



# TRAILS FOR ALL

EXPANDING THE  
ACCESSIBLE  
TRAILS NETWORK IN THE  
COMMONWEALTH

2026





*Mt Tom North Trailhead Park, Easthampton*

# EXECUTIVE SUMMARY

Massachusetts has a significant and growing gap between the demand for accessible outdoor recreation and the current supply of accessible trails. **While approximately 26% of adults live with a disability—and up to 49% of residents would benefit from accessible trails—less than 0.5% (that’s one half of one percent) of trails statewide are accessible.** This is a stark mismatch that limits access to nature, undermines public health, and reflects a systemic failure to meet the needs of our residents and our communities.

The Trails for All initiative establishes a clear path to tackle this gap. It presents a coordinated, statewide strategy to expand and sustain an accessible trail network that is equitable, high-quality, and integrated into existing planning, funding, and management systems.

## OUR VISION

By 2035, Massachusetts will have a **statewide network of accessible trails** that:

- Serves residents of all abilities
- Provides a range of meaningful outdoor experiences
- Is equitably distributed across communities
- Is supported by consistent standards, reliable information, and sustained funding

# PRIORITY ACTIONS

## (NEXT 2–5 YEARS)

Achieving this vision requires focused action in five priority areas:

### 1. ESTABLISH LEADERSHIP AND COORDINATED PLANNING

- Create a **state-level Advisory Council** to guide implementation (1.1.3)
- Conduct **statewide and regional gap analysis** to target investments (1.2.2)
- Identify and advance **keystone trail projects** that deliver high-impact, visible outcomes (1.2.3)

### 2. BUILD A DURABLE FUNDING AND DELIVERY SYSTEM

- Establish a **dedicated, flexible funding source** for accessible trails (1.3.1)
- Prioritize accessible trails within **existing grant programs** (1.3.2)
- Ensure **state agency capacity and staffing** to plan, deliver, and maintain projects (1.3.6)

### 3. REMOVE REGULATORY AND IMPLEMENTATION BARRIERS

- **Streamline contracting, permitting and regulatory processes** while maintaining environmental protections (1.4.2)



Thomas & Palmer Brook Reserve,  
Great Barrington

## 4. STANDARDIZE DESIGN AND USER EXPERIENCE

- Adopt **statewide accessibility standards** for trail design and construction (2.1.1)

## 5. BUILD A STATEWIDE INFORMATION AND ACCOUNTABILITY SYSTEM

- Implement a **trail accessibility rating system** for consistent public information (3.1.1)
- Establish a **statewide data standard and inventory framework** to support mapping and decision-making (3.2.1)

## 6. ENSURE LONG-TERM SUSTAINABILITY

- Enable **ongoing maintenance funding** within state and local programs (4.3.1)



## IMPLEMENTATION APPROACH

These actions are mutually reinforcing and should be advanced in parallel:

- **Standards + data** create consistency and transparency
- **Funding + capacity** enable delivery at scale
- **Planning + governance** ensure equity and coordination
- **Regulatory reform** reduces friction and accelerates projects

Together, they establish the foundation for sustained expansion of the accessible trail network.

**When implemented**, this strategy will:

- Expand access to nature for hundreds of thousands of residents
- Improve physical and mental health outcomes
- Support local economies and outdoor recreation industries
- Position Massachusetts as a **national leader in accessible outdoor recreation**



*Lake Wallace Accessible Trail, Belchertown*

## OUR CALL TO ACTION

Accessible trails are not a niche amenity—they are essential public infrastructure that support health, equity, and economic vitality across the Commonwealth.

Nearly half of Massachusetts residents stand to benefit from accessible trails, yet less than one half of one percent of trails meet accessibility standards—a stark and unacceptable mismatch that demands coordinated action.

Addressing this gap will require leadership at every level:

- **State leaders** must establish funding, standards, and accountability
- **Agencies and municipalities** must integrate accessibility into planning and implementation
- **Land trusts, nonprofits, and private partners** must adopt and advance these practices on the ground

This report provides a clear, actionable roadmap. The next step is not further study—**it is action.**

With sustained commitment and coordinated implementation, Massachusetts can become a national leader in accessible outdoor recreation and ensure that all residents—regardless of ability—can experience the benefits of nature.



**DODSON & FLINKER**  
Landscape Architecture and Planning

Unpaved Trails For All

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Fort River Trail at Silvio O. Conte Refuge Hadley

# INTRODUCTION

Trails are among the oldest and simplest forms of outdoor recreation, offering an intuitive, low-cost way to enjoy the natural environment and step away from everyday life.

They provide opportunities to exercise, disconnect from the stressors of daily life, connect with nature, and engage with friends and companions. Trails offer numerous benefits for mental and physical health and well-being and, for some communities, may be the only way to escape the built environment and enjoy the outdoors.

For these reasons, the Trails for All initiative is grounded in the conviction that everyone should be able to enjoy nature regardless of ability, and that accessible trails are a necessary and powerful tool for achieving this goal.

This report summarizes findings that emerged from a year-long effort of a multi-stakeholder Trails for All Working Group led by the Massachusetts Office of Outdoor Recreation. It describes a vision for a state-wide accessible trail system, together with recommended actions to pursue that vision over the next ten years.

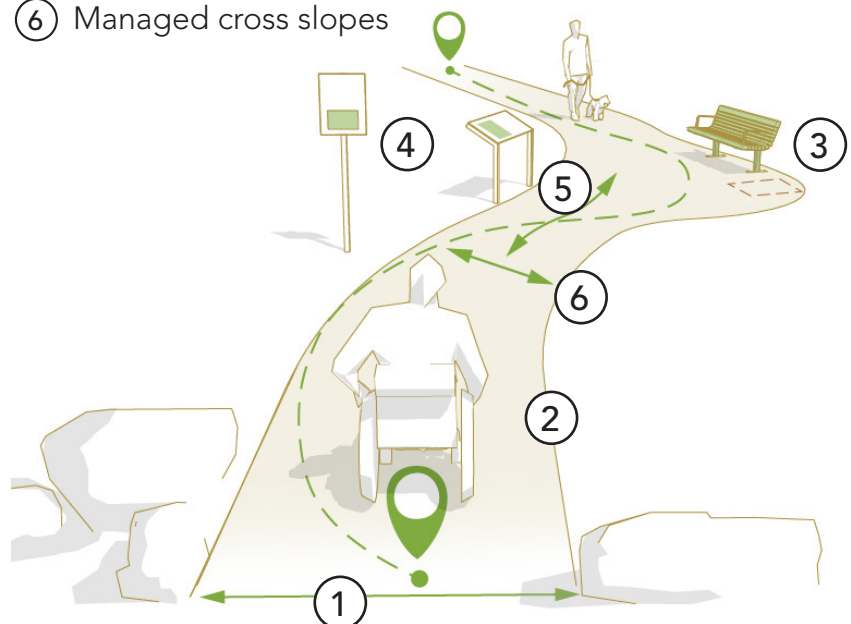


# WHAT IS AN ACCESSIBLE TRAIL?

This initiative defines an accessible trail as a trail designed, built, and maintained to provide access to nature for people with disabilities. While trails come in many different forms—such as shared-use paths, hiking trails, water trails, mountain biking trails, and ski trails—this report primarily focuses on unpaved pedestrian/hiking trails.

Accessible trails remove or reduce common physical and environmental barriers found on typical trails, making the experience usable for people with a wide range of disabilities. Some typical features of accessible trails include:

- ① Wider trail widths and openings between obstacles
- ② Firm, stable, and unobstructed surfaces compatible with mobility devices and non-visual navigation aids
- ③ Seated resting areas with adjacent resting space for mobility devices.
- ④ Signage with access information, including non-visual signage and navigation aids.
- ⑤ Managed grades
- ⑥ Managed cross slopes



There are many types of disabilities, and even people with the same disability may have very different needs and desires when it comes to accessing nature. As a result, a single type of trail may not suit every trail user. For this reason, there is not a single type of accessible trail. Rather, accessible trails can provide a range of options based on site-specific features rather than a one-size-fits-all approach.

Several established standards—such as the U.S. Access Board standards for Accessible Routes, and the U.S. Forest Service Trail Accessibility Guidelines (FSTAG)—are often used in reference to accessible trails (see below for more information). However these standards focus primarily on fairly narrow specifications for providing basic physical access, often the minimal needed for mobility devices, and don't address many other features and aspects of trail design that can affect the user experience. Engagement and outreach with those who have lived experience of disability has revealed a critical need to go further than existing standards for building and describing accessible trails (see trail types and category information below). For that reason, this initiative focuses less on the specific legal definitions for accessibility and more on the importance of providing a range of experiences, and centering those with the lived experience of disability in order to provide better trails that meet a variety of needs.



# THE NEED FOR ACCESSIBLE TRAILS

While the Americans with Disabilities Act guarantees access to public accommodations such as schools, libraries, shops and offices, the lack of mandatory standards for recreational trails has left many of our community members without equitable access to the outdoors.

Nevertheless, creating trail systems that accommodate a wide range of abilities is both feasible and necessary. Based on 2025 data, between 36 and 49 percent of Massachusetts residents are estimated to benefit from accessible trails, including older adults, young children, and the 26 percent of Massachusetts adults with a disability.<sup>1</sup> As intentionally managed outdoor spaces, accessible trails can also feel more welcoming to those who are less familiar with or who have been historically excluded from the outdoors. Over the course of their lives—whether living with a disabling condition, recovering from injury, caring for young children or aging relatives, or exploring the outdoors for the first time—most Massachusetts residents are likely to benefit from trails designed for all.

*"My vision is to have a network of trails across the state that reflects the population."*

*- Trail User/Working Group Participant*

Currently, the state's trail network is heavily skewed toward non-disabled users. While 26 percent of adults report having a disability, only 0.5 percent of trails across the state are estimated to be accessible. Within state parks, Massachusetts boasts over 4,000 miles of unpaved trails, but only 7.5 miles (just 0.2%) are accessible. This represents a significant misalignment between the trail network and the needs of the population. Beyond the low overall number, accessible trails are not distributed equally across the state. Large areas do not have a trail within an hour's

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<sup>1</sup> "S0101: Age and Sex - Census Bureau Table." and CDC, "U.S. State Profile Data."

driving range. For those who rely on public transportation, an even larger number of trails are out of reach.

Access to the outdoors is a proven, low-cost way to lower stress and improve physical and mental health (see Appendix G). These benefits are particularly important for people with disabilities, who experience more stressors than non-disabled individuals, owing to physical, social, and institutional barriers; higher rates of unemployment, underemployment, and poverty; and chronic pain and other co-occurring medical conditions. In fact, one study found that people with mobility disabilities are 33% more likely to develop stress-related illnesses than their non-mobility-limited peers.<sup>2</sup> It is therefore crucial that trails are accessible to the widest range of abilities possible so that all people have the opportunity to experience nature's stress-relieving and health-supporting benefits.

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2 Rhode et al., "Assessing Stress in Disability."

*"For me, getting back on a trail in a way that felt doable unlocked something and made me feel capable and like I had agency again. That sense of fully living spills over into everyday life.*

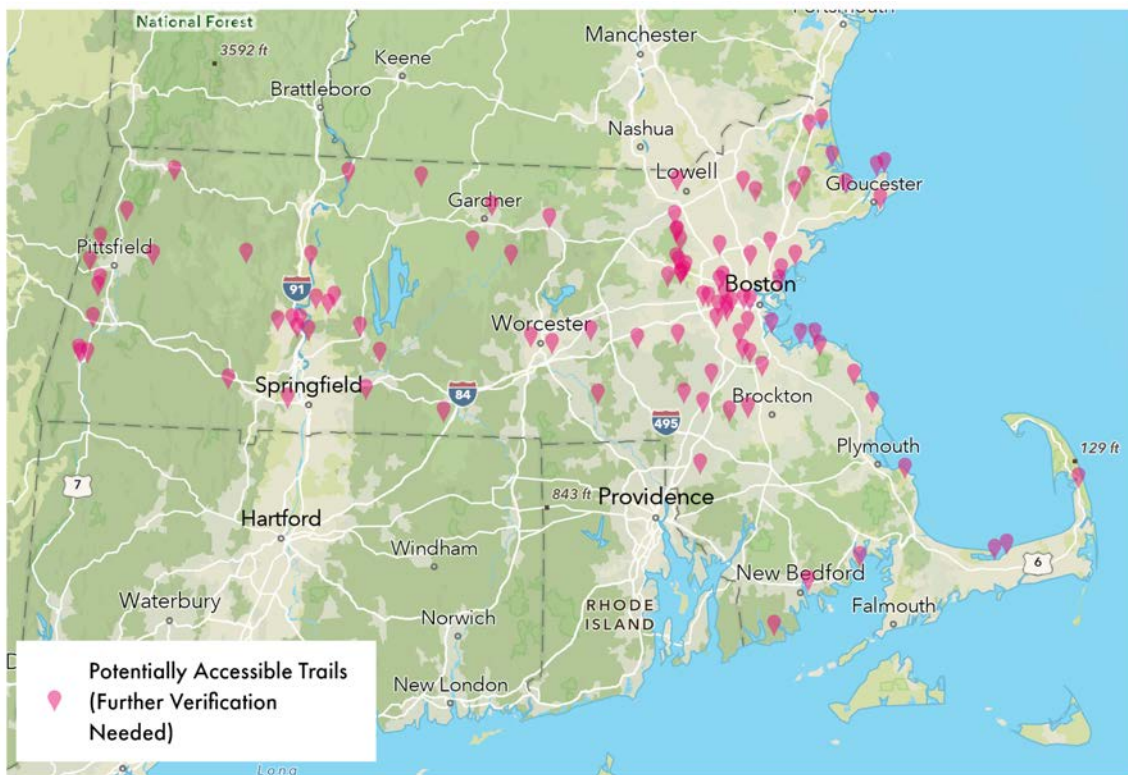
*It's not just an outing, it's doing and being in the world in a way that energizes, it contributes to a life well lived."*

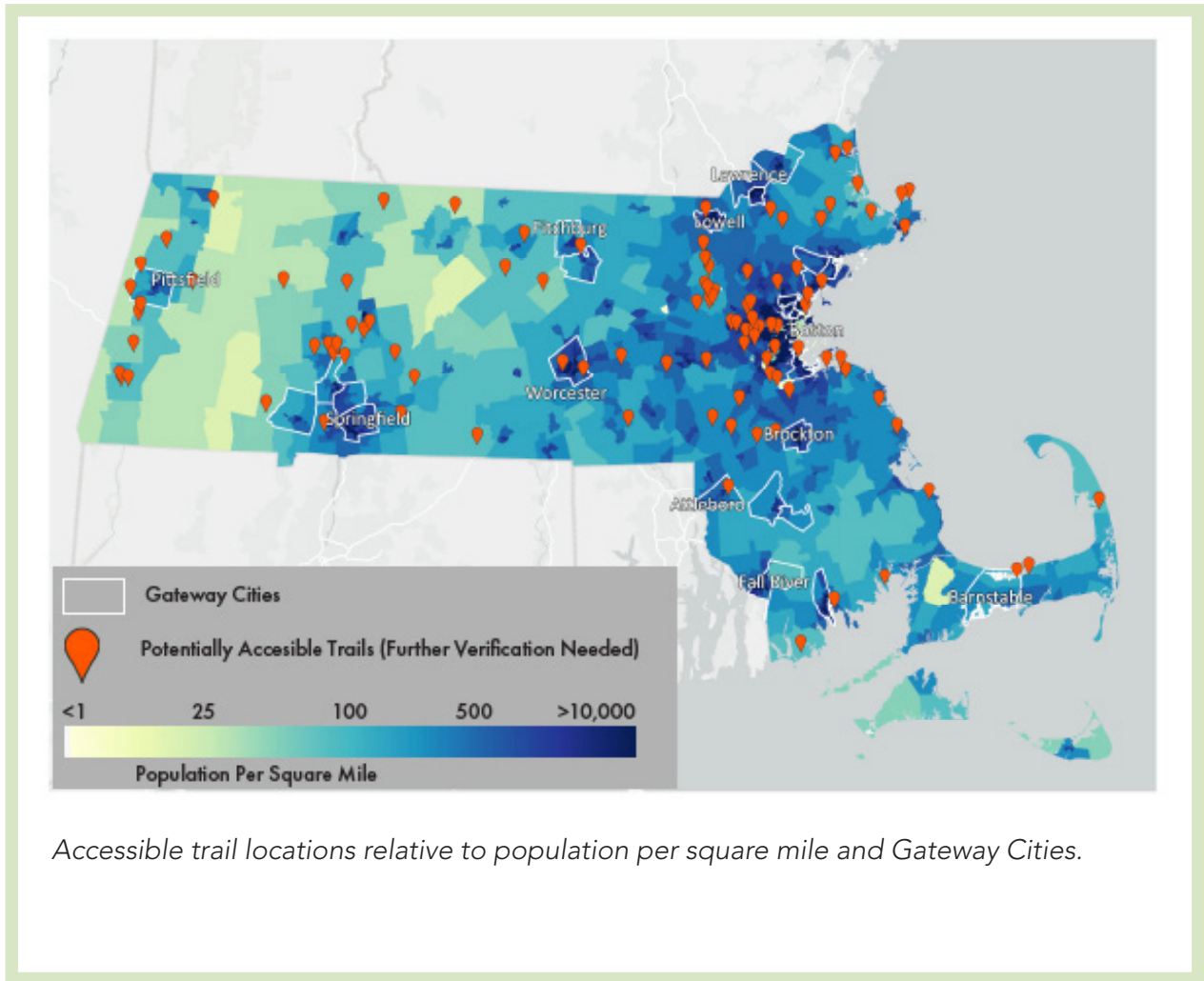
*- Trail User/Working Group Participant*

## CURRENT STATE OF ACCESSIBLE TRAILS IN MASSACHUSETTS

It is currently challenging to determine the extent of the accessible trail network. In-person vetting is necessary, and was not possible within the scope of this project. Using online data alone, it was estimated that there are 108 accessible trails across the Commonwealth, with a combined estimated mileage of 60 miles. However, in-person visits that were conducted found that some trails listed as accessible online have major accessibility barriers, raising uncertainty about the accuracy of these numbers.

The trail network is largely managed by large landowners: Department of Conservation & Recreation (DCR), Mass Audubon, and the Trustees of Reservations together manage 48% of inventoried trails. This preliminary inventory also suggests that the median length of accessible trails is around 0.5 miles, indicating that most accessible trails may not be long enough to provide the type of immersive experience that defines trails. When found on sites with multiple trails, accessible trails are often very short segments relative to other trails on-site.





Accessible trail locations relative to population per square mile and Gateway Cities.

*“I only learned about [accessible] trails from my volunteer role [with my town’s Disability Commission] and once I got out there, I had tears in my eyes. We were taking in the trail in stunned silence because it was so beautiful. I suspect that a lot of people that have disabilities don’t really have this on their mind.”*

*- Trail User/Forum Participant*

*“Families with disabled members are limited in what they can do together, but accessible trails are one of the best options.”*

*- Forum Participant*

Outdoor activity and time in nature also has measurable economic benefits. In Massachusetts, preventable healthcare costs totaled \$23.5 billion in 2023.<sup>3</sup> As healthcare costs soar, it is critical to provide affordable and enjoyable ways for residents to experience the stress-relieving benefits of spending time in nature, and trails offer one cost-effective solution. For every dollar invested in trail infrastructure, we save an estimated three dollars in medical expenses.<sup>4</sup>

Massachusetts is also experiencing a demographic shift. Governor Healey has recognized the need for the Commonwealth to take a proactive approach to meeting the needs of communities—many of which already have 25% or more of their population over the age of 60. In March 2025, the Governor issued Executive Order No. 642: Instituting Age-Friendly Practices, and committed to making Massachusetts more welcoming and livable for older residents and people of all ages.

Between 2025 and 2035, the population over the age of 65 in Massachusetts is expected to increase from 17.1 to 23 percent of the total population.<sup>5</sup> Massachusetts has also become a top destination where adults are choosing to move to in retirement, further increasing the number of older adults choosing to age in place in the Commonwealth.<sup>6</sup> As this population grows, so too will the demand for inclusive, low-impact recreational resources.

The 2017 Statewide Outdoor Recreation Plan found that trails—including hiking, biking, paved walkways, and trails accessible to people with disabilities—ranked highest in demand relative to other recreational resources. Over 50 percent of residents identified trails as a top improvement for recreational facilities, and municipal staff noted trails as a missing amenity in 22 percent of communities.

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3 Gaskin et al., “The Time Is Now: The \$5.9 Billion Case for Massachusetts Health Equity Reform.”

4 Wang et al., “A Cost-Benefit Analysis of Physical Activity Using Bike/Pedestrian Trails.”

5 Massachusetts Healthy Aging Data Report and “UMass Donahue Institute | Population Projections.”

6 AARP, “Top 10 States Where Retirees Are Moving.”

The value of trails came into even clearer focus in the early months of the COVID-19 pandemic, when many communities saw trail use double or triple. Since then, demand remains far above pre-pandemic levels.<sup>7</sup>

As interest in outdoor recreation continues to rise, Massachusetts' outdoor recreation industry is capitalizing on the fiscal opportunity. With \$13.2 billion of revenue in 2023 – up 13.3% from 2022 and 73% since 2012 – Massachusetts boasts the fastest growing outdoor recreation industry in the nation.<sup>8</sup> Demand for adaptive and accessible recreation is also significant, estimated to be a \$59 billion market nationwide as of 2020. By welcoming people of all abilities, the state can broaden participation in outdoor recreation, sustain local businesses, and position itself as a national leader in accessible trails. Plus, the economic benefits of trails extend beyond tourism. Trails can increase the value of homes and businesses by making an area a more desirable place to live or work.<sup>9</sup> Beyond serving Massachusetts residents, a robust accessible trail system will make the state that much more attractive as a destination for visitors from neighboring states and the world beyond.

Well-designed trails enable access to the outdoors while protecting sensitive ecosystems. By concentrating use onto defined paths, trails can reduce trampling and habitat damage of larger areas and protect sensitive soils, vegetation, and nesting areas. In addition, properly designed, constructed, and maintained trails can manage runoff and stabilize slopes, playing a role in reducing uncontrolled erosion that degrades waterways and wildlife habitats. They provide direct engagement with the natural world, fostering curiosity, care, and long-term support for open space and land protection.

*“Of the different possible outdoor activities to promote physical fitness, hiking is perhaps the most versatile and the most accessible to people with I/DD [intellectual and developmental disabilities].”*

*-Peter Doehring*

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7 Rails to Trails Conservancy, “New Rails-to-Trails Conservancy Data Shows Strong Demand for Places to Walk, Bike and Be Active Outside - Rails to Trails Conservancy | Rails to Trails Conservancy.”

8 Mass.Gov, “Massachusetts Ranked #1 in Outdoor Recreation Businesses Relocation.”

9 American Trails, “Trail Effects on Neighborhoods: Home Value, Safety, Quality of Life.”

For all of these reasons, investment in Massachusetts' accessible trail network is essential. Accessible trails provide multiple benefits, promoting health, equity, economic growth, and environmental stewardship across the Commonwealth. This report aims to identify the needs, opportunities, and barriers for accessible trails and their users and set out a roadmap for trail network improvements over the next twenty years.

