

City of Madison Public Works Bikeway Maintenance

Making Bicycling a Viable Mode of Transportation

Goals and Objectives

The City of Madison's transportation network includes more than **125 miles of bicycle routes**. These routes include dedicated bike lanes, paved shoulders, wide curb lanes, rush hour parking restrictions, dedicated bike paths, unpaved paths and bike routes along sidewalks. 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.

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Proper maintenance of bike lanes and bikeways is an important consideration in people's decision to bicycle and a key factor in bicycle safety. Inadequately maintained bike lanes and bikeways can create hazardous conditions on the roadway and disrupt connectivity of the bikeway network. The objective of the City's bikeway 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 bikeway maintenance include Engineering, Parks, Streets, and Traffic Engineering. These agencies have formed a staff team to identify specific bikeway maintenance requirements and ensure that the appropriate agency is designated to assume these responsibilities. This policy is designed to ensure that each agency is aware of the specific maintenance requirements and standards.

Pavement Management

The Engineering Division is responsible for the design, construction and inspection of all street, highway, sidewalk and bikeway construction. A high priority is placed on citizen involvement in these projects. Maintaining the safety of the City's streets and bikeways through regular inspections, routine maintenance and scheduled rehabilitation and replacement is part of the City's Pavement Management Program. This program involves local streets, collector streets, arterial streets, bikeways, and other path systems.

Engineering uses the Pavement Surface and Evaluation Rating System (PASER) developed by the University of Wisconsin –Extension and used by the Wisconsin DOT. The PASER rating system is used to rate all city streets, bikeways and other path systems on a biennial basis to evaluate the condition of the pavement. The type and severity of defects noted in a given street or bikeway segment yields a numerical rating between 1 and 10, with a rating of 10 being assigned to a newly constructed street. These ratings are incorporated into the Engineering's Geographical Information System (GIS), which includes a comprehensive inventory of all city streets and bikeways. This system is used to identify and schedule ongoing street and bikeway maintenance in an efficient and cost-effective manner.

The City of Madison utilizes preventative maintenance techniques to extend the life of our off road bike and pedestrian path system. The type of maintenance is based on the pavement age and rating.

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If a bikeway has a rating of a 7 or above, crack sealing is used. Crack sealing consists of filling cracks and joints with asphalt materials to prevent water from entering the base and sub-base. This slows pavement deterioration. Crack sealing is done at around 5 and 10 years of age. The City is no longer filling longitudinal crack on bike paths, only transverse cracks.

The City of Madison also utilizes infrared seamless bituminous pavement patching of cracks and other distressed areas of our off road pathways. Infrared Thermal Bond Seamless Bituminous Pavement Patching is a method of blending new bituminous concrete material with infrared heated existing surface material to form a joint free integral mix patch.

The City resurfaces bike paths when the pavement has exceeded the useful life. The PASER rating on the bike paths is used to prioritize these projects.

Potholes and Patches

Potholes are a fact of life in Wisconsin. Potholes form when water, whether from melting snow, rain or frost thawing gets into the cracks in the pavement and cause the road base to shift and develop voids just under the pavement. When this occurs, the weight of vehicles causes the pavement to crumble causing potholes.

The Streets Division Pavement Maintenance Program is responsible for routine street and bikeway maintenance, which includes filling of potholes and depressions, removal and replacement of damaged pavement, grinding and resurfacing with crushed stone and sealant. Weather permitting, it is the goal of the Pothole Patrol to respond to pothole reports, no later than the next working day. If weather is bad, it could take longer to get the pothole patched.

Areas of damaged pavement that exceed the Streets Division's capabilities are referred to the Engineering Division for repair. Engineering evaluates the underlying causes of deterioration and identifies the most effective and cost-efficient method of repair.

Utility Cuts

Utility cuts are the cuts in pavement made in order to make repairs or modifications to underground utilities (i.e. sewer, water, electric, gas, fiber optic, etc.) All utilities and contractors performing work in the public right-of-way (ROW) are required to obtain an Excavation in the Right-of-Way permit from Engineering. This permit requires that pavement be restored to City of Madison Public Works Standard Specifications. These standards specifications can be viewed at:

<http://www.cityofmadison.com/Business/PW/documents/StdSpecs/2009/Part4.pdf>.

