

Projected 2018-2020 Asset Preservation Plan

Roadway & Sidewalk Assets

AND

Water & Sewer Assets

AND

Bridge & Structure Assets



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Projected 2018-2020 Roadway & Sidewalk Preservation Plan



**BUILDING
BETTER
ROADS**
SASKATOON'S ROAD PLAN

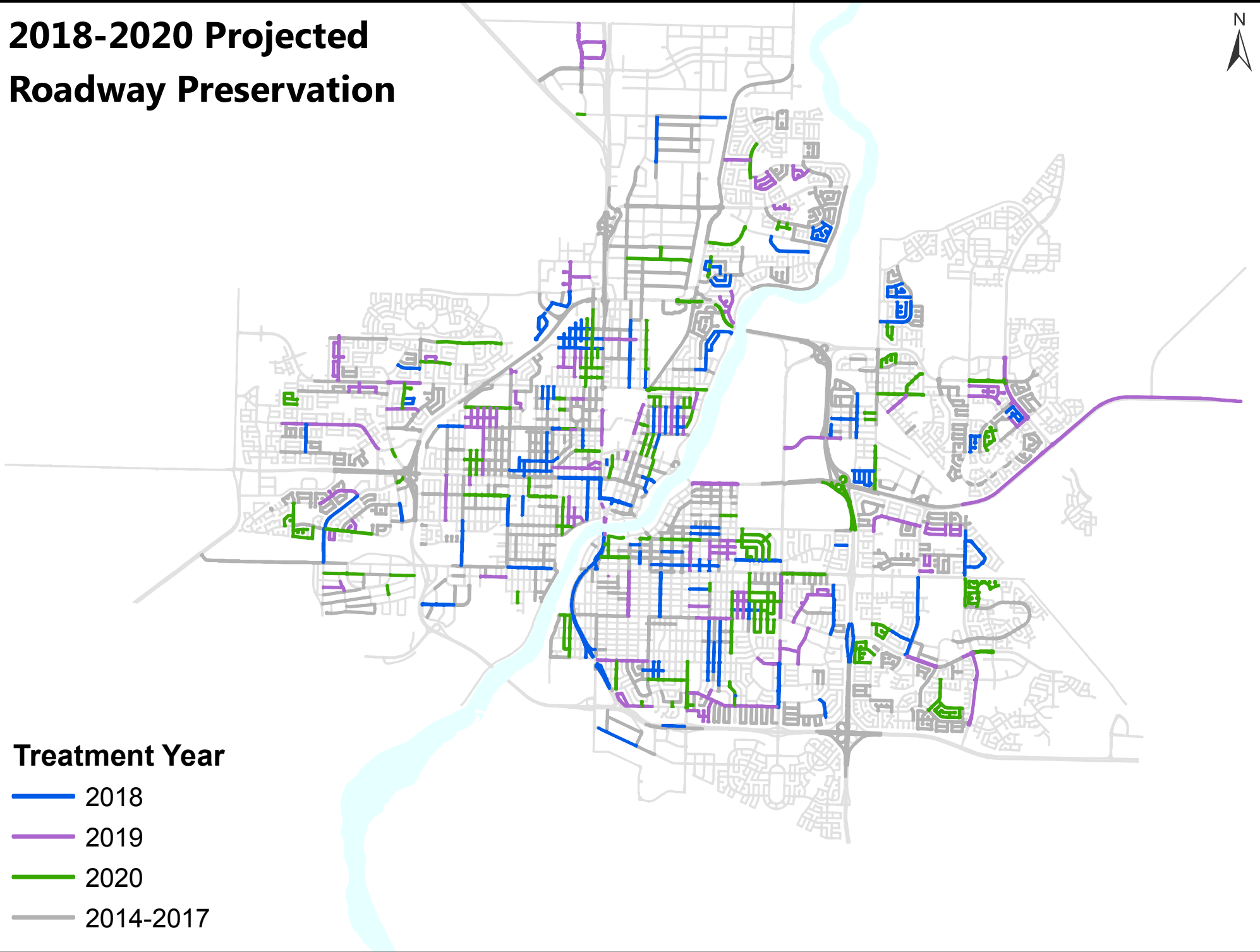

City of
Saskatoon

2018-2020 Projected Roadway Preservation



Treatment Year

- 2018
- 2019
- 2020
- 2014-2017



Roadway & Sidewalk Assets

Roadway and Sidewalk asset preservation management is a process of monitoring, maintaining, and preserving our roads and sidewalks effectively throughout their lifecycle. The goal is to employ effective decision making to optimize a cost effective mix of treatments, to maximize the number of roads and sidewalks treated to improve the networks as a whole.

Assumptions

The following assumptions were used to produce this roadway and sidewalk preservation plan document:

- Base funding is maintained for 2019 and maintained for 2020.
- Treatment quantities developed are based on adjusted previous year close out reports.
- Treatment quantities and locations may vary once contract pricing is received or after construction is initiated.
- The unit rate cost estimates are based on but not limited to: contractor unit rates, project management, administration, traffic control, miscellaneous surface preparation work, tests, and contingencies.
- The attached document includes proposed treatments. Actual locations and quantities treated may vary prior to construction.
- Project locations identified on the Ward Maps are identified by funding year, in anticipation that projects get completed during said funding year. There may however, be locations still under construction or planned for construction within an existing previous year contract funded through previous year funding sources.
- Sidewalk preservation of mitigating severely damaged sidewalk panels and safety maintenance of lightly damaged sidewalk panels will be performed adjacent to the roads within the road preservation program.
- A lane-km, as referred to in this document, is the calculation of the current paved area measured in square meters divided by a lane width of 3.8 metres and then divided by 1000 metres per kilometre which results the Lane-km.

2018-2020 Projected Budgets

Program	2017* Budget (\$M)	2018* Budget (\$M)	2019* Budget (\$M)	2020* Budget (\$M)
Local Roadway Preservation	\$11.126	\$10.700	\$10.782	\$10.782
Collector Roadway Preservation	\$6.080	\$5.850	\$5.800	\$5.800
Arterial Roadway Preservation	\$5.900	\$5.850	\$5.600	\$5.600
Expressway Roadway Preservation	\$3.900	\$3.900	\$3.900	\$3.900
Neighbourhood Sidewalk Preservation	\$3.130	\$3.400	\$2.950	\$2.950
Primary Sidewalk Preservation	\$1.960	\$2.100	\$2.000	\$1.950
Totals	\$32.096	\$31.800	\$31.032	\$30.982

*2017 budget includes a \$1.6 million one-time loan to be paid off in 5 years by the 2018-2022 Roadway & Sidewalk Budgets. This loan is going towards roadway & sidewalk treatments at CWWF locations. 2019 and 2020 budgets shown assumes base funding is maintained.

2018 Planned Treatments, Unit Rates & Estimated Quantities

Treatment	Unit Rate	Estimated Treatment Quantity
Sidewalk Preservation:		
Curb Replacement	\$186-375 /lin.m.	11 800 m
Sidewalk Replacement	\$185-215 /lin.m.	22 000 m
Sidewalk Crack Filling	\$26-32 /lin.m.	15 100 m
Sidewalk Trip Ledge Cutting	\$36-40 /lin.m.	3 160 m
Sidewalk MG-Krete Surfacing	\$112-205 /lin.m.	4 350 m
Road Preservation:		
Crack Sealing	\$14-27 /lin.m.	15 000 m
Microsurface Seam Banding	\$13-15 /lin.m.	8 450 m
Patching (Blade/Shallow/Deep)	\$15-140 /m ²	10.5 ln-km
Microsurfacing	\$8-10 /m ²	83.5 ln-km
Overlays	\$15-35 /m ²	11.5 ln-km
Resurfacing	\$30-40 /m ²	84.1 ln-km
Reconstruction	\$70-150 /m ²	16.7 ln-km
2018 Total Projected Roadway Lane-Kilometres Treated:		206.3 ln-km

Roadway & Sidewalk Treatment Descriptions

Crack Sealing – Crack sealing is a rubberized asphaltic material that is used to seal transverse and longitudinal cracks, open longitudinal seams, and minor fatigue cracking. Crack sealing prevents moisture infiltration into the roadway structure to reduce the chance of premature structural failure and potholes.

Microsurface Banding - Microsurface banding is pro-active maintenance treatment utilized to address depressed transverse cracks, open seam/centerline cold joint failures, and localized rutting.

Microsurface Spot Patching -Microsurface spot patching is utilized to address and seal localized low fatigue cracking, ravelling, seal pot hole patching, and fill in depressions up to 38mm. The intent is to prevent water infiltration that would further deteriorate the roadway surface or structure and improve ride conditions where there were depressions.

Spot Blade Level or Hotbox Patching - Spot blade levelling or hotbox patching is aimed at restoring localized areas causing an effect on ride or drainage.

Mill & Fill Patching - Mill & Fill Patching utilizes a milling machine to remove localized deteriorated pavement to a depth of 60mm or greater to reach a competent asphalt base. The milled area is then tacked and paved in to the depth it was milled out.

Shallow Patching - Shallow patching is required when an area of failed or deteriorated asphalt needs to be milled off or removed to exposed stable existing granular substructure. The existing granular base is reshaped, compacted roll tested and new pavement is applied.

Deep Patching - Deep patching is required when an area of failed asphalt upon removal shows that the granular structure below the asphalt is not stable. The existing granular structure would be removed to a certain depth to accommodate a proper new structure. In some cases a sub drainage layer and/or geotextiles may need to be installed.

Microsurfacing - Microsurfacing is a surfacing treatment involving the placement of specified crushed graded aggregate with an asphalt emulsion. This treatment is placed on entire road surfaces that are structurally sound, with limited or no cracking, and with minimal surface imperfections. This treatment is typically used to address roadways with weathered or ravelled surfaces.

Blade Level - Blade levelling is placing a layer of hot mix asphalt with a motor grader and then compacted with steel and rubber tire rollers for entire road segment. Its primary purpose is to improve the roadway surface profile, which results in improved drainage and ride.

Asphalt Overlays - Asphalt overlays are asphalt pavement laid to a thickness of 10mm up to 40mm. They serve as preservation treatment to provide a high quality surface wearing course up to providing structural capacity. Typically this treatment is used on roads with minor surface imperfections and signs of raveling or weathering or the road requires additional structural capacity.

Resurfacing – Resurfacing uses a milling machine to remove a layer of existing deteriorated pavement surface as well as to restore the roadway profile prior to adding a new asphalt layer. This treatment replaces the deteriorated pavement surface and restores the road profile.

Reconstruction - Reconstruction is used when the entire section or localized sections of roadway have structurally failed or the asphalt pavement has deteriorated and is unable to support its intended loads. Reconstruction may involve the partial or complete removal and replacement of the asphalt, base and subbase and may involve the removal and/or strengthening of a portion of the subgrade Reconstruction treatments are categorized either as a “Reconstruction – Light” or “Reconstruction – Heavy”.

Water/Sewer Coordinated Road Works - Water and Sewer Road Restoration is used to restore the roadway outside the limits of the water/sewer work.

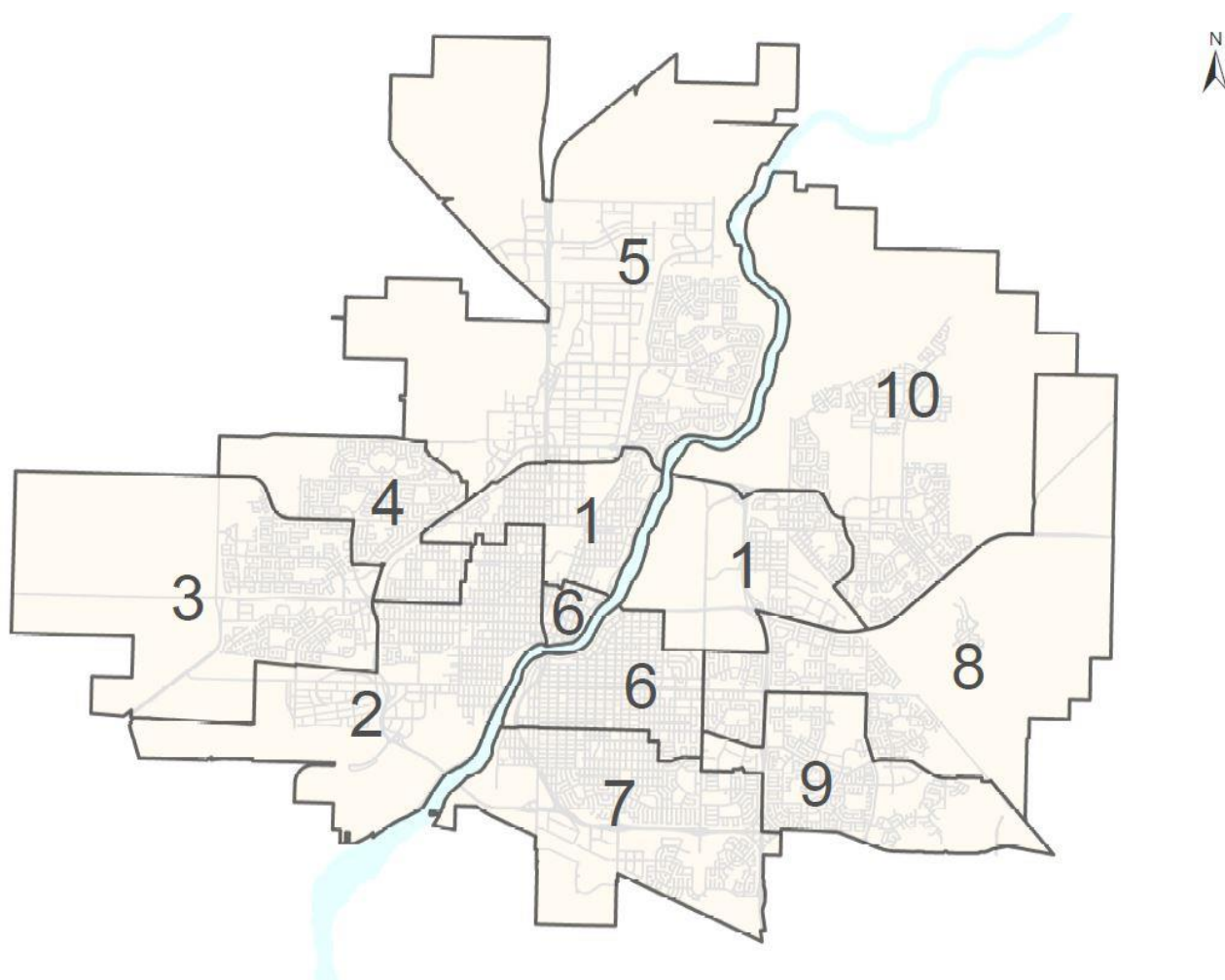
Sidewalk Trip Ledge Cutting - Trip ledge cutting uses a circular concrete saw or handheld grinder with diamond blade to remove concrete displacements (trip ledges) due to frost heaves or differential settlement. This method of removing trip hazards is a long term solution with cuts being smooth and at consistent specified slopes.

Sidewalk Crack Filling - Crack filling treatment is used to seal cracks resulting from expansion and contraction during the concrete curing process, temperature, or damage caused by other forces. Crack filling prevents moisture infiltration that may cause future deterioration of the sidewalk.

Sidewalk MG-Krete Surfacing - MG-Krete Surfacing is used on medium scaled sidewalk panels that have no cracks or distortions. MG-Krete is a two component, non-cementitious, high strength surfacing product.

Sidewalk Panel and/or Curb Replacement - Panel and/or curb replacement is the last option for sidewalk repair in order to ensure safe pedestrian traffic. If other treatment options are not achievable due to damage extent, safety, logistics, costs, or aesthetics, a sidewalk panel is to be replaced.