## THE DIFFERENCE BETWEEN "ACCESSIBILITY" AND "ACCESS"

Although related, these terms have distinct meanings. Accessibility refers to making a space usable for people with disabilities. Access refers to making a space usable for a broader segment of the public, without specifically addressing disability-related needs.

For example, non-visual trail navigation or sensory features improve **ACCESSIBILITY** because they make a trail usable for people who are blind, have low vision, or have other disabilities—directly improving inclusion for the disability community.

Multilingual signage improves **ACCESS** because it helps more people feel comfortable using a trail but does not make the trail more usable for people with disabilities.

Some strategies can improve both. For example, audio navigation increases accessibility for people with blindness or low vision, and offering audio in multiple languages also increases access.

Improving accessibility often broadens access—for example, mobility-friendly trails also serve older adults and families with young children. In contrast, improving access does not necessarily improve accessibility; for instance, transit access helps more people reach a trail but does not address barriers on the trail itself.

The primary focus of this report is increasing accessibility, with some recommendations that also support broader access.

## WHAT OTHER STATES ARE DOING

**GEORGIA** invested \$2.4 million in its Outdoors Beyond Barriers initiative, expanding adaptive equipment, piloting accessible facilities and programs, and supporting inclusive outdoor events across the state park system.

**MINNESOTA** has made accessibility a core component of its Get Out MORE initiative, committing \$35.4 million of a \$150 million outdoor recreation investment to improving access at public lands, trails, parks, and recreation facilities.

**NEW JERSEY** is building statewide visibility through initiatives such as AccessNatureNJ and Access For All, which inventory accessible outdoor sites and maintain searchable directories to help users with mobility and sensory needs identify appropriate destinations and programs.

**NEW YORK** is advancing both access and accountability. Regional partnerships operate weekend “Nature Bus” services in the Albany area to connect residents to parks and trails, while the state is conducting a statewide park asset inventory and hiring staff with lived experience to evaluate accessibility and support on-the-ground improvements.

**OREGON** has embedded accessibility into planning and policy. A Governor-led task force is guiding universal access in future outdoor projects, adaptive-focused stakeholder engagement informed statewide trails planning, and the state achieved “Accessibility Verified” status through a coordinated effort to evaluate and improve accessible tourism and outdoor experiences.

**TENNESSEE** launched Access 2030, a commitment to make its state park system the most accessible in the nation. The initiative combines \$3 million in capital investments with inclusive programming, interpretive media, staff training, and employment opportunities for people with disabilities.

**VERMONT** has directed multi-million-dollar state and regional investments toward accessible trail and recreation improvements. The Vermont Trail Accessibility Hub provides free trail assessments, technical assistance, and training, and maintains a Trail Finder with an “Accessible” filter and site-level information (maps, photos, facility details) to support trip planning.

# FEDERAL AND STATE REGULATIONS

While comprehensive federal standards exist for federally-managed lands, there are currently no universal mandatory standards for accessible trails on state, municipal, or private property in Massachusetts. This regulatory gap has created a situation where trail developers must navigate between voluntary best practices and specific requirements that apply only in certain circumstances—most commonly when a trail serves as an accessible route to a “place of public accommodation,” such as a restroom facility, swimming pool, playground, or picnic area. Trails designed primarily to provide access to nature are generally not subject to any mandatory standards.

At the federal level, the ADA requires program access for public entities and accessible routes for public accommodations, supported by the 2010 ADA Design Standards. The ADA Design Standards do not specifically address technical details for recreational trails, however. To bridge the gap in specific technical standards, entities often rely on alternative Federal best practices, such as the US Forest Service Trail Accessibility Guidelines, to ensure that town programs and activities are accessible when viewed in their entirety. Although binding only for Forest Service lands, FSTAG has become a widely adopted best-practice framework nationwide.

Massachusetts currently has no universally adopted standards that apply specifically to the development of outdoor trails on state, municipal, and private property. Massachusetts’ Architectural Access Board regulates accessibility for facilities such as parks, beaches, and recreation structures but does not currently provide specific standards for trails.

See Appendix A for more information about current Federal and State regulations.

## VISION

The vision for the accessible trail network in Massachusetts in 2035, found on the following pages, serves as the foundation of this report. Informed by input from almost 200 stakeholders, including individuals with lived experience of disability, trail builders and stewards, and representatives of state agencies and non-profits, it reflects this community's shared aspirations for the next ten years. The vision offers a unifying framework for decision-making, grounded in values and aspirations that emerged throughout the process.

## RECOMMENDATIONS

Building on this vision, recommendations were developed to answer the question: "What do we need to do to achieve this vision?" Key ideas that emerged from the visioning process are woven throughout the recommendations, which are categorized into four themes: Planning & Policy, Design & Construction, Information, and Maintenance. The recommendations can be found beginning on page 29.

# VISION



*By 2035, Massachusetts' trail network will be a national model for equitable, sustainable, and inclusive access to nature, as people of all ages and abilities enjoy immersive, safe, barrier-free trails designed with lived experience at the center. Recognizing that trails strengthen mental and physical health, support local economies, and protect natural environments by creating safe, sustainable ways for people to connect with nature, Massachusetts has invested in a trail network that delivers these benefits to everyone.*

The trail system offers diverse experiences—whether quiet reflection, social outings, wildlife viewing, or educational and cultural exploration. Designed by and for people with disabilities, the network ensures that every resident and visitor can connect with the natural world and enjoy outdoor recreation in a meaningful way.

Crushed stone and boardwalk trails provide firm, stable surfaces through diverse natural settings. They are long enough to provide an immersive experience in nature, wide enough to travel with a companion, and have grades that meet a variety of users' needs. Supportive amenities such as accessible restrooms, seating at regular intervals, and shade make trail visits comfortable and enjoyable. Features like tactile guides, edging, and guardrails enable access for those with

low vision or blindness. Shared statewide design standards ensure consistent quality across the trail system.

Through coordinated local, regional, and state planning, most residents live within 20 minutes of a trail, and many trails can be reached using public transportation. Particular attention has been paid to prioritizing trails in communities with high rates of disabilities and limited access to outdoor recreation, resulting in greater trail equity across the state.

Trails are easy to find and well-documented, with a centralized source of accurate trail information. All trails—whether accessible or not—provide clear, accurate information about accessibility so users can plan experiences confidently.

As a result, residents enjoy the health, wellness, and stress reduction benefits of spending more time outdoors. The investment in outdoor recreation also pays economic dividends for communities and local businesses, as Massachusetts is recognized as a leader in accessible outdoor recreation. In committing to regularly maintain trails, communities realize the return on investment for years to come.

State leadership, municipalities, and trail organizations have made this possible through legislation, funding, streamlined permitting, and shared educational and training resources. At all levels of planning and implementation, the voices of those with lived experience of disabilities have been at the center.

Massachusetts is proud to be a place where everyone—regardless of ability or neighborhood—can enjoy outdoor recreation and connect with nature to experience its physical, mental, and social benefits. Our trail network is a testament to our shared values of equity, inclusion, dignity, and access to nature as a human right, and is an enduring resource for current and future generations.





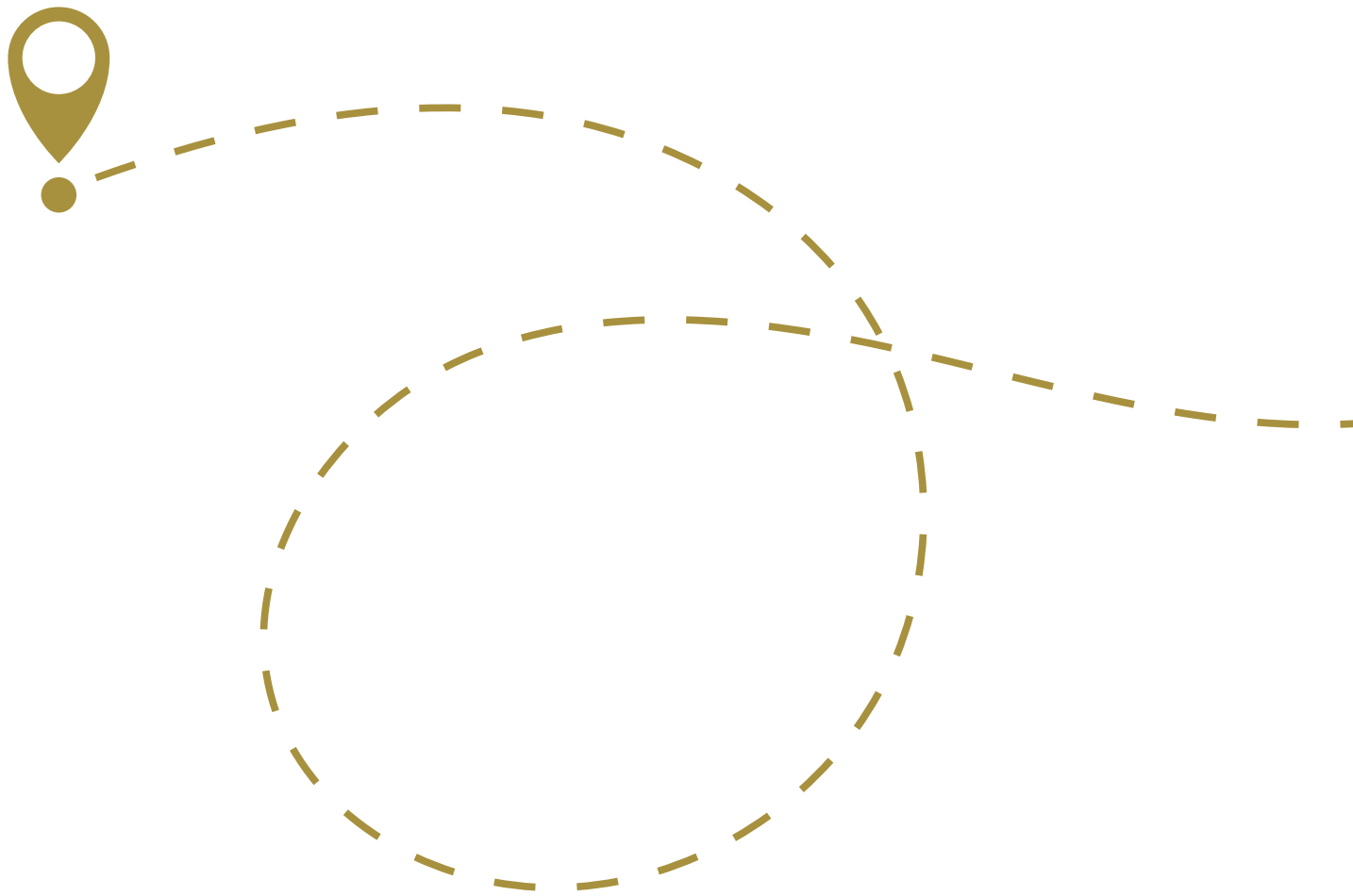
# PLANNING & POLICY

## RELEVANT VISION EXCERPTS

*“The trail system offers diverse experiences—whether quiet reflection, social outings, wildlife viewing, or educational and cultural exploration. Designed by and for people with disabilities, the accessible trail network ensures that every resident and visitor can connect with the natural world and enjoy outdoor recreation in a meaningful way. [...]*

*“Through coordinated local, regional, and state planning, most residents live within 20 minutes of a trail, and many trails can be reached using public transportation. Particular attention has been paid to prioritizing trails in communities with high rates of disabilities and limited access to outdoor recreation, resulting in greater trail equity across the state. [...]*

*“State leadership, municipalities, and trail organizations have made this possible through legislation, funding, and streamlined permitting. At all levels of planning and implementation, those with lived experience of disabilities have been at the forefront.”*





# RECOMMENDATIONS

## 1 CENTER LIVED EXPERIENCE

As captured by the principle "Nothing about us without us," people with disabilities should be involved in all stages of trail design, funding decisions, management, and maintenance. As one participant noted, "we need to depend on lived experience more than what we think will work." Many supported the formation of an Advisory Council—with at least one-third of its members having lived experience of disability—to guide future stages of this initiative and implementation of many of these recommendations.

Normalizing accessibility in outdoor recreation means treating it as a fundamental part of trail planning—part of the very first conversation, not the last; part of every trail project, not just "accessible" trail projects. It requires asking what is possible rather than assuming what isn't, and embedding accessibility considerations into baseline planning and design practices. Even in places where full accessibility can't be achieved, when accessibility is integrated from the outset, genuine opportunities emerge: unnecessary barriers can be removed, accessible features can be incorporated where the landscape allows, and the overall experience can be improved for a far broader range of users.

## RECOMMENDED ACTIONS

- 1.1.1. Fund, plan, design and test all trails in partnership with people with diverse disabilities, ensuring accessibility is integrated in every project from the outset. Ensure participation from individuals with lived experience of disability who reflect the full diversity of the community, especially underserved populations. [State Agencies, Land Trusts, Land Owners, Trail Design Consultant, Trail Builders, Private Funders, Municipalities]
- 1.1.2. Compile a list of accessibility consultants with lived experience who can consult on accessible trail projects throughout planning, design, and construction. [Advisory Council, State Agencies, Large Land Trusts]
- 1.1.3. Create a multi-stakeholder Advisory Council at the Executive Office of Energy and Environmental Affairs (EEA) to advise MOOR and EEA Agencies on the findings of the Trails for All Report and the implementation of recommendations. The Advisory Council should center lived experience with at least one-third members being persons with lived experience of a disability, and also include broad representation from other key stakeholder agencies, organizations and groups. Specifics of size, agency representation, terms, meeting cadence, and compensation should be determined by EEA. [State Agencies (EEA)]
- 1.1.4. Draft a Model Policy Platform which could be adopted by local governments and non-profit organizations to normalize and prioritize accessibility in outdoor spaces. [Advisory Council]

### NOTE:

*Designated responsible parties are encouraged to identify which actions can be advanced with existing capacity and to outline additional resources or authorities needed to address the remaining items. This will help align future policy and funding decisions with the operational needs required to advance the report's vision and recommendations.*



## 2 PLAN A ROBUST AND EQUITABLE ACCESSIBLE TRAIL SYSTEM

Building out a comprehensive accessible trail network will require efforts in towns and communities across the Commonwealth, at all levels of governance and community organization. Building out the network will also require building new trails, redesigning existing trails to be accessible (see box on page 33), and removing barriers that prevent access to otherwise accessible routes.

This report recommends setting a goal to have an accessible trail within 20 minutes of all Massachusetts residents, including populations dependent on public transportation. To achieve this, planning must explicitly address gaps in the network. Gateway Cities, Environmental Justice communities, geographic areas where there are no accessible options, and areas with lower social determinants of health should be prioritized when identifying trail opportunities.

Participants also advocated for some trails to be significantly longer and more immersive, and/or provide access to unique scenic, natural, historic, or cultural settings. In addition to having trails in one's community, there is also a desire for some of the trails in the network to provide truly special outdoor experiences, of the sort that could draw visitors from across the region.

Coordination across municipal boundaries will be essential to achieve these goals, and Regional Planning Agencies can help identify network gaps and support smaller communities. Participants also identified opportunities to establish accessible trails that follow the Mass Water Resources Authority (MWRA) aqueducts. While ownership and access issues are complex, there are similar corridors across the state that should be assessed for their potential as part of the accessible trail system, including sewer and water lines, electric and gas utility corridors, flood control levees and other infrastructure.

While building accessible trails offers the strongest foundation for equitable access, the network can be further strengthened through adaptive guiding and equipment programs. One forum participant noted that "All Out Adventures was life-changing for me," and wanted similar programs to be available to more people. Many recommended establishing equipment libraries to loan adaptive bikes and other adaptive equipment, noting that the high cost of adaptive equipment is a major barrier for many users.

Some advocated for expanding the number of adaptive mountain bike trails, taking inspiration from successful examples in states like Vermont.

Other assistive programs and technologies which may help expand access include: connecting visually-impaired users with guides, utilizing apps to describe trail surroundings for users with low-vision/blindness, and creating community buddy systems and volunteer networks to assist people with mobility or other disabilities.

## ASSESSING NON-ACCESSIBLE TRAILS

The feasibility and cost of redesigning an existing non-accessible trail depends on a range of factors, including terrain, drainage, grade, sub-base, trail tread width, parking, and other considerations. The cost and engineering required for these projects may prove prohibitive. Trail builders report that “in some cases, starting from scratch is easier.” On the other hand, some trails may be close to accessible already, requiring only targeted improvements—such as correcting entrance conditions, removing gates, or upgrading short inaccessible sections—to open up access. Careful assessment of a community's trail infrastructure can help reveal opportunities (see draft Trail Evaluation Tool in the Appendix).

## RECOMMENDED ACTIONS

- 1.2.1. Systematize accessible trail planning by integrating it into routine municipal and regional planning efforts such as Open Space & Recreation Plans, Bicycle & Pedestrian Plans, Regional Greenway Plans, and others. [Regional Planning Agencies, Trail Design Consultants, State Agencies, Municipalities]
- 1.2.2. Evaluate trail networks within towns, regionally, and statewide, to identify gaps in the accessible trail networks and experiences. Efforts to identify gaps could begin with: [Advisory Council, Regional Planning Agencies, State Agencies, Municipalities, Land Trusts, Trail Consultants]
  - Gateway Cities
  - Places where residents do not have an accessible trail within a 20-minute trip
  - Existing or planned transit corridors that lack nearby trailheads

- 1.2.3. Evaluate trail networks at the local, regional, and statewide scale to identify opportunities for new “keystone” trails—destinations that offer distinctive natural, historic, or cultural settings, can extend a mile or more, and have the potential to attract regional visitors for an exceptional experience. [State Agencies, Regional Planning Agencies, Large Land Trusts, Trail Consultants]
- 1.2.4. Develop an accessible trail redesign decision-making toolkit to guide municipalities and trail organizations in evaluating existing trails for potential accessibility improvements. Key factors to consider include transit access, availability and accessibility of parking, trail length, width, and grades, and the condition of the trail surface, sub-base, and drainage. [Advisory Council, Trail Consultants]
- 1.2.5. Ensure that accessibility is a central consideration in all trail improvement projects. [State Agencies, Land Trust, Land Owners, Trail Design Consultant, Trail Builders]
- 1.2.6. Expand programs providing adaptive equipment and assistance to access nature. Support, fund, advertise, and maintain adaptive and assistive recreation equipment lending and sharing programs, networks and systems. [State Agencies, Land Trusts, Adaptive Programs, Adaptive Equipment Companies, Advocates]
- 1.2.7. Explore opportunities for accessible trails that follow the routes of aqueducts, sewer and water lines, flood control levees and other infrastructure corridors. [Regional Planning Agencies, Trail Design Consultants, State Agencies, Municipalities]

### 3 CREATE AND MAINTAIN FUNDING SOURCES TO EXPAND AND SUPPORT THE ACCESSIBLE TRAIL NETWORK

Communities and nonprofits frequently rely on grants, such as from MassTrails, which are highly competitive. MassTrails Grants are funded through two different sources:

- Commonwealth Trails grants are supported by the state's annual Capital Investment Plan and aim to help communities design, create, and maintain off-road shared-use pathway connections, especially by building out the longer distance regional networks of multi-use pathways across the state and filling in critical gaps in existing networks, or overcoming current barriers to connectivity.
- Recreational Trails Program (RTP) grants are federally funded through the United States Department of Transportation's Federal Highway Administration (FHWA), administered at the State level, providing funding for the development and maintenance of recreational trail projects. Both motorized and non-motorized trail projects qualify for assistance. States must use 30% of RTP funds for motorized trail uses, 30% for non-motorized, and 40% for diverse uses (trails that have multiple uses).

Because of these requirements, accessible trail applicants compete with other trail types for funds. Participants stressed the need for a dedicated state-level funding source to better support the expansion of accessible trails. Proposals for funding mechanisms included:

- Establishing accessible trail targets or percentages in the MassTrails priorities, bond bills, and legislation.

- Leveraging existing programs, such as Municipal Vulnerability Preparedness (MVP) grants, Parkland Acquisitions and Renovations for Communities (PARC) grants, Massachusetts Office of Travel and Tourism’s (MOTT) Destination Development Capital (DCC) grants, or infrastructure upgrades, to support accessible trail development.
- Prioritizing funding for accessible trails in future open space, conservation, and outdoor recreation grant programs and revenue sources.
- Aligning trail development with healthcare funding as preventive infrastructure for people with disabilities and an aging population.

Ensuring reliable and sustained funding for state agencies who are responsible for managing and making improvements to state lands is also essential for addressing gaps that grants alone cannot fill. An equitable and robust accessible trail system depends on the capacity of state agencies to design, build, and maintain high-quality trails and to administer the funding programs communities rely on. Strengthening the operating budgets and capital allocations for agencies such as the Department of Conservation and Recreation (DCR), the Department of Fish and Game (DFG), and the Massachusetts Office of Outdoor Recreation (MOOR) would enable the Commonwealth to expand internal staffing, technical expertise, and project oversight dedicated to accessible trails. Robust agency funding ensures that accessible trail projects can move from concept to completion, that maintenance needs are met over time, and that the state can effectively coordinate and prioritize investments across multiple funding mechanisms.

## RECOMMENDED ACTIONS

- 1.3.1. Establish a dedicated state fund, able to accept public and private contributions, to ensure sustainable state-level funding for construction and ongoing maintenance of accessible trails. [Legislators, State Agencies]
- 1.3.2. Prioritize accessible trails within the MassTrails grant program and other state grants programs. Ensure that any state funding for conservation and/or recreation includes funding for accessible trail construction and maintenance [State Agencies[MassTrails]]
- 1.3.3. Integrate accessibility improvements into existing and future climate resilience, open space, and infrastructure funding mechanisms. [State Agencies, Private Funders]
- 1.3.4. Partner with hospitals and health networks to [Health Care Providers, Land Trusts, Adaptive Programs, Private Funders, Department of Public Health]:
  - Develop accessible trails on or near healthcare campuses;
  - Support shuttle services and trailhead access for patients and community members;
  - Provide adaptive equipment rentals or loans; and/or
  - Incorporate trail-based programs into rehabilitation, wellness, and preventive care initiatives.

- 1.3.5. Work with the CPA Coalition and other Community Preservation Act stakeholders to more effectively use CPA funds to create, preserve, rehabilitate and/or restore the accessible trail system. (See also 4.3.5.) [State Agencies[EEA], CPA Coalition, Advocates]
- 1.3.6. Guarantee that key state agencies—including the Department of Conservation and Recreation (DCR), the Department of Fish and Game (DFG), and the Massachusetts Office of Outdoor Recreation (MOOR)—receive sufficient operating budget allocations and capital investment resources to plan, design, build, and maintain accessible trails across the Commonwealth. Sustained funding for agency staff, technical expertise, project management, and oversight of grant and capital programs is essential to expanding the accessible trail network and ensuring long-term stewardship of these public assets.[Legislators]

## 4 REDUCE ADMINISTRATIVE AND REGULATORY BARRIERS

Trail builders and municipal representatives reported permitting challenges that increase costs and delay projects. Participants expressed interest in streamlining permitting processes while maintaining protections for natural resources. Wetlands permitting, in particular, was identified as an area where clearer guidance could improve projects without compromising environmental stewardship.

