

Residential Roads Update

Date	September 30, 2020
To	City Council
From	Citizen Services
Service Area	Roadways & Transportation
Item No.	CM20-29

RECOMMENDATION

That City Council receive and file this report.

ISSUE

On June 24, 2020 City Council considered *MN20-05* regarding the Residential Road Renewal Program (RRRP) including:

- the current state of the residential road network by Ward
- discussion regarding the coordination of RRRP projects with Water, Waste and Environment (WW&E) infrastructure projects
- costs for the treatment of residential roads
- the long-term strategy to reduce poor condition residential roads
- the communication plan related to this program

IMPACTS

Policy and/or Strategic Implications

The RRRP strategy is consistent with *The Official Community Plan, Bylaw No. 2013-48* (OCP), specifically:

- *Section B, Goal 1 – Financial Principles, “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 5 – 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 of Regina's (City) strategy within the *OCP* 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

Repairing sidewalks under this program helps to improve safety and better accommodate those who are using them. Sidewalk accessibility is advanced by implementing pedestrian accessibility ramps where practical and feasible, and repairing sidewalk distresses that put the public at risk.

This is consistent with the *OCP*, specifically:

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

Other Implications

Improving the residential road network helps to improve the quality of life of residents through the reduction of frustration, travel delays, fuel consumption and vehicle repairs/maintenance.

Roads and sidewalks in the network have been constructed based on the design standards and specifications in place at the time of construction, which can be substantially different than current standards and specifications. During design and construction of streets treated under the RRRP, Administration endeavors to update these roads and sidewalks to reflect the most current approved standards and specifications where practical and feasible.

OTHER OPTIONS

None related to this report.

COMMUNICATIONS

In 2021, Administration will develop a communication plan to better inform residents about RRRP. This will include the program's purpose, goals, costs and benefits of each of the treatment options, and how the options are implemented. A variety of traditional and non-traditional tactics will be used to communicate this information and may include information brochures, update to the City of Regina's (City) website, and online advertising.

DISCUSSION

At its June 24, 2020 meeting, City Council considered item *MN20-05* and directed Administration to prepare a report:

1. *On the condition of the residential roads by Ward that are rated from poor to excellent*
2. *The role of the Water, Waste and Environment department in coordinating water infrastructure projects with roadway projects*
3. *The costs of each type of treatment applied to residential roads, including the underground water and sewer infrastructure rebuild or rehabilitation*
4. *The projection of the number of years it will take to remove roads from the poor category*
5. *A communication plan to inform citizens of the status of the residential roadwork and an update on the plans to decrease the number of roads in the poor categories in Regina*

The RRRP was developed based on preventative maintenance strategy with a dedicated budget to improve the condition of Regina's residential road network. The preventative maintenance strategy is designed to reduce and decelerate the deterioration of local roads and sidewalks in fair and good condition from becoming poor condition and thereby minimizing the costly reconstruction of these roads.

Regina's residential road network consists of 675 kilometres of paved roads. Based on the most recent condition inspection (2019), 75.3 per cent of the residential road network is in fair or better condition and 24.7 per cent (167 km) of roads are rated in poor condition.

Current State of the Residential Road Network

Administration conducts a visual condition assessment of the residential road network annually. Residential roads are grouped into four condition categories (excellent, good, fair, and poor) according to the extent of deterioration observed during the annual assessment. A description and photos of the various condition categories can be found in Appendix A. Appendix B provides a map showing the most recent condition of the residential road network as well as a condition breakdown by Ward.

Road Treatments and Costs

Best practice in asset management recommends that a program of preventive maintenance and rehabilitation is the most affordable and effective way of managing infrastructure.

This is often explained with the typical pavement deterioration curve with preventative maintenance treatments as shown in Appendix C.

Administration uses results of the annual road condition assessments as criteria to determine the type of treatment required.

Table 1 summarizes the treatments available under the RRRP road and underground infrastructure renewal costs.

