

# Turnagain Pass Master Plan

## Phase One Summary

February 2024



# TABLE OF CONTENTS

<b>1. EXISTING CONDITIONS</b>	<b>1-1</b>
<b>1-1. STATE, REGIONAL, AND LOCAL PLANS</b>	<b>1-2</b>
1-1.1. Chugach National Forest Land Management Plan (2020)	1-2
1-1.2. DOT&PF Seward Highway Corridor Partnership Plan (1998)	1-5
1-1.3. DOT&PF Seward Highway Corridor Study MP 0-90 (2022 DRAFT)	1-6
1-1.4. Kenai Peninsula Borough Area Plan (2001)	1-6
1-1.5. Kenai Peninsula Borough Comprehensive Plan (2019)	1-7
<b>1-2. RECREATION INFRASTRUCTURE</b>	<b>1-8</b>
1-2.6. Existing Corridor	1-8
<b>1-3. PARKING AREAS AND ROADSIDE PULLOUTS</b>	<b>1-10</b>
<b>1-4. RECREATIONAL INFRASTRUCTURE</b>	<b>1-11</b>
1-4.1. Trails and Trailheads	1-11
1-4.2. Camping	1-15
<b>1-5. CURRENT TRAFFIC TRENDS</b>	<b>1-16</b>
1-5.1. Facility Characteristics	1-16
<b>1-6. TRAFFIC CHARACTERISTICS</b>	<b>1-19</b>
<b>1-7. EXISTING TRAFFIC NEEDS</b>	<b>1-20</b>
1-7.1. Segment Capacity	1-20
1-7.2. Safety Analysis	1-23
<b>1-8. EXISTING UTILITY INFRASTRUCTURE</b>	<b>1-24</b>
<b>1-9. EMERGENCY SERVICES AND SAFETY CONSIDERATIONS</b>	<b>1-26</b>
<b>1-10. CULTURAL SIGNIFICANCE OF THE AREA AND ENVIRONMENTAL CONSIDERATIONS</b>	<b>1-28</b>
1-10.1. Cultural and Historical Significance	1-28
1-10.2. Parklands or Other Special Land Uses	1-32
1-10.3. Contaminated Sites	1-34
1-10.4. Climate Change and Air Quality	1-36
1-10.5. Waterbodies, Floodplains, and Wetlands	1-37
1-10.6. Threatened and Endangered Species	1-39
1-10.7. Fish and Wildlife	1-41
<b>1-11. OPERATIONS AND MAINTENANCE</b>	<b>1-44</b>
<b>1-12. FEES, PERMITS AND REVENUE</b>	<b>1-46</b>
<b>1-13. NEXT STEPS AND RECOMMENDATIONS</b>	<b>1-47</b>
<b>2. PUBLIC ENGAGEMENT</b>	<b>2-50</b>
<b>2-1. STAKEHOLDER IDENTIFICATION AND OUTREACH</b>	<b>2-51</b>
<b>2-2. OPEN HOUSES</b>	<b>2-53</b>
2-2.1. Display Boards	2-54
<b>2-3. TRIBAL CONSULTATION</b>	<b>2-56</b>
<b>2-4. STAKEHOLDER INTERVIEW MEETING   GENERAL</b>	<b>2-57</b>
2-4.1. Attendees	2-57
2-4.2. Summary	2-57
<b>2-5. STAKEHOLDER INTERVIEW MEETING   BIKING</b>	<b>2-60</b>
2-5.1. Attendees	2-60
2-5.2. Summary	2-60

2-5.3. Sketches from Lee Bolling .....	2-61
<b>2-6. STAKEHOLDER INTERVIEW MEETING   MOTORIZED .....</b>	<b>2-64</b>
2-6.1. Attendees .....	2-64
2-6.2. Summary .....	2-64
<b>2-7. STAKEHOLDER INTERVIEW MEETING   PUBLIC SAFETY AND AVALANCHE.....</b>	<b>2-66</b>
2-7.1. Attendees .....	2-66
2-7.2. Summary .....	2-66
<b>2-8. STAKEHOLDER INTERVIEW MEETING   TOURISM.....</b>	<b>2-68</b>
2-8.1. Attendees .....	2-68
2-8.2. Summary .....	2-68
<b>2-9. STAKEHOLDER INTERVIEW MEETING   COMMERCIAL MOTORIZED .....</b>	<b>2-69</b>
2-9.1. Attendees .....	2-69
2-9.2. Summary .....	2-69
<b>2-10. MOOSE PASS OPEN HOUSE SUMMARY .....</b>	<b>2-71</b>
2-10.1. Summary of Comments Received During the Open House .....	2-71
2-10.2. Action Items .....	2-73
<b>2-11. GIRDWOOD OPEN HOUSE SUMMARY.....</b>	<b>2-78</b>
2-11.1. Summary of Comments Received During the Open House .....	2-78
<b>2-12. ANCHORAGE OPEN HOUSE SUMMARY .....</b>	<b>2-86</b>
2-12.1. Summary of Comments Received During the Open House .....	2-86
<b>3. DEMAND MANAGEMENT ANALYSIS .....</b>	<b>3-94</b>
<b>3-1. PURPOSE.....</b>	<b>3-96</b>
<b>3-2. METHODS .....</b>	<b>3-96</b>
3-2.1. Site Data.....	3-96
3-2.2. Visitor Information .....	3-98
3-2.3. Multivariate Regression .....	3-100
<b>3-3. RESULTS .....</b>	<b>3-102</b>
3-3.1. 85 <sup>th</sup> Percentile Visit Duration .....	3-102
3-3.2. Daily Vehicle Count .....	3-104
3-3.3. Peak Occupancy .....	3-105
3-3.4. Summary Results.....	3-106
<b>3-4. RECOMMENDED DEMAND MANAGEMENT STRATEGIES .....</b>	<b>3-107</b>
<b>4. NEEDS ASSESSMENT .....</b>	<b>4-110</b>
<b>4-1. INTRODUCTION .....</b>	<b>4-111</b>
<b>4-2. NEEDS IDENTIFICATION.....</b>	<b>4-111</b>
<b>4-3. NEEDS IDENTIFIED.....</b>	<b>4-113</b>
<b>4-4. SCREENING AND PRIORITIZING NEEDS .....</b>	<b>4-118</b>
<b>4-5. NEXT STEPS .....</b>	<b>4-120</b>
<b>5. APPENDICES .....</b>	<b>5-121</b>

# FIGURES

Figure 1-a Turnagain Pass Study Area.....	1-8
Figure 1-1 Existing Recreation Locations .....	1-9
Figure 1-2 Existing Trails .....	1-14
Figure 1-3 Ascending and Descending Roadway Segments Identified .....	1-18
Figure 1-4 Ascending and Descending Roadway Segment Level of Service .....	1-22
Figure 1-5 Existing Overhead Electric Line .....	1-25
Figure 1-6 Existing Emergency Services Locations.....	1-27
Figure 1-7 Existing AHRS Sites.....	1-30
Figure 1-8 Turnagain Arm National Heritage Area – Kenai Mountains .....	1-31
Figure 1-9 Map of Chugach National Forest .....	1-33
Figure 1-10 Map of ADEC Contaminated Sites .....	1-35
Figure 1-11 National Wetlands Inventory and Locations within Study Area.....	1-38
Figure 1-12 Location of Cook Inlet Beluga Critical Habitat in Relation to Study Area .....	1-40
Figure 1-13 Map of NHD and ADF&G Anadromous Streams within Study Area .....	1-42
Figure 1-14 DOT&PF M&O Peninsula District’s Silvertip Station.....	1-44
Figure 1-15 Rocky Area Along Seward Highway Through Turnagain Pass.....	1-44
Figure 1-16 Restroom at the Motorized Lot in Turnagain Pass during Snowy Conditions .....	1-45
Figure 1-17 Center Ridge Trailhead Pictured with a Dusting of Snow .....	1-45
Figure 1-18 Official Rest Area for Turnagain Pass Located at Canyon Creek.....	1-45
Figure 2-1 Open House Floor Plan .....	2-53
Figure 2-2 Open House Display Boards 1-4 of 7 .....	2-54
Figure 2-3 Open House Display Boards 5-7 of 7 .....	2-55
Figure 2-4 Bolling Sketch – Showing Potential Singletrack Routes.....	2-62
Figure 2-5 Bolling Sketch – Showing Potential Singletrack Routes with Downhill .....	2-63
Figure 2-6: Attendees Gathered Around an Aerial Roll Plot of the Turnagain Pass Study Area at Moose Pass Sportsman Club .....	2-73
Figure 2-7 Moose Pass Open House Full Roll Plot Map with Comments.....	2-74
Figure 2-8 Moose Pass Roll Plot Map with Comments Section One.....	2-75
Figure 2-9 Moose Pass Roll Plot Map with Comments Section Two .....	2-76
Figure 2-10 Moose Pass Roll Plot Map with Comments Section Three.....	2-77
Figure 2-11 Attendees Gathered Around an Aerial Roll Plot of the Turnagain Pass Study Area in the Girdwood Community Room.....	2-78
Figure 2-12 Girdwood Community Room Roll Plot with Comments .....	2-81
Figure 2-13 Girdwood Community Room Roll Plot with Comments Section One.....	2-82
Figure 2-14 Girdwood Community Room Roll Plot with Comments Section Two.....	2-83
Figure 2-15 Girdwood Community Room Roll Plot with Comments Section Three .....	2-84
Figure 2-16 Comments Received at Girdwood Community Room Open House .....	2-85
Figure 2-17 Attendees Gathered Around Roll Plot of Turnagain Pass Study Area at REI, Anchorage.....	2-87
Figure 2-18 Anchorage Open House Roll Plot with Comments .....	2-88
Figure 2-19 Anchorage Open House Roll Plot with Comments Section One.....	2-89
Figure 2-20 Anchorage Open House Roll Plot with Comments Section Two.....	2-90
Figure 2-21 Anchorage Open House Roll Plot with Comments Section Three .....	2-91
Figure 2-22 Public Feedback – Edited for Anonymity.....	2-92
Figure 2-23 Public Stakeholders – Some Information Redacted for Privacy .....	2-93
Figure 3-1 Turnagain Pass Study Area.....	3-95
Figure 3-2 Strava Global Heat Map Near Tincan and Center Ridge Access Points .....	3-98

## TABLES

<i>Table 1-1 Ascending Roadway Segment Characteristics</i> .....	1-16
<i>Table 1-2 Descending Roadway Segment Characteristics</i> .....	1-16
<i>Table 1-3 Traffic Volumes</i> .....	1-19
<i>Table 1-4 Ascending Roadway Segment Operations</i> .....	1-21
<i>Table 1-5 Descending Roadway Segment Operations</i> .....	1-21
<i>Table 1-6 Crash Rates Reflected from 2013 to 2021</i> .....	1-23
<i>Table 1-7 ADEC Contaminated Sites Including Status and Location</i> .....	1-34
<i>Table 1-8 Wetlands and Acreage within Study Area</i> .....	1-37
<i>Table 1-9 Anadromous Streams Crossed by Study Area and the Associated Species</i> .....	1-41
<i>Table 2-1 Stakeholder Interview Meeting Groups Including Invited Organizations, Attendees, and Date</i> .....	2-52
<i>Table 3-1 Unique Visitor Characteristics by Site Type</i> .....	3-100
<i>Table 3-2 Variable Selection Process</i> .....	3-101
<i>Table 3-3 Refined Dependent Variable List</i> .....	3-102
<i>Table 3-4 85<sup>th</sup> Percentile Visit Duration (minutes) Initial Regression Summary</i> .....	3-103
<i>Table 3-5 85<sup>th</sup> Percentile Visit Duration (minutes) Final Regression Summary</i> .....	3-103
<i>Table 3-6 Daily Vehicle Count Initial Regression Summary</i> .....	3-104
<i>Table 3-7 Daily Vehicle Count Final Regression Summary</i> .....	3-104
<i>Table 3-8 Peak Occupancy Initial Regression Summary</i> .....	3-105
<i>Table 3-9 Peak Occupancy Final Regression Summary</i> .....	3-105
<i>Table 3-10 Dependent Variable Relationships</i> .....	3-106
<i>Table 4-1 Study Area Facilities</i> .....	4-112
<i>Table 4-2 Stakeholder Identified Needs Summary</i> .....	4-114
<i>Table 4-3 Suggested Evaluation Criteria</i> .....	4-119

## APPENDICES

<i>Appendix 1-1 FHWA Site Visit Summary August 2022</i> .....	5-122
<i>Appendix 2-1 Outreach Materials</i> .....	5-153
<i>Appendix 3-1 Data Collection Locations and Date(s) (MP 75 to 70)</i> .....	5-164
<i>Appendix 3-2 Data Collection Locations and Date(s) (MP 70 to 66)</i> .....	5-166
<i>Appendix 3-3 Data Collection Locations and Date(s) (MP 66 to 56)</i> .....	5-168
<i>Appendix 3-4 Visitor Information by Site and Day</i> .....	5-170

# ACRONYMS

AADT	Average Annual Daily Traffic
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
AHRS	Alaska Heritage Resources Survey
ANILCA	Alaska National Interest Lands Conservation Act
ATIA	Alaska Travel Industry Association
ATV	All-Terrain Vehicle
AWC	Anadromous Waters Catalog
DMA	Demand Management Analysis
DOT&PF	Alaska Department of Transportation and Public Facilities
CAA	Clean Air Act
CNFAIC	Chugach National Forest Avalanche Information Center
CNFLMP	Chugach National Forest Land Management Plan
EMS	Emergency Medical Services
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highways Administration
GHG	Greenhouse Gas
GNSC	Girdwood Nordic Ski Club
INHT	Iditarod National Historic Trail
KMTA	Kenai Mountains-Turnagain Arm
KMTA NHA	Kenai Mountains-Turnagain Arm National Historic Area
KPB	Kenai Peninsula Borough
KPBAP	Kenai Peninsula Borough Area Plan
LUST	Leaking Underground Storage Tanks
LWCF	Land and Water Conservation Fund Act
MMPA	Marine Mammal Protection Act
MSB	Matanuska-Susitna Borough
M&O	Maintenance and Operations
MP	Milepost
MPH	Miles Per Hour
MRA	Multivariate Regression Analysis
MVMT	Million Vehicle Miles Traveled
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
NHPA	National Historic Preservation Act
NPS	National Parks Service
NWI	National Wetland Inventory
OHA	Office of History and Archeology
DPS	District Population Segment
ROW	Right-of-Way
RV	Recreational Vehicle
The Pass	Turnagain Pass Study Area
TPMP	Turnagain Pass Master Plan
USFS	United States Forest Service
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USFWS	United State Fish and Wildlife Service
VPD	Vehicles Per Day
WFLHD	Western Federal Lands – Highway Division

**This page is intentionally  
left blank**



# EXECUTIVE SUMMARY

The Turnagain Pass Master Plan, Phase One Summary, provides preliminary research to support long-term guidance for future corridor improvements with a focus on safety and recreational access. It is a collaborative planning effort between the United States Forest Service (USFS), Alaska Department of Transportation and Public Facilities (DOT&PF), and the Western Federal Lands Highway Division (WFLHD) for all existing recreational facilities in the Chugach National Forest with access to Seward Highway (MP 56-75), in the area known as Turnagain Pass.

Turnagain Pass is located along the Seward Highway (Alaska Route 1) south of Anchorage, from mile point 56 to 76, shown in **Figure 1-a**. This twenty-mile corridor provides access to approximately 98,000 acres of the Chugach National Forest, found within the Glacier Ranger District. The existing corridor's adjacent facilities include a mix of recreational and tourism opportunities for a diverse group of users year-round. The existing land use and ownership throughout the study area is entirely formed of publicly owned lands by the United States Forest Service and the State of Alaska Department of Natural Resources, with the roadway's right-of-way owned and maintained by the Alaska Department of Transportation and Public Facilities. Facilities along the corridor include campgrounds, trailheads, turnouts, rest areas, parking, scenic views, and river access. Some sites are not utilized as intended, experiencing inconsistencies between vehicle counts and visitor durations at preferred locations. The usage of specific locations or facilities deviates from the goals outlined by the United States Forest Service, Alaska Department of Transportation and Public Facilities, and Western Federal Lands Highway Division.





Figure 1-a Turnagain Pass Study Area

## Goals for the Turnagain Pass Master Plan include:

1. Develop a joint vision for the Turnagain Pass corridor between the United States Forest Service, Department of Transportation and Public Facilities, and their partners.
2. Identify current needs, forecast future needs, and create a prioritized list of projects to address these needs.
3. Increase the long-term sustainability, safety, and access to the Chugach National Forest for travelers and users.

## Additional opportunities for improvement in the planning area include:

1. Improve capacity at recreation sites between seasons.
2. Improve connections between facilities, including trail networks and multi-modal connections.
3. Improve pullouts and parking areas along the corridor.
4. Address snow removal and management needs at recreation sites.
5. Improve long-term operations, including funding opportunities.

Phase One of the Turnagain Pass Master Plan includes four unique Technical Memorandum Documents that have been combined to create the Turnagain Pass Master Plan Phase One Summary:

1. Existing conditions
2. Public and stakeholder outreach
3. Demand management analysis and strategies
4. Identification of facility gaps and needs

## 1. Existing Conditions

This memorandum defines the study area, documents the current conditions and possible gaps in relevant information, and identifies next steps related to the current and future potential use of recreational facilities in Turnagain Pass.

The existing conditions reviewed in this memorandum include all existing recreational facilities within this section of the Chugach National Forest with direct access to the corridor, including campgrounds, trailheads, parking lots, pullouts, etc.).

## 2. Public and Stakeholder Outreach

The objective of this engagement effort is to work directly with the interested public and regulatory bodies to communicate the goals of the project and gather input required for advancement through the project milestones, and to fulfil relevant federal, state, and local requirements for public involvement. The key communication objectives for this project were to:

- Develop an Engagement Plan.
- Identify all stakeholders interested and impacted by the master plan.
- Identify potential concerns in the planning area.



- Determine communication strategies that include a process for seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services.
- Address opportunities for environmental justice.
- Maintain a detailed stakeholder register.
- Maintain a detailed comment log.
- Engage with the community and stakeholders via interviews and public meetings.
- Consult with Tribal agencies.
- Develop media communications and online project information.
- Regularly communicate the progress of the project to stakeholders.

### 3. Demand Management Analysis and Strategies

This memorandum provides the results of data collected at multiple access locations along the Turnagain Pass corridor to determine which site characteristics impact demand and use. Analysis includes metrics of significance with respect to demand on Turnagain Pass access points, such as total daily vehicle count, visit duration, parking area square footage, and occupancy. These metrics provide insight into how amenities located along Turnagain Pass influence visitor duration and frequency at observed access points.

The findings from the data analysis, coupled with input received during the public open houses and stakeholder interviews, confirmed the desired amenities with current visitors. This confirmation led to the key outcome of this memorandum: recommended strategies. Recommended strategies include applications that can be used along the entire corridor of Turnagain Pass to assist in driving desired results by promoting additional and safe access to United States Forest Service lands, as well as confirming the impact of desired new and improved access and amenities for users.

### 4. Needs Assessment

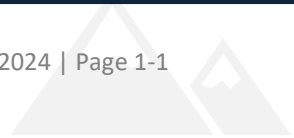
This memorandum presents the needs analysis to support future efforts to address deficiencies in current facilities, maintenance, or to respond to requests from the public or stakeholders for facilities. It sets out the needs identified through the public involvement process and provides suggested evaluation criteria for use in a screening and prioritization process to support the identification of the highest priority needs, future investment decisions, and the development of a program to realize improvements in the Turnagain Pass area.

It concludes with recommended next steps to be conducted in Phase Two of the Turnagain Pass Master Plan, which will enable:

1. The needs to be verified with project stakeholders and the public
2. Screening, evaluation, and prioritization to occur
3. The highest priority projects to be scoped with further detail
4. An implementation strategy to be developed
5. The efforts to be documented in a final Master Plan document

**This page is intentionally  
left blank**

# 1. Existing Conditions



# 1-1. State, Regional, and Local Plans

## 1-1.1. Chugach National Forest Land Management Plan (2020)

The Chugach National Forest Land Management Plan (CNFLMP) guides all management decisions and activities for the 5.4 million-acre Chugach National Forest by setting guides and constraints for Forest Service personnel. The CNFLMP was formed by considering applicable guiding factors that include laws, regulations, executive orders, policies, practices, and procedures. It is important to consider the CNFLMP's guidelines when establishing recommendations for the TPMP.

The CNFLMP highlights desired conditions which are defined as descriptions of specific social, economic, and ecological characteristics for the area included in the specified land management plan. These desired conditions guide the direction of management of the land and are listed within the CNFLMP by forest-wide district, special area designation, geographic area designation, suitability of lands, and management areas. The CNFLMP specifically points to desired conditions for the Iditarod National Historic Trail (INHT), which is defined as a Special Area and passes through this plan's study area. Desired Conditions stated specific to the INHT are:

- The INHT, a conservation system unit as defined by Alaska National Interest Lands Conservation Act (ANILCA), connects the communities of Seward, Moose Pass, Portage, and Girdwood with a trail system that features world class summer and winter recreation opportunities and celebrates the rich history of the area.
- Partner and volunteer contributions and shared trails stewardship opportunities are expanded on the INHT with an increased focus on maintenance and access. Local communities and partner agencies and organizations are actively involved in the management and maintenance of the trail.
- The USFS cooperates with ADNR in managing public access and cultural resources, and providing interpretation, outreach, and education about the INHT.

The Desired Conditions related to the INHT should be considered within the context of the study area when establishing recommendations for the TPMP.

The Kenai Mountain-Turnagain Arm National Heritage Area (KMTA NHA) Desired Conditions is also identified in the CNFLMP, noted that community-centered initiatives preserving the regions' cultural resources are encouraged and supported in coordination with related stakeholders such as the Kenai Mountains-Turnagain Arm Corridor Communities Association, Alaska Native Tribes, Alaska Native Corporations, National Park Service (NPS), as well as other related communities and partners. The KMTA NHA Forest-wide Desired Conditions in the CNFLMP are relevant to the TPMP effort in the areas of Tribal Relations, External Partnerships, Social and Economic Sustainability, Subsistence, Ecosystem Processes and Conditions, Ecosystem Services, Access and Infrastructure, and Recreation.

## External Relationships

- Effective collaborative relationships with entities such as the State of Alaska and federal agencies to identify and resolve interagency land and resource management challenges.
- Community participation and engagement.

## Social and Economic Sustainability and Subsistence

- Provide opportunities for the public to learn about Alaska Native cultural history and practices.
- Provide outstanding opportunities for education and connecting people to the outdoors.
- Provide outreach and interpretation to ensure the public is informed about the physical and biological attributes, citizen science opportunities, and visitor safety issues.
- Provide that Alaska residents engaged in subsistence uses have reasonable access to subsistence resources on National Forest lands.

## Ecosystem Processes and Conditions and Services

- Ensure National Forest System lands support the ecological processes and conditions necessary to maintain habitat quantity, quality, and distributions to sustain self-supporting populations of native aquatic, riparian, and terrestrial plants, fish, and wildlife.
- Native plants, fish, and wildlife are the dominant species inhabiting National Forest System lands, while the establishment and spread of invasive species is prevented or minimized and does not threaten ecosystem function.
- Existing aquatic, riparian, and terrestrial habitat connectivity is maintained to promote conservation of native plants, fish, and wildlife.
- In places most commonly visited and viewed by the public, the national forest visitor sees intact landscapes with minimal variation from the existing landscape character type. Scenic characteristics retain the distinctive landscape character and sense of place associated with the Chugach National Forest.

## Access and Infrastructure

- A system of roads, trails, and areas designated for non-motorized vehicle and motor vehicle use is identified and is available for public use to access National Forest System lands. Roads and trails are efficiently managed, have minimal effect on aquatic and terrestrial systems, and meet Forest Service national quality standards.
- Administrative facilities serve the land management needs and purposes of the national forest in a sustainable, economical, and cost-effective manner. The size, number, and location of facilities meet current and future management needs commensurate with Forest Service financial capabilities and are consistent with forest-wide facility planning.
- Administrative facilities are affordable, safe, and energy efficient; and meet all applicable physical security and accessibility standards and guidelines. Wildlife friendly designs are considered and incorporated into facilities during construction.
- Existing and future facilities are included in a current facilities master plan and are consistent with direction in The Built Environment Image Guide for the National Forests and Grasslands.

## Recreation

- 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).
- Recreation sites and trail systems are ecologically, economically, and socially sustainable and are supported by communities and partners through shared infrastructure development and maintenance, delivery of information, and provision of recreation services.
- The number and location of recreation facilities reflect current and future public needs and demand commensurate with Forest Service financial capabilities and are consistent with forest wide recreation facility planning.
- Forest management activities are integrated with recreational opportunities and infrastructure, and adverse impacts to recreation settings are minimized or mitigated, consistent with forest wide and management area direction.
- National forest visitors are aware these environments are frequented by wildlife. Visitors are informed of appropriate behaviors to minimize their chance for adverse interactions with animals, reducing risks for both humans and wildlife.
- A diverse range of recreation settings is sustained, and settings are spatially and seasonally distributed.

The CNFLMP's list of Desired Conditions provides a connection to the purpose of the TPMP by stating support for the future of any Forest land access, educational opportunities, and recreation, including the Turnagain Pass area. As the master planning effort continues, providing recommendations that continue to advance the Desired Conditions in CNFLMP will be crucial step to the master plan's implementation phase.



## 1-1.2. DOT&PF Seward Highway Corridor Partnership Plan (1998)

The Seward Highway Corridor Partnership Plan was prepared for DOT&PF as part of the submission of the Seward Highway for designation under the National Scenic Byways Program. The plan provides “a strategy for management, economic development, and conservation,” and sought to meet the requirement that communities seeking national recognition for a particular route have taken time to assess the unique qualities, identify issues, opportunities, concerns, and possible threats to the area’s ability to attract visitors and the quality of development.

The plan names three keystone strategies with additional critical actions that would assist in reaching the overarching goals. These include:

- The Seward Highway providing a safe, aesthetic, and world class driving experience.
- Providing effective visitor management to support long-term economic development through tourism.
- Limiting haphazard development that poses a threat to the highway’s ability to attract visitors and quality development.

These keystone strategies include 37 distinct actions items, many of which are still relevant to today’s master plan effort.

The topic areas within the 1998 Partnership plan that are relevant to the TPMP include:

- View management
- Pullouts
- Bike paths
- Scenic Highway identification signage
- Turning lanes
- Shoulders
- Traffic calming and speed management
- Rest Area Strategy
- Recreational Vehicle (RV) Dumpsite Facilities

Recreation needs and issues identified in the 1998 Plan focused on the need for additional day use areas, trailheads to increase access, identification of uses for federal and state-owned lands, and providing independent travelers education on potential hazards such as avalanche activity, wildlife, and falling rocks. This plan continues to supply valuable historic documentation of the needs and desires along the Seward Highway.

### **1-1.3. DOT&PF Seward Highway Corridor Study MP 0-90 (2022 DRAFT)**

DOT&PF conducted a corridor study for the Seward Highway corridor from MP 0 to 90, where MP 0 begins in the city of Seward to the intersection at Girdwood (MP 90). The final report is currently in draft form, and the study was viewed as an opportunity to learn from the public their usage of the Seward Highway. The corridor study examines strengths, challenges, and improvements, while also finding the desired future of the corridor based on public input and analysis of existing conditions.

The 2022 draft plan focuses on existing conditions such as crash reports and safety issues, right-of-way (ROW) availability and conflict/intersections with the Alaska Railroad, non-motorized routes, land use and adjacent development, existing plans and studies, roadway infrastructure, pullouts, parking, signage, recreational facilities, and past projects along the corridor. Information and data gaps were also identified such as guardrail quality and locations, traffic counts by month, average speeds per hour to track congestion, decibel levels on trails near the highway, rest area and trailhead usage counts, complete roadway signage inventory, and non-motorized traffic counts.

The Seward Highway Corridor Study provides useful information to inform the TPMP by considering the needs of recreational users while supporting safe access and mobility along the Seward Highway for all travelers.

### **1-1.4. Kenai Peninsula Borough Area Plan (2001)**

The Kenai Peninsula Borough Area Plan (KPBAP) was prepared in 2001 by the ADNR Division of Mining, Land and Water. The Seward Highway is identified as being nationally recognized for its outstanding tourism and recreation values and designated as an All-American Road. The KPBAP notes the primary attraction of the Seward Highway is the beautiful scenery the corridor offers to motorists and highlights Sixmile and Canyon creeks, summit, trails and Kenai lakes and Turnagain Pass.

Recreation goals named include the creation of additional public use opportunities, stating lands will be provided for accessible outdoor recreational opportunities with well-designed, maintained and conveniently located recreation facilities.

The KPBAP also addresses the need for nodal development areas, corridor development areas, and corridor preservation areas, as unorganized development can be a threat to the scenic characteristics of the Seward Highway.

Transportation goals identified in the KPBAP focused on supporting plan designations, minimizing costs and adverse effects, promoting efficiency, and supporting public safety. Additional goals focus on solutions for accommodating public access, safety requirements and recreational and tourism use.

