
Parks Design, Construction, and Maintenance - Civic Service Review

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the improved efficiencies and effectiveness in delivering the service as outlined in this report be received as information;
2. That the Service Level for Parks Pathway Snow Clearing be increased to include snow clearing services to 14 kilometres of Naturalized Park pathways;
3. That the Service Level for Shelterbelt/Buffer Strip Maintenance be increased so that a proactive service level that includes mowing, trimming and garbage pick-ups within the shelterbelt areas can be established; and
4. That the Administration report on a Park Infrastructure Asset Management Plan including a funding strategy to achieve desired service levels.

Topic and Purpose

The purpose of this report is to provide an overview of the Parks Division Civic Service Review.

This review explored opportunities for improvement within the design, construction, and maintenance of civic parks and open spaces. Implementation of these findings will improve service to citizens, increase the efficiency of park design, construction and maintenance, and improve accuracy in budgeting for the Parks Division.

Additionally, this report recommends Service Levels for Parks Pathway Snow Clearing and Shelterbelt/Buffer Strip Maintenance.

Report Highlights

1. There are two key components of the Civic Service Review (CSR) Process; efficiencies identified by employees delivering the service, and where warranted, recommending new service levels for activities where public expectations are not being met.
2. The efficiencies include improved coordination of park design/development and coordinated maintenance to reduce costs, improved customer service to avoid duplication of efforts, and the implementation of new satellite maintenance facilities. Cost savings are estimated in the range of 10% or \$1,500/ha in new park development areas.
3. The recommended Service Level for Parks Pathway Snow Clearing would include snow clearing services to 14 kilometres of Naturalized Park pathways.
4. The recommended Service Level for Shelterbelt/Buffer Strip Maintenance would be increased to increase mowing, trimming and garbage pick-ups within the shelterbelt areas.

5. The CSR identified the need for an asset management approach for key park “hard” assets, like pathways and irrigation systems.

Strategic Goal

This report supports the Strategic Goal of a Culture of Continuous Improvement. Process improvements focus on identification of root cause issues and innovative and creative solutions that will provide optimal service improvements.

Background

City Council, at its meeting held on December 3 and 4, 2013, approved the Continuous Improvement Strategy which includes the following three components:

- Annual Civic Service Reviews - an operational review process to find ways to control expenditures and to seek efficiencies in the delivery of municipal programs and services.
- Internal Process Reviews - focus on identifying and removing redundancies and waste within existing processes to increase efficiencies in civic operations.
- Building capacity in the corporation through innovation coaches and empowering employees.

See Attachment 1 for the Continuous Improvement Strategy Overview.

Report

The impact on citizens is a key consideration during the planning, design, construction, and maintenance of civic parks and open spaces. Citizens expect parks to be clean, green and safe; effective planning, communication and budgeting in future parks design and construction will have a positive impact on citizen satisfaction and ensure they are receiving good value for their tax dollars.

There are two aspects to this report. The first highlights key findings from the CSR on improving efficiencies and effectiveness in aligning our services to citizen expectations. The second aspect is a review of Services Levels for Parks Pathway Snow Clearing and Shelterbelt/Buffer Strip Maintenance; two areas where current service levels appear to not meet citizen expectations.

Review for Efficient and Effective Service

Employees involved in the design of parks, and the construction and the maintenance of parks were all involved to bring forward perspectives on how to provide safe, green and clean parks to our citizens.

Processes were reviewed so there was clarity of how we are currently delivering our services. This was followed by identifying what our citizens expect, and how can we change our work so that we are as efficient as possible, and we are effective in delivering what citizens want.

The following issues were addressed in the CSR:

- Park Design, Development and Maintenance Standards
- Drainage Issues

- Customer Service
- Reducing Downtime and Improving Productivity
- Staffing and Scheduling of Work
- Special Events

Attachment 2 is an overview of the CSR. The following provides some highlights of changes being implemented:

- Optimization Teams established to ensure the impact of design on long term maintenance is considered at the planning stage for new developments and reflected in the operating budget.
- Improved customer service with one point of contact to reduce duplication of effort.
- In 2015, two crews piloted a model where horticultural and turf maintenance staff formed one crew that works together to maintain an entire park as opposed to each arriving in the park on varying days or at varying times as per previous maintenance schedules. This initiative is estimated to save 5% (\$750/ha) in labour costs due to reduced travel time.
- Beginning in 2016, new satellite maintenance facilities will be established in appropriate locations in new development areas to reduce travel times and improve safety. This initiative is also estimated to save up to 5% in labour costs (\$750/ha), due to reduced travel.

