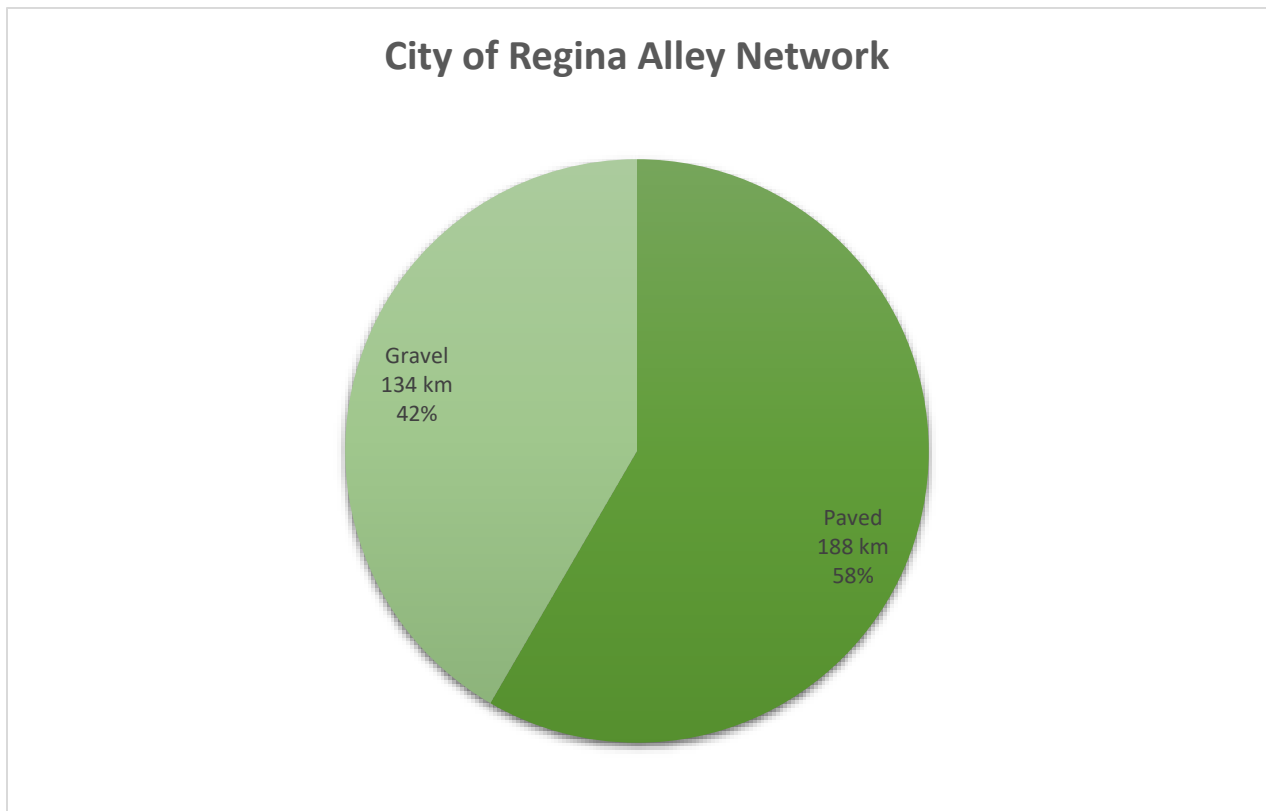


Appendix B:
Alley Maintenance Program



Introduction

The City of Regina's (City) Alley Maintenance Program is intended to provide a sustainable alley system that is passable, safe, affordable, efficient, equitable and environmentally responsible. There are approximately 322 kilometres of alleys in the city consisting of 188 kilometres of paved alleys and 134 kilometres of gravel alleys. Gravel alleys should not increase as they are not allowed in the City's current Design Standards, however, paved alleys will continue to increase as they are put into new developments. The alley tax is designed to cover annual maintenance activities such as tree pruning, sweeping, snow removal, regrading of gravel alleys and pothole patching on asphalt alleys, as well as the capital costs to renew these assets.