## 1-1.5. Kenai Peninsula Borough Comprehensive Plan (2019)

Adopted November 5, 2019, the Kenai Peninsula Borough (KPB) Comprehensive Plan states community values including strong community connections, economic opportunity, beautiful scenery and wildlife, and abundant natural resources. The future of the peninsula is seen as an expansion and diversity of economic opportunities, protection of natural resources and maintenance of infrastructure and services.

The KPB Comprehensive Plan identifies fulfilling its recreation goals as an opportunity to diversify and grow the Kenai Peninsula Borough economy. Goals for recreation include:

- Supporting outdoor recreation and tourism opportunities for a wide range of users
- Improving recreational trails, access, and mobility
- Protecting and expanding the quality of recreation and tourism appeal
- Expanding recreation and tourism marketing, education, and job training opportunities
- Actively building partnerships needed to maintain, improve, or expand recreation and tourism facilities and amenities.

KPB Comprehensive Plan's recreational goals will be further supported by the development of the TPMP by addressing improvements, access, and furthering partnerships with the stakeholders identified as a part of the public engagement strategy.

## 1-2. Recreation Infrastructure

### 1-2.6. Existing Corridor

The existing corridor's adjacent facilities include a mix of recreational and tourism opportunities for a diverse group of users year-round. Facilities along the corridor include campgrounds, trailheads, turnouts, rest areas, parking, scenic views, and river access. The existing facilities within the corridor are displayed in [Figure 1-1](#).

A site visit of the study area was conducted on August 22, 2022, by a team of staff from FHWA WFLHD, DOT&PF, and USFS to document the existing facilities along the corridor and provide an updated context for observed facility use, current levels of maintenance, and observe the current conditions of the corridor and existing access to the Turnagain Pass area.<sup>1</sup> The following summary of facilities include the locations, observed current uses, and identified issues to consider as recommended by the earlier mentioned team. The site visit summary is found in [Appendix 1-1](#).

---

<sup>1</sup> FHWA WFLHD, DOT&PF, USFS. Turnagain Pass Master Plan Site Visit Summary. 2022 August 12.

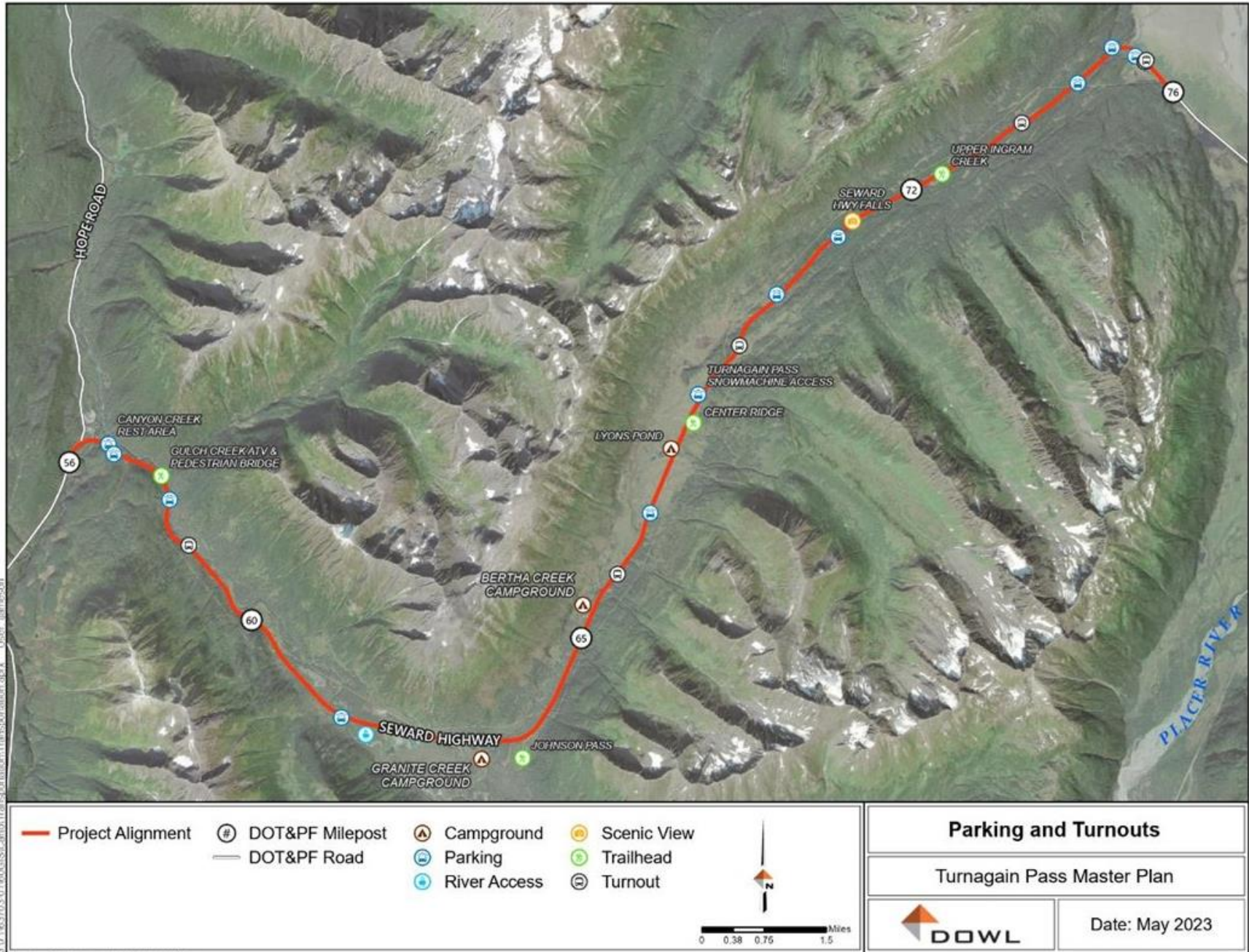


Figure 1-1 Existing Recreation Locations

## 1-3. Parking Areas and Roadside Pullouts

### Canyon Creek Rest Area

Located at MP 56 on the west side of the highway and MP 56.1 on the east, Canyon Creek Rest Area is owned and operated seasonally by Alaska DOT&PF. The west location offers travelers two toilets, ample parking, access to dumpsters, some paved trail access, and some scenic views. The east rest area offers two rest rooms, limited parking, dumpsters, and limited views.

### Gravel Pit

Located at MP 61.1 on the east side of the Seward Highway, this gravel pit entrance up to a locked gate is plowed and maintained by DOT&PF, this currently allows for up to two to four cars to park in the area. Current signage on the Seward Highway identifies this area as Granite Creek recreation area, which is inaccurate for the current conditions. During the winter months this area has been used as a helipad for skiing and a snowmachine terminus. In the summer months it is believed that this area is being used as an information shooting range. It is anticipated that 100,000 tons of gravel from the gravel pit is scheduled for use on upcoming Seward Highway construction projects and will conclude mining activities, potentially providing an opportunity for recreational access use only.

### Cornbiscuit Pullout

Cornbiscuit pullout has been identified as an unpaved pullout with a single driveway located at MP 65.1. It is often used for parking for popular backcountry ski destinations on the mountains above in the winter.

### Sunburst Pullout

Sunburst pullout has been identified as a paved pull out on the east side of the Seward Highway with one driveway located at MP 65.9 and a second located at MP 66. It is often used for parking for popular backcountry ski destinations on the mountains above in the winter.

### Motorized Vehicle Area Access

This lot has been identified as having two driveways on the west side of the Seward Highway, one at 67.4 and an additional one at MP 67.6 and provides access for snowmachines on public lands, meaning it is most frequently used for snowmachine parking in the winter months. Signage leading up to the lot identify the location with an official brown United States Forest Service sign that reads “Turnagain Pass Rest Area” with icons for restrooms, picnic tables, snowmachining, and skiing. A smaller blue triangular sign stating rest area and an arrow pointing to the lot with an icon showing a snowmachine.

According to staff at USFS, there are restrooms available on site that are often used as a makeshift rest area when the official rest area located at MP 56 is closed for the winter season. This increase from the initially anticipated use including many general highway users just passing through who are not necessarily using the surrounding Forrest Service Lands has led to maintenance issues due to the cost to provide pumping services.

### Snowstake Lot

A lot was identified at MP 68.9 is surrounded by State owned land and despite often being referred to by the public as the “DOT lot” the lot is not DOT&PF owned, maintained, or plowed. A defunct weather station is located on the lot, but it is most frequently used as an up-trail access point for snowmachines to access Seattle Ridge and during the summer a

vantage point for informal target shooting. During the early parts of the winter recreation season, trucks will drive through for ski access prior to heavy snowmachine usage.

## Base of Pass

The base of the pass pullout and parking area is located at MP 74.5 on both the east and west side of the Seward Highway is the starting point of the study area. Serving both sides of the highway, this area is managed by DOT&PF and is intended to be an area for travelers to chain and unchain their tires before entering or exiting Turnagain Pass during winter conditions. This area is often used as an informal camping area, DOT&PF construction staging, and parking for recreationists. Enforcement of improper use is difficult due to the limited number of state troopers for the entire corridor. This area sees an increase of usage in the summer months due to the popularity of Pink Salmon fishing and has the potential to see a significant increase of usage with futural trail parking as the Turnagain Pass Trail is extended to sea level and as the Portage Curve Bicycle Path is constructed.

## 1-4. Recreational Infrastructure

The Turnagain Pass area is surrounded by the Chugach National Forest. The Chugach National Forest is the farthest north and west of all national forests found within the United States, and has 96 separate watersheds, 41 public use cabins, 500 miles of trail, and is equivalent to the size of New Hampshire. With all the forest has to offer, there are only 90 miles of Forest Service roads serving the area that brings in approximately 500,000 visitors annually for recreation.<sup>2</sup>

### West and East Side: Motorized and Non-Motorized Users

In the winter months, the west side of Seward Highway through Turnagain Pass is open for motorized use and has become a popular destination for snowmachining, resulting in parking lots along the pass to be at capacity during the winter months. The east side of Turnagain Pass is made up of numerous trailheads that access the Turnagain Pass Trail, as well as a segment of INHT. Recreationists on the east side of Turnagain Pass can enjoy hiking (backpacking and day hiking), mountain biking, skiing/snowboarding, cross country skiing/snowshoeing, and fat tire biking.

For individuals who prefer participating in recreation under the guidance of trained professionals, USFS issues approximately 250 permits annually for guided activities that include hunting, fishing, flightseeing, boat charters, rafting, kayaking, bird watching, scenic tours, and wildlife viewing for the whole of Chugach National Forest. Of the 250 permits issued annually, 19 of which operate using recreation areas within the study area.

### 1-4.1. Trails and Trailheads

The study area contains four trailheads that provide access to 12 identified and documented trails (**Figure 1-2**) that are popular with residents from neighboring areas such as Anchorage, Matanuska-Susitna, and Kenai Peninsula Boroughs due to the close proximity and ease of access along the Seward Highway corridor.

#### Iditarod National Historic Trail – Southern Trek

The INHT– Southern Trek is a 180-mile portion of the overarching INHT that is 1,000 miles long. The INHT was once used by Alaska Native cultures and in more recent history (late 1800s to early 1900) winter travelers.<sup>3</sup>

---

<sup>2</sup> 2021 Chugach National Forest Visitors Guide. [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd1008905.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1008905.pdf). Accessed 2023.

<sup>3</sup> USFS Website. Iditarod National Historic Trail - Southern Trek. <https://www.fs.usda.gov/chugach>. Accessed 2023.

## Turnagain Pass Trail

Turnagain Pass Trail is a 12-mile segment of the INHT. The center of the trail is located at Center Ridge Trailhead where in either direction (north or south) the trail is six miles. The whole trail is identified as more difficult with elevation gain of 800 feet. Recreationists can experience hiking through spruce and hemlock forests in lower elevations and sub-alpine terrain in higher elevations. The sub-alpine areas offer additional off-trail recreation activities including campsites that provide bear box storage.

The southern portion of the trail passes over gorges at Bertha and Spokane Creeks and provides access to view nearby waterfalls while also having numerous hazardous stream crossing. Recreationists are advised to use caution when crossing rivers. Besides hiking and camping Turnagain Pass Trail is popular among mountain bikers, backcountry skiers, snowboarders, Nordic skiers, and fat-tire bikers.<sup>3</sup>

## Gulch Creek ATV and Pedestrian Bridge Access

Gulch Creek All-Terrain Vehicle (ATV) and Pedestrian Bridge Access is located at MP 56.7 on the west side of the Seward Highway and marks the beginning of the historic mining trail further up Gulch Creek. This area provides a viewing area where visitors can see the whitewater rapids down below, including groups participating in guided tours. The parking area has room for a few vehicles but is often used by working placer miners who park their equipment in this location.

## Raft Launch

This state-owned facility located on the west side of Seward Highway at MP 58.3 often referred to as East Fork Boat Launch or Six Mile Raft Launch is used by rafting guides. The USFS recommends recreationists to traverse the rivers in this area with caution due to the rough rapids.

## Johnson Pass North Trailhead

Johnson Pass Trailhead located at MP 62.9 and is a 23-mile-long segment of the INHT popular with family backpackers and mountain bike users, with a gravel parking area that tends to reach capacity on the weekends. The trail is identified as an easy to moderate multi-use trail with gradual elevation gains and a few steep sections where snow can be found at higher elevations until mid-June. A public restroom can be found along with information signs that highlight points of interest, typical conditions, and a map of the area. These information signs are weathered and outdated, and overdue for upgrades.

The entire length of Johnson Pass Trail is closed to motorized vehicles from May 1 to November 30, while the North Trailhead to mile 3.6 (closest to the study area) is closed to motorized vehicles year-round. The trail is closed to pack/saddle stock from April 1 to June 30.<sup>4</sup>

## Center Ridge Trail Head

This lot is located at MP 68.3 and provides access to a non-motorized “loop to nowhere.” Like the Turnagain Pass motorized vehicle area, this lot has restrooms available on site that are often used as a makeshift rest area when the official rest area located at MP 56.3 is closed for the winter season. This increase from the intended use has led to maintenance issues due to the cost of providing pumping services.

---

<sup>4</sup> Chugach National Forest Website: Johnson Pass Trail South -INHT.  
<https://www.fs.usda.gov/recarea/chugach/recreation/hiking/recarea/?recid=74185&actid=50>. Accessed 2023.



## Tincan Trailhead

Tincan Trailhead is not an official trailhead but has been used so frequently so access nearby ski terrain that this is how it is most often referred to as. It is located at MP 68.2 on the east side of Seward Highway and has been identified as a top priority for improvements by USFS. This trail reaches peak popularity during the months of February to March among skiers due to its flatter terrain and shorter approach while also being relatively safe from avalanche activity. The pullout that accesses Tincan fills up often and can cause significant safety issues for recreation users pulling in and out of the parking area have been identified due to the pullout being located on a horizontal and vertical curve, lane merge on the highway right at the pullout, limited sight distance, and high speeds on the Seward Highway.

## Upper Ingram Trailhead

Upper Ingram Trailhead located at MP 72.5, is a 12-mile segment of the INHT and is often referred to by the public by Eddie's TH, in referenced to the former Girdwood mayor Eddie Genzwel who first popularized skiing in this area. This location was originally built as a slow vehicle turnout by DOT&PF but has seen an increase in use with the popularity of winter recreation activities. Skiers looking to access Tincan Trailhead use Upper Ingram trail especially when parking at the Tincan pullout has reached capacity. The ski trail condition in the winter months is similar to the Tincan trail but is one mile further from the best ski area that is served by Tincan.

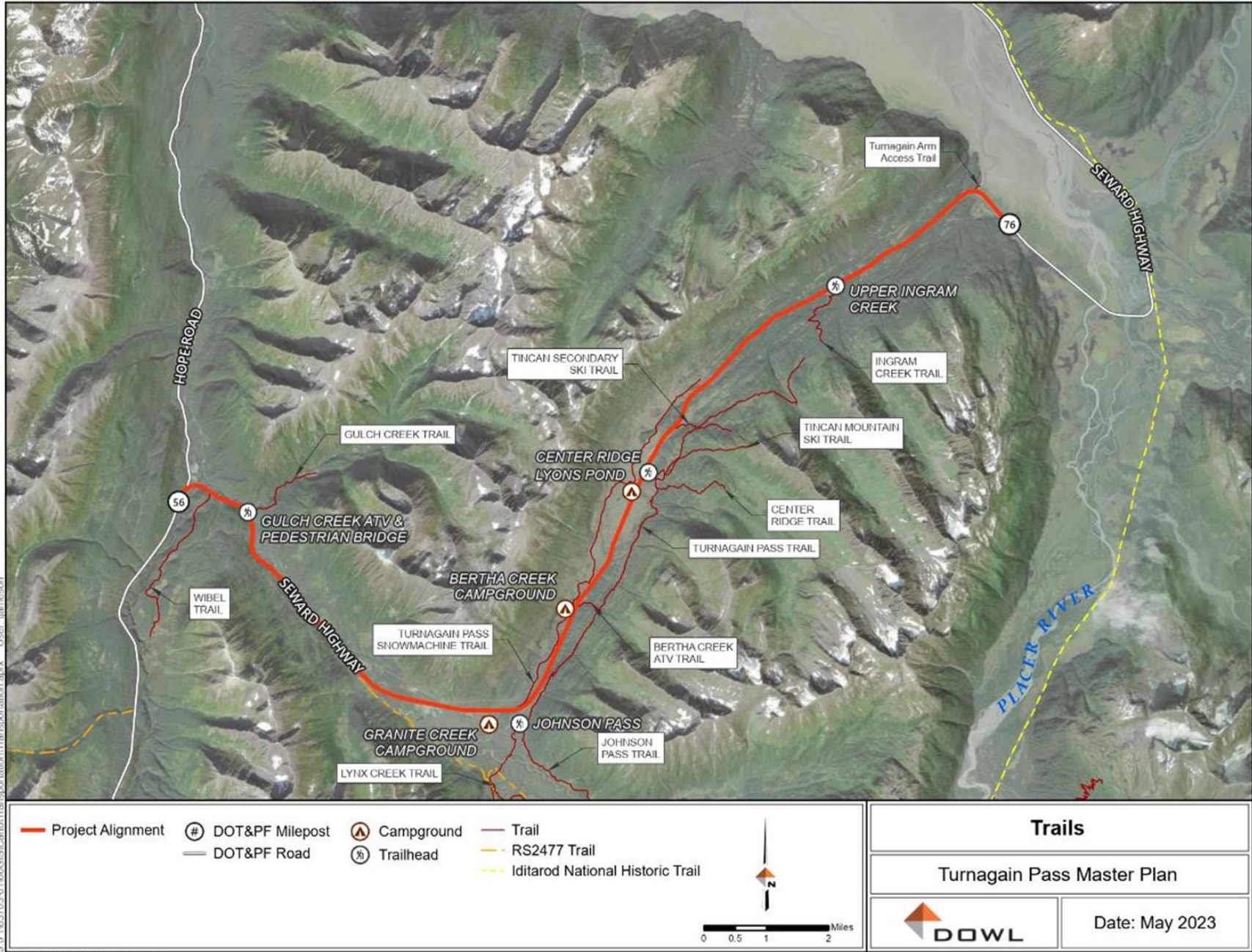


Figure 1-2 Existing Trails

## 1-4.2. Camping

The study area has two distinct USFS Campgrounds located at MP 65.4 and 68. Other camping opportunities exist along longer hiking trails or at dispersed campsites that do not require a fee to use. With limited enforcement within the corridor, unauthorized camping has become popular at roadside pullouts and parking lots within Turnagain Pass. Campsites are documented on **Figure 1-2** along with existing parking and pullouts.

### Granite Creek Campground

Granite Creek Campground is a small loop campground located at MP 63 of the Seward Highway. A fee is required between Memorial Day and Labor Day weekends, reservations are highly recommended for summer camping and can be made 180 days in advance. Unlike Bertha Creek Campground, Granite Creek Campground is closed during the months that it is not maintained, typically with a closed gate and snow berm in place to restrict access. The nightly fee for the 2022 season was \$19.00, paid using a self-service user pay station at the entrance to the campground for any sites that are unreserved. When reserved, all fees are paid online at recreation.gov. There are 19 sites that are suitable for vehicle, small RV, trailer, or tent camping. Services include access to a hand driven water pump, dumpster, picnic tables, fire rings, bear lockers, and vault toilet facilities. Recreation access includes fishing, big game hunting, and proximity to Johnson Pass Trailhead.<sup>5</sup>

### Bertha Creek Campground

Bertha Creek is a small loop campground located at MP 65.4 of the Seward Highway, which requires a fee between Memorial Day and Labor Day weekends with access to a hand driven water pump, dumpster, picnic tables, fire rings, bear lockers, and vault toilet facilities. The nightly fee for the 2022 season was \$19.00, paid using a self-service user pay station at the entrance to the campground. During the off-season, no fee is required but services are typically unavailable. There are 12 sites that are suitable for vehicle, small RV, trailer, or tent camping. Recreation access includes fishing, mining, and boating.<sup>5</sup>

---

<sup>5</sup> Bertha Creek Campground Website. <https://www.fs.usda.gov/recarea/chugach/recreation/camping-cabins/recarea/?recid=6600&actid=29>. Accessed 2023.

## 1-5. Current Traffic Trends

### 1-5.1. Facility Characteristics

Seward Highway is classified as an Interstate Highway by DOT&PF. Through the 20-mile study area Seward Highway consists of cross-sections varying between two and four lanes, with varying lane and shoulder widths due to surrounding terrain. Seward Highway has a posted speed of 65 miles per hour (MPH) and is considered rolling terrain throughout the study area as the road progresses through the Chugach Mountains. The 20-mile stretch of Seward Highway is divided into segments where lane and capacity changes occur for ease of evaluation. The available facilities differ for the increasing MP number direction (North/East), and the decreasing direction (South/West) and therefore are reported separately in *Table 1-1* and *Table 1-2*.

**Table 1-1 Ascending Roadway Segment Characteristics**

Segment Name	MP		Highway Type	Lane Width (feet)	Shoulder Width (feet)	Posted Speed (MPH)	Terrain	Median
	Start	End						
A1	56.0	61.4	Two-Lane	12	6	65	Rolling	-
A2	61.4	63.3	Two-Lane	12	7	65	Rolling	-
A3	63.3	65.2	Two-Lane	12	6	65	Rolling	-
A4	65.2	67.7	Two-Lane	12.5	8	65	Rolling	-
A5	67.7	68.6	Multi-Lane	12.5	10	65	Rolling	Striped 18'
A6	68.6	69.2	Two-Lane	11.5	6	65	Rolling	-
A7	69.2	76.0	Two-Lane	12	6	65	Rolling	-

**Table 1-2 Descending Roadway Segment Characteristics**

Segment Name	MP		Highway Type	Lane Width (feet)	Shoulder Width (feet)	Posted Speed (MPH)	Terrain	Median
	Start	End						
D1	76.0	69.2	Two-Lane	12	6	65	Rolling	-
D2	69.2	68.6	Two-Lane	11.5	6	65	Rolling	-
D3	68.6	67.7	Multi-Lane	12.5	10	65	Rolling	Striped 18'
D4	67.7	65.2	Two-Lane	12.5	8	65	Rolling	-
D5	65.2	63.3	Two-Lane	12	6	65	Rolling	-
D6	63.3	61.4	Two-Lane	12	7	65	Rolling	-
D7	61.4	56.0	Two-Lane	12	6	65	Rolling	-

Figure 1-3 visualizes the ascending and descending segments and the corresponding facility characteristics described in *Table 1-1* and *Table 1-2*. From the information displayed varying shoulder widths may cause safety concerns for road users such as the inability to safely pull over for roadside emergencies or safely slow down for turnoffs to access recreation areas. The areas with narrower shoulder widths accompanied with high posted speed limits and rolling terrain serve as an obstacle for non-motorized recreational users in the area.

Additionally, maintenance of the Turnagain Pass corridor includes snow removal and storage challenges due to an average snow fall of up to 100 inches in the winter months.<sup>6</sup> Shoulder widths should be able to accommodate reasonable snow storage for the heavy precipitation common to this area.

---

<sup>6</sup> National Weather Service. Turnagain Pass Annual Snow Depth Plot. Accessed June 29, 2023. [https://www.weather.gov/aprfc/Snow\\_Depth](https://www.weather.gov/aprfc/Snow_Depth).



Figure 1-3 Ascending and Descending Roadway Segments Identified

## 1-6. Traffic Characteristics

Existing traffic data from DOT&PF short-term counting stations located on Seward Highway at Mileposts 65.5 and 75 is intermittent and required seasonal adjustments using nearby permanent counting stations to accurately reflect design volumes.<sup>7</sup> The most recent daily counts were collected at milepost 65.5 from August 7th to 16th, 2021, and at milepost 75 from August 3rd to 9th, 2022. Operations analysis required the use of 30th highest hour design volumes, which was found by applying the K factor<sup>8</sup> estimated by DOT&PF to the seasonally adjusted<sup>9</sup> Average Annual Daily Traffic (AADT), measured in vehicles per day (VPD). The available count data indicates 60% of traffic travels in the peak direction, leading to a directional (D) factor of 0.60. For analysis, the count that is nearer to the analysis area will be applied to that section. These volumes can be seen below in *Table 1-3*.

**Table 1-3 Traffic Volumes**

Count Station MP	Year	August Average Count (Vehicles)	Seasonal Adjustment Ratio	AADT (VPD)	K Ratio	30 <sup>th</sup> Highest Hour	D Ratio	30 <sup>th</sup> Highest Hour Peak Direction
65.5	2021	10,967	0.57	6,240	0.239	1,491	0.60	895
75	2022	8,253	0.57	4,696	0.241	1,132	0.60	679

<sup>7</sup> Alaska Department of Transportation and Public Facilities, Alaska Traffic Data, <https://alaskatrafficdata.drakewell.com/publicmultinodemap.asp>. Accessed 2023.

<sup>8</sup> K-factor is defined as the proportion of AADT occurring in the 30<sup>th</sup> Highest Hour, sometimes referred to as K30 or Design Hour Factor.

<sup>9</sup> Seasonal Adjustment methodology has been noted here by applying the K factor estimated by DOT&PF from nearby permanent count stations. Seasonally adjusted volumes may differ from DOT&PF seasonally adjusted volumes published elsewhere.

## 1-7. Existing Traffic Needs

Existing needs for traffic were identified through capacity and safety analyses of the roadway segments. Needs were identified by taking available existing conditions data and comparing it to DOT&PF standards.

### 1-7.1. Segment Capacity

Segment capacity was evaluated by calculating the level-of-service (LOS) based on design hour volumes for the 30th highest hour. The analysis was performed following the methods in the Highway Capacity Manual 6th edition.<sup>10</sup>

Single lane segments were analyzed using Two-Lane Highway methodology, which calculates average travel speed, percent time following, and percent free flow speed as performance measures to calculate the LOS for the segment. Two lane segments were analyzed using the Basic Freeway and Multilane Highway Segments methodology which uses mean travel speed and traffic density as performance measures to calculate the LOS. It was determined that the entire stretch of highway is classified as a Class 1 Highway, due to the expected high speeds and limited access roads onto Seward Highway.

According to the DOT&PF Highway Preconstruction Manual section 1000.1,<sup>11</sup> LOS targets are to be set based on the 2011 AASHTO Green Book, Section 2.4.5.<sup>12</sup> The Green Book lays out a Design LOS for a Rural Rolling Highway target as a B. The LOS of each roadway segment are shown in *Table 1-4* and *Table 1-5*.

There are three two-lane highway segments that are not operating at the LOS targets laid out by DOT&PF. These are from MP 65.2- 67.7, and 68.6- 69.2 in the ascending milepost direction and from MP 67.7- 65.2 in the descending direction. These segments are identified in **Figure 1-4** using blue for northbound and yellow for southbound, do not provide passing lanes and should be studied to identify potential solutions to have these segments operate at a sufficient level of service.