Service Level Review

By approving the Service Level, citizens will know what they can expect for this service, and the Administration will allocate resources accordingly – this may require a phased approach.

The Service Levels identify the following for Park Pathway Snow Clearing and Shelterbelt and Buffer Strip Maintenance:

- Total inventory on Municipal Property
- Total inventory being maintained
- Current Service Level
- Total Annual Cost
- Annual Budget Allocation

Each service has an accompanying set of options that describes increased service levels, the related costs, and the funding gap.

- The Administration is recommending that the Service Level for Parks Pathway Snow Clearing be increased to include snow clearing services to 14 kilometres of Naturalized Park pathways (Attachment 3).
- The Administration is recommending that the Service Level for Shelterbelt/Buffer Strip Maintenance be increased so that a proactive service level that includes mowing, trimming and garbage pick-ups within the shelterbelt areas can be established (Attachment 4).

Communication Plan

The CSRs provide an opportunity for the public to learn more about the City's operations, the costs to deliver the services, and to provide feedback and input into how the City can deliver any of its services more efficiently. The approved Levels will be communicated through 311/Service Saskatoon so citizens know what services they can expect. Citizens will have the opportunity to provide input into levels of service as well as the budget using the Shaping our Financial Future budget tools.

Results from the Civic Service Reviews will be communicated on the City's website in the 'Latest Strides' and/or 'City Spotlight' sections of the *Our Performance* page at www.saskatoon.ca/strides.

Financial Implications

As part of the Parks CSR, a review of the operating budget estimates was completed and estimates were adjusted to more accurately reflect the operating unit cost per hectare of park space, as well as the number of staff required per hectare. Unit cost will be utilized in the definition of maintenance service levels to ensure the Parks Division budget is an accurate reflection of the total costs required to maintain the current inventory at the approved service level. Additionally, this information will provide accurate information for future operating budget requests to maintain additional parks coming online as Saskatoon continues to grow.

The Administration will provide a future report on Park Infrastructure Asset Management Plan including a funding strategy to achieve desired service levels.

Operating and capital cost impacts are currently under review and will be brought forward in future reports to Committee and/or Council. The financial implications related to efficiency gains will be quantified and will be reallocated to fund other strategic and operational priorities and/or may contribute to a reduction in the base budget.

The 2016 Business Plan and Budget proposed funding of \$30,000 to partially implement the new Service Levels recommended in this report. This would include snow clearing on 14 km of additional park pathways and improved shelter belt maintenance.

Other Considerations/Implications

There are no policy, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up

Further reports will review additional Parks-related service levels and continue to refine the savings outlined in this report.

Reports related to key findings of this report (i.e. asset and maintenance service levels) will be brought forward to the SPC on Planning, Development and Community Services Committee for approval. Action plans and recommendations will be incorporated into the annual business planning and budgeting process for the Parks Division.

The CSR identified the need for an asset management approach for the key “hard” assets within civic parks and open spaces, including: pathways, irrigation systems, lighting, maintenance buildings, play structures, park furniture, and other similar assets. A further report on an overall asset management approach for Parks facilities will be forthcoming later in 2015.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Continuous Improvement Strategy Overview
2. Executive Summary – Parks Efficiencies and Effective Service Delivery
3. Service Levels – Park Pathway Snow Clearing
4. Service Levels – Shelterbelt and Buffer Strip Maintenance

Report Approval

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Administrative Report - Parks Civic Service Review.docx

Continuous Improvement Strategy Overview

In 2014, the Administration began our Civic Service Reviews. We have made good progress, and have learned much. One of our learnings has been that there are several components to a complete Service Review process. To try and bring some clarity, we are recommending a framework to the overall program.

