



## **DRAFT Meeting Minutes**

**Date: March 2, 2021—6:00 – 7:30pm**

**Location: Via Zoom**

**Project: Girdwood Trails Plan Subcommittee Meeting**

Girdwood Trails Plan Subcommittee Voting members are defined as Girdwood residents or property owners age 18 years or older who have been appointed by the Girdwood Trails Committee to be a member of this subcommittee.

The Girdwood Board of Supervisors, its committees, and subcommittees are subject to the Alaska Open Meetings Act as found in Alaska Statute 44.62.310 and Anchorage Municipal Code 1.25 - Public Meetings.

All meetings are recorded and available to public as part of the public record.

### **Attendance**

Holly Spoth-Torres (GTP Contractor), Leah Buron (Huddle AK)

Committee Members: Ron Tenny, Deb Essex, Paul Crews, Carolyn Brodin, Jonathon Lee, Eileen Halverson, Jessica Szlag, Christina Cope Hendrickson, Nick Georgelos, Amanda Sassi  
Not present: Brenden Raymond-Yakoubian

Municipal Staff Members: Kyle Kelley (MOA), Shelley Rowton (MOA HLB)

Members of the Public: Kalie Harrison, Jeff Stevenson, Becky Germain, Amanda Piatt, Mike Edgington, Barbara Crews, Brianna Sullivan, Peter Zug, Krystal Hoke, Shannon O'Brien, Ryan Hutchins-Cabibi

HST asks for meeting to begin and starts recording.

R. Tenny opens meeting and asks for roll call.

Roll call given by HST.

Meeting begins 6:06pm.

K. Kelley gives quick overview of what the GTP is and why they meet since there were a lot of members of the public in attendance.

R. Tenny asks for approval of the March 2 agenda and asks for comments.

C. Cope Hendrickson made motion to approve

J. Lee seconded

P. Crews makes motion to amend the agenda by adding item #9 for discussion (Natural Area #30/Arlberg Area)

R. Tenny seconded

Discussion:

J. Lee-Would like to stop generating new proposals and finish work achieving consensus on the ones they already have.

P. Crews-This is an old proposal that was never discussed, and he thinks it needs to be reviewed.

C. Cope Hendrickson-She would like to keep her motion as is. She states they discussed the Arlberg area at length.

R. Tenny-The area being discussed is near airport land and a lot of the trails currently go into airport land. It is worth discussing alternative access in that area to accommodate for airport changes that may occur in the future and potentially restrict access in that area.

*Vote to amend the agenda by adding discussion item #9 (Natural Area #30/Arlberg Area)*

Nays: C. Brodin, J. Lee, C. Cope Hendrickson, E. Halverson

Abstain: J. Szelag

C. Cope Hendrickson asks for retally.

(Yea-5, Nays-4, Abstain-1)

Motion passes.

*Vote on amended March 2 agenda.*

Nays: C. Cope Hendrickson

Abstain: C. Brodin, J. Lee, E. Halverson

No discussion, motion passes.

R. Tenny asks for motion to approve February 2 meeting minutes and asks for comments.

C. Cope Hendrickson made motion to approve

A. Sassi seconded

No discussion, motion passes.

R. Tenny asks for motion to approve February 16 Special Meeting minutes.

C. Cope Hendrickson made motion to approve

P. Crews seconded

No discussion, motion passes.

## **NEW BUSINESS**

### Project Schedule

HST discusses schedule/next steps

- March 2, 2021 GTP Subcommittee Meeting: Review Schedule + Plan Outline
- April 6, 2021 GTP Subcommittee Meeting: Present Draft Trails Master Plan
- April 6 – May 4: GTP Subcommittee Reviews the Draft Trails Master Plan
- May 4, 2021 GTP Subcommittee Meeting: Collective committee comments due on the Draft Trails Master Plan
- Week of May 17, 2021: Public Meeting #2 – Present Public Review Draft to the broader community –Initiate 30-day public comment period.
- June 25, 2021: Approximate day that public comments will be due-public review comments will likely be incorporated into the final document.

*Schedule is approximate and subject to change.*

HST will look to K. Kelley for how many advisory committees the document will go to for review (will definitely go to Trails, GBOS, P&Z, UDC).

Discussion:

Q: C. Cope Hendrickson-Has this document been requested to go through Planning or any other MOA agency for review before the document goes to the public?

A: HST-Yes, it is built into the schedule that this document will go to Planning and HLB for review.