The Massachusetts Department of Environmental Protection (MassDEP) is currently working on revisions to the Wetlands Protection Act Regulations. This includes changes focused on climate resilience and stormwater management, as well as streamlining permitting. As part of this effort, the Commonwealth has an opportunity to balance strong resource protection with support for public-benefit trail projects. The TAWG Sub-Committee on Permitting developed a set of findings and guiding principles in Appendix D. Key points include:

- Right-size regulations: Low-impact, professionally designed accessible trails should not face the same burdens as large development projects.
- Streamline minor activities: Routine trail maintenance and some construction using Best Trail Management Practices (BTMPs) have minimal impact and should receive simplified permitting.
- Simplify crossings: Properly designed stream and wetland crossings (bridges, boardwalks, puncheons) that follow BTMPs and minimize impacts should qualify for expedited review.
- Remove unnecessary standards: Unpaved trails should be exempt from MA Stormwater Standards, which add complexity without environmental benefit.
- Modernize Notice of Intent (NOI) requirements: Allow flexible documentation (e.g., sketches, photos, field notes) and waive traditional development-style plan requirements for linear woodland trail projects.

Streamlined, science-based permitting will protect wetlands while expanding equitable access to nature across Massachusetts.

Included in the discussion of Administrative Barriers are the complications of contracting for accessible trail construction. Non-accessible trails lend themselves to a wide range of contracting approaches, and are often built by both contractors and volunteers. These same trail builders often lack the technical training and oversight necessary to build functional and durable accessible trails. Common low-bid contracting procedures make it hard to ensure that contractors have those skills, and can keep trail builders who do have necessary skills and experience from being awarded contracts. (See the following section on Design & Construction for more on training needs and best practices for building accessible trails)

## RECOMMENDED ACTIONS

- 1.4.1. Collaborate with DCR and MassDOT to create public contracting categories, qualifications, specifications, best management practices, and mechanisms that are specific to the needs of accessible trail design and construction in natural areas. Make these contracting mechanisms available to municipalities. (See also 2.3.3.) [State Agencies (DCR, MassDOT), Advisory Council]
- 1.4.2. Collaborate with the Department of Environmental Protection (DEP) and advocacy partners to “right-size” the regulatory framework for wetlands review and permitting to reduce the time, cost, and technical barriers to accessible trail maintenance and construction permitting while maintaining strong wetland resource protections. [State Agencies, Advocates, Legislators]

## 5 FACILITATE TRANSPORTATION TO TRAILS

Getting to trailheads is the greatest barrier for those who cannot drive and depend on paratransit and public transportation, which can be limited, infrequent, or unreliable. A preliminary assessment comparing accessible trails with public transit routes conducted in November 2025 found that very few trails (seven) can currently be reached by public transit. Tackling this challenge is paramount to opening up equitable access.

Participants identified several opportunities to improve access:

- Auditing trailheads to identify addresses to facilitate paratransit routing, or encouraging paratransit routing by latitude and longitude coordinates.
- Collaborating with MassDOT, MBTA, Keolis, and Regional Planning Agencies to align transit routes with trailheads.
- Exploring scheduled transit-to-trail services (similar to the “Nature Bus” in Albany, NY).
- Considering subsidized ride-share or voucher programs.

As an example of a recent success, Mass Audubon advocated for years for public transit to connect to the Broad Meadow Brook Wildlife Sanctuary in Worcester, and was ultimately successful. In addition, Berkshire Natural Resources Council, in collaboration with Berkshire Regional Planning Commission, The Conway School, and other regional partners, is working to increase public awareness about how to access Berkshire trailheads and other recreation areas using public transportation. Planned initiatives include creating a map showing the intersection between bus routes and outdoor spaces, adding information at bus stops and trailhead kiosks, and working with the Berkshire Regional Transit Authority to expand access.

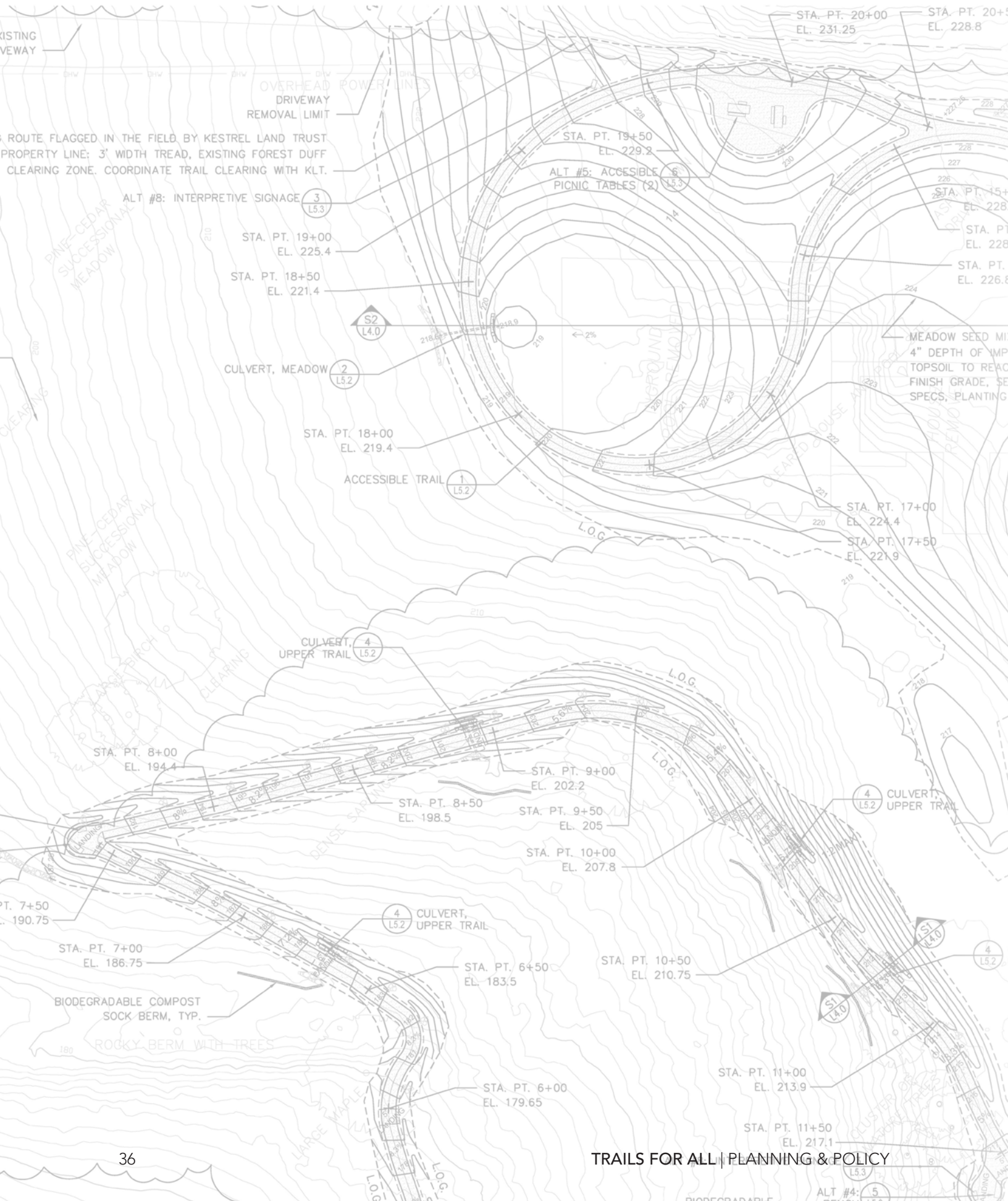
Access challenges also occur near the trailhead itself. Dangerous intersections, missing crosswalks, and inadequate sidewalks can limit access even for residents who live nearby. Improving these conditions is essential to ensure that trails are safely and fully accessible.

## RECOMMENDED ACTIONS

1.5.1. Create a Transit to Trails initiative with MassDOT and regional transit authorities to enhance transit access to accessible trails. The initiative may include:

- Ensuring all trailheads can serve as drop-offs and pick-ups GPS coordinates, regardless of official street addresses. [State Agencies, Regional Transit Authorities, Regional Planning Agencies]
- Exploring and promoting dedicated weekend routes, dedicated shuttle buses, subsidized vouchers, and volunteer buddy systems. [State Agencies, Regional Transit Authorities, Regional Planning Agencies]
- Establishing a “Safe Routes to Trails” initiative and improved sidewalk and crossing connections near trailheads in planning the trail system. [State Agencies, Regional Transit Authorities, Regional Planning Agencies.]







# DESIGN & CONSTRUCTION

## RELEVANT VISION EXCERPTS

*“Crushed stone and boardwalk trails provide firm, stable surfaces through diverse natural settings. They are long enough to provide an immersive experience in nature, wide enough to travel with a companion, and have grades that meet a variety of users’ needs. Supportive amenities such as accessible restrooms, seating at regular intervals, and shade make trail visits comfortable and enjoyable. Features like tactile guides, edging, and guardrails enable access for those with low vision or blindness. Shared statewide design standards ensure consistent quality across the trail system.”*

# RECOMMENDATIONS

## 1 ESTABLISH STATEWIDE STANDARDS

Discussions within the Trail Access Working Group underscored the need for consistent, practical, and user-centered standards for surfaces, grades, and trail amenities. This is important both to ensure consistent quality and performance for trail construction, and to provide a predictable trail experience for users.

The Massachusetts Architectural Access Board (521 CMR) is currently updating accessibility regulations and considering whether to establish trail standards. Some working group members support adopting the Forest Service Trail Accessibility Guidelines (FSTAG). Others noted that FSTAG—while widely referenced—was not intended as a universal standard and can lead to trail conditions that remain inaccessible or have a poor user experience. They note that the Massachusetts Trails for All Initiative presents an opportunity to develop standards that better meet the needs of all users.

### POTENTIAL TOPICS

The following trail design topics emerged consistently across public engagement, site visits, and working group discussions:

**SURFACING** Trail surfacing was identified as the principal determinant of the level of accessibility and the resulting user experience. Problematic surfaces include loose gravel, crushed stone that is either too fine or too coarse, deteriorated asphalt, and boardwalks with uneven or gapped planks. Participants noted that if trail surfaces became muddy or were eroded after rain events, they were impassable.

*"Challenges are okay. Barriers are not."*

*- Forum participant*

The surfaces experienced as most accessible were compacted crushed stone/stone dust, crushed stone with stabilizer, smooth asphalt or concrete. Several users with lived experience noted that compacted crushed stone offers the most natural and pleasing texture.

A working group subcommittee, drawing on professional and lived experience, evaluated trail surfacing options. They agreed that the best surface for most accessible trails is compacted, unbound 3/8" minus crushed stone for a variety of reasons, including user experience and aesthetics, cost of installation, and ease of repairs and maintenance. Detailed findings can be found beginning on page 57.

**WIDTH** A minimum width of 36 inches is required to be accessible, but 6' width is strongly preferred to allow for passing, side-by-side travel, proper positioning for service dogs, and communication using sign language. If trails are 36 inches wide, passing spaces every few hundred feet are necessary. Narrow trails were widely described as less enjoyable. A nine-foot turning radius is necessary for recumbent tricycles.

**GRADES/SLOPES** Managed grades are key to ensuring safe and independent travel. FSTAG establishes maximum grades—up to 5 percent for any distance, between 5 and 8.33 percent for up to 200 feet, between 8.33 and 10 percent for up to 30 feet, and between 10 and 12 percent for 10 feet, with 12 percent as a maximum not to be exceeded. Resting intervals must be provided at the top and bottom of grades over 5%. Trail users throughout this project noted that FSTAG grades are not necessarily accessible for all users. Some users will be able to navigate them independently, others may need certain equipment. Clear information indicating maximum and average grades enables users to plan their trips confidently.

**EDGES** Clear trail edges (free of debris) are necessary for people using white canes to find the edge. This can be as simple as a consistent line between crushed stone

and adjacent grass or leaf litter, with additional elements as needed to support planned trail users. Guardrails near steep drop-offs should be included for blind/low-vision users. Rope guides can be helpful but some users may not enjoy the experience of using them, as the materials can be abrasive on the skin over a long distance, and inconsistencies in the rope guide system can create more confusion.

**SEATING AND REST AREAS** Benches spaced every few hundred feet provide critical opportunities for people to rest. The surfacing around the seating area must be accessible, with adequate space for wheelchair users to sit next to their companions. On trail visits, inaccessible surfacing around benches was often observed adjacent to an otherwise accessible trail. Seating itself should incorporate accessibility features. Seating in shaded areas is especially valued.

**ACCESSIBLE PARKING & TRAILHEAD ACCESS** Accessible parking near the trailhead is essential. Trail users reported that not infrequently a stretch of trail marketed as accessible will be blocked by an inaccessible entrance or parking lot (“There are a lot of trails that could be made accessible if the parking was improved.”). Participants described frustration with coarse gravel parking areas and long unmarked distances between parking and the trail. Parking spaces should be ADA-compliant, with adequate space for unloading. If EV chargers are provided for non-accessible spaces, they should also be provided for accessible spaces. Where bollards or boulders are added to control access to the trail, ensure 36” minimum clear width to allow access for all mobility devices.

**RESTROOMS** Availability of accessible bathrooms is absolutely necessary for many, and a lack of facilities shortens or discourages visits. While some trails may not be able to fund and maintain restroom facilities, their presence can make a trip to a trail a lot more feasible for many users. In particular, restrooms or portable toilets that have entrance ramps, adult-sized changing tables, and automatic door

buttons are especially valued. Sometimes restroom facilities are available off-site—a situation that presents a barrier for those who did not drive to the trailhead or cannot get in and out of their vehicle with ease.

**MANAGED USES** Conflicts with other trail users such as cyclists or off-leash dogs can limit trail use. For low-vision or blind users who may not anticipate a cyclist coming, this combination of uses can be unsafe. Public input emphasized the need for clear etiquette and consistent enforcement.

**SHADE** Adding trees to a trail is an affordable way to add shade and can help prevent overheating, especially with more days with extreme heat projected in future years.

**TRAIL INFORMATION** See 'Information' chapter for findings and recommendations on this topic.

## RECOMMENDED ACTIONS

2.1.1. In partnership with the Massachusetts Architectural Access Board (MA AAB) and the Advisory Council, develop and adopt statewide standards for accessible trails that include surfacing, grading, drainage, width, slope transitions, edge treatments, and signage. [State Agencies, Trail Builders, Private Contractors, Private Quarries]

2.1.2. Establish 3/8" minus crushed stone material as the default material for accessible trail surfacing. Use alternate materials only where site conditions, aesthetic goals or performance requirements demand them. Partner with builders and quarries to test performance, standardize sieve gradations, and maintain a shared, up-to-date guide with ideal mixes for different conditions. [State Agencies, Trail Builders, Private Contractors, Private Quarries]

## 2 BUILD A COMMON RESOURCE OF BEST PRACTICES

Communities have different barriers to building accessible trails. For some, it is financial resources; for others, it is political will; for others, it is know-how. One land manager said: “We have enough capacity to do the work, but knowing the details to make a proper accessible trail that will last is the hard part.” Model guidelines and toolkits should be developed to make it easier for trail builders and municipalities to execute their vision for an accessible trail. These resources could include design specifications, construction methods, permitting, and financing.

Educational and training materials for trail builders should also include best practices for creating a safe, enjoyable, memorable user experience. While standards are important to ensure an accessible trail is in fact accessible, there are many other features that contribute to a positive experience for users.

While not comprehensive, the following list reflects some important trail design considerations shared through this process:

- Design trails to allow opportunities for solitude, scenic views, birding, and immersion in nature.
- Offer sufficient length and interest to feel the trail is “worth the trip.” A one-quarter or one-half mile trail can be too short to provide the desired extent and depth of experience of nature and separation from daily life.
- Offer access to scenic viewpoints, water, and other highlights.
- Consider having multiple trails originate at a single trailhead, creating a “stacked loop” with options for users with different interests and abilities. Be careful to ensure the accessible trail has access to scenic view spots or other special features that equal those that can be reached by way of the non-accessible trails.

*“We need a guide to give landowners and municipalities the information they need.”*

*- Forum Participant*



- Users have different preferences. Some people want a trail to feel as natural as possible, others prefer having interpretive signage, guide ropes or other features. Building a variety of types of trails will help create a system that meets the interests of different users.

## RECOMMENDED ACTIONS

- 2.2.1. Provide a compendium of best trail design practices, informed by persons with lived experience, to ensure that accessible trails provide a high-quality user experience in addition to meeting minimum standards. [State Agencies (DCR), Large Land Trusts, Trail Builders, Private Contractors, Trail Consultants]
- 2.2.2. Provide a compendium of construction best practices, including construction methods and specifications. [State Agencies (DCR), Large Land Trusts, Trail Builders, Private Contractors, Trail Consultants]
- 2.2.3. Compile and publish examples of accessible trails to highlight success stories. [Advisory Council, State Agencies (DCR), Large Land Trusts, Trail Builders, Trail Consultants]

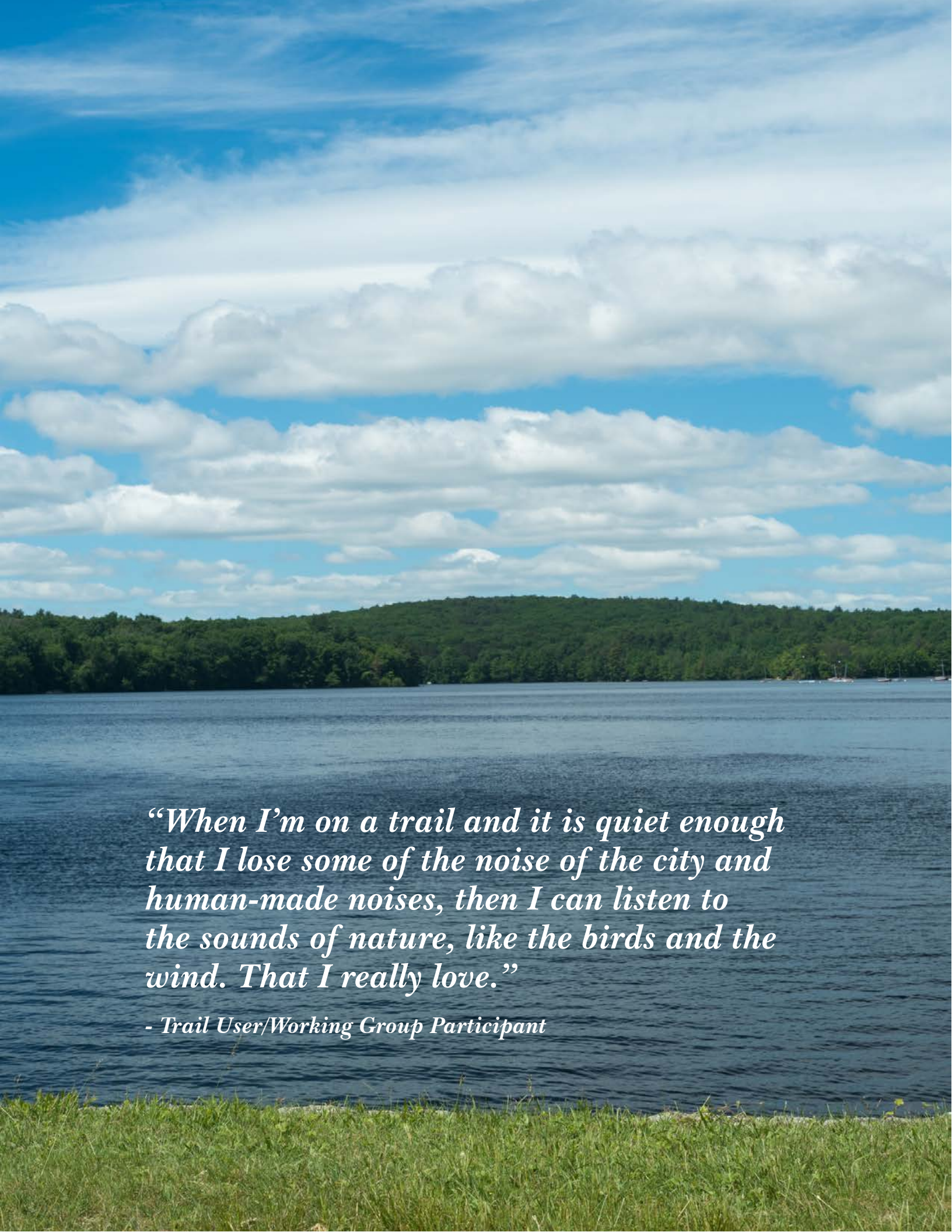


*Building a variety of types of trails will help create a system that meets the interests of different users.*

## DESIGNING FOR NATURE IMMERSION



*Visitors appreciated trails that offer an immersive experience within varied and engaging natural settings—such as views into wetlands, raised boardwalks through mature forests, or sunny meadows humming with pollinators. Visitors especially valued trails that allow users to travel through a sequence of distinct environments, as this diversity creates a sense of dynamism and discovery.*



*“When I’m on a trail and it is quiet enough that I lose some of the noise of the city and human-made noises, then I can listen to the sounds of nature, like the birds and the wind. That I really love.”*

*- Trail User/Working Group Participant*

### 3 CULTIVATE TRAIL CONSTRUCTION EXPERTISE

Participants consistently highlighted the variability in trail construction quality and the challenges communities face when hiring builders. Experienced trail builders are stretched thin, and municipalities often must select the lowest bidder, which increases the risk of work performed by contractors unfamiliar with accessible trail construction.

A statewide training program was proposed to increase the knowledge-base among contractors statewide, as many local landscaping companies possess the equipment necessary to install trails, but might not think of applying for these projects. Training contractors in accessible trail construction would hopefully increase the number of companies going after trail jobs, and help municipalities ensure that the contractors they hire are qualified.

Another issue related to construction expertise is the challenge of sourcing a consistent and reliable supply of 3/8" minus crushed stone which is necessary to ensure



long-lasting trails. Surface failure (loose stone, rutting, erosion) often stems from an inconsistent gradation—both of the original surface material, and of material used to repair the trail over time. Builders note that even when a specific sieve mix of 3/8" minus is ordered, the actual material delivered to the site might have a different composition due to testing irregularities. Another challenge is that stone varies from quarry to quarry—trap rock, granite and limestone all perform a little differently—even for the same mix of sieve sizes. Working with quarries to develop the best gradation of different sieve sizes for the type of stone they produce, in tandem with processing and testing improvements, would help ensure consistency and improve trail performance.

Additionally, local conditions vary widely: soil type, slope, and drainage conditions all determine whether a surface stays firm and stable. Supporting quarries to develop customized mixes for different conditions would help trail designers and builders find and obtain the right mix for their site conditions.

Compiling a list of accessibility consultants with lived experience who can consult on these projects would also help to ensure that construction will be accessible in practice. Several participants with lived experience shared that they were asked to test an accessible trail after it had been constructed without the consultation of users with disabilities—at which point they identified major accessibility issues which would be costly to correct. It is essential to include those with lived experience of disability throughout the design, construction, and testing process so that issues are discovered early.