Framework for Civic Service Reviews:

1. Service Level

a. Asset Service Level

How the assets and services are preserved, renewed, and funded to ensure the quality of life for citizens is sustained or improved, and include:

- Inventory of Asset(s)
- Condition of Asset(s)
- Costs to Preserve Asset(s)
- Gap in Funding
- Funding Plan/Investment Strategy

b. Maintenance Service Level

The maximum interval between tasks or activities required to maintain the defined level of service are referred to as Maintenance Service Levels, and include:

- Description of Service
- Definition of Service Level
- Cost to Maintain Asset
- Timelines to achieve Service Level
- Service Level Approval

2. Efficiency

a. Operational Efficiency

A review of current processes identifies opportunities to improve efficiency and increase the effectiveness of the service and /or program. Savings resulting from the improvements will be quantified and reported as part of the overall Civic Service Review.

Knowledge Base for Service Saskatoon

All of this information can be used to prepare our knowledge base for Service Saskatoon and the 311 Call Centre.

Communication Plan

The CSRs provide an opportunity for the public to learn more about the City's operations, the costs to deliver the services, and to provide feedback and input into how the City can deliver any of its services more efficiently. Citizens will have the opportunity to provide input into levels of service as well as the budget using the Shaping our Financial Future budget tools.

Results from the Civic Service Reviews will be communicated on the City's website in the 'Latest Strides' and/or 'City Spotlight' sections of the *Our Performance* page at

www.saskatoon.ca/strides.

Executive Summary - Parks Efficiencies and Effective Service Delivery

The Parks Division is responsible for the maintenance and preservation of more than 1,500 hectares of City of Saskatoon parks and civic open spaces. In total, the City controls and maintains over 2,600 hectares of green space (includes parks, cemeteries, green spaces inside and outside city limits, as well as open spaces around civic facilities). As an example, Parks maintains about 930 ha of neighbourhood parks, at an average annual cost of \$15,000/ha for irrigated areas and about half that for non-irrigated areas. In some new neighbourhood parks, the annual maintenance cost is approaching \$20,000/ha.

Introduction

The Executive Committee approved the recommendation that the Parks Division undergo an Civic Service Review (CSR) in 2014. Two main issues were explored during the review: opportunities for operational efficiencies, and the definition of service levels including cost to deliver the service and options for alternate service levels.

During the CSR, the team reviewed the current state of parks design, construction and maintenance. They examined what success would look like from the citizen's perspective and finally examined what the process for design, construction and maintenance of civic parks should be. The team analyzed the data available and determined what key information should be tracked in the future.

This report identifies the key findings and recommendations from the Parks Division CSR and also outlines current and optional service levels, including the cost to deliver the service at each level, for Pathway Snow Clearing, and Shelterbelt/Buffer Strip Maintenance. Future reports will address other Parks-related service levels.

Report

As Saskatoon continues to grow, so do expectations and demand related to the use of parks and open spaces. As an example, the number of special events held in parks and open spaces has increased 84% over the past five years. Parks and open spaces are of interest to a wide variety of stakeholders, including: homeowners, land developers, sports organizations, other civic divisions, utility companies, business owners, tourists, etc. Regardless of the increased usage and variety of stakeholders, citizens expect that parks are:

- Clean, green and safe,
- Accessible and provide a wide variety of activities, and
- Contain some naturalized elements, with appropriate preservation and renewal plans.

During the Civic Service Review, the following challenges were identified with Parks Design, Construction and Maintenance:

1. Impact of growth and development requires increased consideration during the planning, design, construction and maintenance of civic parks and open spaces.

- Horticulture and turf maintenance staff should be included in the early stages of park design, in order to effectively communicate the potential impacts of a design on the maintenance operations and also to increase the effectiveness of the budget process as it would allow them to plan effectively for maintenance of future hectares of parks coming into inventory.
2. A review of the operating budget estimates confirmed that adjustments were needed to more accurately reflect the operating cost per unit to deliver Parks services and that the approved service level needs to be clearly defined.
 3. As Saskatoon continues to grow and the footprint of the city expands, crews are travelling greater distances to complete their daily maintenance schedules. Increased travel has resulted in an increase of downtime and safety concerns as staff are traveling on major roadways with equipment and increasing wear and tear on equipment originally meant for use in parks and open spaces, not roadways. Existing Parks maintenance yards are also filled to capacity.
 4. Current parks scheduling potentially means that several City crews could be in the same park at different times on any given day, leaving a perception of inefficiency with residents in the area and a lack of ownership amongst Parks employees.
 5. There has been an 84% increase in the number of special events held in parks and/or open spaces over the past five years. This increase in events has resulted in increased damage to the parks and at times does not allow time for revitalization of the park/open space before the next event is scheduled. Parks is incurring increased costs due to the maintenance required following a major event.
 6. Parks and Facilities Divisions are under consistent pressure to maintain “hard” assets such as asphalt pathways, irrigation systems, and playground equipment. Sustainable funding through an appropriate asset management approach is recommended.