Q: C. Cope Hendrickson-Is there any concern that the schedule may be impacted by the upcoming mayoral election.

A: K. Kelley-No, they will continue with the schedule as proposed and if the change in administration requires a change to the schedule, they will make changes as necessary.

Q: R. Tenny-What happens if Imagine Girdwood decides we don't fit their model?

A: HST-The document will be coordinated with Imagine Girdwood.

Q: S. Rowton-How much time is HST building into the schedule for Staff review? Two-three weeks is min.

A: HST-We were planning for a meeting with HLB and Planning not a public document review. If an internal document review happens the schedule will have to shift to accommodate.

K. Kelley-Keep schedule as is and if they need to adjust they will let people know of the updated schedule. He would like to see this committees' comments on the draft plan before it goes to Planning/HLB for review.

S. Rowton-would like to receive a copy the draft plan document for a full review.

HST-She will provide S. Rowton with the document for review. HST and K. Kelley will follow up with Planning and HLB to let them know the committee is going to give their input on the draft prior to Planning and HLB seeing a copy.

E. Halverson-Thank you to all the committee volunteers for committing to this work and for being flexible with a schedule extension.

#### Draft Plan Outline

HST walks through the Draft Plan Outline:

- Executive Summary
- Introduction
- Existing Conditions
- Community & Stakeholder Engagement
- Plan Recommendations

Discussion:

Q: R. Tenny-How are the judgement calls of what ends up on the map being made on some of the trails that don't have consensus? Will K. Kelley and HST make a decision and then present it to the group or will the group need to come to a consensus?

A: HST-Based on all the input they have received so far, HST will make a recommendation for where she thinks the middle ground is and then the group will work together to find consensus.

Q: C. Cope Hendrickson-Will there be historical context/framework of existing plans/documents that the committee used as reference to generate the Existing Conditions report?

A: HST-Yes, there will be a list of documents included in the Existing Conditions section that were referenced to help them generate the report.

Q: J. Lee-Can HST identify in the Draft Plan the areas where there are competing proposals so they know which areas still need to be worked out?

A: HST-She will think that through.

#### Additional Trail Discussion-Upper Valley

P. Crews shares a packet of maps he prepared to discuss the Arlberg/Natural Area #30. He proposes a series of new trails to the #30 Natural Area based on extensive time he has spent out in that area.

Main points:

- Provide an alternative trail to town instead of pedestrians having to use Timberline Dr.
- Provide a trail in Natural Area #30, which would make the area more accessible to users and would help to prevent social braiding in that area.
- Address parking issue at Virgin Creek and provide a better trailhead for that neighborhood.

Discussion:

- People who use that area want it to stay as is, keep it primitive.
- When considering a trail plan that is 20 years out the committee should consider if that area can remain the way it is or if they need to consider growth?
- Timberline has lots of traffic so another route that is safer for kids is desirable.
- Plan for a future trail so that area doesn't get too braided.
- Some places should be set aside without trails and this should be one of them.
- The committee should make the social trail (#6 on the map) a permanent trail.
- The committee should consult the public as to whether or not they want a trail in that natural area. If the area of concern is on public land it should be decided by the public rather than by a small group of people.
- This is one of the only solutions that has been presented that serves to address access to Virgin Creek so whether or not they agree on P. Crews particular proposal a solution to that area should be discussed.
- Committee should consider hardening the Canyon Rim Trail in order to prevent social trail damage.
- If they put trails in that area, they need to be sure and address any potential user conflict.
- The committee needs to provide a route around airport land. (HST states they will work through the access issue)
- Maybe have alternatives and ask the public what they want.
- There needs to be connectivity across Glacier Creek to this network of trails.
- Need to figure out how to support existing infrastructure before adding to the trail system.

*Committee split on whether or not to include a loop trail in Natural Area #30 (black line on P. Crews map).*

C. Cope Hendrickson gives overview of her discussion with the Single-Track Advocates in how to address trail user group conflict.

- Separate paths by user type and limit interconnectivity among them
- Include specific standardized signage/inclusion of emergency locators
- Importance of the inclusion of Park Planners for coordination among groups/agencies

## **OLD BUSINESS**

### Public Comment

Krystal Hoke is not opposed to having a primitive trail (in Natural Area #30). As a mom with two kids, she feels Timberline is not a safe route for kids. She would prefer to be on a trail, even a primitive one.

