPRIATE PLANT SITE.<br>**Discussion:**<br>In contrast to cottonwood trees demanding the "highest" level of compensation, participants assigned a "high" level of compensation to species like ash, American elm and maple.<br>Participants who selected the high over the highest level indicated that they made this selection, assuming no historically significant trees would be damaged, because the intent is only to widening an existing path to increase accessibility. It was also suggested that had the removal of trees been required for something like a mall development, a different compensation level would have been selected.<br>Participants also indicated that because the purpose of removing the trees is to be able to embrace the remaining trees, replacement of damaged trees or use of damaged trees for habitat should be required.<br>Participants suggested that tree removal should include only what is needed for the path. Where trees will be replaced, native species should be planted and the remaining forest should be maintained.<br>Participants also recognize that money is already invested in path and recommend exploring opportunities to enhance the pathway or surrounding area naturally "why cut corners now?"<br>Participants indicated that it would help to have visual representation of the site and more information to help with decision making. |
| **Medium (2 entries)** |
| THE REMOVAL OF THE TREE(S) WOULD BE CONSIDERED IF THE COST OF REMOVAL AND REPLACEMENT COSTS ARE COVERED (I.E. $500.00-$3,000.00). THESE WOULD BE TREES YOU MAY INVEST MINIMALLY IN MITIGATION OR AVOIDANCE. THIS MAY BE A VALUABLE TREE PLANTED IN A POORLY SELECTED SITE OR TREES IN A SITE THAT IS LIKELY TO CAUSE DETERIORATION OF ITS VALUE OVER TIME<br>**Discussion**<br>Participants indicated they would select a medium level of compensation if the trees in question were "nuisance trees like Siberian elm." |
| **Low (0 entries)** |

Participants who commented but did not select a level of compensation inquired as to the presence of **heritage groves**, suggesting that their selection may be impacted by the presence or absence of this additional tree category.

*Table 17: Roadway Shelterbelt Trees*

| Roadway Shelterbelt Trees | | |
|---|---|---|
| *Trees planted along major roadways, such as Circle Drive, and on interchange greens.* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Ecological Integrity**<br>Stepping stones of connectivity<br>Reduces linear disturbance effects for birds<br>Wildlife Cover<br><br>**Ecosystem Services**<br>Massive greenery effect<br>Privacy<br>Reduce wildlife collision | **Social/Wellbeing**<br>Can be a challenge for pedestrian connectivity.<br><br>**Ecological Integrity**<br>Monoculturalist.<br>Changing climate<br>Drought<br>Salt damage<br>Wildlife Cover<br>Not sustainable - root system<br><br>**Infrastructure**<br>Sound wall conflict<br><br>**Planning**<br>Appropriate design | None |
| **Does this category make sense?** | | |
| Participants mentioned that shelterbelt trees increase the beauty of the city and contribute to tourism. It was also suggested that shelterbelt trees be planted using innovative spiral designs to help with wind channeling. | | |

*Table 18: School Ground Trees*

| School Ground Trees | | |
|---|---|---|
| *Trees on school property. May have been planted by the former Schools Plant Legacies in Trees (SPLIT) program.*<br>*Unique benefits: Teaching opportunities, creative play, shade, reduce stress*<br>*Unique challenges: limited space, knowledge and cost of maintenance* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Social/Wellbeing**<br>Increased physical activity - diversity of activities available to those in the area.<br>Educational tool<br>Stewardship with students planting trees<br>Recreation - climb trees, slack lines) | **Ecological Integrity**<br>Vandalism<br>Protection<br>Not enough trees<br><br>**Social/Wellbeing**<br>Possibility of injury<br>Parents<br>Tree climbing | **Social/Wellbeing**<br>Education<br>Value<br>School planting projects<br>Tree climbing<br><br>**Ecological Integrity**<br>Plant more trees<br>Natural gardens, full spectrum of trees<br>Grow food forest trees in school yard |
| **Does this category make sense?** | | |
| Participants suggested additional understory plantings to existing trees. Assigning identification numbers to each tree, along with an email address was also suggested as a way to include residents in tree monitoring and maintenance. | | |