Opportunities to improve efficiency/effectiveness and Address Challenges:

Park Design, Development and Maintenance Standards

Current Process and Procedure

- Park designs have become more elaborate and complex. A complete review of the standards for park design, landscape design and maintenance is needed to ensure we are not over-designing our parks, leading to extensive and excessive maintenance. All relevant stakeholders must be involved in the review.
- Our timing of new park development needs to be coordinated with residential construction to reduce or eliminate irrigation, turf, etc. being damaged once installed. Coordinating park development with residential construction will reduce these costs and allow for staff time to be reallocated to other maintenance activities.
- New staff and developers should be provided all relevant standards and guidelines to increase understanding of costs associated with complex and/or detailed parks designs and allow for value-based decision making if a design exceeds the standards.

Changes for More Efficient and Effective Service

- Detailed and elaborate park designs result in increased maintenance costs.
- Optimization Teams established on new developments will ensure the impact of design on long term maintenance is considered at the planning stage and reflected in the operating budget. Subject to stakeholder review, the implementation of a parks design process that approximately recognizes maintenance cost, could reasonably reduce future costs by 5% or \$750/ha, on a current base cost of \$15,000/ha.
- Since the service review, the process for allowing residents, contractors, and utility agencies to enter developed parks has been enhanced. This has resulted in reduced park damage and improved cost recovery, estimated at \$50,000 per year.

Drainage Issues

Current Process and Procedure

- Residents with houses backing parks and open spaces often drain sump pumps directly into the park or open space increasing drainage issues and negatively impacting ability of Parks to maintain the area.
- Increased drainage results in areas that must be maintained manually by hand mowers and line trimmers as opposed to the more efficient mowing equipment.

Changes for More Efficient and Effective Service

- The Community Standards Division will be engaged to discuss enforcement options for issues related to bylaws; specifically Bylaws 8175 and 8379.
- An improved contingency process needs to be included in park development projects in order to re-establish proper drainage patterns in select cases.
- Linear parks are popular with residents and developers. However, due to configuration and on-going drainage issues, maintenance costs are at least 10% higher in these areas. Stakeholder engagement is required to review the future use of linear parks in new neighbourhoods.

Customer Service

Note: Parks is one of the priority areas for a review for Service Saskatoon – 311 following Public Works.

Current Process and Procedure

- There are a number of citizen calls and inquiries about the design and maintenance of parks and open spaces. These calls and requests for service are being addressed by multiple staff, resulting in duplication of effort.

Changes for More Efficient and Effective Service

- Streamline the inquiry/concern process through a single point of contact, such as a Customer Service Coordinator, in order to reduce duplication of effort and improve consistency in response to citizen and Councillor inquiries and concerns.

- Streamlining this process would reduce the amount of time spent by the Parks Director and Superintendents, allowing their time to be redirected to other management priorities such as schedule and program optimization. Cost savings are estimated at \$20,000 per year by deploying a dedicated customer service representative.
- Ultimately, the process will transition to the 311 system.

Reducing Downtime and Improving Productivity

Current Process and Procedure

- Aging equipment results in breakdowns and operational down time.
- Parks Satellite Maintenance Facilities and Locations - as Saskatoon continues to grow and the footprint of the city expands, crews are traveling greater distances from the main Parks yards on Avenue P, Nutana-Kiwanis, Umea Park and the Forestry Farm, to the parks they maintain on a daily basis. This increased travel has resulted in an increase in safety concerns as staff are travelling on major roadways with equipment and increasing wear and tear on equipment that was meant to be used in parks and open spaces, not on roadways. Travel time to remote locations was also identified as a barrier to productivity, resulting in significant downtime. Existing storage yards are also full to capacity.
- The use of one-ton trucks in parks also results in damage to pathways, irrigation lines, turf, etc.