Shannon O'Brien said there is an alternate trail in that area that goes under the bridge that many families are currently using. She is thankful to the committee for their time and devotion and to all the work they are doing. She hopes that GTS can come to a consensus so that everyone gets something (all user groups are accounted for). She thanks P. Crews and his wife for being out on the trails. She appreciates when people are actually out on the trails to get a better sense of how things work.

However, she feels just because a trail can be built somewhere doesn't mean they should. She hopes that all public comments that have been written in can go in a public comment bank. She was under the impression that she was commenting on a trails plan, so she would like to make sure all those comments are easy to follow and are considered in the plan.

K. Kelley states they keep all the public comments and that they are also recorded in the minutes. There is also a comment bank that the committee members have access to.

Shannon O'Brien states she would also like to see some trails that are just hiking trails. She reiterates the importance of each user group getting something, including the hikers.

Mike Edgington feels it is premature to be deciding on specific new trails within this forum. This is the first proposal he has seen that addresses the Virgin Creek parking area issue and he applauds the fact that someone is thinking about it.

Q: Is this the correct forum to be proposing new trails or are they just explaining how new trails would be proposed and this is the formal process?

A: HST-They are proposing new trails, however they are not proposing specifically on the ground where the trails would go, they are proposing higher level trail locations and setting guidelines for the specific projects if they get funded and built in the future. For example, they will give the proposed trail a name, decide how wide it should be, what surface it should be, what the proposed design use would be. It would have controlled parameters (i.e., where it will start and end). Then once funding is secured, then it will be decided exactly where on the ground that trail will go.

Q: M. Edgington-Essentially, they are picking "winners and losers?"

A: HST-The trail plan is developing a proposed trails network map that is supported by the community.

Kalie Harrison states that she is in agreement with S. O'Brien in that she hopes the final plan represents all the various user groups. One of the ways she feels this could be achieved is that not all trails would be mixed use. She agrees that Timberline is a busy road to walk on, but she feels that's not really a discussion for this group to mitigate. She thanks the group for all their work.

HST states that if people have something to say, but they don't want to say it in front of the group they are welcome to email her directly and the comments will be made part of the project record and distributed to the committee. [Holly@huddleAK.com](mailto:Holly@huddleAK.com)

K. Kelley says they are making progress and they have gotten through a lot of things, even if it seems like they still don't have consensus on some issues. There is true passion for what people want, which is unique to find. They will get there. Thank you to the committee for all their work. They have a lot of work to do over the next month.

R. Tenny calls for adjournment.

C. Cope Hendrickson motion to adjourn

R. Tenny seconded

Meeting adjourned 7:27pm

**From:** [Debra Croghan](#)  
**To:** [Holly Spoth-Torres](#)  
**Cc:** [kyle.kelley@anchorageak.gov](mailto:kyle.kelley@anchorageak.gov); [ron10e@gmail.com](mailto:ron10e@gmail.com)  
**Subject:** GTP subcommittee  
**Date:** Monday, February 08, 2021 12:43:52 PM

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Hello and good afternoon Holly,

I appreciate you adding my name as public in attendance and mostly for writing a synopsis regarding my opinion of the comment that was made by a subcommittee person towards another subcommittee person.

I also appreciate that the public is able to attend zoom meetings & does have a few minutes to make comments at the end of the agenda which was my understanding of the process from the start of this subcommittee. I understand these subcommittee meetings are not the time for the public to weigh in at length. I do however think because of what transpired (which in my opinion) was indeed not warranted, unnecessary, not true and very rude ~ you will reiterate to sub members that during these meetings a code of professionalism and respect is expected and necessary.

There are differences of specifics to the many topics that this subcommittee is responsible for discussion. I so don't want to believe that sub members have a personal agenda , rather I want to believe that everyone on this subcommittee is of the same basic mind set that ideas and thoughts are for the best Girdwood Valley can be!

Holly, Kyle and Ron feel free to include this (my) message in any fashion you feel in appropriate!

Sincerely,  
Debra Croghan

## Holly Spoth-Torres

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**From:** Jeffrey Stevenson <inthedrift@gmail.com>  
**Sent:** Tuesday, March 02, 2021 8:27 PM  
**To:** Holly Spoth-Torres  
**Subject:** Trails meeting 3/2.

