

MAINTAINING TRANSPORTATION TRAILS TOOLKIT

September 2025



MARYLAND STATE TRANSPORTATION TRAILS STRATEGIC PLAN



MDOT
MARYLAND DEPARTMENT
OF TRANSPORTATION

Introduction

Maintenance is the key component to keeping a trail functioning and meeting the needs and expectations of the public. The safety of trail users and the overall function of a trail can be directly impacted by how well a trail is maintained. Neglected trails with overgrown vegetation or potholes can present a safety hazard, reducing the number of people who use the trail and effectively creating a gap in the trail network. Keeping trails in a state of good repair improves trail usage, public satisfaction with the trail, and support for future trail network expansions. The full scope of maintenance needs can be hard to grasp and costs vary widely from trail to trail. A 2022 Rails-to-Trails Conservancy study found that maintenance costs varied from \$679-2,377 per mile per year for low amenity trails, while high amenity trails saw maintenance costs of \$7,800 per mile per year or more.

Maintenance cost can seem small or secondary compared to the overall cost of trail construction, however, these costs require ongoing consideration and support.

The cost of maintaining successful and well-loved trails will likely exceed the cost of constructing it over the lifetime of the trail. Therefore, planning for trail maintenance and state of good repair early on can reduce maintenance costs over time, use resources and funding more effectively, and improve coordination within and across jurisdictions, departments, and agencies.

This toolkit is for trail implementers and owners, and it offers strategies for approaching maintenance at various stages of the trail lifecycle. Guidance is provided on the following topics:

- Incorporating maintenance into the planning stage
- Developing a maintenance plan and selecting an appropriate maintenance administration model and agreement on maintenance responsibilities
- Planning ahead for routine and remedial maintenance tasks
- Funding maintenance

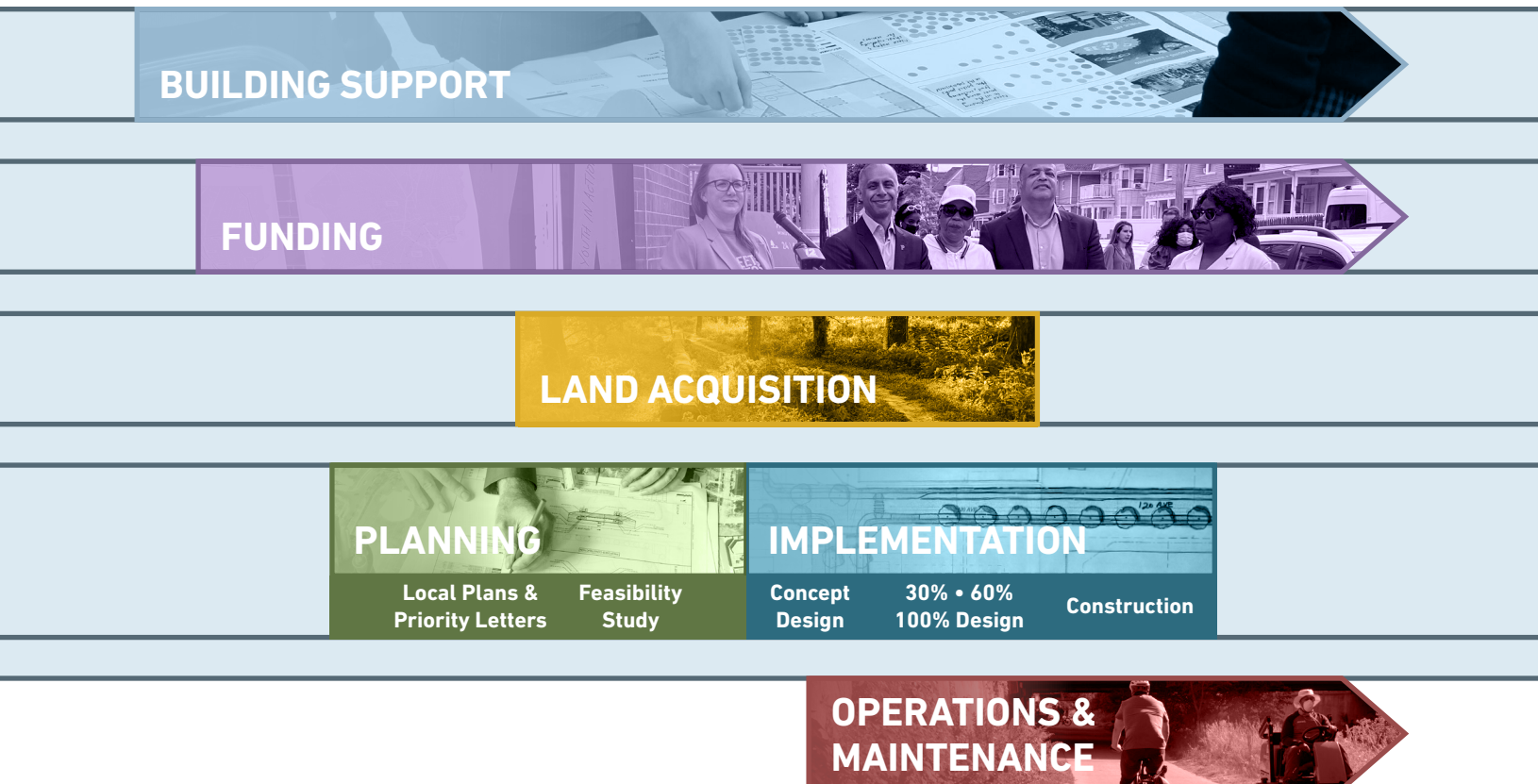


FIGURE 1 Trail Lifecycle Phases. Additional toolkits are available for Funding and Operations & Maintenance phases.

Trail Maintenance in Project Planning & Design

Considering how to maintain trails during planning and design can make a significant impact on maintenance costs and efficiency. Keeping trails in a state of good repair is also important for preserving ADA accessibility. Changing local environmental conditions and the selection of a trail surface type are key considerations that will impact trail maintenance, even before they are built.

Preparing for Local Use

Understanding how a trail will be used, its features, and functions are critical to be prepared to maintain a trail. Consider whether the transportation trail will be open 24/7 and what types of amenities it will need, such as lighting, to support these hours of use. Lighting can be especially important when trails support users who are commuting, particularly in the winter months. However, each additional trail feature, like lighting, adds an element which must be maintained over time.

Preparing for Local Conditions and Weather Events

Understanding local climate patterns and weather events can help inform trail design as well as expectations for maintenance needs post-construction. Areas that are prone to flooding can either be avoided during trail alignment planning or should be planned for in design decisions, such as material selection, boardwalks and bridge design and location, or alternative routes provision. Risks of inundation due to coastal flooding should also be considered when routing trails in coastal and wetland areas.

An increase in occurrences and intensity of both floods (winter and spring) and droughts (summer and fall) have been observed and are predicted to increase across the state of Maryland. In coastal parts of the state, such as the Eastern Shore, sea level rise is occurring more rapidly than in other parts of the country because the land is sinking. Additionally, more frequent tropical storms and hurricanes are predicted to affect these coastal areas.¹ The impacts that heavy precipitation and storm-based climate trends can have on trail maintenance include:

- Damage to trail surfacing and infrastructure, such as bridges, boardwalks, and culverts, due to storm surge, flooding, and inundation.
- Impassibility of trails and damage to trail structures and amenities due to downed trees caused by storm events.
- Declining health of vegetation along coastal area trails due to saltwater intrusion.



FIGURE 2 Sligo Creek Trail bridge damaged during a flash flooding event on July 19, 2025, in Montgomery County (Source: Alan Bowser/[YouTube](#)).

¹ US Environmental Protection Agency. What Climate Change Means for Maryland. EPA 430-F-16-022. Aug. 2016. <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-md.pdf>

Warming temperatures across the State of Maryland can also have an effect on trail operations, the types of amenities needed to keep trails functional, and the maintenance of those amenities. Average temperatures have risen approximately 2.5°F, since the 1960s and the number of very hot days with maximum temperatures above 95°F has also increased.² Considerations for the impacts of extreme heat events on trails include:

- Providing drinking water and shaded rest areas to keep trail users safe from heat-related illness. These amenities require additional maintenance.
- Timing certain maintenance tasks to avoid the hottest times of day to protect the health and comfort of staff and volunteers.
- Monitoring trail surfacing in areas that receive direct sunlight and extreme heat conditions. Some surfacing materials, such as asphalt, can become prone to cracks, buckling, and pot-holes with exposure to intense and prolonged UV radiation.³

Trail Materials, Structures, and Amenities

Asphalt, concrete, and crushed stone are the three most commonly used surface types for trails. Each material has advantages and disadvantages when it comes to withstanding the elements. Different surfacing materials also have different implications for costs in both initial trail construction and trail maintenance, and can also have a significant impact on the ADA compliance and overall accessibility of a trail. ADA compliance refers to upholding the minimum legal requirements associated with the Public Right-of-Way Guidelines (PROWAG), while accessibility can be broader and refer to an overall inclusive experience for all ages and abilities. While implementation costs are often a primary consideration for selecting a trail surface type, it is also important to consider long-term impacts and maintenance. In the next page, we discuss some key considerations for each of these material types.