Changes for More Efficient and Effective Service

- Satellite maintenance yards are being established in remote park locations to ensure that an appropriate-sized facility is within reasonable access. This change will have an immediate positive impact on the safety of staff as they are no longer travelling with slow moving equipment on busy roadways. Downtime due to travel will also be reduced, saving an estimated 5% in labour costs, or about \$750/ha per year.
- Conduct a CSR with Fleet Services and Parks as a stakeholder to address issues with aging equipment and preventative maintenance. This CSR is underway and the results will be reported to Committee near the end of 2015.

Staffing and Scheduling of Work

Current Process and Procedure

- Specialized crews work on a specific component of the park, such as mowing, pruning trees, weeding plant beds, etc. Crews are scheduled to complete their area of maintenance and then move on to the next park. This requires a significant amount of travel time for each specialized crew.
- When the growing conditions are excellent during the middle of summer, there is overgrowth of grass and weeds that are not being maintained to the level that citizens expect.
- New seasonal employees are hired at the end of May and require training, reducing possible productivity levels until staff are comfortable with the equipment and the maintenance requirements.

Changes for More Efficient and Effective Service

- Horticulture and Turf crews formed multi-disciplinary crews which increased efficiency. For the 2015 season, two crews piloted a model where horticultural and turf maintenance staff formed one crew that works together to maintain an entire park as opposed to each arriving in the park on varying days or at varying times as per previous maintenance schedules. Savings in travel time is estimated to reduce labour cost by 5% or \$750/ha per year.
 - Furthermore, the advantage of the combined crew model is the crews becoming experts in the specific maintenance requirements of a particular park and an increase in ownership within the crews. Residents become familiar with the day in which the crew is expected to arrive in their park and potentially get to know the staff. This model also reduces confusion as to why there may be 3 or 4 different Parks Division vehicles in a park on any given day.
- Double shift or contract out certain maintenance activities in busy months when weather patterns may result in a need for increased frequency of maintenance activities such as mowing or trimming in order to reduce complaints related to overgrowth of grass or weeds.
- Bring new Parks staff on two weeks earlier to ensure they are trained and ready to go when the busy season starts.

Special Events

Note: There is a detailed Service Review currently underway for Special Events and the results of this review will be reported to Committee.

Current Process and Procedure

- There has been a significant increase in the number of special events held in parks and open spaces.
- If an event causes damage to the park, there is little accountability for the event organizer and no incentive to minimize the potential for damage.

Changes for More Efficient and Effective Service

- Review the impact of special events on parks and open spaces. An increase in the number of special events increases the potential for damage to turf, irrigation lines and trees, results in increased garbage collection and requires Parks resources pre and post event.
- Consideration should be given to introducing a damage deposit for events as well as restricting the use of certain parks for some events to minimize potential for damage.
- Proactively design and construct event sites with appropriate infrastructure.

The opportunities outlined above continue to ensure a wide variety of park types and designs, are maintained and preserved by the Parks Division so residents, as well as visitors to Saskatoon can enjoy the parks today and for years to come. A new event site is planned to be established in Kinsmen Park in 2016. Other event site opportunities are being explored. Future event sites, like Kinsmen Park, will be

designed with appropriate infrastructure to significantly reduce park repair costs which are typically \$3,000 to \$5,000 per incident.

Next Steps

Parks Division staff are identifying actions required to implement the suggested improvements. Consideration is given to benefit citizens, cost of implementation and potential efficiencies to be gained following implementation. Future reports will be brought to the SPC on Planning, Development and Community Services regarding service levels and options for consideration for the remainder of Parks services.

Summary of Recommendations:

Recommendation	Estimated Savings
1. Reduce future maintenance costs through appropriate park design review (subject to stakeholder consultation).	\$750/ha per year in new park development areas
2. Enhanced process for allowing contractor/utility vehicles to enter developed parks, to improve service, reduce damage, and improve cost recovery.	\$50,000 per year
3. Streamline the inquiry/concern process to a single point of contact, such as a customer service coordinator, to reduce redundancy and improve service to citizens.	\$20,000 per year.
4. Establish satellite maintenance yards in new development areas, reducing travel time, improving safety, and providing needed storage space.	\$750/ha per year in new park development areas
5. Utilize a “combined crew model” where one integrated team takes ownership of designated park areas, resulting in improved quality and reduced labour cost due to reduced travel.	\$750/ha per year
6. Provide improved site infrastructure in new festival sites to reduce park damage.	\$3,000 to \$5,000 per incident
7. Introduce a systematic asset management approach for ongoing maintenance of “hard” park assets.	Overall benefit is consistent funding for approved service levels.