Thanks for your time tonight! I wanted to comment on concept of adding trails to the timberline area. I like the concept and the detail of the trailhead to encompass the whole area including Virgian creek. I am very concerned with Paul's concept of a minimal trail, any trail in that area will bring more people and soon be overwhelmed. If you build it, they will come. Virgin Creek trail is the perfect example of that. Any trail in that area needs to be included with a long term plan with parking included. Also there was a negative comment from a member stating Virgian Creek hikers would not be willing to "hike" any further then from the trail head, I don't agree. If there is a dedicated place to park, I think the majority of people would comply.

Secondly, I wanted to point out the discussion with STA in regards to dedicated use trails. My understanding is that trails in Anchorage are managed by STA are classified as multi use. I would be cautious to use this as a solution to trail conflict.

Thanks for hearing my thoughts. Please contact me with questions you have.

Jeff Stevenson

**From:** [Sally Randich](#)  
**To:** [carolyn\\_brodin@hotmail.com](mailto:carolyn_brodin@hotmail.com)  
**Cc:** [Holly Spoth-Torres](#); [mike.edgington@gmail.com](mailto:mike.edgington@gmail.com); [kyle.kelley@anchorageak.gov](mailto:kyle.kelley@anchorageak.gov)  
**Subject:** Public Comment Joe Danish Trail  
**Date:** Sunday, February 28, 2021 9:46:52 AM

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As a resident of Girdwood I am concerned by the planned expansion of bike trails in this valley. It is important that a balance be maintained between the pedestrian and the wild, sacred places that exist in this beautiful place.

Experiencing the tourist traffic at the end of Timberline Drive and the subsequent ill use of the forest on the path to the falls and the resultant busyness of a once quiet neighborhood cul-de-sac, I am wondering how opening up multiple loops in the Alta Meadow area will impact the surrounding neighborhood.

Will cars park along the street? Will there be more foot traffic, dogs, and children? Will you impact a once narrow and primitive path that winds along the creek? Will opening up this route bring scores of visitors into the heart of our valley? Where locals reside?

Is it not advantageous to leave developed trails in closer proximity to the resort? Why must a trail that the people in the Alta/Alpina neighborhood use to get away from the bustle of living in a resort town be expanded?

Not every trail in Girdwood should be designated as a bike trail. There are all kinds of trail experiences and not every trails needs to be designated multi use. I enjoy walking or skiing that trail almost daily and it is relaxing to know I do not need to keep my ears tuned to the whir of bike wheels and look for a place to step off the path.

Thank you for your time and devoted efforts to Girdwood.

Sally Randich

Sent from my iPad

Comment to Girdwood Trails Planning Subcommittee  
February 28, 2021  
Submitted by Paul Crews, subcommittee member

Dear subcommittee members:

We have accomplished a lot during the past several months, however, two areas on the map in particular come to my attention as areas where we have not thoroughly thought through the planning process in order to fulfill our mutually agreed values.

### **Upper Timberline area below Turin Drive**

Some of our agreed upon values are: “trails and natural spaces out your doorstep”, “close proximity”, “something for everyone”, “connectivity”, “practical transportation”. I do not feel that many of the trails we have drawn on the map fulfill these values. Where are the trails where neighborhood kids can ride their bikes through the woods near their homes? Why do the neighborhood residents need to drive two miles to access a variety of cross country skiing after work? Why do we not connect upper Timberline drive to downtown with a commuter trail?