For more information about these trail surfacing materials and their properties, see the [FHWA Trails as Resilient Infrastructure Guidebook](#).



FIGURE 3 The Western Maryland Rail Trail is paved with asphalt to provide a smooth, fully accessible experience. (Source: Western Maryland Rail Trail Supporters)



FIGURE 4 Parallel to the WMRT, the C&O Canal Trail is primarily paved with crushed stone for compatibility with nearby historical and natural assets.

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- 2 University of Maryland Extension. Climate Change in Maryland. <https://extension.umd.edu/programs/environment-natural-resources/program-areas/coastal-climate-program/climate-change-maryland/>
 - 3 US Department of Transportation Federal Highway Administration. Trails as Resilient Infrastructure Guidebook. Dec 2023. <https://www.fhwa.dot.gov/environment/recreational/trails/publications/trails-resilient-infrastructure-guidebook.pdf>

Asphalt

Asphalt is smooth, durable, and accessible for all users, and less costly than concrete. Maintenance is needed as it is prone to cracking over time.

- As a porous material, asphalt is particularly vulnerable to damage from excessive moisture.
- Asphalt naturally deteriorates over time, and water can accelerate that breakdown as it gathers in cracks and potholes.
- In situations where extreme heat and UV exposure is a factor, oxidation can reduce binding oils in asphalt, reducing its structural integrity and making it more brittle and prone to cracks, bucking, and potholes.
- Extremely high temperatures can soften asphalt and cause tracking, a condition where asphalt sticks to shoes and bicycle tires.

Concrete

Concrete is more durable than asphalt but more expensive. Maintenance needs are often less but vary by local climate and precipitation levels.

- Due to its ability to reflect UV radiation, concrete is generally more resistant to damage from UV radiation and high temperatures.
- Compressive stress caused by temperature swings is, however, more of an issue for concrete. Properly designed and spaced joints can help prevent thermal cracking.
- Concrete is better able to withstand the shrinking and swelling of soils from both heat and flood events than asphalt.
- Concrete is impervious, and more severe flooding events can cause water to collect under concrete, causing slabs to move and crack.

Crushed Stone

Crushed stone is inexpensive and blends well with natural areas, but can be easily washed out during rainfall and may not be fully accessible for all users.

- Even when compacted or manufactured to hold together, natural-surface materials like crushed stone are ultimately porous and can be damaged and displaced by flooding.
- Crushed stone trails are more challenging to maintain ADA compliance than asphalt or concrete. This surface type is not suitable for all trail uses, such as roller-blading or using other devices with small wheels.
- Crushed stone typically performs well in extreme heat compared to alternatives like asphalt.
- Flooding can cause edge erosion, pitting, potholes, and washboarding (a ridged pattern in the displacement of the surface material).
- Techniques such as using tackifiers and chemical-based soil stabilizers post-construction can be used to prevent erosion on crushed stone trails due to heavy rainfall, wind, and snowmelt.
- Hardening (placing concrete blocks underneath the crushed stone) or armoring the edges of the trail can help stabilize crushed stone trails in particularly wet or flood-prone areas.



FIGURE 5 Asphalt surfacing along the Anacostia River Trail in Prince George's County.



FIGURE 6 Tinted concrete surfacing on Carroll Creek Linear Park in Frederick.



FIGURE 7 Crushed stone trail on a county trail in Maryland.

Structures

Structures along the trail, such as bridges, boardwalks, and culverts are typically expensive items in upfront construction costs as well as maintenance costs. Bridges or boardwalks are often signature elements of a trail that draw trail users and are heavily used, thus requiring additional care. Trail implementers should consider the following principles when planning and designing structures along trails:

- Look for ways to reduce the number and length of boardwalks and bridges. Minimizing structure frequency and length will help reduce maintenance costs as well as up-front costs.
- Plan ahead for structure inspections. Features like bridges and elevated boardwalks require routine inspections by trained staff or contracted professionals.
- Right-size drainage structures, such as culverts, for the appropriate design storm to reducing overflows and subsequent maintenance issues on the trail. Trail implementers should keep increasing severity and frequency of storm events in mind.
- Choose rot-resistant materials for bridges and boardwalks to lengthen the lifespan of these structures.
- Factor in debris flows when selecting span widths and clearance height for bridges.

Siting Trail Amenities

Amenities such as waste receptacles, restrooms, trailheads, and drinking fountains are important elements of trails. By their nature, these elements require more frequent maintenance. Trail implementers can incorporate the following considerations when siting trail amenities that require frequent maintenance.

- Co-locate restrooms and drinking fountains with other regularly maintained public spaces, such as parks.
- Group amenities that require frequent maintenance together so these elements can be serviced in one trip. This may look like siting waste receptacles near restrooms or seating areas.
- Pair amenities wisely. If pet waste bags are offered, waste receptacles should be provided as well.
- Site amenities in areas that are easily accessible. This may mean locating amenities that require frequent maintenance closer to roads.
- Pair maintenance and inspections on high-use amenities, like bridges and boardwalks, with features like lighting and artwork, which require less-frequent maintenance.



FIGURE 8 Grist Mill Trail Walking Bridge in Patapsco Valley State Park, Baltimore County.



FIGURE 9 Waste receptacles located across from seating.

Trail Maintenance Plan

Considering how to maintain trails early on in the trail project lifecycle can help decrease costs over time, use resources and funding more efficiently, and improve coordination within and across jurisdictions and organizations. Typically trails are managed by public agencies that have the tools and capacity to maintain them. However, some agencies may need to realign expertise and staffing and dedicate budget resources to maintain trails long term. Confirming public agency commitment to trail maintenance and establishing Memorandums of Understanding (MOUs) with any other organizations that will be helping with maintenance is the first step in developing a maintenance plan. Trail managers can plan ahead for maintenance by developing a maintenance plan, which includes determining the roles and responsibilities for carrying out maintenance tasks.

Maintenance Plan Structure

A formally documented maintenance plan defines expectations and responsibilities, ensures appropriate resources are dedicated, saves time and funds, and ultimately contributes to a better experience for trail users. Plans can vary based on the trail or trail network length, geography, jurisdiction(s), available resources, and other factors. However, all plans should have two key sections – trail management responsibilities and roles, and trail maintenance objectives and standards – to clearly define who will be responsible for taking care of trails and the standards to which they should do so.

Part 1. Trail Management Responsibilities and Roles

Clarifying roles in trail management, including internal staff capacity and external partnerships and volunteers, can help determine maintenance efforts and right-size trail system growth. Jurisdictions may need to update the roles and responsibilities of staff across different departments, such as public works or parks and recreation, to cover trail maintenance duties. Trail managers should consider a variety of categories of people and organizations that can perform different maintenance tasks. **Table 1** lists different maintenance administration models with their associated advantages and disadvantages. Most trails rely on a hybrid of these different models to accomplish trail maintenance tasks.



FIGURE 10 Snow clearing along a transportation trail.



