Turnagain Pass Master Plan

Memorandum 6: Management and Maintenance

NOVEMBER 2024







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ACRONYMS

Department of Transportation and Public Facilities	DOT&PF
Federal Lands Recreation Enhancement Act	FLREA
Maintenance and Operations	M&O
Memorandum of Agree	MOA
Memorandum of Understanding	MOU
Milepost	MP
Turnagain Pass Master Plan	TPMP
United States Forest Service	USFS
Western Federal Lands Highway Division	WFIHD

1. Introduction

The Turnagain Pass Master Plan (TPMP) provides a long-term guide for future corridor improvements with a focus on safety and recreational access. The TPMP is a collaborative planning effort between the United States Forest Service (USFS), Alaska Department of Transportation & Public Facilities (DOT&PF), and the Western Federal Lands Highway Division (WFLHD) for all existing recreational facilities in the Chugach National Forest accessed from the Seward Highway (Mile Point 56-75). The TPMP effort is comprised of two phases. Phase One included the existing conditions, initial public and stakeholder outreach, development of demand management strategies and analysis, and a needs assessment. Phase Two includes project development and prioritization, additional public and stakeholder outreach, the development of conceptual designs and cost estimates, the development of a management and maintenance strategy and the final Turnagain Pass Master Plan document.

This Memorandum (Memo 6) makes recommendations for a long-term strategy for the management and maintenance of the facilities and services provided in the Turnagain Pass area, with a goal of maximizing coordination between agencies (primarily DOT&PF and USFS). The Strategy recommendations are based on established state and federal best practices and guidelines for facilities. The intention is to build on management and maintenance decisions and recommendations completed in previous tasks, and includes input from volunteer groups, the public, and state and local park managers and agencies.

Turnagain Pass

The TPMP area covers approximately 98,000 acres of the Chugach National Forest within the Glacier Ranger District and includes the Seward Highway Corridor Mile Point (MP) 56-76 (Turnagain Pass) (Figure 1).

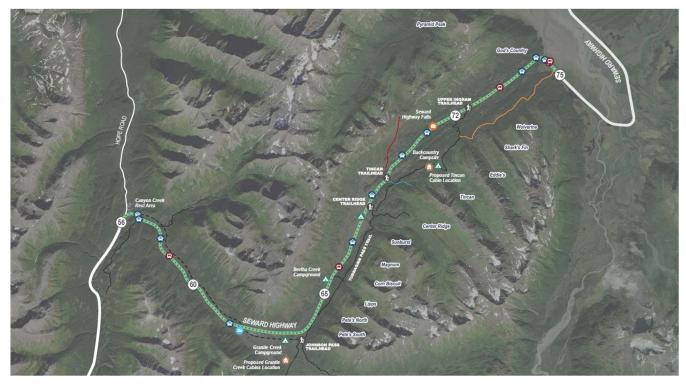


Figure 1 Turnagain Pass Master Plan Area

Existing land and facilities within this area are owned by the USFS, Alaska Department of Natural Resources (ADNR), and DOT&PF. The identification and condition of all facilities within the study area was discussed in the Phase One Summary – Existing Conditions, including parking areas, roadside pullouts, trailheads, and campgrounds. These facilities, their location, the existing features, and the current owner and maintenance provider are included in Table 1 for reference.

Table 1 Existing Facilities and Conditions

Facility	Location/Extents	Existing Features	Owner/ Maintenance
Recreational Infrastructure	Various	Public Use Cabins (41) Motorized User Access Trails (500 miles) Roads (90 miles)	USFS
Recreational Motorized Use Access (Winter)	West Side of Seward Highway	Access for use of motorized vehicles (snowmachines) during winter months	USFS
Iditarod National Historic Trail – Southern Trek Includes the 12-mile long Turnagain Pass Trail	Iditarod National Historic Trail – Southern Trek: 180 miles long	Multi-Use Trail (Non- Motorized) Camping	USFS
Canyon Creek Rest Area	MP 56.6 (West of the highway) MP 56.6 (East of the highway)	Delineated Parking Toilets (2) Dumpster Access Paved Trail Access (limited)	DOT&PF
Gulch Creek All-Terrain Vehicle (ATV) and Pedestrian Bridge Access	MP 57.4 (West of the Highway)	Viewing Area Hiking Trail Unmarked Parking (2-4 vehicles) - Gravel	DOT/USFS
Raft Launch	MP 59.0	Raft Launch Delineated Parking - Paved	DOT&PF
Gravel Pit	MP 62.2	Limited Unmarked Parking (2-4 vehicles) - Gravel	Parking Area within DOT&PF ROW Gravel Pit Owned and Maintained by USFS
Granite Creek Campground	MP 62.9	Camp Sites (19)	USFS
Johnson Pass North Trailhead	MP 63.6	Delineated Parking - Gavel Multi-Use Trail Toilet	USFS
Bertha Creek Campground	MP 65.4	Camp Sites (12)	USFS
Cornbiscuit Pullout	MP 66	Limited Unmarked Parking - Paved Skiing Access	DOT&PF