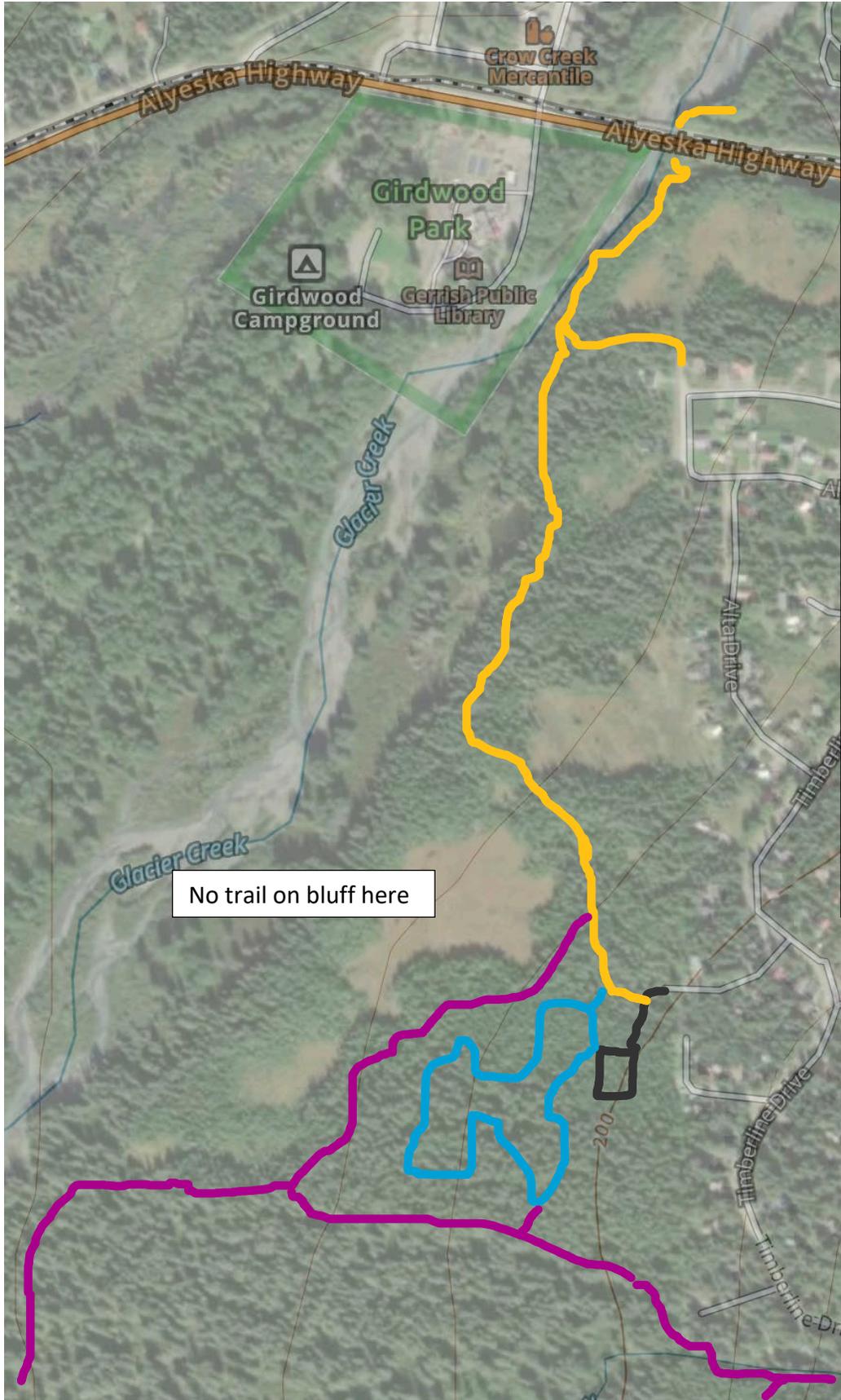
The area below Turin Drive can be a great place to build trails. The land is well drained with gravel beneath relatively thin topsoil. The gently sloping ground lays at a perfect angle to accommodate easily built benched trails that drain well. The timber is widely spaced so few trees would need to be removed in order to build narrow trails.

Except for the unsustainable and eroded social trail that begins at Turin Drive and the Lower Virgin Creek unimproved trail that has a nearly secret entrance, this area is seldom visited by our residents. The extensive areas of fallen timber makes travel extremely difficult. It is almost impossible to walk through parts of that forest. We should cut through the wind fall trees and build narrow trails there that fulfill our values.

This is beautiful forest that we should be able to share with our neighbors and children via trail access. We should have a trail here that takes us to downtown without using the roads or our cars. It would be nice to ski or bike or walk from upper Timberline to the post office.

I am in my 70's now, I am healthy and I am still able to fight my way over the deadfall trees. I would like to have trails through that forest so that I can still enjoy that nature when I become physically less able. We should consider our less physically able citizens and provide access for all generations and abilities.

We are surrounded by open space. We should utilize open space near our homes for easily accessed trail experiences.



No trail on bluff here

### Timberline Trails

**Black** Timberline Neighborhood Park and Trailhead. Parking for Virgin Creek. Gazebo and restrooms. Playground.

**YELLOW** Class 3 commuter trail

**Purple** Hardened class 2 trails

**Blue** Narrow class 3 hardened Summer biking and hiking/winter classic ski trail

Wide buffer from Turin Dr and Carolina Dr



Timberline Gravel



Typical Timberline Windfall tree

## Upper Valley Trails

### Canyon Rim Trail

A Canyon Rim Trail should be hardened for sustainability and for mitigation of social trails. Hikers will leave the trail if it is not hardened. This trail should connect to the cat road away from Winner Creek Trail.