FIGURE 11 Preventative maintenance along an asphalt trail. (Source: Three Rivers Park District, Hennepin County, MN)



FIGURE 12 Neal Potter Plaza on the Capital Crescent Trail was built with funds raised by from the trail's friend group. (Source: Coalition for the Capital Crescent Trail)

TABLE 1 Advantages and disadvantages of trail maintenance models

Advantages	Disadvantages
Dedicated trails staff model	
<ul style="list-style-type: none">• Consistency and expertise from specialized team with institutional knowledge• Prompt response to address maintenance issues	<ul style="list-style-type: none">• Higher costs from salaries and benefits/operational expenses• Sustained financial support can be challenging for smaller agencies
Existing staff with similar maintenance responsibilities model (e.g., park maintenance staff)	
<ul style="list-style-type: none">• Efficient use of resources, reducing need for additional hires• Cross-training and opportunity to gain diverse skills	<ul style="list-style-type: none">• Competing priorities (e.g., trails may receive less attention than other public works projects)• Potential lack of specialized skills
Dedicated trail administration/management organization model (e.g., intergovernmental agency, nonprofits)	
<ul style="list-style-type: none">• Access to multiple funding sources• Regional coordination for more cohesive strategies across jurisdictions	<ul style="list-style-type: none">• Complex coordination• Potential bureaucratic challenges and slower decision-making
Volunteer-led model	
<ul style="list-style-type: none">• Cost-effective• Community engagement and local stewardship• Useful when a temporary boost in manpower needed for remedial tasks	<ul style="list-style-type: none">• Training and supervision needed for quality and safety• Inconsistent participation• Liability concerns with lack of proper agreements and safety protocols
Contracted professionals model	
<ul style="list-style-type: none">• Specialized expertise and skilled labor• Flexibility to scale workforce based on seasonal/project-based needs	<ul style="list-style-type: none">• Potentially higher costs for professional services• Procurement process can introduce delays• Consistency of quality service and variable contractor performance



FIGURE 13 Volunteers from the Friends of Anne Arundel County Trails help with landscaping around the B&A Trail. (Source: Friends of AACo Trails)

Staff and Volunteer Training

Establishing a staff and volunteer training program helps ensure that maintenance tasks will be carried out in a safe and uniform way. It is especially important to train staff and volunteers on the proper use of power tools for safety and liability. A maintenance plan should spell out what trainings are mandatory for staff and volunteers, time of year when trainings will be offered (considering timing of seasonal staff), and any additional safety protocols that should be followed. Job Hazard Analysis (JHA) sheets can be developed by maintenance task to indicate risks and mitigation measures. Protective equipment (e.g., safety glasses, chaps, ear protection) can be listed within the JHA, or relevant OSHA Fact Sheets can be referred to within the plan.

Part 2. Trail Maintenance Objectives and Standards

Creating maintenance objectives and standards is important for setting expectations, especially when tasks require collaboration between departments, agencies, organizations, and volunteers.

Objectives

When developing a trail maintenance plan, it is important to reflect back on the overarching goals of the trail or trail network. Specific maintenance objectives should be developed to help meet these overall goals. The following table shows sample goals and corresponding objectives that can help guide a maintenance plan.

TABLE 2 Example of trail network goals and corresponding maintenance objective

Trail Network Goal	Maintenance Objective
Trails serve and attract people of all ages, abilities, and backgrounds	Trails are maintained to a state of good repair and ADA accessibility.
Management of trails incorporates community input and feedback	The public can easily report maintenance issues to the trail manager. The trail manager is responsive to reported issues and can communicate back to the public regarding maintenance issue status.
Jurisdictions and organizations collaborate seamlessly on trail management and maintenance tasks	Formalized agreements that define responsibilities are in place with all parties involved with maintenance activities.

Standards

A strong maintenance plan will define standards for typical maintenance tasks across the lifespan of the transportation trail. Developing a common definition for how various trail assets are maintained is helpful for training staff and volunteers, developing contracts, and working with other jurisdictions or organizations that may share trail maintenance responsibilities. Trail standards can also be helpful to reflect on when measuring performance. The following table provides some examples of maintenance standards. Trail managers should develop a more extensive list of standards that is comprehensive and tailored to the trail or trail network it covers.

TABLE 3 Example of maintenance standards by trail asset type

Asset Type	Maintenance Standard
Trail Surface	Prioritize state of good repair. Safety hazards addressed as soon as possible. Mud and debris in low areas removed after rain events. Trail maintained to be ADA compliant.
Drainage Infrastructure	Following storm events, inspect areas that frequently flood. Prioritize care and repairs (clear culverts, drains, improve drainage).
Bridges	In keeping with required routine inspection cycles, bridges should be inspected every five years. More limited visual inspection should occur quarterly as part of standard trail inspection.
Vegetation Obstruction	Brush and limb pruning/removal as needed to maintain sufficient trail width and height clearance.
Trees	Annual safety inspection around developed areas like trailheads and waysides. Pruning/removal as needed to maintain safety.
Turf Care	Mowed at least once every 21 working days during the growing season.
Landscaping	Plant care (pruning, weeding, deadheading, etc.) is done at minimum quarterly in the growing season and as needed the rest of the year.
Natural Areas	Quarterly care during the growing season (pruning, invasive species control, etc.). Litter removal as needed. Immediate removal of safety hazards.
Additional assets to consider: signage/wayfinding, parking and trailheads, boardwalk, roadway crossings, and trail amenities	

Inspection Program

Developing and implementing a robust inspection program is critical for keeping trails in a state of good repair, avoiding major costly maintenance failures, and ensuring the continued safety of trail users. Staff should be trained in how to carry out inspections and should use a standardized form to ensure consistency. Incorporating a grading or rating system into the inspection can also help when prioritizing maintenance needs. Digital formats of inspection forms that can be filled out with a tablet can allow for more streamlined data upload into asset management software. Many trail inspections can be done by volunteers, such as Friends groups, once they receive training on data collection. Some inspections, such as bridge inspections, require a trained professional to complete.

Routine Inspections

Inspections are typically used to identify and record issues that otherwise go unreported by staff and the public and are often issues that develop over time. Pavement deterioration and maintenance-related ADA issues are examples of items typically identified during inspections that may otherwise go unreported. Sometimes inspections will identify more urgent maintenance needs, such as an unsafe bridge condition, that need to be addressed and communicated with the public right away. The maintenance plan should include protocols for reporting and addressing issues that present a risk to public health and safety.

Collecting basic measurements of the existing trail system should be a top priority when building a trail management plan. Baseline information like trail lengths, surface types and conditions, the location and condition of at-grade crossings, trailside benches, kiosks, bridges, and turf acreage are critical to both present-day operations and future planning. Knowing the location and condition of information, wayfinding, and safety signage is important for bringing current signage up to standard and coordinating with first responders. Developing a wayfinding plan for trails is helpful not only for coordinating emergency response

but also for the trail user experience and overall utility of trails as part of the transportation network. As time passes from when baseline data was collected, it will be important to carry out routine, standardized inspections to ensure that data is kept up to date. The trail maintenance plan should include a schedule for inspections of trails and associated infrastructure and amenities such as trailheads, restrooms, benches, signage, and waste receptacles. Security camera footage may also be helpful in identifying major maintenance needs around trailheads, waysides, or structures that have resulted from storm damage or vandalism.



FIGURE 14 Trail inspections are important for identifying maintenance issues.

Asset, Inspection, and Maintenance Database

Hosting baseline data, inspection reports, and maintenance records in a digital database is vital for good recordkeeping. Asset management databases, such as Cityworks, AssetWorks, or Productive Parks, can be customized to include trails and associated infrastructure and amenities. Some software options also integrate scheduling to streamline trail system management. Ideally, transportation trails should be in the same asset management systems and cycles as all other assets under a jurisdiction.

Trail Counts

Implementing a trail count program can help provide trail managers with critical data for planning out trail maintenance frequency. Sections of trail that see higher volumes of use will require more frequent maintenance and should be prioritized when responding to widespread effects of storm events. Trail count data can also be used to make the case for more maintenance funding. In addition to informing maintenance, trail counts can be useful in the following ways:

Trail Management

- Trail counts can help managers understand usage patterns and trends across seasons and types of use (bicycle or pedestrian).
- Counts can aid with locating new amenities such as restrooms, waste receptacles, waysides, and trailheads.
- Trail managers can more easily identify areas that experience overcrowding and can explore solutions such as trail widening or adding additional trails.



FIGURE 15 Some trail counters provide a visual display of both daily and annual trail use, such as this recently installed counter on the Silver Spring Green Trail.

Funding and Justification

- Permanent counters are a capital investment, but manual sample counts can also be useful for jurisdictions with smaller budgets.
- Trail counts can help managers showcase the popularity of trails and the benefits to local communities.
- Trail managers can use count data to demonstrate the value of investing in trails and make the case for additional funding to local decision makers.
- Trail counts can be used as justification in grant applications to apply for funding trail extensions, improvements, or new trails.

Crowd-Sourcing Maintenance Needs

The public is often the first to detect when a maintenance issue arises. Incorporating a public reporting system into the maintenance plan is a way to tap into this resource and more efficiently respond to maintenance needs. Some asset management databases include features that allow the public to submit “tickets” that alert staff of issues.

311 systems are another example of a method used to collect maintenance feedback from the public. These systems are accessed by the public through a simple phone call. Modern 311 systems also offer an app or website that allows people to submit maintenance requests that are then routed to the appropriate channels. Baltimore City, Baltimore County, Montgomery County, and Prince George’s County all offer a 311 service. App and browser-based 311 service allows users to submit photos of the maintenance need and also view recent requests that have already been submitted. Users can drop a pin to provide a location of an issue, such as litter or a pothole. Once a service has been requested, the submitter has the option of tracking the request and receiving updates about the requested service.

