

Trail Maintenance

thickness, as well as the thickness of the recreation trail or shared-use path surface, are important in reducing future repairs. Considering the types, sizes, and weights of vehicles that may need access to the trail for maintenance or emergencies will be helpful in reducing the damage that may occur to the trail.

All facilities, including recreation trails and shared-use paths, require regular maintenance to reduce the damage caused over time by the effects of weather and use. Many maintenance issues can be reduced if properly addressed in the planning and designing phases before construction even begins. Outslotted trails generally provide adequate drainage of water, however unique situations will require careful planning and design to handle the damage that can be done by water. Adequate subgrade preparation and

Proper maintenance is essential to promote user safety, to ensure ease of access, and to encourage the use of a designated route. The Department of Justice implementing regulations for the ADA require all accessible features and facilities to be maintained in operable working condition for use by individuals with disabilities (U.S. Department of Justice, 1991b). Accessible designs are useless if maintenance is neglected and trails are allowed to degrade to a state where they cannot be used or must be avoided during travel. Maintenance strategies should be included in the preliminary planning stages of new construction and alterations. Maintenance plans should also be created to address existing facilities. The extent and



Figure 18-1. Obstacles, such as fallen trees, should be removed to maintain the tread in a condition that can be negotiated by all trail users.

frequency of maintenance schedules will vary greatly depending on the location, amount of use, and resources available for the trail. It is recommended that a plan be developed that clearly specifies the frequency of maintenance and how reported maintenance concerns will be handled.

- Management agency staff may identify sites requiring maintenance.

For a maintenance program to be effective, it must identify conditions that can impede access for people with disabilities and quickly respond with prompt repairs. Any citizen complaints reported should be given first priority for repair.

18.1 Facility maintenance

18.1.1 Assessment techniques

To maintain recreation trail or shared-use path conditions, current and potential problems should be identified through an objective assessment process. There are many methods available for identifying maintenance needs on existing trails. For example:

- The Universal Trail Assessment Process (UTAP) records and prioritizes maintenance needs on trails (see Chapter 13);
- Users may identify and report maintenance problems; and

18.1.2 Shared-use path maintenance

Shared-use paths should be maintained to ensure that they continue to provide access to all pedestrians. Shared-use paths with a hardened surface, such as asphalt or a stabilized surface, may require sealing or recoating at periodic intervals. Shared-use paths should be inspected for conditions that are likely to inhibit access or cause user injuries. The following list of maintenance problems is based on information generated by the Bureau of Maintenance in the city of Portland, Oregon,(1996) and the Division of Engineering for the Lexington–Fayette County Urban Government (1993):

- **Step separation** — A vertical displacement of 13 mm (0.5 in) or greater at any point on the path that could cause users to trip or prevent the wheels of a wheelchair, bicycle, inline skates, or strollers from rolling smoothly;
- **Vegetation overgrowth** — Ground cover, trees, or shrubs on properties or setbacks adjacent to the path that have not been pruned can encroach onto the path and create obstacles.

18.1.3 Recreation trail maintenance

- **Badly cracked pavement** — Holes and rough spots ranging from hairline cracks to indentations wider than 13 mm (0.5 in);
 - **Spalled areas** — Fragments of pavement or other building material detached from larger structures;
 - **Settled areas that trap water** — Depressions, reverse cross slopes, or other indentations that make the path lower in specific areas. These depressions trap silt and water on the path surface;
 - **Tree root damage** — Roots from trees growing in adjacent landscaping that cause the surface to buckle and crack; and
- Regular recreation trail inspections can help managers identify public safety issues, routine maintenance needs, and resource management problems. A system to assess and catalog problems on recreation trails should be used to obtain a comprehensive list of potential maintenance items. Having a comprehensive list of sites needing maintenance also helps trail managers prioritize and budget for trail repair and improvement projects. Once identified, these problems can be scheduled for correction through a maintenance program. When a recreation trail has been severely damaged, rerouting might be considered.

Recreation trail maintenance activities include a number of preventative and corrective actions (Beers, 1993):

- Checking the structural integrity of all built trail features such as bridges, steps, and railings and recording any repairs required;

- Keeping the tread surface free of obstacles or hazards, such as downed trees and landslides. Removing loosened rocks and earth in a disturbed area, and restoring the trail tread to its intended state;

- Clearing and maintaining drainage features to minimize trail erosion and environmental damage. Using drainage methods causing the least impact on the natural environment. These methods include:
 - Clearing channels;

- Maintaining an outslope on the trail bed;
 - Cleaning drainage dips or water bars;
 - Clearing parallel ditches; and
 - Cleaning culverts through or beneath the trail.
- Cutting brush to define the established trail and/or protect adjacent resources;
 - Maintaining the tread in a condition that can be negotiated by trail users by:
 - Restoring sloped or crowned surfaces to facilitate drainage;
 - Extending the trail back to its original width;
 - Filling ruts and holes; and
 - Restoring raised approaches to bridges.

18.2 Information maintenance

In addition to maintaining the physical characteristics of shared-use paths and recreation trails, agencies should also maintain information regarding trail conditions. Access information is useless if it is not accurate, and it may even be dangerous if users attempt to negotiate trails that are beyond their ability level. Trails should be periodically reassessed to verify that conditions have not changed. Reassessment every three years is recommended for recreation trails and shared-use paths that are unpaved. Assessment data should also be verified after a catastrophic event, such as a flood or an earthquake.

Signage should comply with ADAAG specifications. In general, signage should be reevaluated periodically and replaced when age and weathering reduces legibility. The design of the sign should consider the information that is being displayed, as well as actions taken to reduce theft or vandalism. Signs should be

removed when their messages are no longer needed or the information has changed.

18.3 Citizen reporting

Those responsible for recreation trail and shared-use path maintenance should provide users with a convenient means to report sites in need of maintenance. The following techniques have been used successfully by a variety of municipalities to obtain maintenance input from users:

- Publishing a comprehensive maintenance guide, with easy to follow guidelines that highlight the maintenance goals and procedures;
- Using mass mail to send self-addressed stamped forms for requesting a repair. For example, the Maine Department of Transportation's "Spot Me" program (see Figure 10-4) sends residents a postcard asking for small repair/improvement suggestions

along bikeways. This type of a program could be used to improve shared-use path or recreation trail access;

- Using additional signs, or adhesive stickers attached to existing signs, to instruct users on how to submit maintenance/improvement requests;
- Periodically placing information flyers in local newspapers; and
- Making maintenance information available at public and school libraries.

Citizen Report Programs can provide agencies with an efficient way of maintaining facilities. Users can often identify issues in a quicker manner than agencies.

People who take the time to submit problems to the appropriate agency need to have a timely written response or see fairly quick results to feel their efforts were worthwhile. If timely action or notification of pending action is not taken, participants could become frustrated and be less likely to spend time in the future identifying problems. If reported problems and issues are scheduled to be resolved in an upcoming project, then the citizen should be notified with the upcoming plan.