

Arterial Bike Paths

Winter Service Level Options

Option 1

SW Commuter Path Service Level Standardized for All Arterial Paths

Current Practice

- Primary paths cleared by 7 AM, M-F (excluding holidays).
- Secondary paths cleared by 4:30 pm day after snow has stopped falling.
- Weekend/holiday snow removal dependent on event and personnel availability.
- 95% sand : 5% salt is spread judiciously at discretion of staff or in response to complaints.
- Crews revisit path/street intersections once each day to remove windrows formed during street plowing operations.

Equipment Standardization

Toolcats

- Broom - <3" light fluffy snow/powder
- Plow – <3" heavy wet snow or over 3"
- Blower – 8"+ or drifting conditions



Material Usage

- Pre-treat with Brine?
- Post-treat sparingly with 95% sand/5% salt mix.
- Clean up through winter when conditions allow using Toolcat with “dustpan” attachment.
- Final spring clean up with sweeper when frost is out of ground.



Inter-Agency Coordination

Streets, Engineering and Parks will collectively determine when to deploy crews and equipment for each event.



Outcomes

- Paths cleared before morning and evening commute during work week.
- Snowfall on weekends may get packed down before they are cleared.
- When paths are cleared on weekends, will be coordinated effort.
- Bare pavement may not be achieved because salt is not used.
- Because of multiple general plow passes on streets, windrow blockages will continue to need attention.

Cost

- Southwest Commuter Path

Period	Hours	Labor	Equipment	Total
10/1/18 to 3/31/19	752.25	\$47,593.32	\$32,087.73	\$79,681.05
Average per Mile	67.35	\$4,260.82	\$2,872.67	\$7,133.49

- Arterial Paths

- 27.9 miles
- Total cost to standardize to SWCP level in 2020 would be \$208,975

Cost

- 2020 Budget Needs – Parks
 - Additional resources required for brooming paths following plowing
 - Without these resources, service to bus stops, sidewalks and secondary bike paths will be impacted.
 - Capital
 - Additional \$140K for 2 Toolcats with brooms and plows
 - Operating
 - Additional \$40K to provide same level of service to all arterial bike paths



Option 2

Add Weekend and Holiday Service

Service Level Enhancement

- Snow to be cleared from arterial paths on weekends and holidays within 12 hours after snow has stopped falling.

Outcomes

- Increased access during weekends and holidays.
- May reduce snow from getting packed down.

Cost

- 2020 Operating Budget Needs – Engineering & Parks
 - Additional \$65,425
 - Assumes 28.85% increase in hours required.
 - Based on number of days snow fell on weekends or holidays over past 6 winters.

Option 3

Provide Same Level of Service as Arterial Streets

Service Level Enhancement

- Plowing on primary paths begins at same time that crews are deployed on arterial street salt routes, seven days a week.



Outcomes

- Paths cleared before morning and evening commute during work week.
- Snowfall on weekends and holiday won't get packed down before they are cleared.
- Bare pavement more likely to be achieved even without salt being used.
- Because of multiple general plow passes on streets, windrow blockages will receive continual attention.

Cost

- 2020 Budget Needs – Engineering & Parks
 - Capital
 - Additional \$70K for 1 Toolcat with broom and plow
 - Operating
 - Additional \$165K to for labor and equipment operating costs
- Costs based on the following:

Average # of Salt Events (past 5 seasons)	34
Average Duration (hours)	7.50
Bikepath Crews Required (1 operator equipped with 1 Toolcat or Trackless)	6
Additional Hours per Winter	1,530
Cost per Hour	\$105.92
Cost	\$162,057.60

Minneapolis

City of Minneapolis Public Works

- Maintains 143 miles of on-street bike lanes and bike boulevards, 18.58 miles protected bike lanes and 49 miles off street bike paths.
- 10 person dedicated crew – 2 shifts.
- Use equipment similar to City of Madison.
- Crews are out during snow events .
- Apply 100% salt to bike facilities at same rate as streets (200 lbs/lane mile).
- Do not regularly remove windrow that forms in line with delineators separating vehicular and bike traffic.