Originally designed for roads, sidewalks, and public properties, 311 systems can be optimized to collect trail maintenance issues by including the trail network and common trail maintenance issues in the program’s maps and service request options. Baltimore City updated its 311 system in 2022 to include trail maintenance tickets. The addition of tickets associated with trail maintenance issues uncovered an illegal dumping issue along the Gwynns Falls Trail. New surveillance eradicated the behavior.

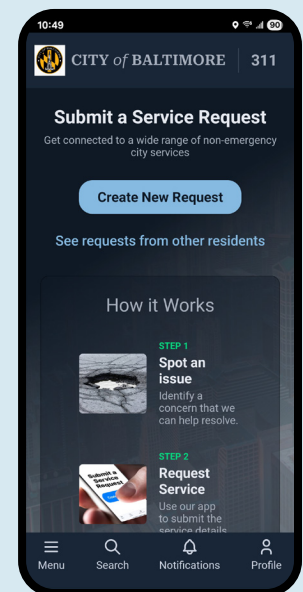


FIGURE 16 Baltimore City 311 Mobile App

Trail Maintenance Activities and Best Practices

Trail maintenance is typically divided into routine and remedial maintenance activities. Routine maintenance tasks typically take place at least annually, although there are a few items that take place at longer intervals, such as surfacing repair and replacement. Many of the routine maintenance activities listed below also apply to parking areas and trailheads where paved areas, vegetation, and amenities require regular attention and can have a major impact on safety and public perception. Examples of routine maintenance activities include:

- Mowing
- Trash pick-up and emptying of waste receptacles
- Restroom cleaning
- Vegetation pruning
- Light debris removal
- Drainage feature cleaning (ditches, culverts)
- Graffiti removal
- Sign replacement
- Trail surface repair or replacement
- Tree root pruning to limit damage from upheaval under paved trails

Remedial maintenance occurs at irregular intervals and on an as-needed basis, such as following a major storm event. The following activities are examples of remedial maintenance activities:

- Bridge repair or replacement
- Drainage feature repair or replacement
- Revegetation
- Heavy debris removal (i.e. following storm events)
- Lighting/light bulb replacement
- Amenity repair or replacement
- Kiosks
- Seating
- Shade structures
- Bicycle parking
- Drinking fountains

Routine Maintenance

Routine maintenance typically occurs on a daily, weekly, monthly, and annual basis based on the frequency of the trail's use, history of maintenance needs, and vegetation growth rate. Additional major routine maintenance activities will occur at up to 10–20-year intervals. Factors such as location of trails and proximity to floodplain may drive up the frequency of routine maintenance needs. A trail maintenance plan should customize a schedule to account for specific maintenance needs and realistic frequencies that meet public expectations. The following sample routine maintenance schedule is an example of some of the maintenance activities and frequencies that can be customized to fit a jurisdiction's needs and resources.



FIGURE 17 Routine vegetation maintenance alongside a trail.

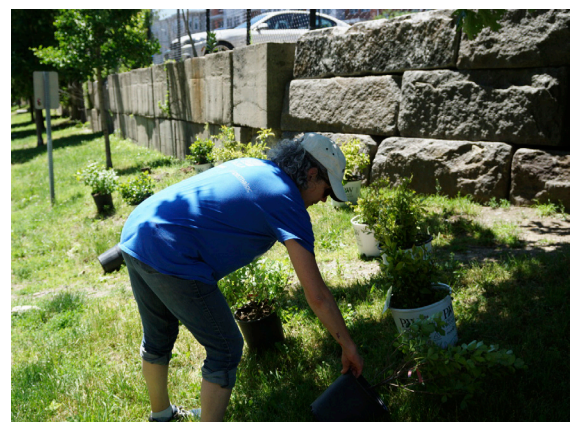


FIGURE 18 Establishing perennials along a trail is done on an irregular schedule, but maintenance of the plants is routine..



FIGURE 19 Clearing debris from the trail is a routine maintenance activity..

TABLE 4 Sample Maintenance Schedule

Ideal Frequency		Issue				Description of Activity	
Daily <i>Given capacity limitations, not all issues listed will be completed every day. Issues that present a risk to the health and safety of trail users should be prioritized.</i>		Trash				Pick up trash along the trail	
		Glass/Debris				Sweep up glass and debris gathered on the trail	
		Weeds				Pull weeds	
		Landscaping				Trim bushes and trees that encroach on the trail	
		Inspection				Inspect all elements of the trail. Note conditions, potential issues, and immediate needs	
Weekly	Spring		Summer	Fall	Winter		
		X	X	X	X	Empty trash cans	
		X	X	X		Mow and edge grass (less frequently in fall)	
Seasonally	Spring		Summer	Fall	Winter		
			X		X	Perform major pruning activities of trees and bushes	
	X	X	X	X		Spray weeds (such as Bermuda grass) encroaching on or growing through the trail	
	X	X	X	X		Stabilize eroded areas	
	X	X	X	X		Repair/repaint benches, trash cans and other trail amenities	
Annually		Trail surface				Seal-coat asphalt trail surface to applicable locations. (spring)	
		Lighting				Inspect lighting system and upgrade where necessary	
		Revegetation				Fill in locations in landscaping where plants and trees have died. (spring)	
5-10 Years		Signage				Replace signage (TBD as signage is added to project)	
		Pavement markings				Restripe pavement markings (at crosswalks, along bike lanes, etc.)	
10-20 Years		Trail				Resurface/replace concrete or asphalt.	



FIGURE 20 Tasks such as painting a retaining wall or cleaning up graffiti are done on as needed basis and are considered remedial maintenance.

Remedial Maintenance

Remedial maintenance needs arise when routine maintenance items cannot be addressed immediately and build over time or when an event such as a storm or vandalism occurs. Some remedial maintenance needs, such as graffiti removal, can be addressed immediately, especially if staff are equipped to handle minor issues during routine maintenance and inspections. Other more major remedial maintenance needs, such as structure damage and fallen structures and vegetation after a storm event, may need to be prioritized and addressed systematically. Inspections and reports from the public may also generate a list of maintenance items that need to be prioritized. Trail managers should develop a maintenance prioritization process that acknowledges the goals and principles of the trail or trail network. The following priority lists are example categories for various remedial maintenance needs that may come up along a trail:

- **List 1 — Critical:** high priority issues such as wash-outs, undercut trails, etc. that present a potential health and safety risk or render a trail non-functional.
- **List 2 — Special project:** public requests, stakeholder requests, and projects on trail segments of higher use.
- **List 3 — Needed:** projects that have been identified through inspection or are anticipated due to the age or condition of the trail, infrastructure, or amenity.
- **List 4 — Locations to monitor:** areas likely to develop maintenance or safety issues.

Funding Trail Maintenance

Maintenance can be the largest cost of any trail project, but these costs can be more difficult to capture because they are spread over time. A survey of six trails across the US conducted in 2022 by Rails to Trails Conservancy shows that annual routine maintenance costs varied from \$679 to \$2,377 per mile on low amenity trails with no trash cans or restrooms. Annual costs can exceed \$7,800 per mile for a suburban trail with bathrooms and \$102,000 for a one-mile highly-landscaped urban park trail with daily trash pickup and annual flooding recovery.⁴ This wide variation in maintenance costs reflects the different surface materials, landscaping, and amenities of the different trails as well as their locations. Differences in what items are classified as trail maintenance, such as whether to include mowing, also contribute to the wide range of annual costs per mile. Overall, long-term trail maintenance costs are frequently underestimated. It is important for trail managers to develop a reliable method for tracking trail maintenance expenses so that appropriate funding can be allocated into the future.

Trail maintenance is typically funded through the managing public agency's budget. However, when budgets are thin or unforeseen maintenance needs

4 Rails to Trails Conservancy. 2022. Yearly Routine Rail-Trail Maintenance Costs Per Mile. <https://www.railstotrails.org/resource-library/resources/yearly-routine-rail-trail-maintenance-costs-per-mile/>

arise, identifying alternative sources for financing maintenance may be necessary. The following methods for trail maintenance funding should be considered.

Grants

Grants can come from a variety of public and private sources to support major trail maintenance or rehabilitation projects. Restoration of existing trails, such as after an extreme weather event, is an eligible activity under the federal Recreational Trails Program (RTP). In Maryland, RTP is administered by the State Highway Administration and it is one of the few federal grants available to help bring trails to a state of good repair. This funding source has been used multiple times for State Of Good Repair projects on the C&O Canal Towpath. Starting in 2025, Kim Lamphier Bikeways Network Program funding is also available for targeted state of good repair maintenance work. Local grants may also be available through community foundations or other organizations that recognize the need for trail maintenance.

