

NEW YORK BICYCLING COALITION  
IMPROVING BICYCLING AND PEDESTRIAN SAFETY

chapter

# 3

# MAINTENANCE ISSUES

Introduction

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### MYTH

It is prohibitively expensive to accommodate bicyclists and pedestrians on all roads.

### REALITY

Many accommodation problems can be solved with regular maintenance practices.

## INTRODUCTION

Maintenance is, in many cases, the simplest and least expensive way for a community to improve bicyclist and pedestrian access. Advocates may first want to consider how maintenance affects bicyclists and pedestrians, and only after look into more costly retrofits. This section presents the basics of road maintenance appropriate to such use.

In general, well-maintained roads are safer for all users. And conversely, the neglect of routine maintenance can threaten bicycling and pedestrian facilities [AASHTO 1999: 73]. Many design provisions for bicyclists and pedestrians can be installed during regular maintenance at little or no extra cost (for example, if a road is already being re-striped, the cost of including a bicycle lane is negligible). Advocates may ask to review their municipal maintenance policies to evaluate them with regard to bicyclist and pedestrian use.

Maintenance problems are, however, still subject to budget constraints and priorities. If they could, most road agencies would like to perform all the maintenance procedures listed in this chapter. Advocates can help by ensuring governments allot sufficient funds to maintenance, and assisting agencies in making tradeoffs necessitated by limited budgets.

For greater efficiency and reduced cost, neighboring jurisdictions may want to consider joint programs. A good program will establish maintenance standards and a regular schedule for inspection.

The following suggestions, drawn largely from the *Oregon Bicycle and Pedestrian Plan* (1995), incorporate many of AASHTO's recommendations from the *Guide for the Development of Bicycle Facilities*.

## Spot Improvement Programs

Spot improvement programs enable problems to be brought to the attention of authorities in a quick and efficient manner. They are meant to identify such things as drainage grate replacement, bridge expansion joints, railroad crossings, intersection signal modifications that are substandard or in disrepair. Since citizens are often the first to notice facilities in need of maintenance, they are encouraged to report problems to a central contact person.

## Recommended Maintenance Practices

### SWEEPING

Keep the road surface free from debris and hazards. For example, sand is slippery and leaves and snow can be difficult to bicycle or walk through. Piles of debris force pedestrians and bicyclists into other parts of the roadway, where they may be less visible. Of course, debris should not be swept onto sidewalks and conversely, debris from side-

walks should not swept into the street. If it is not cost-effective to frequently remove sanding materials during icy weather, sweep high-use areas after major storms and following the winter season. This will keep storm sewers clean, reduce siltation of streams and improve water quality at points of discharge.

### **SURFACE REPAIRS**

The quality of pavement is very important to bicyclists and pedestrians. Maintain a smooth surface, free of cracks (especially longitudinal wheel-grabbing cracks and parallel-to-traffic pavement joints), potholes, bumps by fixing physical problems regularly.

### **PAVEMENT OVERLAYS**

Do not leave a ridge in the area where bicyclists ride (this can occur where an overlay extends partially, but not fully, to the edge of the shoulder). The drop can cause bicyclists to fall into traffic and is particularly hazardous for elderly pedestrians.

### **VEGETATION**

Overgrown shrubs and low-hanging branches can obscure signs and people, so routinely cut vegetation back, and keep it out of walkways or bikeways. Maintain adequate clearance and sight-distances at driveways and intersections so bicyclists and pedestrians are visible to motorists. Control roots by installing root barriers during sidewalk construction to prevent the break-up of sidewalks and roadway surfaces. Require maintenance of vegetation originating from private property through local ordinances.

### **SIGNS, STRIPES AND LEGENDS**

Over time, bikeway and walkway signs may fall into disrepair and legends may become hard to read. Keep signs and legends—including those directed at motorists—legible.

### **DRAINAGE IMPROVEMENTS**

Drains should not catch bicycle tires. A bicycle-safe drainage grate at the proper height improves bicyclist safety. Adjust or replace catch basins to improve drainage. Puddles that form due to poor drainage are perilous to pedestrians and bicyclists alike. When pedestrians or bicyclists have to avoid puddles, they often stray into the roadway, where motorists are not expecting them. Puddles freeze in winter, becoming even more hazardous. Drainage grates, manhole and utility covers should be flush with the pavement.

### **CHIP SEALING**

Chip sealing is the application of a special protective wearing surface to existing pavement. Desirable as a low-cost way to fill and seal cracked and raveled surfaces of old pavement (which costs 80%-85% less than pavement overlays), it often leaves a rough and

bumpy surface undesirable for bicyclists. Further, debris from chip seals can ricochet off car tires and potentially hurt bicyclists and pedestrians.

### **PATCHING ACTIVITIES**

Patching activities can result in loose asphalt being left on the roadway. When left on the shoulder, loose asphalt adheres to the surface and creates rough conditions for bicyclists. Avoid this by sweeping loose material off the road and shoulder immediately following patching activities.

### **BLADE PATCHING ACTIVITIES**

The last pass of the grader sometimes leaves a rough tire track in the middle of the shoulder. Prevent this by covering the entire shoulder width, equipping road graders with smooth tires, rolling the shoulder area after the last pass of the grader, and sweeping fresh loose materials off the road before they adhere to the surface.

### **UTILITY CUTS**

Utility cuts are the cuts in pavement made in order to make repairs or modifications to underground utilities (like power or water lines). They can leave a rough surface for bicyclists if not back-filled carefully. After cutting, finish the pavement as smooth as new. Whenever possible, make the cut in an area that will not interfere with bicycling travel. Back-filled cuts in bikeways should be flush with the

surface (humps will not get packed down by bicyclist traffic). When cutting parallel to bicycling traffic, do not leave a ridge or groove in the bicycle wheel track.

### **ABANDONED DRIVEWAY APPROACHES**

When accesses are abandoned in urban areas, there is no point in leaving a pavement dip or warp at these locations. Fill them level with the pavement.

### **SNOW REMOVAL**

Complete snow removal in such a way it does not interfere with bicyclist and pedestrian access. For example, do not clear snow to make room for cars by pushing it onto bicycle lanes, pavement, or

crosswalks. When these facilities are not cleared, pedestrians and bicyclists must re-route around them, forcing travel in places where drivers do not anticipate them.



Snow obstruction