

Bicycle Facility Design Guidelines

Chapter 8—Maintenance

Maintenance Guidelines

Defining Regular Maintenance and Extraordinary Maintenance—In October 2000, the City of Minneapolis and Minneapolis Park and Recreation Board completed the Bikeways Project Final Report. The report outlines maintenance responsibilities and defines routine and extraordinary maintenance.



Above: Construction vehicles in Minneapolis.

Routine Maintenance: Routine maintenance is defined as the basic level of service for a given bikeway. Routine maintenance occurs on a regular schedule and is provided to a minimum standard of quality.

Examples of Routine Maintenance:

- Power sweeping.
- Trash and debris pick-up.
- Winter maintenance including plowing, sanding, and salting.
- Paved surface repairs including asphalt patching and crack sealing.
- Graffiti removal.
- Permanent sign maintenance/lane striping maintenance (non-MMUTCD required signs are considered extraordinary maintenance).
- Maintaining landscaping/plants/trees.
- Accident debris cleanup.



Above: Construction vehicles in Minneapolis.

Extraordinary Maintenance: Extraordinary maintenance involves the frequency of the routine maintenance service levels and/or adding new services to the routine maintenance.

Examples of Extraordinary Maintenance:

- Installation/removal of seasonal signs, such as signs designating a path for the joint use of walkers and biker in the winter.
- Special signs, such as adopt-a-program recognition signs.
- Additional security measures, such as security cameras, phone lines, and increased police patrolling.
- Bikeways amenities such as bike racks, bike lockers, water fountains, and public art.
- Utility work pavement restoration.
- Non-standard specialty lighting.



Above: Construction vehicles in Minneapolis.

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Mowing and Vegetation—See below:

Greenways: Many trails are located in greenway corridors that support a variety of trees, plants, and animals. Maintenance practices should not disrupt the natural ecosystem of native plants and wildlife.

Mowing: Mowing along trails is necessary to keep grass and weeds out of the trail. Regular mowing also keep noxious weeds from pollinating and reproducing. Due to budget constraints, trails that are maintained by Public Works shall have the 2-foot clear zone mowed on a regular basis and the rest of the trail corridor will be mowed at least twice per year. Caution should be taken to avoid mowing community gardens or native plantings.

Vegetation: Each neighborhood has its own character and appearance. Vegetation along trail corridors can vary widely. A maintenance plan should be developed for each corridor to best define what trees, shrubs, and plants are appropriate. Public Works will only maintain trail infrastructure and will not maintain park elements. Planting flowers, shrubs, and trees along trail corridors is encouraged, but careful consideration should be given to how the maintenance will be provided and who will provide the maintenance.

Tree Trimming: Trees provide shade and significant environmental benefits. The City of Minneapolis Urban Forest Policy defines roles and responsibilities for tree maintenance. Public Works reserves the rights to trim any tree along a city maintained trail corridor that inhibits safety. Trees often block surveillance cameras, provide hiding spots, and obscure sightlines. In these situations trees must be appropriately trimmed to keep trail corridors safe and secure.



Above: Midtown Greenway wildlife.



Above: Kenilworth Trail mowing.



Above: Vegetation along West River Parkway.



Above: Vegetation along the Midtown Greenway.

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Plowing — Plowing bikeways is an essential form of routine maintenance that must occur to facilitate safe year round bicycling. On average the Twin Cities region receives over 55 inches of snow each year. Nonetheless, over 25% of all bicyclists choose to bike year-round regardless of weather.



Above: Plowing along the Midtown Greenway.



Above: Plowing along the Midtown Greenway.

Plowing Frequency: Minneapolis bikeways are plowed relatively soon after a snowfall. Arterial trails are often plowed before many of the streets. All bikeways are sanded and salted as needed.

Trail Plowing Policy: Bikeways maintained by Minneapolis Public Works and the Minneapolis Park and Recreation Board will be kept reasonably free of snow and ice, with sanding and/or salting as required in the winter season. The bikeway will be plowed once by the end of the next business day after the snow fall.