Facility	Location/Extents	Existing Features	Owner/ Maintenance	
Sunburst Pullout	MP 66.8	Limited Unmarked Parking - Paved Skiing Access	DOT&PF	
Center Ridge Trailhead	MP 68.0	Delineated Parking - Paved Toilets (2) Multi-Use Trail (Non- Motorized)	USFS/DOT	
Motorized Vehicle Access Area (Moto Lot)	MP 68.4	Delineated Parking Toilets (2) Picnic Tables Snowmachine Access Skiing Access	USFS/DOT&PF	
Tincan Trailhead	MP 69.2 (East of Highway)	Limited Unmarked Parking- Paved Skiing Access	DOT	
Snowstake Lot	MP 69.8	Unmarked Parking - Paved	DOT&PF	
Upper Ingram Trailhead also referred to as Muskeg Meadows	MP 72.5	Limited Unmarked Parking - Paved Skiing Access	DOT&PF	
Base of Pass	MP 75.5	Unmarked Parking - Paved	DOT&PF	

2. Existing Operations and Maintenance

The Seward Highway and pullouts throughout Turnagain Pass as well as the rest areas at Canyon Creek are maintained by the DOT&PF Maintenance and Operations (M&O) centers within the DOT&PF Central Region. Milepost (MP) 56 to 75.5 is maintained by the Peninsula District's Silvertip Station and the remaining half mile from MP 75.5 to 76 is maintained by Anchorage District's Girdwood Station. Many of the parking facilities off the Seward Highway, and outside of DOT&PF's rights-of-way (ROW), which provide access to the Forest are the responsibility of USFS. USFS currently works to maintain the restroom and trash facilities at these locations and under a verbal agreement with the DOT&PF, that the DOT&PF will provide snow removal services when reasonably able to these sites.

Existing Guidance

The DOT&PF's Central Region has established a Standard Operating Procedure (SOP) for Winter Road Maintenance that is adapted to fit Alaska specific conditions from the state of Minnesota's Snow and Ice Control Field Handbook for Snowplow Operators. Central Regions SOP focuses on promoting the understanding of tools, best practices, and limitations when it comes to snow and ice control. In addition to promoting understanding, the SOP encourages progressive changes in snow and ice control practices that aim to reduce salt/sand use and environmental impacts while continuing to meet the safety and mobility needs of users¹. However, this SOP does not include guidance for snow and ice removal for facilities such as sidewalks, multiuse paths, and parking lots.

Snow and ice removal guidance established by the USFS focus on minimizing impacts of snow removal operations on road surfaces and embankments in order to reduce the risk of sediment production. The FSH 2509.22 Soil and Water Conservation Handbook establishes snow removal will be performed in a manner that will protect water quality, the road surface, and adjacent resources.

FHWA's Guide for Maintaining Pedestrian Facilities for Enhanced Safety and Research Report includes sections which outline Snow and Ice Removal. This research report identifies the importance of creating and implementing a snow removal plan which includes elements relating to sidewalk and shared use paths, and snow removal polices in addition to roadways.

The Transportation Research Board's National Cooperative Highway Research Program (NCHRP) Research Report 889: Performance Measures in Snow and Ice Control Operations, presents applicable approaches for monitoring the performance of snow and ice control activities. This report proposes a set of performance measures which can be customized and applied by agencies to meet their specific needs. The core performance measures identified include mobility, safety, and sustainability measures, all of which are linked together and apply to various points in time during snow events².