Table 1: Cost for Associated with Residential Road Renewal Treatments Per Kilometre

Condition	Road Treatment	Cost (per km)		
		Road Infrastructure Renewal	Underground Infrastructure Renewal	Total
Excellent	Crack Sealing	\$30,000 - \$50,000	-	\$30,000 - \$50,000
Good	Surface Treatment	\$150,000 - \$200,000	-	\$150,000 - \$200,000
Fair	Minor Rehabilitation	\$600,000 - \$800,000	-	\$600,000 - \$800,000
Poor	Surface Treatment	\$150,000 - \$200,000	-	\$150,000 - \$200,000
	Major Rehabilitation	\$1.3M - \$1.6M	\$0.9M - \$1.0M	\$2.2M - \$2.6M
	Reconstruction	\$2.0M - \$2.4M	\$0.7M - \$0.8M	\$2.7M - \$3.2M

The treatment options available under the RRRP are discussed in Appendix D.

Coordination of RRRP with Water, Waste & Environment Infrastructure Projects

One of the main priorities during the selection of road rehabilitation projects under the RRRP is the coordination with WW&E infrastructure projects. By coordinating construction efforts, the impact on neighbourhoods is minimized and the investment is maximized. Typically, the road condition and subsequently identified road treatment initiates and drives the project coordination of the RRRP and WW&E infrastructure projects. WW&E will select the most appropriate treatment to repair the underground infrastructure based on the type of road treatment that is selected. The typical underground infrastructure treatments associated with various road treatments, the description, and their cost can be found in Appendix E.

The coordinated underground infrastructure programs include the Trench Settlement Remediation, Drainage Infrastructure Renewal and Wastewater Infrastructure Renewal and Water Infrastructure Renewal Programs. The annual total budget for these programs is approximately \$20 million, of which approximately up to \$5 million allocated for the underground improvements associated with residential road work.

Planned major drainage update projects (such as the North Central Drainage Upgrade) are also coordinated with road treatments under the RRRP. Once the route and underground upgrades are identified, the appropriate treatment for each road segment is determined based on road condition data and the impact of replacing or rehabilitating the underground infrastructure on the road. Costs for the road renewal on these locations are shared between the contributing programs. Further accelerating the underground renewal of the

water, wastewater and drainage infrastructure could have a negative impact on the residential road program if the program needs are not aligned.

Long-Term Strategy to Reduce Poor Condition Residential Roads

In 2019, Administration was able to improve an additional 8.5 kilometres of roads in poor condition through the introduction of the City Council approved surface treatment option without requiring additional funding outside of the scheduled one per cent mill-rate increase. The number of poor roads treated in 2019 increased by over 400 per cent compared to the average length treated annually from 2015-2018. This additional treatment option has had a major positive impact on the rate to which poor roads are treated under this program and has reduced the time to reach the Level of Service target (85 per cent of the residential road network in fair condition or better) that was defined when this program was established.

The road network condition modelling demonstrated that 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, and based on financial models, the rate of roads becoming poor exceeds the rate that poor roads are treated and therefore the percentage of poor roads begins to increase. By 2039 (25 years after the initial program launch), the percentage of roads in fair condition or better will decrease to 89 per cent without an increase to the RRRP budget in the future. The results of the modelling can be found in Appendix F.

DECISION HISTORY

Item *MN20-05* was approved at the June 24, 2020 meeting of the City Council.

Respectfully Submitted,



Chris Warren, Director, Roadways & Transportation

8/21/2020

Respectfully Submitted,



Kim Conra, Executive Director, Citizen Services

9/15/2020

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ATTACHMENTS

Appendix A – Description and Photos of Road Condition Categories
Appendix B - Condition Map and Breakdown by Ward
Appendix C - Pavement Deterioration Curve
Appendix D - Road Treatments
Appendix E - Underground Treatments
Appendix F - Condition Modeling (2019 Data) and Assumptions