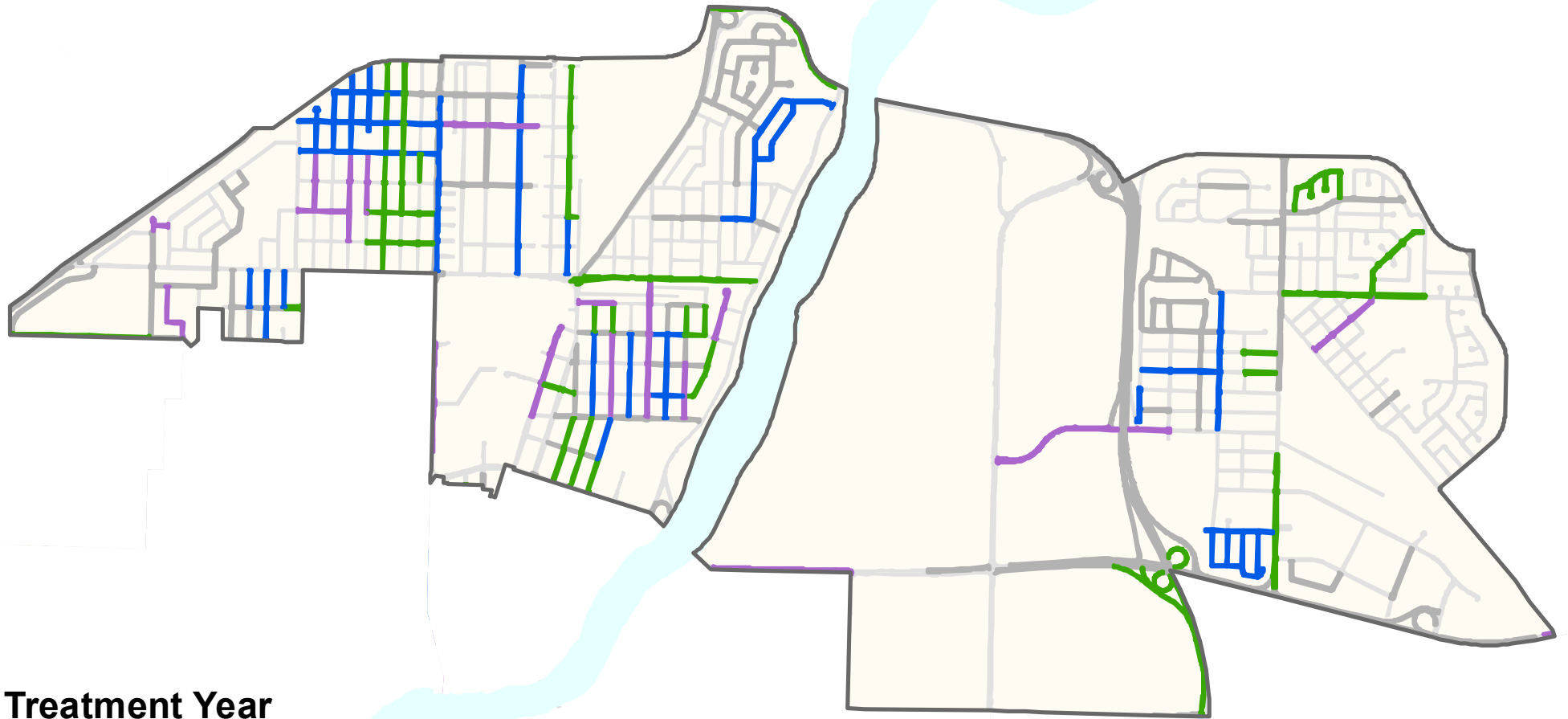
2018-2020 Projected Roadway & Sidewalk Preservation Project Locations



**BUILDING
BETTER
ROADS**
SASKATOON'S ROAD PLAN


City of
Saskatoon

2018-2020 Projected Roadway Preservation Ward 1



Treatment Year

- 2018
- 2019
- 2020
- 2014-2017

2018 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
2nd Ave N	33rd St E	35th St E	Local	W&S Restoration	Reconstruction	0.9
4th Ave N	Queen St	Duke St	Local	W&S Restoration	Reconstruction	1.1
5th Ave N	26th St E	Queen St	Collector	W&S Restoration	Resurface	0.6
6th Ave N	Queen St	Duke St	Local	W&S Restoration	Reconstruction	1.2
8th Ave N	Queen St	Duke St	Local	W&S Restoration	Reconstruction	1.2
37th St W	Ave I N	Idylwyld Dr N	Local	Road Preservation	Microsurface	2.0
38th St W	Ave I N	Idylwyld Dr N	Collector	Road Preservation	Microsurface	2.6
39th St W	Ave G N	Ave C N	Local	Road Preservation	Microsurface	1.4
102nd St W	Egbert Ave	O Neil Cres	Local	Road Preservation	SUTO	0.4
104th St W	Lane N/S West of Egbert Ave	Central Ave	Collector	Road Preservation	SUTO	1.2
111th St W	Lanyon Ave	Egbert Ave	Local	Road Preservation	Microsurface	1.5
Ave E N	E/W Lane South of 28th St W	End of Cul-De-Sac	Local	Road Preservation	Microsurface	1.0
Ave F N	37th St W	End of Cul-De-Sac	Local	Road Preservation	Microsurface	1.2
Ave G N	37th St W	39th St W	Local	Road Preservation	Microsurface	1.0
Ave H N	37th St W	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.7
Ave I N	32nd St W	33rd St W	Local	Road Preservation	Microsurface	0.5
Ave J N	31st St W	33rd St W	Local	Road Preservation	Microsurface	0.9
Ave K N	32nd St W	33rd St W	Local	Road Preservation	Microsurface	0.5
Balmoral St	Edward Ave	Prince of Wales Ave	Collector	Road Preservation	Microsurface	0.6
Duke St	7th Ave N	9th Ave N	Local	W&S Restoration	Reconstruction	0.5
Egbert Ave	102nd St W	104th St W	Local	Road Preservation	SUTO	0.5
Egbert Ave	108th St W	115th St W	Collector	Road Preservation	Resurface	2.6
Empire Ave	Prince of Wales Ave	Prince of Wales Ave	Local	Road Preservation	Microsurface	1.3
Gardiner Ave	102nd St W	104th St W	Local	Road Preservation	SUTO	0.5
King St	7th Ave N	9th Ave N	Local	W&S Restoration	Reconstruction	0.4
Lanyon Ave	108th St W / Circle Dr NE Ramp NB	110th St W	Local	Road Preservation	Reconstruction	0.7
O Neil Cres	102nd St W	102nd St W	Local	Road Preservation	SUTO	1.6
Prince of Wales Ave	Balmoral St	Empire Ave	Collector	Road Preservation	Microsurface	2.1
Prince of Wales Ave	Empire Ave	Spadina Cres E	Collector	Road Preservation	Resurface	1.1
Quebec Ave	33rd St E	40th St E	Major Arterial	Road Preservation	Resurface	4.3
2018 Totals						36.1

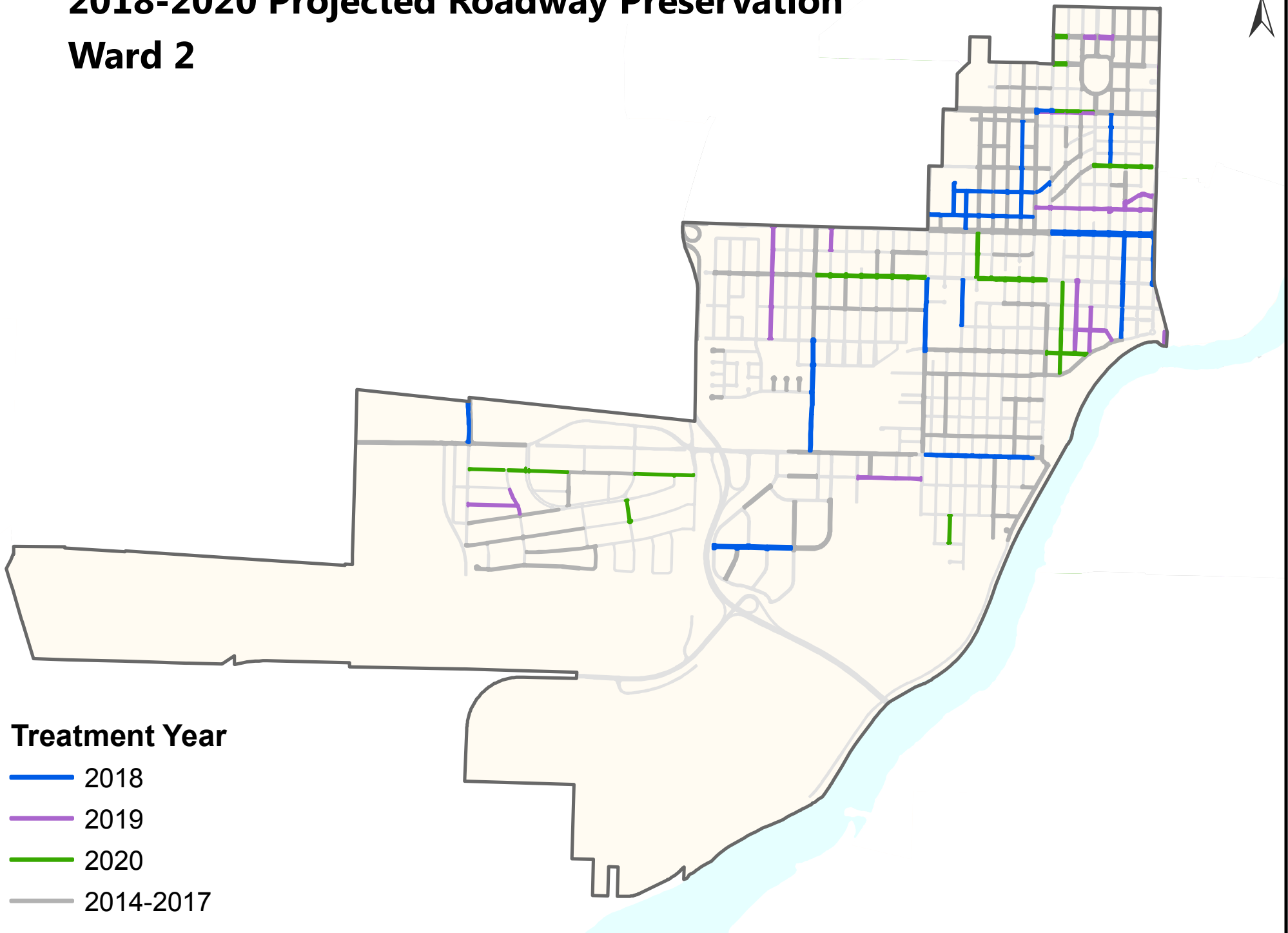
2019 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
108th St W	Preston Ave N	Bryans Ave	Major Arterial	Road Preservation	Resurface	3.6
1st Ave N	Queen St	Duke St	Local	Road Preservation	Resurface	2.2
35th St W	Ave I N	Ave F N	Local	Road Preservation	Microsurface	0.7
38th St E	Idylwyld Dr N	Rail East of Quebec Ave	Local	Road Preservation	Resurface	1.9
5th Ave N	Queen St	Duke St	Local	W&S Restoration	Reconstruction	1.1
7th Ave N	Queen St	33rd St E	Collector	W&S Restoration	Resurface	2.8
9th Ave N	Queen St	Princess St	Local	W&S Restoration	Reconstruction	0.8
Ave E N	35th St W	37th St W	Local	Road Preservation	Microsurface	0.8
Ave F N	34th St W	37th St W	Local	Road Preservation	Microsurface	1.2
Ave H N	35th St W	37th St W	Local	Road Preservation	Microsurface	0.8
Ave P N	Edmonton Ave	End of Cul-De-Sac	Local	Road Preservation	Resurface	0.3
Bowerman St	Ave P N	Howell Ave	Local	Road Preservation	Reconstruction	0.2
College Dr EB & WB	Clarence Ave N	Cumberland Ave N	Major Arterial	Road Preservation	Microsurface	5.3
Duchess St	3rd Ave N / Warman Rd	5th Ave N	Collector	W&S Restoration	Reconstruction	0.5
Dunlop St	Gray Ave	115th St E	Collector	Road Preservation	Resurface	1.5
Idylwyld Dr N NB	25th St	31st St	Major Arterial	Road Preservation	Resurface - Heavy	1.4
King Cres	Duke St	End of Cul-De-Sac	Local	W&S Restoration	Reconstruction	0.9
Tiffin Cres	31st St W	Faulkner Cres	Local	Road Preservation	Reconstruction	0.9
2019 Totals						26.9

2020 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
2nd Ave N	35th St E	40th St E	Local	W&S Restoration	Microsurface	2.2
3rd Ave N	25th St E	Queen St	Collector	W&S Restoration	Resurface - Heavy	1.2
4th Ave N	25th St E WB	Queen St	Local	W&S Restoration	Resurface	1.0
4th Ave N	Duke St	Duchess St	Local	Road Preservation	Resurface	0.4
5th Ave N	25th St E WB	26th St E	Local	W&S Restoration	Resurface	0.5
5th Ave N	Duke St	Duchess St	Local	Road Preservation	Resurface	0.4
9th Ave N	Duke St	Duchess St	Local	W&S Restoration	Resurface	0.4
10th Ave N	Duke St	Duchess St	Local	W&S Restoration	Resurface	0.4
31st St W	Ave W N	Ave P N	Collector	Road Preservation	Microsurface	2.9
32nd St W EB & WB	Ave I N	Ave G N	Local	Road Preservation	Reconstruction	0.8
33rd St E (Frontage)	33rd St E WB	33rd St E WB	Local	Road Preservation	Resurface	0.1
33rd St E	5th Ave N	Spadina Cres E	Minor Arterial	Road Preservation	Resurface	2.8
33rd St E EB & WB	3rd Ave N / Warman Rd	5th Ave N	Minor Arterial	Road Preservation	Resurface	1.1
34th St W	Ave E N	Idylwyld Dr N	Local	Road Preservation	Microsurface	0.9
35th St E	2nd Ave N	Lane N/S East of 2nd Ave N	Local	Road Preservation	Microsurface	0.1
35th St W	Ave E N	Idylwyld Dr N	Local	Road Preservation	Microsurface	0.9
111th St W	Violet Ave	Central Ave	Local	Road Preservation	Resurface	0.7
112th St W	Violet Ave	Central Ave	Local	Road Preservation	Resurface	0.6
115th St E	Central Ave	Forest Dr	Collector	Road Preservation	Resurface	3.4
Ave B N	36th St W	37th St W	Local	Road Preservation	Microsurface	0.4
Ave C N	35th St W	38th St W	Local	Road Preservation	Microsurface	1.2
Ave C N	38th St W	41st St W	Collector	W&S Restoration	Resurface	1.7
Ave D N	33rd St W	End of Cul-de-Sac	Local	Road Preservation	Microsurface	3.0
Central Ave	College Dr	107th St W	Major Arterial	Road Preservation	Resurface	3.1
Delayen Cres, Crt, Pl	Rossmo Rd	Rossmo Rd	Local	Road Preservation	UTO	2.3
Duchess St	3rd Ave N	5th Ave N	Collector	W&S Restoration	Reconstruction	0.5
Duke St	9th Ave N	10th Ave N	Local	W&S Restoration	Resurface	0.3
King Cres	9th Ave N	Duke St	Local	Road Preservation	Microsurface	1.0
King St	1st Ave N	3rd Ave N	Local	Road Preservation	Resurface	0.5
Spruce Dr	115th St E	Forest Dr / Rossmo Rd	Local	Road Preservation	Resurface	1.9
2020 Totals						36.7

	Lane-Km
2018	36.1
2019	26.9
2020	36.7
2018-2020 Totals	99.7

2018-2020 Projected Roadway Preservation

Ward 2



2018 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
11th St W	Ave P S	Ave H S / Spadina Cres W	Minor Arterial	W&S Restoration	Resurface	3.0
22nd St W EB	Ave H N / Ave H S	Idylwyld Dr N / Idylwyld Dr S	Major Arterial	Road Preservation	Microsurface	2.4
22nd St W WB	Idylwyld Dr N / Idylwyld Dr S	Ave H N / Ave H S	Major Arterial	Road Preservation	Microsurface	2.4
23rd St W	Ave P N	Ave I N	Local	W&S Restoration	Resurface	2.1
29th St W WB	Ave H N	Ave I N	Collector	W&S Restoration	Resurface	0.3
Ave C S	19th St W	22nd St W	Local	W&S Restoration	Resurface	1.8
Ave C S	Spadina Cres W	19th St W	Collector	W&S Restoration	Resurface	0.7
Ave D N	25th St W	29th St W	Local	Road Preservation	Microsurface	0.8
Ave J N	23rd St W	28th St W	Local	W&S Restoration	Reconstruction	1.6
Ave N N	22nd St W WB	Bedford Rd	Local	Road Preservation	Microsurface	0.7
Ave N S	18th St W	20th St W	Local	Road Preservation	Resurface - Heavy	1.1
Ave P S	17th St W	20th St W	Minor Arterial	W&S Restoration	Resurface - Heavy	1.9
Ave W S	11th St W	18th St W	Minor Arterial	Road Preservation	Resurface	3.2
Bedford Rd	Ave J N	Ave H N	Local	Road Preservation	Reconstruction	0.5
Bedford Rd	McMillan Ave	Ave J N	Local	Road Preservation	Microsurface	1.2
Fairlight Dr SB	Intersection N of Tracks	11th St W	Minor Arterial	Road Preservation	Resurface	0.9
Fletcher Rd EB	Malouf Rd / Dudley St	Malouf Rd / Buckle Ave	Collector	Road Preservation	Resurface	1.4
Fletcher Rd WB	Dudley St / Malouf Rd	Buckle Ave / Malouf Rd	Collector	Road Preservation	Resurface	1.4
McMillan Ave	23rd St W	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.8
2018 Totals						28.2