“Friends of” Contributions

Non-profit trail advocacy groups such as “Friends of” organizations can have flexibility around fundraising for trail maintenance funds that public agencies lack. Friends groups may be able to tap into sources, such as donations or fundraising events, that can be useful for funding big-ticket maintenance items, such as a bridge replacement, refurbishment or replacement of trailside amenities, or major trail rehabilitation following storm events. Examples of Friends groups in Maryland include The Friends of AACo Trails in Anne Arundel County and Catonsville Rails-to-Trails.

Fees

Ancillary fees, such as paid parking at trailheads, could serve as a consistent source of revenue to support maintenance activities. Permits for commercial uses along the trail such as photography and filming, and reservations for picnic areas and other facilities can also generate needed revenue while having a limited impact on the public’s access to the trail.

Volunteers

There can be some cost savings in trail maintenance by using volunteer labor to complete basic, routine maintenance tasks or one-time bursts of labor to complete remedial maintenance tasks. Adopt-a-trail programs can be used to pair established volunteer groups with a specific trail or trail section for routine minor maintenance. Volunteers require training and support by staff, so it is important not to overset expectations for volunteers. When volunteers are properly trained and can contribute meaningfully to the upkeep of a trail, volunteer programs can help establish a community’s sense of pride and ownership in a trail which, is an important piece of long-term trail stewardship.

Tax-based Financing

A variety of tax-based financing techniques can be used to fund trail maintenance activities. One example is utilizing funds collected by business improvement districts to support maintenance on connected trails. The Waterfront Partnership of Baltimore, associated with the Business Improvement District, completes daily maintenance on the waterfront trail, such as trash pickup and sweeping.

Case Studies

The following case studies showcase best practices and creative approaches to maintaining trails across the state. The case studies were developed from interviews with the respective trail managers and highlight the thoughtful planning and long-term commitment required to sustain a high-quality trail experience.

- Department of Parks & Recreation, Prince George’s County (Capital Region)
- Patapsco Regional Greenway Maintenance Guidelines (Central Maryland)
- Great Allegheny Passage Maintenance and Coordination (Western Maryland)

Parent Agency

Maryland-National Capital
Park and Planning Commission
(M-NCPPC)

Location

Prince George's County
(Capital Region)

Surfaces

Paved (asphalt and concrete)
and boardwalk (wood)

Trail System Length

109 miles under DPR
maintenance.

Notable Trails

- Anacostia River Trail
- Anacostia Tributary Trails:
Northeast Branch, Northwest
Branch, Sligo Creek, and Paint
Branch & Little Paint Branch
- Henson Creek Trail
- WB&A Railroad Trail
- Woodrow Wilson Bridge Trail

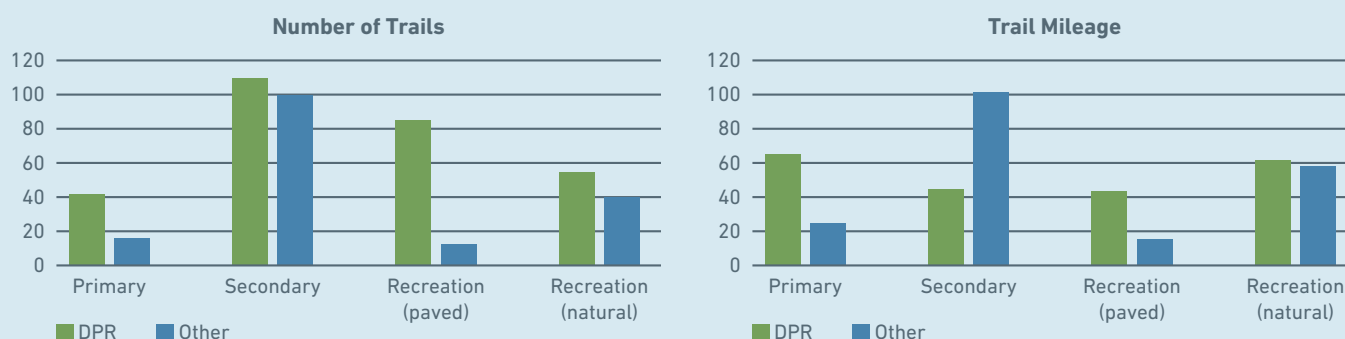
Department of Parks & Recreation, Prince George's County



FIGURE 22 People biking and walking on a DPR-managed trail in Bladensburg

The M-NCPPC Department of Parks and Recreation, Prince George's County (DPR) maintains 41 named primary trails, and more than 100 secondary connector trails, totaling almost 110 miles of trail. They also maintain another 105 miles of recreational trails, mostly located within the large regional parks and conservation areas within their jurisdiction. Prince George's County trails connect to trail networks in Anne Arundel and Montgomery counties, the District of Columbia, and Virginia; make up a substantial part of the 479-mile existing [Capital Trails Coalition](#); and are included in several national trail networks, including the [East Coast Greenway](#), [American Discovery Trail](#), [Potomac Heritage National Scenic Trail](#), and [Star-Spangled Banner National Historic Trail](#). An additional 200 miles of transportation and recreation trails in the county are owned and maintained by other agencies, including individual municipalities, the Maryland State Highway Administration, the county's Department of Public Works and Transportation, the National Park Service, homeowners' associations and other private landowners and property managers.

FIGURE 21 Number of trails and mileage of trails in Prince George's County by responsible agency (data provided by DPR)



Note: Other: Maryland State Highway Administration, County Department of Public Works and Transportation, National Park Service, homeowners' associations, etc.



FIGURE 23 Each of the Anacostia Tributary Trails has a differently colored centerline. Among them, from left: The Indian Creek Trail, Berwyn Heights; Sligo Creek Trail, Green Meadows; Northwest Branch Trail, Hyattsville. Photos by Mr.TinMD via Flickr.

Orienting Maintenance Activities Around Trails

The Prince George's County Department of Parks & Recreation has driven development of new trails with impressive success. However, inconsistent maintenance of the paths has resulted in lower than expected levels of use, complaints from dissatisfied users, and a growing backlog of major maintenance needs. By 2019 it became clear that DPR needed to significantly shift priorities in order to address trail maintenance.

When Bill Tyler took over as director of DPR, he made trails one of his top priorities and restored a passion for trails within the organization. To enable his maintenance managers and staff to understand what was needed for a first class trail system, he called for regular staff bike rides on the oldest trails in the system. He understood that maintenance staff needed to get out of their trucks and off their riding mowers to bike and walk the trails, experiencing them as users do, in order to really understand what it takes to ensure the safest and most enjoyable experience.

This feet-on-the-ground, feet-on-the pedals approach was backed up with key structural changes:

- New hires at the division chief and manager level in maintenance divisions were required to understand trails from the user perspective, or be a regular user themselves.
- The new management staff was directed to restructure maintenance staff and crews around three priority areas: fields, playgrounds, and trails. This resulted in Trail Teams being established in all three maintenance divisions, and staff with a trails-orientation and experience being hired or promoted to lead the teams.
- The maintenance division was also given approval to invest in new or upgraded equipment. This equipment not only improved maintenance capabilities, it also signaled that trails were a priority, equally as important as other facilities and spaces in the division. These upgrades included standard and electric bicycles, new sweepers and leaf blowers, and heavier equipment for vegetation management.
- DPR also ensured frequent and regular communication about trail system work among seven separate park divisions. This included a monthly bike ride spread around the many trails in the system, and rotating leadership of a monthly, online meeting to report accomplishments, raise issues, and discuss solutions. These efforts brought together trail planners, designers, capital project manager, park ranger and park police, and staff from all three maintenance divisions, helping to increase cooperation and support, and break down silos.

Building Ownership and a Trails Culture

Robert Patten, DPRs Trail Development Program Manager, told us, “A key to the success of Director Tyler’s approach was that is started with human level engagement of staff with the physical resource; not with a plan, not with an announcement about funding, but with a fun bike ride. And it came from the top. Yet, it was also key for executive management to back this up with financial support and the needed adjustments to the institutional structure.”

“If other agencies responsible for trail maintenance feel they need to up their game,” Patten said, “advocates or in-house trail managers need to invite their key agency and department leaders for a ride or run on their trails and take the maintenance staff with them.”

As the engagement with maintenance staff starts to build ownership, Patten recommends that the trail planning staff, or staff from the public affairs office, set up a communications protocol that ensures that maintenance staff get to hear the kudos that will inevitably pour in from trail users who see the difference. Trail maintenance staff rarely get to hear directly from trail users about how much they appreciate effective and prompt response to reported maintenance need.

Key Takeaways

- **Strong leadership can prioritize trails and align resources to support them.** Introducing new priorities in approachable ways, such as a group bike ride, will also help with adoption.
- **Structure needs to support staff work and priorities.** Giving staff clear goals and priorities builds purpose and expertise, while also allowing opportunities for cross collaboration and learning.
- **Recognition and pride support morale and purpose.** Trails that are heavily used and enjoyed, positive feedback from the public, and recognition for well done work can increase pride and sense of ownership among staff and volunteers.