On-Street Bikeways Plowing Policy: On-street bikeways receive the same level of winter maintenance as the rest of the street surface.

Plowing Vehicles: Smaller trucks and pickups with plows are often used to maintain the trails. Larger snow plow trucks maintain the roadway system and corresponding on-street bikeways.



Above: Plowing along the Midtown Greenway.



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Plowing — In a winter city with a large number of bicyclists, expectations can be high. However, the following example of poor winter maintenance are not acceptable and should be avoided and/or corrected.



Above: Snow plowed into the bike lane can be a serious problem for bicyclists and should be avoided.



Above: The bike rack not shoveled. It is important that property owners shovel around bike racks.



Above: In some cases weather conditions may cause snow/ice pack to form even after plowing and sanding/salting.



Above: Snow and ice in the bike lane. Lack of heavy traffic in the bike lane can cause this to occur.



Above: Trail not plowed; packed snow and ice. All trails must have maintenance responsibilities defined.



Above: Winter parking allowed in bike lane. This practice is no longer allowed in the city.



Above: Sand in the bike lane; a hazard for bicyclists. Bike lanes are swept upon request and when weather permits..

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Preventive Maintenance—Preventive maintenance is critical to keeping both on-street and off-street bike routes safe and comfortable to ride on while prolonging the life of infrastructure.



Above: Crack sealing is done to prolong the life of asphalt.



Above: A close up photo of a crack seal application.



Above: The sealcoat machine above places rock chips on the roadway for compaction.



Above: A drag chain helps to identify where concrete patching must be done to prevent potholes.



Above: Milling the roadway surface allows for a new wear course and a much smoother surface.



Above: An overlay restores smooth pavement to a road or trail and utilizes the existing pavement sub-base.

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Signage and Striping — There are over 100 miles of dedicated bikeways within Minneapolis. Minneapolis Public Works and the Minneapolis Park and Recreation Board maintain the signage and striping for most of these facilities. In general, a sign will last approximately 10 years before it is replaced and striping of roadways is done on either an annual or bi-annual basis. Most trails need to be restriped approximately every 5 years. It is important to recognize the need for additional operations and maintenance funding when a new bikeway is constructed. The life cycle of signage and striping is considerably less than that of pavement or other infrastructure elements.



Above: Minneapolis Public Works signage crew installing a bike lane sign.



Above: Minneapolis Public Works striping crew installing pavement markings.

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Sweeping, Graffiti, and Trash Removal— See below:

Sweeping: Trails and on-street bikeways need to be swept on a regular basis. Many facilities regularly fill up with sand, trash, glass, and other debris that needs to be removed to keep the bikeway safe. Many bicyclists avoid routes with debris to reduce the chance of getting a flat tire.

Trail Sweeping Policy: Off-street trails maintained by PW and the MPRB will be completely swept three times per year.

On-Street Bikeways Sweeping Policy: On-street bikeways will be completely swept three times per year.

Extraordinary Maintenance: Some arterial on-street bikeways need to be swept more frequently as resources permit. Park/Portland Ave, N 2nd Street, and University/4th Ave SE are examples of corridors that need more frequent sweeping.

Trash and Debris Pick-Up: Trails should have trash receptacles placed at all access points. The use of volunteers and sentenced to serve crews to clean up trail corridors is strongly encouraged.

Trail Trash and Debris Pick-Up Policy: Once per week, litter and debris will be cleared from the corridor and trash bins will be emptied on off-street trails.

On-Street Bikeways Accident Debris Cleanup Policy: If a tow truck that is under a City contract assists in removing damaged vehicles, the towing company is responsible for removing all accident debris, including broken glass. If no tow truck is involved, then PW street maintenance crews will remove the debris upon notification.



Above: Sweeper along the Midtown Greenway.



Above: Cedar Lake Trail/Kenilworth Trail intersection.



Above: Graffiti along the Midtown Greenway.

Off-Street Bikeways Graffiti Removal Policy: Graffiti will be removed from public property using the standards set by the City and MPRB policies (Current policy is removal within 72 hours of reporting). Works by local artists on walls/bridges is encouraged to deter graffiti.