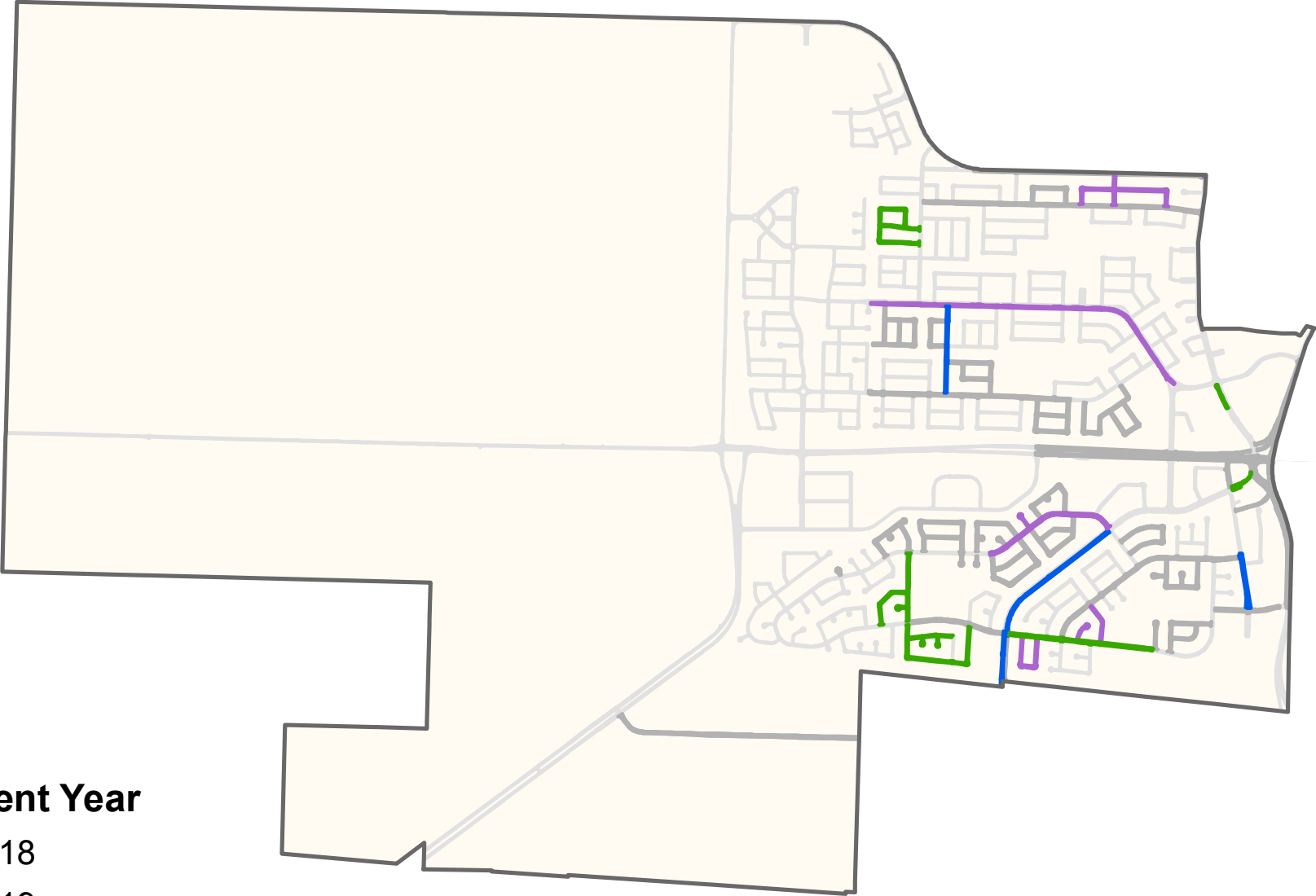
2019 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
18th St W	Ave F S	Ave D S	Local	W&S Restoration	Reconstruction	0.7
23rd St W	Ave I N	Idylwyld Dr N	Local	Road Preservation	Resurface	2.4
29th St W EB	Ave I N	Ave E N	Collector	Road Preservation	Microsurface	0.8
32nd St W EB	Ave F N	Ave D N	Local	Road Preservation	Microsurface	0.4
32nd St W WB	Ave D N	Ave F N	Local	Road Preservation	Microsurface	0.4
Ave C N	23rd St W	Jamieson St	Local	Road Preservation	Resurface	0.2
Ave D S	Spadina Cres W	18th St W	Local	W&S Restoration	Reconstruction	0.2
Ave E S	17th St W / Spadina Cres W	19th St W	Local	W&S Restoration	Reconstruction	0.8
Ave F S	17th St W	20th St W	Local	W&S Restoration	Reconstruction	1.9
Ave V S	21st St W	22nd St W EB	Local	Road Preservation	Resurface	0.4
Dudley St	Ave U S	Ave P S	Local	Road Preservation	Structural Overlay	1.3
Haida Ave	Ortona St	Arnhem St	Local	Road Preservation	Reconstruction	0.4
Jamieson St	Ave B N	Idylwyld Dr N	Collector	Road Preservation	Resurface	0.3
Normandy St	Elevator Rd	Haida Ave	Local	Road Preservation	Reconstruction	0.7
Witney Ave S	18th St W	22nd St W	Collector	Road Preservation	Resurface	2.6
2019 Totals						13.5

2020 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
17th St W	Ave H S	Ave E S	Collector	Road Preservation	Resurface	0.9
20th St W	Ave M S	Ave H S	Minor Arterial	Road Preservation	Resurface	2.4
20th St W	Ave W S	Ave P S	Minor Arterial	Road Preservation	Resurface	3.4
25th St W	Ave E N	Idylwyld Dr N	Collector	W&S Restoration	Reconstruction	1.4
29th St W WB	Ave E N	Ave H N	Collector	Road Preservation	Resurface - Heavy	0.6
31st St W EB	Ave H N	Ave G N	Local	Road Preservation	Reconstruction	0.2
31st St W WB	Ave G N	Ave H N	Local	Road Preservation	Reconstruction	0.2
Ave G S	16th St W / Spadina Cres W	20th St W	Local	W&S Restoration	Reconstruction	1.6
Ave M S	20th St W	22nd St W	Local	W&S Restoration	Resurface	1.0
Ave N S	Wellington St	Schulyer St	Local	Road Preservation	Reconstruction	0.5
Caen St	Elevator Rd	Rockingham Ave	Collector	Road Preservation	Reconstruction	1.3
Caen St	Lancaster Blvd	Dundonald Ave	Collector	Road Preservation	Reconstruction	0.7
Lancaster Blvd	Dieppe St	Ortona St	Collector	Road Preservation	Reconstruction	0.3
2020 Totals						14.5

Lane-Km	
2018	28.2
2019	13.5
2020	14.5
2018-2020 Totals	56.2

2018-2020 Projected Roadway Preservation

Ward 3



Treatment Year

- 2018
- 2019
- 2020
- 2014-2017

2018 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Fairlight Dr EB	McCormack Rd / Pendygrasse Rd	McCormack Rd / Olmstead Rd	Minor Arterial	Road Preservation	Resurface	2.5
Fairlight Dr SB	McCormack Rd / Pendygrasse Rd	Intersection N of Tracks	Minor Arterial	Road Preservation	Resurface	0.9
Fairmont Dr	Clancy Dr	Forrester Rd	Collector	Road Preservation	Resurface	1.4
Lisgar Ave	Centennial Dr	Diefenbaker Dr	Collector	Road Preservation	Microsurface	1.8
2018 Totals						6.6

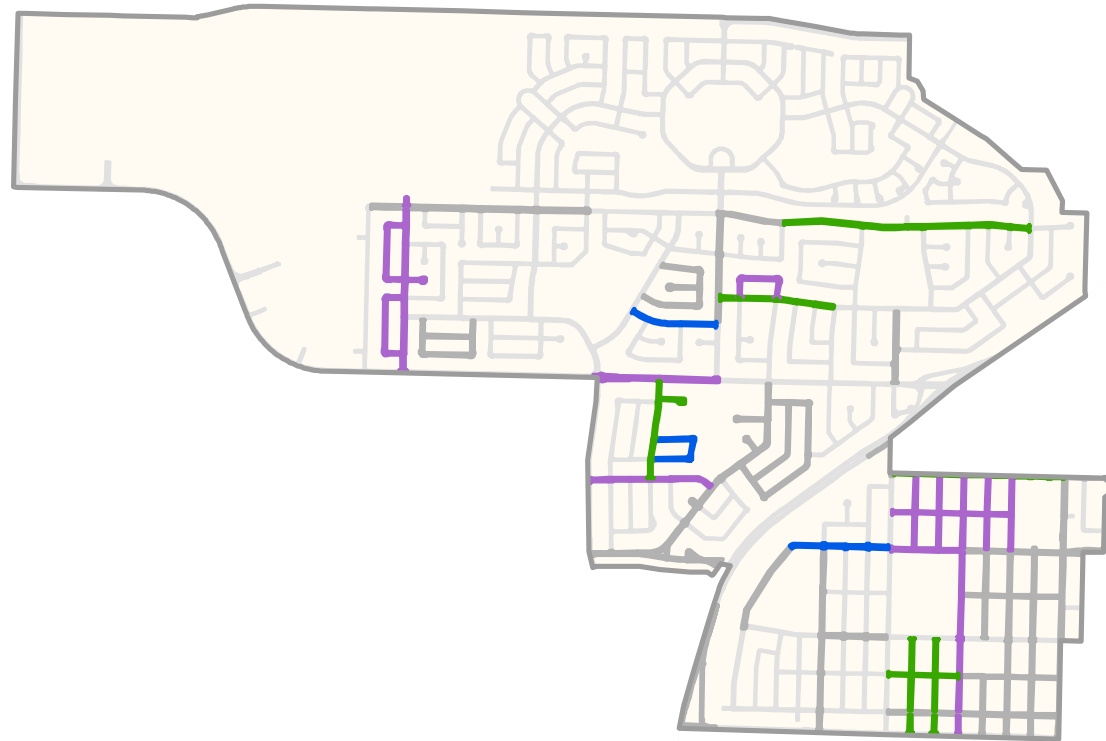
2019 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Blue Pl	McCormack Rd	End of Cul-De-Sac	Local	Road Preservation	UTO	0.3
Cartier Cres	John A MacDonald Rd	John A MacDonald Rd	Local	Road Preservation	Microsurface	2.0
Diefenbaker Dr EB	Diefenbaker Terr	Steeves Ave	Collector	Road Preservation	Microsurface	0.8
Diefenbaker Dr EB	Steeves Ave	Diefenbaker Dr / Laurier Dr	Minor Arterial	Road Preservation	Microsurface	5.3
Diggle Pl	Pendygrasse Rd	End of Cul-De-Sac	Local	Road Preservation	UTO	0.4
Lochrie Cres	Pendygrasse Rd	Pendygrasse Rd	Local	Road Preservation	UTO	1.3
McCormack Rd	Postnikoff Cres	Fairlight Dr	Collector	Road Preservation	Resurface	1.1
McCormack Rd	Streb Cres	Postnikoff Cres	Collector	Road Preservation	UTO	2.0
Peeling Ave	Pendygrasse Rd	Forrester Rd	Local	Road Preservation	UTO	0.7
Tilley Ave	John A MacDonald Rd	33rd St W	Local	Road Preservation	Microsurface	0.6
2019 Totals						14.5

2020 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Carter Cres	Steeves Ave	Steeves Ave	Local	Road Preservation	Microsurface	1.5
Carter Way	Carter Cres	Carter Cres	Local	Road Preservation	Microsurface	0.9
Confederation Dr SB	Laurier Dr	Mall Entrance	Major Arterial	Road Preservation	Resurface	0.4
Fairlight Dr EB	Fairmont Dr	Fairmont Dr	Major Arterial	Road Preservation	Resurface	0.2
Fairlight Dr WB	Circle Dr / 22nd St W SW Ramp	Fairmont Dr	Major Arterial	Road Preservation	Resurface	0.4
Pendygrasse Rd	Fairlight Dr	Henigman Pl	Collector	Road Preservation	Resurface	3.4
Sherry Cres	McCormack Rd	McCormack Rd	Local	Road Preservation	Microsurface	2.3
Sherry Crt	End of Cul-De-Sac	Sherry Way	Local	Road Preservation	Reconstruction	0.2
Sherry Pl	End of Cul-De-Sac	Sherry Way	Local	Road Preservation	Microsurface	0.2
Sherry Way	Sherry Cres	Sherry Cres	Local	Road Preservation	Microsurface	0.7
Smith Cres	McCormack Rd	Smith Rd	Local	Road Preservation	Microsurface	0.9
Smith Pl	End of Cul-De-Sac	Smith Rd	Local	Road Preservation	Microsurface	0.2
Smith Rd	McCormack Rd	McCormack Rd	Collector	Road Preservation	Microsurface	1.2
2020 Totals						12.5

	Lane-Km
2018	6.6
2019	14.5
2020	12.5
2018-2020 Totals	33.6

2018-2020 Projected Roadway Preservation

Ward 4



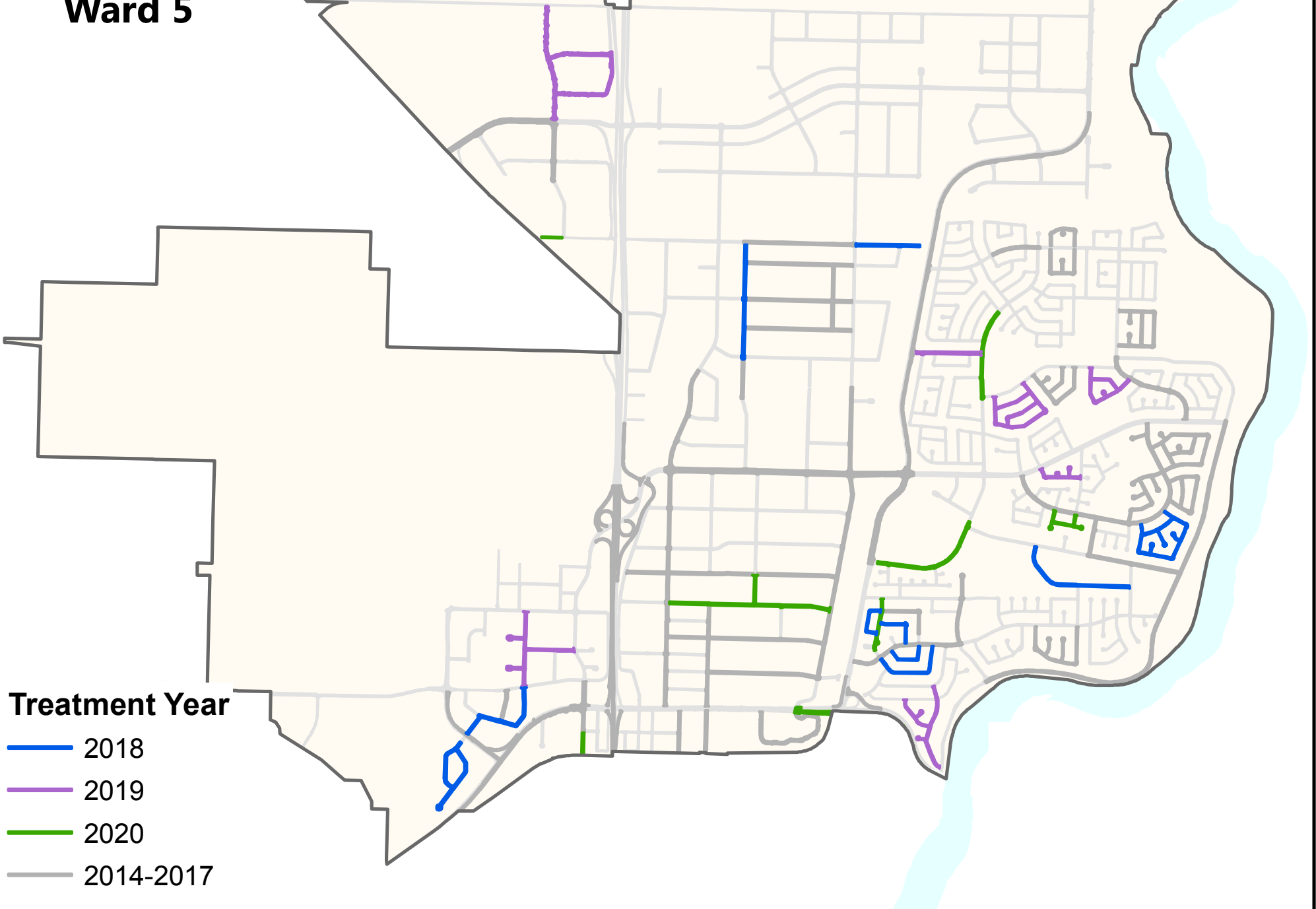
Treatment Year

- 2018
- 2019
- 2020
- 2014-2017

2018 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
29th St W	Vancouver Ave N	Ave W N	Collector	Road Preservation	Resurface	1.9
Makaroff Rd	George Rd	Junor Ave	Local	Road Preservation	Microsurface	1.3
Maxwell Cres	Matheson Dr	Matheson Dr	Local	Road Preservation	UTO	1.4
2018 Totals						4.6
2019 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
29th St W	Ave W N	Ave T N	Collector	Road Preservation	Resurface	1.1
30th St W	Ave W N	Ave R N	Local	Road Preservation	Reconstruction	1.4
33rd St W	Confederation Dr / Wedge Rd	Junor Ave	Major Arterial	Road Preservation	Resurface	3.0
Ave R N	29th St W	31st St W	Local	Road Preservation	Microsurface	1.1
Ave S N	29th St W	31st St W	Local	Road Preservation	Microsurface	1.0
Ave T N	22nd St W	31st St W	Local	Road Preservation	Microsurface	3.7
Ave U N	29th St W	30th St W	Local	Road Preservation	Microsurface	0.5
Ave U N	30th St W	31st St W	Local	W&S Restoration	Reconstruction	0.6
Ave V N	29th St W	31st St W	Local	Road Preservation	Microsurface	1.0
Latrace Rd	33rd St W	37th St W	Collector	Road Preservation	Microsurface	3.1
Latrace Rd	37th St W	Dead End	Collector	Road Preservation	Microsurface	0.1
Lennon Cres	Latrace Rd	Latrace Rd	Local	Road Preservation	UTO	1.3
Lewis Cres	Richardson Rd	Richardson Rd	Local	Road Preservation	SUTO	1.0
Massey Dr	Confederation Dr	Northumberland Ave	Collector	Road Preservation	Microsurface	1.9
Murray Pl	Latrace Rd	End	Local	Road Preservation	Microsurface	0.3
Robinson Cres	Latrace Rd	Latrace Rd	Local	Road Preservation	UTO	1.3
2019 Totals						22.4
2020 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
37th St W	Peterson Cres	Richardson Rd	Collector	Road Preservation	Resurface	4.2
Ave U N	22nd St W WB	Rusholme Rd	Local	Road Preservation	Microsurface	1.4
Ave V N	22nd St W WB	Rusholme Rd	Local	Road Preservation	Microsurface	1.4
Bedford Rd	Ave W N	Ave T N	Local	Road Preservation	Microsurface	0.7
Matheson Dr	Macklem Dr	33rd St W	Local	Road Preservation	Microsurface	2.9
Matheson Pl	Matheson Dr	End	Local	Road Preservation	Microsurface	0.4
Richardson Rd	Junor Ave	Ave Y N	Collector	Road Preservation	Microsurface	2.0
2020 Totals						13.0
						Lane-Km
2018						4.6
2019						22.4
2020						13.0
2017-2019 Totals						40.0

