

December 12, 2019

To: Members
Public Works and Infrastructure Committee

Re: Residential Road Renewal Program 2019 Annual Report

RECOMMENDATION

1. That City Council endorse the continuation of additional surface treatments on roads in poor condition as part of the Residential Road Renewal Program.
2. That CR18-120 be removed from the List of Outstanding Items for the Public Works and Infrastructure Committee.
3. That this report be forwarded to the December 16, 2019 meeting of City Council for approval.

CONCLUSION

With the introduction of the Alternative Treatment Options Pilot Project in 2019 to the Residential Road Renewal Program (RRRP), Administration was able to improve an additional 8.5 kilometres of roads in poor condition without requiring additional funding. A total of 22.5 kilometres of residential roads were improved and of this total, 12.1 kilometres of poor roads were treated as compared to an average length of approximately 2.8 kilometres treated annually from 2015-2018.

This new approach has worked to balance the expectations of residents with the service requirements of residential roads. Administration was able to gauge the satisfaction of the residents whose roads were treated under the new approach through a survey. Based on the responses received to date, 85 per cent of residents were satisfied with the improved road condition and driving experience, and most respondents were in support of the surface treatments on poor roads as piloted this year.

BACKGROUND

In 2018, City Council passed *Motion CR18-76* requesting Administration to develop a new plan for the RRRP, set a reasonable goal to rebuild poor residential roads, and allocate sufficient funds to meet that goal until the backlog of poor roads was significantly reduced.

In response, Administration revised the strategy and developed the 2019 plan for the RRRP with a pilot implementation of alternative treatments for poor residential roads. The revised strategy, as discussed in further detail in report *CR18-120*, was developed by Administration for

residential renewal based on three decision frames aligned with contemporary asset management practices:

1. Physical Condition:
 - The physical condition identifies the state of repair of the assets that leads to a range of treatment options (e.g. condition of the road surface, road structure, extent of sidewalk repair and underground and utility condition).
2. Functional Condition:
 - The functional condition identifies what is needed to meet customer expectations and what the customer values the most from the services.
3. Demand Condition:
 - The demand condition considers what is needed to support the service the asset is intended to provide. For residential roads, this could be significantly different than what is done on major roadways due to the residential roads carrying less traffic and typically lighter vehicles and may lead to different treatment approaches than traditionally used.

This strategy would improve the driving experience for residents as well as the look and feel of the road (functional condition), improving the level of service to either fair or good, but would not address some of the underlying structural deficiencies of the road.

Along with the 2019 pilot implementation, Administration was tasked to reevaluate the performance of the RRRP considering the additional surface treatments and report on the following:

1. estimates of rate of progress and redefinition of the target
2. assessment of impact of using the proposed approach on service to residents as well as resident response
3. financial implications

DISCUSSION

Surface Treatments for Poor Roads

In addition to the full reconstruction treatments and major rehabilitation treatments, the 2019 program targeted additional roads in poor condition with surface treatments without additional funding. One of the primary criteria for determining whether the surface treatment can be applied on a road section is the road structure's ability to support the milling and paving equipment without failing.

The surface treatment includes the placement of an asphalt overlay to improve the driving experience and seal the road surface but does not address underlying structural defects or sidewalk distresses (there is no replacement of concrete curbs, gutters and sidewalks associated with this treatment). When water is prevented from getting into the road structure through a combination of sealing the road surface and improving the drainage condition, the deterioration rate of the road is slowed.

Rate of Road Improvement Progress

The shift in the program's strategy included the introduction of the surface treatments for roads in poor condition such that the functional condition of the road would be improved, but the physical structure of the road including sidewalks, curbs, and gutters would not be improved and the risk of near-term underground work would remain. With the treatments introduced with the revised strategy, the number of poor roads improved annually increases by approximately nine to eleven kilometres in the early years of the implementation of this strategy.

A model to predict the road network condition under the revised strategy was developed to show the performance of the RRRP under the revised strategy with the additional treatments. The results of the modelling, as well as items to be noted when discussing the model results, can be found in Appendix A.

Modelling of the road network condition under the revised strategy, considering the 2019 road condition data, shows that the benchmark target of 85 per cent of the network in fair condition or better will be reached in 2026. Furthermore, by 2036, the benchmark reaches a maximum value of 92 per cent. After this stage in the model, the rate of roads becoming poor exceeds the rate that poor roads are treated and therefore the percentage of poor roads begins to grow. By 2039 (25 years after the initial program launch), the percentage of roads in fair condition or better will have decreased to 89 per cent.

Resident Feedback on Pilot Project

In report *CR18-120: Residential Road Renewal Program Alternative Treatment Options*, Administration committed to completing an "assessment of impact of using the proposed approach on service to residents as well as resident response" as part of the pilot program for the asphalt surface treatment on poor roads. Residents that received the new treatment could provide feedback through an online or paper survey. The purpose of this survey was to gauge the resident's satisfaction with the improvement to the road condition, driving experience, and the reduced time of construction, as well as to gather their feedback on the trade-offs associated with this type of treatment. Administration received 119 responses to the survey; A copy of the survey and results can be found in Appendix B and C.

The results were positive, and most respondents were in support of the surface treatment that was piloted in 2019. Some of the key insights regarding the respondent's satisfaction to the surface treatment included:

- 85 per cent reported being satisfied with the improved road condition and driving experience
- 87 per cent reported being satisfied with the minimized disruption to residents by reducing the time of construction
- 62 per cent reported that they agreed with the trade-offs, including no replacement of concrete elements, required to improve poor road condition and drivability (19 per cent reported that they disagreed with these trade-offs and 18 per cent were unsure)

Based on the feedback, Administration recommends continuing the additional surface treatments on poor roads in the upcoming annual plans for the RRRP.