---

<sup>10</sup> Transportation Research Board (2016), Highway Capacity Manual 6<sup>th</sup> Edition

<sup>11</sup> Department of Transportation and Public Facilities (2022), Alaska Highway Preconstruction Manual

<sup>12</sup> American Association of State Highway and Transportation Officials (2011), A Policy on Geometric Design of Highways and Streets



**Table 1-4 Ascending Roadway Segment Operations**

Segment Name	MP		Analysis Type	Level of Service
	Start	End		
A1	56.0	61.4	Two-Lane	C
A2	61.4	63.3	Two-Lane	A
A3	63.3	65.2	Two-Lane	A
A4	65.2	67.7	Two-Lane	D
A5	67.7	68.6	Multi-Lane	A
A6	68.6	69.2	Two-Lane	D
A7	69.2	76.0	Two-Lane	B

**Table 1-5 Descending Roadway Segment Operations**

Segment Name	MP		Analysis Type	Level of Service
	Start	End		
D1	76.0	69.2	Two-Lane	A
D2	69.2	68.2	Two-Lane	A
D3	68.6	67.7	Multi-Lane	A
D4	67.7	65.2	Two-Lane	E
D5	65.2	63.3	Two-Lane	A
D6	63.3	61.4	Two-Lane	A
D7	61.4	56.0	Two-Lane	A

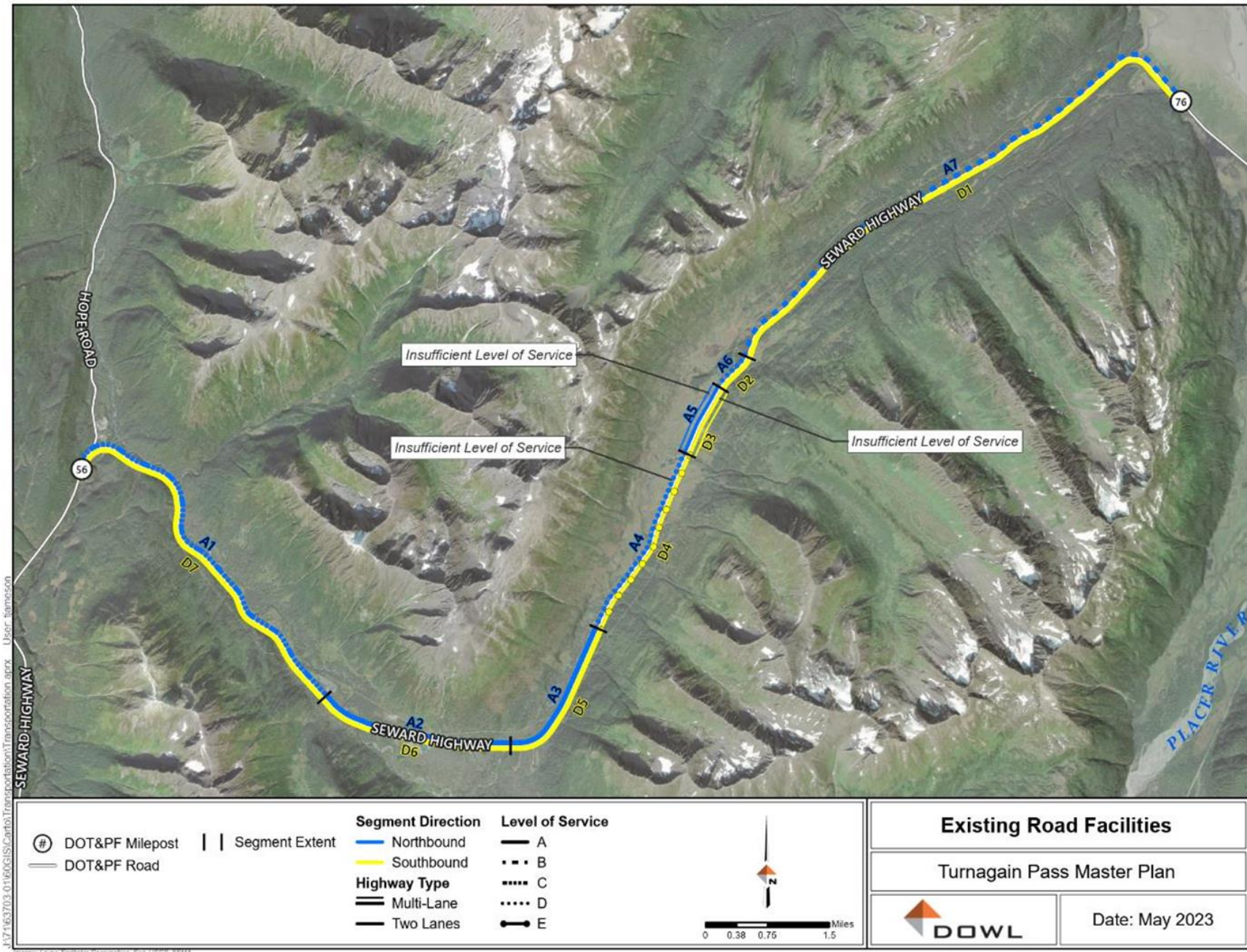


Figure 1-4 Ascending and Descending Roadway Segment Level of Service

## 1-7.2. Safety Analysis

Crash data from 2013-2021 was obtained from DOT&PF staff<sup>13</sup> to use to analyze existing safety conditions along the corridor. Calculated Crashes per Million Vehicle Miles Traveled (MVMT) were compared to DOT&PF statewide average segment accident rates from the 2017 Alaska Highway Safety Improvement Program Handbook.<sup>14</sup> The 2017 version of this handbook was used as it is the most recent version that includes the average crash rates.

The crash rate for the entire roadway network was determined to be a Rural Freeway, with a statewide average crash rate per MVMT of 1.1. Crash rate per segment can be seen below in *Table 1-6*. Segments for this analysis were split where the number of lanes change. The crash rates show that none of the roadway segments are over the statewide average rate of 1.1 crashes per million vehicle miles traveled. Therefore, there are no high-level safety needs on the corridor.

**Table 1-6 Crash Rates Reflected from 2013 to 2021**

Segment Name	MP		Highway Type	AADT (APD)	Crashes	Fatal or Injury Crashes	Crashes per MVMT	Statewide Avg. Rate
	Start	End						
1	56.0	61.4	Two-Lane	6,240	31	13	0.30	1.1
2	61.4	63.3	Two-Lane	6,240	14	5	0.40	1.1
3	63.3	65.2	Two-Lane	6,240	13	4	0.30	1.1
4	65.2	67.7	Two-Lane	6,240	13	6	0.30	1.1
5	67.7	68.6	Multi-Lane	6,240	10	3	0.50	1.1
6	68.6	69.2	Two-Lane	6,240	9	5	0.70	1.1
7	69.2	76.0	Two-Lane	4,695	72	24	0.70	1.1

<sup>13</sup> Email from DOT&PF staff on April 10<sup>th</sup>, 2023

<sup>14</sup> Alaska Department of Transportation and Public Facilities (2017), Alaska Highway Safety Improvement Program Handbook

## 1-8. Existing Utility Infrastructure

Throughout the study area, the existing utility infrastructure is limited to overhead electric lines. Roadside electrical service within the study area can be found at the Hope Cutoff (approximately MP 56.3). Utility level electrical service exists at approximately MP 55. **Figure 1-5** displays the location of the overhead electric power lines within the study area

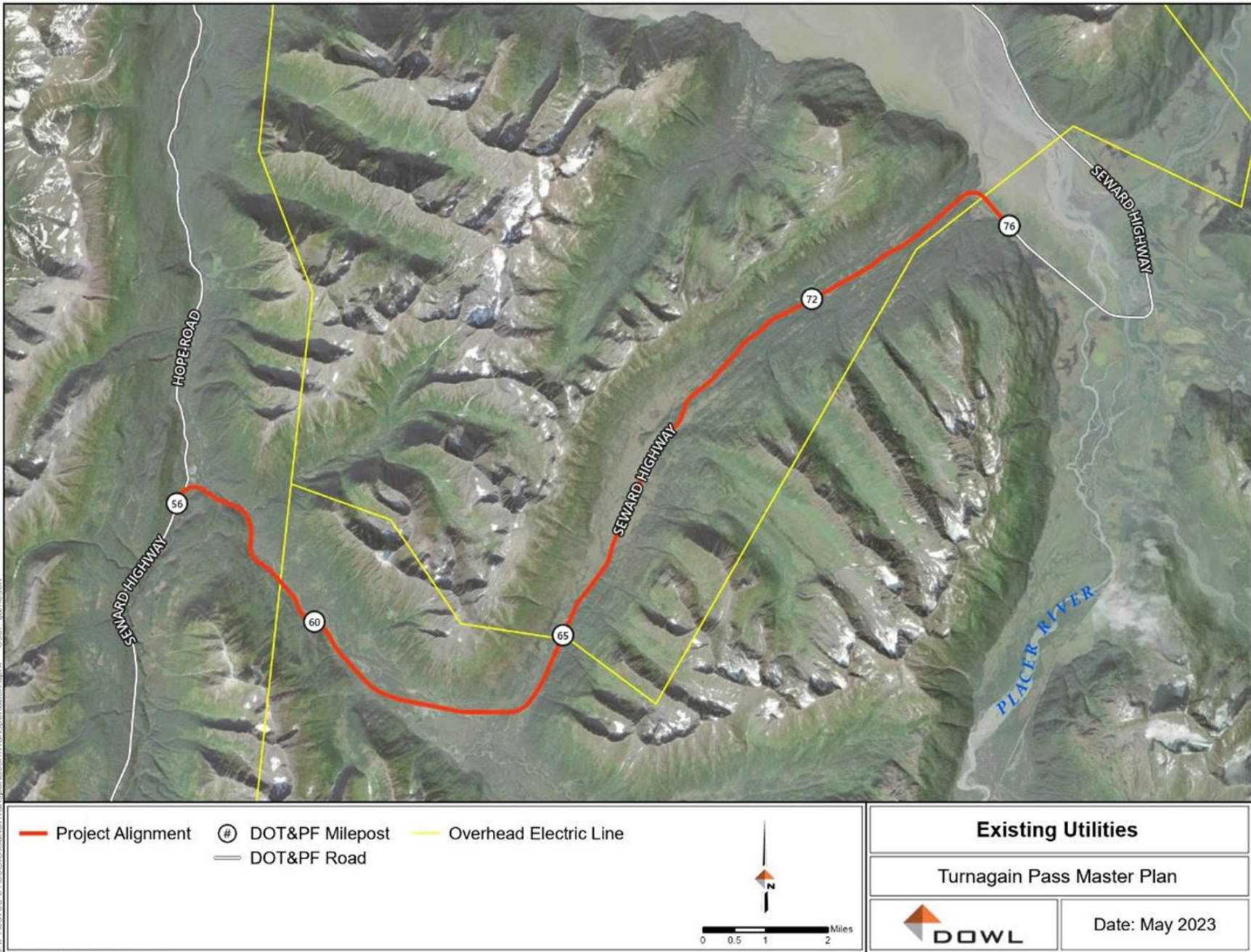


Figure 1-5 Existing Overhead Electric Line

## 1-9. Emergency Services and Safety Considerations

Local news sources state that the State Trooper Detachment A North based in Soldotna, Alaska, and the Girdwood Fire and Rescue often needs to respond outside of its dedicated service area to attend to crashes and emergencies in Kenai Peninsula Borough, sometimes as far south as MP 50.<sup>15</sup> Additional mutual aid locations for the Girdwood Fire and Rescue station include, Hope Fire Department, Cooper Landing Fire Department, Alaska Mountain Rescue Group, State of Alaska Division of Forestry, and the Alaska State Troopers.<sup>16</sup>

According to the Girdwood Fire and Rescue website, roughly 95 percent of the land within their response area is public, irreplaceable, environmentally sensitive wilderness area. The areas they service are home to threatened, endangered, and sensitive species. Girdwood Fire and Rescue is also the first responders to any incident involving the transportation corridor that contains the Alaska Railroad, Seward Highway, and ENSTAR gas transmission pipeline.<sup>16</sup>

There are four Fire Stations providing first responder services in the broader area surrounding the study area, though cell service is extremely limited and may impact the ability to call for help. Fire Stations are currently located Girdwood, Hope, Cooper Landing, and Moose Pass. In addition to response services, two emergency call boxes are located within the study area at MP 78.9 and MP 56 and an Alaska State Trooper Post is located near Cooper Landing.

---

<sup>15</sup> 2019 April 1. Cell coverage, distance limit Turnagain Pass 911 response. <https://www.alaskasnewsresource.com/content/news/Cell-coverage-distance-limit-Turnagain-Pass-911-response-507976861.html>

<sup>16</sup> Girdwood Fire and Rescue <https://www.girdwoodfire.com/> Accessed 2023

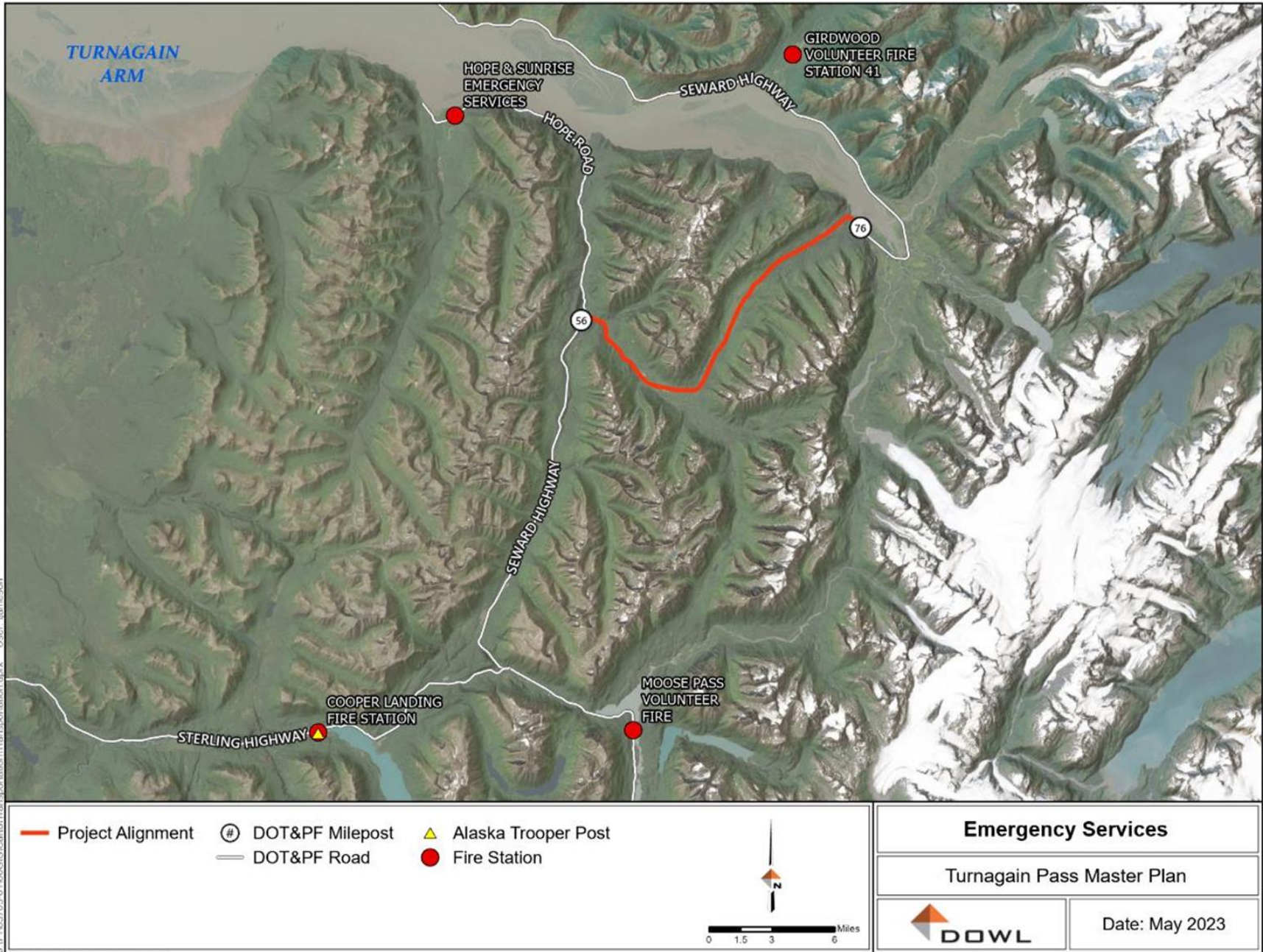


Figure 1-6 Existing Emergency Services Locations

# 1-10. Cultural Significance of the Area and Environmental Considerations

## 1-10.1. Cultural and Historical Significance

The National Historic Preservation Act (NHPA) of 1966, as amended, helps protect American archaeological sites, historic buildings, structures, objects, districts, and other cultural resources by requiring federal agencies to consider the impact of their actions on historic properties and provide the Advisory Council on Historic Preservation (ACHP) with an opportunity to comment on projects before implementation. The NHPA also established the National Register of Historic Places (NRHP), a list of historically significant properties in the United States. Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on historic properties, through consultation among the agency official and other interested parties, including state, tribal, and local governments, and the ACHP.

Property types, as defined by the NPS, are sites, buildings, structures, districts, and objects.<sup>17</sup> A “site” is defined as the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value. “Buildings” are defined as a construction created principally to shelter any form of human activity. The term “structure” is used to distinguish from buildings a functional construction made for purposes other than creating human shelter. Finally, a “district” possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

In addition to protections afforded under the NHPA, properties listed, or determined eligible for listing on the NRHP are also protected by Section 4(f) of the United States Department of Transportation (USDOT) Act. Section 4(f) prohibits use of Section 4(f) properties unless all measures to minimize harm are incorporated and there is no other reasonable and prudent alternative to the 4(f) use.

Cultural resource data assembled in this memorandum will assist in the development of the TPMP and is derived from the Alaska Heritage Resources Survey (AHRs) database maintained by the ADNR, Office of History and Archaeology (OHA) and NPS’s NRHP database.<sup>18</sup> Identified cultural resources are classified by property type and NRHP eligibility status. The AHRs is a restricted online database of cultural resources within the State of Alaska. It contains a mapping module that allows authorized users to upload shapefiles in point, line, or polygon geometries and run extract operations to identify previously recorded cultural resource sites within any given area. AHRs data also includes property type and eligibility status for listing in the NRHP.

For the purposes of this overview, data pulled from the AHRs database was checked for accuracy and completeness and included verifying determinations of eligibility. Please note the AHRs database has been under construction since December 15, 2022, and is not currently active for users. Data reported to the OHA after that date is not accessible at this time and is not reflected in this overview. The AHRs database was queried using a December 6, 2022, static copy of the system obtained from OHA (ADNR, OHA 2022). Due to the varying reliability of data contained within the AHRs, it is highly

---

<sup>17</sup> National Park Service. 1997. *National Register Bulletin #15 – How to Apply the National Register Criteria for Evaluation*. Washington, D.C.: U.S. Department of the Interior.

<sup>18</sup> Site-specific information for cultural resources described in this report is restricted and confidential under the provisions of the Archaeological Resources Protection Act and the National Historic Preservation Act. Sharing this information is limited to those with a legitimate need to know, such as appropriate personnel from agencies and authorized investigators. Do not disseminate.



likely that additional analysis, field surveys, and property location/condition verification would refine the number and classification of property types within the study area.

AHRS properties displayed on **Figure 1-7** are mapped as they are recorded within the AHRS database, and no field verification or assessment of locational reliability was performed. AHRS properties are mapped according to their geometry as contained within the database (e.g., points, lines, polygons), and may not be an accurate reflection of the spatial extent of the property (e.g., a large historic site may be represented by a single point).

In total, five AHRS properties are recorded within or intersecting the extent of the study area. Of these five properties:

- **Two** have been determined **ELIGIBLE** (One Historic District, One Structure)
- **One** is **ELIGIBLE** as part of the INHT (One Structure)
- **Two** have been determined **NOT ELIGIBLE** for the NRHP (2 Structures)
- **None** are **LISTED** in the NRHP

The number of AHRS properties significantly increases directly adjacent to the 200-foot-wide study area and includes historic properties that have been determined eligible for listing in the NRHP.

The locational reliability of these properties varies, and is influenced by factors such as:

- Year when the property was identified and entered into the AHRS database.
- The subsequent re-investigations or relocations of resources as part of cultural resource compliance activities or scholarly research collection and mapping methods used to record the location of the property (e.g., GPS unit vs. hard copy field map).

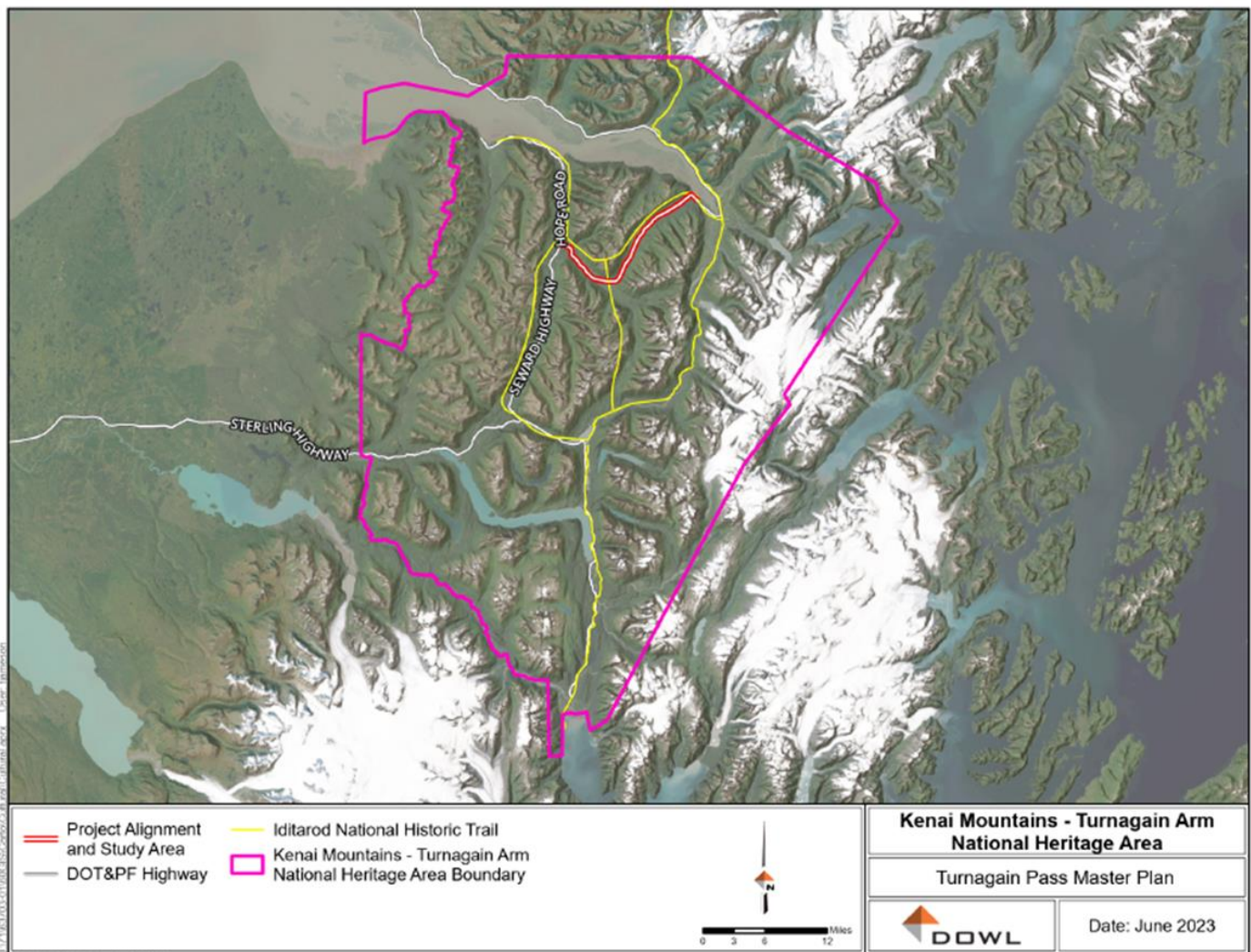
The condition of AHRS properties should be field verified, with particular attention paid to properties located within privately owned or managed lands, or properties recorded within intensive residential or commercial development. For instance, a property may no longer be extant, or it may be significantly altered from its original condition.



Figure 1-7 Existing AHRs Sites

## Kenai Mountains-Turnagain Arm Cultural Heritage Area

The study area is in the Kenai Mountains-Turnagain Arm National Heritage Area (KMTA NHA). KMTA NHA encompasses a distinctive landscape of mountains, lakes, rivers, glaciers, and fjords. The area is depicted in **Figure 1-8** and encompasses a north-south highway, rail, and trail corridors from Bird Creek to Seward and includes the communities of Girdwood, Portage, and Moose Pass. To the west, the area includes Cooper Landing, Sunrise, and Hope. To the east lie Portage, Whittier, and the wild waters of Prince William Sound. The unique landscape features prehistoric and historic land use that includes Dena’ina Athabascan heritage; exploration and gold mining; trails that include the Iditarod National Historic Trail; railroad, road, and highway construction; trapping and hunting; subsistence use; and outdoor recreation. Cultural Heritage Areas are afforded the same level of protection and consideration under the NHPA, and federal agencies are required to account for potential effects to the resource through consultation and coordination detailed in Section 106.



**Figure 1-8 Turnagain Arm National Heritage Area – Kenai Mountains**

Existing environmental conditions within a study area (defined as 100 feet from centerline on either side of the Seward Highway milepost (MP) 57 to 76) have been evaluated. Resources are described to be consistent with FHWA National Environmental Policy Act (NEPA) guidelines. The following discusses resource categories present in the study area. Categories that are not present, such as minority or low-income communities, farmlands, and coastal resources are not discussed.

## 1-10.2. Parklands or Other Special Land Uses

As described in **Section 2**, recreational resources are rich in the area with four trailheads and three campgrounds, two of which are owned and maintained by the USFS (**Figure 1-2**). Detailed descriptions of the trails and campgrounds can be found in **Section 2**. It is reasonable to assume all the recreational resources would be protected under Section 4(f) of the USDOT Act because they are on USFS lands, however protection would need to be confirmed with the DOT&PF Statewide Environmental Office. Section 4(f) of the USDOT Act prohibits use of Section 4(f) properties unless all measures to minimize harm are incorporated and there is no other reasonable and prudent alternative to the 4(f) use.

Additionally, the Seward Highway right-of-way in the study area is surrounded by Chugach National Forest, which has received funding under the Land and Water Conservation Fund (LWCF) Act and is therefore subject to protection under Section 6(f) of the LWCF Act (**Figure 1-9**). The LWCF uses strong provisions to prevent conversion of 6(f) protected lands to non-recreational uses. Any conversion of land to non-recreational purposes requires consultation with the NPS, who administers the funding and ADNR, who manages the resources.

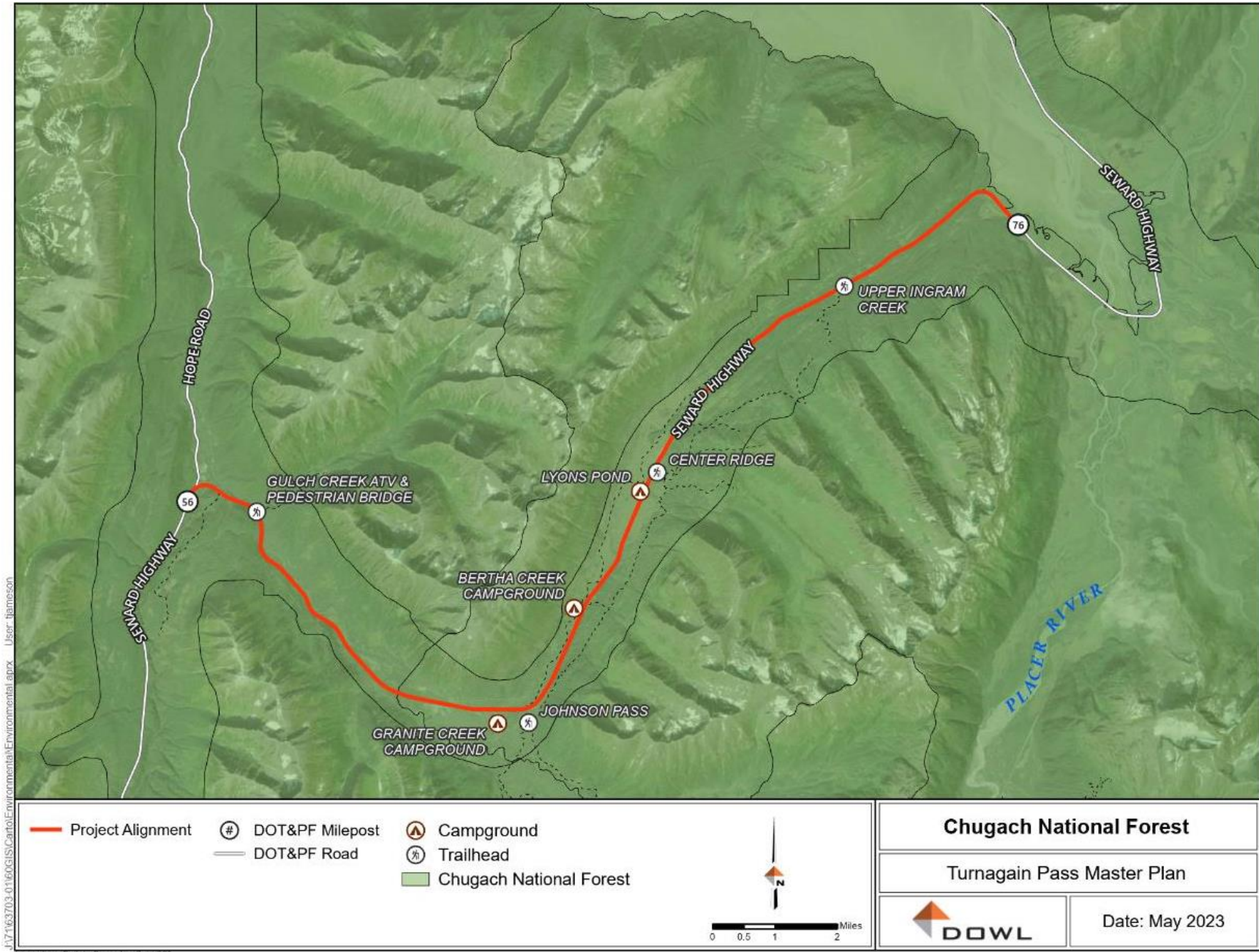


Figure 1-9 Map of Chugach National Forest

### 1-10.3. Contaminated Sites

Three ADEC contaminated sites are located within one mile of the study area (Figure 1-10). Two of the sites are active and one site has a status of cleanup complete, without institutional controls (Table 1-7):

DOT&PF Silvertip Maintenance Station Class V Injection Well, is located approximately 0.75 miles from MP 57 and cleanup is underway.