2018-2020 Projected Roadway Preservation

Ward 5



2018 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
60th St E	Millar Ave	Dead End	Local	Road Preservation	Resurface	1.8
Albany Cres	St Lawrence Cres	St Lawrence Cres	Local	Road Preservation	Microsurface	0.9
Athabasca Cres	Assiniboine Dr	Assiniboine Dr	Local	Road Preservation	Microsurface	0.9
Cardinal Cres	Airport Dr SB	Cardinal Cres	Local	Road Preservation	Resurface	2.9
Cardinal Pl	End of Cul-De-Sac	Cardinal Cres	Local	Road Preservation	Resurface	0.8
Kootenay Dr	St Lawrence Cres	Assiniboine Dr	Local	Road Preservation	Reconstruction	1.0
La Ronge Rd	Nahanni Dr	Saguenay Dr	Collector	Road Preservation	Microsurface	1.2
La Ronge Rd	Pinehouse Dr	Nahanni Dr	Collector	Road Preservation	Resurface	1.8
Miners Ave	56th St E	60th St E	Collector	Road Preservation	Resurface	3.3
Robin Cres	Airport Dr	Cynthia St	Local	Road Preservation	Reconstruction	2.8
St Lawrence Cres	Assiniboine Dr	Assiniboine Dr	Local	Road Preservation	Microsurface	1.7
Tobin Cres	Redberry Rd	Redberry Rd	Local	Road Preservation	UTO	2.8
Tobin Crt	End of Cul-De-Sac	Tobin Cres	Local	Road Preservation	UTO	0.3
Tobin Pl	Tobin Cres	End of Cul-De-Sac	Local	Road Preservation	UTO	0.2
Tobin Terr	End of Cul-De-Sac	Tobin Way	Local	Road Preservation	UTO	0.4
Tobin Way	Tobin Cres	Tobin Cres	Local	Road Preservation	UTO	0.7
2018 Totals						23.5

2019 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
David Knight Cres	Meilicke Rd	Meilicke Rd	Local	Road Preservation	Microsurface	2.6
David Knight Lane	David Knight Cres	David Knight Cres	Local	Road Preservation	Microsurface	0.8
David Knight Way	David Knight Cres	David Knight Cres	Local	Road Preservation	Microsurface	0.9
Goerzen St	Wanuskewin Rd	Russell Rd	Collector	Road Preservation	UTO	2.0
Hanselman Ave	Cynthia St	45th St W	Collector	Road Preservation	Microsurface	1.9
Hanselman Crt	End of Cul-De-Sac	Hanselman Ave	Local	Road Preservation	Microsurface	0.5
Hanselman Pl	End of Cul-De-Sac	Hanselman Ave	Local	Road Preservation	Microsurface	0.5
Haskamp St	Hanselman Ave	Ave C N	Local	Road Preservation	Microsurface	1.2
JJ Thiessen Cres	Meilicke Rd	Silverwood Rd	Local	Road Preservation	Microsurface	1.7
JJ Thiessen Terr	JJ Thiessen Cres	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.2
JJ Thiessen Way	JJ Thiessen Cres	JJ Thiessen Cres	Local	Road Preservation	Microsurface	0.6
Neepawa St	Thatcher Ave	Wakooma St	Local	Road Preservation	Microsurface	1.8
Nokomis Bay	Nokomis Cres	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.1
Nokomis Cres	Lenore Dr	La Loche Rd	Local	Road Preservation	Microsurface	1.0
Nokomis Pl	Nokomis Cres	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.2
Pembina Ave	Columbia Dr	Red River Rd	Local	Road Preservation	Reconstruction	0.2
Pembina Ave	Spadina Cres E	Columbia Dr	Local	Road Preservation	Resurface	1.9
Pembina Pl	End	Pembina Ave	Local	Road Preservation	Microsurface	0.3
Red Deer Rd	Pembina Ave	Columbia Dr	Local	Road Preservation	Microsurface	0.8
Souris Crt	Red Deer Rd	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.2
Thatcher Ave	Marquis Dr W	71st St W	Collector	Road Preservation	Resurface	3.6
Wakooma St	Thatcher Ave	Neepawa St	Local	Road Preservation	Microsurface	2.4
2019 Totals						25.4

2020 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
46th St E	Faithfull Ave	Millar Ave	Collector	Road Preservation	Resurface	4.4
60th St W	Dead End	Thatcher Ave	Local	Road Preservation	Reconstruction	0.3
Primrose Dr	Warman Rd	Cree Cres	Minor Arterial	Road Preservation	Resurface	3.2
Russell Rd	Meilicke Rd	Wakabayashi Cres	Collector	Road Preservation	Microsurface	2.6
St Lawrence Cres	St Lawrence Crt	Churchill Dr	Local	Road Preservation	Resurface	1.5
Turtle Cres	Redberry Rd	Redberry Rd	Local	Road Preservation	UTO	1.0
Turtle Crt	End	Turtle Cres	Local	Road Preservation	UTO	0.2
Turtle Pl	Turtle Cres	End of Cul-De-Sac	Local	Road Preservation	UTO	0.2
Wentz Ave	46th St E	47th St E	Collector	Road Preservation	Resurface	0.8
2020 Totals						14.2

	Lane-Km
2018	23.5
2019	25.4
2020	14.2
2017-2019 Totals	63.1

2018-2020 Projected Roadway Preservation Ward 6



Treatment Year

- 2018
- 2019
- 2020
- 2014-2017

2018 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
10th St E	Dufferin Ave	Albert Ave	Local	Road Preservation	Microsurface	0.8
11th St E	Victoria Ave	Eastlake Ave	Collector	Road Preservation	Microsurface	0.4
13th St E	Clarence Ave S	Wiggins Ave S	Local	Road Preservation	Microsurface	1.2
14th St E	Clarence Ave S	Wiggins Ave S	Local	Road Preservation	Microsurface	1.7
1st St E	Cumberland Ave S	Sommerfeld Ave	Local	Road Preservation	Reconstruction	1.7
20th St E	1st Ave S	4th Ave S	Collector	W&S Restoration	Resurface	1.8
20th St E EB	Idylwyld Dr S NB	1st Ave S	Minor Arterial	W&S Restoration	Resurface	0.6
20th St E WB	1st Ave S	Idylwyld Dr S NB	Minor Arterial	W&S Restoration	Resurface	0.6
22nd St E	5th Ave N	Spadina Cres E	Local	Road Preservation	Resurface	0.2
23rd St E	4th Ave N	Spadina Cres E	Collector	Road Preservation	Resurface	1.2
5th Ave N	22nd St E	23rd St E	Local	Road Preservation	Resurface	0.6
5th St E	Clarence Ave S	Munroe Ave S	Local	Road Preservation	Reconstruction	0.9
9th St E	Broadway Ave	Clarence Ave S	Local	Road Preservation	Microsurface	1.5
9th St E	Clarence Ave S	Wiggins Ave S	Local	Road Preservation	Microsurface	1.3
Dufferin Ave	Taylor St E	8th St E	Local	Road Preservation	Microsurface	4.3
Eastlake Ave NB	9th St E	10th St E	Local	Road Preservation	Resurface	0.4
Eastlake Ave SB	10th St E	9th St E	Local	Road Preservation	Resurface	0.4
Idylwyld Dr S NB	20th St W	22nd St W	Major Arterial	Road Preservation	Resurface	1.2
Idylwyld Dr S SB	22nd St W	20th St W	Major Arterial	Road Preservation	Resurface	1.2
Louise Ave	Taylor St E	3rd St E	Collector	Road Preservation	Resurface	1.0
Main St EB	Cumberland Ave S	Preston Ave S	Collector	Road Preservation	Resurface	1.6
Main St WB	Preston Ave S	Cumberland Ave S	Collector	Road Preservation	Resurface - Heavy	1.5
McKinnon Ave S	8th St E WB	Main St	Local	Road Preservation	Microsurface	0.5
Munroe Ave S	8th St E WB	Main St	Local	Road Preservation	Microsurface	0.4
Wall St	23rd St E	24th St E	Local	Road Preservation	Reconstruction	0.3
Wiggins Ave S	McLorg St	Taylor St E	Local	Road Preservation	Microsurface	3.7
2018 Totals						31.0

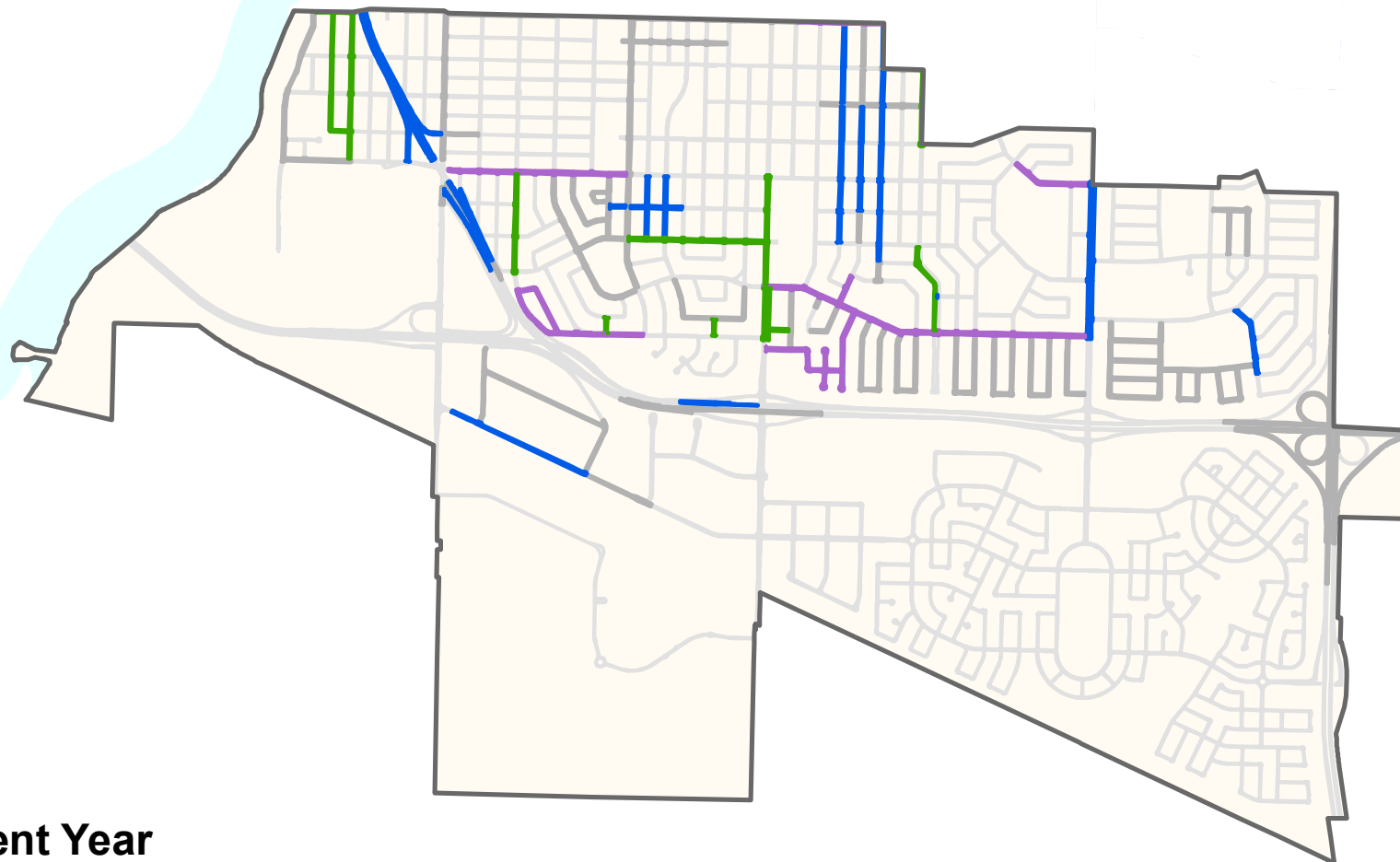
2019 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
10th St E	Munroe Ave S	Cumberland Ave S	Local	Road Preservation	Microsurface	1.4
11th St E	Munroe Ave S	Cumberland Ave S	Local	Road Preservation	Microsurface	1.4
12th St E	Wiggins Ave S	Cumberland Ave S	Collector	Road Preservation	Microsurface	1.0
1st Ave N	24th St E	25th St E	Major Arterial	Road Preservation	Resurface	0.9
2nd St E	Clarence Ave S	Munroe Ave S	Local	Road Preservation	Reconstruction	1.1
3rd St E	Cumberland Ave S	Louise Ave	Local	Road Preservation	Microsurface	1.0
5th St E	Cumberland Ave S	Louise Ave	Local	Road Preservation	Microsurface	0.7
Clarence Ave S	8th St E	12th St E	Major Arterial	Road Preservation	Resurface	2.0
Ewart Ave	Main St	12th St E	Local	Road Preservation	Microsurface	0.8
Jackson Ave	Taylor St E	5th St E	Local	Road Preservation	Microsurface	1.4
Munroe Ave S	Main St	12th St E	Local	Road Preservation	Microsurface	0.8
Park Ave	Taylor St E	5th St E	Local	Road Preservation	Microsurface	1.1
Preston Ave S NB	Louise Ave / Louise St	Armistice Way	Major Arterial	Road Preservation	Resurface	0.9
Taylor St E	McKinnon Ave S	Cumberland Ave S	Minor Arterial	Road Preservation	Resurface	2.3
Victoria Ave NB	Taylor St E	8th St E	Collector	Road Preservation	Resurface	1.6
Victoria Ave SB	8th St E	Taylor St E	Collector	Road Preservation	Resurface	1.6
2019 Totals						20.0

2020 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
11th St E	End	McPherson Ave	Local	W&S Restoration	Reconstruction	0.2
12th St E	Dufferin Ave	McKinnon Ave S	Collector	W&S Restoration	Resurface	2.5
12th St E	Eastlake Ave	Broadway Ave	Local	W&S Restoration	Resurface	0.7
1st St E	Sommerfeld Ave	Grosvenor Ave	Local	Road Preservation	Microsurface	0.3
3rd St E	Louise Ave	Preston Ave S	Local	Road Preservation	Microsurface	1.8
5th Ave N	23rd St E	25th St E	Local	Road Preservation	Resurface	1.0
5th St E	Louise Ave	Grosvenor Ave	Local	Road Preservation	Microsurface	1.0
Colony St	Wiggins Ave S	Cumberland Ave S	Local	Road Preservation	Reconstruction	0.7
Copland Cres	Copland Crt	Copland Crt	Local	Road Preservation	Microsurface	1.5
Copland Crt	End	Copland Cres	Local	Road Preservation	Microsurface	0.7
Cumberland Ave S	Adelaide St E	5th St E	Minor Arterial	Road Preservation	Resurface	3.9
Garrison Cres	Main St	Cumberland Ave S	Collector	Road Preservation	Resurface	2.7
Grosvenor Ave	Taylor St E	5th St E / Shannon Cres	Local	Road Preservation	Microsurface	1.6
Grosvenor Cres	Taylor St E	Taylor St E	Local	Road Preservation	Microsurface	1.6
Isbister St	Garrison Cres	Bate Cres	Local	Road Preservation	Microsurface	0.6
Lake Cres	Leslie Ave	Main St WB	Local	Road Preservation	Microsurface	2.7
Leslie Ave	Copland Cres	14th St E	Local	Road Preservation	Microsurface	1.1
Louise Ave	3rd St E	8th St E	Collector	Road Preservation	Microsurface	1.6
Main St EB	Dead End	Victoria Ave	Local	W&S Restoration	Resurface	0.9
Main St WB	Victoria Ave	Dead End	Local	W&S Restoration	Reconstruction	0.9
McPherson Ave	Main St	Saskatchewan Cres E	Collector	W&S Restoration	Reconstruction	1.0
Morgan Ave	Sommerfeld Ave	3rd St E	Local	Road Preservation	Microsurface	1.9
Munroe Ave S	5th St E	6th St E	Local	Road Preservation	Reconstruction	0.4
Pacific Ave	22nd St E	25th St E	Local	Road Preservation	Resurface	1.5
Saskatchewan Cres E	McPherson Ave	Traffic Bridge / Victoria Ave SW Ramp	Collector	W&S Restoration	Reconstruction	0.9
Shannon Cres	Grosvenor Ave	Grosvenor Ave	Local	Road Preservation	Microsurface	1.8
Sommerfeld Ave	Morgan Ave	3rd St E	Local	Road Preservation	Microsurface	1.6
Taylor St W	St Henry Ave	Herman Ave / Saskatchewan Cres W	Collector	Road Preservation	Resurface	0.7
2020 Totals						37.8

	Lane-Km
2018	31.0
2019	20.0
2020	37.8
2017-2019 Totals	88.8

2018-2020 Projected Roadway Preservation

Ward 7



Treatment Year

- 2018
- 2019
- 2020
- 2014-2017

2018 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Adelaide St W	Ruth St / Idylwyld Dr S NW Ramp / Coy Av	Lorne Ave	Collector	Road Preservation	Resurface	0.3
Bute St	Royal Ave	Hanover Ave	Local	Road Preservation	Microsurface	1.1
Cairns Ave	Bute St	Hilliard St E	Local	Road Preservation	Microsurface	1.6
Dufferin Ave	Cascade St	Ruth St E	Local	Road Preservation	Microsurface	0.9
Easthill 2300 blk	Arlington Ave	Easthill 2200 blk	Local	Road Preservation	Resurface	1.2
Melville St	Lorne Ave	Portage Ave	Collector	Road Preservation	Reconstruction	1.8
Munroe Ave S	Cascade St	Taylor St E	Local	Road Preservation	Microsurface	3.7
Preston Ave S NB	Wilson Cres	Louise Ave / Louise St	Major Arterial	Road Preservation	Resurface	1.7
Preston Ave S SB	Louise Ave / Louise St	Wilson Cres	Major Arterial	Road Preservation	Resurface	1.7
Wiggins Ave	Cascade St	Taylor St E	Local	Road Preservation	Microsurface	3.7
William Ave	Cascade St	Ruth St E	Local	Road Preservation	Microsurface	0.9
2018 Totals						18.6

