



Department of Public Works

Streets Division

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To: Pedestrian/Bicycle/Motor Vehicle/Commission

From: George Dreckmann, Strategic Initiatives Coordinator

Subject: Snow Plowing of On Street Bike Paths

The Streets Division has been asked to look into its policy for snow plowing of bicycle paths that are located on streets. Some bicyclists have been unhappy with our current practices and have expressed a desire that the on street paths be maintained to the same standard as our off street paths. This report is being submitted to explain our present policies, look at the policies of several comparable communities in the upper Midwest, and provide an estimate of the costs associated with increased snow removal from on street bicycle paths in Madison.

Background

The City of Madison has 220 lane miles of on street bike paths and 46 miles of off street paths. The winter maintenance of these bike paths is shared by three agencies, Streets, Engineering, and Parks. The Streets Division has the sole responsibility for clearing on street bike paths. All agencies share in clearing the off street bike paths with Engineering taking the lead role.

Off street bike paths are plowed as needed after any snow event and as part of a general plowing when all City streets are plowed. (3" or more from a single event.) The goal is to have these paths clear for commuters as soon as practical on weekdays.

Winter maintenance of on street bike paths is preformed in conjunction with the road they are part of. If the path is on a salt route, it gets plowed and salted during any snow event. If it is on a residential street it is only plowed when snow accumulations exceed 3". Most on street paths are on salt routes.

On Street Bike Path Issues

There are several issues that make plowing on street bike paths a challenge. They include parking, lack of traffic on the path surface, and snow buildup along the curb line.

Parking is allowed along almost all on street bike paths. This means that plows are not able to access the entire bike lane due to the proximity of parked cars. Bike lanes are then seldom cleared down to the bare pavement.

Even though most on street bike paths are on salt routes they are seldom clear during winter. Salt's effectiveness is limited due to its dependency on traffic volume to distribute the salt and stir the snow and ice accumulations to promote the melting action. Given the lack of volume and small tire size of bicycles few bike lanes will be as the adjacent vehicle lanes.

During general plowings, streets are generally plowed as close to the curb line as possible. In order to accomplish this The Streets Division relies on compliance with the Alternate Side parking Ordinance (ASPO). If cars are moved in compliance with the ASPO we can, over a two night period, clear most streets very close to the curb line.

Our ability to plow on street bike routes to the curb is limited by two factors. The first limitation is that the ASPO does not apply on streets where parking is allowed on only one side. This includes large sections of the E. Gorham and E. Johnson bike paths as well as sections of Jenifer Street (other examples?). Due to the large volume of cars parked on these streets we are never able to get to the curb during regular operations.

Another limit to our ability to plow to the curb is compliance with the ASPO. When a car remains parked in violation of the ASPO we must plow around it. This action creates a space of approximately three car lengths where snow remains on the street.

Another cause of snow accumulation along the curb line is significant amounts of snow. During the last 10 years Madison has experienced some of its largest snowfalls on record. This results in large piles of snow on the terraces which eventually end up along the curb line and onto the street.

These circumstances lead to snow accumulating along the curb line and into the parking lane. This forces parked cars further from the curb so they encroach on the bike lane. This gradual narrowing of the on street bike path forces bicyclists into the traffic lane.

Other Communities

Staff discussed the plowing of on street bicycle paths with staff from An Arbor and East Lansing Michigan, Minneapolis and St. Paul Minnesota, and Milwaukee, WI. All of these communities have a regular procedure for plowing off street bike paths. None of the surveyed communities has special programs for plowing on street bicycle paths.

Ann Arbor, MI

Ann Arbor is not committed to a time frame of service level for on street bike paths. These paths are plowed as a part of the plowing operations on the street. This means that plows are not always able to clear the bike lane. Problems include parked cars, snow piles at the edge of the road and sidewalks in close proximity to the street which prevents snow being pushed back without infringing on the sidewalk.

East Lansing, MI

East Lansing's efforts mirror those of Ann Arbor. They encounter the same issues with parked cars and snow banks. They report having more issues than normal this year because of the large amount of snow and the frequency.

Minneapolis, MN

Minneapolis has no regular policy for on street bike paths. They are plowed at the same time the regular street is plowed. They have no policy to remove snow from on street bike paths or from curb lines in general. They do have two streets in the downtown area that are configured with the parking lane between the traffic lane and the bike lane. Snow is removed from these bike lanes using a Bobcat. However, removal on these unusual paths is a last priority during snow events and is often not completed due to a new snowfall.

St. Paul, MN

St. Paul will plow on street bike paths at the same time as they plow the street. They make no special effort to clear the paths during regular operations or afterward. They do go back in response to complaints, but they do not guarantee that they can fully open up the path.

They did conduct a pilot program to clear snow from one major on street bike path, Marshal AV. It "costs a lot of money" to keep the path open. The pilot was extended one added year due to the high costs. The hope was that the costs would average out to be less. The second year costs were very close to those of the first year and the project was not renewed or expanded. (A copy of this report was requested but we have yet to receive it.)