*Table 19: Trees on Private Property*

| Trees on Private Property | | |
|---|---|---|
| *Trees on residential, commercial, industrial or institutional property.*<br>*Unique benefits: increase property values, shade buildings, conserve energy, block unsightly views*<br>*Unique challenges: limited regulatory tools for managing or protecting private trees, limited knowledge of inventory and cost of maintenance.* | | |
| **Benefits** | **Challenges** | **Opportunities** |
| **Ownership/Management**<br>Some municipalities have legal protection on trees<br><br>**Economic/Service Level**<br>Increase property value<br>Homeowners cover cost/care of trees<br><br>**Ecological Integrity**<br>More diversity? | **Ecological Integrity**<br>What to plant?<br><br>**Ownership/Management**<br>How to inventory the trees<br>Stay off my property<br>Street cleaning - leaf control<br>Cost of maintenance and removal if needed to homeowner. | **Ecological Integrity**<br>City restricts invasive trees<br>Healthy yards program - native trees and plants.<br>More (but still compatible) diversity of trees available to be planted in residential areas<br><br>**Ownership/Management**<br>Manage disease only - authority to remove<br>Inventory OK, but not management<br><br>**Social/Wellbeing**<br>Educational awareness - one from blvd tree for new development. |
| **Does this category make sense?** | | |
| Participants commented that more education about trees is required especially regarding mature height and spread of trees on private property | | |

*Table 20: Scenario 6 Results – Trees on Private Property*

| What level of compensation should apply to Scenario 6? |
|---|
| ***Scenario 6****A: A local developer wants to demolish a single family home and build a duplex on a large residential lot. There are 6 large trees on private property that provide canopy over the original house and neighboring yards but are in the way of the new building. The building fits within current building standards and also increases density. The combined values of the trees is $42,000.00.*<br>***Scenario 6B:*** *As above but the 6 trees are smaller (<20cm dbh) and have a combined value of $10,000.00.* |
| **Highest (1 entry)** |
| REMOVAL OF THIS TREE WOULD NOT BE AN OPTION. THESE WOULD BE TREES YOU WOULD INVEST IN COSTLY AVOIDANCE MEASURES. THIS MAY BE A HISTORICALLY SIGNIFICANT TREE.<br>No comments |
| **High (1 entry)** |
| THE REMOVAL OF THE TREE(S) WOULD ONLY BE CONSIDERED AFTER MITIGATION OR AVOIDANCE OPTIONS HAVE BEEN FULLY CONSIDERED AND THEN IF NOT POSSIBLE AT THE COST OF THE FULL APPRAISAL VALUE OF THE TREE AND THE COST OF REMOVAL (IE $10,000-$20,000). THIS MAY BE A HIGHLY VALUED TREE PLANTED IN AN APPROPRIATE PLANT SITE AND WOULD BE EXPECTED TO LIVE FOR MANY MORE (>20) YEARS. THIS MAY BE A TREE THAT THE CITY PLANTED AND INVESTED IN OR A TREE A PREVIOUS PROPERTY OWNER PLANTED AND IS IN AN APPROPRIATE PLANT SITE.<br>**Discussion:**<br>Participants who selected a high level of compensation indicated that although increased **density** is valuable, trees are also **valuable** and **species** matter. Participants also suggested that the community may require **engagement/input** on the decision and that **policy** around private trees needs to be **transparent** (where does the compensation go and how is it used?). |
| **Medium (0 entries)** |
| **Low (0 entries)** |

Several participants provided comments without selecting a level of compensation. Participants suggested that value should be based on more than just dollars and should include consideration of **species**, **heritage or cultural value, and ecological value** as well.

Other participants expressed concern with the **legal and regulatory implications** of requiring approvals on **privately owned trees** suggesting that it was “way too big of a fight to take on” and that it is “not realistic to ask/permit every tree removal on private land”.

If compensation is required, participants suggested that **funds** are used to contribute to **planting trees** in other areas.

## Evaluation

Total 44 participants and 11 City staff attended the afternoon session. Of these 44 participants, 39 comment forms were returned. A total of 14 participants and 10 City Staff members attended the evening session. A total of 13 evaluation forms from this session were received for a total of 52 evaluation forms.

### What went well?

A total of 41 comments from the afternoon session and 28 comments from the evening session were recorded indicating aspects participants liked about the workshop. Some predominant themes included:

- Good discussion or dialogue (19 comments)
- Participant diversity was appreciated (8 comments)
- Visuals and content were valued (10 comments)
- Workshop design or function was good (7 comments)
- Happy with facilitation (13 comments)
- Liked aspects of how the workshop was designed (7 comments)
- Delicious snacks (2 comments)
- Appreciated opportunity for community involvement (2 comments)

There were also comments indicating that the evening workshop and discussion were inspiring and that it was valuable to have the project team present to answer questions.