DOT&PF Silvertip Highway Maintenance Station (former location) is approximately 0.75 miles from MP 57. The site consists of a leaking underground storage tank (LUST) with outstanding data gaps concerning cleanup.

DOT&PF Silvertip Station is approximately 250-feet from MP 60 and consists of a LUST that has since been remediated.

Coordination with ADEC would be required for any ground disturbing work within 1,500 feet of these sites.

**Table 1-7 ADEC Contaminated Sites Including Status and Location**

Hazard ID No.	Site Name	Site Type	Status	Location
26579	DOT&PF Silvertip Maintenance Station Class V Injection Well	Injector Well	Active	Approx 0.75 miles from MP 57
23444	DOT&PF Silvertip Highway Maintenance Station (Former location)	LUST	Active	Approx 0.75 miles from MP 57
24703	DOT&PF Silvertip Station (Current location)	LUST	Cleanup Complete	250-feet from MP 60

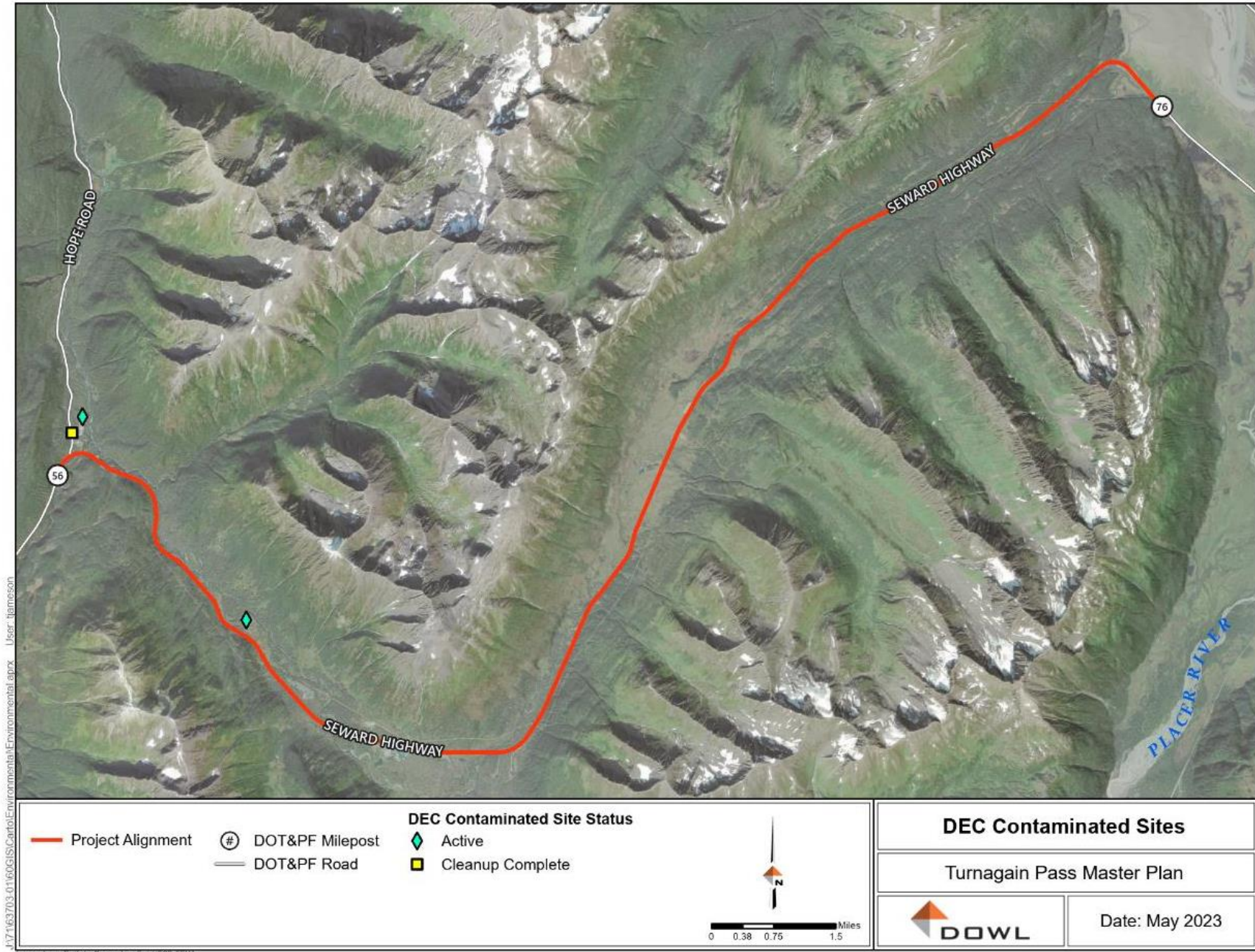


Figure 1-10 Map of ADEC Contaminated Sites

## 1-10.4. Climate Change and Air Quality

Cloudy conditions, short summers, and moderate to cold temperatures characterize the climate of this area. The average annual precipitation ranges from about 15 to 30 inches along the boundary with the Cook Inlet Lowlands to more than 100 inches in the highest mountains. Later summer and fall are generally the rainiest months. According to historical snow depth averages reported by the National Weather Service in Turnagain Pass, average snowfall can reach up to 100" in the winter months, while the average annual snowfall ranges from about 80 to 400 inches or more in the greater Cook Inlet Mountains region, which includes the Chugach Mountain surrounding Turnagain Pass<sup>19,20</sup>. The average frost-free period is about 60 to 80 days. At higher elevations, freezing temperatures can occur during every month.

The Clean Air Act (CAA) administered by the Environmental Protection Agency (EPA) regulates greenhouse gas (GHG) emissions from surface transportation vehicles and stationary power generation sources. Six GHGs are regulated under the CAA, they include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), HFCs, perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). CO<sub>2</sub> makes up most on-ground surface transportation emissions resulting from the road. The study area has several local wetlands which serve as a carbon sink where carbon GHG is stored and prevented entering the atmosphere. A Climate Change / GHG analysis may be warranted for any substantial changes to roadway capacity that would increase vehicular travel in the corridor. Conversely transportation improvements that mitigate congestion would be considered beneficial net carbon emissions reduction.

Council on Environmental Quality Climate Change Guidelines (2023) require during a NEPA evaluation an assessment of any development's resiliency to impacts from climate change such as wildfires, increased flooding, melting permafrost, increased storm severity, etc. Projected impacts of climate change for Southcentral Alaska include increased temperatures leading to milder winters, increased rain over the winter, and decreased snowpack. Precipitation is expected to increase in the form of rain, however higher temperatures would increase evapotranspiration and conditions are expected to be overall drier. Infrastructure proposals would need to consider warmer, drier conditions for climate change resiliency.

The EPA sets air quality standards for six pollutants known to impact human health. The study area currently meets all these standards. Turnagain Pass is not listed as a non-attainment area according to the EPA designated non-attainment areas for Clean Air Act's National Ambient Air Quality Standards.

---

<sup>19</sup> National Weather Service. Turnagain Pass Annual Snow Depth Plot. Accessed June 29, 2023. [https://www.weather.gov/aprfc/Snow\\_Depth](https://www.weather.gov/aprfc/Snow_Depth).

<sup>20</sup> United State Department of Agriculture, Natural Resources Conservation Service. Land Resource Regions and Major Land Resource Areas of Alaska. October 2004. Access June 29, 2023. <http://www.ak.nrcs.usda.gov/technical/lrr.html>



## 1-10.5. Waterbodies, Floodplains, and Wetlands

Numerous drainages flow into Turnagain Pass from adjacent mountains. The streams largely flow into Ingram Creek, Granite Creek, and East Fork Sixmile Creek. The existing Seward Highway from MP 57 to 76 has 31 stream crossings. The Kenai Peninsula Borough participates in the National Flood Insurance Program (NFIP); however, the study area has not been mapped by the Federal Emergency Management Agency (FEMA). Any proposed projects would need a Hydraulic and Hydrologic analysis to understand flood conveyances and base flood elevations. If floodplains are present, local floodplain management regulations would apply, however impacts to NFIP-protected properties is unlikely due to the remote nature of the study area and lack of residences.

The study area traverses from the coastline into the mountains and hosts 16.3 acres of several different wetland types ( *Table 1-8*). According to National Wetland Inventory (NWI) mapping, estuarine and marine wetlands and deepwater are present near Turnagain Arm from MP 75 to 76. Freshwater emergent, freshwater pond, freshwater forested/shrub, and

Wetland Type	Acreage
Estuarine and Marine Wetland	5.6
Estuarine and Marine Deepwater	0.1
Freshwater Emergent Wetland	2.3
Freshwater Forested/Shrub Wetland	3.6
Freshwater Pond	0.6
Riverine	4.1
<b>Total</b>	<b>16.3</b>

riverine wetlands are located throughout the project corridor. Estuarine and marine wetlands, and riverine wetlands account for the most acreage at 9.7 acres total, followed by freshwater emergent and freshwater forested/shrub consisting of 5.9 acres total. Due to the coarse nature of NWI mapping, a localized wetland delineation would likely be required to determine impacts.

**Table 1-8 Wetlands and Acreage within Study Area**

Wetland Type	Acreage
Estuarine and Marine Wetland	5.6
Estuarine and Marine Deepwater	0.1
Freshwater Emergent Wetland	2.3
Freshwater Forested/Shrub Wetland	3.6
Freshwater Pond	0.6
Riverine	4.1
<b>Total</b>	<b>16.3</b>

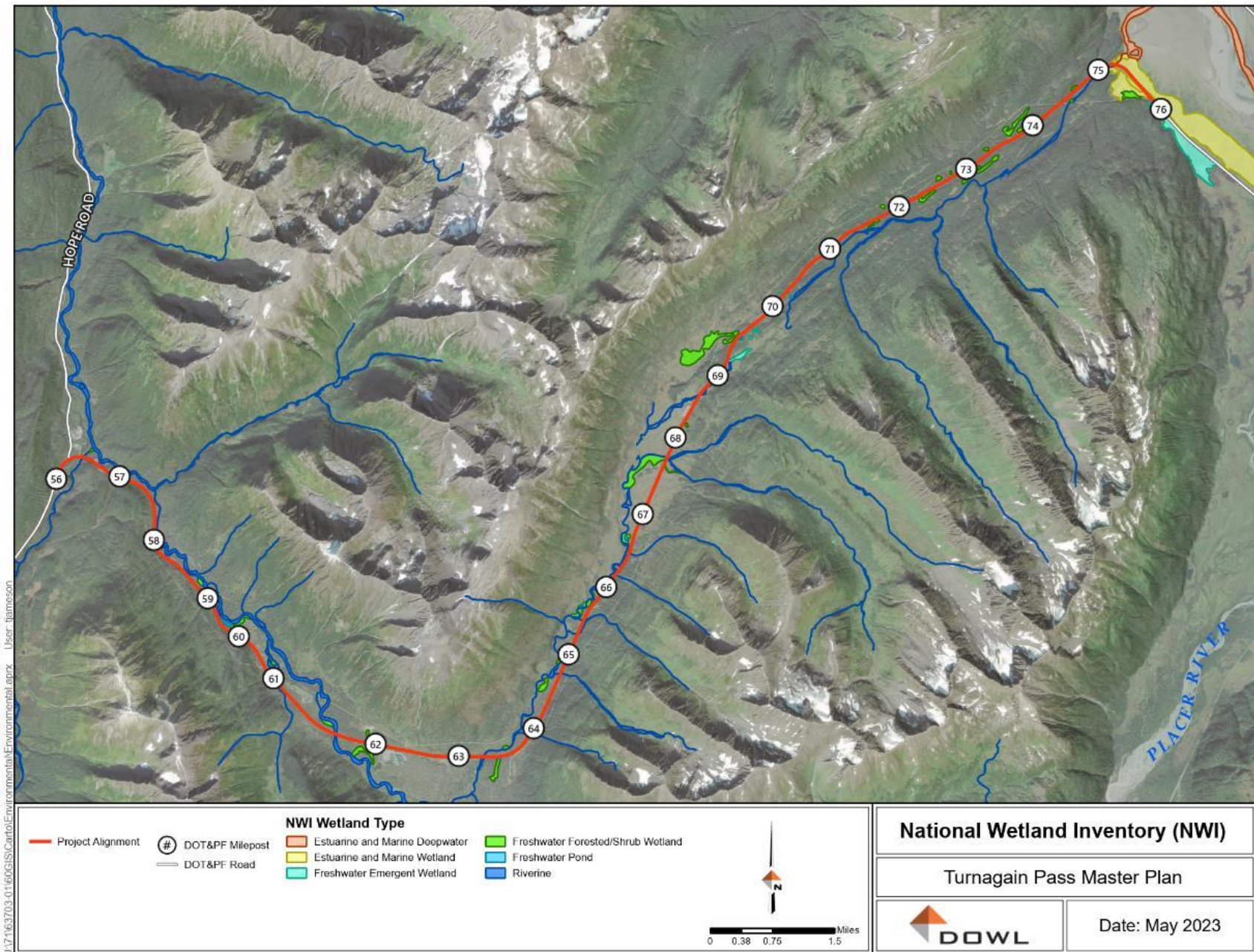


Figure 1-11 National Wetlands Inventory and Locations within Study Area

## 1-10.6. Threatened and Endangered Species

Federally threatened or endangered species present near the study area include the endangered Cook Inlet Distinct Population Segment (DPS) beluga whale (*Delphinapterus leucas*).<sup>21</sup> The study area overlaps and is adjacent Critical Habitat from approximately MP 75 to 76 (**Figure 1-11**). The Cook Inlet beluga whale is known to follow feed on eulachon and salmon in Turnagain Arm; coho salmon are documented in Ingram Creek, crossed by the study area, and eulachon may be present. Consultation with National Oceanic and Atmospheric Administration (NOAA) Fisheries is required when the actions may affect Marine Mammal Protection Act (MMPA) protected or Endangered Species Act (ESA)-listed species or their designated critical habitat. Consultation would likely result in measures to minimize construction noise impacts to Cook Inlet DPS beluga whale and direct and indirect impacts to the critical habitat.

---

<sup>21</sup>National Oceanic and Atmospheric Administration. Fisheries Species Directory. <https://www.fisheries.noaa.gov/species-directory/threatened-endangered>. Accessed 2023.

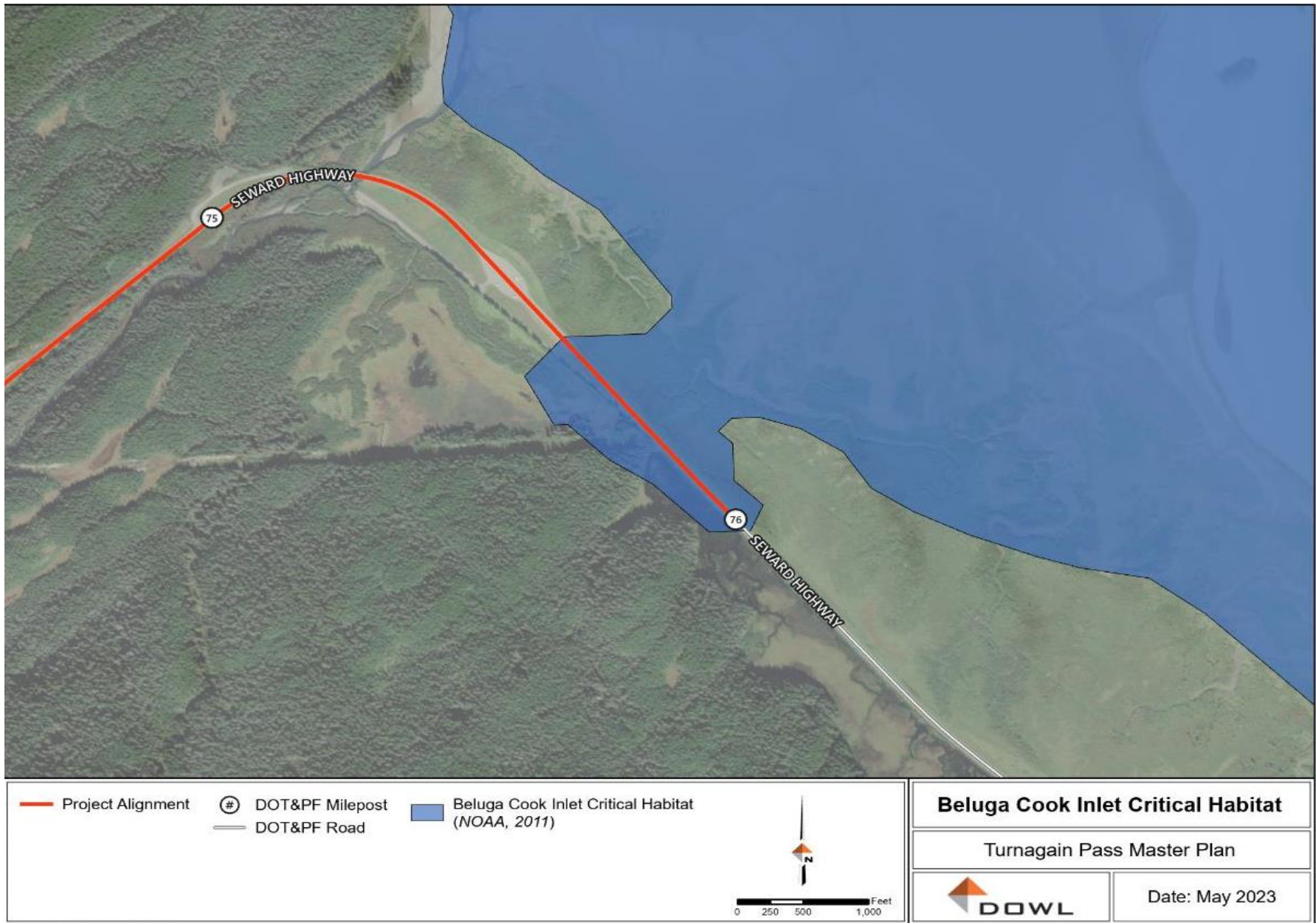


Figure 1-12 Location of Cook Inlet Beluga Critical Habitat in Relation to Study Area

## 1-10.7. Fish and Wildlife

### Fish

As noted above, the Seward Highway crosses streams 31 times, including multiple crossings of the same stream. Resident fish are very common in streams in the area and include Alaska brook lamprey, three-spine stickleback, ninespine stickleback, slimy sculpin, and Dolly Varden trout. In addition to resident fish, the area is also habitat to all five species of salmon. The current roadway crosses anadromous streams 11 times, including named streams Granite Creek, Canyon Creek, Silvertip Creek, East Fork Sixmile Creek, and Ingram Creek. All the current anadromous stream crossings are rated by Alaska Department of Fish and Game (ADF&G) to have culverts that are assumed inadequate or may be inadequate for fish passage. Alaska Statute 16.05.871 requires approval from ADF&G before constructing within or across anadromous streams, and Statute 16.05.841 requires approval for construction within or across resident fish streams. Additionally, the Kenai Peninsula Borough's Habitat Protection District requires a conditional use permit for any disturbance within 50-feet of an anadromous stream.

**Table 1-9 Anadromous Streams Crossed by Study Area and the Associated Species**

Anadromous Waters Catalog (AWC) Code	Stream Name	Species
247-60-10170-2030	Canyon Creek	Chinook, Coho Salmon
247-60-10170-2029-3026	Silvertip Creek	Chinook, Coho Salmon
247-60-10170-2029	East Fork Sixmile Creek	Chinook, Coho, Pink, Sockeye Salmon
247-60-10170-2029-3041	Granite Creek	Coho Salmon
247-60-10190	Ingram Creek	Dolly Varden & Chum, Coho, Pink, Sockeye Salmon

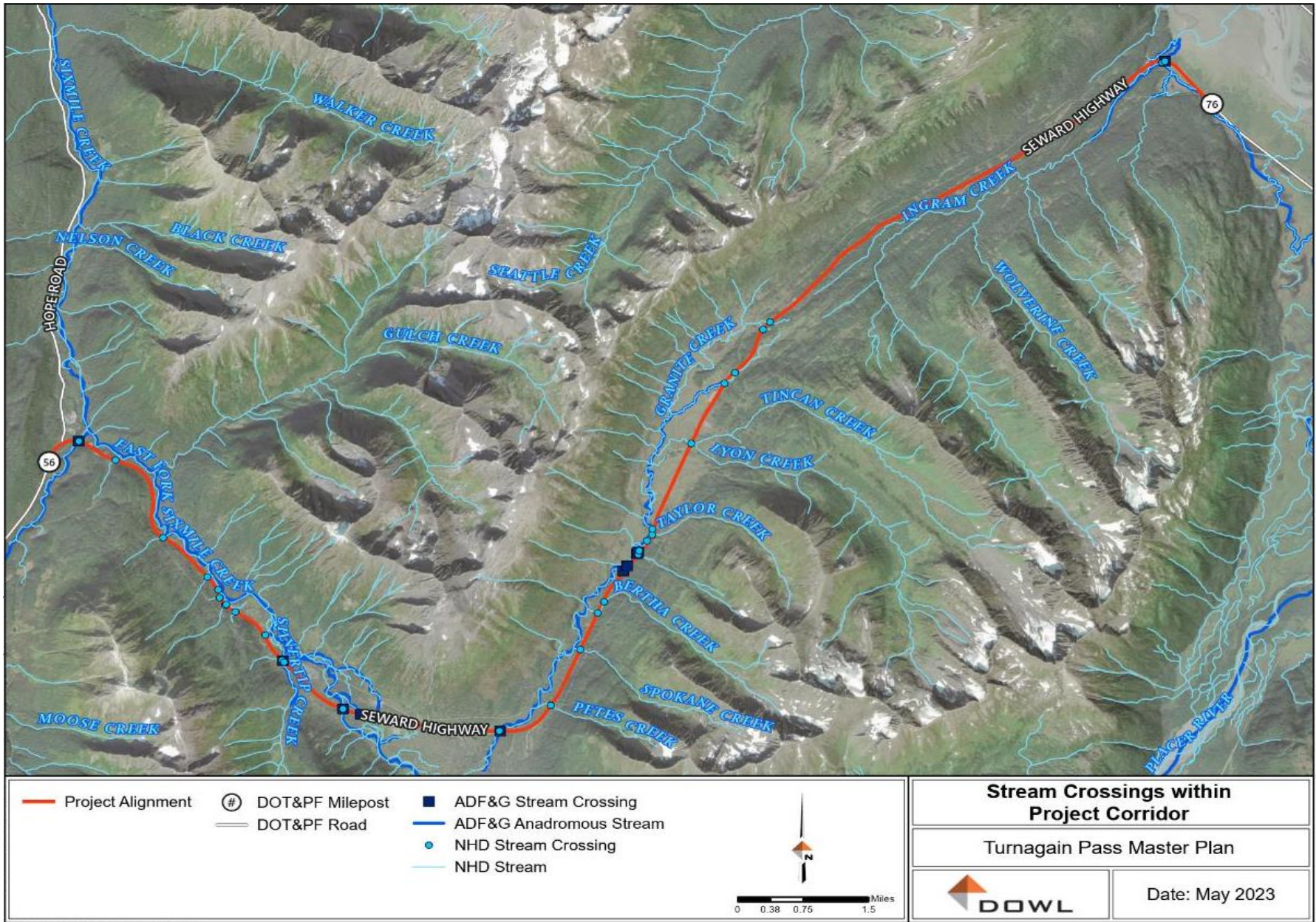


Figure 1-13 Map of NHD and ADF&G Anadromous Streams within Study Area

## Birds

Migratory birds in the study area include Bald and Golden eagles (*Haliaeetus leucocephalus* and *Aquila chrysaetos*), common loon and red-breasted merganser (*Gavia immer* and *Mergus serrator*), and two birds of conservation concern, the Olive-sided flycatcher, and Rufous Hummingbird (*Contopus cooperi* and *Selasphorus rufus*). Migratory Birds are protected by the Migratory Bird Treaty Act and consultation with U.S. Fish and Wildlife Service (USFWS) would be required before disturbing habitat during the bird window for the region May 1 to July 15. Bald and Golden eagles are protected under the Bald and Golden Eagle Protection Act and consultation with USFWS would be required for any activities that may disturb eagles or take nests. If active eagle nests are found within 660 feet of the study area (primary and secondary protection zones), the DOT&PF, in conjunction with the United States Fish and Wildlife Service, will determine appropriate actions. Appropriate actions could include: 1) restricting certain construction activities during sensitive nesting time periods; or 2) monitoring the nest during construction. An eagle nest survey would likely be needed to ensure compliance with USFWS regulations.

## Other Wildlife

Turnagain Pass is located in Game Management Unit 7, managed by ADF&G. The management unit is habitat for brown and black bear, caribou, Dall sheep, mountain goat, moose, and several furbearers such as beaver, wolf, and wolverine. Much of the wildlife listed above are found at higher elevations in the mountain range, however moose, beaver, and black bear may be found at lower elevations. Because the Seward Highway corridor has existed through the wildlife habitat since approximately 1951, improvements to the existing corridor are not expected to fragment habitat or create a new bisection of a wildlife migration corridor.

## 1-11. Operations and Maintenance

Turnagain Pass is maintained by DOT&PF Maintenance and Operations (M&O) centers within the DOT&PF Central Region. MP 56 to 75.5 is maintained by Peninsula District’s Silvertip Station and the remaining half mile from MP 75.5 to 76 is maintained by Anchorage District’s Girdwood Station.

### Current Maintenance Staffing<sup>22</sup>

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, reflecting significant staffing problems at the Silvertip Maintenance Station. For example, most of the winter of 2022/23 saw only two fulltime regular staff at the station.

### Winter Maintenance<sup>22</sup>

The Seward Highway throughout the study area experiences heavy snowfall which frequently arrives 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 away from the road. The M&O staff would see considerable advantage to widening shoulders and ditches to provide more snow storage and a space to “pull” the snow that is not within driving lanes or existing parking lots 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<sup>23</sup>

DOT&PF M&O staff view drainage along much of the corridor as 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.

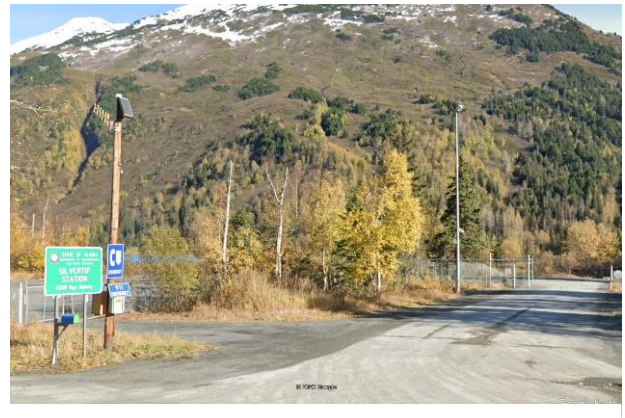


Figure 1-14 DOT&PF M&O Peninsula District’s Silvertip Station

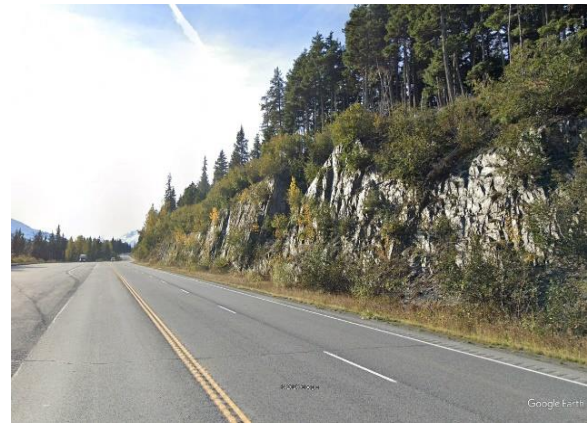


Figure 1-15 Rocky Area Along Seward Highway Through Turnagain Pass

<sup>22</sup> 2023 April 18. Interview with Sean Montgomery, DOT&PF Peninsula District M&O Superintendent.

<sup>23</sup> 2023 April 18. Interview with Sean Montgomery, DOT&PF Peninsula District M&O Superintendent.



## Roadside Assets<sup>23</sup>

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 makers. 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 the summit lake site just outside of the study area in recent years at MP 46.

## Rest Areas

Two official DOT&PF rest areas are located at approximately MP 56.5. These rest areas are maintained by DOT&PF throughout the summer months by contract and closed for winter months. Pullouts remain low priority for road maintenance in comparison to the roadway, which serves heavy freight traffic between Anchorage and the Kenai Peninsula.<sup>23</sup>



**Figure 1-16 Restroom at the Motorized Lot in Turnagain Pass during Snowy Conditions**



**Figure 1-18 Center Ridge Trailhead Pictured with a Dusting of Snow**



**Figure 1-17 Official Rest Area for Turnagain Pass Located at Canyon Creek**

# 1-12. Fees, Permits and Revenue

## User Fees

Turnagain Pass has two campground locations that have daily fees for usage. Bertha Creek Campground requires a fee to be paid per night during the peak recreation season.