2018 Accomplishments

- completed the Gravel Alley Refresh Program on 13.9 kilometres of these alleys to keep the 10-year cycle on track
- reconstructed 5.6 kilometres of paved alleys or 3.3 per cent of the network
- ensured trees encroaching the alley way were pruned and maintained to allow safe passage of equipment
- cleared alley ways after major snow and wind events

2019 What's Happening

- on Schedule to complete the Gravel Alley Refresh Program on 13.5 kilometres of these alleys to keep the 10-year cycle on track
- on schedule to complete 5.75 kilometres of paved alleys reconstructed
- on schedule to complete three paved alley reconstruction projects using private contractor services. (This will allow us to compare in house costs to contracted services)
- ensuring trees encroaching the alley way are pruned and maintained to allow safe passage of equipment
- clearing alley ways after major snow and wind events
- ensuring catch basins are in good shape and cleaned after gravel refreshes and paved alley reconstructions

2020 What's Planned

- scheduled to complete the Gravel Alley Refresh Program on 12.4 kilometres of these alleys to keep the 10-year cycle on track
- scheduled to complete 5.8 kilometres of paved alleys reconstructed
- planning to contract three paved alley reconstruction projects using private contractor services. After evaluation of 2019 programs success.
- ensuring trees encroaching the alley way are pruned and maintained to allow safe passage of equipment
- clearing alley ways after major snow and wind events
- ensuring catch basins are in good shape and cleaned after gravel refreshes and paved alley reconstructions

History of Alley Maintenance

Paved Alley Maintenance

In 1996, a condition survey estimated that over 47 per cent of paved alleys required extensive repair or reconstruction. Most of those alleys were constructed in the 1960s or 1970s and had far exceeded their design life expectancy; meaning that they were in poor shape and required significant maintenance or rebuilding.

As a result, in 1996, City Council adopted a strategy to achieve a 30-year reconstruction cycle for paved alleys. This approved strategy was phased in over a 10-year period by increasing the number of paved alley reconstructions by four alleys per year, until a full implementation of 45 alley reconstructions per year was achieved. During the first half of the 10-year period, annual funding increases were approximately in the order of 10 per cent. In 2001, City Council deferred the increase to the special tax levy for one year, pending the results of an

evaluation on strategy objectives, design methodology and construction costs. The 2001 evaluation concluded that the approach was sound. In 2002, the strategy continued along with the requested special tax increases. There has been no increase requested as current funding has been sufficient to grow the program since 2017. This is evaluated on a yearly basis.



Gravel Alley Maintenance

Typical maintenance activities help to maintain stable surfaces in gravel alleys. This work includes:

- regular maintenance blading, which evens out the surface
- systematic gravel refreshing or adding of gravel
- re-grading to improve significant drainage concerns and direct water towards catch basins
- spot gravelling to touch up trouble spots



During the 1996 review, a 40-year reconstruction life cycle strategy was adopted by City Council for gravel alleys, with the original intent that the 40-year life cycle of gravel alleys be fully phased in by 2005.



Increasing funding levels between 1996 and 2001 resulted in the completion of the originally identified reconstruction locations. As a result, the long-term strategy was shifted to focus on providing additional efforts aimed towards improving surface maintenance rather than the deeper, structural reconstructions. The revised gravel alley maintenance

strategy involves maintenance blading approximately four to five times during the non-winter months, spot gravelling, cleaning of catch basin sumps, minor reconstruction, drainage improvements and achieving a systematic program of gravel refreshment, based on a 10-year cycle. The number of full depth reconstructions was reduced to roughly the equivalent of two locations per year.

Budget & Expenditures

The Alley Maintenance Budget is funded exclusively through the Alley Tax Levy. There are several programs and activities funded by this tax that help maintain the overall alley network.

What Does the Alley Tax Pay For?

Catch Basin Cleaning	Snow Plowing	Tree Pruning	Street Sweeping
<ul style="list-style-type: none"> occurs after a gravel alley has been refreshed to ensure good drainage occurs during reconstruction of paved alleys if more maintenance is required, Water & Sewer Construction is notified 	<ul style="list-style-type: none"> following a winter storm or high winds that make the alley impassable as per the Winter Maintenance Policy 	<ul style="list-style-type: none"> occurs in conjunction with gravel alley refresh or paved alley reconstruction ensuring there are no obstructions that may cause safety or operational concerns collaboration with Solid Waste - they will report any encroaching tree branches and our crews will prune as required 	<ul style="list-style-type: none"> every paved alley receives one sweep during the summer months.

Gravel Alleys

Maintenance of the 134 kilometres of gravel alleys occurs four to five times per summer through a systematic maintenance program. Additionally, resident requests via Service Regina will trigger an inspection and if necessary, additional maintenance will be performed. Gravel alley work consists of four main tasks.