Parks Civic Service Review: Park Pathway Snow Clearing

Description: Pathway Snow Clearing

Includes all district and neighbourhood park pathways, and sidewalks adjacent to parks, that have been designated for snow clearing services.

Target Service Level: Cleared within 48 hours of the completion of a snowfall or drifting event of 2.5 cm or greater

Description	Area (Km)	Cost per Kilometer		Total Cost		Total cost
		Clearing	Pathway Maintenance	Clearing	Pathway Maintenance	
Facilities that are cleared:						
Park Pathways:						
Lighted Asphalt	56	\$ 1,200	\$ -	\$ 67,000	\$ -	\$ 67,000
Non Lighted Asphalt	20	1,200	-	24,000	-	24,000
Sidewalks Adjacent to Parks	26	1,200	-	31,000	-	31,000
Total Kilometers Cleared	102			\$ 122,000	\$ -	\$ 122,000
Facilities not cleared:						
Pathways: Crusher Dust	32	\$ -	\$ -	\$ -	\$ -	
Non Lighted Asphalt	33					
Total Inventory	167					
Existing Budget						\$ 122,000
Funding Gap*						\$ -

*Budget allocation is not sufficient to absolutely (100%) meet a 48 hour service level but is reasonable for current inventory.

Issues/Challenges

- There are approximately 141 km of park pathways within City parks. Parks Division currently clears snow from the following pathway and sidewalk areas:
 - 100% or 56 km of lighted asphalt pathways;
 - 38% or 20 km of non-lighted asphalt pathways; and
 - 26 km of sidewalks adjacent to parks.
 - Pathway clearing priorities are based on the asphalt pathways with the highest pedestrian activity established over time.
- Current service level (48 hour clearing) is met about 75% of the time. Work management tools continue to be implemented so that performance and cost can be accurately captured.
- 33 kilometers of non-lighted asphalt pathways and 32 kilometers of crusher dust park pathways are not currently cleared.
- 14 kilometers of crusher dust pathway inventory is located within Naturalized Parks including: Donna Birkmaier Park, Hyde Park, Lakewood Park, Heritage Park, and Mark Thompson Park.
- Remaining 18 kilometers of crusher dust pathway inventory includes secondary pathways spread through many parks where primary lighted and some non-lighted asphalt pathways are cleared and allow good access through the parks during the winter season, in the absence of cleared crusher dust pathways.

- Crusher dust pathways are typically constructed within naturalized parks to minimize runoff potential and account for an average 93% of the pathway system within naturalized parks.
- Crusher dust pathways located within non-naturalized parks are typically smaller sections of secondary pathways that do not serve as the main access through the park.
- Due to the lack of pathway snow clearing, accessibility can be limited within naturalized parks during winter seasons.
- Accessibility within non-naturalized parks is good with all lighted main asphalt and some non-lighted asphalt pathways being cleared.
- Conditions that can sometimes cause a delay in meeting clearing service level include:
 - Equipment breakdown;
 - Heavy snowfall or drifting event resulting in 10 cm or greater accumulation;
 - Snow accumulation along edges of pathway greater than 45 cm; and
 - Successive snowfall or drifting events that interrupt clearing progress, forcing operators to start clearing high priority routes prior to completing entire pathway inventory. For example, during periods of heavy snowfall, resources are reallocated in an effort to prioritize the clearing of sidewalks adjacent to parks (26 km) so that the 48 hour Snow Clearing Bylaw is met.
- 76 km of park pathway is cleared as quickly as possible, with a target of completion in 48 hours in accordance with the Sidewalk Snow Clearing Bylaw.
- Park pathway inventory in new neighbourhoods are prone to drifting and often require additional clearing efforts, like special equipment and related labour.
- Crusher dust surfaces, where snow has been cleared, often require substantial repair to the surface at the end of winter operations. This represents a significant repair cost above and beyond the costs of snow removal and regular maintenance.
- Annual clearing costs are seasonably variable, and depend on the total amount of snowfall that occurs during a winter season.
- Additional inventory due to City growth is not accounted for in this review.