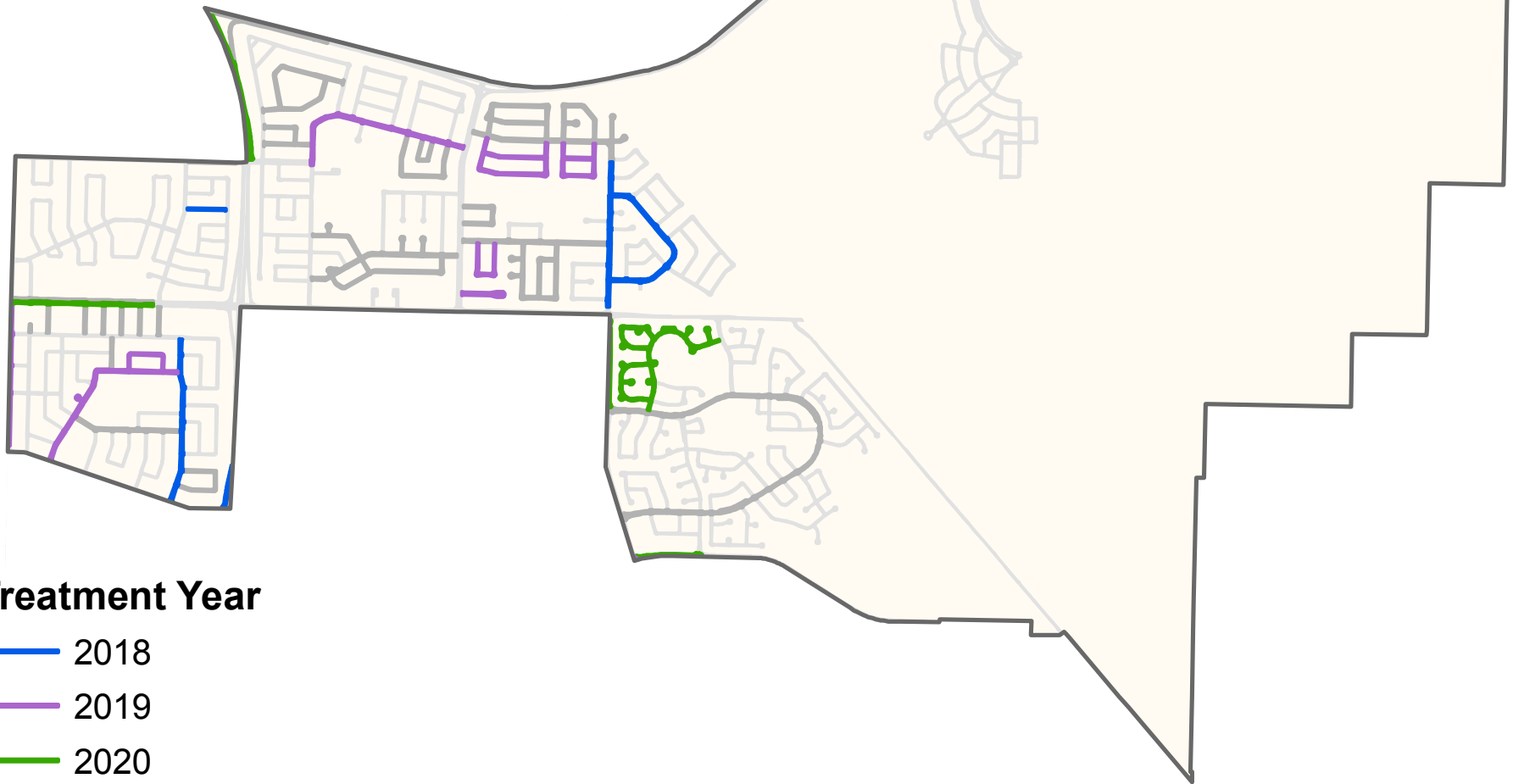
2019 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Cairns Ave	Wilson Cres	MacKenzie Cres	Collector	Road Preservation	Reconstruction	0.5
Calder Ave	Calder Cres	Wilson Cres	Local	Road Preservation	SUTO	1.0
Calder Cres	Clarence Ave S	Calder Ave / Calder Crt	Local	Road Preservation	SUTO	1.5
Calder Crt	End	Calder Cres	Local	Road Preservation	SUTO	0.3
Calder Pl	End	Calder Cres	Local	Road Preservation	SUTO	0.3
Calder Terr	Calder Cres	End	Local	Road Preservation	SUTO	0.3
Glasgow St	Young Cres	Broadway Ave	Collector	Road Preservation	Resurface - Heavy	1.5
Louise Ave	Preston Ave S	Murphy Cres / Ruth St E	Collector	Road Preservation	Resurface	1.5
Melrose Ave	Young Cres	Young Cres	Collector	Road Preservation	Resurface - Heavy	0.9
Ruth St E	Lorne Ave	Broadway Ave	Minor Arterial	Road Preservation	Resurface	3.2
St George Ave	Ruth St W	Adelaide St W	Collector	Road Preservation	Microsurface	0.4
Wilson Cres	Clarence Ave S	Preston Ave S	Collector	Road Preservation	Resurface	6.3
Young Cres	Glasgow St	Melrose Ave	Local	Road Preservation	Resurface	1.0
2019 Totals						18.7

2020 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Adelaide St W	St Charles Ave	Herman Ave	Local	Road Preservation	Microsurface	0.3
Cascade St	Broadway Ave	Saskatchewan Cres W / Taylor St W	Collector	Road Preservation	Resurface	4.4
Clarence Ave S	Wilson Cres	Ruth St E	Minor Arterial	Road Preservation	Resurface	2.0
Clarence Ave S (Side Street)	Lane	Glasgow St	Local	Road Preservation	Microsurface	0.1
Clarence Ave S NB	Glasgow St	Wilson Cres	Minor Arterial	Road Preservation	Resurface	0.5
Clarence Ave S SB	Wilson Cres	Glasgow St	Minor Arterial	Road Preservation	Resurface	0.5
Cumberland Ave S SB	Cascade St	Wilson Cres	Collector	Road Preservation	Resurface	1.2
Glasgow St	Clarence Ave S	Ferguson Ave	Local	Road Preservation	Microsurface	0.3
Herman Ave	Ruth St W	Taylor St W	Collector	Road Preservation	Resurface	2.3
Melrose Ave	Cascade St	Ruth St E	Collector	Road Preservation	Resurface	1.6
St Charles Ave	Adelaide St W	Taylor St W	Local	Road Preservation	Microsurface	1.5
Turner Ave	Glasgow St	McAskill Cres	Local	Road Preservation	Reconstruction	0.2
Yorath Ave	Glasgow St	Harrison Cres	Local	Road Preservation	Reconstruction	0.2
2020 Totals						15.1

	Lane-Km
2018	18.6
2019	18.7
2020	15.1
2017-2019 Totals	52.4

2018-2020 Projected Roadway Preservation

Ward 8



Treatment Year

— 2018

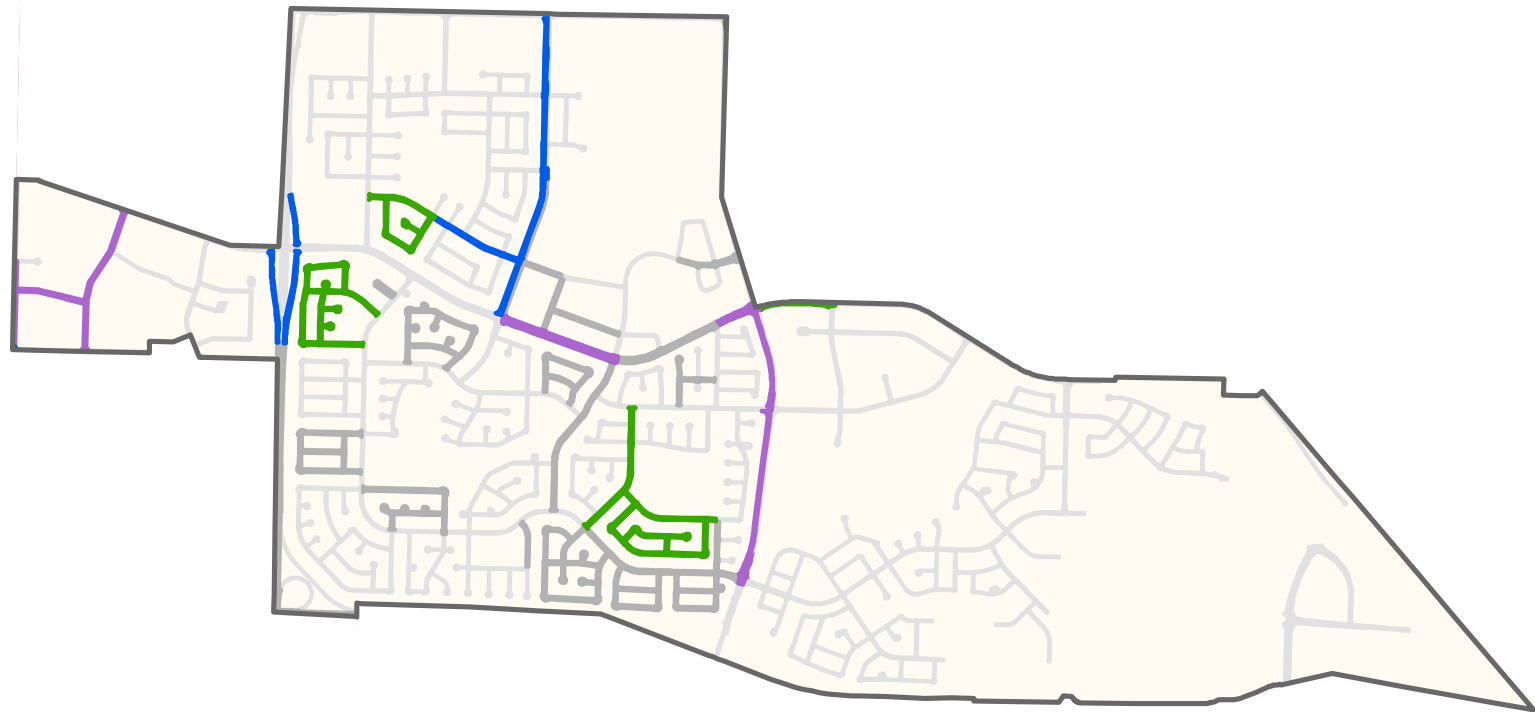
— 2019

— 2020

— 2014-2017

2018 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Arlington Ave	Taylor St E	7th St E	Collector	Road Preservation	Resurface	3.4
Boychuk Dr	8th St E	Annason Cres	Collector	Road Preservation	Resurface	3.5
Laurentian Dr	Boychuk Dr	Boychuk Dr	Collector	Road Preservation	Microsurface	3.4
Mitchell St	Arlington Ave	Lindsay Dr	Local	Road Preservation	Resurface	0.5
2018 Totals						10.8
2019 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Acadia Dr	14th St E	McKercher Dr	Collector	Road Preservation	Resurface	4.1
Champlin Cres	DeGeer St	DeGeer St	Local	Road Preservation	Microsurface	1.4
Edinburgh Pl	McKercher Dr	End	Local	Road Preservation	Microsurface	1.1
Laval Cres	Boychuk Dr	Boychuk Dr	Local	Road Preservation	Microsurface	1.7
Laval Cres	Laval Cres	Laval Cres	Local	Road Preservation	Microsurface	0.4
Potter Cres	Salisbury Dr	Salisbury Dr	Local	Road Preservation	Microsurface	0.9
Preston Ave S NB	Taylor St E	8th St E	Major Arterial	Road Preservation	Resurface	1.7
Preston Ave S SB	8th St E	Taylor St E	Major Arterial	Road Preservation	Microsurface	1.7
Salisbury Dr	Taylor St E	Arlington Ave	Local	Road Preservation	Microsurface	3.8
Salisbury Pl	End	Salisbury Dr	Local	Road Preservation	Microsurface	0.2
Waterloo Cres	Boychuk Dr	Boychuk Dr	Local	Road Preservation	Microsurface	2.3
Waterloo Cres	Waterloo Cres	Waterloo Cres	Local	Road Preservation	Microsurface	1.0
2019 Totals						20.3
2020 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
8th St E EB	Preston Ave S	Arlington Ave	Major Arterial	Road Preservation	Resurface	2.7
Boychuk Dr NB	Briarwood Rd	8th St E	Major Arterial	Road Preservation	Resurface	1.2
Braeburn Cres	Braeside View	Braeside View	Local	Road Preservation	SUTO	1.3
Braeburn Crt	Braeburn Cres	Braeburn Cres	Local	Road Preservation	SUTO	0.1
Braeburn Pl	Braeburn Cres	Braeburn Cres	Local	Road Preservation	SUTO	0.2
Braemar Bay	Braemar Cres	Braemar Cres	Local	Road Preservation	SUTO	0.1
Braemar Cres	Braeside View	Braeside View	Local	Road Preservation	SUTO	1.2
Braemar Crt	Braemar Cres	End	Local	Road Preservation	SUTO	0.2
Braemar Pl	Braemar Cres	Braemar Cres	Local	Road Preservation	SUTO	0.2
Braeside Bay	Braeside View	Braeside View	Local	Road Preservation	SUTO	0.2
Braeside Crt	Braeside View	Braeside View	Local	Road Preservation	SUTO	0.2
Braeside Pl	Braeside View	End	Local	Road Preservation	SUTO	0.3
Braeside Terr	Braeside View	End	Local	Road Preservation	SUTO	0.2
Braeside View	Braeside View	Braeside View	Local	Road Preservation	SUTO	0.2
Braeside View	Briarwood Rd	Briargate Rd	Local	Road Preservation	SUTO	2.3
Braeside View (600blk Even)	Braeside View	Braeside View	Local	Road Preservation	SUTO	0.2
Taylor St E EB	Boychuk Dr	Briarvale Rd / Herold Rd	Major Arterial	Road Preservation	SUTO	0.9
Taylor St E WB	Briarvale Rd / Herold Rd	Boychuk Dr	Major Arterial	Road Preservation	SUTO	0.9
2020 Totals						12.6
						Lane-Km
2018						10.8
2019						20.3
2020						12.6
2017-2019 Totals						43.7

2018-2020 Projected Roadway Preservation Ward 9



Treatment Year

- 2018
- 2019
- 2020
- 2014-2017

2018 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Avondale Rd	Penryn Cres / Richardt Pl	McKercher Dr	Collector	Road Preservation	SUTO	1.5
McKercher Dr SB	Avondale Rd / Heritage Cres	Parkdale Rd / Tait Cres	Minor Arterial	Road Preservation	Resurface	4.3
2018 Totals						5.8
2019 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Adelaide St E	Preston Ave S	McEown Ave	Collector	Road Preservation	Microsurface	1.0
Boyчук Dr SB	Nemeiben Rd / Slimmon Rd	Nemeiben Rd / Slimmon Rd	Major Arterial	Road Preservation	Resurface	3.8
McEown Ave	Louise St	Taylor St E	Collector	Road Preservation	Microsurface	2.3
Taylor St E EB	Brudell Rd	Boyчук Dr	Major Arterial	Road Preservation	Resurface	0.5
Taylor St E EB	McKercher Dr	Heritage Cres / Weyakwin Dr	Major Arterial	Road Preservation	Resurface	1.7
Taylor St E WB	Boyчук Dr	Brudell Rd	Major Arterial	Road Preservation	Resurface	0.5
Taylor St E WB	Heritage Cres / Weyakwin Dr	McKercher Dr	Major Arterial	Road Preservation	Resurface	1.7
2019 Totals						11.5
2020 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Avondale Rd	Acadia Dr	Penryn Cres / Richardt Pl	Collector	Road Preservation	UTO	1.1
Costigan Bay	Costigan Rd	End	Local	Road Preservation	Microsurface	0.2
Costigan Cres	Costigan Rd	Costigan Rd	Local	Road Preservation	Microsurface	1.3
Costigan Crt	Costigan Way	End	Local	Road Preservation	Microsurface	0.2
Costigan Pl	Costigan Way	End	Local	Road Preservation	Microsurface	0.3
Costigan Rd	Kingsmere Blvd	Kingsmere Blvd	Local	Road Preservation	Microsurface	2.7
Costigan Way	Costigan Rd	Costigan Rd	Local	Road Preservation	Microsurface	0.8
Emmeline Rd	Waterbury Rd	Lavalee Rd	Local	Road Preservation	Microsurface	1.4
Penryn Cres	Avondale Rd	Avondale Rd	Local	Road Preservation	UTO	1.5
Penryn Crt	End	Penryn Cres	Local	Road Preservation	UTO	0.3
Swan Cres	Emmeline Rd	Emmeline Rd	Local	Road Preservation	Microsurface	2.5
Swan Crt	Swan Lane	End	Local	Road Preservation	Microsurface	0.3
Swan Lane	Swan Cres	Swan Cres	Local	Road Preservation	Microsurface	1.0
Waterbury Rd	Kingsmere Blvd	Nemeiben Rd	Collector	Road Preservation	Microsurface	2.3
2020 Totals						15.9
						Lane-Km
2018						5.8
2019						11.5
2020						15.9
2017-2019 Totals						17.3