### What didn't work?

A total of 52 comments were recorded at the afternoon session and 21 were recorded at the evening session indicating aspects of the workshop they felt were not effective. Some predominant themes included:

- Timing - too rushed, too much information for time allotment, not enough time to record all ideas (39 comments)
- Concerns about visuals or content on visuals (14 comments)
- Not familiar with topics/location (8 comments)
- Unsure how information will be used (3 comments)
- Issues with microphone (2 comments)
- Some participants felt more direction or explanation of activities required (2 comments).
- Aspects of workshop design (5 comments)
- Concerns over project design (3 comments)

Going forward, engagement content will be better suited for complexity of information, size of room and time available for the event. This will allow for more meaningful and thoughtful participation.

# Engagement Summary

Urban Forestry related themes that emerged from analysis of the workshop data that will inform project decisions or goals are discussed in this section.

## Community Value and Interaction

Throughout the activities, discussion was encouraged about the non-monetary value of trees in the urban forest. From these discussions, several themes emerged that may help us understand the various ways that value is assigned to both specific categories and the urban forest as a whole. Emergent themes are described below.

### Cultural Significance vs Social Significance

Trees that are *culturally significant* appear to hold considerable value to participants. Participants indicated that avoidance or higher levels of compensation are required for trees with this designation. Culturally or historically significant trees can include those in recognized spaces like Woodlawn Cemetery, street trees in commercial areas or school yards that create sense of place and even boulevard or privately-owned trees that contribute to “street character” of a neighbourhood.

Participants also mentioned the *social significance* of trees as a valuable characteristic. While similar terminology was used to describe socially and culturally significant trees such as “sense of place” it appears that culturally significant trees are largely place and composition based, while socially significant trees are valued more for their function than their location or composition.

Socially significant trees are described as being valuable for their contributions to wellbeing, education, food and fibre production, recreation, and gathering spaces. While species and composition have some bearing on the social value of the trees, the age diversity, placement and species of the trees can be adjusted if the function remains intact (shade, recreation, habitat, etc.).

Culturally significant trees have potential to lose their significance if damaged, removed or replaced, because the value is not only in the tree itself, but in what the tree represents to the resident at a specific place in time. For example, Memorial trees in Woodlawn Cemetery are culturally significant because they were planted in recognition of fallen soldiers. As the trees mature the meaning of their presence changes. To remove the mature trees could be considered dishonourable to fallen soldiers and new trees planted in their place would not hold the same cultural significance as the original tree.

The same concept can be applied to “street character” of older neighbourhoods. Mature, monoculture treelines are characteristic of many older neighbourhoods in Saskatoon. In addition to the ecosystem services the trees provide like shade, cooling and wildlife and the increased property value of the area, the presence of the trees also seems to contribute to a sense of identify and place for residents. Removal of the trees changes the appearance, function and sense of place for residents. While removal of a single tree may not raise concern, participants indicated that removal of several trees can drastically change the appearance and “feel” of a neighbourhood.

Socially significant trees however, such as mature trees in parks can be removed or replaced without upsetting the social significance of the location as long as the functions of shade, recreation etc. remain intact.

### Species and Distribution

Tree species and distribution were mentioned several times by participants. Certain tree species are considered more valuable to participants than others. Cottonwood and American elm trees appear to hold higher value than maples and ash, with Siberian elm considered least valuable of the species mentioned. Distribution of certain species was also mentioned by participants using terms like “monoculture”, “diverse” and “isolated” to describe groupings of trees. Native species were also mentioned often as more desirable than ornamental or introduced species as they are adapted and resilient to environmental stresses. Comments suggest that, while there is value in every tree grouping, diverse groupings of native tree species with layered understory and successional plantings in place are considered most valuable.

### Location

Participants referenced tree location often in their comments, explaining that a tree that is planted in the “wrong location” is less valuable than trees planted in more suitable locations. The “wrong location” includes areas where trees experience high levels of stress which can include lack of sun, water or soil, limited space to grow, contamination and vandalism from human activity. It also includes areas where growth has negatively impacted human activity or infrastructure (sight lines for signage, traffic, debris, heaving sidewalks etc.) or has infringed on privately owned or managed land.

### Ecological Integrity

Ecological integrity in terms of tree health and the contribution of trees to a healthy ecosystem was also referenced by participants in response to all activities. Health seemed to be measured by longevity, age, appearance, lack of disease or pests, and perceived sustainability (access to water, nutrients, space, limited stressors, etc.). Secondary or successional plantings that mimic natural habitat are also believed to contribute to the health of the tree.