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¹ https://dot.alaska.gov/stwdmno/documents/MnO_CR_Winter_Maintenance_Manual.pdf

² https://nap.nationalacademies.org/read/25410/chapter/1

- Mobility: Includes level of service (LOS), recovery, and reliability
- Safety: Includes injuries and fatalities
- Sustainability: Includes efficiency, customer satisfaction, and environmental stewardship



Figure 2 Storm Timeline Taken from The Transportation Research Board's National Cooperative Highway Research Program (NCHRP) Research Report 889: Performance Measures in Snow and Ice Control Operations

Current Maintenance Staffing

The pool of available labor for the Silvertip station is very limited and draws primarily from the small communities of Hope and Girdwood with occasional participation from Crown Point and Cooper Landing to the south. The Silvertip station was closed in 2019 but re-opened in December 2020 following strong feedback from the public and key stakeholders including Alaska Trucking Association, elected representatives and the area user groups about how the closure exacerbated delays in plowing and safety issues in Turnagain Pass³. Staffing maintenance activities is an ongoing challenge for this facility, resulting in maintenance and plowing delays.

Winter Maintenance

The Seward Highway throughout the Master Plan area experiences heavy snowfall which frequently occurs in back-to-back storms. As snow is plowed from the highway, it accumulates on the limited shoulders and in the shallow ditches on each side of the road. Roadway travelers will often experience a narrowing of the road until snow can be removed. This action usually involves pulling the snow into remaining lane space and then blowing it away from the road. The M&O staff have noted a preference for widened shoulders and ditches to provide for more snow storage and a space to "pull" the snow that is not within driving lanes of existing parking lots

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³ https://alaskapublic.org/2020/12/23/southcentrals-silvertip-plow-station-to-re-open-after-public-pressure/

and pullouts. Parts of the corridor (MP 69-76) are bounded on the west side by rock walls or cliffs that prevent snow blowing actions. Removing or cutting this rock back will significantly improve M&O snow removal operations.

Drainage/Spring Runoff

The DOT&PF M&O staff have noted that drainage along much of the corridor is insufficient to accommodate spring thaw, which results in peak water runoff. This is leading to premature deterioration of pavement, frost heaves, and the need for pumping water to prevent extreme washouts.

Roadside Assets

Roadside assets such as signs, guardrails, and callboxes are easily lost in snow berms along much of the study area. M&O has requested that alternate means of mounting (higher) or marking these devices be explored, such as taller markers or in road markers. GPS is a consideration.

Avalanche Areas

Active avalanche areas are known to exist within the study area. Active shooting/control of avalanches has occurred at Summit Lake just outside the study area in recent years at MP 46.

Rest Areas

Two (2) official DOT&PF rest areas are located at approximately MP 56.5. These rest areas are maintained by DOT&PF throughout the summer months (May through October) by contract and closed for the winter months. Pullouts are a low priority for road maintenance in comparison to the roadway, which serves heavy freight traffic between Anchorage and the Kenai Peninsula.

In addition to the official DOT&PF rest areas there are two locations within The Pass that are owned and maintained by the USFS and often used by travelers as rest areas. However, these facilities are intended to meet the capacity needs of those who are actively engaging with the Forest.

Condition Reporting

Conditions for trails in the Chugach National Forest are reported on the USFS Seward Ranger District website, although the last update post has a publication date of June 4, 2022. In addition to reporting by the USFS, trail observations are reported by the Chugach Avalanche Information Center. Recreation users are encouraged to submit trail observations along with photos and geolocating to assist in providing updates to the public and report potential hazards⁴.

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⁴ https://www.cnfaic.org/observations/#/view/observations

3. Maintenance Needs

The USFS' Chugach National Forest Land Management Plan identifies a desired condition for recreation maintenance under FW-GL1-REC-DC which states; "Access to winter recreation opportunities is maintained or enhanced through a collaborative effort between the Forest Service, local communities, other agencies, and partner organizations to provide snowplowing of parking lots and trail grooming (where authorized)"⁵.

The DOT&PF M&O staff identified potential areas of capital improvements and issues with maintenance that could improve both maintenance activities and safe operation of the Seward Highway roadway corridor.

Expansion of ditches and replacing failed culverts would help preserve existing pavement by directing water away from roadway facilities. Reduction of stormwater/thaw runoff reduces frost heaves and expanding ditches increases snow storage, both of which are seasonal challenges along the corridor. Major frost heaves are known to exist at MP 52/53 and MP 73/74.