2018-2020 Projected Roadway Preservation Ward 10



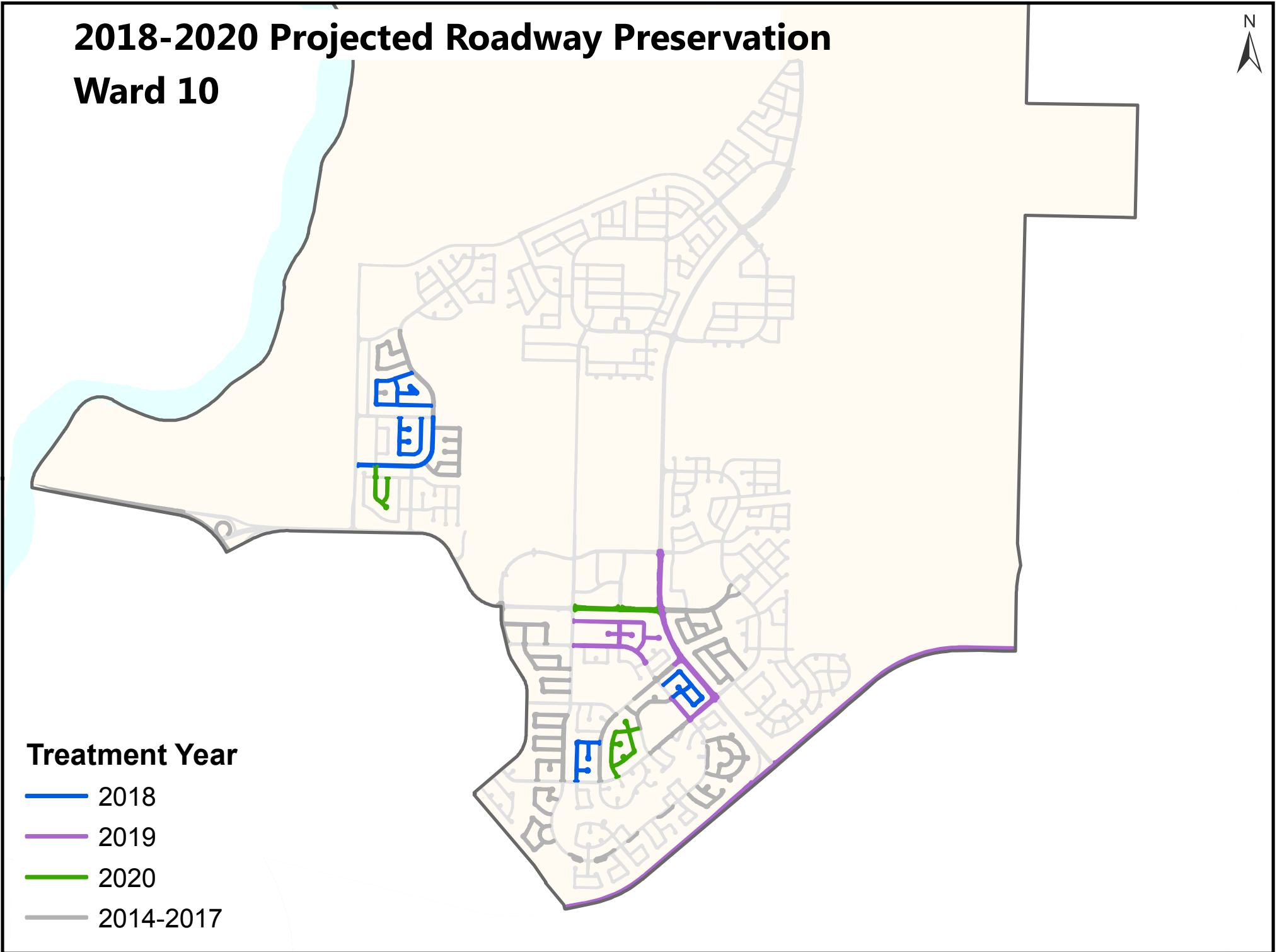
Treatment Year

— 2018

— 2019

— 2020

— 2014-2017



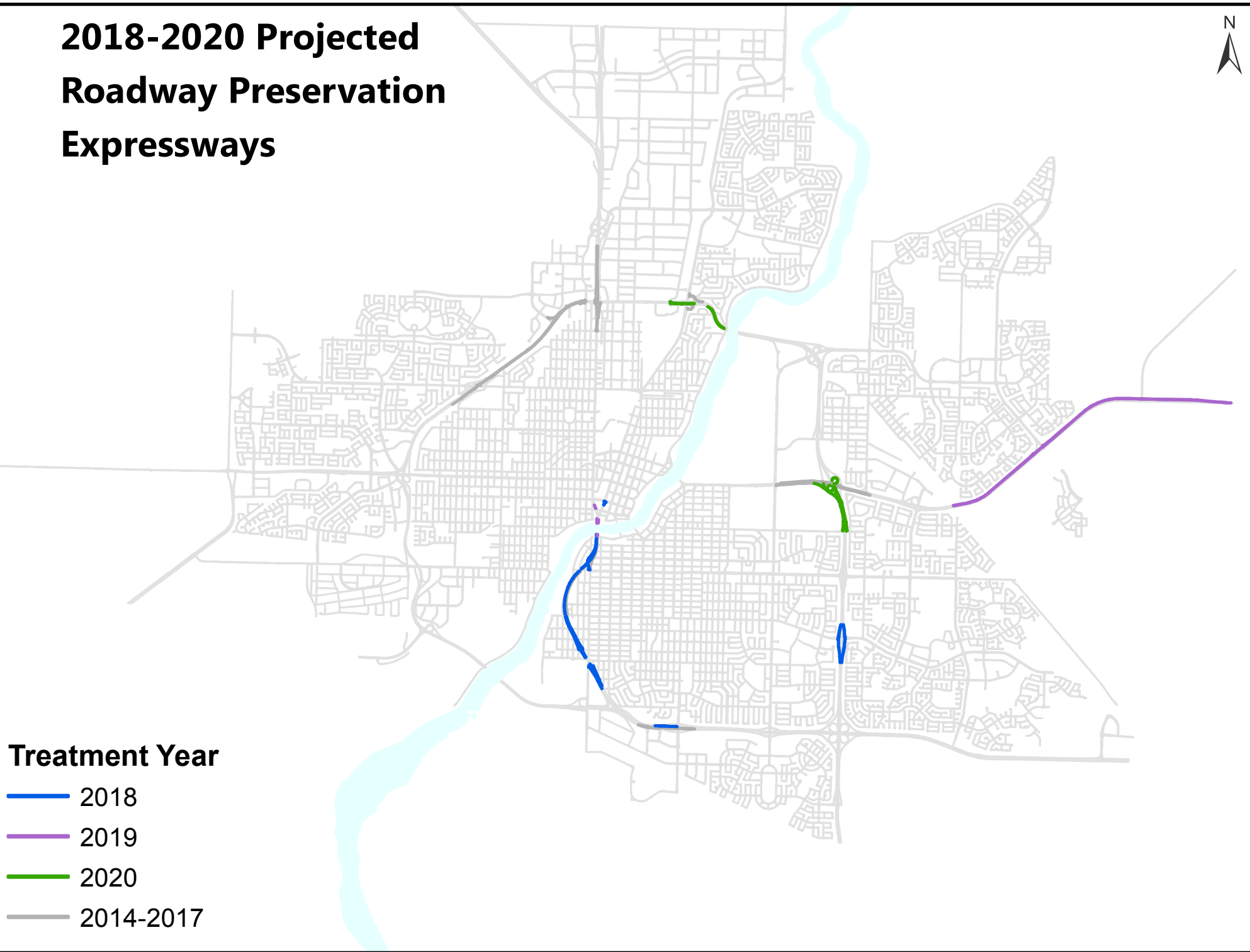
2018 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Bornstein Cres	Kerr Rd	Cowley Rd	Local	Road Preservation	Microsurface	1.2
Bornstein Crt	Bornstein Cres	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.3
Bornstein Terr	Bornstein Cres	End of Cul-De-Sac	Local	Road Preservation	Reconstruction	0.4
Konihowski Rd	Central Ave	Garvie Rd	Collector	Road Preservation	Microsurface	3.2
Pezer Cove	Pezer Lane	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.8
Pezer Cres	Konihowski Rd	Konihowski Rd	Local	Road Preservation	Microsurface	2.4
Pezer Lane	Pezer Cres	Pezer Cres	Local	Road Preservation	Microsurface	0.5
Scissons Cres	Garvie Rd	Garvie Rd	Local	Road Preservation	Microsurface	1.8
Scissons Crt	Scissons Cres	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.2
Scissons Terr	Scissons Cres	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.2
Steiger Cres	Kenderdine Rd	Kenderdine Rd	Local	Road Preservation	Microsurface	1.3
Steiger Pl	Steiger Cres	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.2
Steiger Way	Steiger Cres	Steiger Cres	Local	Road Preservation	Microsurface	0.9
2018 Totals						13.4

2019 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Epp Ave	Kenderdine Rd	Perehudoff Cres	Local	Road Preservation	Microsurface	0.6
Epp Crt	End of Cul-De-Sac	Epp Ave	Local	Road Preservation	Microsurface	0.3
Epp Pl	Epp Ave	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.3
Kenderdine Rd	Bonli Cres	115th St E	Collector	Road Preservation	Reconstruction	1.0
Kenderdine Rd	Kerr Rd	Forsyth Cres / Steiger Cres	Collector	Road Preservation	Resurface	0.8
Kenderdine Rd	Mulcaster Cres / Vincent Cres	Bonli Cres	Collector	Road Preservation	Reconstruction	1.3
Kerr Rd	Kenderdine Rd	McOrmond Dr	Collector	Road Preservation	Resurface	0.7
McOrmond Dr NB	Kerr Rd / Stensrud Rd	Addison Rd / Nelson Rd	Major Arterial	Road Preservation	Microsurface	3.1
McOrmond Dr SB	Addison Rd / Nelson Rd	Kerr Rd / Stensrud Rd	Major Arterial	Road Preservation	Microsurface	4.0
Perehudoff Cres	Kenderdine Rd	Kenderdine Rd	Local	Road Preservation	Microsurface	2.0
Perehudoff Crt	Perehudoff Cres	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.3
2019 Totals						14.4

2020 PROJECTED ROADWAY PRESERVATION LOCATIONS						
Street Name	From	To	Road Class	Project Type	Treatment	Lane-Km
Attridge Dr EB	Lowe Rd / Kenderdine Rd	McOrmond Dr	Major Arterial	Road Preservation	SUTO	1.6
Attridge Dr WB	McOrmond Dr	Lowe Rd / Kenderdine Rd	Major Arterial	Road Preservation	SUTO	1.6
Haslam Cres	Haslam Cres	Konihowski Rd	Local	Road Preservation	Microsurface	0.3
Haslam Pl	Haslam Way	End	Local	Road Preservation	Microsurface	0.2
Haslam Way	Haslam Cres	Haslam Cres	Local	Road Preservation	Microsurface	1.1
Hurley Cres	Kerr Rd	Forsyth Cres	Local	Road Preservation	Microsurface	1.4
Hurley Crt	Hurley Cres	End of Cul-De-Sac	Local	Road Preservation	Microsurface	0.2
Hurley Pl	Hurley Way	Hurley Way	Local	Road Preservation	Microsurface	0.2
Hurley Terr	Hurley Cres	End of Cul-De-Sac	Local	Road Preservation	Reconstruction	0.3
Hurley Way	Hurley Cres	Hurley Cres	Local	Road Preservation	Microsurface	0.9
2020 Totals						7.8

	Lane-Km
2018	13.4
2019	14.4
2020	7.8
2017-2019 Totals	35.6

2018-2020 Projected Roadway Preservation Expressways



Treatment Year

— 2018

— 2019

— 2020

— 2014-2017

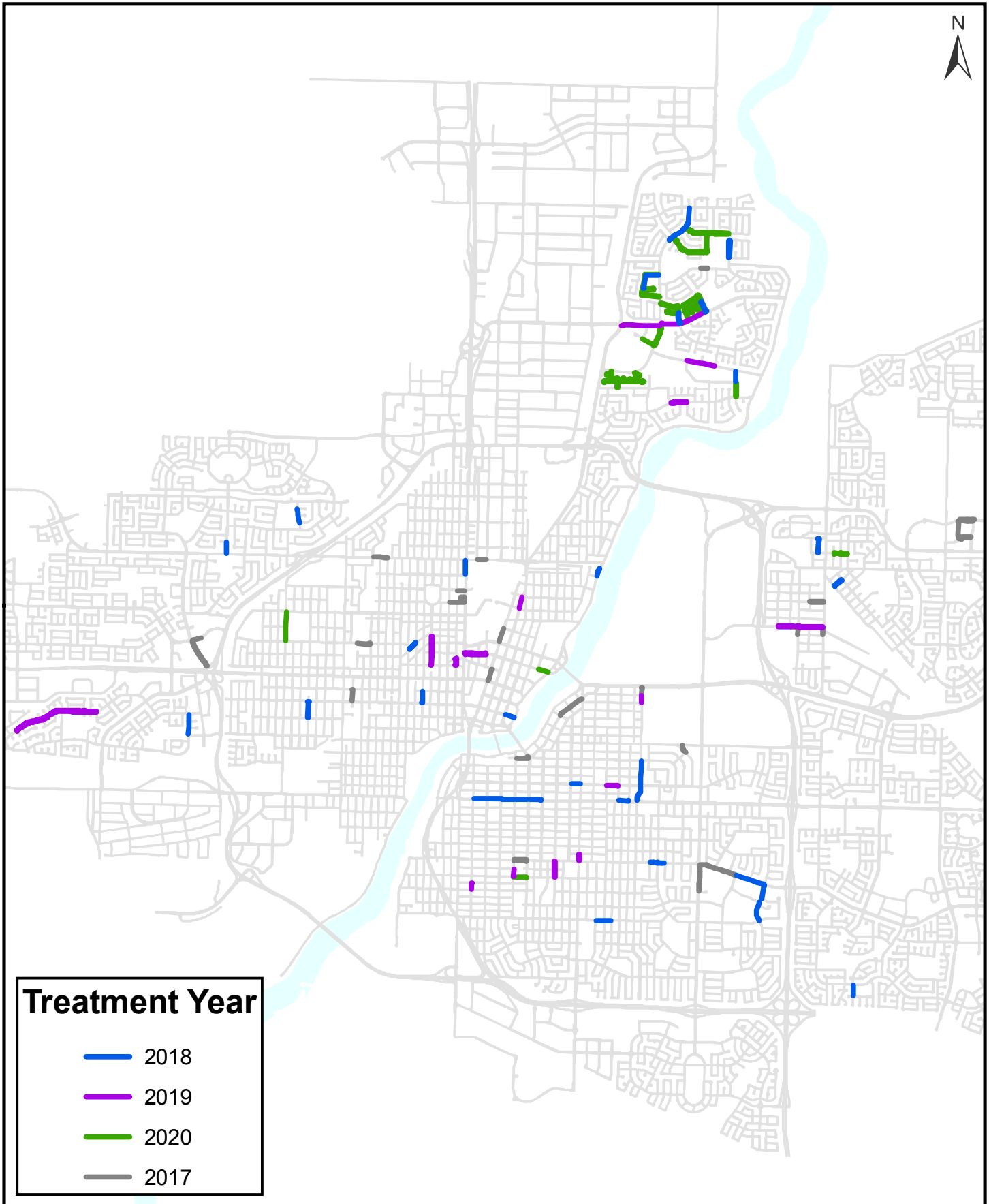
2018 PROJECTED ROADWAY PRESERVATION LOCATIONS					
Street Name	From	To	Project Type	Treatment	Lane-Km
1st Ave S NB	1st Ave S / 19th Street Overpass NB	20th St E	Road Preservation	Resurface	0.5
8th St / Lorne Ave / Idylwyld Dr S NW Ramp	Idylwyld Dr S SB	Lorne Ave	Road Preservation	Microsurface	1.3
Circle Dr / Taylor St E NE Ramp	Taylor St E	Circle Dr NB	Road Preservation	Resurface	0.5
Circle Dr / Taylor St E NW Ramp	Circle Dr SB	Taylor St E	Road Preservation	Resurface	0.6
Circle Dr / Taylor St E SE Ramp	Circle Dr NB	Taylor St E	Road Preservation	Resurface	1.3
Circle Dr / Taylor St E SW Ramp	Taylor St E	Circle Dr SB	Road Preservation	Resurface	0.9
Circle Dr WB	Circle Dr / Clarence Ave S NW Ramp	Circle Dr WB	Road Preservation	Resurface	0.8
Idylwyld Dr S / Ruth St W NE Ramp	Adelaide St W / Coy Ave	Idylwyld Dr S NB	Road Preservation	Resurface - Heavy	0.2
Idylwyld Dr S / Ruth St W NW Ramp	Idylwyld Dr S SB	Adelaide St W	Road Preservation	Microsurface	0.3
Idylwyld Dr S / Ruth St W SE Ramp	Idylwyld Dr S NB	Vernon Ave	Road Preservation	Resurface	0.3
Idylwyld Dr S / Ruth St W SW Ramp	Lorne Ave	Idylwyld Dr S SB	Road Preservation	Resurface	0.9
Idylwyld Dr S NB	Circle Dr / Idylwyld Dr S NE Ramp	Idylwyld Dr S / Ruth St W Overpass NB	Road Preservation	Resurface	1.4
Idylwyld Dr S NB	Idylwyld Dr S / Ruth St W Overpass NB	Idylwyld Dr S / Taylor St W Overpass	Road Preservation	Resurface	2.4
Idylwyld Dr S SB	Ruth St / Idylwyld Dr S NW Ramp	Sid Buckwold Bridge SB	Road Preservation	Microsurface	7
2018 Totals					18.4

2019 PROJECTED ROADWAY PRESERVATION LOCATIONS					
Street Name	From	To	Project Type	Treatment	Lane-Km
1st Ave S SB	19th St E WB	Sid Buckwold Bridge SB	Road Preservation	Resurface	0.2
College Dr WB	City Limits	College Dr / CNR Overpass WB	Road Preservation	Resurface - Heavy	19.3
Idylwyld Dr S NB	Idylwyld Dr S / 19th St E Overpass	100m South of 20th St	Road Preservation	Resurface - Heavy	0.2
Idylwyld Dr S NB	Idylwyld Dr S / Saskatchewan Cr E Overpass	Idylwyld Dr S / 19th St E Overpass NB	Road Preservation	Resurface	0.4
2019 Totals					20.1