Participants suggested that trail builders partner with consultants and paid advisors with lived experience of disability and trails/outdoor recreation knowledge. These partners can help provide insight into both equitable outreach/engagement to the disability community and design and planning of the trail. Engagement and outreach with the disability community should be conducted as part of best

practices. Places to connect with the disability community can include local Commissions on Disabilities (or the MA Office of Disability), adaptive outdoor recreation companies, Councils on Aging, and senior center, independent living centers, and disability-focused programs.

## RECOMMENDED ACTIONS

- 2.3.1. Support programs to share and disseminate best practices, success stories, specifications, and sources for trail surfacing. [State Agencies, Land Trusts, Trail Builders, Trail Consultants, Advocates]
- 2.3.2. Develop model scopes of work and selection criteria to help towns and smaller land owners identify construction contractors with suitable skills and experience with natural surface trails. [Advisory Council, Trail Builders, Trail Consultants]
- 2.3.3. Collaborate with DCR, DCAMM and MassDOT to create public contracting categories, qualifications, specifications, best management practices, and mechanisms that are specific to the needs of accessible trail design and construction in natural areas. (See also 1.4.1.) [State Agencies[DCR, MassDOT], Advisory Council]
- 2.3.4. Encourage collaboration between trail designers, builders, and individuals with a lived experience of a disability in every trail project. Consider requiring participation of those with lived experience [State Agencies, Advisory Council, Trail Builders, Trail Consultants].

# SURFACING MATERIALS AND CONSTRUCTION: BEST PRACTICES

## 3/8" Minus Crushed Stone (Unbound)

The recommended surface for most accessible trails is compacted, unbound 3/8" minus crushed stone.

Compacted 3/8" minus crushed stone offers a cost-effective, sustainable, locally-available material that fits well in both natural and historic sites. It provides a natural appearance, textured feel, can blend in visually with native soils, and is softer underfoot than paved surfaces. Many trail users report preferring 3/8" minus crushed stone, when installed and maintained properly, over paved surfaces for the combination of accessibility and user experience.

The range of gravel sizes supports water infiltration, and the material is not susceptible to the root heaving common to asphalt surfaces. It also provides superior temperature regulation compared to paved surfaces.

For successful results, it is essential that the material is sourced and installed according to strict specifications and subject to regular maintenance.

### Use Cases

3/8" minus crushed stone is recommended as the default option for most accessible trails in natural areas. It is particularly suitable for longer trails and cost-sensitive projects because the material itself is lower-cost than alternatives, and because it can be installed and repaired without advanced training or specialized equipment. It is also easier to repair in-house than stabilized or paved surfaces.



***The recommended surface for most accessible trails is compacted, unbound 3/8" minus crushed stone.***



### What is 3/8" Minus Crushed Stone?

During production, crushed stone is passed through a series of metal sieves, or mesh screens used to sort crushed stone into different particle sizes. Each sieve has a precisely measured opening—such as 1/2", 3/8", #4, #8, #200—that allows particles smaller than that size to pass through while retaining larger pieces.

When a quarry produces a material such as 3/8" minus, it means that the largest particle is approximately 3/8 inch, with particles smaller than 3/8 inch included. The material contains a mix of coarse particles (close to 3/8") and fine particles ("stone dust" or "fines").

Gradation, or the distribution of stone particles across different sieve sizes, strongly influences a trail surface's firmness, stability, compaction, drainage, and long-term performance. Gradation controls how particles fit together, how much void space remains, and how well the material resists movement under wheels, feet, or water.

3/8" Minus Crushed Fines for Trail Paving	
SIEVE	PERCENT PASSING
3/8"	100%
4	65-85%
8	40-70%
30	25-50%
100	10-20%
200	5-10%

*Example of sieve size gradation specification*



*Parsons Marsh Reserve, Lenox*

### *Considerations and Limitations*

3/8" Minus Crushed Stone has a natural self-sealing quality, and is firm, stable and slip-resistant when properly installed and maintained. It is subject to weather impacts. It can be dusty when dry (especially if heavily used) and soft when saturated. Without maintenance, trails tend to soften at the edges where there is less foot traffic, which can create issues with wheeled devices.

It can be very stable, however, when properly constructed over a firm, well-drained subbase. Trail surfaces should be crowned or pitched to send water to the side, and any surface flow needs to be directed into a swale or other device to prevent water washing over the trail. Regular maintenance is essential, especially in forested areas, to ensure that leaves and debris don't keep water from sheeting evenly off the edge of the trail, and that swales and culverts remain open.

Trails traversing steep slopes or wet areas typically need more attention to drainage. In addition to additional drainage features (see Drainage below), these areas may warrant a change in materials, such as a stabilized surface or boardwalk.

### *Construction Notes*

Attention to running and cross slope is critical and must fall within specified ranges. Inadequate cross slopes and



### *Representative Trails*

- Savoy Mountain State Forest (Savoy)
- Harold Parker State Forest (Andover)
- DAR State Forest (Goshen)
- Mt. Tom North (Easthampton)
- Upper Charles River Trail (Holliston)
- Mass Audubon's Brewster's Woods Wildlife Sanctuary (Concord)
- Mass Audubon's Long Pasture Wildlife Sanctuary (Barnstable)
- Mass Audubon's Pawtucket Farm Wildlife Sanctuary (Lowell)
- Noble View Outdoor Center (Russell)
- Cardigan Lodge (Alexandria, NH)

flat spots will have a tendency to generate problematic puddling or erosion. The cross slope should be a minimum of 1%, ideally no more than 2%, with a maximum of 5%.

It is important that the ratio of fine, medium, and coarse crushed stone in the mixture falls within strict ranges. Field testing of a sample trail section should be performed, especially if the stone source and mix of sizes has not been used successfully in the past.

Materials can be moved and placed with common equipment, although paving boxes are often used to ensure consistent depth.

Installation requires thorough compaction with vibratory plate compactor or roller.

The application of water at the correct time and amount during compaction is critical to the success of the installation. It needs to be adjusted to the specific mix of materials and weather conditions. This is something of an art—specifications should require prior experience building compacted stone dust paving or a successful field test of a sample trail section.

### *Maintenance Notes*

- Note that all natural surface trails will see some exfoliation (loosening and loss of fine materials on the surface) which can render the trail less accessible, especially on the edges where there is less traffic. The surface will require rewetting and compaction every few years, depending on conditions and use.
- Bike use can potentially accelerate exfoliation of the surface.
- Chipmunks and other animals can burrow holes which should be promptly repaired.
- Certain aggressive colonizing plants may present a weed issue.
- Trails can be damaged by vehicle use, including maintenance vehicles.

## Stabilized Crushed Stone

For high-traffic areas—particularly those where a reliably firm, stable and slip-resistant surface in all seasons is desired—the recommended surface is 3/8" minus crushed stone bound with a stabilizer such as Organic Lock.

Stabilizers are designed to maintain a firm, stable trail surface for a longer time in a broader range of conditions. The appearance and feel is comparable to unbound 3/8" minus, with improved weather resistance and self-sealing ability. They can withstand traffic and are best suited to areas of high use or where the trail is likely to be considered an accessible route under ADA- such as between an accessible parking area and a welcome facility, restroom, picnic area or playground. Unlike unbound crushed stone, stabilized crushed stone surfaces tend to remain firm and stable across the full path width and do not soften on the edges.



*Stabilized Crushed Stone at Upton Community Center*

### *Considerations and Limitations*

- Each type of stabilizing product is mixed to a proprietary formula with specific requirements for installation and repair. It generally cannot be installed or repaired without expertise.
- Mixing stabilizer with crushed stone on site is rarely successful. Materials are best obtained from a source that provides a fully-mixed and certified-correct load of material to the site, ready to be placed and compacted.
- Temperature and moisture have to be within acceptable ranges during installation or the product will fail.
- The surface can fail quickly if subject to concentrated water flows or shifting of the subbase.
- Trails can be damaged by vehicle use, including maintenance vehicles.
- The upfront cost is higher than unbound crushed stone; comparable to the cost of asphalt paving.
- Organic Lock is not recommended for slopes over 7%.

### *Representative Trails*

- Walden Pond Accessible House Site Trail
- Great Blue Hill
- Alewife Reservation Stormwater Wetland

## Boardwalks

In areas with persistent wetness, sensitive habitats, or where grade and drainage limitations preclude natural surfacing, boardwalks provide a good alternative. Decking should utilize naturally rot-resistant species such as black locust, or heat-treated hardwoods. Pressure-treated pine is not recommended for decking due to environmental toxicity concerns, sun exposure degradation, and slippery conditions when wet.

Boardwalks should be of suitable width to allow for comfortable two-way travel, provide periodic passing opportunities, and include curbing or edge protection for safety. Railings should not obstruct views for wheelchair or mobility device users.

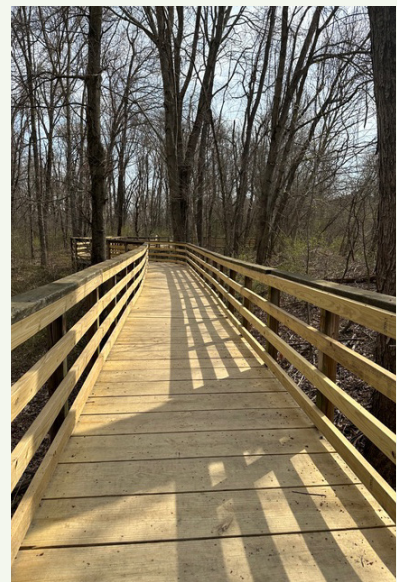
### *Representative Trails:*

- Accessible Trail at Bradley Palmer State Forest (Pressure-treated wood)
- Alewife Reservation Stormwater Wetland (Ipe)
- Walden Pond Visitor Center (thermally-modified hardwood; sloped ramp at entrance is grooved to increase slip resistance).

*For a more in-depth comparison of trail surfacing materials, see Appendix B.*



*Thermally-modified hardwood boardwalk at Walden Pond*



*Fort River Trail, Hadley*

## Drainage

Successful trail performance and longevity depends on carefully designed drainage, as concentrated water flows can quickly erode a natural surface trail.

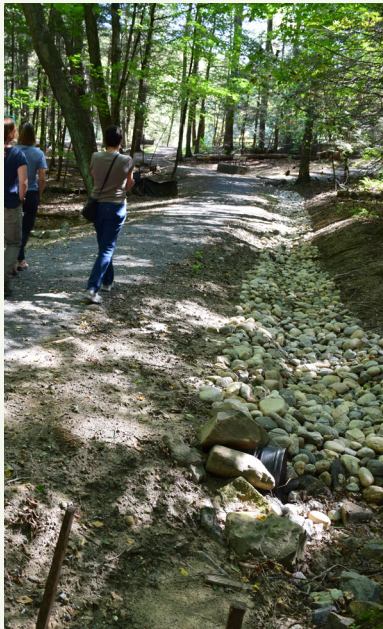
Trails should incorporate a smooth, continuous cross-slope of approximately 2-5 percent, allowing rain and snowmelt to sheet-flow off the tread, rather than run along the length of the trail. The latter can rapidly degrade the surface.

Trails that angle across a hillside often include a shallow ditch or swale to intercept runoff and direct it to grade reversals or culverts, where water can safely pass over a trail.

Site assessment should determine the need for swales, culverts, grade reversals, burrito drains, or other measures to disperse water and avoid concentrated flows. Materials such as stabilizers, boardwalks, or other higher-cost materials may be warranted to maintain accessibility and reduce long-term maintenance needs.

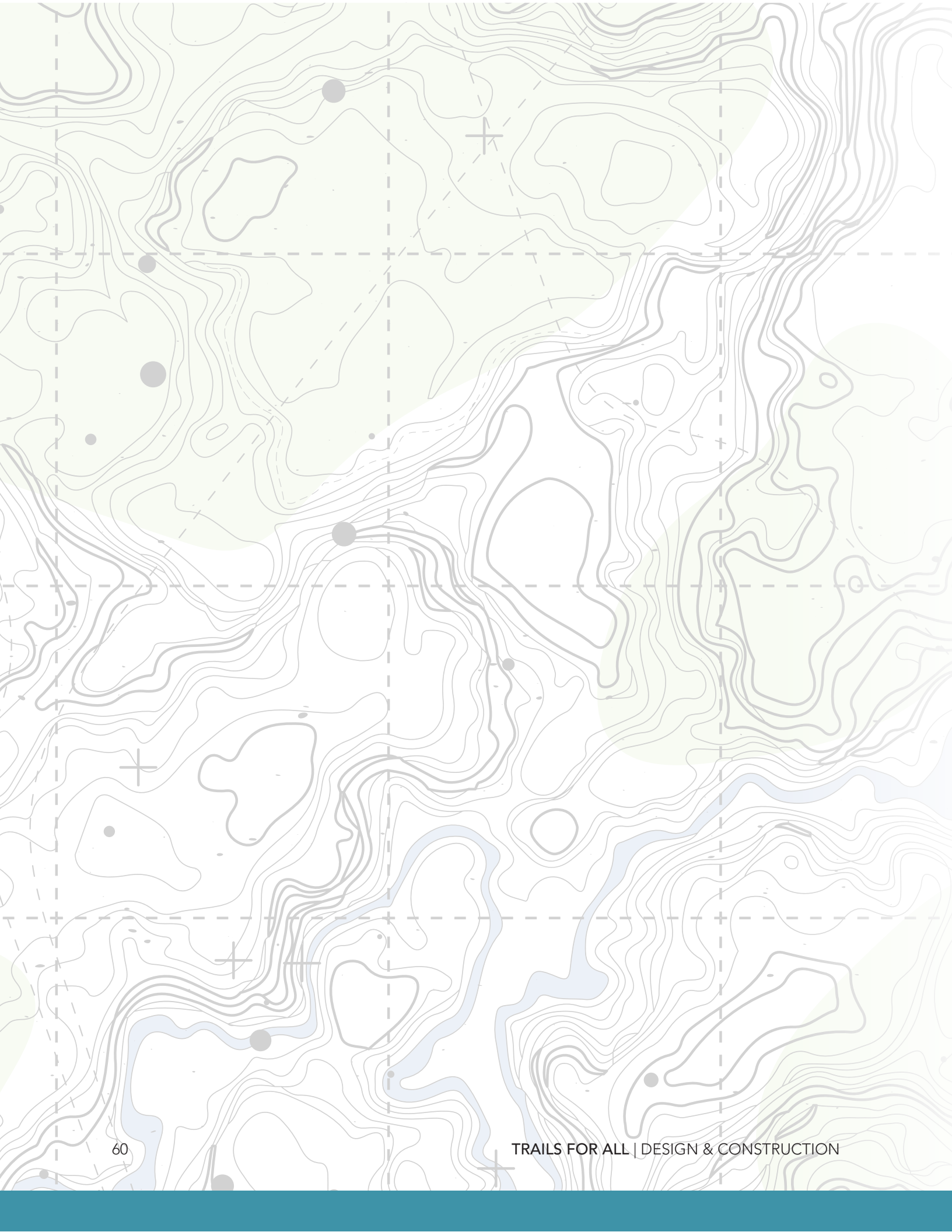


*Left: Example of a trail at Mount Tom North Trailhead Park in Easthampton, with a crowned surface that pitches water to each side. The uphill side is graded into a swale, with a basin and culvert at intervals to carry water underneath the trail to a downhill outfall. Maintaining a low turf edge allows water to sheet off the side of the trail, avoiding any flow down the length of the trail surface.*



*Above right: Example of water scouring on a trail. Above left: Example of sub-grade culvert and swale installed to prevent water running over the surface of the trail.*





# INFORMATION

## RELEVANT VISION EXCERPTS

*“Trails are easy to find and well-documented, with a centralized source of accurate trail information. All trails—whether accessible or not—provide clear, accurate accessibility information so users can plan experiences confidently.”*

# RECOMMENDATIONS

## 1 MAKE TRAIL ACCESSIBILITY INFORMATION CLEAR AND AVAILABLE TO ALL

Every user comes to a trail with different accessibility needs and desires. Having clear, consistent, standardized, and detailed information available, before the visit, about what one can expect to find is critical for users as they make decisions about where and how to recreate. Throughout the project, participants consistently named this need as a high priority.

The need for better information was made even more evident when, in order to better understand the availability of accessible trails across the state, the team assembled a preliminary inventory based on a variety of sources, including non-profits, land trusts, blogs, and Department of Conservation & Recreation listings. This process revealed that information on accessible trails is limited, inconsistent, and difficult to find. Key data challenges include:

- Inconsistent terminology. Trails are described variously as All Persons Trails, Gentle Trails, Healthy Heart Trails, ADA-accessible, or wheelchair- and stroller-friendly, making it difficult for users to know what to expect. Routes described as accessible trails include shared-use paths, paved walkways, or other non-trail facilities.
- Incomplete information. Many trails lack any description of surface material, grade, width, and other fundamental information, making it difficult to verify their accessibility.
- Inaccurate or outdated information. Even if they do have information posted online, trails labeled as accessible are sometimes not, due to lack of maintenance, or variations in surface conditions or terrain.

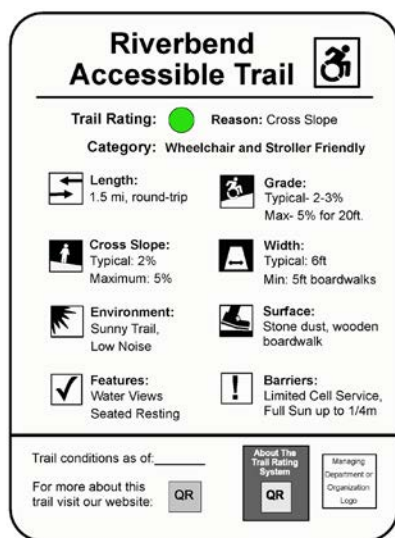
*“Even people with a similar diagnosis or disability don’t always want the same thing. That’s why it’s important for people to know what they can expect.”*

*- Trail User/Forum Participant*

*“It would be great to have a single source for information and a common code so that we are all ‘talking the same language.’”*

*- Trail Builder/Forum Participant*

See Appendix C for draft trail rating system and signage guidelines - example below.



- Limited staff knowledge. Staff are often unaware of trail specifications or current conditions and unable to provide needed information.

These findings underscore the need for information to be recorded consistently and shared in a way that is easily understandable by the public both ahead of time and at the trailhead. We recommend a statewide trail rating system based on objective standards, where trails are placed in numerical, icon-based, or name-based categories, to bring much-needed consistency. Additionally, stakeholders called for the creation of a guide explaining how the rating system works so trail users understand how to interpret ratings and are empowered to make decisions based on that information.

To ensure consistent data collection, the Working Group recommends preparing a “how-to” trail ratings guidance document to enable trail designers, managers, and volunteers to report accurate data. For collecting data, the High-Efficiency Trail Assessment Process (HETAP) and the Universal Trail Assessment Process (UTAP) tools were suggested as potential tools. Though HETAP requires specialized equipment whose cost may be prohibitive for smaller organizations, sharing equipment and training could make it more feasible.

In addition to online data, participants requested that accessibility information be available at the site. For staffed trails, it is essential that staff are knowledgeable about the conditions of their trails and are trained in providing accurate information to visitors. Participants have reported that staff are oftentimes not aware of legal requirements for access.

For both staffed and unstaffed trails, trail access information and emergency contacts should be posted at the trailhead. Posted signs should have clear policies that do not unwittingly exclude those with disabilities. For example, if a sign says “no dogs allowed,” it must be noted that service dogs are exempt.

Participants suggested also making available pamphlets and/or QR codes linking to ADA Title II-compliant online resources (which could be translated into the users' preferred language or read via screen reader).

Importantly, participants emphasized the need for accessibility information to be posted for all trails, even when a trail is not accessible. Clear, consistent information allows users to know when a trail is not in fact accessible, rather than simply lacking posted information. This level of transparency enables users to make decisions for themselves and can broaden use by helping more people, including some with disabilities, identify trails that meet their needs.

## RECOMMENDED ACTIONS

- 3.1.1. Adopt a numerical, icon-based, or name-based statewide trail accessibility rating system to be utilized by all state properties and for trails planned, built, or upgraded with the use of state-provided funds. Explore opportunities to coordinate with regional or national partners. (See Appendix C) [Advisory Council, All Actors]
- 3.1.2. Publish a guidance document for land managers and trail stakeholders on how to rate, classify, and sign their trail using the statewide trail accessibility rating system. Include guidance on submitting ratings and classifications that includes detailed trail access information (TAI) to a centralized trails inventory. (These metrics could also be used as a reporting requirement for trails designed/planned, built/upgraded, or maintained with state funds.) [Advisory Council, State Agencies]
- 3.1.3. Ensure accessibility ratings and trail access information (TAI) are integrated into any statewide or regional trail inventories. [State Agencies, Regional Planning Agencies, Municipalities]

3.1.4. Consider shared use of the High-Efficiency Trail Assessment Process (HETAP) tool between trail organizations to expand trail assessment capabilities, combined with regular training opportunities. Alternatively, provide training for a set of individuals to conduct assessments using the tool across the state. [State Agencies, Large Land Trusts]

3.1.5. Develop a concise resource—a web page or one-page handout—to help trail managers and staff confidently welcome visitors of all abilities. The resource should summarize regulations, legal requirements, and other tools or guidance that support safe and positive trail experiences for visitors. [Advisory Council]

## 2 IMPLEMENT SHARED STANDARDS AND POLICIES FOR DATA COLLECTION AND USE OF DIGITAL MAPPING AND OTHER APPLICATIONS

Providing consistent and accurate trail information is impossible without a common framework for how trails are described and presented in maps and other formats. This begins with a clear standard for how various characteristics of trails are described. This standard can then be applied to documentation of trails as they are measured and evaluated. It can also be required as a submission for any new trails as they are constructed, allowing the databased to grow consistently over time. With careful planning, the same data system can be optimized to ensure that it can easily be distributed across various applications, including web maps that allow users to search and categorize trails according to their individual needs.

In addition to each managing organization providing consistent accessibility information on its own website, there was a call for the Commonwealth to develop a statewide

inventory of accessible trails and make this information available online via apps or mapping tools. This inventory should include search and filtering tools which allow users to identify trails based on accessibility ratings and objective features, such as trail slope, width, surface type, accessible parking, and restrooms. Ongoing resources, including staff and technical systems, would be needed to maintain this inventory and the associated web products.

MassGIS, Regional Planning Agencies, and DCR are already working to aggregate trail data from various communities and other sources into a standardized statewide database. Simultaneously, the Massachusetts Office of Outdoor Recreation is developing a platform, MassOutdoors, that will consolidate recreational destination information across the state. These platforms present an opportunity to present standardized accessibility information for trails across the state as data is collected. Trail accessibility data could also be shared with popular digital platforms and mapping services such as OpenStreetMap and Google Maps to make it even more available to the general public.

Data for this inventory could be collected by requiring reporting from projects funded through state trail grants. Collecting information on trails could also be required as part of Open Space & Recreation Plan updates.