Granite Creek Campground also requires a fee to be paid per night during the peak recreation season, but visitors can reserve a campsite up to 180 days in advance and provide payment online where they are charged the site fee as well as a service fee.

## USFS Permits and Interagency Passes

Permits issued by the USFS to include outfitter guide, non-commercial use, recreation event, and commercial filming and photography permits. Interagency passes and permits are available for purchase at Chugach National Forest offices located in Anchorage, Girdwood, Seward, Cordova, Begich and Boggs Visitor Centers as well as online. These passes are honored nationally at all Forest Service, National Park Service, Bureau of Land Management, Bureau of Reclamation and US Fish and Wildlife Service sites charging entrance or amenity fees<sup>24</sup>. Currently none of the recreation sites within the study area require entrance or standard amenity fees that would be included for a user using an interagency pass.

---

<sup>24</sup> <https://www.fs.usda.gov/main/chugach/passes-permits/recreation> Accessed 2023

## 1-13. Next Steps and Recommendations

The TPMP existing conditions desktop analysis and 2022 Site Visit found the study area serving variety of travel and recreational uses, rich in environmental and cultural resources, some safety-related concerns, and maintenance challenges that continue to increase due to the area's remote location, increased recreational use, expired maintenance agreements, and lack of agency M&O staff availability. The review also found abundant potential to improve access to the recreational areas and to provide better cultural and environmental resource awareness to year-round users.

As this study moves toward the demand management analysis and master planning phase, the following topic areas provide next steps to discover both opportunities for improvements and solutions to current challenges observed in the study area during the demand analysis and stakeholder and public engagement phases of the project.

### Motorized Winter and Summer Recreation

The Turnagain Pass winter season and its associated snow and ice conditions provides protection to the environmental resources described in this study area, which allows free range to recreational activities requiring open space and flexible routes. Snowmachining is the currently observed winter activity drawing users due to the steep and challenging terrain in this area. Due to current demand for access, parking, and RV or trailer camping to support users, opportunities for additional and improved facilities for snowmachine enthusiasts should be explored during stakeholder interviews.

*Next Steps.* Identify current activities and opportunities for improved facilities from motorized within the context of safe access to Turnagain Pass.

### Summer and Winter Non-Motorized Recreation

Observed non-motorized winter users are backcountry skiers and paragliders. Although these users' access needs differ from that of non-motorized summer recreators, the infrastructure needed is similar to summer season mountain bicyclists, road cyclists, horseback riders, backpackers, and hikers. Adequate parking space, safe access, and basic facilities (i.e., water, toilets, signage) could provide dual-use facilities throughout the year. Potential new or improved access to the Chugach Forest for non-motorized summer activities is in the TPMP study area should be discussed with the public and stakeholder user groups.

*Next Steps.* Identify what summer activities are currently taking place and engage the community's response to potential new infrastructure to support additional summer recreational activities and access such as single-track mountain biking, primitive camping/backpacking, groomed trails, and corridor-adjacent multiuse pathways.

### Cultural/Environmental Education and Recreation

The project area is within the Kenai Mountains-Turnagain Arm National Historic Area, a culturally rich and environmentally diverse area. When expanding recreational access in this area, sensitivity to the cultural and environmental resources should be addressed in any physical improvements or additions to the recreational facilities. Depending on the specific location, recreational activity, and season, there may be opportunities for dual use of both the land and educational tourism in the study area.

*Next Steps.* Look for areas that can be developed as dual education and recreation areas while maintaining an appropriate sensitivity to cultural and environmental context.

## Emergency Services Access

As this plan seeks to improve access and potentially increase recreation use for the area, this is an opportunity to gather additional information from the area emergency responders during stakeholder interviews to help identify the most useful location of additional emergency response facilities.

*Next Steps. Work with local emergency responders to confirm current needs, recommended improvements, and solutions to improve emergency response and preparedness for users.*

## Maintenance and Operations

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

Expansion of ditches and replacing failing culverts would help preserve existing pavement by directing water away from roadway facilities. Redirection 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 the hazard of roadside parking on 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. As outlined in [Section 7](#), 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. Agreements for DOT&PF to maintain these pullouts have expired, and it would be beneficial to users to create an updated maintenance arrangement with the appropriate agencies.

*Next Steps. Identify areas for ditch and shoulder expansion, enlarge and replace failing cross culverts, and expand pullouts to match current and anticipated demand. Address staffing challenges for winter maintenance.*

## Funding Sources and Facility Management and Operations

Increasing maintenance needs, access to life-saving emergency services, and capital projects to add or improve existing access to recreation opportunities along the corridor will likely require a dedicated source of funding and partnerships with agencies that can build and manage any infrastructure along the corridor.

*Next Steps. Identify current funding/fee/revenue sources and use. Identify potential, sustainable revenue sources for improvements and on-going maintenance based on current and forecasted demand.*

## Key Partnerships

Turnagain Pass has the potential to be a well-used area for recreationists of all ages and abilities. Partnerships between state and federal agencies, as well as the current and future user groups will be key to building and maintaining world-class recreational access to one of Alaska's most beautiful corridors. These partnerships have the potential to help state and federal agencies balance desired recreational opportunities, manage demand, and respond to concerns and ideas of the current and potential users.

In addition, agencies responsible for maintenance of Turnagain Pass facilities have opportunities to work together to better serve the demand of the current and potential users through updated maintenance agreements, addressing staffing challenges, and sustainable funding for M&O activities.

***Next Steps.** Build defined partnerships across state and federal agencies to regularly engage Turnagain Pass users to assist in serving the public. Explore opportunities for agency partnerships to best meet maintenance and associated staffing demands.*

# 2. Public Engagement



## 2-1. Stakeholder Identification and Outreach

Stakeholder identification is the process of identifying all people and organizations impacted by the Master Plan, documenting relevant information regarding their interests, involvement, and impact on the success of the Plan. Project stakeholders are persons and organizations such as the government agencies, businesses, and the public that are actively involved in the Master Plan, or whose interest may be positively or negatively affected by the completion of the Plan.

Stakeholder outreach included communication via email notifications. In addition, the engagement team reached out to stakeholders via focused group interviews to answer the following questions:

- How do you use Turnagain Pass?
- When do you visit Turnagain Pass? How often? How do you access the places you go?
- What do you like best about Turnagain Pass?
- When you visit Turnagain Pass, why do you choose to go there over other places?
- What challenges do you experience? When? How often?
- What would you improve about Turnagain Pass?

The stakeholder interview meetings listed in *Table 2-1* were held over Microsoft Teams.

**Table 2-1 Stakeholder Interview Meeting Groups Including Invited Organizations, Attendees, and Date**

Group	Invited Organizations	Organizations with Attendees	Date
General	Alaska Trails Alaska Outdoor Alliance Kenai Mountains-Turnagain Arm National Heritage Area (KMTA) Iditarod National Historic Trail Alliance Alaska Recreational Management, Inc.	Alaska Trails KMTA	06/05/2023
Biking	Singletrack Advocates Arctic Bicycle Club Bikewood	Singletrack Advocates	06/06/2023
Motorized	Chugach Backcountry Freeriders Anchorage Snowmobile Club	Chugach Backcountry Freeriders Anchorage Snowmobile Club	06/07/2023
Commercial Guides-Motorized	Alaska Wild Guides Glacier City Snowmobile Tours Alaska Backcountry Access	No attendees (rescheduled)	06/08/2023
Commercial Guides Non-motorized	Sundog Ski Guides Red Raven Guides Alaska Guide Collective Alaska Bike Adventures Kenai Backcountry Adventures Chugach Adventures IdidaRide Sled Dog Tours	No attendees	06/09/2023
River Guides	Swift Adventures Turnagain Kayak Chugach Outdoor Center Chugach Adventures NOVA Alaska Guides Alaska Packraft School	No attendees	06/12/2023
Public Safety and Avalanche	Chugach National Forest Avalanche Information Center (CNFAIC) Friends of CNFAIC Alaska Avalanche School Whittier Police Girdwood Fire Department Alaska State Troopers	CNFAIC	06/14/2023
Tourism	Alaska Travel Industry Association (ATIA) Cruise Line Agencies of Alaska Premier Alaska Tours	ATIA	06/16/2023
Commercial Guides - Motorized	Alaska Wild Guides	Alaska Wild Guides	06/28/2023



## 2-2. Open Houses

Due to the distance between the communities in proximity to Turnagain Pass, public open house meetings were held in person at the following locations:

- **Moose Pass Sportsman’s Club** on Friday, June 2, 2023, from 4:00 – 6:00 PM
- **Girdwood Community Room** on Tuesday, June 13, 2023, from 5:00 – 7:00 PM
- **REI Anchorage** on Thursday, June 15, 2023, from 4:00 – 6:00 PM

The meeting format was open house style, with no formal presentation. Attendees were greeted at a sign in table with a project fact sheet detailing the Master Plan overview, background and history, goals and themes, tasks, and engagement opportunities. Project boards lined the perimeter of the room, and an aerial roll plot was set up in the center of the room for participants to mark up. Comments were collected on written comment forms and an aerial roll plot. Members of the project team were available throughout the meetings to answer questions and gather input on the vision and current challenges for safety and recreation in Turnagain Pass.

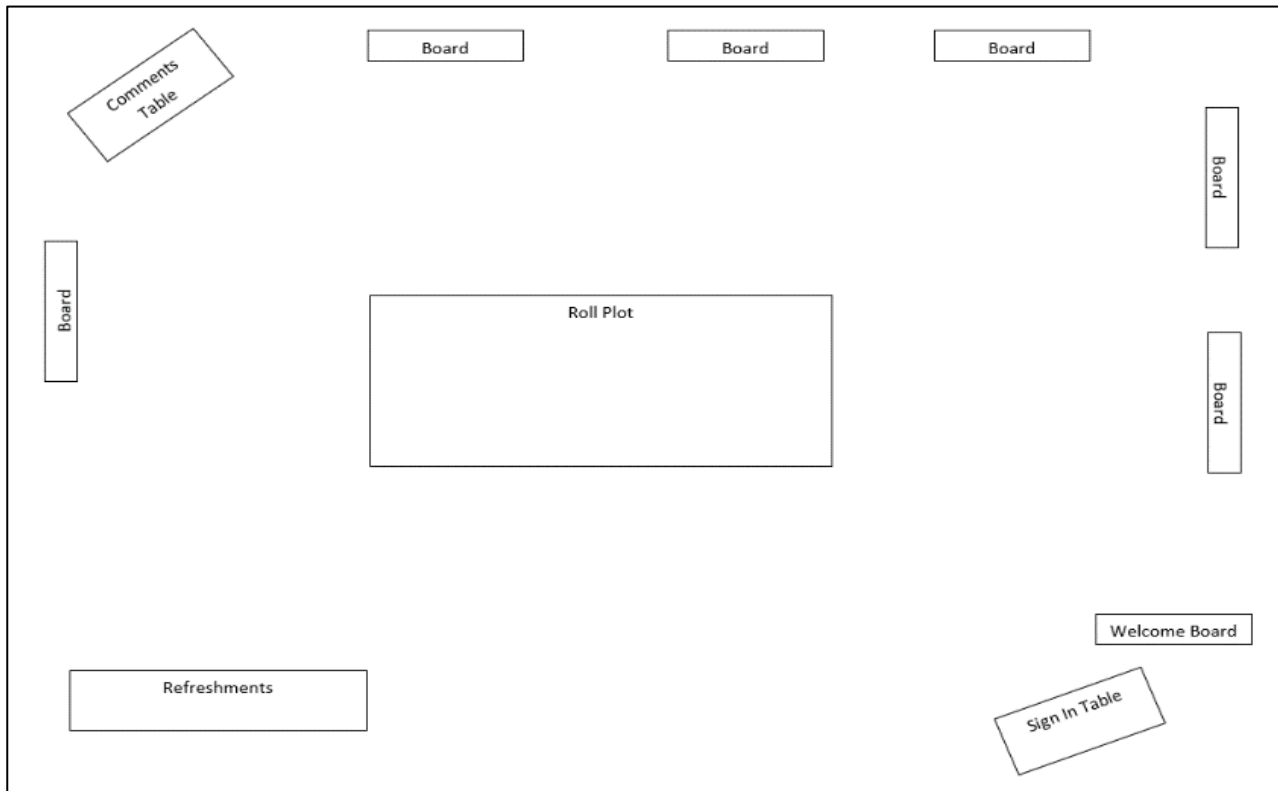


Figure 2-1 Open House Floor Plan

## 2-2.1. Display Boards

Welcome to the

# Turnagain Pass Master Plan

Public Open House

JUNE 2023

Logos for U.S. Forest Service, State of Alaska, and U.S. Department of Transportation Federal Highway Administration.

## Master Plan Focus Area

The Master Plan focus area is Seward Highway (Alaska Highway 1) between Milepost 56 and Milepost 75 on the Kenai Peninsula (Turnagain Pass). It includes all existing recreational access facilities within the corridor (trailheads, parking lots, pull outs, etc.)

Legend: Project Alignment, Campground, River Access, Trailhead, Parking, Scenic View, Turnout

Map labels: Canyon Creek Pull Area, Upper Indian Trailhead, Foghorn Trailhead, Center Ridge Trailhead, Middle Creek Campground, Johnson Park Trailhead, Seward Highway Pull Out, Upper Kenai River.

## Background & History

- Seward Highway traverses through Turnagain Pass. It is part of the National Highway System (NHS) connecting Seward and the Kenai Peninsula to Anchorage and locations north.
- Turnagain Pass is frequented by residents and visitors traveling to the myriad of recreation and other destinations on the Kenai Peninsula.
- In the summer months Turnagain Pass sees little recreation use, while in the winter, the area experiences high visitor use, including snow machine riders and backcountry skiers.
- Infrastructure in the area struggles to meet visitor demand, particularly with parking and snow removal.

## Goals & Themes

**Goals Include:**

1. Developing a joint vision for the Turnagain Pass corridor.
2. Identifying current needs, forecasting future needs, and creating a prioritized list of projects to address these needs.
3. Increasing the long-term sustainability, safety, and access to forest lands for travelers and users.

**Additional Themes Include:**

1. Improving capacity at recreation sites between seasons.
2. Improving connections between facilities, including trail networks and multimodal connections.
3. Improving pull outs and parking areas along the corridor.
4. Addressing snow removal and management needs at recreation sites.

Figure 2-2 Open House Display Boards 1-4 of 7



## Engagement

We want your input on how you use Turnagain Pass. We are looking for feedback on what works and what needs improving:

- Issues
- User conflicts
- Incompatible uses
- Any ideas for improvements
- New recreation, facility, or access opportunities

Consider the following as you leave comments:

- How do you use Turnagain Pass?
- When do you visit Turnagain Pass? How often? How do you access the places you go?
- What do you like best about Turnagain Pass?
- When you visit Turnagain Pass, why do you choose to go there over other places?
- What challenges do you experience? When? How often?
- What would you improve about Turnagain Pass?

## We want your feedback!

**Project Contacts:**

- Cole Grisham, AICP | WFLHD Project Manager | (202) 839-1409
- Joselyn Biloon | DOT & PF Kenai Area Planner | (907) 269-0508
- William Brennan | USFS Recreation Planner | (907) 754-2351
- Renee Whitesell, PTP | DOWL Project Manager | (907) 865-1161
- Holly Spoth-Torres, PLA | Huddle AK Recreation Planning & Public Engagement | (907) 223-0136
- Talli Vittetoe | DOWL Public Involvement | (907) 865-1185

**Website:**  
[www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com)



**SCAN ME!**

Scan this code with your smartphone camera to view the StoryMap and submit comments on the Turnagain Pass area map.

Figure 2-3 Open House Display Boards 5-7 of 7

## 2-3. Tribal Consultation

Tribal consultations were conducted in accordance with the United States Department of Transportation (USDOT) Tribal Consultation Plan, as well as applicable federal land management agency policies. Tribal consultations included a letter to Tribal governments identified within the planning area. The letter outlined the project, requested the Tribal government's preferred engagement method, and described any additionally planned engagement opportunities. Tribal governments were contacted by a follow-up phone call as well. The following Tribal agencies were included in outreach:

- Chugach Alaska Corporation
- Cook Inlet Tribal Council
- Cook Inlet Region, Inc.
- Kenaitze Indian Tribe
- Kenai Natives Association, Inc.
- Ninilchik Natives Association, Inc.
- Salamatof, Inc.

Tribal consultation letters are included in Appendix 2-1.

## 2-4. Stakeholder Interview Meeting | General

Monday, June 5, 2023, 2:00 – 3:00 pm, via Teams

### 2-4.1. Attendees

Jessica Smith	DOWL
Kendal Ramage	DOWL
Holly Spoth-Torres	Huddle AK
Rachel Blakeslee	Kenai Mountain Turnagain Arm National Heritage Area Corridor (KMTA)
Jessa West	Kenai Mountain Turnagain Arm National Heritage Area Corridor (KMTA)
Haley Johnston	Alaska Trails
Mariyam Medovaya	Alaska Trails
Nick D’Alessio	Remarkable Adventures

### 2-4.2. Summary

Jessica Smith (DOWL Transportation Planner) opened the meeting and welcomed participants, introduced the team, shared an overview of the project background and history, and invited participants to provide comments on issues and improvements in the Turnagain Pass corridor.

#### 2-4.2.1. How Turnagain Pass is Used

Participants in this meeting primarily use Turnagain Pass for backcountry skiing, avalanche courses, snowmachining, hiking, packrafting, cross-country skiing, walking trails in the summer, youth outdoor education and programming, and as a transportation corridor.

**Nick D’Alessio (Remarkable Adventures)**, a backcountry ski guide based in Girdwood, Alaska, noted that his season ranges from two to seven days per week from November to May. Nick instructs avalanche courses in early winter and skiing in mid- to late winter. He has a permit for both sides of the pass but does not typically take clients to the west side of the pass once it is opened to motorized travel. He does not provide transportation for his clients, and his permit only allows for three vehicles to park per trip. In the summer he primarily uses the pass for hiking and packrafting.

**Haley Johnston (Alaska Trails)** uses the pass in the summer months for berry picking, packrafting (from Granite Creek and Bertha Creek campgrounds, the six-mile raft launch, or Ingram Creek), and running and biking on the Iditarod National Historic Trail. In the winter she uses the pass multiple times a week. She uses the pass as a transportation corridor but does not use the corridor for the restroom facilities like many travelers, due to poor restroom maintenance. She noted that the Alaska Long Trail has a vision for the area to create a multimodal trail with improvements to current paved bike and pedestrian paths and the addition of bridges to paths to support usability. She commented on the limited trail infrastructure in the area and noted the desire to make the space more available to recreators.

**Rachel Blakeslee (KMTA)** noted that the Turnagain Pass corridor is in the KMTA corridor, and that without this access there is no way to connect communities to historical sites. Outdoor schooling and outreach for their program requires use of the Pass. Rachel suggested that with more facilities, they would be able to add more to their programming instead of just passing through the Turnagain Pass corridor.

**Mariyam Medovaya (Alaska Trails)** uses Turnagain Pass to cross-country ski from the main parking lot on the east side, as well as walking the trails in the summer from the main parking lot on the west side. She noted that the Alaska Long Trail perspective would be snowmachines on the west side of the pass and skiing in the winter, along with summer hiking on the east side.

### 2-4.2.2. Challenges

**Remarkable Adventures** stated that one of the biggest challenges facing the Pass is the way plowing has been approached in recent years. During his 15 years here, he has noticed a large change in plowing practices. There are days that after driving to locations in the Pass with his clients, he discovers there is no parking, and he is not able to conduct his business. He noted that the permit from the National Forest Service allows for parking at any lot, but there is only a three-car capacity at the Tincan Creek lot. Limited parking causes safety concerns. He also noted that snowbanks limit visibility when driving in and out of parking lots.

**KMTA** noted a lack of infrastructure to provide education to children, with no visitor center or structures to stop and instruct and enjoy recreation. They commented that improved restrooms and infrastructure will help with engagement, accessibility, and education, and suggested creating user-friendly trails and access locations beyond the scope of what has been done. They asked the team to consider where the funding and maintenance will come from in the long term.

### 2-4.2.3. Desired Facilities, Improvements, and Suggestions

- Additional skiing access is not needed, but instead safe skiing access and well-maintained parking areas.
- Focus on designing parking lots that are easier to be maintained by the Department of Transportation and Public Facilities (DOT&PF), including larger lots with two points of entry.
- Snow removal equipment dedicated to the Pass parking lots.
- Use Vail Pass model as an example for parking and user fees.
- Consider applying user fees if the funds could be dedicated to improving plowing.
- Rehabilitation of Pit 62 with added physical infrastructure for learning.
- Better interpretive trail information at trailheads and parking lots.
- Better-serviced restrooms.
- Additional bridges.
- A trail segment from Muskeg Meadows Trailhead to Ingram Creek, connecting the pedestrian separated pathway along the Portage curve.
- New bike path between the Granite Creek and Twenty-Mile Valley.
- Separated bike path along the entire corridor and improved paved paths.
- Public use cabin at Center Ridge Trailhead.

- Focus more recreation in the southern areas of the Pass instead of the northern areas, which are already more developed.
- Trails off the Iditarod Trail going up into the Alpine area that are focused for hikers.
- Building or facility in Turnagain Pass for outdoor education and instruction.
- Covered areas, like a picnic shelter or similar, for outdoor youth programming.

## 2-5. Stakeholder Interview Meeting | Biking

Tuesday, June 6, 2023, 2:00 – 3:00 pm, via Teams

### 2-5.1. Attendees

Cole Grisham	Western Federal Lands Highway Division (WFLHD)
Holly Spoth-Torres	Huddle AK
Talli Vittetoe	DOWL
Janice Tower	Singletrack Advocates
Lee Bolling	Singletrack Advocates

### 2-5.2. Summary

Holly Spoth-Torres (Huddle AK) opened the meeting, welcomed participants, introduced the project team, shared an overview of the project including background and history, goals and themes, project tasks, and then invited participants to provide comments on issues and improvements in the Turnagain Pass corridor.

#### 2-5.2.1. How Turnagain Pass is Used

Participants in this meeting primarily use Turnagain Pass for road cycling, fat tire biking, backcountry skiing, mountain biking in Johnson Pass, packrafting, and as a transportation corridor.

**Janice Tower (Singletrack Advocates)** spends a lot of time in Turnagain Pass backcountry skiing and is a year-round user of the Pass. She hopes that this master plan will improve facilities and safety and create more opportunities for versatile user groups.

**Lee Bolling (Singletrack Advocates)** noted that there are limited high alpine biking opportunities in the Chugach National Forest and added that he believes there is a lot of potential in Turnagain Pass for additional biking or multi-use trails.

#### 2-5.2.2. Challenges

**Janice** noted that she regularly bikes from Anchorage to Seward and finds the Pass to be dangerous for two reasons. First, the speed of traffic. Second, the shoulders are not wide enough, and there is not enough space between the rumble strips and the dirt. She noted that where a separate bike path is provided, she prefers to cycle there. She also noted that in Anchorage, it's difficult to build black diamond singletrack trails, and would like to see more of a range of riding terrain for mountain biking in the Pass.

**Lee** noted the lack of hiking and mountain biking trail development. He stated that right now Johnson Pass is the most popular place for mountain biking in the Pass, but there is more that could be developed.

#### 2-5.2.3. Desired Facilities, Improvements, and Suggestions

- Consider adding singletrack high alpine trails shown in **Figure 2-4** and **Figure 2-5**
- Widening of road shoulders to improve safety for cyclists.
- Consider adding a separate paved, multi-use path through the length of the corridor.



- Improve connectivity between trails and create safe places to cross the road.
- Widen existing parking lots and creating more places for recreators to park in the winter.
- Additional hiking trails, specifically up on the ridges.
- Develop a pull-off at the Kenai Welcome Sign into a larger parking lot to serve as a trailhead for high-alpine summer trails.
- Consider developing a summer trail that goes from the Kenai Welcome Sign up the ridge to Pyramid Peak and down to the snowmachine lot, with a few more difficult routes feeding down to the same lots shown in **Figure 2-4** and **Figure 2-5**.
- Consider developing a summer trail up the left side of the Center Ridge saddle that comes out at Lyon Creek.
- Develop loop trails in the Pass, instead of point-to-point.
- Develop groomed trails for skiing and fat tire biking near Granite Creek.
- Develop hiking trails off the Turnagain Pass Trail or Iditarod Trail providing access into the ridges.
- Creating multi-use trails where bikers and hikers can coexist.
- Develop packrafting facilities at Six-Mile and Granite Creek.
- Holly closed the meeting by encouraging Janice and Lee to continue to share project information with their membership.

### 2-5.3. Sketches from Lee Bolling

**Figure 2-4** and **Figure 2-5** are sketches provided by Lee Bolling and represent potential singletrack high alpine biking trails/summer trails to be considered in the study area. **Figure 2-4's** potential routes are lined in white and create a loop. **Figure 2-5's** routes are lined in white with downhill sections indicated with red arrow



Figure 2-4 Bolling Sketch – Showing Potential Singletrack Routes



Figure 2-5 Bolling Sketch – Showing Potential Singletrack Routes with Downhill

## 2-6. Stakeholder Interview Meeting | Motorized

Wednesday, June 7, 2023, 2:00 – 3:00 pm, via Teams

### 2-6.1. Attendees

Holly Spoth-Torres	Huddle AK
Talli Vittetoe	DOWL
Lisa Agnew	Anchorage Snowmobile Club
Sam Schilling	Anchorage Snowmobile Club, Chugach Backcountry Freeriders
Lawrence Agosti	Anchorage Snowmobile Club
Vicki Gerken	Anchorage Snowmobile Club
Michelle LaRose	Anchorage Snowmobile Club
Brooke Estes	Chugach Backcountry Freeriders

### 2-6.2. Summary

Holly Spoth-Torres (Huddle AK) opened the meeting, welcomed participants, introduced the project team, shared an overview of the project including background and history, goals and themes, project tasks, and then invited participants to provide comments on issues and improvements in the Turnagain Pass corridor. **Lawrence Agosti (Anchorage Snowmobile Club)** asked who started this project and what events prompted the initiation of the Turnagain Pass Master Plan. Holly responded by outlining the agencies in the project team and provided a brief history of safety and recreation concerns in the Pass.

#### 2-6.2.1. How Turnagain Pass is Used

Participants in this meeting primarily use Turnagain Pass for snowmachining but expressed interest in expanding recreation use if more summertime facilities were available, especially for mountain biking or summertime motorized use. Holly asked for clarification on the snowmachine up-track on why and how it got there. **Sam Schilling (Anchorage Snowmobile Club)** responded that the up track is the easiest and safest spot for snowmachines to get up on the ridgeline.

#### 2-6.2.2. Challenges

**Lawrence** noted safety concerns at the pullouts near Tincan, where there is little visibility once snow builds up, narrow access points, and cars backed up into the highway. He added that often cars are backed up nearly three feet over the white lines. Lawrence noted that the restroom facilities in Turnagain Pass are not well maintained. Holly asked participants if the Moto Lot was big enough to meet capacity needs. **Sam** responded that the lot would be big enough if the full lot were to be plowed. Most of the time, the lot is not plowed fully, and cars begin to stack up and line the shoulders of the road.

**Lawrence** commented that snowmachine riders are limited to one side of the canyon, while all other recreators do not have limits. **Lisa Agnew (Anchorage Snowmobile Club)** asked why the west side of the Pass is not open to motorized use in the summer, like it is in the winter. Lawrence responded that environmental concerns limit motorized use in the summertime.

### 2-6.2.3. Desired Facilities, Improvements, and Suggestions

- Widen Seward Highway and widen parking lot access points.
- Consider improving the road geometry near the Tincan lot to improve safety and visibility.
- Consider moving parking lot access away from bends in the road where there is low visibility when large snow berms are present.
- Improved plan for snow removal and maintenance.
- Chugach Backcountry Freeriders and Anchorage Snowmobile Club would like to explore plowing trailhead parking lots in Turnagain Pass, with potential funding from grants with the snow machine clubs.
- Improved restroom facilities.
- Consider adding cameras pointed at parking lots for recreators to see parking lot capacity and weather conditions before driving to the pass.
- Alternate parking lots for use so that plows can stick to a plow schedule.
- Moving restrooms out of the center of parking lots to make plowing easier and open more area for vehicle and trailer parking.
- Consider reaching out to the plow operators who plow these lots for feedback on redesign.
- Creating a summertime multi-use trail from Grandview to Turnagain.
- Consider identifying one motorized use corridor in the winter connecting Turnagain to Grandview.
- Developing mountain bike trails.
- Identify areas to develop a motorized terrain park for summertime use.
- Consider opening more locations for dispersed camping.
- Improve event facilities by adding pavilions, grills, picnic areas, public use cabins, etc.

## 2-7. Stakeholder Interview Meeting | Public Safety and Avalanche

Wednesday, June 14, 2023, 2:00 – 3:00 pm, via Teams

### 2-7.1. Attendees

Holly Spoth-Torres	Huddle AK
Talli Vittetoe	DOWL
John Sykes	Chugach National Forest Avalanche Information Center (CNFAIC)

### 2-7.2. Summary

Holly Spoth-Torres (Huddle AK) opened the meeting, welcomed participants, introduced the project team, shared an overview of the project including background and history, goals and themes, project tasks, and then invited the participant to provide comments on issues and improvements in the Turnagain Pass corridor. **John Sykes (CNFAIC)** was the only participant in this meeting and noted interest in the project as Turnagain Pass is the Avalanche Center’s main forecast area.