Pullout expansion, particularly at the pullout located on the east side of the road at approximately MP 69.5, would help reduce roadside parking hazards on the narrow shoulders along the highway. The MP 69.5 pullout is at times over capacity, causing overflow vehicles to park along the highway. Reduced shoulders can cause these vehicles to take part of adjacent through lanes, a hazard to through-traffic and maintenance operations. Pullouts and rest areas are some of the lowest priorities and are not addressed as often as needed due to staffing shortages with M&O and the remote location of facilities along the Turnagain Pass Corridor.

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⁵ https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd725270.pdf

4. Strategy Approach

The project team reviewed existing management and maintenance documents focused on snow removal and coordination and conducted a workshop with the project management team. These efforts helped to understand established best practices and what is envisioned to guide management and maintenance, what type of guidance is sought, and to understand which agency is best placed to lead collaborative management and maintenance.

What is Envisioned for Management and Maintenance

The project management team sought a collaborative approach to management and maintenance, considering the management of facilities and capacity to undertake management and maintenance activities. The following suggestions were made for management and maintenance in Turnagain Pass:

- Creating a Formal Interagency Agreement: The agencies expressed a desire to have a formal
 interagency agreement clarifying who was responsible for management and maintenance of specific
 facilities. Specific issues raised included restroom maintenance, improving plowing response, and
 trailhead maintenance.
- **Setting Priorities:** Both USFS and DOT&PF have expressed an interest in creating a typology of facilities to assist with setting priorities for management and maintenance, to make sure facilities that are used regularly are appropriately maintained on a regular basis.
- **Funding:** Scarce funding is an ongoing issue with prioritizing maintenance and management of facilities, and in having sufficient staff to complete maintenance operations.

What Type of Guidance is Sought?

When asked what type of guidance is sought to support consistent management and maintenance, the project management team noted that they would like a clear division of responsibilities between agencies and clarified maintenance issues, priorities, and solutions. The project management team also noted that they would appreciate a mechanism to clarify to the public what can be expected for maintenance, including minimum levels of service, who facilities are provided for (particularly restrooms), and who is paying for maintenance.

How This Impacts a Management and Maintenance Strategy

The feedback received was insightful to inform the type of guidance sought from agencies. This will be further considered in the strategy recommendations.

5. Feedback and Suggestions

Stakeholder and community engagement activities conducted throughout the Master Plan highlighted the following key management and maintenance issues:

- Plowing: Work towards fully staffing the Girdwood and Silvertip maintenance facilities to enable a complete snow plowing program to be delivered. Pullouts and shoulders should be plowed in winter to support travelers rest and for easier emergency response, if needed. Parking lots should also be plowed as fully as possible to maximize winter use and parking opportunities. By maximizing parking capacity in the formal parking lots, through improved maintenance, users should no longer need to park in the pullouts and shoulders of The Pass when wishing to access popular winter recreational opportunities. Thus, creating safer and more accessible recreation opportunities for all. Consider plowing and staffing campgrounds during winter months so they can be available for use.
- Winter Route Maintenance: Regular brushing of winter activity routes into the alpine areas to ease access.
- Restroom Provision and Maintenance: More restrooms are sought, and more frequent maintenance of restrooms to prevent them becoming unpleasant for users. Many stakeholders commented that restroom provision and maintenance is inconsistent and dependent on who is providing and maintaining the facility. One example that was given is the DOT&PF-maintained restrooms are closed during the winter months, leaving only facilities provided by USFS. However, users have also commented that the DOT&PF facilities are more pleasant to use when they are open and maintained.
- Pullout Maintenance: Maintaining pullouts so they are available for users year-round. Commenters particularly noted challenges with maximizing the use of pullouts in the winter months due to insufficient plowing.
- **Trail Maintenance:** Users have sought improved maintenance of existing trails, particularly vegetation clearance and maintaining surfaces.

6. Management and Maintenance Strategy Recommendations

The following steps are recommended for DOT&PF and the USFS to create a collaborative maintenance and management strategy while building off the SOP established by Central Region DOT&PF:

Step 1: Identify Desired Level of Service, Performance Metrics and Improvement Processes

One of the key concerns articulated through stakeholder and community engagement has been improving management and maintenance activities in Turnagain Pass, particularly snow plowing and restroom maintenance. To assist with informing the traveling public, seasonally dependent desired level of service (LOS) and seasonal performance metrics can be established and monitored to assist with benchmarking management and maintenance activities and to support communication on how effectively maintenance activities are being delivered.