Specific pavement patching criteria is applied to arterial streets with a pavement condition rating greater than six (6) with particular attention being paid to areas near bicyclists' typical travel alignments. More information on these criteria are available at:

<http://www.cityofmadison.com/engineering/patchingCriteria.cfm>

Engineering has a full-time ROW Utility inspector to ensure that this work is done correctly and promptly. If repairs fail within three years, the utility or contractor who performed the original work is required to take remedial action.

Pavement Markings, Signage and Lighting

Traffic Engineering is responsible for the design, inspection and maintenance of all bikeway pavement markings, signage and lighting.

Traffic signs and pavement markings are maintained as originally installed. This includes signing and marking on both the shared used path and signing and marking for path crossing roadways, and signing and markings directed at motorists. All devices, signs, and markings are required to conform to the *Manual on Uniform Traffic Control Devices (MUTCD)*.

Damaged or malfunctioning traffic warning signals are promptly repaired or temporary corrections made until permanent repairs can be made. Luminaires and fixtures for illuminated signs not essential for traffic safety are routinely scheduled for repair or replacement.

Vegetation Maintenance

Engineering, Parks and Streets each have areas of responsibility for managing vegetation in ditches, storm water facilities, off-street bike paths, pedestrian areas, and rights-of-way.

Mowing

Bikeway mowing is performed bi-weekly. At a minimum a 5' shoulder on either side of the edge of the pavement is mowed to eliminate site distance problems. **Engineering, Parks and Streets each have specific bikeways that they are responsible for mowing.**

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Noxious Weeds & Invasive Species

Noxious weeds outside of the shoulder area are handled on a complaint basis. **Engineering and Parks work with volunteers to eradicate invasive species as resources allow.**

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Tree trimming

Parks-Forestry provides tree planting, trimming and maintenance along Madison's streets and bikeways. Visual inspections of bikeways are made annually to identify areas in need of trimming. Forestry staff also responds to specific complaints of low-hanging branches and/or downed trees along bikeways.

Snow & Ice Control

Dedicated Bikeways

Arterial Bikeways

Bikeways that have been identified as arterial routes are a top priority for snow and ice control. As a general rule, if a homeowner would be expected to clear snow from their sidewalks, these bikeways are cleared.

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The goal is to have arterial bikeways cleared by 7:00 AM, Monday through Friday, (excluding holidays) to facilitate users commute to work and school. As such, snow removal operations for these bikeways commence no later than 5:00 AM Monday through Friday. Crews are also assigned to clear these bikeways during the workday to ensure that commuters can safely use this transportation network to return home from work and school.

In the event the Streets Division calls for a general plow over a weekend, crews shall be scheduled to plow arterial bikeways once snow has stopped falling.

Secondary

Bikeways that have been identified as secondary routes. All other bikeways are incorporated into the City's snow removal routes for sidewalks abutting City of Madison owned parcels and bridges. These areas are to be clear of snow and usable no later than 4:30 PM of the day after the snow has stopped falling, or ice has accumulated on the sidewalk. This includes weekends and holidays.

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Weekend snow removal operations typically begin at 7:00 AM, Saturday and Sunday. This enables crews to remove snow more efficiently and effectively prior to it becoming packed down by bicycle and pedestrian traffic.

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~~Crew assignments are often made the evening before depending on conditions and the weather forecast. Note: Clearing these paths of snowfall greater than 3" requires more time and the crew start time is to be adjusted accordingly.~~

Salt and Sand Application Usage

~~Bike paths will be spot-treated with salt/sand mix. These materials Salt and sand are to be used sparingly and only as necessary to melt-ice and provide traction.~~

~~Sand is only useful when applied on top of snow/ice. It also poses a hazard to cyclists after snow and ice have melted and it is left on bare pavement. As such sand should be swept off bare pavement as soon as is practical.~~

Windrow Removal and Access to Signal Controls

~~After the Streets Division completes plowing crews will revisit previously plowed bikeways to remove windrows and provide access to traffic signal buttons.~~

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On-Street Bike Lanes

The Streets Division is responsible for the removal of snow and ice from all Madison streets and on-street bicycle lanes. This operation includes salting, sanding and plowing. Madison practices a "sensible salting" policy; salt and liquid sodium chloride are applied only to predetermined routes which cover bus routes, main streets, connecting streets and streets leading to and from schools. All other City streets, hills, intersections and railroad crossings are sanded.