2020 PROJECTED ROADWAY PRESERVATION LOCATIONS					
Street Name	From	To	Project Type	Treatment	Lane-Km
Circle Dr / 14th St E NE Ramp	14th St E	Circle Dr NB	Road Preservation	Resurface	0.3
Circle Dr / 14th St E NW Ramp	Circle Dr SB	14th St E	Road Preservation	Resurface	0.3
Circle Dr / College Dr NE Loop	Circle Dr E NB	College Dr WB	Road Preservation	Resurface	0.6
Circle Dr / College Dr SW Loop	Circle Dr E SB	College Dr EB	Road Preservation	Resurface	0.6
Circle Dr / College Dr SW Ramp	College Dr	Circle Dr SB	Road Preservation	Resurface	1.6
Circle Dr EB	Venture Cres / Millar Ave	Circle Dr N Bridge EB	Road Preservation	Resurface	4.8
Circle Dr NB	Circle Dr / 14th St E Overpass NB	Circle Dr / College Dr Overpass NB	Road Preservation	Resurface	2.9
Circle Dr SB	Circle Dr / College Dr Overpass SB	Circle Dr / 14th St E NW Ramp	Road Preservation	Resurface	2.4
2020 Totals					13.5

	Lane-Km
2018	18.4
2019	20.1
2020	13.5
2018-2020 Totals	52.0

2018-2020 Sidewalk Preservation Sidewalk Locations Not Adjacent to Roadway Program



2018 PROJECTED SIDEWALK PRESERVATION LOCATIONS			
Street Name	From	To	Ward
20th St E (N Side)	4th Ave S	Spadina Cres E	6
8th St E WB (N Side)	Eastlake Ave	Eastlake Ave	6
8th St E WB (N Side)	Wiggins Ave S	Ewart Ave	6
Arlington Ave (E Side)	Porter St	Taylor St E	7
Arlington Ave (W Side)	Louise St	Porter St	7
Ave F S (W Side)	20th St W	21st St W	2
Ave T S (Both Sides)	19th St W	20th St W	2
Bedford Rd (N Side)	Ave H N	Ave G N	2
Cruise St (Both Sides)	Gray Ave	Spark Ave	1
Cumberland Ave S (E Side)	10th St E	12th St E / Garrison Cres	6
Cumberland Ave S (E Side)	8th St E	10th St E	6
Girgulis Cres (S/E Side)	Girgulis Crt	Russell Rd	5
Hnatyshyn Ave (W Side)	Klaehn Cres	Knowles Pl	4
Idylwyld Dr N SB (W Side)	32nd St W	33rd St E / 33rd St W	1
Junor Ave (W Side)	33rd St W	Carrothers Crt	4
Main St WB (N Side)	Albert Ave	Clarence Ave S	6
Pendygrasse Rd (W Side)	Clancy Dr	Forrester Rd	3
Russell Rd (E Side)	Wakabayashi Cres	Adilman Dr	5
Ruth St E (S Side)	Haultain Ave	Cairns Ave	7
Saguenay Dr (W Side)	La Ronge Rd	Pinehouse Dr	5
Silverwood Rd (Both Sides)	Ball Cres	Ball Cres	5
Spadina Cres E (W Side)	Duchess St	33rd St E	1
Taylor St E (N Side)	Park Ave	Morgan Ave	6
Taylor St E (S Side)	McEown Ave	Arlington Ave	8
Thompson Ave (Both Sides)	116th St W	117th St W	1
Wollaston Cres (E Side)	Kingsmere Blvd	Wollaston Pl / Wollaston Cres	9

2019 PROJECTED SIDEWALK PRESERVATION LOCATIONS			
Street Name	From	To	Ward
108th St W (Both Sides)	Bryans Ave	Rita Ave	1
108th St W (N Side)	Rita Ave	Egbert Ave	1
108th St W (Both Sides)	Egbert Ave	Central Ave	1
24th St E (Both Sides)	Idylwyld Dr N	Ontario Ave	6
2nd Ave N (W Side)	King St	Princess St	1
Assiniboine Dr (Both Sides)	Churchill Dr	Sturgeon Dr	5
Ave B N (Both Sides)	23rd St W	Jamieson St	2
Ave E N (Both Sides)	23rd St W	26th St W	2
Clarence Ave S (Both Sides)	Taylor St E	1st St E	6
Cumberland Ave N (W Side)	Osler St	Elliott St	1
Eastlake Ave (E Side)	Isabella St E	Maple St E	7
Lansdowne Ave (Both Sides)	Isabella St E	Taylor St E	7
Lenore Dr EB (S Side)	Wanuskewin Rd / Warman Rd	Primrose Dr / Russell Rd	5
Lenore Dr WB (N Side)	Russell Rd	Charlebois Cres	5
Main St EB (S Side)	Munroe Ave S	Wiggins Ave S	6
McCormack Rd (Both Sides)	Blackley Pl	Streb Cres	3
McPherson Ave (E Side)	Hilliard St E	Willow St E	7
Pinehouse Dr (N Side)	La Ronge Rd	Reindeer Rd	5

2020 PROJECTED SIDEWALK PRESERVATION LOCATIONS			
Street Name	From	To	Ward
116th St E (Both Sides)	Laura Ave	Vickies Ave	1
24th St E (N Side)	6th Ave N	Spadina Cres E	6
Ave W N (E Side)	Rusholme Rd	29th St W	4
Charlebois Cres	Lenore Dr	Lenore Dr	5
Charlebois Crt	End of Cul-De-Sac	Charlebois Way	5
Charlebois Terr	End of Cul-De-Sac	Charlebois Way	5
Charlebois Way	Charlebois Cres	Charlebois Cres	5
Coppermine Bay	Coppermine Cres	End of Cul-De-Sac	5
Coppermine Cres	End of Cul-De-Sac	Coppermine Cres	5
Coppermine Cres	Primrose Dr	Primrose Dr	5
Coppermine Cres	Churchill Dr	Coppermine Cres	5
Coppermine Crt	End of Cul-De-Sac	Coppermine Cres	5
Coppermine Lane	Coppermine Cres	End of Cul-De-Sac	5
Coppermine Pl	Coppermine Cres	End of Cul-De-Sac	5
Coppermine Terr	Coppermine Cres	End of Cul-De-Sac	5
Cree Cres (S Side)	Primrose Dr	Cree Pl	5
Girgulis Cres (S/W Side)	Russell Rd	Girgulis Crt	5
Girgulis Cres (N/E Side)	Russell Rd	Girgulis Crt	5
Girgulis Cres (W/N Side)	Girgulis Crt	Russell Rd	5
Girgulis Crt (Both Sides)	Girgulis Cres	End of Cul-De-Sac	5
Isabella St E (S Side)	Eastlake Ave	Broadway Ave	7
Molloy St (Both Sides)	Russell Rd	Silverwood Rd	5
Primrose Dr (Both Sides)	Cree Cres	Lenore Dr	5
Roborecki Cres (Both Sides)	Roborecki Terr	Russell Rd	5
Roborecki Terr (Both Sides)	End of Cul-De-Sac	Roborecki Cres	5
Saguenay Dr (Both Sides)	Assiniboine Dr / Sandy Crt	La Ronge Rd	5
Verbeke Rd (Both Sides)	Russell Rd	Molloy St	5

Projected 2018-2020 Water & Sewer Assets



Water & Sewer Assets

Water and sewer preservation programs are selected annually based upon the condition of assets (water and sewer mains and service lines) as well as approved levels of service and funding plans.

The City has the following annual programs for preservation of water and sewer assets;

- Water Main Replacement – this program focuses on areas where water main capacity needs to be improved and there is a high density of lead service lines. A long-term strategy is being developed for this program and the three year outlook is included in this document.
- Water Main Lining – this program targets water mains that have had high amounts of water main breaks and prioritized locations that have been breaking frequently in recent years. Locations are generally scattered throughout the city. Since this program relies on water main break rates that are constantly changing and being updated, locations are prioritized and selected each year. Therefore only a one year outlook is provided.
- Sewer Main Lining – sewer mains are visually inspected and assigned condition ratings. Based on these ratings and other risk factors a long-term rehabilitation strategy has been developed. The three year outlook is included in this document.
- Lead Service Line Replacements – along with the lead lines replaced as part of the water main replacement project, lead lines are also replaced on an emergency basis (if they are leaking they are fully replaced) and in conjunction with some roadway paving projects. At current funding levels the remaining lead line inventory in the city will be completely replaced by 2027. In conjunction with the long-term strategy that is being developed for water main replacement, a strategy for all remaining lead line replacements is being developed so that residents will have information on when they can expect their lines to be replaced. It is anticipated this plan will be available by the end of 2018.

Assumptions

The following assumptions were used to produce this water and sewer preservation plan document:

- Target base funding (W&S Inf. Reserve) is approved and maintained for the 2017 – 2019 utility rate cycle.
- Utility rate funding is based on assumed water usage levels and thereby water

revenues. If water usage levels drop significantly, funding levels may need to be adjusted.

- The unit rate cost estimates are based on but not limited to: contractor unit rates, project management, administration, traffic control, tests, and a contingency.
- The attached document includes proposed treatments. Actual locations and quantities treated may vary prior to construction.

2018-2020 Projected Budgets

The following table outlines the budgets for 2017 and 2018 and projected budgets for 2019 and 2020.

Program	2017 Budget (\$M)	2018 Budget (\$M)	2019* Budget (\$M)	2020* Budget (\$M)
Water Preservation	\$5.495	\$5.853	\$6.233	\$6.638
Water Capacity	\$0.560	\$5.673	\$5.815	\$5.961
LSL Replacements	\$2.404	\$4.770	\$3.172	\$3.251
Sewer Preservation	\$3.118	\$3.287	\$3.384	\$3.484
Sewer Service Lines	\$0.630	\$1.246	\$1.262	\$1.279
City portion of CWWF funding	\$7.900			
Provincial portion of CWWF funding	\$7.900			
Federal portion of CWWF funding	\$15.800			
Totals	\$43.807	\$20.829	\$20.406	\$20.613

*Projected

2018 Planned Treatments, Unit Rates and Quantities

Treatment	Unit Rate	Estimated Treatment Quantity
Open Trench Water Main Replacement	\$1,700-2,000 /lin.m.	3,056 m
Water Main Lining	\$1,700-2,000 /lin.m.	3,594 m
Sanitary Lining	\$200-300 /lin.m.	15,455 m
Service Line Replacements	\$5,000-6000 each	281

Water & Sewer Treatment Descriptions

Open Trench Water Main Replacement – this method is used in areas where water main capacity needs to be improved or there are numerous lead service lines connecting to the main. To increase flow capacity, mains need to be upsized, typically from 150mm diameter to 200mm diameter. If numerous lead services need to be replaced at the same time as the water main, the most cost effective approach is to do an open trench excavation.

Water Main Lining – this method is used on water mains where capacity is not a concern, there are minimal lead services, and the road surface is not scheduled for a preservation treatment. Water main lining requires small excavations at each end of the work limits, as well as at hydrants and valves. From these excavations a liner is pulled inside the existing water main. The liner hardens and seals the pipe against future leaks and water main breaks. The finished liner has the strength and characteristics as a new plastic PVC pipe. Water main lining has traditionally been about 66% of the cost of open trench water main replacement.

Sanitary and Storm Sewer Main Lining – this is the same method as water main except that no excavation is required. Sanitary and Storm mains have access points (manholes) approximately every 150m to 200m that allow for installation. This method of rehabilitation for sanitary and storm mains has been used in Saskatoon since the 1990's and has been so effective that open trench replacement of sewer mains has been phased out except for in extreme circumstance where a liner cannot be installed.

Water and Sewer Service Line Replacements - lead water service lines and tar fiber sewer service lines are replaced;

- In conjunction with open trench water main replacement,
- Prior to certain roadway preservation treatments,
- And on emergency basis.

Service lines are replaced using a trenchless method called "pipe-bursting". This involves excavations above the main line in the street, at the property line, and at the building (either outside the building at the foundation or a small hole in the basement). The old service lines are removed by pulling them out of the ground from excavation to excavation and new service lines are inserted into place in the tunnel created by removing the old lines. Whenever a lead service line is worked on (planned or emergency), replacement is required from the main line to the water meter. Tar fiber sewer lines are replaced from the main line to property line and the homeowner has the option whether or not to replace their portion. The City is responsible for costs in the public right of way and the property owner is responsible for costs on their property. This cost split is approximated by the City paying 60% of contract costs and the property owner paying 40%. The City has cost deferral programs that the property owner can use to add their costs to their annual property taxes.

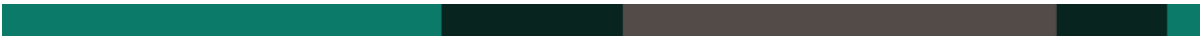
2018-2020 Projected Water & Sewer Preservation Project Locations