“A space that looks formalized like a park gives people permission to use it—this isn’t private space just for a single owner, it’s open for everyone, including you. In areas that don’t have a longstanding, diverse cycling culture, it’s even more important to have consistent trail maintenance to make sure all are welcomed to use them.”

*Robert Patten, Trail Development
Program Manager, Department of
Parks and Recreation,
Prince George’s County*



FIGURE 24 Northeast Branch Trail milepost. Note the colored band at the top matches the colored center-line on the trail. Photo by Mr.TinMD via Flickr.

Lead Agency

Baltimore Metropolitan
Council (BMC)

Location

Patapsco Valley State Park;
Carroll, Baltimore, Howard,
and Anne Arundel counties;
Sykesville, Baltimore City, and
Ellicott City (Central Maryland)

Surfaces

Paved (asphalt and concrete),
natural surface (compacted
gravel, dirt), and boardwalk
(wood)

Trail Length

40 miles (when complete)

Patapsco Regional Greenway Maintenance Guidelines



FIGURE 25 Families walk and bike along an open section of the Patapsco Regional Greenway.

The Patapsco Regional Greenway (PRG) is a trail system under development that will one day span 40 miles and connect the entire Patapsco Valley. In 2016, the Bicycle and Pedestrian Advisory Group of the Baltimore Regional Transportation Board led work to complete a concept plan and implementation matrix to identify a preferred and interim alignments for the greenway. The concept plan included several sections of pre-existing trail. As of early 2025, approximately 12.3 miles of the PRG are constructed and open for use.

Existing or Constructed Trail Segments (as of August 2025)	Location	Mileage
Freedom Park Trail	Carroll County	1.6
Grist Mill Trail	Baltimore County	5.2
Gwynns Falls Trail at the Middle Branch	Baltimore City	1.6
Gwynns Falls Trail at Ridgely's Cove	Baltimore City	1
Jones Falls Trail at the Inner Harbor	Baltimore City	0.4
Waterfront Promenade	Baltimore City	1.3
Port Covington Waterfront Parks	Baltimore City	1.2

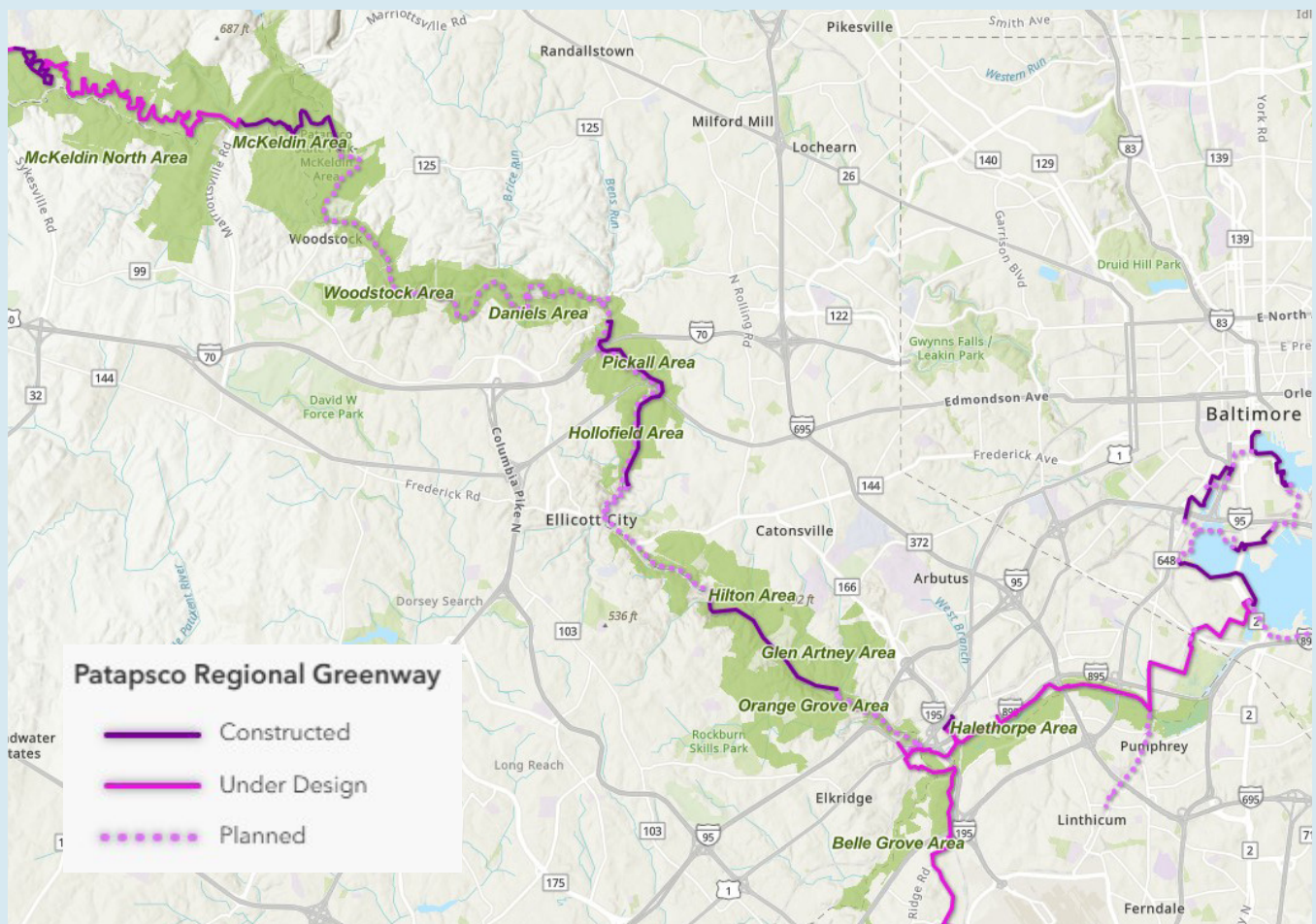
Planning Ahead for Maintenance

Since the completion of the concept plan in 2017, the Baltimore Metropolitan Council (BMC) has stepped in to assist jurisdictions and state agencies with preliminary design. Early on, it became clear that the jurisdictions and agencies would need help estimating future trail maintenance costs. BMC held a workshop with the Maryland Department of Natural Resources and local jurisdictions in 2023 to inventory the status of the different segments of the PRG. Maintenance and operations needs rose to the top of the list of issues in need of attention.

Several entities are or will be responsible for managing and maintaining sections of the PRG, including: Maryland Park Service, Carroll County, Howard County, Baltimore County, Baltimore City Department of Recreation and Parks, Anne Arundel County, the Maryland Stadium Authority, and the Oella Community Association. Many of these entities have policies and

practices for maintaining the PRG, but they are not necessarily documented in any published plans or guides. The large number of maintaining entities and lack of documentation made it clear that a comprehensive set of guidelines for trail maintenance would be very beneficial for current and future trail management.

In 2024, BMC initiated a project to develop guidelines for maintenance of the PRG. The guidelines will provide maintenance leads with a general understanding of costs, staffing needs, and the types of routine and remedial maintenance tasks should be anticipated. Development of the guidelines will also help determine which agencies are responsible for maintaining the different sections of trail and where memorandums of understanding and other types of agreements may be needed to formalize collaborative maintenance practices.



MAP 1 Existing (Constructed), Under Design, and Planned Sections of the PRG. (Source: Baltimore Metropolitan Council)

Pooling Resources

Although a vetted list of contractors has been established for construction of some of the PRG segments, developing a common pool of contractors for maintenance tasks has not yet been completed. An approved list of contractors that can perform more complex maintenance tasks, such as pavement replacement, and bridge or boardwalk repair, is something that BMC will research further and advocate for to help establish consistent maintenance practices and efficiency in contracting.

Partnering with well-established volunteer groups will also help reduce the complexity of maintaining the greenway. The Friends of the Patapsco Valley State Park is a volunteer organization that provides assistance with maintenance on sections of the trail that run through the state park, which are primarily natural surface. One of the programs that the Friends group oversees is the Trail Captain Program. This program assigns captains to specific areas within the state park where they organize work events, carry out maintenance tasks, and serve as eyes and ears on the trail. Captains align their efforts with park staff and receive training from the Maryland Park Service, including chainsaw operation certification.

As the PRG grows and expands in more urban areas, there may be an opportunity to partner with similar volunteer organizations who can focus on providing a presence on the trail and address maintenance issues more commonly associated with busy, paved, urbanized sections, such as trash pickup, light amenity repairs, and cleaning.