## RECOMMENDED ACTIONS

3.2.1. Adopt a technical data standard for accessible trails that reflects the design/construction standards described in action 2.1.1. This data standard should define a “schema” to enable digital representation of accessible trails information such as trail slope, width, surface type, ADA parking, and restrooms, and to support the collection, verification, and digital publication of information about accessible trails to an online map and/or open data platform.

3.2.2. Develop and maintain a statewide accessible trail inventory and database by compiling and aggregating existing sources of trails information and by collecting new information where relevant trail attributes are missing. This database should build on existing efforts like the MassGIS Statewide Trails Database, and should be maintained by dedicated GIS and database staff. Ensure that projects funded by various state grants & programs provide trail data consistent with these standards.

3.2.3. Publish an accessible trails web map and data hub website with information available for bulk download, via application program interface (API), and made usable via official and third party web tools, such as a mapping system and/or app that uses the trail rating system. The web map should include search and filtering tools that allow online users to filter trails not only by accessibility “rating/category” but also by specific key information relevant to accessibility, such as “max grade”, “trail width”, “trail surface material”, “availability of ADA parking”, “availability of ADA bathroom” etc.

### 3

## EXPAND AWARENESS OF ACCESSIBLE TRAILS AND THEIR BENEFITS

Throughout the process, participants emphasized that lack of awareness, both on the part of potential trail users and decision-makers who shape funding, regulation, and management, is a major barrier to equitable access.

Throughout the process, participants stressed that building accessible trails is not enough; communities must also be made aware of them. As one participant put it: “Don’t just build accessible trails and expect people to show up! We need a robust ongoing advertising campaign and equitable access to information.” The need for raising

*“My goal for our work is to win hearts and minds and broaden norms.”*

*- Trail User/Working Group Participant*

awareness of existing trails was clear at the public forums, where it was noted that many attendees were unaware of the accessible trails relatively close to their residences.

In order to raise awareness, participants recommended engaging the organizations that routinely work with people who stand to benefit the most, including hospitals, rehabilitation centers, senior centers, schools, disability commissions, and adaptive sports organizations. These partners can help promote accessible trails as part of rehabilitation, stress reduction, wellness programming, and community engagement. Importantly, marketing should include inclusive imagery that reflects a diversity of disabilities, ages, and racial/ethnic identities.

Likewise, many policymakers are not fully attuned to the broad value these trails provide. Participants made connections between accessible trails and public health, social connection, tourism, and economic development, and wanted to ensure that decision-makers saw the value of trails as well. Several members observed that Massachusetts does not yet see itself as an “outdoor recreation state,” despite its extraordinary potential. Highlighting the economic benefits of accessible outdoor recreation could increase statewide support and attract new partners from the business community. Likewise, raising awareness of trails’ public health value could unlock new funding sources—particularly within the healthcare sector. In fact, many states are now treating outdoor time as preventative medicine.

By increasing awareness among both users and decision-makers, Massachusetts can build the broad support needed to sustain long-term investment in accessible trails.

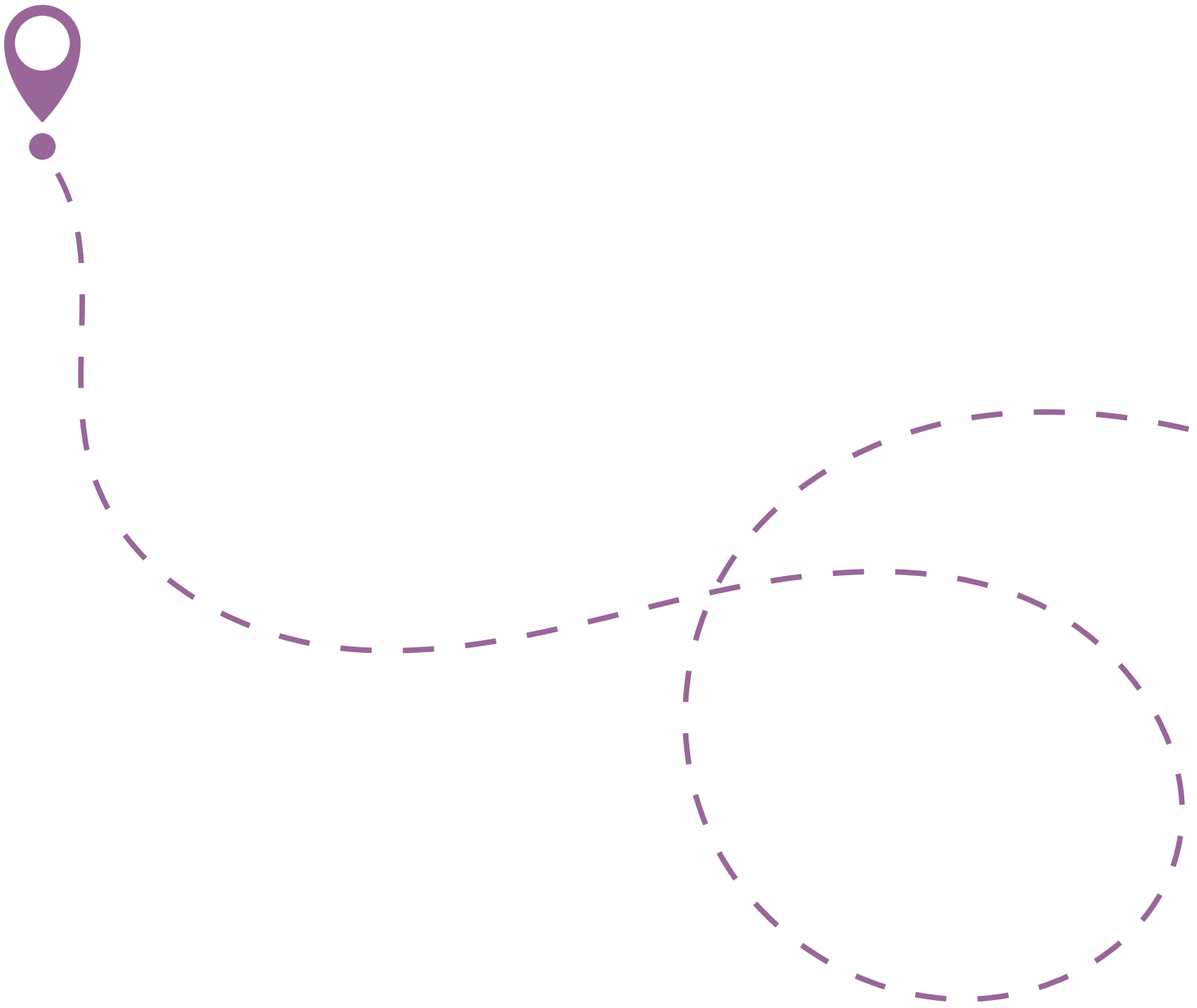
## RECOMMENDED ACTIONS

- 3.3.1. Promote the numerous benefits of accessible trails to decision-makers and the general public to build support and awareness. [Advisory Council, Advocates]
- 3.3.2. Advertise the presence of accessible trails through hospitals, rehab centers, schools, senior centers, disability commissions, adaptive sports and recreation non-profits, and public transit. [Regional Planning Agencies, Municipalities, State Agencies, MOD]
- 3.3.3. Continue the dialogue with the Department of Environmental Protection, DCR, Legislature, and other relevant stakeholders to raise awareness about trails, and especially accessible trails, as a resource for public good. [Advisory Council, State Agencies, Legislators, Advocates]

# MAINTENANCE

## RELEVANT VISION EXCERPTS

*“Accessible trails are built to last, with longevity ensured through regular, skilled maintenance. Land managers can plan for and afford maintenance with support from reliable funding and state resources. Guidance documents, trained contractors, and organized volunteer networks contribute to a system in which all land managers are able to maintain trails and preserve accessibility standards.”*



1

## ENSURE ONGOING ACCESSIBILITY THROUGH PLANNED MAINTENANCE

Even a well-designed accessible trail can quickly become non-accessible if maintenance is neglected. Whether caused by erosion or drainage issues from heavy storms, natural wear of the trail surface, decaying wood on boardwalks, burrowing animals, or vegetation encroachment, deteriorated trail conditions can hinder accessibility and present safety issues.

While touring trails, representatives of the Trail Access Working Group noted that certain kinds of damage were fairly common, but preventable with regular maintenance.

**EROSION** Concentrated water flow is the enemy of natural surface trails. A well-designed trail will be designed with a smooth and continuous cross-slope of 2-5%, which allows rain and snowmelt to sheet flow to the side. Grade reversals can also help keep water from concentrating. Water should never be allowed to run down the line of the trail itself, where it will build up speed and volume and begin to erode the trail. That is why trails going uphill are designed with the “half rule” in mind, which says that the running grade of the trail should not be more than half the grade of the slope it’s climbing. Trails angling up a hill in this manner often have a shallow ditch, or swale, on the uphill side, which catches water running toward the trail and directs it to a spot where it can cross the trail in a grade reversal or culvert of some kind.

Unfortunately, extreme storms and the natural flow of the seasons quickly start to degrade even a well-made trail. A sudden downpour can overwhelm swales and culverts, especially when they start to fill with leaves and other debris, diverting water onto the trail surface. Any low spot will invite the water to concentrate and start creating a gully across or down the trail. Another common problem that occurs over time is accumulation of leaf litter, branches, or other material along the edge of the trail, which then

*“You can’t just design the trail and build it. You need to design for maintenance, too. You need to make sure there’s a plan to keep it going.”*

*- Forum Participant*

stops water sheeting off to the side and channels it down the length of the trail. This can also happen when ice and snow piled along the edge of the trail shunts water down the length of the trail surface, which will tend to melt faster in the spring.

### **SEASONAL CHANGES IN SOIL WATER CONTENT**

Ideally every trail, especially one passing through a wet area, will be built on a free-draining subbase of crushed stone - but it is seldom practical to build for all contingencies. Often issues are not apparent until revealed by seasonal shifts in the water table, which are greater in some years than others. A high water table will rise up through the trail surface and bring the finer material to the surface, where it either washes off or creates a soft spot (or both). When the water drops again it can take the fine material with it, sometimes clogging the subbase, and allowing the remaining trail material to soften and shift. This is why trails sometimes include a layer of landscape fabric, which keeps more of the fine material in place within that ideal matrix of minus graded stone. Overtime, however, seasonal changes in the water table, freezing and thawing—not to mention tree roots—will start to degrade any trail surface

### **Key Maintenance Practices**

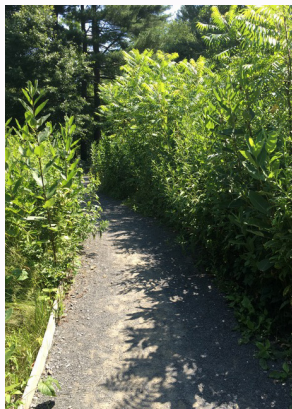
- Removing leaves, sticks, soils and other materials from culverts to prevent them clogging and water backing up to the point where it washes over the trail surface.
- Cleaning off the shoulder of the trail to maintain continuous sheet flow to the side of the trail.
- Maintaining the full depth of ditches and swales so they can carry their designed flow.
- Raising problematic sections of trail on boardwalks or “drainage burritos,” allowing water to flow under them.
- Selective removal or root pruning of problematic trees.



Mass Audubon's Broad Meadow Brook Wildlife Sanctuary, Worcester

## COMMON MAINTENANCE ISSUES OBSERVED ON TRAIL VISITS

Like most infrastructure, the condition of a trail greatly impacts its accessibility. During site visits to trails across the state, certain issues were commonly apparent. For example, exfoliation (loosening and loss of surface material) of the trail surface is a natural process that, if more material is not added, can render a trail muddy, slippery, and uneven. Vegetation growing up within the trail tread or adjacent to it poses an issue for those with visual disabilities, in addition to narrowing the width of the usable trail tread. Wood elements along the trail, such as boardwalk decking and posts, which are susceptible to rotting, require replacing over time.



*Vegetation growing into path*



*Vegetation obscuring path edge, making it challenging to use a white cane*



*Eroded surfacing creating a change in level or creating an obstacle*



*Damage from burrowing animals*



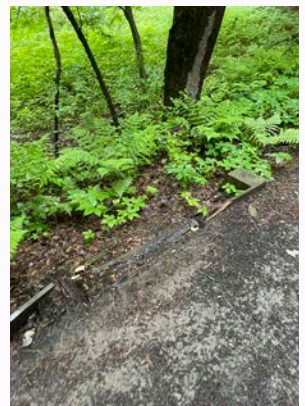
*Eroded surfacing caused by drainage*



*Surfacing patched with incorrect size aggregate*



*Sunken boards and rotting curbs*



*Decaying wood trail edging*

## Providing Real-Time Feedback on Trail Conditions

Prompt identification and repair of trail issues is key. Participants suggested enabling trail users to report poor trail conditions to the managing entity. Users said that it is helpful to see photos or information from other recent visitors, although unvetted user-generated information can sometimes be misleading. Examples of feedback mechanisms organizations currently use include:

- SeeClickFix
- Audio tours soliciting feedback at the end of the tour
- Hand-outs, such as bookmarks, requesting feedback
- General email boxes or phone numbers
- On-site staff members available to speak with visitors

There was interest in soliciting and potentially sharing user feedback on trail conditions. For example, users could report a downed tree or eroded surfacing. Such a feature could help keep information current and notify trail managers of issues. At the same time, participants acknowledged that user-generated content can be inaccurate, and staff review may be helpful and/or necessary before publishing user-generated content.

Participants also suggested a tool—similar to current EV-charger or kayak launch apps—that would alert managers when users submit feedback. Such an application would be especially useful at sites without regular staff presence.

Even when organizations have a mechanism for collecting feedback, staff capacity to respond can be limited. Managing organizations should develop feedback systems that are compatible with their staff resources. In the future, a statewide accessible trails inventory could include a feature that will notify the listed contact when feedback is submitted, and possibly share comments publicly,

although thorough research and testing of such a feature would be needed.

## Supporting Site Managers in Planning for Maintenance

For land managers, stakeholders emphasized the importance of documenting specific maintenance schedules and tasks for each trail. As one person suggested, “it would be great to have a maintenance and repair handbook that comes with every trail.” The state could support this by developing template maintenance plans and guidelines to help trail managers systematize and budget for maintenance and inspections.

Often, when knowledgeable staff leave, conditions can deteriorate due to the gap in institutional knowledge. In one story told by a participant, a municipality was surprised to discover that one of their sites was once designed with accessible trails—the trails had become so degraded from their original condition after management changes that they had become unrecognizable to the current staff as accessible until old documentation was found. Template plans and guidelines could help prevent these gaps in institutional knowledge from occurring.

Notably, if trails are regulated under 521 CMR in the future, maintaining sustainable features will be legally mandatory.

## RECOMMENDED ACTIONS

- 4.1.1. Provide training and/or resources for land managers, contractors, and municipal staff on accessible trail maintenance best practices, including monitoring vegetation, obstructions, surface conditions, and publishing updates online and/or at trailheads to inform users. Consider incorporating accessible trails maintenance-focused sessions into venues such as the MassTrails Conference. [Trail Consultants, Trail Designers and Builders, and/or State Agencies]
- 4.1.2. Develop template maintenance plans and guidelines to help trail managers systematize and budget for maintenance and inspections. Require maintenance plans as part of applications for public grants that fund accessible trail design and construction. [Trail Consultants, Trail Designers and Builders, and/or State Agencies]
- 4.1.3. Encourage land managers to provide simple, accessible feedback systems (e.g., online forms, QR codes, phone number) so trail users can report issues or provide input in real time. [All Trail Managers, State Agencies, Land Trust]

## 2 EXPAND CAPACITY OF CONTRACTORS, STAFF, AND VOLUNTEERS TO PERFORM MAINTENANCE

Many trail systems rely on volunteers or overworked professional staff, making routine maintenance challenging. Volunteers and staff at the Trustees of Reservations, DCR, Mass Audubon, and local land trusts build and maintain trails on their own properties. AMC has both professional and professionally-led volunteer trail teams that travel to work on regional trails. Local staff and volunteers in many communities are actively working to build and maintain trails. Collectively this represents an extraordinary resource of time and expertise that can be leveraged to support ongoing maintenance of accessible trails.

Maintaining an expanding network of accessible trails will require a proportional expansion of capacity among both volunteers and professionals. Many critical maintenance tasks cannot and should not be performed by volunteers. Skilled professional labor is required to maintain trails, and yet, volunteer efforts can help with non-specialized and routine tasks, such as clearing branches that are growing into the trail, cleaning out drainage swales, or clearing debris away from trail edges. Ensuring volunteers are supervised by individuals trained in accessible trail maintenance was identified as critical to maintaining safe, reliable trails.

Logically this begins by leveraging existing staff and volunteers with enhanced coordination and training, so that people at all levels know what is needed and set aside time to perform critical maintenance tasks. This could include state-sponsored training sessions for municipal and NGO staff and volunteers, including coordination with existing trail groups in each region.

It could also include training and outreach for local landscape and site contractors across the state, who already have much of the needed equipment and access to

materials. Many are graduates from regional technical high schools, UMass Stockbridge School of Agriculture, or similar schools who can become partners in developing a consistent pipeline of trained professionals who can conduct inspections, perform routine upkeep, and make repairs. These institutional training programs, along with annual training opportunities led by state parks staff and NGOs, can build awareness of accessible trail standards and the importance of expanding the accessible trail systems.

Expanding the system of accessible trails, as with non-accessible trails, will only be possible with the continued support of a matrix of state and regional agencies, NGOs, land trusts and volunteers in every city and town. But the unique requirements of accessible trail construction and maintenance will require a more intentional, coordinated approach. Whether this is best coordinated at the state level or within each separate region is yet to be determined.

## RECOMMENDED ACTIONS

- 4.2.1. Foster connections between landowners/trail managers and trained maintenance professionals (contractors, NGO staff, or others) to support timely inspections and emergency repairs to sustain accessible conditions.
- 4.2.2. Partner with educational programs and landscape professionals to build a consistent pipeline of trained professionals who can conduct inspections, perform routine upkeep, and make repairs. Support the sharing and dissemination of best practices for trail maintenance.
- 4.2.3. For routine trail care and non-specialized tasks, leverage volunteers, schools, Scouts, Friends of Trails groups, and AmeriCorps under professional supervision. [All Trail Managers, State Agencies, Land Trust]

## 3

## ENSURE FUNDING RESOURCES SUPPORT MAINTENANCE

As with most other public facilities, it is often easier to get state grants or local funding for trail construction projects than it is to find support for ongoing maintenance. The Working Group discussed how local Community Preservation Act funds can be used for design and construction, for example, but not for regular maintenance. Another issue is that local volunteers and managers are familiar with the level of maintenance common for non-accessible trails, and may assume that accessible trails can be maintained the same way. Costs can be higher for specialized materials, however, and construction techniques can require special training and equipment.

For these reasons, planning and funding for ongoing maintenance has to be part of the trail planning process. This starts with specifying maintenance requirements when trails are first constructed, including annual sweeping and clearing of shoulders, swales, culverts, etc., and plans for spreading and compacting surfacing materials in steeper and/or waterlogged areas where fine gravels are going to wash off more quickly. Wooden boardwalks, rope guides, signage and other elements all have a predictable shelf life, which can be lengthened with cleaning and reapplication of sealants, etc. A time and materials budget for these predictable maintenance tasks should be part of both the initial planning for an accessible trail and annual plans going forward.

## RECOMMENDED ACTIONS

- 4.3.1. Ensure state grant program include maintenance of accessible trails as eligible activities [State Agencies]
- 4.3.2. Work with the CPA Coalition and other Community Preservation Act stakeholders to more effectively use CPA funds to create, preserve, rehabilitate and/or restore the accessible trail system. (See also Action 1.3.5.) [State Agencies (EEA), CPA Coalition, Advocates]



# COMPILED RECOMMENDATIONS

# PLANNING & POLICY

## 1 CENTER LIVED EXPERIENCE

- 1.1.1. Fund, plan, design and test all trails in partnership with people with diverse disabilities, ensuring accessibility is integrated in every project from the outset. Ensure participation from individuals with lived experience of disability who reflect the full diversity of the community, especially underserved populations. [State Agencies, Land Trusts, Land Owners, Trail Design Consultant, Trail Builders, Private Funders, Municipalities]
- 1.1.2. Compile a list of accessibility consultants with lived experience who can consult on accessible trail projects throughout planning, design, and construction. [Advisory Council, State Agencies, Large Land Trusts]
- 1.1.3. Create a multi-stakeholder Advisory Council at the Executive Office of Energy and Environmental Affairs (EEA) to advise MOOR and EEA Agencies on the findings of the Trails for All Report and the implementation of recommendations. The Advisory Council should center lived experience with at least one-third of members being persons with lived experience of a disability, and also include broad representation from other key stakeholder agencies, organizations and groups. Specifics of size, agency representation, terms, meeting cadence, and compensation should be determined by EEA. [State Agencies[EEA]]
- 1.1.4. Draft a Model Policy Platform which could be adopted by local governments and non-profit organizations to normalize and prioritize accessibility in outdoor spaces. [Advisory Council]

## 2

PLAN A ROBUST AND EQUITABLE  
STATEWIDE ACCESSIBLE TRAIL SYSTEM

- 1.2.1. Systematize accessible trail planning by integrating it into routine municipal and regional planning efforts such as Open Space & Recreation Plans, Bicycle & Pedestrian Plans, Regional Greenway Plans, and others. [Regional Planning Agencies, Trail Design Consultants, State Agencies, Municipalities]
- 1.2.2. Evaluate trail networks within towns, regionally, and statewide, to identify gaps in the accessible trail networks and experiences. Efforts to identify gaps could begin with: [Advisory Council, Regional Planning Agencies, State Agencies, Municipalities, Land Trusts, Trail Consultants]
  - Gateway Cities
  - Places where residents do not have an accessible trail within a 20-minute trip
  - Existing or planned transit corridors that lack nearby trailheads
- 1.2.3. Evaluate trail networks at the local, regional, and statewide scale to identify opportunities for new “keystone” trails—destinations that offer distinctive natural, historic, or cultural settings, can extend a mile or more, and have the potential to attract regional visitors for an exceptional experience. [State Agencies, Regional Planning Agencies, Large Land Trusts, Trail Consultants]
- 1.2.4. Develop an accessible trail redesign decision-making toolkit to guide municipalities and trail organizations in evaluating existing trails for potential accessibility improvements. Key factors to consider include transit access, availability and accessibility of parking, trail length, width, and grades, and the condition of the trail surface, subbase, and drainage. [Advisory Council, Trail Consultants]
- 1.2.5. Ensure that accessibility is a central consideration in all trail improvement projects. [State Agencies, Land Trust, Land Owners, Trail Design Consultant, Trail Builders]
- 1.2.6. Expand programs providing adaptive equipment and assistance to access nature. Support, fund, advertise, and maintain adaptive and assistive recreation equipment lending and sharing programs, networks and systems.

