

June 7, 2018

To: Members  
Public Works and Infrastructure Committee

Re: Residential Road Renewal Program Review Report

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### RECOMMENDATION

1. That City Council approve the redistribution of funding for the Residential Road Renewal Program from its current allocation to the new allocation of 10 per cent to 'good' roads, 45 per cent to 'fair' roads and 45 per cent to 'poor' roads.
2. That this report be forwarded to the July 30, 2018 meeting of City Council for approval.
3. That item MN16-8 be removed from the list of outstanding items for the Public Works & Infrastructure Committee.

### CONCLUSION

Administration has reviewed the existing fund distribution of the Residential Road Renewal Program (RRRP) and researched options to address the backlog of 'poor' residential roads to respond to City Council Motion *MN16-8* and has concluded the following:

1. Since implementation, the RRRP has been able to improve 10 per cent of the residential road network that would not have received treatments under the previous strategy.
2. Shifting more funding from existing base funding towards 'poor' roads, while maintaining a preventative maintenance strategy, positively impacts the residential road condition to improve the percentage of roads in 'fair' condition or better.
3. Any increases to number of 'poor' roads treated under the RRRP increases the impact to other areas like Waterworks, who support the program by coordinating their underground infrastructure upgrades with rebuild treatments on 'poor' roads.
4. A long-term preventative maintenance strategy is the most effective means in stabilizing the condition of roads, as opposed to only addressing streets in 'poor' condition first.

Administration recommends that the City of Regina (City) apply the preventative maintenance strategy with the revised funding allocation to improve the residential road network and increase the rate at which the backlog of 'poor' roads can be addressed. As part of this strategy, Administration will allocate funding and develop a yearly renewal plan that will have the most positive impact on the overall residential road network condition under the new funding distribution.

## BACKGROUND

In 2014, Council recognized the need for a program which could affordably address the state of deterioration of the residential road network and bring it to an acceptable level. Based on Council direction, Administration developed the 'Residential Road Renewal Program' that reviewed the existing condition of the residential road network, created a road condition rating system, set potential levels of service (LOS) for this program, and financial scenarios with funding distributions for the different conditions of roads in the residential road network to meet the established LOS.

A mitigation plan was established that increased the cost for residents, but would improve the level of service of the residential road network over time. To maximize the benefits of the new funding, City Council approved that a one per cent dedicated mill rate would be allocated annually from 2015 to 2019 under a strategy that focused investment on preventative maintenance of the residential roadway network, to help ensure affordability for residents over the whole life of the asset.

In addition to the dedicated funding for the RRRP, the City continues to invest in residential roads with 25 per cent of the Street Infrastructure Renewal Program's annual budget, as well as operational maintenance and other City infrastructure programs, such as Water Work's infrastructure renewal programs.

At the August 29, 2016 meeting of City Council, motion *MN16-8* was passed:

- 1. That a larger percent of Residential Road Renewal Program funding each year be directed toward roads in poor condition, especially level 3 and 4 'poor' condition roads until the backlog of 'poor' roads is significantly reduced.*
- 2. That the driving experience caused by excessively rough roads and the continuous ponding that limits access to streets and driveways be considered in the criteria for prioritizing street renewal of all 'poor' roads.*
- 3. That other sources of infrastructure funding be researched to offset the extremely poor condition of residential roads that have far exceeded their lifespan and adversely affect the lives of residents.*
- 4. That a report be provided back to the Public Works & Infrastructure Committee in Q4 of 2017.*

## DISCUSSION

The City's residential road network consists of 647 km of paved roads. Based on the most recent condition inspection (2017), the residential road network currently has a level of service of 79 per cent of the roads in 'fair' or better condition. 21 per cent (137km) of roads are rated in 'poor' condition.

To respond to the *MN16-8*, Administration completed two key steps:

1. Reviewed the existing program and associated financial model developed in 2014.
2. Developed a new life cycle cost analysis (LCCA) model to review the effects of adjusting the funding allocation and/or fund levels on the overall network condition.

The existing program was developed based on a financial model that included several inputs that required updating, as well as assumptions that do not reflect current City practices. These included a road condition based on age, network length and inflationary factors used to grow the funding. Appendix A discusses the assumptions and inputs that were identified as requiring updates to the previous model. These assumptions and inputs were adjusted during the development of the new model. Furthermore, the most recent condition and inventory data for the residential roads (2017) was used to ensure an accurate base point for road condition in the new model.