Milwaukee, WI

Milwaukee reports few problems in keeping on street bike paths plowed. Their big issue is lack of resources to plow and expanding network of off street paths. They currently have no program for plowing these paths but hope to develop something this summer.

Milwaukee has year round overnight parking regulations. Residents must purchase a permit for on street parking. Many streets are subject to year round alternate side restrictions. Milwaukee residents who park vehicles on the street overnight are used to complying with alternate side restrictions so compliance is very good.

There on street bike paths are on major streets. All of these streets are subject to alternate side parking rules. During snow emergencies Milwaukee has a program called "Snow and Tow" Cars illegally parked on designated streets are ticketed and towed. This enables plows to get to the curb which means that on street bike paths are cleared as part of the regular plowing process.

Summary

None of the surveyed communities has a program specifically to clear on street bike paths. Everyone that was contacted reported that they get many requests to do more to clear on street bike paths. Another thing they have in common is a lack of the necessary resources to do more than they currently do. These communities do not have large snow blowers for snow removal and have to rely on end loaders. There also report a lack of place to store the snow that might be removed to open up the bike paths. (For example, the City of Minneapolis reports having only on snow storage site.)

Milwaukee's "Snow and Tow" program is an alternative way to plow on street bike paths. This program allows for a cost effective plowing of the paths during snow emergencies. "Snow and Tow" does require parking enforcement staffing and will result in unhappy vehicle owners. It also does not address snow accumulation from non emergency snow events which can gradually narrow bike paths.

Removing Snow from Madison's On Street Bike Paths

The Streets Division has experience in removing snow from the on street bike paths on E. Johnson and E. Gorham. The snow is removed to widen these streets for the safe movement of all traffic, not specifically to open up the bike paths.

In order to safely remove snow, a crew of seven people and five vehicles are needed. We use an end loader which is mounted with a large snow blower to remove the snow. There are three large trucks used to haul the snow and a small pickup with an arrow and a flag person to shift traffic so the vehicles can safely operate.

In order for snow removal operations to be effective, the streets to be cleared must be posted with special no parking instructions. This must be done 48 hours in advance and approved by Parking Enforcement. This is necessary so that vehicles that remain in place can be towed.

Our experience is that a crew like this can clear three miles of street per day. The cost for Streets staff and equipment is \$2,808 per day or \$936 per lane mile. If we were to clear all 220 lanes miles of on street bike paths the cost would be \$205,920 per event. We budget for six major events per year. Assuming we cleared the on street bike paths after each major event the annual cost would be \$1,235,520.

The cost of snow removal is significant, but the primary limiting factor is staff and equipment availability. Ideally, we could field two snow removal crews. That means we could clear 6 lane miles of on street bike paths per day. It would take 36 days to remove snow from all on street bike paths in Madison.

Based upon our yearly average of major snow events we can expect one every 2 to 3 weeks. It is doubtful we could ever clear all on street bike paths even once each winter.

(NOTE: This estimate is based upon the cost of our current operations. Given the staff and equipment requirements to undertake this operation additional staff and equipment would be necessary. This would further increase the cost. If this operation were to be considered for implementation a more thorough cost analysis would be needed.)

Another option we have been asked to look at by bicycling advocates is the use of smaller snow plows. A small plow can get no closer to a parked car than a large plow so we would still not be able to make the bike lanes any wider without risking damage to parked vehicles.

Other Options

Parked cars are a significant physical obstacle to clearing on street bike paths. They limit how wide an area our plows can clear and they encroach on bike paths as snow piles up in the curb line and on the terrace.

There are many areas in the downtown and on the Isthmus that are inside the Clean Streets/Clean Lakes (CS/CL) sweeping zone. From May 15th through November 15th on street parking is prohibited for a 4 hour period once a week to enable street sweepers to get to the curb. It would be possible to make these daytime parking restrictions year round. This would give our plows a chance to get to the curb on a weekly basis to open up the bike paths.

It would also help if every street, including those with one side parking, were made subject to the ASPO during snow emergencies. This would enable our plows to clear snow from bike paths along these blocks while doing regular snow plowing operations. Both of these options would require a change in ordinance and, in the case of the CS/CL areas at least, funds for sign changes.

It should be noted that the effectiveness of either of these ideas would be limited by the compliance with the parking restrictions. As noted earlier, when a car remains parked in violation of the ASPO or CS/CL we must plow around it. This action creates a space of approximately three car lengths where snow remains on the street.

It might be possible to institute a “Snow and Tow” program. Such a program will require ordinance changes, more staff for Parking Enforcement, signage and a public education effort. It would be possible to limit tow program to streets with bike paths or expand it to include other streets that would benefit from such a program. The more streets covered, the higher the cost for the program.