[State Agencies, Land Trusts, Adaptive Programs, Adaptive Equipment Companies, Advocates]

- 1.2.7. Explore opportunities for accessible trails that follow the routes of aqueducts, sewer and water lines, flood control levees and other infrastructure corridors. [Regional Planning Agencies, Trail Design Consultants, State Agencies, Municipalities]

### 3 CREATE AND MAINTAIN FUNDING SOURCES TO EXPAND AND SUPPORT THE ACCESSIBLE TRAIL NETWORK

- 1.3.1. Establish a dedicated state fund, able to accept public and private contributions, to ensure sustainable state-level funding for construction and ongoing maintenance of accessible trails. [Legislators, State Agencies]
- 1.3.2. Prioritize accessible trails within the MassTrails grant program and other state grants programs. Ensure that any state funding for conservation and/or recreation includes funding for accessible trail construction and maintenance [State Agencies (MassTrails)]
- 1.3.3. Integrate accessibility improvements into existing and future climate resilience, open space, and infrastructure funding mechanisms. [State Agencies, Private Funders]
- 1.3.4. Partner with hospitals and health networks to: [Health Care Providers, Land Trusts, Adaptive Programs, Private Funders, Department of Public Health]
- Develop accessible trails on or near healthcare campuses;
  - Support shuttle services and trailhead access for patients and community members;
  - Provide adaptive equipment rentals or loans; and/or
  - Incorporate trail-based programs into rehabilitation, wellness, and preventive care initiatives.

- 1.3.5. Work with the CPA Coalition and other Community Preservation Act stakeholders to more effectively use CPA funds to create, preserve, rehabilitate and/or restore the accessible trail system. [State Agencies (EEA), CPA Coalition, Advocates]
- 1.3.6. Guarantee that key state agencies—including the Department of Conservation and Recreation (DCR), the Department of Fish and Game (DFG), and the Massachusetts Office of Outdoor Recreation (MOOR)—receive sufficient operating budget allocations and capital investment resources to plan, design, build, and maintain accessible trails across the Commonwealth. Sustained funding for agency staff, technical expertise, project management, and oversight of grant and capital programs is essential to expanding the accessible trail network and ensuring long-term stewardship of these public assets. [Legislators]

## 4

### REDUCE ADMINISTRATIVE AND REGULATORY BARRIERS

- 1.4.1. Collaborate with DCR and MassDOT to create public contracting categories, qualifications, specifications, best management practices, and mechanisms that are specific to the needs of accessible trail design and construction in natural areas. (See also 2.3.3.) [State Agencies (DCR, MassDOT), Advisory Council]
- 1.4.2. Collaborate with the Department of Environmental Protection (DEP) and advocacy partners to “right-size” the regulatory framework for wetlands review and permitting to reduce the time, cost, and technical barriers to accessible trail maintenance and construction permitting while maintaining

strong wetland resource protections. [State Agencies, Advocates, Legislators]

## 5 FACILITATE TRANSPORTATION TO TRAILS

1.5.1. Create a Transit to Trails initiative with MassDOT and regional transit authorities to enhance transit access to accessible trails. The initiative may include: [State Agencies, Regional Transit Authorities, Regional Planning Agencies, Trail Consultants]

- Ensuring all trailheads can serve as drop-offs and pick-ups GPS coordinates, regardless of official street addresses.
- Exploring and promoting dedicated weekend routes, dedicated shuttle buses, subsidized vouchers, and volunteer buddy systems.
- Establishing a "Safe Routes to Trails" initiative and improved sidewalk and crossing connections near trailheads in planning the trail system.

# DESIGN & CONSTRUCTION

## 1 ESTABLISH STATEWIDE STANDARDS

- 2.1.1. In partnership with the Massachusetts Architectural Access Board, develop and adopt statewide standards for accessible trails that include surfacing, grading, drainage, width, slope transitions, edge treatments, and signage. [State Agencies, Trail Builders, Private Contractors, Private Quarries]
- 2.1.2. Establish 3/8" minus crushed stone material as the default material for accessible trail surfacing. Use alternate materials only where site conditions, aesthetic goals or performance requirements demand them. Partner with builders and quarries to test performance, standardize sieve gradations, and maintain a shared, up-to-date guide with ideal mixes for different conditions. [State Agencies, Trail Builders, Private Contractors, Private Quarries]

## 2 BUILD A COMMON RESOURCE OF BEST PRACTICES

- 2.2.1. Provide a compendium of best trail design practices, informed by persons with lived experience, to ensure that accessible trails provide a high-quality user experience in addition to meeting minimum standards. [State Agencies (DCR), Large Land Trusts, Trail Builders, Private Contractors, Trail Consultants]
- 2.2.2. Provide a compendium of construction best practices, including construction methods and specifications. [State Agencies (DCR), Large Land Trusts, Trail Builders, Private Contractors, Trail Consultants]
- 2.2.3. Compile and publish examples of accessible trails to highlight success stories. [State Agencies (DCR), Large Land Trusts, Trail Builders, Private Contractors, Trail Consultants]

### 3

## CULTIVATE TRAIL CONSTRUCTION EXPERTISE

- 2.3.1. Support programs to share and disseminate best practices, success stories, specifications, and sources for trail surfacing. [State Agencies, Land Trusts, Trail Builders, Trail Consultants, Advocates]
- 2.3.2. Develop model scopes of work and selection criteria to help towns and smaller land owners identify construction contractors with suitable skills and experience with natural surface trails. [Advisory Council, Trail Builders, Trail Consultants]
- 2.3.3. Collaborate with DCR and MassDOT to create public contracting categories, qualifications, specifications, best management practices, and mechanisms that are specific to the needs of accessible trail design and construction in natural areas. (See also 1.4.1) [State Agencies[DCR, MassDOT], Advisory Council]
- 2.3.4. Encourage collaboration between trail designers, builders, and individuals with a lived experience of a disability in every trail project. Consider requiring participation of those with lived experience [State Agencies, Advisory Council, Trail Builders, Trail Consultants].

# INFORMATION

1

## MAKE TRAIL ACCESSIBILITY INFORMATION CLEAR AND AVAILABLE TO ALL

- 3.1.1. Adopt a numerical, icon-based, or name-based statewide trail accessibility rating system to be utilized by all state properties and for trails planned, built, or upgraded with the use of state-provided funds. Explore opportunities to coordinate with regional or national partners. (See Appendix C) [Advisory Council, All Actors]
- 3.1.2. Publish a guidance document for land managers and trail stakeholders on how to rate, classify, and sign their trail using the statewide trail accessibility rating system. Include guidance on submitting ratings and classifications that includes detailed trail access information (TAI) to a centralized trails inventory. (These metrics could also be used as a reporting requirement for trails designed/planned, built/upgraded, or maintained with state funds.)
- 3.1.3. Ensure accessibility ratings and trail access information (TAI) are integrated into any state-wide or regional trail inventories. [State Agencies, Regional Planning Agencies, Municipalities]
- 3.1.4. Consider shared use of the High-Efficiency Trail Assessment Process (HETAP) tool between trail organizations to expand trail assessment capabilities, combined with regular training opportunities. Alternatively, provide training for a set of individuals to conduct assessments using the tool across the state. [State Agencies {DCR}, Large Land Trusts]
- 3.1.5. Develop a concise resource—a web page or one-page handout—to help trail managers and staff confidently welcome visitors of all abilities. The resource should summarize regulations, legal requirements, and other tools or guidance that support safe and positive trail experiences for visitors. [Advisory Council]

2

## IMPLEMENT SHARED STANDARDS AND POLICIES FOR DATA COLLECTION AND USE OF DIGITAL MAPPING AND OTHER APPLICATIONS

- 3.2.1 Adopt a technical data standard for accessible trails that reflects the design/construction standards described in action 2.1.1. This data standard should define

a “schema” to enable digital representation of accessible trails information such as trail slope, width, surface type, ADA parking, and restrooms, and to support the collection, verification, and digital publication of information about accessible trails to an online map and/or open data platform.

3.2.2 Develop and maintain a statewide accessible trail inventory and database by compiling and aggregating existing sources of trails information and by collecting new information where relevant trail attributes are missing. This database should build on existing efforts like the MassGIS Statewide Trails Database, and should be maintained by dedicated GIS and database staff. Ensure that projects funded by various state grants & programs provide trail data consistent with these standards.

3.2.3 Publish an accessible trails web map and data hub website with information available for bulk download, via application program interface (API), and made usable via official and third party web tools, such as a mapping system and/or app that uses the trail rating system. The web map should include search and filtering tools that allow online users to filter trails not only by accessibility “rating/category” but also by specific key information relevant to accessibility, such as “max grade”, “trail width”, “trail surface material”, “availability of ADA parking”, “availability of ADA bathroom” etc.

### 3

## EXPAND AWARENESS OF ACCESSIBLE TRAILS AND THEIR BENEFITS

3.3.1. Promote the numerous benefits of accessible trails to decision-makers and the general public to build support and awareness. [Advisory Council, Advocates]

3.3.2. Advertise the presence of accessible trails through hospitals, rehab centers, schools, senior centers, disability commissions, adaptive sports and recreation non-profits, and public transit. [Regional Planning Agencies, Municipalities, State Agencies, MOD]

3.3.3. Continue the dialogue with the Department of Environmental Protection, DCR, Legislature, and other relevant stakeholders to raise awareness about trails, and especially accessible trails, as a resource for public good. [Advisory Council, State Agencies, Legislators, Advocates]

# MAINTENANCE

## 1 ENSURE ONGOING ACCESSIBILITY THROUGH PLANNED MAINTENANCE

- 4.1.1. Provide training and/or resources for land managers, contractors, and municipal staff on accessible trail maintenance best practices, including monitoring vegetation, obstructions, surface conditions, and publishing updates online and/or at trailheads to inform users. Consider incorporating accessible trails maintenance-focused sessions into venues such as the MassTrails Conference. [Trail Consultants, Trail Designers and Builders, and/or State Agencies]
- 4.1.2. Develop template maintenance plans and guidelines to help trail managers systematize and budget for maintenance and inspections. Require maintenance plans as part of applications for public grants that fund accessible trail design and construction. [Trail Consultants, Trail Designers and Builders, and/or State Agencies]
- 4.1.3. Encourage land managers to provide simple, accessible feedback systems (e.g., online forms, QR codes, phone number) so trail users can report issues or provide input in real time. [All Trail Managers, State Agencies, Land Trust]

## 2 EXPAND CAPACITY OF CONTRACTORS, STAFF, AND VOLUNTEERS TO PERFORM MAINTENANCE

- 4.2.1. Foster connections between landowners/trail managers and trained maintenance professionals (contractors, NGO staff, or others) to support timely inspections and emergency repairs to sustain accessible conditions.
- 4.2.2. Partner with educational programs and landscape professionals to build a consistent pipeline of trained professionals who can conduct inspections, perform routine upkeep, and make repairs. Support the sharing and dissemination of best practices for trail maintenance.

4.2.3. For routine trail care and non-specialized tasks, leverage volunteers, schools, Scouts, Friends of Trails groups, and AmeriCorps under professional supervision. [All Trail Managers, State Agencies, Land Trust]

3

### ENSURE FUNDING RESOURCES SUPPORT MAINTENANCE

4.3.1. Ensure state grant program include maintenance of accessible trails as eligible activities [State Agencies]

4.3.2. Work with the CPA Coalition and other Community Preservation Act stakeholders to more effectively use CPA funds to create, preserve, rehabilitate and/or restore the accessible trail system. (See also Action 1.3.5.) [State Agencies (EEA), CPA Coalition, Advocates]



# ABOUT THIS REPORT

The Massachusetts Office of Outdoor Recreation (MOOR) established the Trails for All (TFA) initiative in 2024 to expand the accessible trail network across the Commonwealth. TFA is pursuing intentional trail planning that removes barriers to access and brings the outdoors to individuals of all abilities through trail improvements.

This report summarizes the findings of a year-long effort that included collaboration with a multi-stakeholder working group, trail visits statewide, public forums, and independent research. It also makes recommendations based on those findings. This report was guided by a Steering Committee which included Paul Jahnige (MOOR), Meg Bandarra (Unpaved Trails for All), Peter Flinker (Dodson & Flinker), Shaine Meulmester (Dodson & Flinker), and Rae Ettenger (Appalachian Mountain Club).

## TRAIL ACCESS WORKING GROUP

Central to this initiative is the creation of the Multi-Stakeholder Trail Access Working Group (TAWG). TAWG was convened in February 2025 to guide the drafting of this report, including development of the statewide vision for accessible trails and recommended actions for state, local, and private programs, policies, and investments focused on accessible trail design and outdoor recreation.

The 24-member group included representatives from state agencies, regional planning organizations, nonprofit and advocacy groups, and individuals with lived experience of disability, who made up one-third of the group. Between February 2025 and January 2026, TAWG met six times to explore challenges, opportunities, and strategies related to trail design, regulation, funding, and information. TAWG members also formed sub-committees to conduct additional research into Wetlands Regulations, Trail Surfacing and Construction, and Trail Information.

# TRAIL ACCESS WORKING GROUP

Member	Organization	Industry
Doug Albertson	Town Planner, Town of Belchertown	Rural Municipality
Amber Christoffersen	Trails and Greenways Planner, Massachusetts Department of Conservation & Recreation (DCR)	State Agency, Parks, Trails
Jerry Berrier	Consultant for All Persons Trails, Member of the Bay State Council For the Blind	All Person Trails Consultation
Bill Boles	Community Engagement, New England Mountain Bike Association (NEMBA)	Trails, Adaptive Outdoor Recreation
Sam Burrington	Adaptive Athlete	Adaptive Recreation
Ronald Chick	City of Framingham	Urban Municipality
Jeff Dougan	Assistant Director of Community Services, Massachusetts Office on Disability	State Agency, Disability Services and Advocacy
David Foss	Statewide Brownfields Coordinator, Massachusetts Department of Environmental Protection (DEP)	State Agency
Karen Foster	Executive Director, All Out Adventures	Adaptive Recreation
Lucille Gertz	Director of Accessibility, Outdoor Recreation & Education, Mass Audubon	Trails, Outdoor Recreation & Education
Chelsey Goddard	Council Member, Massachusetts Developmental Disabilities Council	Disability Advocacy
Darren Josey	Founder and CEO, First Seed Sown and The Great Malden Outdoors	Urban Municipality, Outdoor Recreation Business
Rachael Lee	Site Accessibility Specialist, Department of Conservation & Recreation (DCR) Universal Access Program	State Agency, Universal Access, Adaptive Recreation
Stephen Larrick	Digital Services Manager, Metropolitan Area Planning Council (MAPC)	Regional Planning
Bridget Levondowski	Council Member, Massachusetts Developmental Disabilities Council	Disability Advocacy
Caitlin McCarthy	Southern New England Trails Program Manager, Appalachian Mountain Club (AMC)	Trail Building
Tom McCarthy	Director, Massachusetts Department of Conservation & Recreation (DCR) Universal Access Program	State Agency, Universal Access, Adaptive Recreation
Dorothy McGlincy	Executive Director, Massachusetts Association of Conservation Commissions (MACC)	Conservation
Liz Myska	Visually Impaired Person (VIP) Trails Consultant, Worcester Commission	Disability Advocacy, Trail Accessibility
Elizabeth Newlands	CR Stewardship Coordinator, Massachusetts Department of Fish & Game (DFG)	State Agency, Wildlife Outreach and Education
Doug Pizzi	Executive Director, Mass Parks for All	Trail and Public Land Advocacy

Member	Organization	Industry
Peter Quinn	Participant, Waypoint Adventures	Adaptive Recreation
Cody Rooney	Vice Chairperson, Commission on the Status of Persons with Disabilities, MA Developmental Disabilities Council	Disability Advocacy
Amy Sugihara	Chair of the Northampton Disability Commission, Board Member on Friends of Northampton Trails	Trails, Disability Advocacy
Brian Westrick	Senior Regional Stewardship Manager, The Trustees of Reservations	Trail and Public Land Advocacy

## STEERING COMMITTEE

Member	Organization	Industry
Meg Bandarra	Unpaved Trails for All	Accessible Trails Advocate, Outdoor Accessibility Consultant
Rae Ettenger	Appalachian Mountain Club (AMC)	Trails, Land Management, Outdoor Recreation
Peter Flinker, FAICP, FASLA	Dodson & Flinker	Planning and Landscape Architecture, Consultant
Paul Jahnige	Massachusetts Office of Outdoor Recreation (MOOR)	State Agency, Outdoor Recreation
Shaine Meulmester, AICP	Dodson & Flinker	Planning and Landscape Architecture, Consultant



## TRAIL VISITS

As part of the project, the team conducted site visits to trails across the state with participants with lived experience of disability. During these visits, the team measured trail width, running slope, and cross slope, observed design features that support or hinder accessibility, and identified elements that contribute to a trail’s overall success. Trails visited include the Fort River Trail at the Silvio O. Conte Wildlife Refuge, the River-to-Range trail in South Hadley, Arcadia Wildlife Sanctuary, Broad Meadow Brook Wildlife Sanctuary, Mt. Tom North Trailhead Park, and Mutter’s Field Accessible Trail. Findings from these visits are referenced throughout this report.

# PUBLIC ENGAGEMENT

## FIRST PUBLIC FORUM

The first public forum for the Trails for All initiative, held in May 2025, brought together stakeholders from across Massachusetts to share lived experiences, identify opportunities, and discuss barriers to expanding accessible trail networks. The forum was held over Zoom, with live interpretation in six languages. This session was designed to hear from those with lived experience and establish priorities for future planning. Over 100 people attended, with 36 percent of participants reporting identifying as having a disability, another 19 percent reporting having experienced disabling conditions in the past, and 34 percent reporting caring for a family member or loved one with a disability or limited mobility. Nineteen percent of attendees were trail builders or designers. Local officials, trail managers, and advocates were also in attendance.

After a short presentation, participants were divided into ten breakout groups, where they discussed needs, barriers, and opportunities. Findings from this forum are interspersed throughout the report. A recording is available on YouTube: [https://youtu.be/VX-J1gyJE9s?si=hZWCy5b\\_GPaUOyc3](https://youtu.be/VX-J1gyJE9s?si=hZWCy5b_GPaUOyc3)



## SECOND PUBLIC FORUM

The second public forum, held in September 2025, built on findings from the first forum and included a presentation of subsequent work prepared by the consulting team and the Working Group. This included presenting participants with a draft vision statement, top-level recommendations, and a summary of feedback from the first public forum. Ninety participants attended, including individuals with diverse disabilities, advocacy organizations, municipal and state agencies, and planning professionals. The forum aimed to test recommendations, refine the vision, and gather input on priorities for accessible trail design and implementation.

Participants emphasized that accessibility cannot be defined universally and trails should accommodate diverse abilities, with a range of experiences recognized. Comments highlighted the importance of a spectrum of trail types rather than a single standard.

By and large, participants confirmed that the set of draft recommendations presented aligned with their hopes for Massachusetts' accessible trail network. More detailed feedback from this forum can also be found in the following pages. A recording may be found at: <https://youtu.be/dplpx7blv7o>

## AT-A-GLANCE THEMES FROM PUBLIC ENGAGEMENT

### TOP NEEDS

#### Surfacing:

- Firm, stable surfaces
- Adequate width (min. 36", 5-6' preferred)
- Clear trail edges

#### Safety:

- Safe road crossings
- Barriers near drops
- Indicators of dips in the trail tread
- Emergency communication
- Bike-free trails

#### Amenities:

- Accessible parking
- Accessible restrooms
- Rest areas
- Shade
- Trash and recycling bins
- Stability supports (handrails)

#### Information:

- Easy-to-understand (plain language) descriptions
- Consistent information
- Clear signage, including multilingual, multi-sensory, and digital options

#### Environment:

- Nature immersion
- Access to water
- Scenic viewpoints early in the trail
- Quiet
- Multi-sensory experience
- Proximity:
- Having a trail in your community

*This list represents the main themes that participants with lived experience of disability shared in the first Public Forum when asked the question: "What features make trails truly accessible and enjoyable for you?" On the following page are responses to questions such as: "What barriers do you face when accessing trails?" and "What do trail designers and managers often miss in creating accessible trails?"*

## TOP BARRIERS

### Surfacing:

- Surface degradation
- Vegetation overgrowth and encroachment
- Roots and or obstructions
- Incorrect surface material

### Entry:

- Entry barriers (boulders, bollards, etc.)
- Can be challenging to find the trailhead

### Assistance:

- Can be hard to find guides

### Information:

- Not knowing accessible trails exist
- Not knowing where to find info about trails
- Outdated or inaccurate information
- Fragmented info (across different websites and apps)
- Inconsistent descriptions

### Safety:

- Lack of emergency communication system
- Not having staff available
- Degraded trail surfacing
- Worn or broken boardwalks, bridges, railings and other trail structures.

### Transportation:

- Being unable to get to trails
- Lack of public transit
- Inaccessible infrastructure adjacent to trails (intersections, sidewalks)

# APPENDICES

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# APPENDIX A: CURRENT FEDERAL AND MASSACHUSETTS STATE REGULATIONS

## FEDERAL REGULATIONS AND GUIDELINES

### AMERICANS WITH DISABILITIES ACT (ADA)

The Americans with Disabilities Act of 1990 serves as the primary federal civil rights law prohibiting discrimination based on disability, defining disability as “a physical or mental impairment that substantially limits a major life activity.”<sup>1</sup> The ADA contains five main sections, with two particularly relevant to trail development:

Title II covers services and programs of state and local governments, including public transportation, recreation programs, courts, buildings, and employment.<sup>2</sup> This section requires that public entities make their programs accessible to people with disabilities through “program access.”

Title III addresses “public accommodations” and provides that no individual may be discriminated against on the basis of disability with regard to the full and equal enjoyment of facilities of any place of public accommodation operated by private entities whose operations affect commerce and fall within twelve particular categories (including, for example, places of exercise and recreation, public transportation, education, and lodging).<sup>3</sup>

### 2010 ADA Design Standards

The U.S. Department of Justice issued the 2010 ADA Design Standards as binding regulations for entities covered by Title II and Title III.<sup>4</sup> These standards became mandatory for new construction and alterations as of March 15, 2012. The standards include technical specifications for various recreation-related amenities such as play fields, fishing piers,

1 Americans with Disabilities Act of 1990, 42 U.S.C. § 12101 et seq. (1990).

2 Americans with Disabilities Act of 1990, Title II, 42 U.S.C. § 12131 et seq.

3 Americans with Disabilities Act of 1990, Title III, 42 U.S.C. § 12181 et seq.

4 U.S. Department of Justice, “2010 ADA Standards for Accessible Design,” 28 C.F.R. pt. 36 (2010).

boat slips, drinking fountains, play areas, swimming pools, and fixed picnic tables. These regulations also require Title II and Title III entities to provide accessible parking and an accessible route to connect users to accessible recreation-related facilities that are subject to the 2010 ADA Design Standards. For example, a trail that connects a parking area to a facility, or links two accessible facilities is generally treated as part of the accessible route and must comply with the relevant Department of Justice standards. The 2010 ADA Design Standards do not explicitly address trails used solely for recreational purposes such as hiking, however.<sup>5</sup>

## OUTDOOR DEVELOPED AREAS ACCESSIBILITY GUIDELINES (OUTDOOR GUIDELINES)

In 2013, the U.S. Access Board issued the “Outdoor Developed Areas Accessibility Guidelines” under the Architectural Barriers Act (ABA), which governs accessibility of federal facilities.<sup>6</sup> These guidelines became effective November 25, 2013, and include Chapter 1017 specifically addressing “Hiker and Pedestrian Trails.” The U.S. Department of Defense, General Services Administration, and U.S. Postal Service have adopted these guidelines as enforceable standards under the ABA.