Service Levels

Type	City	Minimum Desired Service Level
Bike Lanes & Trails	MPLS	On-Street Facilities: Completed at same LOS as street. Off-Street Facilities (trails and on-street <u>protected bike lanes</u>): w/in 24 hours
	STP	On-Street Facilities: Completed w/ street. Off-Street Facilities: w/in 24 hours

Minneapolis Park & Recreation Board

- Maintain 140 miles of sidewalks, paths and paved regional trails including 51 miles within City of Minneapolis. Most off street trails.
- 15 person dedicated crew.
- Use equipment similar to City of Madison. Crews out during snow if during regularly scheduled shift.
- Minimize use of OT. When OT is used focus is on weekends for recreation, not weekdays for commuting.
- Do not differentiate or prioritize segments of trails (ie. Commuter, secondary, etc).
- Use 95% sand/5% salt mix.
- 100% salt used on shaded areas, bottoms of hills, etc.

Standards and Priorities

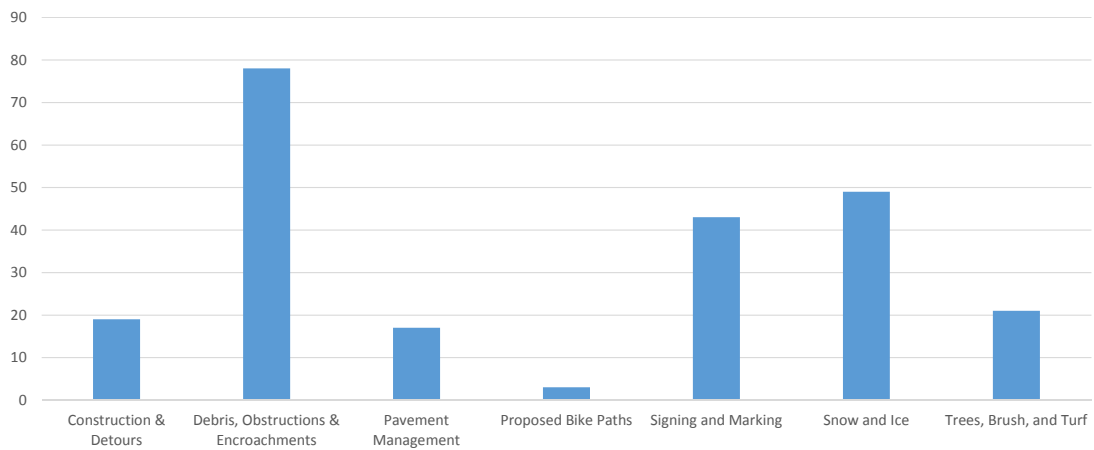
- Snowfall of 2"+
 - Staff clear snow within regularly scheduled shifts.
 - Don't utilize overtime until within last 1/3 of storm.
- Snowfall of <2"
 - Staff clear snow within regularly scheduled shifts.
- Time to clear snow
 - 60 to 80% within 8 hours
 - 80 to 90% within 24 hours
 - 98% within 48 hours