The establishment of seasonally dependent LOS sets a standard for each facility and allows for needs to easily be identified. The establishment of performance metrics further creates opportunities to identify whether improvements are needed once the plan is implemented, and how these improvements can be incorporated into plan updates and maintenance processes.

Step 2: Facility Audit

The existing conditions information gathered as part of the TPMP could be used as a basis for the facility audit. The audit will assist to understand the condition of facilities, where repairs/replacement/upgrades are needed, and the state of repair of facilities. Issues to be addressed include snow plowing, maintenance of winter routes, restroom and other visitor comfort facilities, maintenance of pullouts, and trail maintenance.

Table 2 provides an example of a facility audit which includes seasonally dependent LOS.

Table 2 Example Facility Audit, Including Level of Service

Facility [Motorized Access Lot]					
Amenity	Inventory	Standard LOS	Desired Winter LOS		
Driveways	2	TBD	TBD		
ADA Parking Stalls	4	TBD	TBD		
Standard Parking Stalls	96	TBD	TBD		
Oversize Parking Stalls	30	TBD	TBD		
Toilet Facility	4	TBD	TBD		
Picnic Area	0	0	0		
Bear Locker	0	0	0		
Interpretive Signage	1	TBD	TBD		
Trash Facility	4	TBD	TBD		
Emergency Phone	1	TBD	TBD		

Step 3: Define and Prioritize Maintenance Tasks

This step will involve evaluating each facility and determining what type of maintenance is needed to meet the identified seasonal LOS. Maintenance could be reactive (in response to breakages, facility deterioration or other needs), or proactive (i.e., cleaning restrooms, emptying trash cans, checking emergency cache facilities or other regular tasks). Defining maintenance tasks will enable agencies to define whether routine inspections are needed, establish priorities for maintenance activities (i.e., high, medium, or low priority), which agency will be responsible for maintenance, and whether specific maintenance tasks could be performed by clubs or other volunteer organizations.

Step 4: Schedule Maintenance Tasks

Once the maintenance priorities are defined, this will assist with scheduling a frequency for maintenance. Higher priority maintenance activities should be the focus when scheduling activities and determining the frequency. The scheduling process also provides a way to engage with agencies and volunteer organizations to confirm who will be lead/be responsible for the maintenance activities.

Step 5: Allocate Resources

Scheduling and confirming which agencies and organizations will lead/be responsible for maintenance activities will enable them to determine the resources needed to carry out maintenance tasks, confirm budget requirements, and assign activities to staff.

Step 6: Develop Health and Safety and Environmental Protocols

Task definition, priority, scheduling and understanding resources needed to accomplish maintenance activities is helpful to define whether any specific health and safety protocols are needed. Additionally, some maintenance activities may require additional environmental considerations (i.e., use of chemicals, activities on federal lands, etc.) which can be evaluated and managed through a maintenance strategy.

Step 7: Implement the Plan

The final step is strategy implementation, working between agencies and other partners to deliver the plan, measure its performance, and make changes where needed to support consistent maintenance within the Pass. Building a Collaborative Governance Framework a Five Step Process, developed by The National Policy Consensus Center at Portland State University identifies the importance of collaborative governance and the steps to develop a collaborative governance framework⁶.

These steps include:

- 1. Identify group purpose and nature of accountability
 - a. Develop a purpose statement by asking:
 - i. What is the group trying to accomplish together?
 - ii. Who will benefit from the work?
 - iii. Why is this the right group of people to do the work?
 - iv. Whom does the group need to involve in the work?
 - b. Establish the extent to which the group is required meet the needs of others, accountability may look like:
 - i. Notifications to others
 - ii. Involvement of other for input and evaluation
 - iii. Reporting results
- 2. Determine entity type
 - a. Several entity types exist, the following types should be considered for Management and Maintenance in The Pass
 - i. Coalition
 - ii. Standing Committee or Advisory Group
 - iii. Intergovernmental Partnership
- 3. Create a collaborative governance framework
 - a. Identify the following
 - i. Ground Rules