~~On-street bicycle lanes on salt routes are cleared as much as possible during street snow removal operation the storm event. During the final pass these bikelanes are cleared to the curb.~~

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A snow accumulation event of three inches or more results in a City-wide, or "general" plowing operation. On average, this standard has contributed to the performance of 5 general plowings per snow season. In addition to the City's 85 - 90 pieces of equipment available for plowing, the City employs private contractors capable of furnishing graders and endloaders for general plowing operations. Under normal conditions, a general plowing effort is completed in 10 to 12 hours.

Note: In heavier snows, on-street bike lanes may not be immediately cleared as plowed snows build up along the curb and gutter.

Other Bikeways

~~All other bikeways are incorporated into the City's snow removal routes for sidewalks abutting City of Madison owned parcels and bridges. These areas are to be clear of snow and usable no later than 4:30 PM of the day after the snow or ice has accumulated on the sidewalk. This includes weekends and holidays.~~

Bicycle Parking Facilities

Snow removal around bicycle parking facilities at City facilities is the responsibility of the specific facility's maintenance staff.

[Pilot Projects](#)

[The Engineering Division piloted the use of brine to pre-treat the Southwest bikepath 1st winter. Clearing of snow While the results were promising the winter was exceptionally mild. As such the Engineering Division intends to continue the pilot into the winter of 2016/2017](#)

Glass & Debris Removal

Pavement Sweeping

The City of Madison's Street Sweeping Program is funded through the Stormwater Utility. The primary goal of this operation is to control roadway runoff by removing pollutants to prevent them from reaching surface waters.

The Streets Division operates nine street sweepers to sweep streets with curbs and arterial bikeways. Streets and bikeways along dedicated bike lanes, paved shoulders, wide curb lanes, and street segments with rush hour parking restrictions are swept seasonally and on a rotational pattern, by collection district. Debris collected by sweepers is hauled away to a landfill to be used as cover material.

As soon as weather permits, generally mid to late March, the Streets Division begins the annual Spring Cleanup. This program is designed to clean up all the debris that accumulates on City streets and bikeways during the winter.

Upon the completion of the Spring Cleanup, sweepers move to regularly scheduled sweeping throughout the City and continue doing so until the middle of October. Depending on weather conditions and mechanical breakdowns, this cycle repeats every 4 to 6 weeks.

Sweeping frequencies are increased in specific areas to address specific issues. Aldermanic districts 13, 6 and portions of district 2 and 11 are swept weekly in order to protect Madison's lakes by minimizing the amount of pollutants entering the lakes. The Southwest Bikeway (from the Capital City Trail to Proudfit) is swept two times each week. This is due to heavy traffic volumes and a historical problem with broken glass.

Beginning in Mid October street sweepers are assigned to shadow leaf collection crews. It is the Streets Division goal to be no more than two days behind the leaf crews in order to remove all leaves from the street before then can be washed into our storm sewers.

In addition to scheduled sweeping, Streets responds to complaints of debris on streets or bikeways special requests for spot sweeping as necessary to eliminate potential hazards. If a sweeper is near the area of the request, it will be rerouted to respond. If no sweeper is in close proximity a Streets foreperson will make a site visit. Small amounts of debris are swept by hand thus eliminating the need to have a large, slow moving piece of equipment respond. Occasionally, the site is found to be free of debris. Some locations are regular problem areas and it is not feasible to have a sweeper visit these sites on a daily basis.

The Parks Division is responsible for removing refuse and debris from paved dedicated bikeways.

Graffiti Removal

The Streets Division performs graffiti removal throughout the City on public property. Two graffiti crews patrol the City and remove graffiti from public owned locations and the right-of-way.

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Storm Grates

Storm inlet grates currently installed in Madison are “bicycle friendly” with the openings oriented on the diagonal. Older style grates located in areas with bicycle traffic are replaced where feasible.

Bicycle Parking

All City facilities have bicycle parking facilities. These facilities are maintained by Engineering Operations, Parks or in specific instances, the agency occupying the facility.

Bicycle parking facilities are also provided in public parking structures. The Madison Parking Utility maintains these facilities.

Bicycle racks are provided in a variety of State Street locations and are maintained by the Parks Department – Mall Concourse group.

Traffic Engineering has placed a number of bicycle racks in the ROW at the request of the abutting private property owner. These racks are maintained by the requestor.

Removal of Abandoned Bicycles

The Madison Police Department is responsible for the removal of abandoned bicycles.