With the new model, Administration reviewed options under three categories:

1. An option that considers the current funding with the current fund allocations (status quo).
2. An option that considers the current funding with adjusted fund allocations (reallocation of funding).
3. Two options that considers additional funding directed towards ‘poor’ roads only. (increased investment)

These options were reviewed based on their achievability, impact to residents, capacity requirements and impact to supporting areas. The list of options with associated funding allocation are showing in Table 1 below.

**Table 1: Fund Allocation Options Reviewed with New LCCA Model**

<b>Option</b>	<b>Distribution of Current Funding (Good-Fair-Poor)</b>	<b>Requires Additional Funding</b>	<b>Distribution of Additional Funding</b>	<b>L.O.S. After 25 Years</b>	<b>Recommended Option</b>
1	10-65-25	No	-	80%	No
2	10-45-45	No	-	82%	Yes
3a	10-65-25	Yes, Additional 1% mill rate increases for 5 years (starting in 2019)	0-0-100 (50% to Roads, 50% to Underground Utility)	85%	No
3b	10-65-25	Yes, Additional 1% mill rate increases for 7 years (starting in 2019)	0-0-100 (50% to Roads, 50% to Underground Utility)	85%	No

**Recommended Option**

Option 2 reallocates 20% of the program funding from roads in ‘fair’ condition to those in ‘poor’ condition. This is a preventative maintenance option that helps to prevent roads from in ‘good’ and ‘fair’ from deteriorating to poor condition, while addressing the backlog of roads in poor condition with additional funding compared to the current strategy. This option will not require any additional mill rate increase and to support the reallocation of funds to ‘poor’ roads, a utility rate increase will not have required for the 3-5 years, as it can be done by coordinating between water and sewer work and poor roads within the next 3-5 years. With the increased number of ‘poor’ roads being treated annually, there is a potential for these road construction projects being extended over two years

due to the significant amount of work required on these types of projects and a limited construction season.

Detailed results of the analysis for each option can be reviewed in Appendix B.

Appendix C compares the current condition breakdown of the residential road network with the impacts of each fund allocation after 25 years.

#### Responds to Item 2 of the Motion **“Criteria Review for Road Prioritization”**

One of the items requested in motion *MN16-8*, was to *review the process of prioritizing poor roads for road renewal based on road condition*. The condition criteria for road prioritization of treatments under RRRP were not reviewed in this report, as Administration uses the Residential Road Condition Index (RRCI) to provide a consistent method of assigning condition ratings, which considers the road, sidewalk and drainage conditions.

### RECOMMENDATION IMPLICATIONS

#### Financial Implications

In 2014, City Council made a decision to increase the budget for residential road renewal through the allocation of a one per cent dedicated mill rate increase. In 2015, City Council approved a longer-term strategy for residential road renewal that would continue to dedicate one per cent of the mill rate over the next five years (2015-2019) to a long-term strategy for residential road renewal. This is in addition to the allocation of 25 per cent of the existing Street Infrastructure Renewal Program’s (SIRP’s) annual budget to the residential road renewal program.

#### Environmental Implications

There is a positive environmental impact caused by the replacement of deteriorated infrastructure. Well-maintained roads help to reduce fuel consumption and wear on vehicles. Fuel consumption directly impacts the emission of greenhouse gases.

The preventative maintenance strategy helps to reduce the emission of greenhouse gases. Preventative maintenance treatments (thin-lift overlay and rehabilitation) are completed more quickly compared to the more extensive rebuild treatment and have a smaller environmental impact. (materials used, construction time, etc.)

### Policy and/or Strategic Implications

The recommended preventative maintenance strategy, including a dedicated mill rate allocation, 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 liveable 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.”*

### 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.

All roads and sidewalks in the network were constructed based on the design standards and specifications in place at the time they were constructed, which can be substantially different than current standards and specifications. During the RRRP construction, the City endeavours to update these older roads and sidewalks to reflect the most current approved standards and specifications where practical and feasible.

### COMMUNICATION

Administration continues to work to enhance the public’s understanding about the RRRP through a variety of tactics. Information about the RRRP will be incorporated into the annual Road Construction Communications Strategy along with proactive notifications of the program, one-on-one communications via service requests, letters and emails.

DELEGATED AUTHORITY

The recommendation contained in this report requires City Council approval.

Respectfully submitted,



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Respectfully submitted,



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