The Outdoor Guidelines are legally binding only for:

- Federal land management agencies (such as the Fish and Wildlife Service, Army Corps of Engineers, and National Park Service)
- Non-federal private or public entities building trails on federal land or on behalf of federal agencies

The Outdoor Guidelines are NOT binding on organizations simply because they use federal funds or grants.<sup>7</sup>

These guidelines apply specifically to trails designed for hikers and pedestrians, not trails primarily designed for equestrians, mountain bicyclists, snowmobile users, or off-highway vehicle users.

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5 U.S. Access Board, “Chapter 10: Outdoor Developed Areas,” accessed June 9, 2025, <https://www.access-board.gov/aba/guides/chapter-10-outdoor/>.

6 U.S. Access Board, “Architectural Barriers Act Accessibility Guidelines; Outdoor Developed Areas,” Federal Register 78, no. 186 (September 26, 2013): 59132-59284.

7 Ibid.

# FOREST SERVICE TRAIL ACCESSIBILITY GUIDELINES (FSTAG)

## Development and Relationship to Other Standards

The Forest Service Trail Accessibility Guidelines (FSTAG) were originally developed in 2006 based on draft accessibility guidelines from the U.S. Access Board's regulatory negotiation committee, created before the final Outdoor Developed Areas Accessibility Guidelines (ODAAG) were completed in 2013.<sup>8</sup>

After ODAAG was finalized in 2013, both the Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) and FSTAG were revised and streamlined, incorporating the applicable sections of ODAAG. FSORAG and FSTAG are now an equal or higher standard than ODAAG for trails and outdoor recreation facilities within the National Forest System.

## Where FSTAG Applies

The 2013 FSTAG and FSORAG are the legally enforceable standards for facilities, trails, and features within the National Forest System. FSTAG applies to new or altered trails that are designed for pedestrian hiking and which connect directly to a trailhead or to another trail that currently complies with these guidelines. Specifically, FSTAG applies to trails in the National Forest System that meet all three criteria: (1) The trail is new or altered, (2) The trail has a "Designed Use" of "Hiker/Pedestrian" as defined in the Federal Trail Data Standards, and (3) The trail connects either directly to a trailhead or trail that meets most of the accessibility requirements.

Rather than mandating strict compliance, FSTAG establishes an aspirational framework that recognizes the inherent challenges of applying accessibility standards in natural settings. The core requirement under FSTAG is not to achieve perfect compliance, but to systematically analyze site conditions and document efforts to provide accessibility where feasible.

FSTAG explicitly recognizes that full compliance may not always be possible or appropriate. The guidelines include specific "conditions for departure" that allow deviation from technical requirements when:

- Compliance would fundamentally alter the function or purpose of the trail
- Compliance would require destruction of significant natural or cultural resources
- Terrain or environmental factors make compliance impracticable
- Compliance would require construction methods or materials inconsistent with trail sustainability

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<sup>8</sup> U.S. Forest Service, "Forest Service Trail Accessibility Guidelines (FSTAG)," 2013.

Unlike ADA requirements where non-compliance typically requires variances or legal justification, FSTAG includes built-in exceptions. An exception can only be used when a specific condition for departure exists. The goal is to maximize accessibility while preserving natural character, not to achieve accessibility at any cost.

When a trail meets FSTAG requirements (either through full compliance or properly documented departures), it can be designated as “FSTAG compliant.”

## Applications Beyond the Forest Service

While FSTAG guidelines are legally binding only for the Forest Service, they have become widely used by other state and federal agencies, local governments and non-governmental organizations for trails and outdoor areas. In the absence of a more detailed rating system for trail accessibility, they offer users a general sense of whether a trail might be usable for their abilities and equipment.

## OTHER POWER-DRIVEN MOBILITY DEVICES (OPDMD) REGULATIONS

State and local government entities and private organizations are subject to regulations governing the use of Other Power-Driven Mobility Devices on land considered a place of public accommodation.<sup>9</sup> These regulations, effective March 2011, greatly expand the types of vehicular devices potentially allowed on trails - including electric mobility scooters, as well as golf carts, Segways, and even ATVs, when used by a person with a mobility disability. Unless organizations (both government agencies and private organizations) create specific policies limiting OPDMD use because of specific site conditions, all such vehicles must be allowed without restriction.

## PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG)

The U.S. Access Board published guidelines in 2023 (adopted in 2024)—Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)—which address the public right-of-way, including sidewalks and streets, crosswalks, curb ramps, pedestrian signals, on-street parking, and shared used paths.<sup>10</sup>

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9 U.S. Department of Justice, “Revised ADA Requirements: Other Power-Driven Mobility Devices,” effective March 15, 2011.

10 U.S. Access Board, “Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way,” 2023.

## MASSACHUSETTS STATE REGULATIONS

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Massachusetts currently has no universally adopted regulations that apply specifically to the development of outdoor trails on state, municipal, and private property.

### MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB)

The Massachusetts Department of Public Safety regulates accessibility through its Architectural Access Board (AAB), established in 1975.<sup>11</sup> The AAB regulations (521 CMR) apply to specific facilities including parks, picnic areas, campsites, swimming pools, tennis courts, boat launches, beaches, piers, and others. These facilities are required to have compliant access routes. However, as of this writing, outdoor trails developed specifically and exclusively to provide access to natural features in the environment are not explicitly covered by the AAB regulations.

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11 Massachusetts Architectural Access Board, 521 CMR. (Code of Massachusetts Regulations).

# APPENDIX B: TRAIL SURFACING MATRIX

The following matrix was compiled by the Trail Surfacing & Construction Subcommittee and informed by both professional experience and lived experience with disability. It attempts to present the considerations involved in selecting a material and the relative pros and cons of each.

	MATERIAL	FIRMNESS, STABILITY, SLIP RESISTANCE	ENVIRONMENTAL IMPACT	USER EXPERIENCE & AESTHETICS	USE CASES	PROS	CONS
UNBOUND	<p>3/8" Minus Crushed Stone</p> <p>Locally-quarried granite or trap rock, crushed and screened to achieve a mix of sizes in carefully specified proportions. Applied compacted, without binder.</p>	<p>Firmness: Firm when properly constructed and maintained to prevent loosening of material.<sup>1</sup></p> <p>Stability: Stable when properly constructed and maintained to prevent loosening of material.</p> <p>Slip Resistance: Inherently slip resistant when maintained to prevent loosening of material.</p>	<p>Low embodied carbon if sourced locally; easy to replace and recycle with little waste</p>	<p>Best for low speed, low impact trail use with focus on being in nature; less enjoyable for biking. Softer underfoot than hard pavement, and can provide a pleasing crunch; blends into the appearance of native soils on site; fits well with both natural and historic sites.</p>	<p>General use for longer trails and cost-sensitive projects; forgiving and adaptable, especially if ongoing maintenance is available.</p>	<p>Natural appearance; permeable; widely used; cost-effective; not subject to tree root damage; cooler temperature; self-sealing surface; low embodied carbon; with proper design, does not need to be installed at higher grade than adjacent surfaces</p>	<p>Dusty when dry; soft when saturated; requires proper base prep and good drainage; not all quarries can produce; quality varies considerably between quarries; on sloping sites typically requires controlled drainage with ditches and cross culverts to prevent washouts; rolling resistance is higher than pavement</p>
STABILIZERS	<p>Organic-Lock by Envirobond</p> <p>Patented, plant-based organic binder typically mixed with locally-sourced crushed stone</p>	<p>Firmness and Stability: Provides a firm and stable surface across its width with less softening and loss of material due to seasonal changes in moisture.</p> <p>Slip Resistance: Inherently slip resistant if sufficiently compacted.</p>	<p>Low embodied carbon, organic glue low in problematic chemicals (PFAS, petroleum byproducts). Permeable (comparable to loam).</p>	<p>A reasonably soft path that will hold up to traffic. Careful sourcing of material can help blend into the natural context. Color reflects the source material. After the surface has dried, the top most layer (maybe an 1/8") of stone dust loosens to provide a comparable look and feel to compacted stone dust paths.</p>	<p>In areas of high use or where reliable ADA access to important site feature or viewpoint is desired. Most successful where careful grading and drainage eliminates any concentrated water flow. Helpful for trails that will also require vehicular access for maintenance or safety, but subject to surface damage from vehicle turning or tire-spinning.</p>	<p>Provides more consistent accessibility; natural appearance with low dust and dirt-tracking; weather resistant; softer and more flexible/plastic when rewet with better ability to "self heal".</p>	<p>Higher upfront cost than unbound 3/8" crushed stone; Repairs difficult and need specialized contractors to complete (the same as install: material needs to be mixed in fairly large minimum quantities with specialized equipment [pug mill]); washouts are not infrequent; not performing well on slopes over 7%, does not perform significantly better than unbound 3/8" crushed stone, but repairs are more difficult</p>

<sup>1</sup> ADA regulations do not set standards for recreational trails, and adherence to ADA standards involves more than surface alone. Therefore this comparison focuses on key characteristics of ADA-compliant surfaces, including firmness, stability and slip resistance.

MATERIAL	INSTALLATION NOTES	MAINTENANCE NEEDS	CONSTRUCTION NOTES
3/8" Minus Crushed Stone cont.	Can be moved and placed with common equipment. Requires thorough compaction with vibratory plate compactor or roller.	Can be very stable with good sub-base and drainage, but can erode quickly with a concentrated flow of water in strong storm events. Edges of path tend to become softer than center over time. Certain aggressive colonizing plants may present a weed issue. Chipmunks and other animals can make holes.	<p>3/8" minus can be compacted but to perform well it is important that the gradation (ratio of fine, medium coarse materials) is carefully engineered. Ideally, the specified gradation should have been used in the past successfully.</p> <p>It critical that an amount of water is used in the compaction process that is "just right" for the given mix. This is somewhat of an "art" and it is critical that specifications are written to require prior experience building compacted stone dust paving.</p> <p>Grading (slope of the finished surface) is also critical, because insufficient cross slopes, flat spots, and reversals will have a tendency to generate problematic erosion.</p> <p>Like all natural surface solutions, purpose designed and built trails will perform much better than trails being "converted" to accessible trails.</p>
Organic-Lock by Envirobond cont.	Organic-Lock has very specific requirements for installation and generally cannot be installed without expertise. Temperature and moisture also have to be within acceptable ranges or the product will fail.	Remains firm and stable across path width with little maintenance, but can fail quickly if subject to concentrated water flows.	<p>Special machinery and expertise is needed, and temperature and moisture conditions have to be met. The material fails if it is not installed properly.</p> <p>Grading (slope of trail surface) is critical to success. A cross slope of 1.8% to 2.0% for a running slope of 5% max has performed well at Shaw Elementary School, Upton Community Center, and Marion Bicentennial Park. Trail surface should be allowed to freely drain on the downhill side with no edging or plant beds restricting or channelizing flow. Ideally the finished surface should be 1/4" above adjacent surfaces. Problems have generally resulted from excessively concentrated stormwater flows. Washout at Upton Community Center was the result of unintended concentrated stormwater runoff uphill of the trail crossing the path in a low cross slope (1% or less) area, leading to water running longitudinally down the trail, with sheet flow restricted by adjacent plant beds. Washout at Shaw Elementary school appeared to similarly be the result of insufficient sheet flow off the path and possibly over-saturated soils uphill of the trail. Some crushed stone mixes from RCS seem to perform better than others.</p> <p>Color can be customized to match local conditions. Anecdotally, DCR staff have indicated that the RCS "Natural" color mix (which has recently been discontinued) seems to have performed less well than some alternative color stone dust mixes.</p>

	MATERIAL	FIRMNESS, STABILITY, SLIP RESISTANCE	ENVIRONMENTAL IMPACT	USER EXPERIENCE & AESTHETICS	USE CASES	PROS	CONS
STABILIZERS	<p>Stabilizer by Stabilizer Solutions</p> <p>Natural binder made from psyllium husks and typically mixed with local crushed stone</p>	<p>Firmness and Stability: Provides a firm and stable surface across its width with less softening and loss of material due to seasonal changes in moisture.</p> <p>Slip Resistance: Inherently slip resistant if sufficiently compacted.</p>	<p>Low embodied carbon, organic glue low in problematic chemicals (PFAS, petroleum byproducts). Permeable (comparable to loam).</p>	<p>A reasonably soft path that will hold up to traffic. Careful sourcing of material can help blend into the natural context.</p> <p>Color reflects the source material. After the surface has dried, the top most layer (maybe an 1/8") of stone dust loosens to provide a comparable look and feel to compacted stone dust paths.</p>	<p>Higher use areas and settings with steeper slopes where it may be advantageous to combine stabilizer paths with StaLok for spot areas. Helpful for trails that will also require vehicular access (occasional or regular—for example, DCR Ranger access for maintenance or safety). However even vehicular systems are susceptible to rutting where vehicle turning is required.</p>	<p>Natural appearance; stable and weather resistant</p>	<p>Higher upfront cost; repairs require specialized contractors</p>
	<p>StaLok, StaLok Concentrate by Stabilizer Solutions</p> <p>Waterless, Polymer-based Soil binder for crushed stone that creates an impermeable surface</p>	<p>Firmness and Stability: Provides a firm and stable surface across its width with less softening and loss of material due to seasonal changes in moisture.</p> <p>Slip Resistance: Inherently slip resistant if sufficiently compacted.</p>	<p>Impermeable</p>	<p>Somewhat stiffer underfoot; looks natural but feels more artificial. Careful sourcing of material can help blend into the natural context.</p>	<p>Slopes, higher-use areas</p>	<p>Accessible and natural-looking; weather resistant. Top surface is bound and impermeable so it can be helpful in areas where loose stone dust could be problematic. Also, similarly, does not look as similar to unbound crushed stone as organic lock or Stabilizer.</p>	<p>Creates a less "natural" looking surface as compared to Organic Lock, or even Stabilizer bound stone dust. Impermeable (which is why it also holds up better).</p>
	<p>Klingstone Paths or similar Polyurethanes</p> <p>Moisture-cured polyurethane resin binder</p>	<p>Firmness and Stability: Provides a firm and stable surface across its width with less softening and loss of material due to seasonal changes in moisture.</p> <p>Slip Resistance: Inherently slip resistant if sufficiently compacted.</p>			<p>Wet or high-traffic areas</p>	<p>Natural appearance; reduced washout; strong adhesion, water-resistant</p>	<p>Higher upfront cost; some binders may have environmental trade-offs</p>

MATERIAL	INSTALLATION NOTES	MAINTENANCE NEEDS	CONSTRUCTION NOTES
Stabilizer by Stabilizer Solutions cont.	Requires careful mixing and delivery to the site by provider. Can be installed with common equipment, but must be spread and compacted properly to meet specs	Remains firm and stable across path width with little maintenance, but can fail quickly if subject to concentrated water flows.	
StaLok, StaLok Concentrate by Stabilizer Solutions cont.	Requires careful mixing and delivery to the site by provider. Can be installed with common equipment, but must be spread and compacted properly to meet specs. StaLok Concentrate can be applied after installation to reduce permeability in high-erosion areas.	More resistant to erosive water flows, but less flexible after installation.	
Klingstone Paths or similar Polyurethanes cont.			

	MATERIAL	FIRMNESS, STABILITY, SLIP RESISTANCE	ENVIRONMENTAL IMPACT	USER EXPERIENCE & AESTHETICS	USE CASES	PROS	CONS
STABILIZERS	<p>Permazyme, TerraZyme</p> <p>Enzyme-based soil stabilizer derived from organic materials</p>	<p>Firmness and Stability: Provides a firm and stable surface across its width with less softening and loss of material due to seasonal changes in moisture.</p> <p>Slip Resistance: Inherently slip resistant if sufficiently compacted.</p>			Unpaved roads, low-impact trails	Environmentally friendly, improves compaction, dust control	Requires native soils with enough silt/clay; limited performance data on ADA trails
	<p>Soil Sement</p> <p>Latex polymer</p>	<p>Firmness and Stability: Provides a firm and stable surface across its width with less softening and loss of material due to seasonal changes in moisture.</p> <p>Slip Resistance: Inherently slip resistant if sufficiently compacted.</p>			High-traffic or dust prone areas	Strong binding, dust control	Industrial feel, less natural look

MATERIAL	INSTALLATION NOTES	MAINTENANCE NEEDS	CONSTRUCTION NOTES
Permazyme, TerraZyme cont.			
Soil Sement cont.			

	MATERIAL	FIRMNESS, STABILITY, SLIP RESISTANCE	ENVIRONMENTAL IMPACT	USER EXPERIENCE & AESTHETICS	USE CASES	PROS	CONS
BOARDWALKS	<p>Pressure treated wood</p> <p>Typically pine treated with chemicals to resist rot and insect damage</p>	<p>Firm and Stable.</p> <p>Slip Resistance: Depeding on age and process employed, can be slippery when wet</p>	<p>Contamination risks, impact from anchoring/ footing</p>	<p>Typically neutral or unpleasant user experience.</p> <p>Tends to be dark and unnatural looking; can release odors.</p>	<p>Wetlands, raised trails</p>	<p>Raised above terrain; good for wetlands</p>	<p>Prone to rot; slippery if not treated; contamination risk if using pressure-treated wood</p>
	<p>Ipe, black locust, heat-treated lumber (Thermory, thermally modified ash, white, and red oak)</p> <p>Naturally dense and rot-resistant woods; new methods of thermal treatment help seal cells to resist moisture penetration</p>	<p>Firm and Stable</p> <p>Slip Resistance: Varies by wood species and other factors (i.e. stains and seal-ants). Important consideration in wetlands. Black locust is generally regarded as naturally slip resistant (see notes). There are approaches/products to increase slip resistant - for example, grooved thermally modified boards at Walden Pond visitor center.</p>	<p>Ipe is a tropical hardwood associated with unsustainable forestry practices damaging rainforests. Thermally modified, sustainably sourced hardwoods and naturally rot resistant hardwoods like black locust are a good alternative.</p>	<p>Natural and user-friendly. Tend to weather to an attractive natural finish</p>	<p>Decks, boardwalks, seating/furnishings.</p>	<p>Renewable resource with low embodied carbon. Rot resistant compared to other hardwoods. Ipe is a tropical hardwood that is associated with damaging forestry practices (though products vary and some purport to be harvested more sustainably than others).</p>	
BOARDWALKS	<p>Composite and Plastic Lumbers</p> <p>Manufactured lumber, in part of whole including recycled plastic</p>	<p>Firm and Stable</p> <p>Slip Resistance: Can be slippery under certain conditions.</p>	<p>Anchoring/ footings have environmental impact. Footings/structural components will need to be made of another material (e.g. pressure-treated or structural 100% plastic lumber)</p>	<p>Composite lumber can be very hot. Appearance varies widely; typically the more natural looking materials are more expensive</p>	<p>Wetlands, long-term durability</p>	<p>Raised above terrain; good for wetlands</p>	<p>Expensive; material warps/deforms easily (not recommended by DCR)</p>
	<p>Aluminum</p> <p>Cast or extruded aluminum parts, typically welded together into sections to create supporting frames and surface grids</p>	<p>Firm and Stable;</p> <p>Slip Resistance: Can be slippery under certain conditions (dew).</p>	<p>Can be recycled and reused</p>	<p>Feels and looks like metal</p>	<p>Best where safety, durability and predictable structural performance is paramount.</p>	<p>Prefabricated by marine dock supplier; quick installation; durable and weatherproof</p>	<p>More expensive than site built wooden bridges and boardwalks</p>

MATERIAL	INSTALLATION NOTES	MAINTENANCE NEEDS	CONSTRUCTION NOTES
Pressure treated wood cont.	Can be installed with common carpentry techniques	Relatively stable but will weaken and fail over time from exposure to sun and moisture	
Ipe, black locust, heat-treated lumber (Thermory, thermally modified ash, white, and red oak) cont.	Harder woods require special construction methods (stainless steel screws, etc.)	Tend to be relatively rot resistant. However, all wood rots over time and requires replacement of boards, in most cases on a shorter time span than, for example, concrete pavement replacement.	<p>Black Locust decking is promoted by many vendors as being naturally slip resistant and is used for this reason for boardwalks in NYC, for example. That being said, at Shaw Elementary school, one particular black locust boardwalk with east exposure has been problematically slippery from late fall to early spring. It was not clear the exact reason, though it seems that frost accumulation/drainage of boards may be part of it. D&amp;F communicated with industry reps (RobiDecking) who were not able to determine a cause, and insisted this appeared to be a unique circumstance.</p> <p>Harder woods require special construction methods (stainless steel screws, .ex)</p>
Composite and Plastic Lumbers cont.	Can be worked like traditional lumber; various proprietary fasteners can ease installation	Typically requires little maintenance over the mid term; some materials will degrade over time with sun exposure and are subject to staining	Composite woods, since they contain wood fiber, are also subject to rotting issues, though they tend to have a longer lifespan than hardwoods/softwoods. An alternative that D&F has used successfully is recycled structural plastic (100% plastic) lumber. This is a sustainable material for framing and ground contact that will not rot. D&F has used this in combination with black locust for planters and seating features at Shaw Elementary School, Millbury, MA, and Jacobs Elementary School, Millbury, MA.
Aluminum cont.	Tend to be pre-engineered components assembled on site for decks and bridges.	Very stable over time	

	MATERIAL	FIRMNESS, STABILITY, SLIP RESISTANCE	ENVIRONMENTAL IMPACT	USER EXPERIENCE & AESTHETICS	USE CASES	PROS	CONS
PAVED	<p><b>Asphalt</b></p> <p>Also known as Bituminous Concrete, a mix of bitumen and crushed mineral aggregates, generally placed and rolled while hot, cooling into a solid matrix.</p>	Firm, stable and slip resistant.	Based on fossil fuels	Can be hot and odorous on warm days. Stiff underfoot and a dark, unnatural ribbon through the landscape	Helpful for trails that will also require vehicular access (occasional or regular—for example, DCR Ranger access for maintenance or safety)	Installation methods and equipment are widely available; provides vehicular access; ADA-compliant when properly installed	Petroleum-based material, retains heat and emits odors in warm weather, unnatural appearance, deterioration can lead to accessibility failures
	<p><b>Concrete</b></p> <p>A mix of crushed mineral aggregates, Portland cement and water, which hardens through hydration into a solid matrix</p>	Firm, stable and slip resistant	High embodied carbon. Mixes vary in environmental/climate impact, with innovative mix additions/ replacements that help to reduce the amount of embodied carbon. Under the right conditions, long-term durability can offset upfront environmental impacts.	Can get hot. Stiff underfoot and typically a bright, unnatural ribbon through the landscape. Surface can be colored or modified with exposed aggregate to create a more natural appearance.	Helpful for trails that will also require vehicular access (occasional or regular—for example, DCR Ranger access for maintenance or safety)	Allows tight control over grades, cross slopes, and transitions; durable in appropriate settings; helpful for vehicle access; ADA-compliant when properly installed	High embodied carbon, can feel hard underfoot, visually intrusive in the landscape, light-colored surfaces may increase heat and flare
	<p><b>Porous pavement</b></p> <p>Bituminous Concrete made with coarse aggregate, leaving spaces that allow water to drain through</p>	Firm, stable and slip resistant	Reduces runoff and improves on-site infiltration of stormwater	Can get hot and odorous on warm days. Looks like standard asphalt pavement, with a bit more texture	Helpful on sites where on site stormwater infiltration is important		Needs to be vacuumed out to maintain porosity

MATERIAL	INSTALLATION NOTES	MAINTENANCE NEEDS	CONSTRUCTION NOTES
Asphalt cont.	Requires good drainage and subbase preparation for long-term success. Installation requires specialize paving equipment, but widely available.	<p>Requires more frequent renovation/replacement than concrete, including crack sealing and resurfacing. Generally more resistant to snow melt chemicals/salts than concrete. Once degraded, can be very inaccessible.</p> <p>Asphalt walkways/trails are superior to concrete in areas that will see regular snow removal (see notes on de-icing salts below). A decorative chip seal finish course (3/8" or smaller aggregate with asphalt emulsion) over an asphalt base may provide an alternative that combines the stability of asphalt with the appearance of crushed stone trails (case study: Blue Hill Observatory entrance trails)</p>	
Concrete cont.	Requires careful preparation and formwork, but allows finely tuned compliance with accessibility standards.	<p>Subject to spalling/degradation due to snow melt chemicals/salts. Requires sealing and regular re-sealing in order to withstand snow removal salts/chemicals. Once degraded, can be very inaccessible.</p> <p>A major question for concrete walkways in Massachusetts is "to seal or not to seal". Sealing concrete helps the pavement withstand de-icing salts that may be applied (even if the agency or institution has policies limiting this or encouraging alternatives). Unsealed concrete is subject to faster degradation and will need to be replaced faster. Sealed concrete requires regular re-sealing in order to provide a similar resistance to these chemicals.</p>	
Porous pavement cont.	Requires good drainage and subbase preparation for long-term success. Installation requires specialize paving equipment, but widely available.	Not as durable as standard asphalt and requires careful maintenance to remove any sand that is used in the winter so it doesn't block up the pores.	