Maintenance

- blading the alley to ensure the surface is even and free of potholes and wash board surface

Spot Gravelling

- adding additional gravel where needed to ensure a safe driving surface

Refreshing

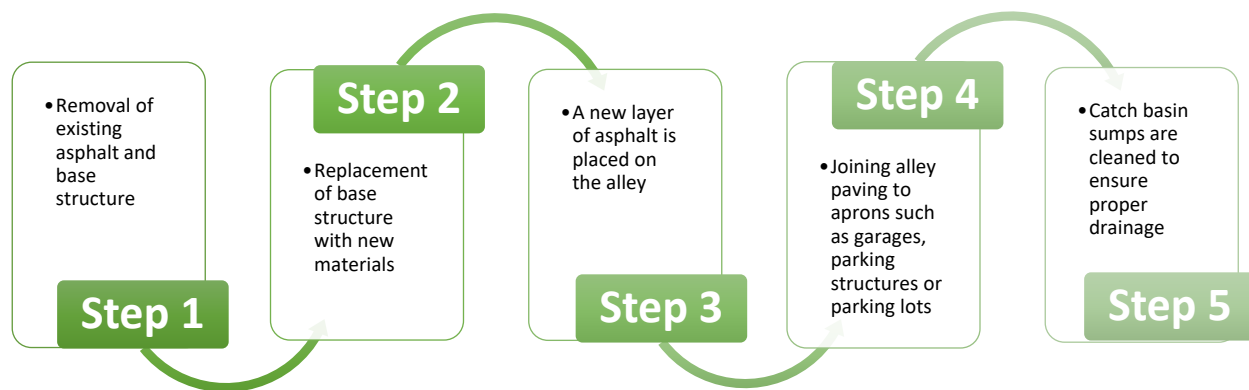
- removing the top portion (3-5") of the material and replacing it with fresh road gravel
- helps to repair soft spots, correct minor drainage issue, remove contaminated material and fix any other deficiency (potholes or failures) that maybe present at the time
- generally take approximately one day, but residents are able to drive on the alley, around crews if absolutely necessary
- done on a 10-year cycle
- approximately 13.4 km refreshed each year

Reconstruction

- removing all materials in the alley and rebuilding from the road from the subgrade surface up, including adding all new gravel
- generally takes approximately 10 days to complete
- done when required due to condition

Paved Alleys

Paved alley reconstruction is done on a 30-year cycle. Each year we complete approximately 5.7 kilometres of the 188 kilometres are reconstructed. Alley reconstruction is undertaken in a systematic manner. As shown below.



Maintenance activities include:

- repairs to potholes
- repairs to failures & depressions

Our proactive approach:

- Waste collection drivers are constantly visiting these locations when performing their activities, this helps to identify problems and provide notification when action is required.

Did You Know...

Recycled road gravel from the refresh and the base from the paved alley reconstruction is used for:

- helping to build roads at the Snow Storage Site
- high grade roads
- improving driving surfaces at the landfill

Costing by Activity

Tree Pruning

Year	Cost (\$)
2016	35,000
2017	74,000
2018	68,000
2019	39,000
Four-Year Average	54,000

Snow Plowing

Event	Five Year Average (\$)
Snow Event (two per season)	28,000
Wind Event (two per season)	10,500
Overall Average	75,000

Maintenance

Activity	Cost (\$)
Paved Alley	1,000,000
Gravel Alley	180,729
Spot Gravelling	49,000
Total	1,229,729

Note: This is a five-year average

Alley Program Costs

Activity	Cost (\$) per linear meter
Gravel Alley Refresh	58
Paved Alley Reconstruction	352

Note: This is a three-year average

How Weather Impacts the Alley Programs

Because of the nature of this work, the alley programming is significantly impacted by the weather. Crews perform both sweeping activities and alley programming; a late spring means sweeping activities are delayed, which in turn delays the start of alley work. This is also the case at the end of the season as the fall sweep is scheduled.



Warm, dry summers provide the best conditions for alley work, as rain has a significant impact on the types of work performed. Rain not only causes delays in completing projects, but also negatively impacts the condition of an alley, creating potholes in paved alleys and wash boarding in gravel alleys. Construction generally stops when there is rain, as gravel alleys need to drain, and dry and paved alleys require pumping of water to ensure the base is dry enough to keep working.