



## Department of Public Works

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**City Engineer**  
Robert F. Phillips

**Parks Superintendent**  
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**Streets Superintendent**  
Charles Romines

**DATE:** December 4, 2018

**TO:** Transportation Policy and Planning Board

**FROM:** Rob Phillips, P.E. – City Engineer  
Eric Knepp, Parks Superintendent  
Charlie Romines, Streets Superintendent

**RE: **Bicycle Facility Maintenance Workgroup Recommendations****

The City of Madison's bicycle transportation network includes more than 55 miles of shared use paths, 133 miles of streets with bike lanes and 116 miles of signed bicycle routes. The City of Madison's vision is to make bicycling an integral part of daily life in Madison, thereby making Madison a model for health promotion, environmental sustainability and quality of life.

Proper maintenance of bike lanes and shared use paths is an important consideration in people's decision to bicycle and a key factor in bicycle safety. Properly maintained bike lanes and shared use paths also provide access to services for those without access to a motor vehicle. Inadequately maintained bike lanes and shared use paths can create hazardous conditions on the roadway and disrupt connectivity of the bicycle transportation network. The objective of the City's bicycle facilities maintenance program is to provide safe, comfortable riding conditions, which promote bicycling as a viable alternative mode of transportation.

The City's Public Works agencies involved in bicycle facilities maintenance include Engineering, Parks and Streets. We are continuously looking for opportunities to improve the quality and effectiveness of the services we provide and appreciate the time and energy that the members of the Bicycle Facility Maintenance Work Group but into identifying opportunities for improvement in bicycle facility maintenance activities. Staff from our agencies have been meeting to review these recommendations. Our collective response to the Work Group's recommendations is provided on the following pages. The Work Group's recommendations are shown in bold with the Public Works Staff Team below each recommendation.

**1. Consolidate management/accountability for all bike network snow removal (bike facilities snow czar).**

Bike network snow removal is currently the joint responsibility of the Engineering, Parks and Streets Divisions. The equipment and personnel used for snow removal is used by these different divisions throughout the year to fulfill their missions. As such we believe that accountability should continue to belong with individual division providing the service.

**a. Current accountability and variation.**

Primary Bike Paths – Engineering & Parks  
Secondary Bike Paths - Engineering, Parks & Streets  
On-Street Bike Facilities - Streets

Path snow removal is assigned geographically in conjunction with sidewalk and bus stop snow removal. This eliminates the need to have more than one City crew travel to the same area to remove snow from different type facilities. This reduction in “wind-shield” time increases efficiency. Variations among agencies are primarily due to the equipment available to each agency.

**Action:** The city will continue to seek improvement in coordination and consistency between the Divisions.

**b. Focus on standardizing practice and protocols for path maintenance (Research and adopt best practice regarding use of brine, salt, sand and equipment (brush vs blade) across all departments that maintain bike facilities.**

Some path maintenance practices and protocols vary because of the equipment available to the maintaining Division. The Public Works Bikeway Facilities Maintenance Manual has been adopted by the Engineering, Parks and Streets Divisions. This document identifies the types of activities, level of service for various facilities, and is updated regularly.

**Action:** The Divisions have created an inter-agency staff team composed of supervisors and operators to discuss opportunities for implementing best practices across agencies to develop more standardized procedures. The City will continue to research and pilot best practices to determine their effectiveness in Madison. Pilot results will be shared across Divisions with the focus on implementation system-wide as applicable. Cost estimates for equipment required to standardize services across agencies will be provided as part of pilot evaluation results and recommendations.

**2. Increase level of service of existing bikeway maintenance.**

**a. Primary paths are maintained on weekends and holidays.**

The current service level for snow removal from primary paths is:

- Snow removal expectations on primary paths are the same as for when a homeowner would be expected to clear snow from their sidewalk;
- The goal is to have snow cleared by 7:00 AM, Monday through Friday, excluding holidays) to facilitate users commute to work and school. Crews are also assigned to clear these shared use paths during the workday to ensure that commuters can safely use this transportation network to return home from work and school.