Consistent High-Quality Experiences

The guidelines, which are anticipated to be completed in late 2025, will offer maintenance leads a road map for maintaining the various sections of trail in a high-quality, consistent manner. Uniform high standards for trail maintenance translate into predictable, high-quality experiences for trail users. The guidelines will also help streamline coordination efforts among the various maintenance leads. This type of collaborative guidance document could be replicated for other regional trails across Maryland that rely on a number of different municipalities and organizations to manage and maintain the trail.

Capitalizing on 311 Systems

311 systems, which allow people to report issues or request services via phone or a self-service website or app, are well established in the region. Howard and Anne Arundel counties both have 311 systems, and Baltimore City was the first U.S. city to deploy 311 as a non-emergency telephone number in 1996.⁵ Many of these systems already offer the option to drop a pin to report an issue or to specifically report problems along sidewalks through their websites or apps. As the PRG continues to be built out, updating these 311 systems to specifically integrate the trail will go a long way in helping maintenance leads respond to issues in a timely manner and communicate maintenance status back out to the public.

Key Takeaways

- **Organize workshops and facilitate routine communication between jurisdictions and entities maintaining the trail.** This is especially important for regional trails where there are numerous maintenance leads.
- **Consider how volunteers can be engaged with trail maintenance.** Programs like the Trail Captains can help organize volunteers and make sure that individuals are trained and have a sense of ownership of the trail.
- **Document shared trail maintenance responsibilities and standards.** This should be done as a collaborative exercise if there are multiple trail maintenance leads. Having a trail maintenance plan in writing is crucial for developing budgets, figuring out staffing, and planning for the routine and remedial maintenance needs that come with managing trails.

5 Baltimore City 311 Services.
<https://311services.baltimorecity.gov/>

Lead Agency

Great Allegheny Passage (GAP)
Conservancy

Location

Cumberland to five miles
north of Frostburg (Western
Maryland); continues to
Pittsburgh, PA

Surfaces

Natural surface (crushed
limestone) with some asphalt
segments

Trail Length

150 miles (21 miles in
Maryland)

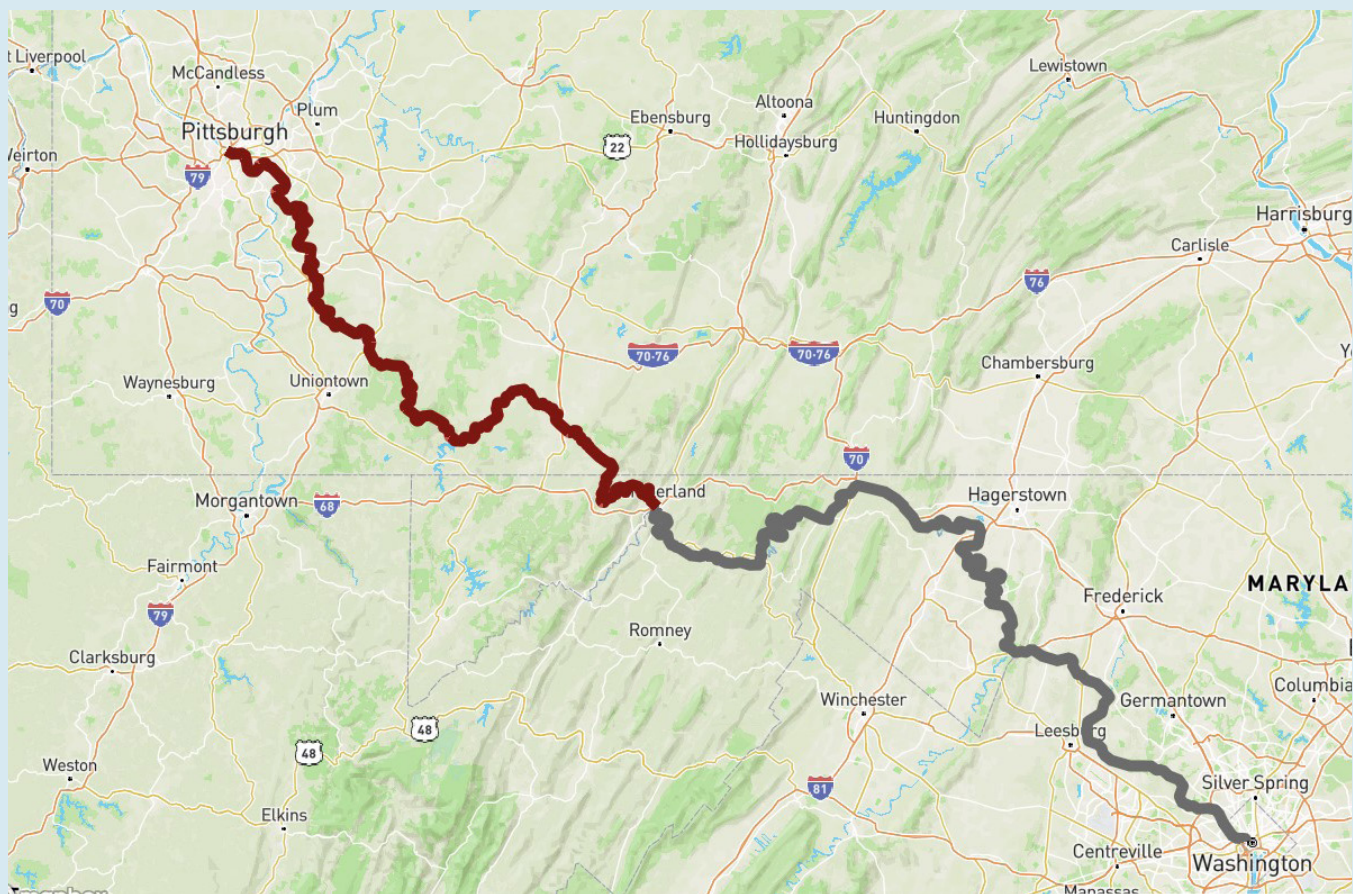
Great Allegheny Passage Maintenance and Coordination



FIGURE 26 GAP in Allegany County. (Source: Allegany County Tourism)

The Great Allegheny Passage (GAP) is a 150-mile nonmotorized path stretching from Cumberland, Maryland to Pittsburgh, Pennsylvania. In Cumberland, the trail connects with the C&O Canal Towpath, forming a 333-mile off-road route linking Washington, D.C. to western Pennsylvania. The GAP is one of the most prominent long-distance trails in the country, attracting local users and long-distance bicyclists alike. It is widely recognized for providing a seamless, high-quality trail experience—despite being managed by multiple counties, towns, and nonprofit trail groups. The GAP's unique popularity has resulted in a customized approach to management and maintenance, highlighting the importance of tailoring management and maintenance programs to fit the needs of the trail.

The consistency of maintenance across the GAP is achieved through a combination of shared expectations, coordinated branding, and informal collaboration. While maintenance responsibilities are handled independently by each trail-owning agency, the GAP Conservancy plays a critical role in coordinating communication, branding, and shared problem-solving. Its leadership helps align efforts across jurisdictions and reinforces a corridor-wide standard of quality. Disparities in quality or closures along one segment are understood to affect the entire corridor, especially for through-riders. That shared awareness drives cooperation across trail owners and underpins a decentralized but functional maintenance framework.



MAP 2 Map of the full 150-mile GAP corridor and C&O Tow Path from Cumberland, MD to Pittsburgh, PA. (Source: Great Allegheny Passage Conservancy)

Governance and Coordination

The Great Allegheny Passage is owned and maintained by a mix of public and nonprofit entities, including Allegany County (MD), Somerset County (PA), Ohiopyle State Park, the Regional Trail Corporation, Allegheny County (PA), the City of Pittsburgh, and Point State Park, each of which appoints a member to the GAP Conservancy's board of directors. The partners who manage and maintain the trail are brought together through the GAP Conservancy, which functions as the operational backbone of the corridor—providing structure, continuity, and shared identity across jurisdictions. The ownership groups are each responsible for routine and remedial maintenance of their own segment, and several rely on volunteer groups for routine maintenance. There are no shared operations manuals, formal inter-agency agreements, or central maintenance authority. Instead, collaboration is facilitated by the GAP

Conservancy, a nonprofit organization that holds 501(c)3 status. The Conservancy convenes regular coordination meetings, manages the trail's shared branding and signage, administers joint marketing, and supports grant applications on behalf of segments that lack capacity.

There are MOUs between the major segment owners and volunteer groups and the GAP Conservancy. However, coordination is based primarily on relationships and mutual interest. If a segment becomes impassable due to poor maintenance, it not only disrupts local access—it jeopardizes the GAP's reputation as a premiere long-distance trail and impacts visitation corridor-wide. Trail owners understand this dynamic and communicate regularly to ensure issues are addressed. The Conservancy's role as a trusted convener is central to this model, helping to bridge differences in capacity, priorities, and local policy approaches.