#### 2-7.2.1. How Turnagain Pass is Used

**John** primarily uses Turnagain Pass as a seasonal employee of the United States Forest Service (USFS) doing field work for the Chugach National Forest Avalanche Information Center (CNFAIC), and for personal recreation by mountain biking, hiking, and backpacking.

He stated that CNFAIC provides avalanche advisories in Turnagain Pass almost daily. Field work includes four service employees who use trailheads to access areas within their zoning forecast via skis or snow machines. The most used lots are Johnson Pass, Center Ridge, and the Moto Lot. CNFAIC does not directly respond to emergency rescue calls but has assisted in several rescues over the years when they are in the area.

#### 2-7.2.2. Challenges

**John** stated the biggest operational challenge for CNFAIC is insufficient parking and plowing and noted that days when the Pass is unsafe to drive due to lack of plowing, are often the days that would be high priority for collecting field data. The most hazardous times in backcountry recreation is commonly the same times that road conditions are unsafe to drive and park.

CNFAIC would like to use the Department of Transportation and Public Facilities (DOT&PF) weather station for precipitation and wind recordings, but the station has been inoperative for years. They rely heavily on other weather stations in the area for information to improve weather modeling.

**John** shared that there is a rescue cache on the back side of the restrooms at the Moto Lot. In the winter, the cache gets buried to the point that it could take hours to get to it the case of an emergency.

**John** noted the limited access to tree skiing. If tree skiing routes were maintained, skiers would have somewhere to go when the ridges are in dangerous condition.

**John** noted the challenge of alders, cow parsnip, and devil’s club in trail maintenance and stated that he would rather see resources allocated to improving the existing trail systems for the whole summer, rather than build more trails that cannot be maintained.

### 2-7.2.3. Desired Facilities, Improvements, and Suggestions

- Increased funding opportunities to keep Turnagain Pass plowed.
- Improved parking and plowing at the Tincan Trailhead.
- Increase the number of access points between the Johnson Pass Trailhead and the Hope Junction.
- Redesign lots to increase plowing efficiency.
- Repair the DOT&PF weather station.
- Develop and maintain tree skiing routes.
- Add bridges at Ingram Creek between the Kenai Peninsula Sign and Eddie's.
- Improved cell phone coverage in the corridor.
- Redesign the rescue cache at the Moto Lot in a powered facility, with a warming hut.
- Develop a summer multi-use trail from Center Ridge to Lyon Creek or Bertha Creek.
- Clear alders from the up track to improved safety and access to alpine terrain.
- Improve trail maintenance for existing trail facilities before developing additional trails.
- Install backcountry access (BCA) avalanche transceivers at every trailhead in Turnagain Pass to remind people to carry avalanche rescue equipment and check if transceiver is working.

## 2-8. Stakeholder Interview Meeting | Tourism

Friday, June 16, 2023, 2:00 – 3:00 pm, via Teams

### 2-8.1. Attendees

Holly Spoth-Torres	Huddle AK
Talli Vittetoe	DOWL
Jeff Samuels	Alaska Travel Industry Association (ATIA)

### 2-8.2. Summary

Holly Spoth-Torres (Huddle AK) opened the meeting, welcomed participants, introduced the project team, shared an overview of the project including background and history, goals and themes, project tasks, and then invited the participant to provide comments on issues and improvements in the Turnagain Pass corridor. **Jeff Samuels (ATIA)** was the only participant in this interview.

#### 2-8.2.1. How Turnagain Pass is Used

**Jeff** primarily uses Turnagain Pass as a transportation corridor, for foraging, mountain biking, and hiking.

He noted that he has not heard discussion on using Turnagain Pass as a potential destination for ATIA members in the future but shared his thoughts on the iconic Alaskan landscape that the Pass offers.

#### 2-8.2.2. Challenges

**Jeff** commented that the campgrounds in the Pass are small and have few amenities. He indicated that he would likely travel there in the summertime for the weekend from Girdwood if the campgrounds had more to offer. He noted the need for better connections between campgrounds and trailheads.

#### 2-8.2.3. Desired Facilities, Improvements, and Suggestions

- Daily public restroom maintenance. Consider a public-private-partnership agreement to make this happen.
- Improved safety for travelers along the roadway.
- Adequate funding for the Silvertip and Girdwood stations.
- Permanent facility for outdoor education.
- Preserve the wild and scenic characteristics of the corridor.
- Improve cell phone service.
- Improve connections between trailheads and campgrounds.
- Develop interpretive trails in the area that detail weather, cultural, and geological history in Turnagain Pass.



## 2-9. Stakeholder Interview Meeting | Commercial Motorized

Monday, June 26, 2023, 3:00 – 4:00 pm, via Teams

### 2-9.1. Attendees

Holly Spoth-Torres

Huddle AK

Talli Vittetoe

DOWL

Amanda Clayton

Alaska Wild Guides

### 2-9.2. Summary

Holly Spoth-Torres (Huddle AK) opened the meeting, welcomed participants, introduced the project team, shared an overview of the project including background and history, goals and themes, project tasks, and then invited the participant to provide comments on issues and improvements in the Turnagain Pass corridor.

**Amanda Clayton (Alaska Wild Guides)** was the only participant in this interview.

#### 2-9.2.1. How Turnagain Pass is Used

**Amanda** primarily uses Turnagain Pass to coordinate snowmachine tours out of Bertha Creek from early-December to mid-January, and to pack raft near Granite Creek in the summer. Alaska Wild Guides uses the pullout after Bertha Creek Campground to start their snowmachine tours. Tours are out-and-back day trips that head south towards Lynx Creek, often visiting the historic cabin, before returning. Alaska Wild Guides uses Turnagain Pass to operate snowmachine tours until there is enough snow for them to safely take their clients to Spencer Glacier. The tours cover approximately 14 miles, and all trails are maintained by Alaska Wild Guides.

#### 2-9.2.2. Challenges

**Amanda** noted the lack of safe creek crossings near Johnson Pass and commented that Alaska Wild Guides builds snow bridges to cross the creeks. She noted that the narrowness of winter trails makes passing other users difficult. She mentioned that there are few trails in the north side of the pass, which causes congestion at the summit and in the south portion of the pass.

**Amanda** noted collision concerns at the cross-country ski trails near Granite Creek that are located on the motorized side of the Pass.

**Amanda** commented on the limited parking at Tincan Trailhead and Granite Creek Campground.

#### 2-9.2.3. Desired Facilities, Improvements, and Suggestions

- Consider additional bridges at creek crossings near Johnson Pass.
- Additional funding for groomed trails.
- Improve cell phone service in the Pass.
- Consider developing trails near the Kenai Peninsula Welcome Sign.
- Consider allowing summertime ATV use on the motorized side.
- Additional semi-permanent warming structures for users to meet and get warm.

- Consider adding charging stations for electric snowmachines.
- Consider adding public use cabins in Johnson Pass.
- Improve markers and signage at historic trails.
- Additional parking at Tincan Trailhead and Granite Creek Campground.

## 2-10. Moose Pass Open House Summary

### Friday, June 2, 2023, 4:00 – 6:00 pm, Moose Pass Sportsman’s Club

The open house meeting was held in person at the Moose Pass Sportsman’s Club. The first attendees arrived on time at 4:00 pm. The meeting format was open house style, with no formal presentation. Attendees were greeted at the sign-in table with a project fact sheet detailing the Master Plan overview, background and history, goals and themes, tasks, and engagement opportunities. Project boards lined the perimeter of the room, and an aerial roll plot was set up in the center of the room for participants to mark up. A table was set up to collect written comments, but no participants filled out comment forms. All comments were documented on the aerial roll plot.

Members of the project team were available throughout the meeting to answer questions and gather input on the vision and current challenges for safety and recreation in Turnagain Pass (the Pass).

Twelve (12) people signed in, including members of the project team.

### 2-10.1. Summary of Comments Received During the Open House

#### Winter Season:

- Consider grooming cross-country skiing and fat biking trails from the Center Ridge Trailhead or the Granite Creek Campground loop.
- Concerns with lack of viable parking west of the Johnson Pass Trailhead in the wintertime.
- Concerns with safety due to limited parking at the Tincan Trailhead.
- Consider rehabilitating current parking lots and designing new parking lots that are easy for Department of Transportation and Public Facilities (DOT&PF) to plow, with two entrances where possible and wide entrances (Upper Ingram Trailhead is a good example of an easy lot to plow).
- Concerns that if additional parking is added to the corridor, it will not be useful without a constructive plan for snow removal.
- Concerns that the following lots are not plowed in the winter: Silvertip, Johnson Pass, Betha Creek, and the weather station.
- Concerns for safety due to large pools of standing water on the road near Gulch Creek, especially during the shoulder seasons.

#### Summer Season:

- Consider adopting and maintaining historic mining trails for hiking use. Look into working with Kenai Mountains-Turnagain Arm (KMTA) National Heritage Area for grant programs.
- Consider developing the Lynx Trail.
- Consider adding interpretive trails in the corridor.
- Consider adding trails on the west side of the pass near Center Ridge Trailhead for mountain biking.
- Consider using the old roadbed near Bertha Creek for bike paths.
- Concerns with safety when road biking this section of Seward Highway.

- Concerns about the pass having the most parking available in the summertime, with the least summer trail systems.
- Concerns that recreational mining is not well-regulated, and there is difficulty in preventing the area from being depreciated.

### Facilities:

- Consider adding structures in the corridor for outdoor learning education when there is inclement weather i.e., yurts, pavilions, and buildings.
- Consider creating a downloadable podcast series to listen to while driving through the corridor with the history of Turnagain Pass, facts, and experience ideas, with physical structures where participants can stop along the way. KMTA offers to assist in materials and production.
- Consider adding a picnic table and pavilion at the Moto Lot.
- Consider constructing a Center Ridge public use cabin. Trail building and limited summer access are the largest challenges to physical structures at Center Ridge.

### Restroom maintenance:

- Concerns that Center Ridge is the main restroom stop.
- Consider adding more restroom facilities.
- Complaints about poor restroom maintenance and upkeep in all seasons.
- Consider using the gravel pit at Mile 62 for additional parking, trailheads, etc.
- Concerns with the lack of cell phone service in the corridor.
- Consider redesigning the weather station so the cameras work year-round.
- Consider adding public cameras pointed at parking lots so recreators can view capacity prior to driving to the Pass.
- Consider expanding the parking at the Johnson Pass Trailhead if the Alaska Long Trail connects there.
- Evaluate the challenges to reservation systems at campgrounds before requiring reservations for camp spots:
  - People can book a spot for several weeks or an entire season and not show up.
  - People rarely go through the process of cancelling their reservations when they cannot attend.
  - Camp sites sit empty, although reserved, for a majority of the season.
- Consider first-come camping at campgrounds in the corridor or establishing a check-in cut off time, even if reservations are made.
- Concerns about limited Americans with Disabilities Act (ADA) access.

## Road Maintenance:

- Striping.
- Drainage and storm issues.
- Limited visibility due to fog.
- Insufficient lighting in the corridor.

## 2-10.2. Action Items

### Updates to aerial roll plot:

- Add United States Forest Service (USFS) planned public use cabins.
- Mark backcountry campsites.
- Name Moto Lot on the map.
- Add multi-use trail.
- Label the winter up-track.
- Mark State and National Forest boundaries.
- Add common names for ridges (Chugach Avalanche Center maps).
- Update and review trails.



**Figure 2-6: Attendees Gathered Around an Aerial Roll Plot of the Turnagain Pass Study Area at Moose Pass Sportsman Club**

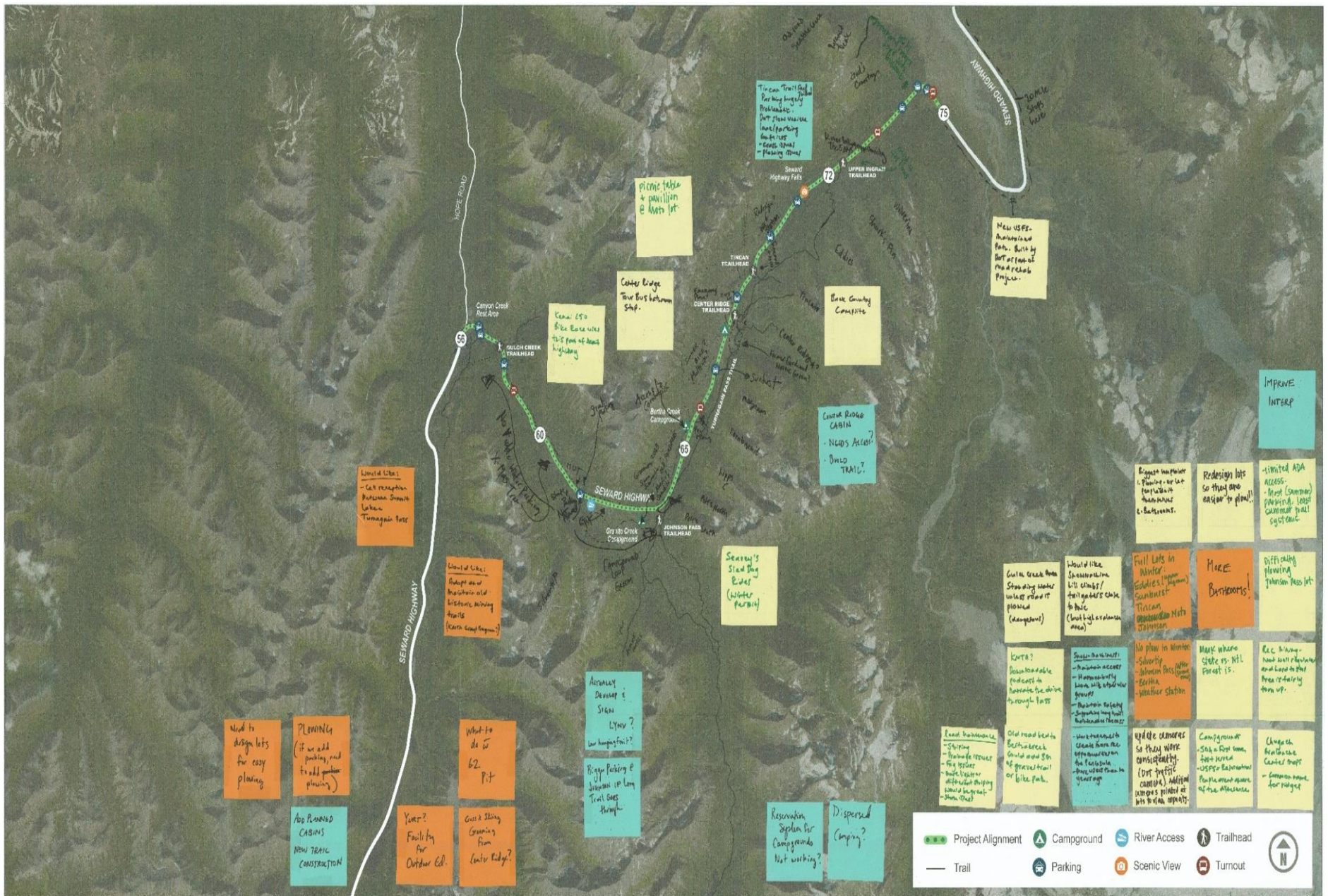


Figure 2-7 Moose Pass Open House Full Roll Plot Map with Comments

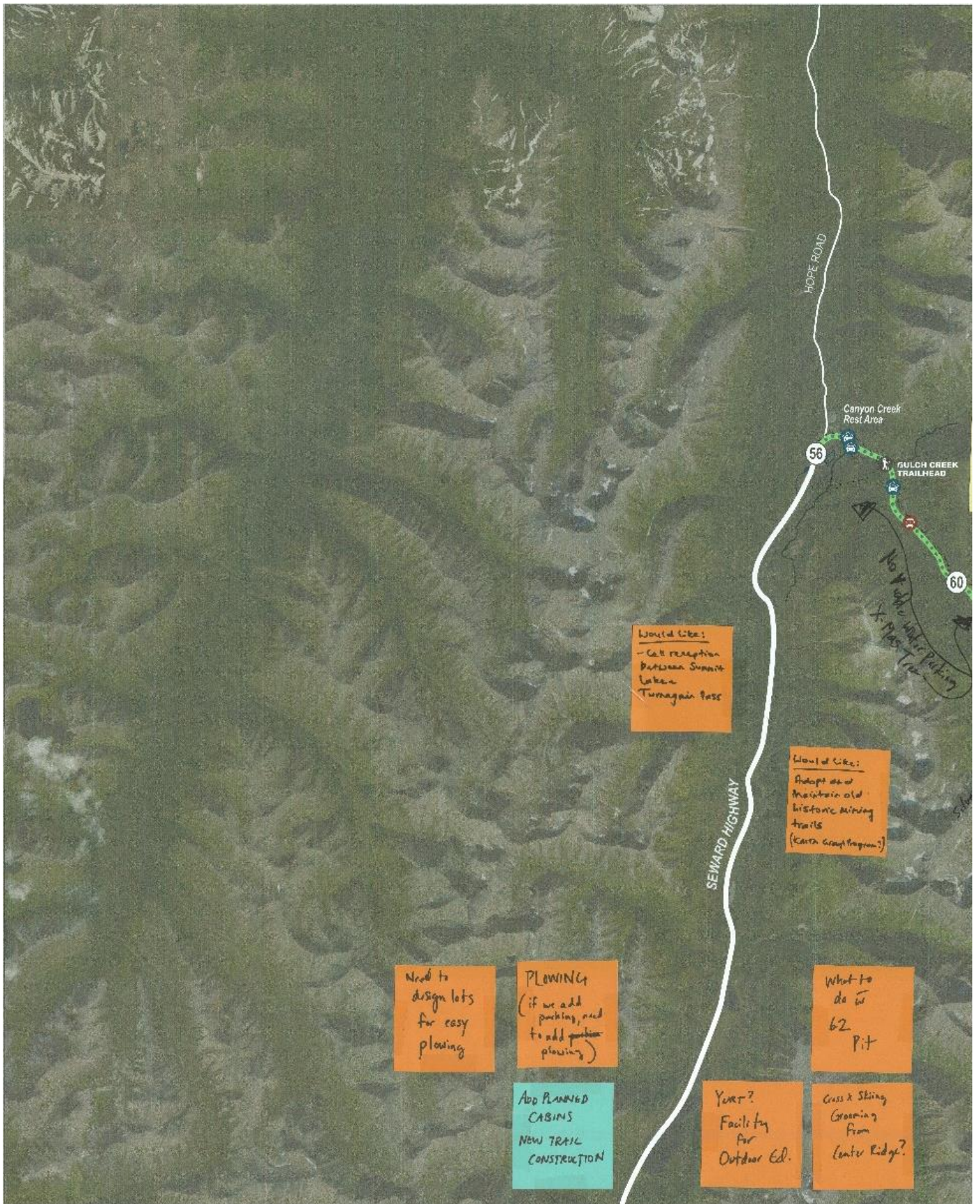


Figure 2-8 Moose Pass Roll Plot Map with Comments Section One

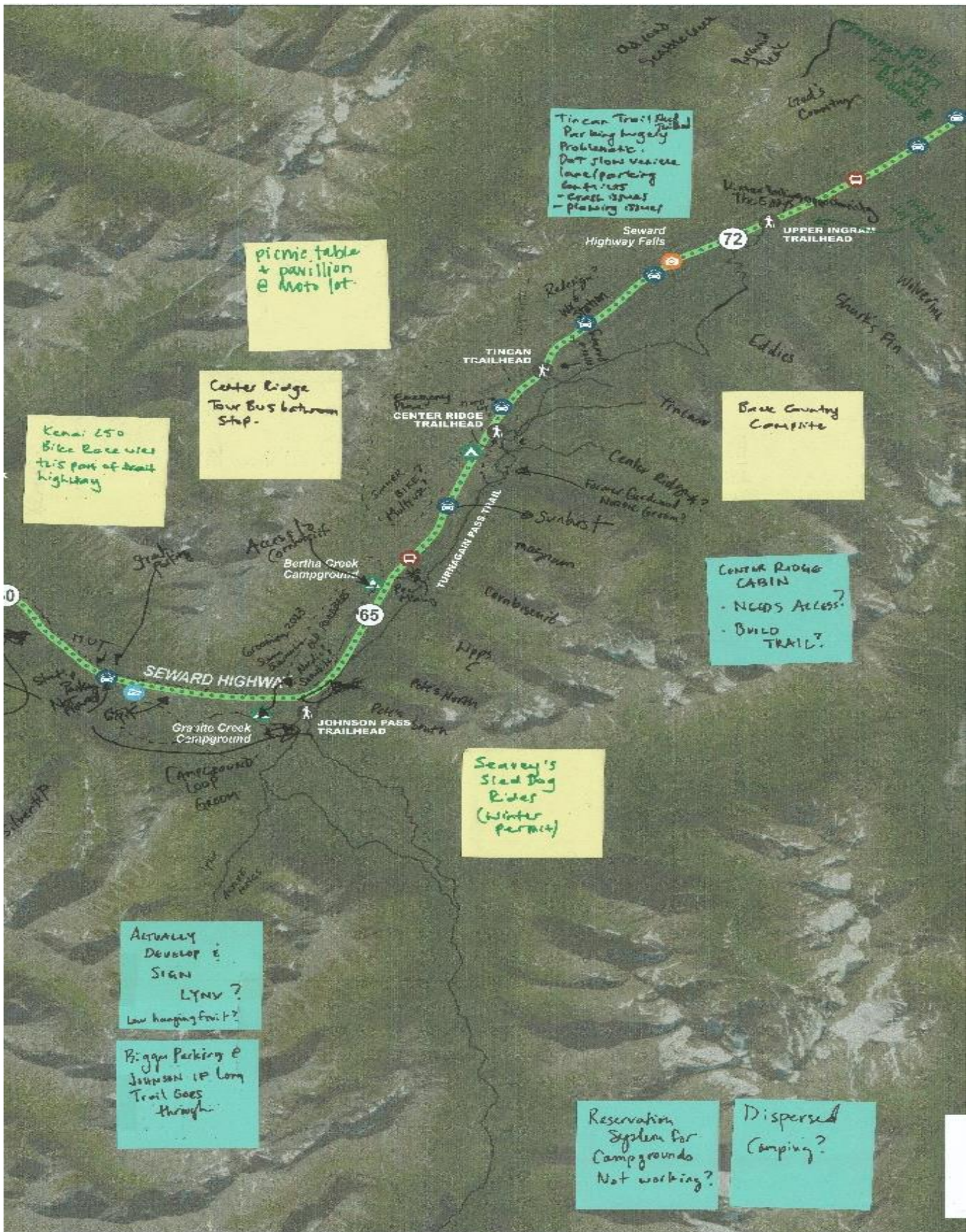


Figure 2-9 Moose Pass Roll Plot Map with Comments Section Two



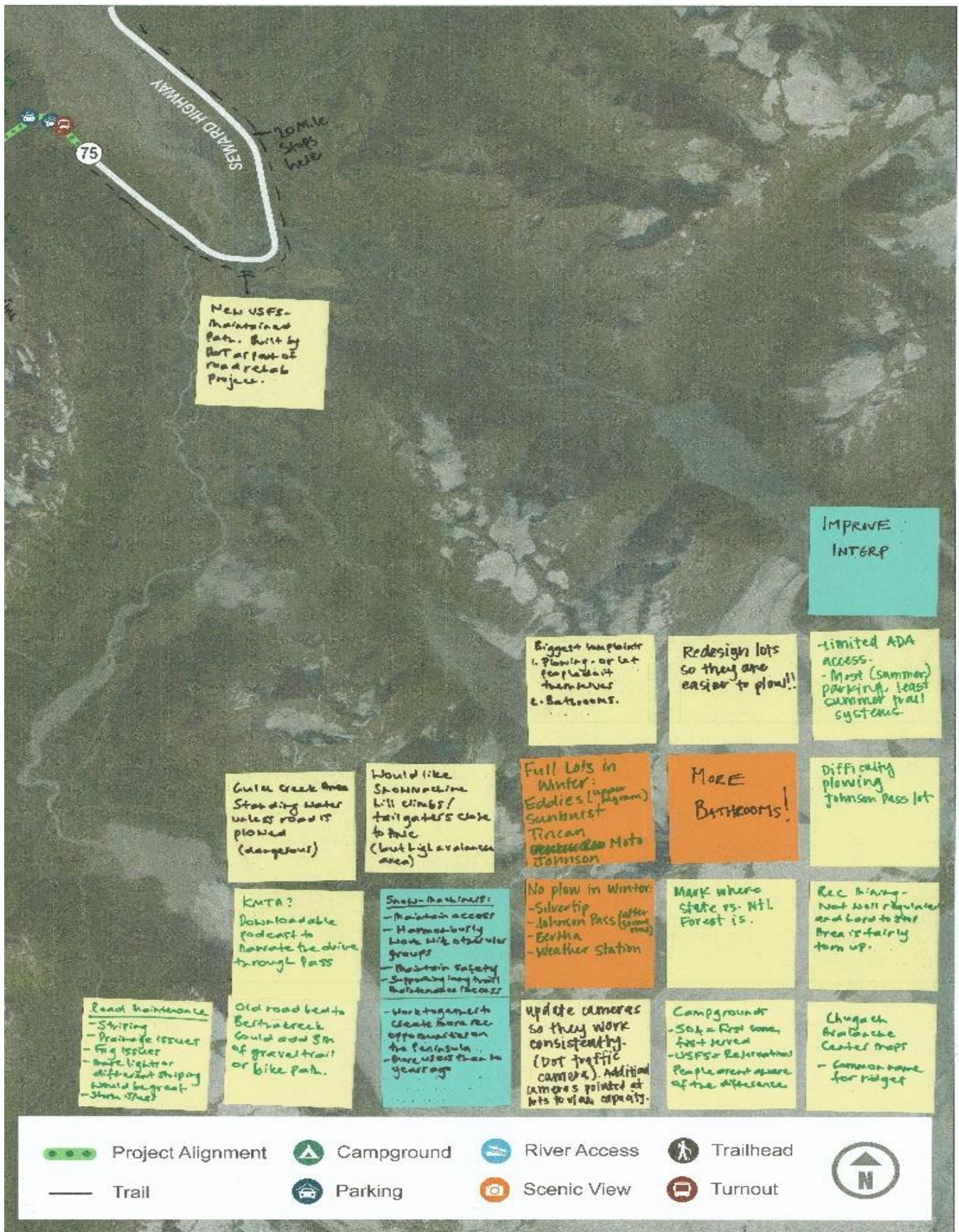


Figure 2-10 Moose Pass Roll Plot Map with Comments Section Three

## 2-11. Girdwood Open House Summary

**Tuesday, June 13, 2023, 5:00 – 7:00 pm, Girdwood Community Room**

The open house meeting was held in person at the Girdwood Community Room. The first attendees arrived on time at 5:00 pm. The meeting format was open house style, with no formal presentation. Attendees were greeted at the sign in table with a project fact sheet detailing the Master Plan overview, background and history, goals and themes, tasks, and engagement opportunities. Project boards lined the perimeter of the room, and an aerial roll plot was set up in the center of the room for participants to mark up. Four participants filled out written comment forms at a comment table. Additional comments were documented on the aerial roll plot.

Members of the project team were available throughout the meeting to answer questions and gather input on the vision and current challenges for safety and recreation in Turnagain Pass (the Pass).

Forty-one (41) people signed in, including members of the project team.

### 2-11.1. Summary of Comments Received During the Open House

#### Winter Season:

- Concerns with poor plowing of ski lots.
- Concerns with narrow access points.
- Concerns with poor plowing of the weather station lot.
- Consider rehabilitating current parking lots and designing new parking lots that are easy for the Department of Transportation and Public Facilities (DOT&PF) to plow.
- Consider improved maintenance at the Johnson Pass Trailhead.
- Consider developing Nordic ski trails for higher elevation snow near Center Ridge or Sunburst.
- Consider allowing the Girdwood Nordic Ski Club access to groom near Center Ridge in low snow years.
- Consider cutting trails through the alders for winter ski corridors.
- Consider more trails in the Johnson Pass area. Participants noted that the installed bridges have been helpful.



**Figure 2-11 Attendees Gathered Around an Aerial Roll Plot of the Turnagain Pass Study Area in the Girdwood Community Room**

#### Summer Season:

- Consider mountain bike trails through Seattle Ridge and Pyramid Peak that connect to the all-terrain vehicle (ATV) trails in God's Country.
- Consider mountain bike trails that connect to the Iditarod National Historic Trail.

- Consider multi-use trails to Eddie’s for summertime use.
- Consider a multi-use trail from the Alaska Railroad stop at Spencer Glacier to the Johnson Pass Trailhead.
- Consider extending the paved bike trail through the corridor, including funding for maintenance (brushing and re-surfacing).
- Consider upgrading the Turnagain Pass Trail.
- Consider a multi-use trail system starting at the Kenai Peninsula welcome sign.
- Consider hiking trails to peaks on the east side of the Pass.
- Consider a 30-mile singletrack route for enduro motorcycles.
- Concerns with interfering with mining claims in the Pass, as mining has the longest recreational history in Turnagain Pass.

