



City of
Kelowna

Council SNIC 2022/2023 Update



Service Levels

- Service Levels per Council Policy 332
- Service levels including how, when and where the City sands, salts and plows streets and the active transportation network depends on the City Council approved priority system.
- Guides Priority, Location and general Snow and Ice Definitions
- Contains references to other Applicable Bylaws (Notably Traffic Bylaw 8120)
- Guides Service delivery on various paved surfaces such as roads, multi-use pathways and sidewalks/walkways.
- Allows for deviations in service provision based on observed weather conditions.



Service Levels Detail

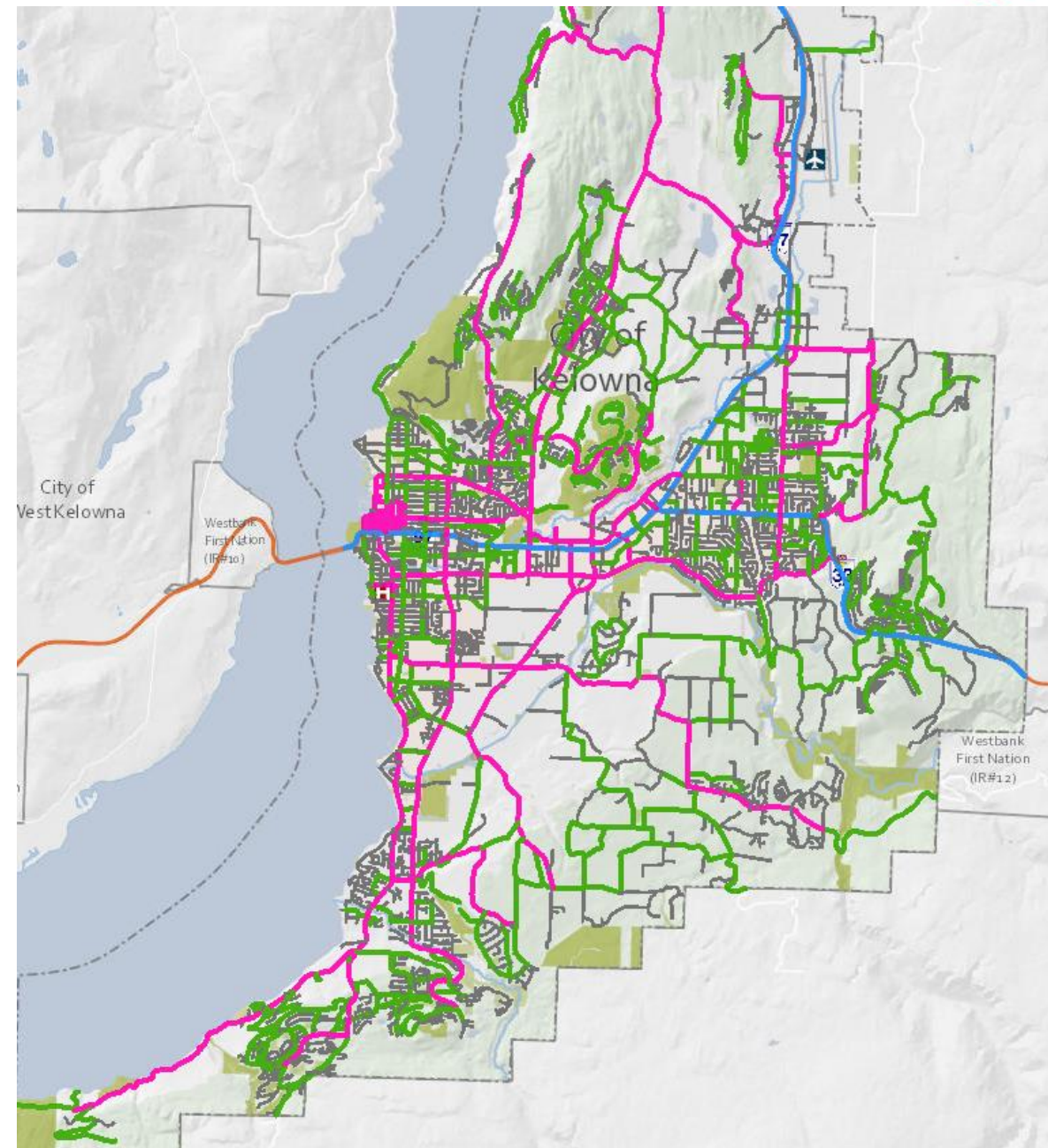
P₁ routes shall be cleared within 8 hours of the snow event ending

P₂ routes shall be cleared within 12 hours of the snow event ending

P₃ routes shall be cleared within 48 hours of the snow event ending

P₄ routes shall be cleared during regular hours (typically requires a 1-ton truck)

MUP/Rail Trail/Dedicated bike lanes shall be cleared within 24 hours of an event ending.