Accomplishments for RRRP

Since its inception, the RRRP has received dedicated one per cent mill rate increases annually from 2014 to 2019 and a contribution of 25 per cent of the Street Infrastructure Renewal Program (SIRP) budget and has grown to a total \$16.417 million for Residential Road Renewal.

Table 1 shows the annual funding that has been dedicated to the RRRP since 2014 and the improvements to the residential road network with this funding.

Table 1: RRRP Accomplishments Summary

Year	1% Mill Rate (\$ mil)	25% of SIRP (\$ mil)	Current Year Total Budget (\$ mil)	Prior Year Carry Forward (\$ mil)	Current Year Total Funding Available (\$ mil)	Actual Expenses (\$ mil)	Carry Forward (Cum.) (\$ mil)	No. of Projects	Total Road Length (Km)
2014	1.700	0.000	1.700	0.000	1.700	1.000	0.700	32	9.9
2015	3.672	0.000	3.672	0.700	4.372	4.114	0.259	87	19.5
2016	5.472	3.800	9.272	0.259	9.531	7.331	2.199	66	21.9
2017	7.532	4.500	12.032	2.199	14.231	11.931	2.300	68	18.8
2018	9.672	5.500	15.172	2.300	17.472	17.459	0.013	67	20.2
2019	12.042	4.255	16.297	0.013	16.310	14.700	1.610	63	22.5
Total	40.090	18.055	58.145					383	112.8

Note: 2019 Actual Expenses are estimated as of November 20, 2019

The 2019 plan of the RRRP consisted of 63 projects that would improve 22.5 kilometres of residential roads. Six carry-forward projects from 2018 (1.8 kilometres) were also completed in 2019 with the carry forward funding from 2018 that was committed to finishing these projects.

Of the 63 planned projects, 45 were fully completed in 2019, covering 15.5 kilometres in addition to the six carry-forward projects from 2018. Work on the remaining locations has started but was not completed due to weather, scheduling constraints with other infrastructure projects, or increased scope of work. It is expected that all the remaining work will be completed early in the 2020 construction season. Although work is not fully complete on these locations, they have been made safe and accessible in their current state. Funding for the completion of the 2019 projects will be through the committed carry-forward funding from the 2019 budget.

The 2019 project list, which includes projects both completed and carried forward to 2020, sorted by treatment type is outlined in Appendix D and summarized below in Table 2 based on initial road condition.

Table 2: RRRP Treatments Summary

Road Condition	Road Treatment	Length (km)	No. of Projects
Good	Surface Treatment	1.1	5
Fair	Minor Rehabilitation	5.4	13
Poor	Major Rehabilitation	6.4	19
	Reconstruction	1.0	3
	Surface Treatment	8.5	23
TOTAL		22.5	63

2020 Plan for RRRP

The selection process for the 2020 RRRP program is currently underway and the target is to include approximately 28.5 kilometres of roadway improvements. The project list is tentative and anticipated to be shared early in the new year pending City Council approval of the 2020 budget.

Coordination with Upcoming Water Infrastructure Projects

Projects selected under the RRRP are coordinated with concurrent infrastructure renewal projects as well as other major capital City projects where possible. By coordinating construction efforts, the impact on neighborhoods is minimized and the investment is maximized. The coordinated programs include the Trench Settlement Remediation, Drainage Infrastructure Renewal and Upgrades and Wastewater Infrastructure Renewal and Upgrades Programs. Two major drainage improvement projects, Area 13 Drainage Project and North Montague Storm Trunk Upgrade

RECOMMENDATION IMPLICATIONS

Financial Implications

None associated with this report.

Environmental Implications

None associated with this report.

Policy and/or Strategic Implications

Continuing to apply the surface treatments, as piloted in 2019, for improving residential roads in poor condition is consistent with *The Official Community Plan, Bylaw No. 2013-48 (OCP)*, specifically:

- *Section B, Goal 1 – Financial Policies, “Achieving long-term financial viability.”*
- *Section B, Goal 2 – Sustainable Services and Amenities, “Ensure that the City of Regina services and amenities are financially sustainable.”*
- *Section D4, Goal 2 – Asset Management and Services “Ensure infrastructure decisions result in long-term sustainability.”*
- *Section D4, Goal 2 -Infrastructure Staging, “Build infrastructure in a sequential and coordinated manner.”*

- *Section D5, Goal 1 - Land Use and Built Environment, "Enable the development of complete neighbourhoods."*

The RRRP supports the City's strategic focus to improve the development and maintenance of livable neighbourhoods, while improving the residential road infrastructure condition to a level and quality that is sustainable.

Accessibility Implications

One of the goals of this program is to improve walkability and better accommodate those who use walking as their primary mode of transportation, by implementing pedestrian accessibility ramps where practical and feasible. This is consistent with the OCP, *Section D5, Goal 1 - Land Use and Built Environment, "Enable the development of complete neighbourhoods."* Not all poor road treatments will include concrete work that will improve accessibility, so the advancement of this goal may not proceed as quickly on some poor roads receiving less extensive treatments.

Other Implications

An improved residential road network will provide residents with improved quality of life due to reductions in frustration, travel delays, fuel consumption and vehicle repairs/maintenance.

COMMUNICATION

Information about the RRRP will continue to be incorporated into the annual Road Construction Communications Strategy along with proactive notifications of the program, as well as with one-on-one communications via service requests, letters and emails.

Administration has added an informational page on the City's website to provide additional details to residents and businesses about the City's Road Maintenance and Construction Programs.

DELEGATED AUTHORITY

The recommendations contained in this report require City Council approval.

Respectfully submitted,



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11/12/2019

Respectfully submitted,



Kim Onra, Executive Director, Citizen Services

12/3/2019

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