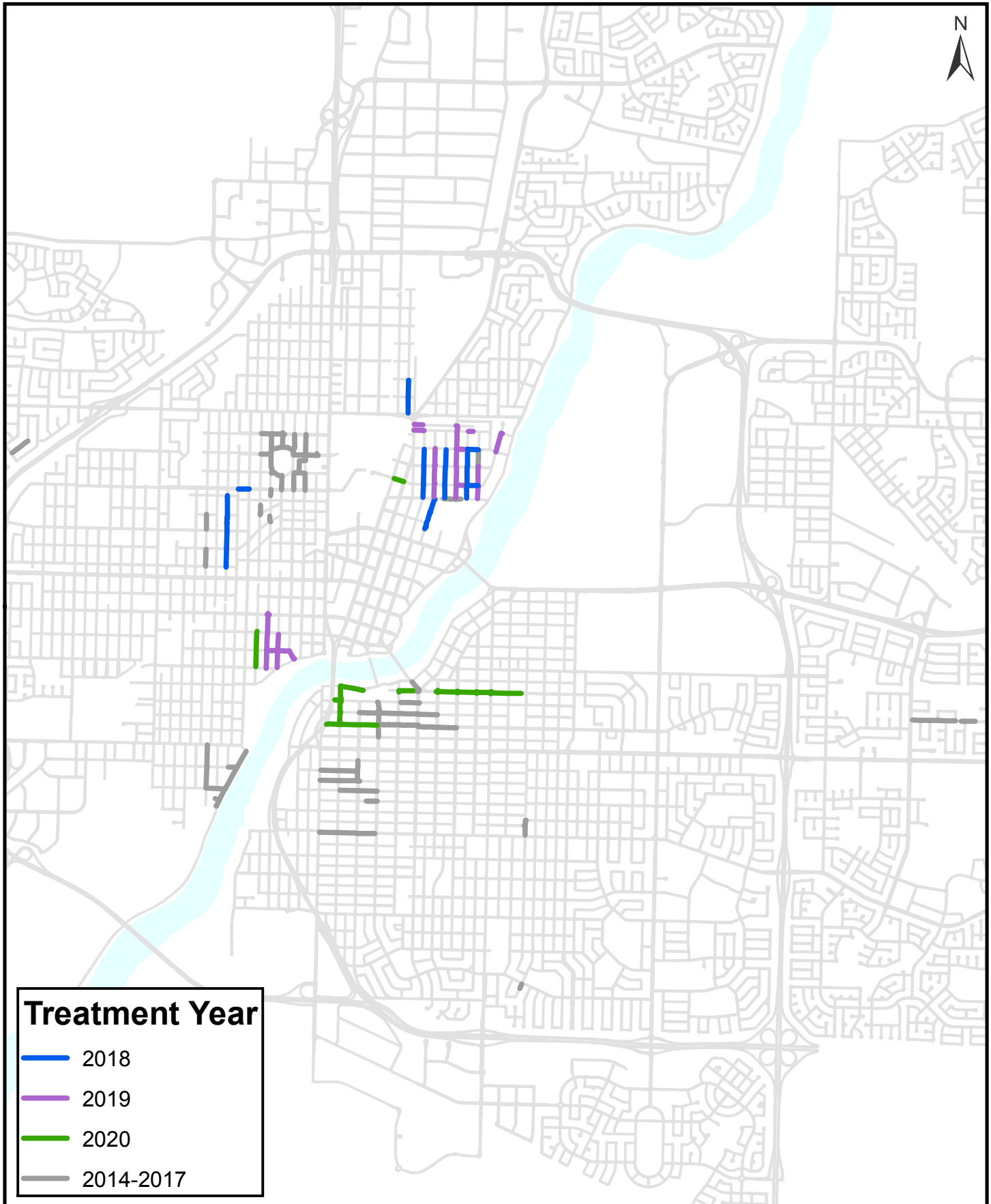
2018-2020 Water Main Open Trench

2018 Water Main Lining

2018-2020 Sanitary Main Lining

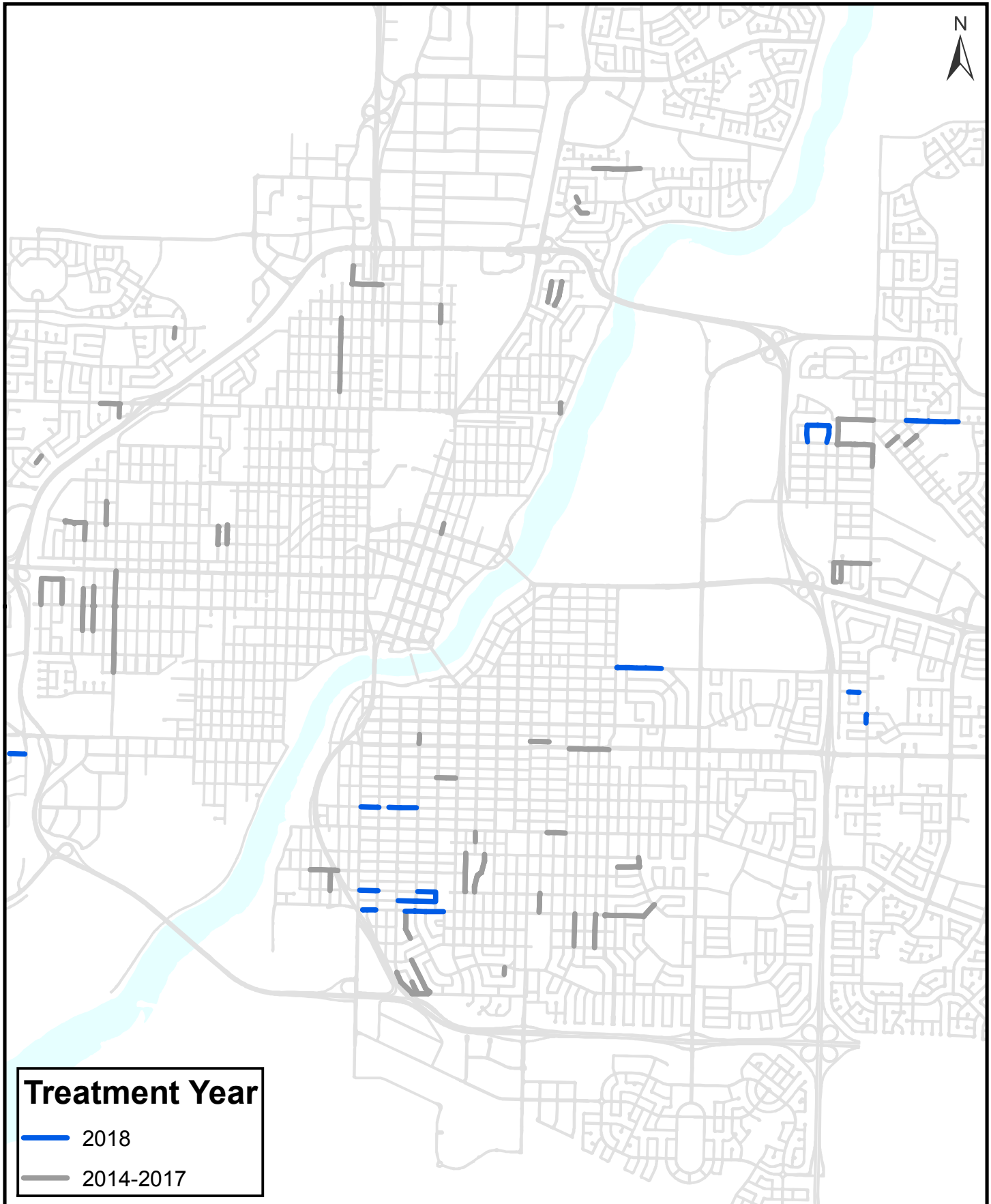


2018-2020 Water & Sewer Preservation Water Main Open Trench Locations



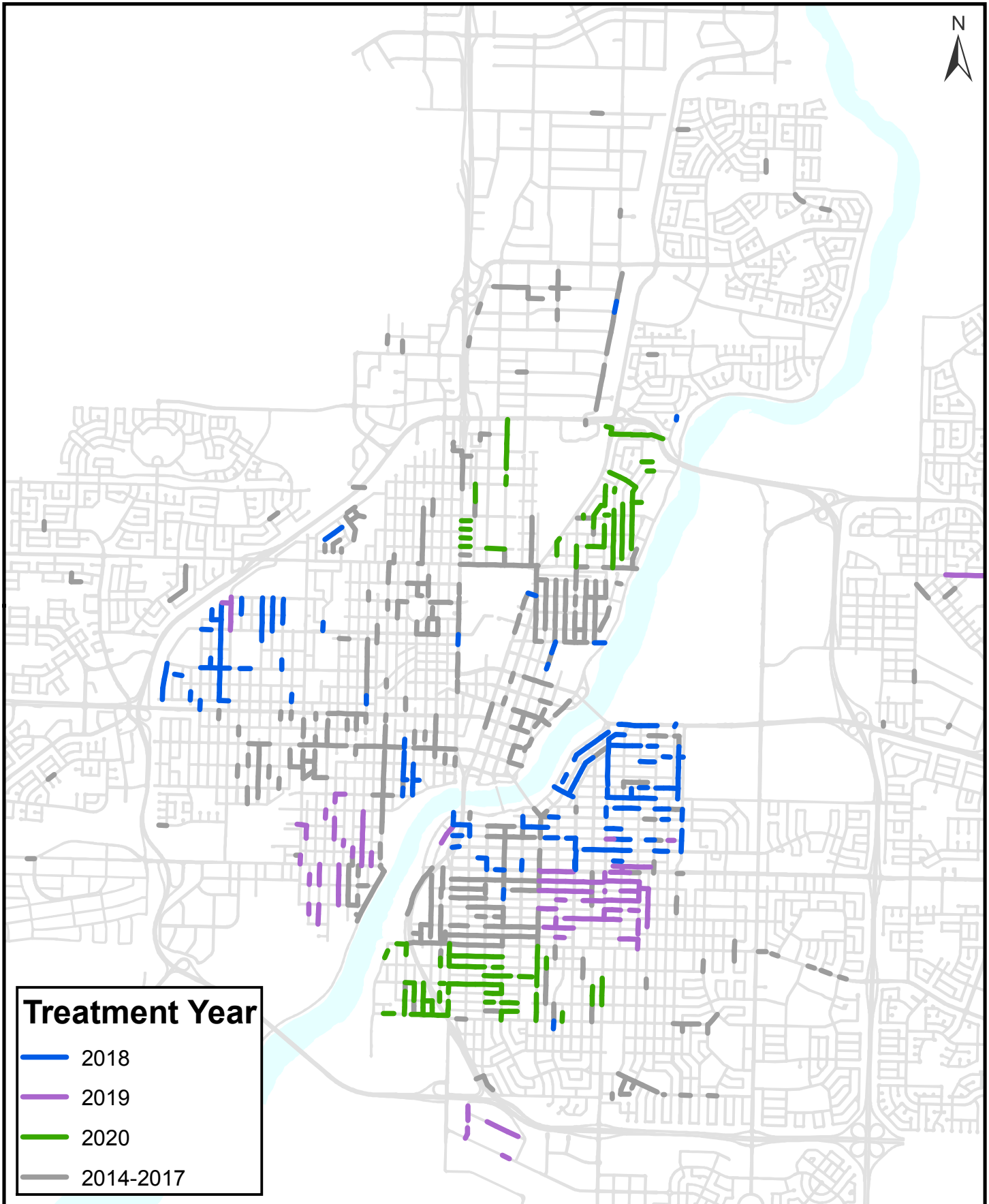
2018 OPEN TRENCH WATER MAIN REPLACEMENT WITH LEAD REPLACEMENTS				
Street Name	From	To	Main Length (m)	Lead (ea)
Ave J N	23rd St W	28th St W	691	47
29th St W	Ave I N	Ave H N	107	3
2nd Ave N	33rd St E	35th St E	318	28
4th Ave N	Queen St	Duke St	466	58
5th Ave N	26th St E	Queen St	297	1
6th Ave N	Queen St	Duke St	465	44
8th Ave N	Queen St	Duke St	475	35
Duke St	8th Ave N	9th Ave N	107	1
King St	8th Ave N	9th Ave N	55	2
2018 Totals			2981	219
2019 OPEN TRENCH WATER MAIN REPLACEMENT WITH LEAD REPLACEMENTS				
Street Name	From	To	Main Length (m)	Lead (ea)
5th Ave N	Queen St	Duke St	470	36
7th Ave N	Queen St	Lauriston St	708	55
9th Ave N	Queen St	Princess St	313	19
18th St W	Ave F S	Ave E S	215	6
Duke St	7th Ave N	8th Ave N	106	0
Duchess St	3rd Ave N / Warman Rd	4th Ave N	91	0
Duchess St	8th Ave N	9th Ave N	44	2
King St	7th Ave N	8th Ave N	105	3
King St	Duke St	Duchess St	200	0
Lauriston St	3rd Ave N	7th Ave N	87	2
Ave D S	Spadina Cres W	18th St W	88	3
Ave E S	Spadina Cres W	19th St W	232	34
Ave F S	17th St W	20th St W	530	45
2019 Totals			3189	205
2020 OPEN TRENCH WATER MAIN REPLACEMENT WITH LEAD REPLACEMENTS				
Street Name	From	To	Main Length (m)	Lead (ea)
11th St E	Dead End	McPherson Ave	58	1
12th St E	Easlake Ave	Broadway Ave	140	3
12th St E	Dufferin Ave	Munroe Ave	825	26
Ave G S	17th St W	19th St W	350	47
King St	1st Ave N	2nd Ave N	100	0
Main St	Dead End	Victoria Ave	490	35
McPherson Ave	Main St	Saskatchewan Cres W	370	14
Saskatchewan Cres W	McPherson Ave	Traffic Bridge / Victoria Ave SW Ramp	222	1
2020 Totals			2555	127
			Main Length (m)	Lead (ea)
2018			2981	219
2019			3189	205
2020			2555	127
2017-2019 Totals			8725	551

2018 Water Preservation Water Main Lining Locations



2018 WATER MAIN LINING				
Street Name	From	To	Main Length (m)	Lead (ea)
2nd St E	Lorne Ave	Victoria Ave	442	6
14th St E	Cumberland Ave N	Saskatchewan Ave	432	
115th St W	Vickies Ave	Forest Dr	492	
Acadia Dr	Leddy Cres	Harrington St	83	
Adelaide St E	Lorne Ave	Mcpherson Ave	178	2
Adelaide St E	Victoria Ave	Eastlake Ave	202	
Ash St	Melrose Ave	Eastlake Ave	346	
Bryans Ave	113th St W	Rita Cres	151	
Caen St	Ortona St	Dundonald Ave	146	
Cronkite St	Britnell Cres	Britnell Cres	100	
Eastlake Ave	Ash St	Adelaide St	125	
Rita Cres	Bryans Ave	113th St E	398	
Ruth St E	Lorne Ave	McPherson Ave	127	
Ruth St E	Underwood Ave	Royal Ave	372	
2018 Totals			3594	8

2018-2020 Water & Sewer Preservation Sanitary Sewer Main Lining Locations



2018 SEWER MAIN LINING	
Neighbourhood	Main Length (m)
Avalon	80
Buena Vista	96
Central Industrial	106
City Park	381
Grosvenor Park	340
Hudson Bay Park	224
Mount Royal	4040
North Industrial	120
Nutana	3617
River Heights	41
Riversdale	912
U of S Lands Management Area	441
Varsity View	4474
Westmount	174
2018 Total	15047
2019 SEWER MAIN LINING	
Neighbourhood	Main Length (m)
CN Industrial	715
Forest Grove	516
Haultain	5431
Holiday Park	1066
King George	1538
Mount Royal	452
Nutana	583
Varsity View	806
West Industrial	153
2019 Total	11258
2020 SEWER MAIN LINING	
Neighbourhood	Main Length (m)
Buena Vista	83
Exhibition	3653
Kelsey - Woodlawn	1109
North Industrial	341
North Park	2979
Queen Elizabeth	3036
Richmond Heights	1551
2020 Total	12752
Main Length (m)	
2018	516
2019	11258
2020	12752
2018-2020 Totals	24526

Projected 2018-2020 Bridges & Structures Preservation Plan



Bridges & Structures Assets

The planned upcoming major rehabilitation projects are part of the Major Rehabilitation program and are selected on preservation strategies focused on reducing the cost of owning and maintaining the structures. The bridge programs selects projects based on condition assessments using information gathered from inspecting and testing structures.

Assumptions

The following assumptions were used to produce this Bridges and Structures preservation plan document:

- Base funding is maintained for 2019 and maintained for 2020.
- The design work required for the rehabilitations is completed prior to construction.
- During the design and inspection process increases to the planned scope of work are not discovered (example additional strengthening, more intrusive repairs, or changes to functional design)
- The unit rate cost estimates are based on but not limited to: contractor unit rates, project management, administration, traffic control, miscellaneous preparation work, tests, and contingencies.

2018-2020 Projected Budgets

Program	2017 Budget (\$M)	2018 Budget (\$M)	2019 Budget (\$M)	2020 Budget (\$M)
Bridge Major Repair Reserve	\$10.384	\$4.619	\$3.184	\$3.184
Totals	\$10.384	\$4.619	\$3.184	\$3.184

2018-2020 Bridge Rehabilitation Project Descriptions

Based on the current and planned reserve contribution, The Bridge & Structure programs three year plan is anticipated to be fully funded. The following projects currently have the preliminary design work underway and construction is anticipated in the following years:

2018: Circle Dr northbound over 33rd Street Rehabilitation

The City's preservation plan, with the results of the Deck Testing Program, indicated that Circle Drive Northbound Overpass at 33rd Street rehabilitation should occur in the short-term, prior to the onset of chloride induced corrosion in the rebar and post-tensioning cable. This repair strategy is preferred since it will optimize the service life of the structure and diminish overall capital lifecycle costs

Due to the staffing level and specialized nature of the work, the Administration has adopted an approach involving both internal staff and external experts. The detailed investigation and assessment, Evaluation of rehabilitation options and detailed design is completed with construction occurring in 2018

2019 & 2020: Sid Buckwold Bridge & Idylwyld Dr over 19th Street Ramps

The Sid Buckwold Bridge is a post-tensioned concrete girder bridge originally constructed in 1965. Rehabilitation of the structure is planned for 2018 based on information and recommendations gathered from the City's Inspections and Deck Testing programs.

The Idylwyld Drive over 19th Street ramps were also recommended for rehabilitation and due to the proximity in timing, the City included the scope of completing the ramp rehabilitation with the Sid Buckwold Bridge rehabilitation.

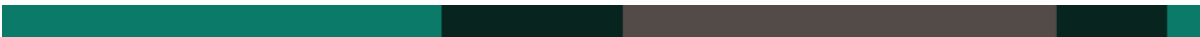
Due to the staffing level and specialized nature of the work, the Administration has adopted an approach involving both internal staff and external experts. The detailed assessment, Evaluation of rehabilitation options and detailed design is underway and planned to be completed in 2018 with the construction occurring in 2019 and 2020.

2018-2020 Bridge Rehabilitation Project Locations

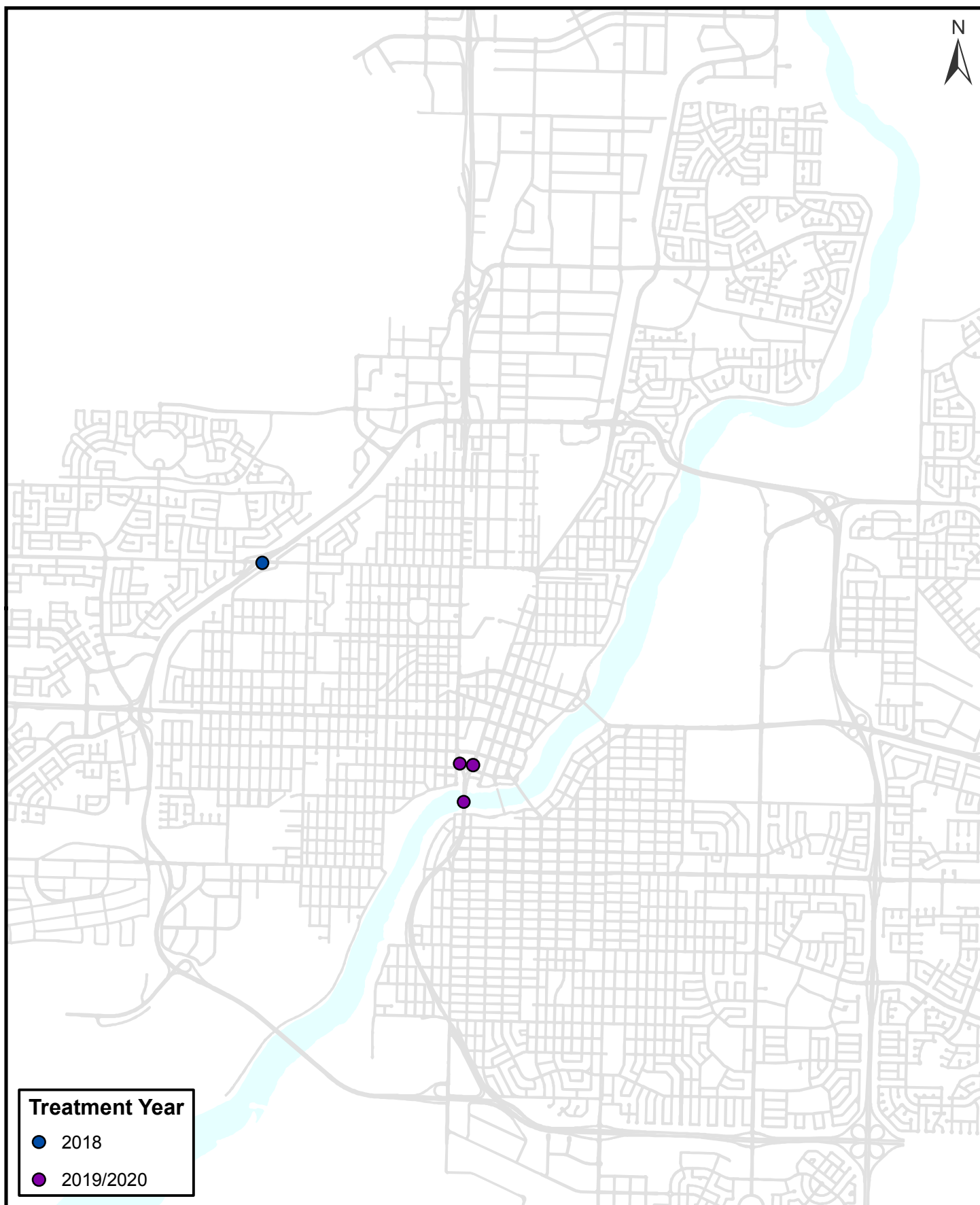


2018 Circle Dr northbound over 33rd Street Rehabilitation

2019 - 2020: Sid Buckwold Bridge & Idywyld Dr over 19th Street Ramps



2018-2020 Bridges & Structures Preservation Planned Rehabilitaion Locations



2018 BRIDGES AND STRUCTURES	
Structure Name	Treatment
Circle Drive NB over 33rd Street W	Rehabilitation
2019/2020 BRIDGES AND STRUCTURES	
Structure Name	Treatment
Sid Buckwold Bridge	Rehabilitation
Idylwyld Drive NB & SB over 19th Street W	Rehabilitation
Idylwyld Drive NB over 19th Street W to 1st Avenue Ramp	Rehabilitation

Projected Bridges & Structures