In tree groupings, health is assessed in terms of the overall function as part of the ecosystem. For example, fallen trees in remnant stands or the riparian forest are valued in that setting because they provide habitat for other species. Similarly, fallen leaves and fruit in this setting are valued for their habitat, food and soil enrichment functions. Fallen trees, leaves and fruit in other settings such as parks, commercial or residential areas are not considered valuable in those settings.

### Ecosystem Services

Participants referenced several ecosystem services provided by trees in responses to all three activities and across all categories. Most of the ecosystem services mentioned compliment or work to reduce impacts or costs associated with protection or function of built infrastructure. Cooling effect, visual screening, and carbon sequestration were mentioned frequently as valuable services provided by trees. Aesthetic and wellness services were also referenced, especially in the case of social gathering spaces and commercial areas. People are drawn to spaces with trees, so businesses and other venues use the presence of trees to attract people. Other services mentioned protect people or infrastructure from environmental impacts such as sun and heat protection, wind protection, snow catchment, and air purification.

### Natural

A common theme that emerged specific to Remnant Tree Stands and Riparian Forest Trees was the concept that they are valuable because they "belong here". Participants indicated that trees in these categories are valuable because they predate settlement, contain native species and intact ecosystems and were not planted by humans. These tree populations are also valued because of their longevity and adaptability to changing conditions. While adaptability and resilience was mentioned several times, participants also noted that these tree populations are perceived to be vulnerable to developmental pressures. One participant asked that the term "Remnant Tree Stands" is changed to "Native Tree Stands" because the word "remnant" is sad. These populations are naturally occurring, native species with resilient and adaptable ecosystems in place, but are also perceived to be at risk due to human activity which increased their value to participants and desire for protection.

## Policies and Processes

Participants shared several comments related to management of the urban forest through policy and process. The majority of these comments emerged as participants justified their selection of levels of compensation to address the scenarios. Themes are described below in terms of mitigation through planning and design, decision making process and enforcement of the decision.

### Mitigation through planning and design

Many participants resisted selection of a specific level of compensation to address the scenarios, and instead looked for opportunities to mitigate impacts, learn from past conflicts or enhance the health or sustainability of the trees through informed planning, design and innovation.

Participants indicated that many instances of human/tree conflict such as the tree blocking the sign in the commercial area, or the residential trees infringing on private property could have been predicted and avoided with proper planning and design.

Where trees are already present, planning and design should take into account the mature above and below ground footprint of trees on the site and structures should be designed in a way that provides sufficient setback to avoid future conflicts. Where possible, developers should explore innovative options to avoid damage or removal of trees. Participants suggested innovations such as building around the tree, using bird friendly window design or installing rubber sidewalks.

Understanding the footprint of a mature tree is also important in new developments where trees are being introduced. Where space is limited, small species, shrubs or grasses should be planted instead of large trees. This can help to meet density goals while also ensuring presence of trees and vegetation.

Where large trees are planted, smaller native species and grasses should be introduced in the understory. This can help with the health and sustainability of the trees. Succession planting with native species is also an important consideration to maintain the health and integrity of a population by limiting the impacts to the entire population of die off and disease in mature trees.

Climate change has the potential to impact tree populations, however conversely, tree populations can contribute to reducing the impacts of climate change. Developments designed with climate impacts in mind can improve the sustainability of the project.

## Decision Making Process

Several participants described the process they used to determine the appropriate level of compensation for each scenario. Even though participants were asked to select a level of compensation and explain why they made that selection, it was evident that many participants contemplated alternatives to compensation in their evaluation before selecting a specific level of compensation, if they chose to select a level at all. Many who selected a level of compensation went on to justify their selection with assumptions like “assuming no heritage trees present” or “assuming the presence of (one species) instead of (another)”.

Participants based the bulk of their decision-making process on evaluating all of the decisions that had to be made before the decision of what level of compensation to require. This suggests that there may be value in developing a more comprehensive approval process in addition to a more stream lined compensation program for urban forest management. Participants also suggested that a more comprehensive approval process in combination with education about the importance of trees may reduce the number of permitted tree removals required.

An interesting theme that emerged from the comments was the concept of “worth”, not to be confused with cost. Participants used terms like “worthwhile” or “worth it” to determine if the proposed development was “worth” the impacts to trees. The way that the term was used suggests that in some cases, participants feel that the non-monetary value of trees is more important in Saskatoon than the proposed development. In response to the Riparian Forest scenario where trees will be removed to accommodate widening of an existing trail, participants indicated that the loss of trees in this scenario was acceptable because it will provide better access for residents to appreciate the remaining trees, however it was expected that the forest would be properly maintained, that the least amount of disturbance possible would be employed and that any fallen trees would remain in the forest to provide wildlife habitat. In this instance, the added value of the suggested mitigation measures increased the “worth” of the development and offset the value of the lost trees.