### Previous Forest Loop area

This is the best location in the study area for easy to build and sustainable trails. It is relatively flat with enough terrain variation to support easy but interesting narrow hiking/biking /classic ski trails. The timber is well spaced so very few trees would need to be removed to allow narrow trails. Gravel is beneath a shallow root mat everywhere.





## IMO Trail Class Matrix

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
<b>Tread &amp; Traffic Flow</b>	<ul style="list-style-type: none"> <li>Tread intermittent and often indistinct</li> <li>May require route finding</li> <li>Single lane with no allowances constructed for passing</li> <li>Predominantly native materials</li> </ul>	<ul style="list-style-type: none"> <li>Tread continuous and discernible, but narrow and rough</li> <li>Single lane with minor allowances constructed for passing</li> <li>Typically native materials</li> </ul>	<ul style="list-style-type: none"> <li>Tread continuous and obvious</li> <li>Single lane, with allowances constructed for passing where required by traffic volumes in areas with no reasonable passing opportunities available</li> <li>Native or imported materials</li> </ul>	<ul style="list-style-type: none"> <li>Tread wide and relatively smooth with few irregularities</li> <li>Single lane, with allowances constructed for passing where required by traffic volumes in areas with no reasonable passing opportunities available</li> <li>Double lane where traffic volumes are high and passing is frequent</li> <li>Native or imported materials</li> <li>May be hardened</li> </ul>	<ul style="list-style-type: none"> <li>Tread wide, firm, stable, and generally uniform</li> <li>Single lane, with frequent turnouts where traffic volumes are low to moderate</li> <li>Double lane where traffic volumes are moderate to high</li> <li>Commonly hardened with asphalt or other imported material</li> </ul>
<b>Obstacles</b>	<ul style="list-style-type: none"> <li>Obstacles common, naturally occurring, often substantial and intended to provide increased challenge</li> <li>Narrow passages; brush, steep grades, rocks and logs present</li> </ul>	<ul style="list-style-type: none"> <li>Obstacles may be common, substantial, and intended to provide increased challenge</li> <li>Blockages cleared to define route and protect resources</li> <li>Vegetation may encroach into trailway</li> </ul>	<ul style="list-style-type: none"> <li>Obstacles may be common, but not substantial or intended to provide challenge</li> <li>Vegetation cleared outside of trailway</li> </ul>	<ul style="list-style-type: none"> <li>Obstacles infrequent and insubstantial</li> <li>Vegetation cleared outside of trailway</li> </ul>	<ul style="list-style-type: none"> <li>Obstacles not present</li> <li>Grades typically &lt; 8%</li> </ul>
<b>Constructed Features &amp; Trail Elements</b>	<ul style="list-style-type: none"> <li>Structures minimal to non-existent</li> <li>Drainage typically accomplished without structures</li> <li>Natural fords</li> <li>Typically no bridges</li> </ul>	<ul style="list-style-type: none"> <li>Structures of limited size, scale, and quantity; typically constructed of native materials</li> <li>Structures adequate to protect trail infrastructure and resources</li> <li>Natural fords</li> <li>Bridges as needed for resource protection and appropriate access</li> </ul>	<ul style="list-style-type: none"> <li>Structures may be common and substantial; constructed of imported or native materials</li> <li>Natural or constructed fords</li> <li>Bridges as needed for resource protection and appropriate access</li> </ul>	<ul style="list-style-type: none"> <li>Structures frequent and substantial; typically constructed of imported materials</li> <li>Constructed or natural fords</li> <li>Bridges as needed for resource protection and user convenience</li> <li>Trailside amenities may be present</li> </ul>	<ul style="list-style-type: none"> <li>Structures frequent or continuous; typically constructed of imported materials</li> <li>May include bridges, boardwalks, curbs, handrails, trailside amenities, and similar features</li> </ul>
<b>Signs<sup>2</sup></b>	<ul style="list-style-type: none"> <li>Route identification signing limited to junctions</li> <li>Route markers present when trail location is not evident</li> <li>Regulatory and resource protection signing infrequent</li> <li>Destination signing, unless required, generally not present</li> <li>Information and interpretive signing generally not present</li> </ul>	<ul style="list-style-type: none"> <li>Route identification signing limited to junctions</li> <li>Route markers present when trail location is not evident</li> <li>Regulatory and resource protection signing infrequent</li> <li>Destination signing typically infrequent outside of wilderness; generally not present in wilderness</li> <li>Information and interpretive signing not common</li> </ul>	<ul style="list-style-type: none"> <li>Route identification signing at junctions and as needed for user reassurance</li> <li>Route markers as needed for user reassurance</li> <li>Regulatory and resource protection signing may be common</li> <li>Destination signing likely outside of wilderness; generally not present in wilderness</li> <li>Information and interpretive signs may be present outside of wilderness</li> </ul>	<ul style="list-style-type: none"> <li>Route identification signing at junctions and as needed for user reassurance</li> <li>Route markers as needed for user reassurance</li> <li>Regulatory and resource protection signing common</li> <li>Destination signing common outside of wilderness; generally not present in wilderness</li> <li>Information and interpretive signs may be common outside of wilderness</li> <li>Accessibility information likely displayed at trailhead</li> </ul>	<ul style="list-style-type: none"> <li>Route identification signing at junctions and for user reassurance</li> <li>Route markers as needed for user reassurance</li> <li>Regulatory and resource protection signing common</li> <li>Destination signing common</li> <li>Information and interpretive signs common</li> <li>Accessibility information likely displayed at trailhead</li> </ul>
<b>Typical Recreation Environments &amp; Experience<sup>3</sup></b>	<ul style="list-style-type: none"> <li>Natural, unmodified</li> <li>ROS: Typically Primitive to Roaded Natural</li> <li>WROS: Typically Primitive to Semi-Primitive</li> </ul>	<ul style="list-style-type: none"> <li>Natural, essentially unmodified</li> <li>ROS: Typically Primitive to Roaded Natural</li> <li>WROS: Typically Primitive to Semi-Primitive</li> </ul>	<ul style="list-style-type: none"> <li>Natural, primarily unmodified</li> <li>ROS: Typically Primitive to Roaded Natural</li> <li>WROS: Typically Semi-Primitive to Transition</li> </ul>	<ul style="list-style-type: none"> <li>May be modified</li> <li>ROS: Typically Semi-Primitive to Roaded Natural to Rural setting</li> <li>WROS: Typically Portal or Transition</li> </ul>	<ul style="list-style-type: none"> <li>May be highly modified</li> <li>Commonly associated with visitor centers or high-use recreation sites</li> <li>ROS: Typically Roaded Natural to Urban</li> <li>Generally not present in Wilderness</li> </ul>