Report-A-Problem

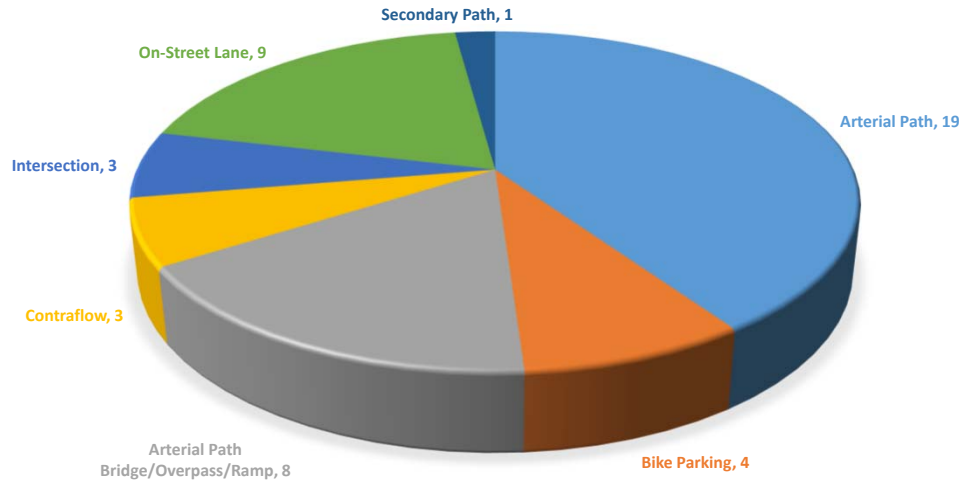
Bicycle Facility Related Issues

Bicycle Facility Report-A-Problems

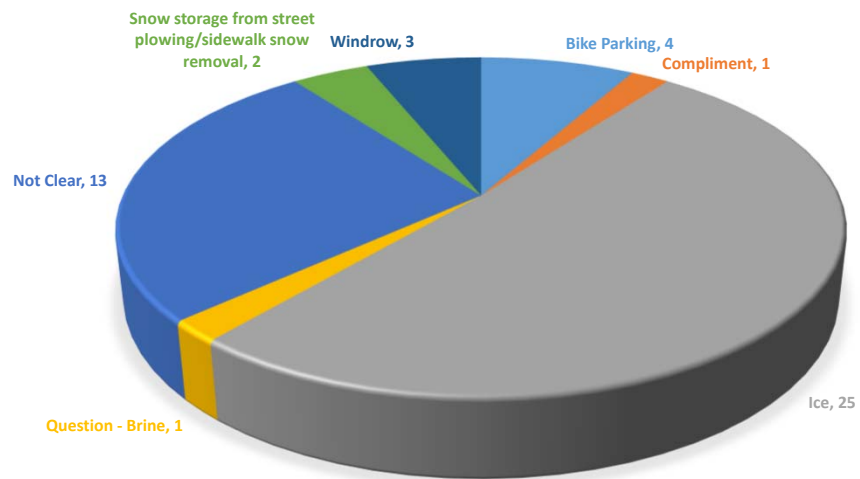
April 1, 2018 through March 31, 2019



Complaints by Facility Type



Complaints by Issue

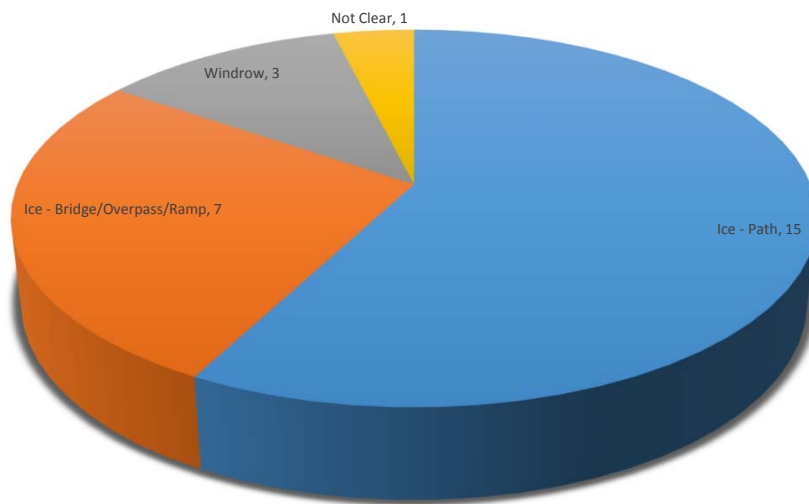


My Favorite RAP – the Compliment!

“This is not a problem. I just wanted to say thank you for plowing so many of streets around my house AND the bike path. I feel lucky, since I'm sure that many cities don't plow bike paths (but this makes things much easier for me and many others).”



Arterial Shared Use Paths - Issues



ICE



Complaints

- 22 complaints past winter.
- 31.8% early season event (rain to snow over holiday)
- 31.8% bridge, overpass, ramp locations
- Remainder – various locations throughout season

Current Practice

- Salt is not used to treat bike paths except in extreme situations.
- Sand/salt mix is applied as needed to treat icy spots
- Anti-Icing Pilot on SWBP

Contraflow

Challenge - Snow Storage

- No place to put snow from street plowing
- Private property owners push snow into contra-flow

Ideas for Improvement

- Work with Building Inspection to educate abutting property owners.
- Coordinate snow removal with Streets.
- Pilot loading snow directly into trucks and hauling offsite.

What We Need...

- Desired Standard (bare pavement, packed snow, etc.)?
- Timeframe in which to achieve the desired standard?
- Salt or no salt?
- Budgetary resources for labor and equipment to provide desired service level.

Questions?