## Facilities:

### Improvements:

- Consider adding parking lots in the following areas:
  - Silvertip Twin Peaks.
  - North side of Seward Highway near Granite Creek campground.
  - Tincan Trailhead and allowing guide services to operate out of the parking area.
- Consider adding rest areas comparable to those in the lower 48.
- Consider designating target practice areas in the Pass.
- Consider developing the Granite Creek Recreation Area for recreation use.

### Maintenance:

- Complaints about poor restroom maintenance
- Consider adding restroom facilities with flushable toilets.
- Consider removing all restroom facilities.
- Consider year-round restroom facilities that are cleaned and maintained.
- Consider maintaining the existing facilities before new infrastructure is added.
- Add a restroom facility at Tincan Trailhead
- Consider adding pet waste stations at trailheads and campgrounds.

### Safety/EMS:

- Concerns about safety due to lack of cell phone service in the corridor. Participants requested adding cell towers or Starlink facilities in the corridor.
- Concerns about safety due to lack of funding for rescue services.
- Consider improving signage at pullouts and trailheads for locating injured persons.

- Consider adding emergency phone stations to parking lots and trailheads.

#### **Specialized Recreation:**

- Concerns with parking lots sizes that are unable to accommodate horse trailers.
- Consider developing more dispersed camping locations.
- Consider developing connecting trails between campgrounds and trailheads.
- Participants noted that the easiest locations to bring horses are the Johnson Pass and Ingram Creek Trailheads.
- Consider leaving Turnagain Pass as it is, with no updates to facilities.

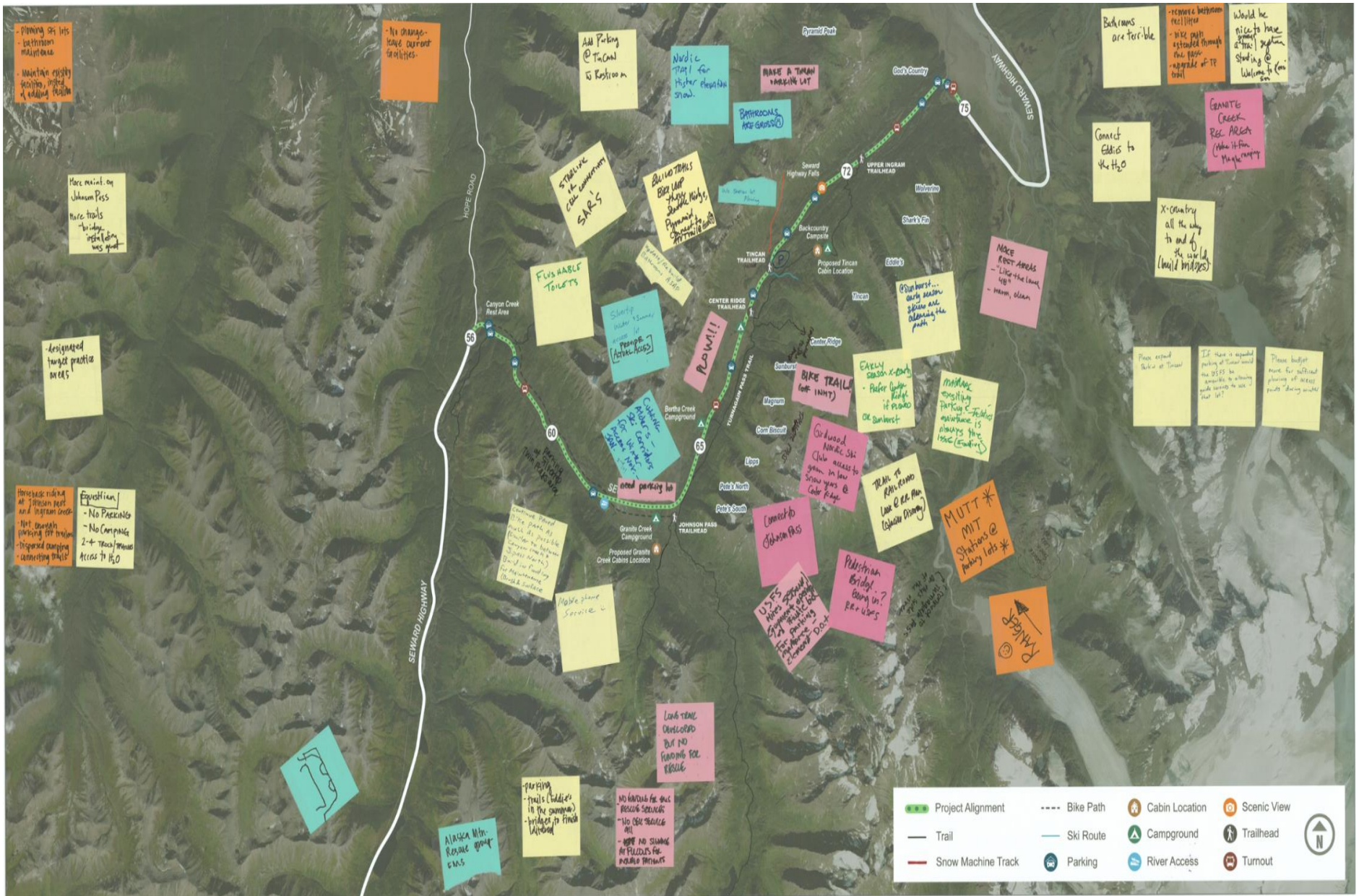


Figure 2-12 Girdwood Community Room Roll Plot with Comments

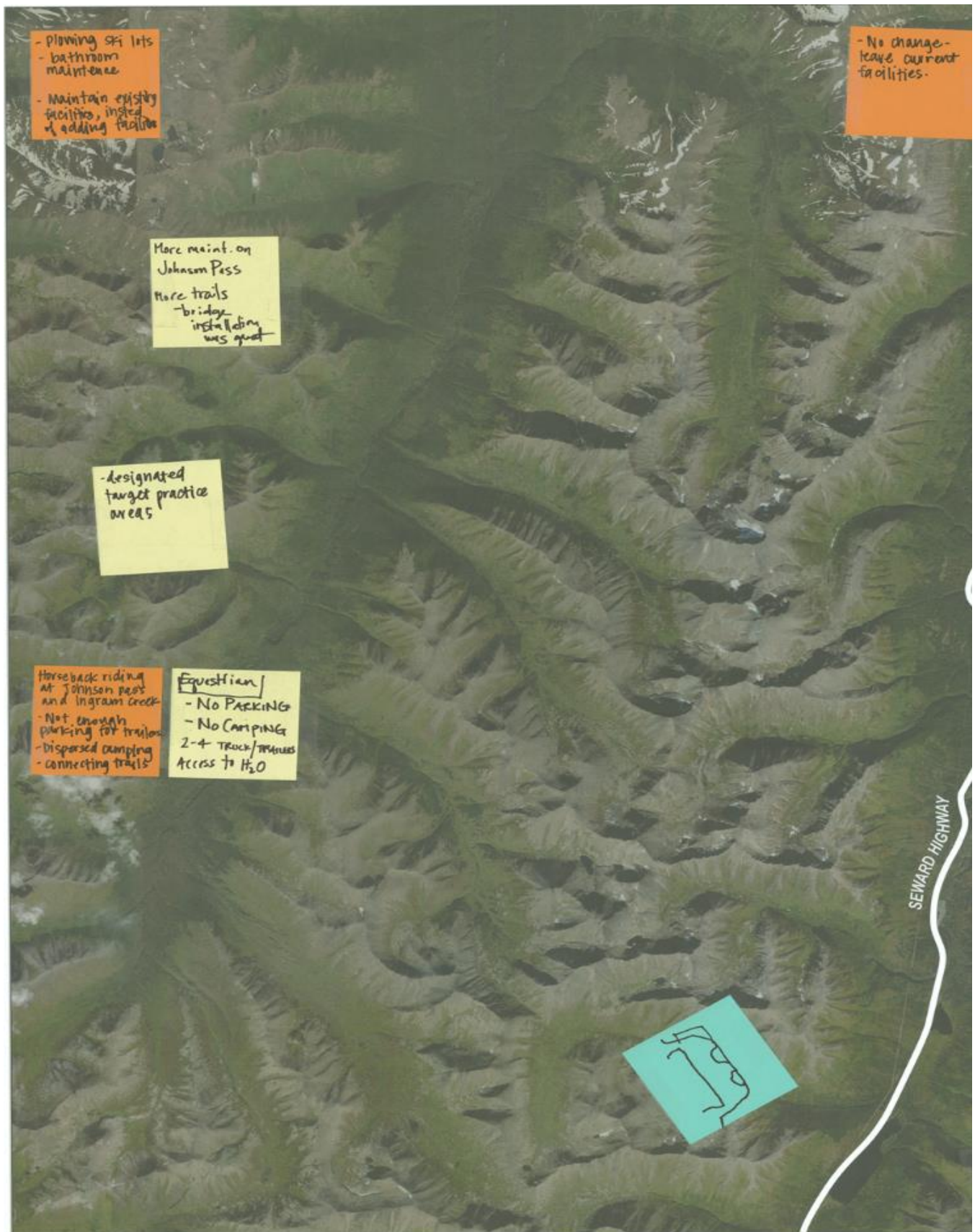


Figure 2-13 Girdwood Community Room Roll Plot with Comments Section One

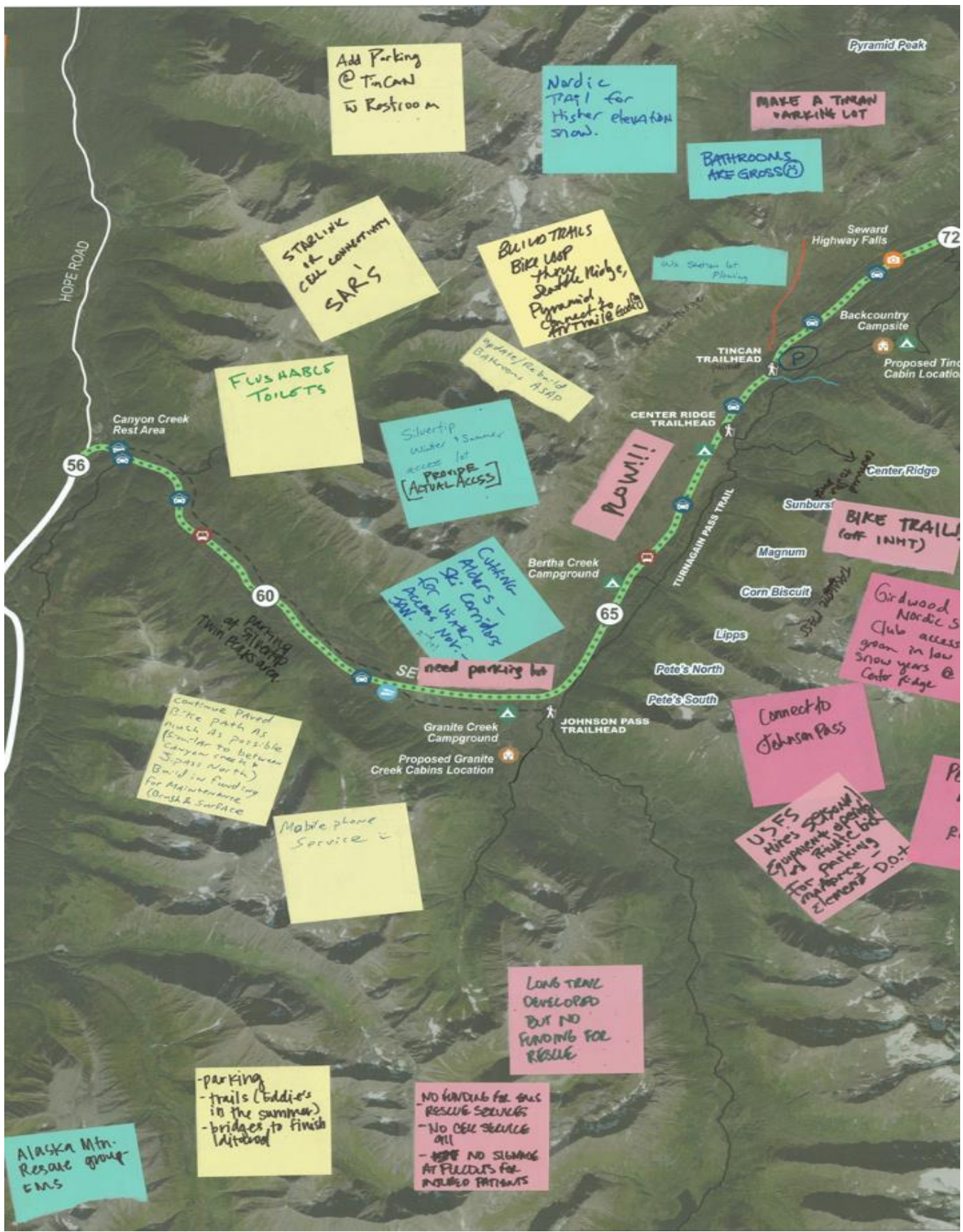


Figure 2-14 Girdwood Community Room Roll Plot with Comments Section Two



Figure 2-15 Girdwood Community Room Roll Plot with Comments Section Three



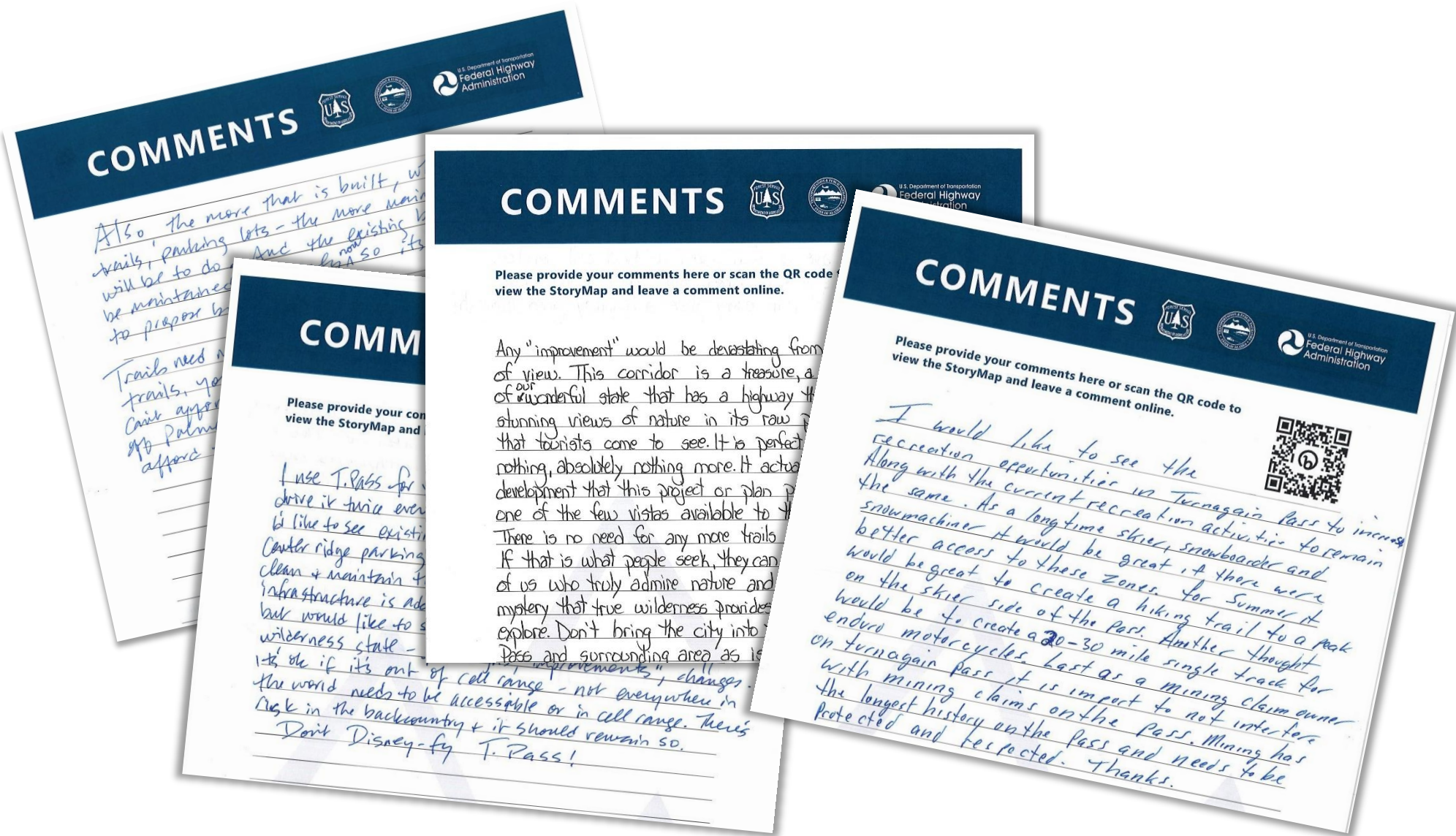


Figure 2-16 Comments Received at Girdwood Community Room Open House

## 2-12. Anchorage Open House Summary

**Thursday, June 15, 2023, 4:00 – 6:00 pm, REI Anchorage**

The open house meeting was held in person at REI Anchorage. The first attendees arrived at 4:05 pm. The meeting format was open house style, with no formal presentation. Attendees were greeted at the sign in table with a project fact sheet detailing the Master Plan overview, background and history, goals and themes, tasks, and engagement opportunities. Project boards lined the perimeter of the room, and an aerial roll plot was set up in the center of the room for participants to mark up. A table was set up to collect written comments, but no participants filled out comment forms. All comments were documented on the aerial roll plot.

Members of the project team were available throughout the meeting to answer questions and gather input on the vision and current challenges for safety and recreation in Turnagain Pass (the Pass).

Sixteen (16) people signed in, including members of the project team.

### 2-12.1. Summary of Comments Received During the Open House

#### Winter Season:

- Consider developing Nordic ski trails.
- Snow removal concerns with infrequent plowing.
- Concerns with icy and unsafe road conditions for vehicles, especially at corners and curves along the corridor.

#### Summer Season:

- Consider singletrack mountain bike trails in the high alpine area.
- Consider a mountain bike trail loop around Center Ridge from the Center Ridge Trailhead.
- Consider using the existing bridges at Center Ridge for summertime trail development.
- Consider connecting ridgelines from the Turnagain Pass Trail.
- Concerns that the road shoulders are too narrow for cyclists to safely ride through the Pass.
- Consider developing the area near the Kenai Peninsula welcome sign as a day-use recreation area.

#### Facilities:

##### Improvements:

- Consider improving signage and facilities at Gulch Creek.
- Consider improving put-in and take-out facilities for pack rafters and kayakers near Granite Creek Campground.
- Consider improving maintenance of the paved bike path to repair root bulges and cracks.
- Consider opening a gas station or lodge type development.

- Consider extending the paved bike path through the corridor.
- Consider adding parking at Tincan Trailhead as close to existing access as possible.
- Consider adding trailer signs for ski access.
- Consider adding parking places for every ridge in the Pass.

#### Maintenance:

- Complaints about poor restroom maintenance.
- Consider keeping restrooms open year-round at Canyon Creek.
- Consider maintaining the alders for summer trails and for ski corridors in the winter.

#### Safety/EMS:

- Consider adding turn outs near Pete’s North and Pete’s South.
- Concerns about lack of cell phone service in the corridor.
- One participant noted that as a restaurant owner in Girdwood, she receives a lot of EMS requests for people in the Pass.
- Consider fixing the 511 cameras.
- Consider rehabilitating existing parking facilities to address safety concerns.