Staff reviewed costs for the past 5 winters to provide snow removal services on the South West Commuter Path along with snowfall data for the same period of time. The total cost for Southwest Commuter Path snow removal at the current service level was \$217,000 or \$43,000 per year. Applying these costs to all primary paths yields an annual cost of \$135,000 to provide the current level of service.

During this 5-year time period snow fell on 250 days with 30% of these days being on weekends and holidays. Assuming this 5-year period provides a reasonable expectation of average annual snowfall and costs we project the annual cost to expand snow removal for all primary paths to include weekends and holidays would be an additional \$113,000 (in 2018 \$).

**Action:** Engineering and Parks will continue its existing snow removal practices on primary paths in 2019. The additional cost for consistent weekend and holiday snow removal will be presented to the Transportation Planning and Policy Board. If recommended, operating funds for weekend and holiday snow removal service on primary paths will be incorporated into the operating budget request for 2020.

**b. On-street bike lanes are maintained clear of snow and ice.**

**i. Parked cars**

Plowing streets around parked cars is challenging.

**Action:** The staff team will review the City's policies and practices related to parked cars after the 2018-19 winter so that results of pilot activities can be considered.

**ii. After the final pass of the plow**

**Action:** The Streets Division will implement a variety of measures in a pilot area for the 2018/2019 winter season to assess the effectiveness of those measures to improve snow removal from on-street bike lanes. These include training operators to get as close to the curb as possible on the final pass of plowing; using a broom for final pass on bike lane; applying brine to the bike lane; and various combinations of these activities. Salt application rate or procedure will not be changed.

The Streets Division will photo document results, track costs and identify other service impacts. The goal of this pilot is to determine which measures are most effective and provide policy makers with cost estimates for implementation city-wide.

**c. Windrows at path crossings are cleared quickly after they're formed.**

Agencies have made a concerted effort to remove windrows at path crossings. Currently, crews are assigned to clear windrows each day that Streets continues its plowing operations. If a plow goes by after crew has been to a particular location and creates a new windrow, then it would remain until the following day when crew revisits location.

**Action:** A pilot program is planned for the 2018/19 winter at key crossings along the Southwest Commuter Path to incorporate the following practices:

1. Engineering path crew will clear an area of street upstream from the path to provide space for plow to shed snow prior to arriving at path crossing; and
2. At path crossing Streets plow operator will straighten blade until beyond the path crossing.

The intent is to minimize the amount of snow shed in front of the path crossing when the street is plowed. The pilot will determine if this is an effective means of minimizing windrows and provide policy makers with cost estimates for implementation city-wide.

**d. Access to call buttons are maintained clear and accessible.**

**Action:** The Streets Division is working with operators to identify specific locations along each route where call buttons designed for use from bike lane exist to make these accessible during plowing operations. Additionally, agencies performing crosswalk snow removal will work to avoid storing snow at call button locations.

**e. Bike lanes and paths are kept free of debris and glass.**

The service level for on-street bike lanes will be the same as street which bike lane is part of. The Streets Division responds to reports of broken glass outside of scheduled sweeping on an as needed basis.

**Action:** The Streets Division is reviewing its existing program for path sweeping with a goal of developing a scheduled program during the sweeping season. Post-winter sweeping of paths is done as soon as the frost is out of ground and the weight of the sweeper will not damage paths. Specific paths will be swept more frequently based on traffic volume and history of problems (e.g. SW path is swept 2X per week – Monday and Friday due to high use and high frequency of broken glass complaints south of beltline and in campus area).

**f. Vegetation is maintained clear of bike lanes and paths on a routine basis (not just complaint-based).**

Mowing along paths occurs on a biweekly basis, during which a 5-foot pass on each side of the path pavement. Vision triangles at streets crossings are mowed on this same schedule. Forestry does not have adequate funding to perform annual inspections and/or trimming of bike path trees. Rather these are responded to on a complaint basis.