## TMO Design Parameter Matrices

Designed Use HIKER/PEDESTRIAN		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	Wilderness (Single Lane)	0" – 12"	6" – 18"	12" – 24" Exception: may be 36" – 48" at steep side slopes	18" – 24" Exception: may be 36" – 48" at steep side slopes	Not applicable
	Non-Wilderness (Single Lane)	0" – 12"	6" – 18"	18" – 36"	24" – 60"	36" – 72"
	Non-Wilderness (Double Lane)	36"	36"	36" – 60"	48" – 72"	72" – 120"
	Structures (Minimum Width)	18"	18"	18"	36"	36"
Design Surface	Type	Native, ungraded  May be continuously rough	Native, limited grading  May be continuously rough	Native with some onsite borrow or imported material where needed for stabilization, occasional grading  Intermittently rough	Native with improved sections of borrow or imported material, routine grading  Minor roughness	Likely imported material, routine grading  Uniform, firm, and stable
	Protrusions	≤ 24"  Likely common and continuous	≤ 6"  May be common and continuous	≤ 3"  May be common, not continuous	≤ 3"  Uncommon, not continuous	No protrusions
	Obstacles (Maximum Height)	24"	14"	10"	8"	No obstacles
Design Grade	Target Grade	5% – 25%	5% – 18%	3% – 12%	2% – 10%	2% – 5%
	Short Pitch Maximum	40%	35%	25%	15%	5% FSTAG: 5% – 12% <sup>2</sup>
	Maximum Pitch Density	20% – 40% of trail	20% – 30% of trail	10% – 20% of trail	5% – 20% of trail	0% – 5% of trail
Design Cross Slope	Target Cross Slope	Natural side slope	5% – 20%	5% – 10%	3% – 7%	2% – 3% (or crowned)
	Maximum Cross Slope	Natural side slope	25%	15%	10%	3%
Design Clearing	Height	6'	6' – 7'	7' – 8'	8' – 10'	8' – 10'
	Width	≥ 24"  Some vegetation may encroach into clearing area	24" – 48"  Some light vegetation may encroach into clearing area	36" – 60"	48" – 72"	60" – 72"
	Shoulder Clearance	3" – 6"	6" – 12"	12" – 18"	12" – 18"	12" – 24"
Design Turn	Radius	No minimum	2' – 3'	3' – 6'	4' – 8'	6' – 8'

Design Parameters courtesy of the USDA.