In addition to establishing the “worth” of a development that impacts trees, participants also required proof that the need to impact trees was “valid”. Participants challenged the definition of an “essential service” and “unavoidable” loss suggesting that additional investigation is required to ensure that all possible alternatives to mitigate impacts to trees have been explored and included in the proposed design. In the scenario where the roots of a tree are interfering with utilities lines and side walk, participants suggested alternatives like rubber sidewalks or building the utility around the tree would be suitable alternatives to explore.

The perception of fairness was another theme that emerged from participant responses. Participants felt that if impacts to trees were unavoidable to maintain essential services for residents then the compensation level should be lower than in scenarios where removal of a tree is optional.

Some participants requested additional information to help them feel confident in the decision making process including visual representation of the project site (diagrams, photos, sketches etc.).

Participants were also cognizant of changes to proposed levels of service and maintenance requirements for trees in each scenario. For example in the commercial area scenario where the tree was conflicting with the view of the sign, participants did not recommend additional pruning of the tree by the City of Saskatoon. However, in other scenarios like the Riparian Forest trail

widening, participants suggested increased maintenance for the area to add value to the trail widening development. It is expected that this maintenance would be performed by the developer.

The concept of ownership and management or jurisdiction was another theme that came up often in participant comments. This was especially evident in comments related to Park Trees, Civic Facility Trees, Fruiting, Orchard and Food Forest Trees and Privately Owned Trees. Comments in relation to Park Trees and Civic Facility Trees suggested that there is some confusion or conflict regarding who is responsible for the internal management of and maintenance of trees on these sites. With regard to fruiting, orchard and food forest trees, participants made comments indicating confusion regarding management, maintenance and public use of the trees. They also expressed concern that this lack defined responsibility was resulting in wasted fruit and maintenance issues. Comments in response to management of Privately Owned Trees suggested that while there would be benefits if the City was responsible for management of trees on private property, the public outcry, administration effort and legal implications that would result may outweigh the benefits. One opportunity is to update the rezoning or building permit process to include estimated destruction of trees on a property as a result of a new development. Any neighbouring residents will be consulted on the development and given the opportunity to voice their concerns over the destruction of trees. These concerns can be assessed as part of the approval process.

### Enforcement Considerations

Participants suggested that for the Urban Forest Management Plan to be effective, enforcement is necessary.

One scenario presented described a situation where a developer removed tree in a boulevard without consulting the City. In response to this scenario, participants felt that the developer should be penalized for not consulting the City in advance of removing the trees. Participants recognized that the developer would have had to pay compensation for the loss of the trees whether they consulted the City or not, however neglecting to seek proper approvals from the City removed any opportunity to explore mutually beneficial mitigation options to avoid the need for compensation. Participants also indicated that a penalty should be required in addition to the full appraised value of the trees.

Going forward, participants suggested development of a bylaw that protects both public and privately-owned trees.

## Data limitations

- Time allotment
    - Participants of Green Strategy Workshop 2 expressed in their evaluation forms that the afternoon session specifically did not provide enough time for meaningful responses given the amount of content required for review and comment.
- Green Strategy Workshop 2 Activities, specifically the Levels of Compensation activity provided opportunity for participants to “vote” for a preferred level of compensation in relation to their assigned scenarios. While the number of comments left in response to each compensation level are provided, these numbers are only meant to indicate if the comment summary was based on one or several individual perspectives and should not be used to inform preference for a specific level of compensation.

## Next Steps

As part of the 2019 engagement program, opportunities for public participation will be provided to inform the remaining engagement goals. Details about proposed opportunities are provided below.

Between **March and May 2019**, a series of pop-up events, online engagement opportunities, a Nature City Open House and Online Survey will be organized to engage residents to help inform how the community values and interacts with different categories of trees in different situations and assess the function of current policies and processes. Urban Forest Managers and Developers will also be engaged on these topics during this window during small group meetings.

Between **June and July 2019**, the project team will organize additional small group meetings with Urban Forest Managers to identify and evaluate options to address areas for improvement gather input regarding selection and prioritization of preferred options for implementation.

The project team will develop the draft Urban Forest Management Plan during the month of **August 2019** with intention of submitting the plan and recommendations to Committee and Council during the month of **September 2019**.