Management Systems



Dual shifting strategy providing 24-hour coverage if needed (OT only during events)

50 roads employees supported with another 25 from various other departments (Parks, Traffic Ops, etc.)

Multiple contractors for roads and parking lots

Winter Staffing Shift Change typically From Dec 1 to Mar 15.

Max Working Hours determined by National Safety Code NOT BC Labor Standards



Tandem with underbody
plow
13 City fleet
5 contractors

- Capable of plowing 3 priorities of road
- High volume of sand, more time spent plowing



Motor Grader with wing
3 City Fleet
1 Contractor

- Best piece of equipment for big snow falls & compacted snow
- Capable of clearing 2 ½ lanes in pass
- Occasionally the only tool for the job (Downtown snow removal)
- Clears all priority of roads + Cul-de-sacs

Tandem with Front Plow & Sander –1 contractor

Pros

- Ideal for heavy accumulation & Main line plowing (Hwy & Arterials)

Cons

- Limited versatility, cannot service narrow local roads & cul-de-sacs
- Safety concerns for intersections with poor sightlines (front overhang)





Single Axle & 1-Tons
10 City fleet

- Utilized for lanes, hillside routes & dead-ends



Municipal Tractors 10 City Fleet

- Tasked with clearing all bylaw exempt sidewalks
- Multiuse corridors & Walkways



Blower
Loaders
4 City Fleet
12 Contractors

- Loading Trucks
- Snow Removal
- Piling snow in cul-de-sacs
- Snow blowing

Maintained Infrastructure



1800 km roadways

440 km sidewalks

390 km bike lanes

40 km multi use pathway

805 cul-de-sac's

638 Bustops

40,000 driveways

117 parkinglots

Contractor Augmentation



City Crews
augmented by contractors

Access to 4 contracted HD units

Units are on a MAG (minimum
Annual Guarantee of 200 hours)

Average cost per unit (incl.
operator) \$ 200 per hour.

Minimum annual commitment
\$ 125,000

Parking Lots annual
planned commitment \$ 100,00



Budget



Current 2022 Budget \$ 2.185million. YTD \$ 2.0 million



Average annual overage over past 10 years = \$ 200.000



Increased budget pressures such as increased road inventory, community demand, material costs.



Environmental considerations i.e. less salting, greenhouse gas emissions vs clearing multi use pathways



Loss of snow storage space in denser area's resulting in expensive snow removal (requires equipment upgrades to manage cost)

METRICS



Expanded use of city works delivers powerful analyses tools to analyze spending (by route/activity etc.)

Post event analyses of performance and adherence to policy

Ensure Engineered controls inherent in design (reduce operational cost)

Assess projects on total cost of ownership vs lowest cost to deliver



Snow Removal

Snow Removal Dashboard

Dashboard

Snow Events



File



Export



Get insights



SNOW REMOVAL DASHBOARD

Snow Event

19

Year

2022

Priority

All

Date

All

Total Snow Events

7

Avg Accumulation (cm)

9.3

Avg cm/hr

0.55

Hours Since Last Event

328

Avg Completion Time (hr)

44.6

P1 VISITED



P1 Segements

494

Road Segments Visited

496

Total Road Segments

99.6%

P1 Completion Rate

P2 VISITED



P2 Segments

1143

Road Segments Visited

1188

Total Road Segments

96.2%

P2 Completion Rate

P3 VISITED



P3 Segments

1885

Road Segments Visited

2190

Total Road Segments

86.1%

P3 Completion Rate

Event Start

11/7/2022 2:00:00 AM

Event End

11/8/2022 6:00:00 AM

Hours Since End

0

50

Snow Event Length (hr)

28

Snow Accumulation (cm)

10.0

Avg cm/hr

0.36

Hours Since Prior Event

28

Completion Time

48

Year	Avg Completion Hrs	Average Snow cm/hr	Snow Events	Avg Event Length Hrs	Total Snow cm	Avg Event Snow cm
2022	44.57	0.55	7	30.29	65.4	9.3
Total	44.57	0.55	7	30.29	65.4	9.3



Questions / Discussion

For more information, visit kelowna.ca.