	MATERIAL	FIRMNESS, STABILITY, SLIP RESISTANCE	ENVIRONMENTAL IMPACT	USER EXPERIENCE & AESTHETICS	USE CASES	PROS	CONS
OTHER	<p><b>Engineered Wood Fiber; WoodCarpet</b></p> <p>Processed natural wood shredded, chipped and screened to create a consistent material that can be spread and compacted to create a firm accessible surface.</p>	Firm, stable and slip resistant when properly installed and maintained	Can be considered a renewable resource with relatively low embodied carbon depending on wood sourcing	Soft underfoot. Looks natural, like wood chips; weathers over time.	Natural playground safety surfacing and adjacent trails and walkways with complimentary products (rubber access matting or binding) to address MAAB interpretation of ADA surfacing requirements.	Renewable resource, provides dependable and lab-tested fall attenuation for play areas. Can provide a wheelchair-accessible surface if properly maintained.	Requires maintenance to keep finish grade accessible.
	<p><b>Sand Rollout Matting (Mobi-mat and similar)</b></p> <p>Roll out mat made of recycled PET bottles made to look like natural woven matting.</p>	Firm, stable and slip resistant	Made of recycled bottles; after useful life likely headed for the landfill	Provides firm surface for access over sand			
	<p><b>GrassMat</b></p> <p>Roll out mat of green woven polyethylene, typically used for making temporary accessible paths across turf areas.</p>	Reasonably firm and stable; can be slippery when wet.	After useful life likely headed for the landfill	Provides firm surface over turf or soil areas.		Can be used on grass surfaces and mowed over	

MATERIAL	INSTALLATION NOTES	MAINTENANCE NEEDS	CONSTRUCTION NOTES
Engineered Wood Fiber; WoodCarpet cont.	Can be placed and installed with common landscaping equipment	Needs to be compacted and maintained in order to be accessible. If the material is loose, it is not accessible.	
Sand Rollout Matting (Mo-bi-mat and similar) cont.	Simple to rollout on prepared surface.	Can be rolled up and stored for the winter	
GrassMat cont.	Simple to roll out	Can be rolled up and stored when not needed	

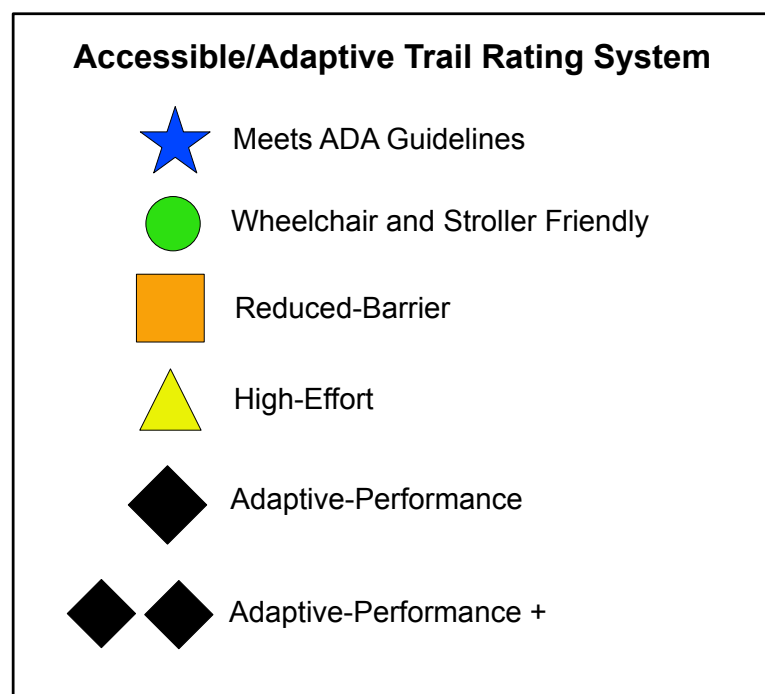
	MATERIAL	FIRMNESS, STABILITY, SLIP RESISTANCE	ENVIRONMENTAL IMPACT	USER EXPERIENCE & AESTHETICS	USE CASES	PROS	CONS
	<p>Flexible Porous Rubber/Aggregate Pavements (Flexipave, PerkEpave, and similar)</p> <p>3/8 minus ground recycled tires mixed with 3/8 minus gravel with a proprietary binder</p>	Firm, stable and slip resistant	Recycled materials are frequently part of the mix. Binders and rubbers used in this material may contain problematic chemicals and have higher embodied carbon than materials like wood or quarried crushed stone. After useful life likely headed for the landfill	Cushy under foot, though tends to be somewhat uneven surface unless carefully placed. Available in a variety of colors, including some that are comparable to stone/soil surfacing. Texture is spongy and obviously synthetic/rubber.	This is a great, flexible, permeable solution for spot areas in pavements that need to be firm/stable/slip resistant. Helpful for replacing sections of concrete pavement within tree root zones. Also a useful material for sections of asphalt or concrete walkways/trails over tree roots, for steep areas of trails subject to erosion, where a deep compacted base is not desirable. Also advertised for running/walking paths to reduce impact-related strain.	Flexible; can bend with tree roots. May not require full depth of compacted aggregate base like asphalt or concrete (because it is flexible and able to deform with frost heave). Permeable.	Must be installed well. Made of petroleum products (rubbers, binders/glues).

MATERIAL	INSTALLATION NOTES	MAINTENANCE NEEDS	CONSTRUCTION NOTES
<p>Flexible Porous Rubber/Aggregate Pavements (Flexipave, PerkEpave, and similar)</p> <p>3/8 minus ground recycled tires mixed with 3/8 minus gravel with a proprietary binder</p>	<p>Installed similar to concrete (formwork, pour, screed/float) but with less specialty techniques required for finishing, jointing, etc.</p>	<p>Has a tendency to crumble at edges over time, particularly if edging or adjacent pavement has wear/movement issues.</p>	<p>These products are distinct from other rubber surfacing (such as PIP rubber play safety surfacing) in that they contain both rubber (usually recycled) and aggregate content. They tend to have a higher permeability and are widely used for tree surrounds regionally. Notably specified in Washington DC for tree pits, full width sidewalk replacement near street trees, and for Safe Routes to School program (the latter per PerkEPave promotional materials). There are formulations/installation systems for vehicular paving applications as well.</p>

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# APPENDIX C: PROPOSED TRAIL RATING SYSTEM

The proposed trail rating system, developed by Meg Bandarra, uses shape and color to divide trails into difficulty categories based on trail attributes. Using both shape and color is a color blindness friendly system that provides multiple ways for people to recognize the trail category that is right for them. The rating and category for each trail is dependent on the maximum grade, length of grade, cross slope, and whether or not the trail meets established guidelines such as ADA/ABA Access Routes or the US Forest Service Trail Accessibility guidelines (FSTAG).



# PROPOSED RATING SYSTEM

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## CATEGORY 1: MEETS ADA ACCESS ROUTE GUIDELINES

This category of trail meets ADA guidelines for accessible routes and exceeds FSTAG guidelines.

- Maximum grade: 5%
- Access Ramps: up to 8.33%
- Maximum cross slope: 2%
- Surface: Firm and Stable
- Width: 3-6ft, paved surface widths could be as narrow as 3ft, unpaved surfaces shouldn't go below 4ft, ideally 5-6ft.
- Maximum Transition Height: ½" beveled
- Mobility Device Recommendations: Everyday Equipment
- Potential Alternate Name(s): All Persons Trail, Barrier-Free Trail, ADA Trail



## CATEGORY 2: WHEELCHAIR AND STROLLER FRIENDLY TRAIL

This category of trail meets FSTAG accessible trail guidelines, and is close to ADA guidelines.

- Maximum grade: 5%
- Access Ramps: up to 8.33%
- Maximum cross slope: 5% (This exceeds ADA guidelines)
- Surface: Firm and Stable
- Width: 5-6ft+
- Maximum Transition Height: 2" (This exceeds ADA Guidelines)
- Mobility Device Recommendations: Everyday Equipment
- Potential Alternate Name(s): Gentle Trail



### CATEGORY 3: REDUCED-BARRIER TRAIL

This category of trail meets FSTAG accessible trail guidelines. Depending on trail conditions and personal needs, some users may find that they need assistance or specific equipment to navigate this trail.

- Maximum grade: Between 5-8.33% for up to 200ft
- Access Ramps: up to 8.33%.
- Maximum cross slope: 5%
- Surface: Firm and Stable
- Width: 5-6ft+
- Maximum Transition Height: 2"
- Mobility Device Recommendations: Everyday Equipment, Specialized Equipment for Outdoor Use



### CATEGORY 4: HIGH-EFFORT TRAIL

This category of trail meets FSTAG accessible trail guidelines, however some users may find trails in this category exceed their physical ability, or that they need assistance on these trails. In particular, trail users with manual mobility devices are likely to need assistance.

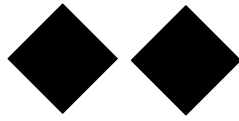
- Maximum grade: 8.33-12%
- Access Ramps: up to 8.33%.
- Maximum cross slope: 5%
- Surface: Firm and Stable
- Width: 5-6ft
- Maximum Transition Height: 2"
- Mobility Device Recommendations: Specialized Equipment for Outdoor Use, Some Everyday Equipment



## CATEGORY 5: ADAPTIVE-PERFORMANCE TRAIL:

This category of trail DOES NOT meet FSTAG accessible trail guidelines. Trails in this category will have some accessibility features. Trail users with mobility disabilities are likely to need assistance, powered equipment, or other specialized outdoor equipment to navigate trail grades. Users with other types of disability may be able to navigate this space without encountering barriers, or few potential obstacles

- Maximum grade: Between 12-15%
- Maximum cross slope: 5-8%?
- Surface: Generally firm and stable, few barriers such as rocks, roots may occur. Some may exceed 2" in height?
- Width: 4-6ft
- Maximum Transition Height: 2"
- Mobility Device Recommendations: Specialized Equipment Likely Needed
- Potential Alternate Name(s): Adaptive Trail, Adaptive Device Trail



## CATEGORY 6: ADAPTIVE-PERFORMANCE +

This category of trail DOES NOT meet FSTAG accessible trail guidelines. Some users may find trails in this category exceed their physical ability, or that they need assistance on these trails. In particular, trail users with mobility disabilities are likely to need- assistance, powered equipment, or other specialized outdoor equipment to navigate trail grades. Users with other types of disability may encounter some potential obstacles.

- Maximum grade: above 15%
- Maximum cross slope: Cannot exceed 12%
- Surface: Mostly firm and stable, some areas of loose surface may occur. May have some barriers such as rocks and roots. Some may exceed 2" in height
- Width: 4-5ft
- Maximum Transition Height: 2+
- Mobility Device Recommendations:  
Specialized Equipment Likely Needed,  
Powered Equipment May be Needed
- Potential Alternate Name(s): Performance +,  
Power-Access Trail, Assisted Access Trail

# PROPOSED TRAIL SIGNAGE

## ACCESSIBLE/ADAPTIVE TRAIL SIGNAGE

### ACCESSIBLE TRAIL SIGNAGE

Signage would have the trail name at the top and an icon indicating it's accessible. There is space at the top for the logo of the agency or organization the manages the trail.

Directly below the name is the trail rating, category, and reason(s) why the trail was given its rating. For the Trails the meet or exceed FSTAG guidelines, the reason is likely to be grade and/or cross slope, for trails of higher difficulty, the reasons could also include other reasons such as surface.

Detailed trail information is represented as icons, to help users who are unfamiliar with trail terminology understand terms like cross slope and grade. This builds and expands on DCR's recently adopted system for Trail Access Information Signage. An icon for "Environment" has been added to help communicate information about other types of barriers trail users might encounter.

To further detail the trail there is a place to list features, and any potential barriers. It should be noted that in this example water views is listed as a feature, but for some types of disabling conditions water can be a dangerous attractant so knowing there is water near the trail serves as both a feature and potential barrier warning. For those who would like more information about the trail there is a QR code. This could also serve as a way for people to get the most up-to-date trail conditions.

There is also a QR code that would link to the trail rating system so that trail users can familiarize themselves with all trail rating categories.





Space at the bottom of the sign can be used to add contact information or to date the trail information.

## Riverbend Accessible Trail

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**Trail Rating:** ● **Reason:** Cross Slope


**Category:** Wheelchair and Stroller Friendly

<p> <b>Length:</b> 1.5 mi, round-trip</p>	<p> <b>Grade:</b> Typical- 2-3% Max- 5% for 20ft.</p>
<p> <b>Cross Slope:</b> Typical: 2% Maximum: 5%</p>	<p> <b>Width:</b> Typical: 6ft Min: 5ft boardwalks</p>
<p> <b>Environment:</b> Sunny Trail, Low Noise</p>	<p> <b>Surface:</b> Stone dust, wooden boardwalk</p>
<p> <b>Features:</b> Water Views Seated Resting</p>	<p> <b>Barriers:</b> Limited Cell Service, Full Sun up to 1/4m</p>

Trail conditions as of: \_\_\_\_\_

For more about this trail visit our website: 

About The  
Trail Rating  
System




Managing  
Department or  
Organization  
Logo

*Example of Signage for Accessible Trail*


## ADAPTIVE TRAIL SIGNAGE

At some point, either when trails exceed FSTAG guidelines, or when trails exceed ADA guidelines for ramp grades, the symbol at the top of the sign would change from a standard wheelchair user symbol to an icon that indicates adaptive use, but also cautions that condition expectations should be considered and will differ from what may be widely accessed by most users with mobility considerations.









# Summit View Trail



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**Trail Rating:**  **Reason:** Grade, Cross Slope

**Category:** Adaptive-Performance


<p> <b>Length:</b> 3 mi, round-trip</p> <p> <b>Cross Slope:</b> Typical: 2% Maximum: 8%</p> <p> <b>Environment:</b> Low Noise</p> <p> <b>Features:</b> Viewpoint, Seated Resting</p>	<p> <b>Grade:</b> Typical- 5-7% Max- 15% for 12ft.</p> <p> <b>Width:</b> Typical: 5ft Min: 5ft</p> <p> <b>Surface:</b> Stone dust</p> <p> <b>Barriers:</b> Steep Grades and Cross Slopes</p>
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Trail conditions as of: \_\_\_\_\_

For more about this trail visit our website: 

**About The Trail Rating System**



Managing Department or Organization Logo

*Example of Signage for Adaptive Trail*

## HOW THE ACCESSIBLE/ADAPTIVE TRAIL RATING SYSTEM WOULD BE USED

Individual Trail Ratings would be on signage located at trailheads, included as part of online trail listings, and located in other places that feature trail information (e.g. regional guides, trail advertisements, apps).

The entire trail rating system would be published online, and potentially also included in other areas (e.g. trail brochures, signage in state parks, web-based trail information aggregate sites) so trail users can gain familiarity and understanding of the system, and learn which trail is right for them.

## ADOPTION

State entities would use this system, and any accessible trail funded in whole or in part by state funds would also be required to use this system. With the goal that for consistency purposes, NGOs would adopt this system for use on other accessible trails that are not supported by state funds. If they are required to use the system for some of their trails, that may be motivation to use it across all their trails. Alternatively, there could be a state requirement for all accessible trails that are open to the public to adopt this system as part of a universal public information campaign.

Federally managed trails would not have to use this system, but the hope would be that they would adopt it for use on properties within the Commonwealth as a show of partnership with the state.

## NON-ACCESSIBLE TRAIL SIGNAGE

Signage for trails that fall outside the accessible and adaptive trail rating system would still contain information detailed trail access information. This information is critical to understanding conditions that users would find the trail, and allows users to determine whether or not the trail is right for their needs, abilities, and desires.

Making this information available opens up access to more users and makes trails more welcoming and inclusive to all.

### HOW THE NON-ACCESSIBLE TRAIL RATING SYSTEM WOULD BE USED

Access information is needed in order for non-accessible trails to become more inclusive. Signage with access details would be located at trailheads, included in online trail listings, and located in other places that feature trail information (e.g. regional guides, trail advertisements, apps).

### ADOPTION

State entities would use this system, and any accessible trail funded in whole or in part with state funds would also be required to use this system. Like the accessible trail rating system, the aim would be for NGOs to eventually use this same information across all their trails. A guideline for adoption could be to start with trails that are on more heavily visited properties, near denser population areas, and have lower difficulty levels, since these are the trails where having access information is likely to make the impact and have the most benefit.

# Wandering Brook Trail



**Length:**  
3 mi, round-trip



**Grade:**  
Typical- 5-7%  
Max- 10% for 15ft.



**Cross Slope:**  
Typical: 2-6%  
Maximum- 8%



**Width:**  
Typical: 3ft  
Min- 1.5ft



**Environment:**  
Moderate Use



**Surface:**  
Natural Soil, Rocks



**Features:**  
Viewpoint,  
Water Views,  
Seated Resting and  
Picnic Areas



**Barriers:**  
Steep grades and  
cross slopes.

Trail conditions as of: \_\_\_\_\_

For more about this trail  
visit our website:

QR

Managing  
Department or  
Organization  
Logo

*Example of Signage for Non-Accessible Trail*



# APPENDIX D: WETLAND REGULATIONS

## CONTEXT

- Massachusetts wetlands provide critical environmental, resiliency, health, and safety benefits to our planet and society – making strong and proactive protection of these resources imperative especially at the state level.
- Human access to natural areas via accessible trails provides critical public health, educational, and environmental stewardship benefits.
- The Massachusetts Wetlands Protection Act (WPA) and its implementing regulations provide valuable and necessary wetlands resource protections. In 2024, Mass DEP began a public process proposing revisions to the Wetlands regulations to improve the Commonwealth’s resilience to the impacts of climate change and streamline certain public benefit permitting. This process is ongoing and provides a timely and important opportunity to revisit WPA provisions related to accessible trails.
- It is estimated that nearly 50% of Massachusetts residents will benefit from improved trail accessibility, including seniors, families with children, and people living with disabilities. Creating more accessible trails and making existing trails more accessible to more users should be a State priority.
- Trails, as linear structures, will intersect with and potentially impact wetland resources, and thus, must be subject to the protections of the Massachusetts Wetlands Protection Act. However, both impacts and benefits should be considered as permitting processes and standards are revised.

- The current system and existing regulations for permitting accessible trails in natural areas is complex, confusing, lengthy, and typically adds significant costs to a project. The added costs and complexity does not appear to significantly increase resource protection benefits. This constitutes a significant and avoidable barrier to accessible trail construction and maintenance.

## THEREFORE:

- Massachusetts Wetlands Regulations, relative to accessible trail permitting, should be “right-sized” to reduce barriers to accessible trail planning, permitting, construction, and maintenance, while maintaining high standards for wetlands protection. Low-impact public benefit projects, planned and built by professionals to enhance public accessibility in natural areas should not face the same provisions, restrictions, hurdles, or oversight as larger-scale development projects that pose far greater potential risks to wetland resources.

## SPECIFIC RECOMMENDATION FOR CONSIDERATION

### Minor Activities

- Most trail maintenance (and potentially some trail construction) in proximity to wetland resources, when properly sited and implemented with existing Best Trail Management Practices has little to no potential to negatively impact those wetlands or their functions, AND maintenance and well-designed construction can be protective of adjacent wetland resources; and thus should be streamlined through the permitting process.

## Stream Crossings

- Trail stream crossings, i.e. bridges, that are appropriately sited, designed with Best Trail Management Practice, include erosion control practices when called-for, and meet the Massachusetts Stream Crossing Standards are protective of streams, and should be streamlined through the permitting process.

## Wetland Crossings

- Trail wetland crossings – including boardwalks, puncheons and bog-bridges – that are appropriately sited to minimize impacts, meet Best Trail Management Practices in design and installation practices, and include erosion control practices when and where called-for, may impact wetland resource, but are ultimately protective of wetland resources and functions, and should be streamlined through the permitting process.
- Additional considerations:
  - While boardwalks on posts or piles may often be preferred, in some cases sills may provide a suitable approach.
  - Requiring structures to be raised high above the ground for light penetration can have negative implications on accessibility, safety, installation methods, and costs. While raising to allow more light may be reasonable in certain cases, height requirements should be evaluated case-by-case, and evaluations should balance potential costs and benefits.

## Stormwater Standards:

- Subjecting unpaved trails to the MA Stormwater Standards (even to the Maximum Extent Practicable) adds unnecessary complexity to a project for no discernible benefit.
- Unpaved trails should not be subject to compliance with the stormwater standards, especially as these are not “industrial, commercial, institutional, office,

residential or transportation projects” and do not create any point source discharges.

### Plan Requirements for Notice of Intent (NOI) Filings:

- Notice of Intent (NOI) Plan requirements, have traditionally been developed for residential and commercial development, and are often cumbersome and counter-productive for accurately describing linear, woodland trail projects.
- Provide guidance for commissions to waive strict plan requirements for NOIs for trail projects provided the project follows trail Best Management Practices and adequately describe the work proposed.
- Provide examples of alternatives, such as sketches, photographs, field delineation, mass-mapper maps, etc. that can appropriately be used to describe and condition the work.

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