⁶ https://www.pdx.edu/policy-consensus-center/sites/policyconsensuscenter.web.wdt.pdx.edu/files/2020-06/1-Building-a-Collaborative-Governance-Framework.pdf

- ii. Powers and Duties
- iii. Governing Body Design
- iv. Decision-Making Process
- v. Member Roles and Responsibilities
- vi. Committee Design
- 4. Create governance documents
 - a. Establish the following documents:
 - i. Memorandum of Understanding (MOU) or Memorandum of Agreement (MOA)
 - ii. Intergovernmental Agreement
 - iii. Bylaws
- 5. Adapt the framework as the group evolves

7. Funding

Funding for maintenance and operations activities in Turnagain Pass is limited, and normally programmed as part of M&O activities by DOT&PF and USFS. Additional funding may be sourced through discretionary grants, or the USFS could consider user fees to supplement maintenance operations.

DOT&PF

The DOT&PF's M&O activities are funded through the state operating budget⁷. Annual budget allocations are allocated by region (Central, Northern, and Southcoast), and are used to fund core services for the state's highway, airport and harbor systems. Core services during fall and winter include snow plowing, sanding, salt brine application and avalanche control. During the summer core services include managing weight restrictions, pothole patching, guardrail and fence repair, sign repair and replacement, brush clearing, drainage cleaning and repair, erosion control, and bike path preservation. In addition, facilities are also funded through the state operating budget, and this includes maintaining restrooms.

USFS

The USFS manages 175 national forests and grasslands through its annual budget as provided by Congress and with supplemental funding allocated for specific purposes, such as the Inflation Reduction Act and the Bipartisan Infrastructure Law. This funding is used for a range of purposes, including for maintaining campgrounds, parking areas and restroom facilities.

Discretionary Grant Opportunities

In addition to allocated funding through operating budgets, agencies and other stakeholders may apply for and receive discretionary grants for projects and activities on public lands. Grant opportunities may be available through United States Department of Transportation, United States Department of Interior or other agencies. Grant opportunities are frequently for projects rather than maintenance, so applicants need to carefully review eligibility criteria.

User Fees

The Federal Lands Recreation Enhancement Act of 2005 (FLREA) authorizes the Secretaries of the Interior and Agriculture to establish, modify, charge, and collect recreation fees at Federal recreation lands and waters. Recreation fees that are collected are directly reinvested into the local recreation program and are commonly used for enhancing access, cleaning trash, maintaining facilities, and upgrading facilities to meet accessibility standards.

The USFS recreation fee program aims to achieve the following objectives:

1. Provide quality recreation opportunities, protect the environment from user-created damage, promote safe visitor experiences, and achieve financial sustainability in the short and long term

⁷ https://omb.alaska.gov/html/budget-report/department-table.html?dept=Trans&fy=22&type=Enacted

- 2. Strengthen the relationship among visitors, local communities, and the Forest Service by recognizing that recreation fees are an investment visitors make in recreational facilities and services and by using recreation fee revenues wisely
- **3.** Promote increased efficiency and cost reduction in providing recreational services and amenities
- **4.** Be accountable, efficient, responsive to visitors, and transparent in managing and spending recreation fee revenues

Recreation fees can either be Standard Amenity Fees or Expanded Amenity Fees. Each type of amenity fee considers the facility and user groups⁸.

- Standard Amenity Fees: Commonly found at USFS day use sites, including picnic areas, developed trailheads, and interpretation centers. Each site charging a standard amenity fee must provide at least the following six amenities picnic tables, trash receptacles, toilet facility, parking, interpretive signage, and security.
- Expanded Amenity Fee: Charged for specialized outdoor recreation sites and services that directly provide benefits to individuals or groups rather than to society as a whole, on the basis that the individual or group benefiting and receiving the direct service or using a specialized facility should be responsible for a greater share of the direct costs of providing the services or facility. Facilities that often have expanded amenity fees include campgrounds, boat launches, and cabins. Services that are also authorized to receive expanded amenity fees include hookups, dumps, and transportation systems.

Any amenity fee proposed for a site by the USFS must be subject to a public comment period and reviewed by an advisory committee before it can be implemented. Amenity fees are charged at only two sites in the Pass as of November 2024 - Bertha Creek Campground and Granite Creek Campground. The fees assessed at these sites goes directly to the maintenance and operation of the campgrounds.

⁸ https://www.fs.usda.gov/visit/passes-permits