Routine and Remedial Maintenance

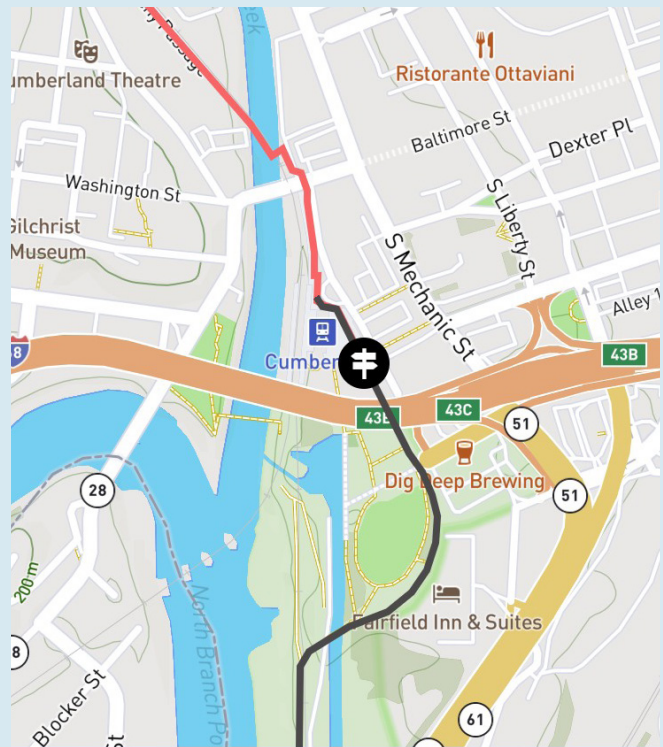
Maintenance responsibilities are handled individually by each trail-owning entity. Larger counties may include dedicated trail maintenance line items in their budgets, while smaller entities rely more heavily on volunteers or nonprofit partners. There is no standardized schedule for inspections or surface maintenance, but most segments follow similar patterns of seasonal surface grading, ditch clearing, mowing, and signage repair.

Drainage infrastructure is the most labor-intensive and critical component of trail upkeep. Water management—especially ditching, culvert clearing, and erosion control—is prioritized over surface maintenance, as washouts and landslides pose immediate threats to trail access and user safety. In steeper areas and river valley segments, landslides are a recurring issue and have resulted in both short-term closures and long-term slope stabilization projects. While limestone resurfacing is needed every few years depending on use, proper drainage is considered the foundation of long-term trail durability.

Major remedial repairs, such as bridge deck replacements or tunnel stabilization, are managed by the trail-owning entity or led by the Conservancy when coordination or pooled funding is needed. Some tunnel segments are seasonally closed due to winter ice, rockfall risk, or bat hibernation periods. These closures are planned and communicated across the corridor.

Infrastructure Inventory, Shared Tools, and Reporting

To improve corridor-wide planning, the GAP Conservancy is developing a GIS-based infrastructure inventory and maintenance tracking platform. Funded through a recent grant, the tool will allow all trail-owning entities to input data on culverts, bridges, tunnels, gates, signs, and other infrastructure. It will also allow segments to log completed work, flag deferred maintenance needs, and coordinate on long-term priorities. The system is designed to be intuitive and usable across jurisdictions with varying technical capacity. It is expected to support preventative maintenance planning, improve communication, and help streamline funding applications. Once operational, the tool will allow the Conservancy to create a corridor-wide capital planning matrix and ensure that grant funding is aligned with the most urgent needs.



MAP 3 Map of the trail town, Cumberland, showing nearby trail amenities. (Source: [Cumberland, MD, Great Allegheny Passage Conservancy](#))

The GAP does not use a centralized public issue-reporting system like 311. Instead, users report maintenance issues directly to ownership groups, official volunteer groups, or post issues via community Facebook groups. While decentralized, this system functions relatively efficiently because local users are familiar with who manages which segments and have longstanding relationships with trail partners. Trail ambassadors, volunteers, and local tourism staff also serve as front-line observers, relaying concerns to the relevant agency or nonprofit for resolution.

Volunteer Involvement and Monitoring

Volunteers play an essential role in the GAP's Maryland segment. Mountain Maryland Trails, a nonprofit based in Allegany County, coordinates monitoring, organizes cleanups, and facilitates small-scale improvements along the trail. The group recently relaunched its ambassador program, placing trained volunteers along the trail to greet users, answer questions, and provide a consistent presence. Ambassadors also help report issues, such as downed trees, surface damage, or vandalism.

Trail volunteers supplement the capacity of public agencies, particularly in segments without full-time maintenance staff. Partner organizations like the Western Maryland Climbing Coalition also contribute through joint cleanup events near climbing areas that connect with the trail. These partnerships help maintain trail quality and foster community stewardship.

Funding Approaches

Funding for trail maintenance varies widely by jurisdiction. In Allegany County, Maryland, trail maintenance is supported through a dedicated line item in Allegany County's public works budget. In other segments, support may come from general funds, one-time grants, or in-kind labor contributions from partner organizations.

The GAP Conservancy plays a lead role in fundraising and grant administration, often serving as a critical intermediary between trail-owning agencies and funders. Its ability to write grants, manage pooled funding, and prioritize projects based on systemwide needs allows smaller or under-resourced segments to access capital improvements they might otherwise be unable to pursue. The Conservancy frequently applies for grants on behalf of multiple trail segments and distributes funding equitably across the corridor. Funding sources include the Appalachian Regional Commission (ARC), Recreational Trails Program (RTP), Transportation Alternatives Program (TAP), and private foundations. In Western Maryland, trail managers have also accessed support from the Rural Maryland Council. The Conservancy manages an investment account and accepts donations, which help support administrative capacity and capital projects for segments that may not have grant-writing staff.

Due to owners' varying ability to track infrastructure, develop project scopes, or apply for funding, the Conservancy's intermediary role is critical. It helps ensure that the trail is maintained to a consistent standard even where capacity varies.

Maintenance Access and Design Considerations

The GAP's design has evolved over decades and reflects the characteristics of the former rail corridor it occupies. Most trail segments maintain the original railroad grade, allowing access for maintenance vehicles and ensuring gradual slopes that support

long-term stability. In more urban or newly built areas, such as those near Pittsburgh, additional engineering features were incorporated to accommodate runoff, equipment access, and signage needs.

Trail design is generally durable and suited to low-to-moderate impact surface repairs. However, steep cut slopes, narrow benches, and older rail-era structures present ongoing challenges to access and safety. Trail partners noted that future trail designs should anticipate routine ditch maintenance, winter weather impacts, and slope stabilization, particularly in hilly or flood-prone terrain.

Key Takeaways

- **Centralized coordination can function without formal agreements.** Even in the absence of MOUs or shared maintenance plans, the GAP's continuity is sustained through the Conservancy's active convening role—building trust, managing communications, and aligning priorities across seven owners.
- **Trail-wide maintenance depends on localized trust and community presence.** Volunteers, trail ambassadors, and nonprofit partners like Mountain Maryland Trails provide daily monitoring and minor maintenance, especially in lower-capacity jurisdictions.
- **Infrastructure planning tools can equalize uneven resources.** The GIS-based asset inventory under development allows all trail segments—regardless of staffing or technical capacity—to log maintenance needs and plan proactively for infrastructure repairs.
- **Prioritizing high-risk issues such as water management is essential for long-term durability.** Across the GAP, trail partners have identified ditch clearing, culvert maintenance, and slope stabilization as the most labor-intensive and consequential aspects of trail upkeep. This shared understanding helps focus limited resources on the interventions most likely to prevent closures.

Maintaining Transportation Trails Resources

[American Discovery Trail](#)

[Baltimore City 311 Service](#)

[Capital Trails Coalition](#)

[East Coast Greenway](#)

[Environmental Protection Agency \(EPA\): What Climate Change Means for Maryland](#)

[FHWA: Trails as Resilient Infrastructure Guidebook](#)

[Great Allegheny Passage Conservancy: Research Tracking Impact](#)

[Potomac Heritage National Scenic Trail](#)

[Rails to Trails Conservancy: Maintenance Basics](#)

[Rails to Trails Conservancy: Maintenance Practices and Costs of Rail-Trails, 2015](#)

[Rails to Trails Conservancy: Yearly Routine Rail-Trail Maintenance Costs Per Mile, 2022](#)

[Star-Spangled Banner National Historic Trail](#)

[University of Maryland: Climate Change In Maryland](#)

[US Department of Agriculture Forest Service: Trail Maintenance and Construction Notebook, 2025](#)