Parks Civic Service Review: Shelterbelt and Buffer Strip Maintenance

Description: Shelterbelts and Buffer Strips

- **Shelterbelt** – a row of trees or larger shrubs planted to separate incompatible uses or to protect an area from noise or strong winds.
- **Buffer strips** – a parcel of land used to separate incompatible land uses, through the use of landscaping, open space, or other features.
- **A drip line** is the area defined by the outmost circumference of a tree canopy.
- Buffer strips containing shelterbelts are typically found along major arterials and freeways.

Current Service Level: buffer strips adjacent to shelterbelts mowed up to the shelterbelt drip line twice per season; garbage pick up to the drip line twice per year; 1:13 year pruning cycle; refuse pick up from roadway shelterbelt on complaint basis. No turf maintenance is done within the 12 meter width of shelterbelt.

Description	Area (Ha)	Mowing, Trimming, Garbage		Pruning	Reactive Clean up Response	Total Costs
		Per Ha Cost	Total			
Roadway Shelterbelts	37	\$ -	\$ -			
Buffer adjacent to Roadway Shelterbelts	96	770	74,000			
	133		\$ 74,000	\$ 50,000	\$ 15,000	\$ 139,000
Existing Budget						124,000
Funding Gap*						\$ 15,000

*\$15,000 required for reactive refuse pick up does not have budget allocated.

Issues/Challenges

- Roadway shelterbelt maintenance is a service level that was discontinued in 2012 due to resource limitations.
- All reactive responses are currently being absorbed by operating resources and are considered to be a significant pressure point on operating budgets.
- Many shelterbelt areas have had sound walls constructed in close proximity, making access to the areas difficult and decreasing sight lines, creating safety and CPTED issues.
- Some sound walls have been installed at the top or bottom of steep slopes reducing safe turn around areas for equipment including the risk of equipment roll over. These areas are now classified “no mow” areas.
- Lack of maintenance in shelterbelts results in citizen dissatisfaction as dumping, refuse build up and occurrences of rough camping continue in these unkept areas. These issues can have a negative impact on property perceptions as well as reducing the quality of life for those who utilize these areas for passive recreation opportunities.
- Labour for roadway shelterbelt maintenance has been reallocated over the last 5 years in an effort to maintain mowing and horticultural service levels throughout the growing park and open space inventory.
- Previous service level including mowing under shelterbelts, basic tree pruning, and picking up garbage twice per year on a dedicated rotation.
- The current service level is very reactive. When complaints are received about a service, such as mowing and garbage pick-up in shelterbelts, we are forced to reduce service elsewhere.

Optional Service Levels: Shelterbelt and Buffer Strip Maintenance

Total Inventory Cleared	Optional Service level	Estimated Total Cost	Budget Allocation	Gap
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Recommendation – Increase service level to include roadway shelterbelt mowing and trimming twice per season and two garbage pick-ups per season; 1:13 year pruning cycle.

Description	Area (Ha)	Mowing, Trimming, Garbage		Pruning	Total Costs
		Per Ha Cost	Total		
Roadway Shelterbelts	37	\$ 1,200	\$ 44,000		
Buffer adjacent to Roadway Shelterbelts	96	770	74,000		
	133		\$ 118,000	\$ 50,000	\$ 168,000
Existing Budget					124,000
Funding Gap					\$ 44,000

Option 1: Maintain Current Service Level

Buffer Strips adjacent to shelterbelts mowed up to the shelterbelt drip line twice per season; garbage pick up to the drip line twice per year; 1:13 year pruning cycle; refuse pick up from roadway shelterbelt on complaint basis. No turf maintenance is done within the 12 meter width of shelterbelt.

Description	Area (Ha)	Mowing, Trimming, Garbage		Pruning	Reactive Clean up Response	Total Costs
		Per Ha Cost	Total			
Roadway Shelterbelts	37	\$ -	\$ -			
Buffer adjacent to Roadway Shelterbelts	96	770	74,000			
	133		\$ 74,000	\$ 50,000	\$ 15,000	\$ 139,000
Existing Budget						124,000
Funding Gap						\$ 15,000

*\$15,000 required for reactive refuse pick up does not have budget allocated.