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	Single Lane	6" – 12"	12" – 24"	18" – 36"	24" – 48"	36" – 60"
	Double Lane	36" – 48"	36" – 48"	36" – 48"	48" – 84"	72" – 120"
	Structures (Minimum Width)	18"	18"	36"	48"	60"
Design Surface	Type	Native, un-graded May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native, limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common	Native with some onsite borrow or imported material where needed for stabilization, occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present, but not common	Native, routine grading with improved sections of borrow or imported materials Stable with minor roughness	Likely imported material, routine grading Uniform, firm, and stable
	Protrusions	≤ 24" Likely common and continuous	≤ 6" May be common and continuous	≤ 3" May be common, not continuous	≤ 3" Uncommon, not continuous	No protrusions
	Obstacles (Maximum Height)	24"	12"	10"	8"	No obstacles
Design Grade	Target Grade	5% – 20%	5% – 12%	3% – 10%	2% – 8%	2% – 5%
	Short Pitch Maximum	30% 50% on downhill-only segments	25% 35% on downhill-only segments	15%	10%	8%
	Maximum Pitch Density	20% – 30% of trail	10% – 30% of trail	10% – 20% of trail	5% – 10% of trail	0% – 5% of trail
Design Cross Slope	Target Cross Slope	5% – 10%	5% – 8%	3% – 8%	3% – 5%	2% – 3%
	Maximum Cross Slope	10%	10%	8%	5%	5%
Design Clearing	Height	6'	6' – 8'	8'	8' - 9'	8' - 9'
	Width	24" – 36" Some vegetation may encroach into clearing area	36" – 48" Some light vegetation may encroach into clearing area	60" – 72"	72" – 96"	72" – 96"
	Shoulder Clearance	0' – 12"	6" – 12"	6" – 12"	6" – 18"	12" – 18"
Design Turn	Radius	2' – 3'	3' – 6'	4' – 8'	8' – 10'	8' - 12'

Design Parameters courtesy of the USDA.

Designed Use <b>CROSS-COUNTRY SKI</b>		<b>Trail Class 1</b>	<b>Trail Class 2</b>	<b>Trail Class 3</b>	<b>Trail Class 4</b>	<b>Trail Class 5</b>
<b>Design Groomed Width</b>	<b>Single Lane</b>	Typically not designed or actively managed for cross-country skiing	2' – 4' Typically not groomed	6' – 8' (or width of grooming equipment)	8' – 10" (or width of grooming equipment)	Typically not designed or actively managed for cross-country skiing
	<b>Double Lane</b>		6' – 8'	8' – 12'	12' – 16'	
	<b>Structures</b> (Minimum Width)		36"	36"	36"	
<b>Design Grooming and Surface</b>	<b>Type</b>		Generally no machine grooming	May receive occasional machine grooming for snow compaction and track setting	Regular machine grooming for snow compaction and track setting	
	<b>Protrusions</b>		No protrusions	No protrusions	No protrusions	
	<b>Obstacles</b> (Maximum Height)		12" Uncommon	8" Uncommon (no obstacles if machine groomed)	No obstacles	
<b>Design Grade</b>	<b>Target Grade</b>		5% – 15%	2% – 10%	0% – 8%	
	<b>Short Pitch Maximum</b>		25%	20%	12%	
	<b>Maximum Pitch Density</b>		10% – 20% of trail	5% – 15% of trail	0% – 10% of trail	
<b>Design Cross Slope</b>	<b>Target Cross Slope</b>	0% – 10%	0% – 5%	0% – 5%		
	<b>Maximum Cross Slope</b> (For up to 50')	20%	15%	10%		
<b>Design Clearing</b>	<b>Height</b> (Above normal maximum snow level)	6' – 8'	8' (or height of grooming machinery)	8' – 10'		
	<b>Width</b>	24" – 60" Light vegetation may encroach into clearing area	72" – 20" Light vegetation may encroach into clearing area	96" – 168" Widen clearing at turns or if increased sight distance needed		
	<b>Shoulder Clearance</b>	0" – 6"	0" – 12"	0" – 24"		
<b>Design Turn</b>	<b>Radius</b>	8' – 10'	15' – 20' (or to accommodate grooming equipment)	≥ 25'		