**Action:** The Public Works agencies involved in path mowing have developed a plan to inspect paths twice per year (by mid-June and again in late August) to identify tree issues. These issues will be reported to Forestry to be addressed.

**g. Sand is only applied to icy areas on paths and sand accumulations are removed as soon as conditions permit.**

Ice control practices currently vary by Division.

**Action:** Engineering, Parks and Streets are working to standardize this practice. The Engineering Division began piloting the use of brine to pre-treat the Southwest Commuter path during the 2015-16, 2016-17 and 2017-18 winters. While results have been promising, the winters since then have been exceptionally mild. Based on brine pilot results Engineering and Parks will consider expanding to portions of the Capital City Trail for the 2019-2020 winter.

**h. Paths are swept routinely in the fall to remove leaf and debris accumulations.**

On-street bike lanes are swept on the same schedule as the street. The Streets Division responds to reports of broken glass outside of scheduled sweeping on an as needed basis.

**Action:** The Streets Division is reviewing its existing program for path sweeping with a goal of developing a scheduled program during the sweeping season. As mentioned, post-winter sweeping of paths is done as soon as the frost is out of ground and the weight of the sweeper will not damage paths. Specific paths will be swept more frequently based on traffic volume and history of problems (e.g. SW path is swept 2X per week – Monday and Friday due to high use and high frequency of broken glass complaints south of beltline and in campus area).

**3. Up-to-date winter bikeway maintenance service-level standards are published on city's webpage.**

**Action:** The current Public Works Bikeway Facilities Maintenance Manual has been posted to the city's webpage. The Public Works staff team will review and update this document annually (August) with the updated version posted to web by Oct 15.

Divisions are working on implementing GPS into all Public Works vehicles. This project includes sensors to track when a plow is up or down and when brine, salt and/or sand is being applied. This data will be made available on a public facing map to provide citizens with information as to when streets and paths have been plowed. We anticipate this going live the winter of 2019/2020.

- 4. Review winter on-street parking restriction policies and update as needed to facilitate clearing of snow and ice to the curb.**

**Action:** Winter on-street parking restrictions will be reviewed after the 2018-19 winter so that results of pilot activities can be considered.

- 5. Tow vehicles in violation of winter on-street parking restrictions as needed to ensure clearing of snow and ice to the curb.**

**Action:** This policy will also be reviewed after the 2018-19 winter so that results of pilot activities can be considered.

- 6. Update Report-a-Problem to make reporting issues easier for submission and to improve data collection and analysis (consider mobile app).**

**Action:** City IT is in the process of executing a contract for a 311/Customer Relationship Management Strategic Plan and Implementation Strategy. The goal is to have one interface that can be used by residents to report issues. A mobile app would be a component of this system. It is anticipated that this interface will be operational by 2021. In the meantime the City will review specific changes to the existing RAP as they are requested.

- 7. Public Works to prepare and deliver an annual report to the Transportation Commission summarizing bikeway maintenance related complaints received including steps taken or planned to improve service levels.**

**Action:** We recommend that this report cover the period May 1<sup>st</sup> through April 30<sup>th</sup> and be presented to the Transportation Commission in June of each year so that the prior winter season in its entirety can be evaluated.

- 8. Update standard bike lane and path cross section standards to account for winter maintenance challenges.**

Designers routinely consult with Operations staff to assure that facilities are designed to be as maintenance friendly as possible.

**Action:** Designers will continue to consult with Operations staff to assure that facilities are designed to be as maintenance friendly as possible.

- 9. Outreach to businesses regarding the importance of maintaining bike parking throughout the winter.**

**Action:** Encouragements will be posted on city web pages in the same locations as recommended winter practices. Customer complaints and comments often are the most effective measure in changing business behavior. The biking community can affect compliance by encouraging places they patronage to clear bike parking during the winter.

We look forward to working with the Transportation Commission to continue to work towards achieving the City's vision is to make bicycling an integral part of daily life in Madison, thereby making Madison a model for health promotion, environmental sustainability and quality of life.