**Figure 2-17 Attendees Gathered Around Roll Plot of Turnagain Pass Study Area at REI, Anchorage**

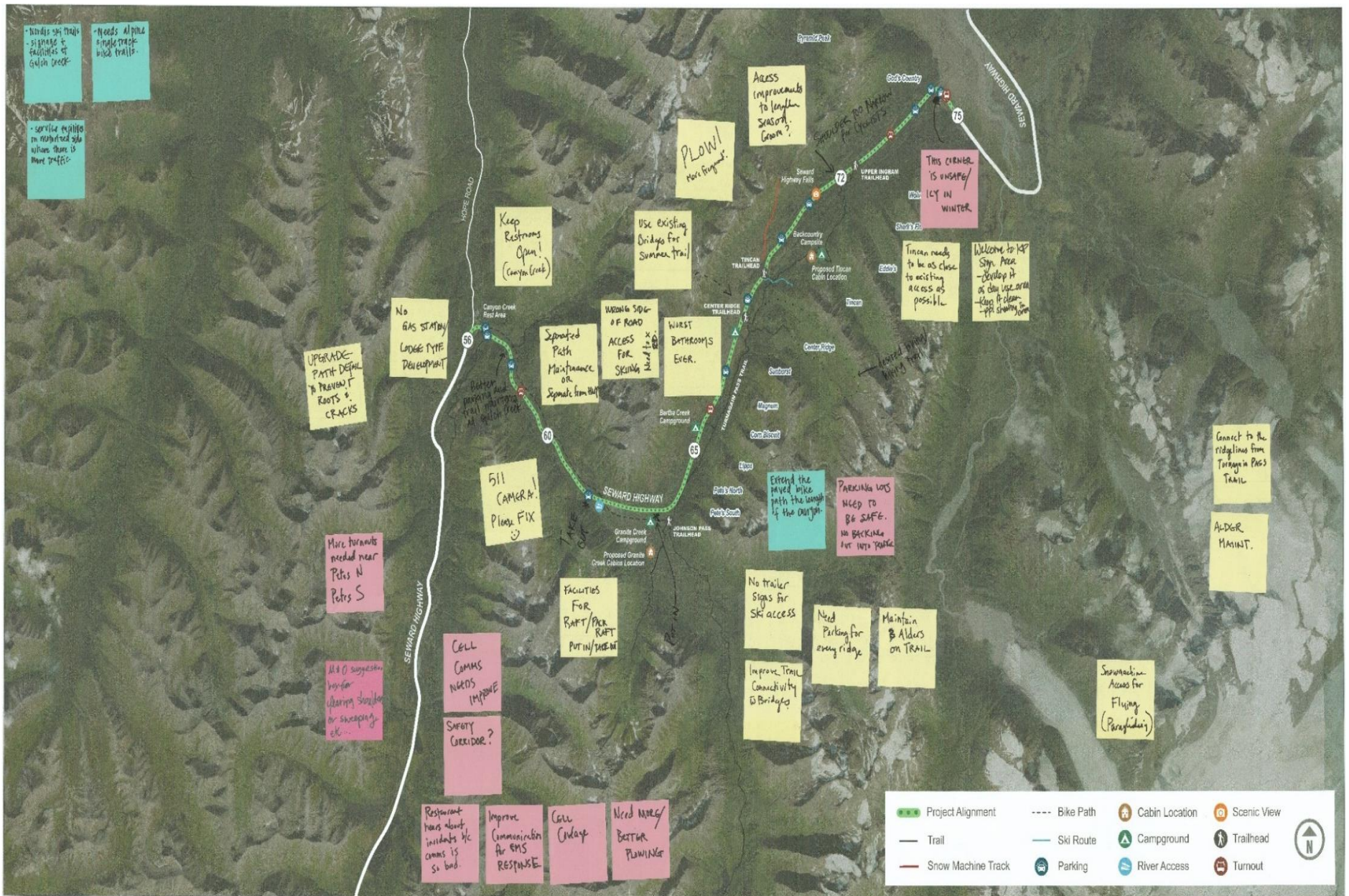


Figure 2-18 Anchorage Open House Roll Plot with Comments

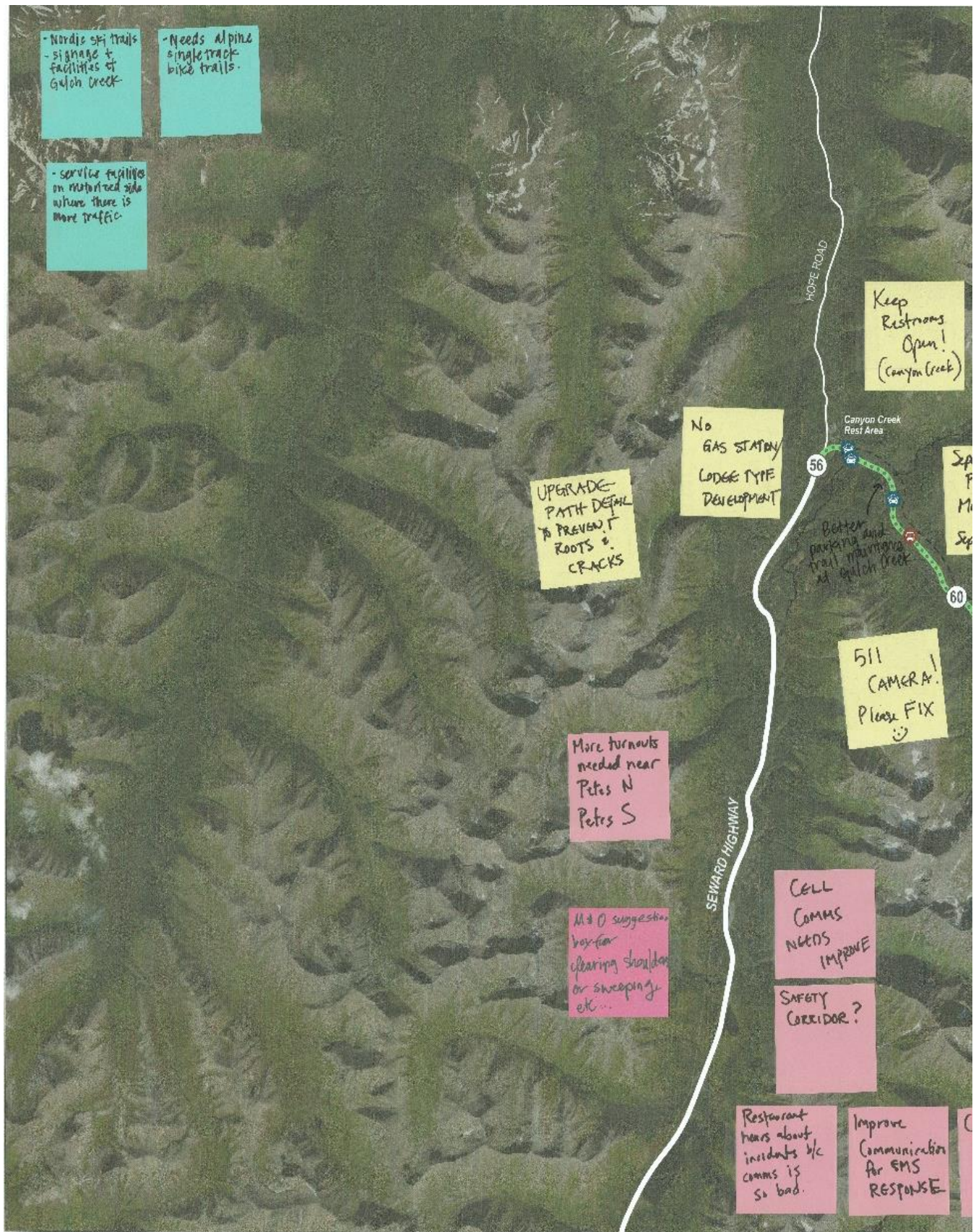


Figure 2-19 Anchorage Open House Roll Plot with Comments Section One

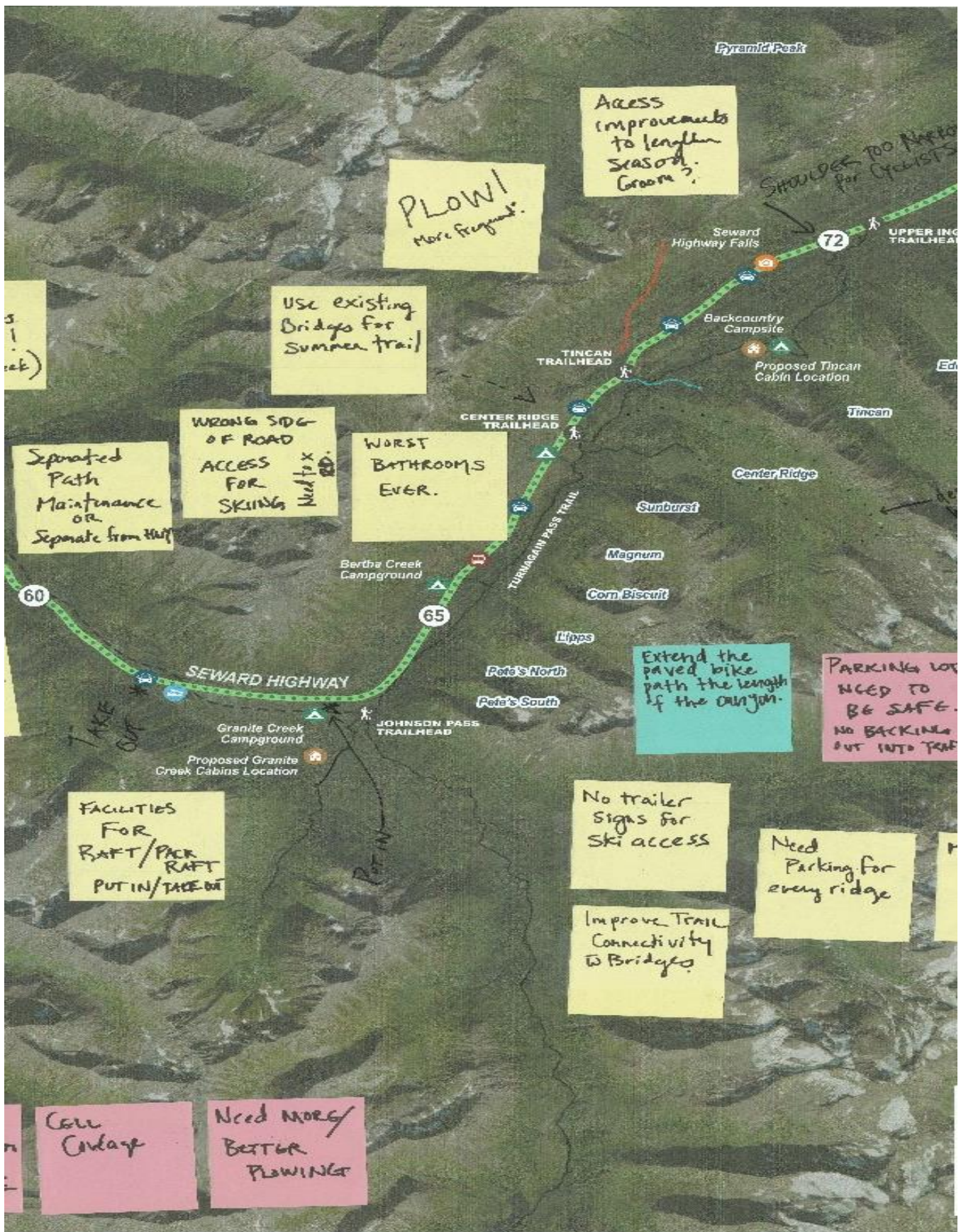


Figure 2-20 Anchorage Open House Roll Plot with Comments Section Two

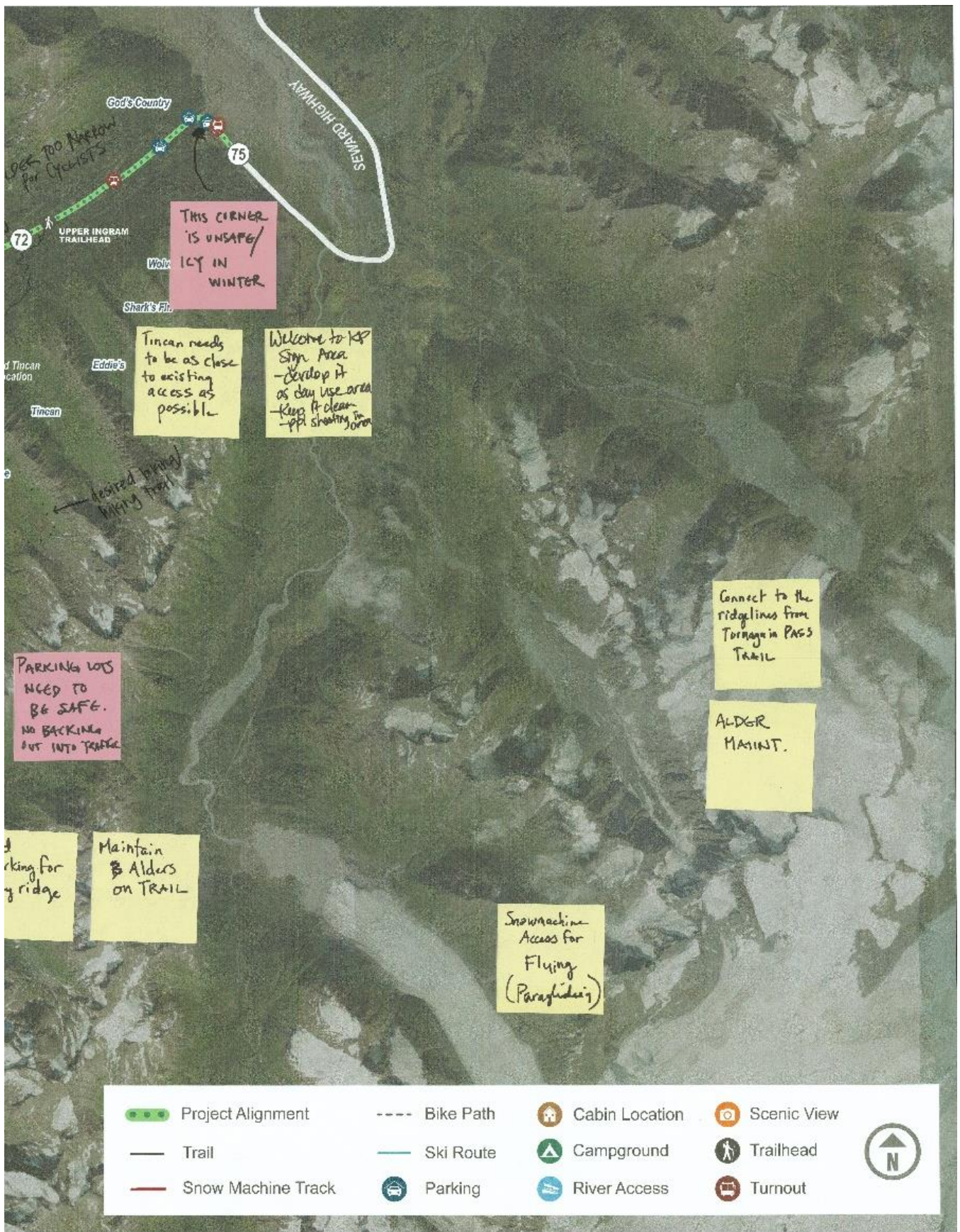


Figure 2-21 Anchorage Open House Roll Plot with Comments Section Three

Date Received	Comment	Response	Response Date	Responder
5/16/2023	<p>Hi, thanks for including me on this project.</p> <p>I've accepted the interview meeting on June 9th. If it's possible in your schedule for it to be earlier that would be preferred on my end as I will be visiting family on the east coast. Either earlier that day on the 9th or earlier that week on June 5 or 6th before my trip.</p> <p>Either way I'll plan on making this meeting happen, this is an important issue that I would like to be a part of in any way possible.</p>	<p>Thank you for your willingness to participate. We have a stakeholder meeting on June 5 at 2:00 PM as well.</p> <p>Would that date be better for your schedule?</p> <p>Best,</p> <p>Talli Vittetoe</p>	5/17/2023	T. Vittetoe
5/16/2023	<p>Hey Talli,</p> <p>Appreciate the invite for the meeting. Unfortunately I will be on contract in the mountains during the set meeting time and will be missing it. Any chance that it will be recorded and where can we have access to that? Do you have a rough idea if and when other opportunities for such commercial users/ guides to comment and/or interview?</p>	<p>Thank you for your interest in the Turnagain Pass Master Plan. We have several stakeholder meetings scheduled, and are wondering if you'll be out the whole week or just during the scheduled meeting on June 9?</p> <p>Regardless, we'd appreciate your feedback. In the meetings we'll have a conversation about how Turnagain Pass is used, discussing things that are working well and the area's challenges. The following questions will guide discussion:</p> <ol style="list-style-type: none"> <li>1.How do you use Turnagain Pass?</li> <li>2.When do you visit Turnagain Pass? How often? How do you access the places you go?</li> <li>3.What do you like best about Turnagain Pass?</li> <li>4.When you visit Turnagain Pass, why do you choose to go there over other places?</li> <li>5.What challenges do you experience? When? How often?</li> <li>6.What would you improve about Turnagain Pass?</li> </ol> <p>If you're able to respond to those questions in writing, I'll be sure your responses are relayed to the project team and included in analysis.</p> <p>Additionally, meeting summaries for the stakeholder interviews will be posted on the project website following the meeting at <a href="http://www.turnagainpassmasterplan.com">www.turnagainpassmasterplan.com</a></p>	5/23/2023	T. Vittetoe
5/20/2023	<p>Hello Talli,</p> <p>Thank you for including the avalanche center in these meetings/interviews. I'll be traveling but should be able to be on the call as it's a Teams format. Unfortunately, I'll miss the in person meetings.</p> <p>Looking forward to discussing the TPMP at 2pm on June 14! Exciting stuff.</p>	<p>Thank you for your willingness to participate. Your feedback will be helpful in developing a plan. If you feel there's anyone else in your organization that the meeting invite should be extended to, let me know and I can add them to the call.</p> <p>All the best,</p> <p>Talli Vittetoe</p>	5/22/2023	T. Vittetoe
6/1/2023	<p>Hi please prioritize more mountain biking trail in this plan. Thanks!</p>	<p>Thanks for the input! We'll add it to our notes.</p>	6/1/2023	C. Grisham

Figure 2-22 Public Feedback – Edited for Anonymity



First	Last	Title	Entity Name	City	State
Andre	Achee	Director of Public Safety	Whittier	Whittier	AK
Lisa	Agnew			Moose Pass	AK
Brenda	Ahlberg	Emergency Manager	Kenai Peninsula Borough		
Lori	Aldrich	Environmental Program Manager	AK Department of Environmental Conservation	Anchorage	AK
Elizabeth	Appleby	Senior Planner	Municipality of Anchorage	Anchorage	AK
Jennie	Armstrong	Representative	State of Alaska	Anchorage	AK
Charlene	Arneson		Whittier Planning Commission	Whittier	AK
Mike	Ausman			Girdwood	AK
Robert	Begich	Fishery Biologist	AK Department of Fish and Game	Soldotna	AK
Lesley	Bender			Girdwood	AK
Joselyn	Biloon				
Judith	Bittner	Chief	State Historic Preservation Office	Anchorage	AK
Rachel	Blackeslee	Executive Director	Kenai Mountains-Turnagain Arm National Heritage Area	Girdwood	AK
Breauna	Blanning	Administrative Assistant	City of Soldotna Public Works	Soldotna	AK
Lee	Bolling		Singletrack Advocates		
Lee	Bolling	President	Singletrack Advocates	Anchorage	AK
Chris	Brehmer			Anchorage	AK
William	Brennan				
Barbara	Bureau			Hope	AK
Eric	Burg	Environmental Program Specialist	AK Department of Environmental Conservation	Soldotna	AK
Roger	Burleigh				
Bob	Butera			Anchorage	AK
Andrew	Carmichael	Director	City of Soldotna Parks & Recreation	Soldotna	AK
Sean	Case	Deputy Chief	Anchorage Police Department	Anchorage	AK
Erlinda	Cayabyab	Environmental Services	AK Department of Transportation & Public Facilities	Anchorage	AK
Matt	Claman	Senator	State of Alaska	Anchorage	AK
Eric	Clarke	Park Specialist	AK Department of Natural Resources	Soldotna	AK
Steve	Cleary	Executive Director	Alaska Trails	Anchorage	AK
Melis	Coady	Executive Director	Alaska Avalanche School	Anchorage	AK
Tucker	Coleman			Anchorage	AK
Betsy	Connell				
Julie	Coulombre	Representative	State of Alaska	Anchorage	AK
Barbara	Crews				
John	Crouse	Wildlife Physiologist	AK Department of Fish and Game	Soldotna	AK
John	Czarneszki	City Planner	City of Soldotna	Soldotna	AK

Figure 2-23 Public Stakeholders – Some Information Redacted for Privacy

# 3. Demand Management Analysis





Figure 3-1 Turnagain Pass Study Area

## 3-1. Purpose

A Demand Management Analysis or DMA was sought to focus on predicting, planning, and managing vehicle/visitor demand at each site through an understanding of the key characteristics of a site which generate user demand. Understanding the key characteristics and how these lead to changes in demand allows responsible agencies to strategically invest resources where they have the highest likelihood of creating the desired outcome.

This DMA summarizes the methods used to conduct the analysis, the resulting impact to metrics of significance (such as visit duration), and recommended strategies based on this analysis which can be used to manage demand in the future. Data collection for this effort was conducted through Turnagain Pass during the months of June and July of 2023.

## 3-2. Methods

The methods used in this DMA are comprised of an assessment of qualitative site data, visitor information data collected with video camera footage, and a multivariate regression analysis to assess the correlation between site data and the corresponding visitor information. The following assessment is applicable to Turnagain Pass only during the summer season. Another assessment will ensue during the next phase of the TPMP development to evaluate demand during the winter season.

Qualitative site data provided by USFS in prior planning documents was condensed into a table of site characteristics which outlined variables such as the size of the parking area, number of restrooms or garbage receptacles, and the estimated acreage of recreational access available from the site location.

Visitor information gathered from site video footage included the arrival time, departure time, and approximate number of visitors in each vehicle for multiple days at each site measured. This enabled the team to look at duration and frequency characteristics such as the number of concurrent visitors, total number of daily visitors, and average visit duration for each vehicle. Additional anecdotal evidence around vehicle types and desired visitor activities also provides insight into the behavior observed at facilities along Turnagain Pass.

A multivariate regression analysis determined what site characteristics were statistically significant in predicting each visitor information metric. In addition, correlation analysis assisted in distilling the number of site characteristics to those which exhibited lower correlation and higher relevance as independent variables. The methods will be described in greater detail in the following sections.

### 3-2.1. Site Data

Site data collected from USFS validated through a field visit on June 6, 2023, indicated there are 11 unique locations where visitors to Turnagain Pass can access recreational land uses or USFS and DOT&PF facilities. These sites range from full-service campgrounds (potable water, restrooms, and garbage receptacles) to emergency pull-outs on the side of the highway which provide access to pristine USFS forest land. The following characteristics were collected for each site and a final table of all site values can be found in the Appendix:

- Number of Driveways
- Parking Stalls
- ADA Parking Stalls
- RV Parking Stalls

- Campsites
- Picnic Areas
- Toilet Units
- Bear Lockers
- Informational Signage
- Dumpster Units
- Trash Sites Other Than Dumpsters
- Emergency Phone Sites
- Acres of Recreational Access
- Date of Data Collection

One characteristic of demand considered is the available acreage of recreational access. The acres of recreational access provided at each site was difficult to assess in the field. Through interviews with year-round area users, summer usage appears to differ from winter usage. Crowd-sourced data using Strava’s Global Heat Map was used to determine the total potential recreational acreage accessed from each site along Turnagain Pass. Strava is a global company that allows non-motorized users to log and track their trips for personal reference and use. These trips are then anonymized and combined to provide the Strava Global Heat Map of non-motorized activity. **Figure 3-2** is an example of a Strava heat map, showing the color-graded view of routes of recreators an area is experiencing based on application user supplied data. The heatmap’s color grade uses orange to indicate the “hottest” or most used routes. As route use declines, the color grade moves from orange to gray. The heatmap example in **Figure 3-2** along the Turnagain Pass corridor is a snapshot near the Iditarod National Historic Trail (INHT), on the east side of the Seward Highway. The “hottest” routes shown here are filtered to show summer walking/biking routes, as well as acreage further to the east of the INHT access points at Tin Can and Center Ridge Trailheads. To show winter recreation, the “snowflake” icon would be selected to filter for only winter recreation types. These recreation sheds give a good sense of how sites compare in their potential to engage users who are already using each site.

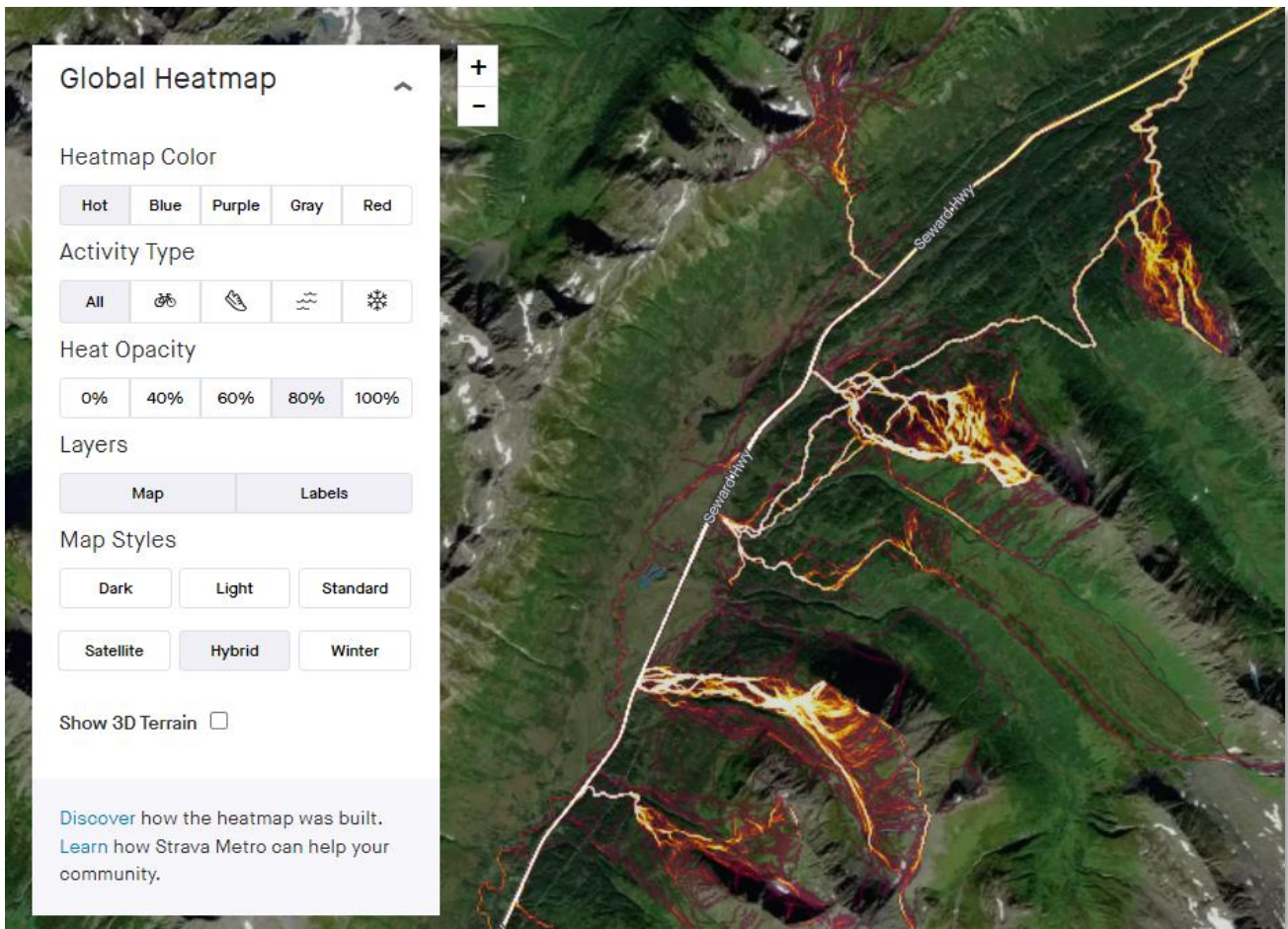


Figure 3-2 Strava Global Heat Map Near Tincan and Center Ridge Access Points

### 3-2.2. Visitor Information

Visitor information was collected throughout June and July of 2023 at a subset of site locations throughout Turnagain Pass. The goal of this sample set was to collect data on the number of vehicles and visitors frequenting as well as their stay duration in a variety of contexts so site characteristics could be tested for relevance during the multivariate regression analysis. The following sites were selected for data collection and observation, and map of the sites and associated data collection dates are found in **Appendices 3-1, 3-2, and 3-3.**

- Riverview Lot
- Center Ridge Trailhead
- Johnson Pass Trailhead
- Sixmile Raft Launch
- Snowstake Lot
- Upper Ingram Trailhead
- Motorized “Moto” Lot
- Johnson Pass Trailhead

- Sunburst Parking Area
- Tincan Trailhead
- Welcome to Kenai Sign

Each site location was evaluated over a four-day window between Thursday and Monday to capture the peak weekend behavior. Each day was evaluated independently as some sites showed Saturday peaks, while others peaked on Friday or Sunday. By separating each day, the project team was able to assess the impact of the day of week on visitor behavior. The following information was collected for each vehicle recorded entering/exiting a site location:

- Arrival time
- Departure time
- Duration of stay
- Number of visitors seen
- Overnight stays
- Occupancy

Visitor information from each site and day is summarized in Appendix 3-4. A common trend across many of the sites and days is short, need-based visits. These stops are based on momentary needs, as many drivers traveling through the pass will stop at the closest pull-out available. The most regular types of need-based visits identified were for bathroom breaks, rests from driving, and general vehicle organization. In the camera recordings, these types of visits were easily recognizable by vehicles left running during bathroom trips, drivers getting out to grab something from the back of their vehicle, and hasty parking near amenities, all followed by a quick exit from the site in under five minutes.

One important factor that cannot be represented in the numerical analysis is the type of usage seen across each site in the sample, such as groups of trail cyclists arriving simultaneously or recreational vehicle (RV) caravans. This qualitative part of the analysis helps fill in the context on why visitors are stopping, and what they use the sites for. Qualitative trends witnessed in the recordings could be split up by type of location – pull-out, river access, parking area, trailheads, and campgrounds. Unique visitor characteristics noticed when reviewing the camera footage are summarized in *(Table 3-1)*. While some of these characteristics may seem intuitive (such as a campground attracting more camping and trail use), some were more surprising, such as the high frequency of overnight stays in the major parking lots.

**Table 3-1 Unique Visitor Characteristics by Site Type**

Site Type	Applicable Sites	Visit Characteristics Identified from Recordings
Pull-out	Riverview, Sunburst	Higher frequency of RVs and 18-wheeler quick visits, limited use of nearby area
River Access	Sixmile	Raft trips with multiple vehicles and big groups; some vehicles stay overnight as well; majority of longer visits involve river use
Parking Area	Motorized, Snowstake, Welcome Sign	Higher frequency of RVs and overnight stays, more vehicle caravans, tour bus stops, 18-wheeler stops, limited use of nearby area (excluding pictures of welcome sign)
Trailheads	Center Ridge, Johnson Trail, Upper Ingram, Tincan	Regular use of nearby trails, more groups of hikers/bikers arriving in coordinated groups
Campground	Bertha Creek, Granite Creek	Regular use of nearby trails, camping

### 3-2.3. Multivariate Regression

A multivariate regression analysis (MRA) was used to compare visitor behavior to the influence of different site characteristics along Turnagain Pass. This analysis uses the information gathered from site visits as independent variables to assess the data processed from the camera recordings to find correlations between site characteristics and visitor behavior (such as daily number of visitors and visit duration). An MRA also indicates the degree of statistical relevance each independent variable contains in explaining visitor behavior.

After the initial regression, independent variables that show low statistical relevance are removed from the analysis and a new regression is generated with the remaining variables. This process is repeated until a final regression contains only values with statistically significant relevance. The explanation power of the final regression is found in the quality of its correlation coefficient. Correlation in this context is the evidence of a relationship of some strength between an independent variable and the visitor information. A high correlation would indicate a high likelihood of a measurable relationship between the variables. By repeating the regression analysis for each dependent variable, a more complete understanding of the correlations from each site is developed.

#### 3-2.3.1. Independent Variable Correlations and Validity

Before completing the MRA, all the original site characteristics were examined for their potential to correlate with each other and be statistically valid. Variables which only appear at a few select site locations (such as bear lockers) are less useful to the MRA process because the model tries to over-fit the regression around a low frequency variable. For these types of situations, the common answer is to increase the sample size until enough sites containing the variable exist within the sample.

Similarly, highly correlated independent variables in a MRA can lead to misleading results. With highly correlated independent variables, the statistical model lacks the ability to accurately assign relevance to one variable over another. Every effort should be made to reduce or condense these variables into more meaningful alternatives or increase the sample size with additional sites which can distinguish between each variable more clearly.



**Table 3-2** includes the original independent variables collected and provides the final variables used in the MRA along with an explanation for the consolidation or removal of the variable (either statistical viability or consolidation due to correlation).

**Table 3-2 Variable Selection Process**

Original Independent Variable	New Independent Variable	Reasoning
Number of Driveways	Number of Driveways	Some sites contained more than one access/driveway. Sites with more than one access/driveway provide opportunity for more efficient snow removal by DOT&PF.
Number of Parking Stalls	Total parking area (square feet)	Consolidation due to statistical viability. Total parking area encompassed more sites, including unstriped parking at pull-outs.
Number of ADA Parking Stalls		
Number of RV Parking Stalls		
Number of Campsites	Number of Campsites	-
Number of Picnic Tables	Picnic Tables (Y/N)	Modification due to statistical viability. Counting each picnic table provided at campgrounds skewed the population of site locations. A binary variable gave credit to campgrounds for the amenity without skewing the data set against non-campground picnic areas.
Number of Informational Signage	Variable eliminated	Removal due to statistical viability.
Number of Toilet Units	Toilet + Garbage (Y/N)	Consolidation due to correlation. Many of the sites within Turnagain Pass contained trash units (other than dumpsters) inside the toilet units. Not enough sites contained only toilets or garbage to make separation statistically valid.
Number Dumpster Units		
Number of Trash Units other than Dumpster		
Acres of Recreation	Acres of Recreation	-
Bear Lockers	Variable eliminated	Removal due to statistical viability.
Date of Data Collection	Weekend (Y/N)	Modification due to statistical viability. The exact date of data collection was less important than whether it was a weekend or not based upon a cursory review of the data.

### 3-3. Results

This section presents the results of the MRA. As discussed in the methods, multiple dependent variables of visitor information were examined against the list of independent variables using multivariate regressions. As shown in *Table 3-3*, not all the analyses resulted in significant predictive power with adjusted correlation coefficients greater than 0.85 (which means 85 percent of the variation in the variable can be explained by the independent variables contained in the analysis). Dependent variables with correlation coefficients below 0.85 were dropped from further analysis and are shown in strikethrough on *Table 3-3*. In addition, the percentage of visits over four hours dependent variable provided similar results to the 85th percentile visit duration with a lower correlation. For this reason, the project team eliminated the variable from further consideration and focused on the 85<sup>th</sup> percentile visit duration.

**Table 3-3 Refined Dependent Variable List**

Multivariate Regression Summary				
Dependent Variable	Initial Adjusted R-Squared	Final Adjusted R-Squared	Intercept Type	Independent Variables of Significance
85th Percentile Visit Duration	0.902	0.909	Zero	3
<del>% of Visits over 4 hours</del>	<del>0.863</del>	<del>0.874</del>	<del>Zero</del>	<del>4</del>
Daily Vehicle Count	0.852	0.855	Zero	4
Peak Vehicle Occupancy	0.851	0.852	Zero	5
Peak Hourly Count	<del>0.825</del>	<del>0.834</del>	<del>Zero</del>	<del>5</del>
<del>% of Visits under 5 minutes</del>	<del>0.709</del>	<del>0.722</del>	<del>Constant</del>	<del>4</del>

This section examines the remaining three significant dependent variables and provides insight into the drivers of each variable and how this can connect to overall demand management strategies within Turnagain Pass.

#### 3-3.1. 85<sup>th</sup> Percentile Visit Duration

During the initial MRA for 85th percentile visit duration, it quickly became apparent the dependent variable was very explainable with initial adjusted R-squared higher than 0.85. As shown in *Table 3-4*, three independent variables (number of campsites, toilet and garbage receptacle, and picnic benches) were all significant at alpha equal to 0.05 or lower.<sup>25</sup>

<sup>25</sup> Statistical Variables:

R-Squared is the coefficient of determination, the proportion of variance in the dependent variable that can be explained by the independent variable. A value approaching 1.00 indicates strong correlation between the independent and dependent variable.

Alpha represents the probability of Type I error in a hypothesis test, incorrectly rejecting the null hypothesis.

**Table 3-4 85<sup>th</sup> Percentile Visit Duration (minutes) Initial Regression Summary**

Multivariate Regression Summary		
Independent Variable	Co-efficient (minutes)	P-Value <sup>a</sup>
Campsites	299.4	< 0.01
Toilet + Garbage (Y/N)	-732.3	< 0.01
Picnic Benches (Y/N)	561.5	0.03
Total Parking Area (sq. ft.)	0.003	0.34
Weekend (Y/N)	-86.7	0.45
# of Driveways	85.4	0.58
Acres of Recreational Access	-0.05	0.74
<sup>a</sup> P-Value is a measure of the statistical significance between the independent and dependent variable being analyzed. A value approaching zero indicates strong statistical significance between these variables.		

As insignificant independent variables were dropped from the analysis this pattern largely held and correlation improved. The final regression summary is shown in **Table 3-5**. Removing total parking area from the regression reduces the overall predictive power of the model even though it is the least significant independent variable remaining in the analysis.

**Table 3-5 85<sup>th</sup> Percentile Visit Duration (minutes) Final Regression Summary**

Multivariate Regression Summary		
Independent Variable	Co-efficient (minutes)	P-Value
Campsites	290.9	< 0.01
Toilet + Garbage (Y/N)	-682.7	< 0.01
Picnic Benches (Y/N)	620.7	< 0.01
Total Parking Area (sq. ft.)	0.003	0.18

Further examination of the coefficients for each variable shows expected results, such as access to campsites puts significant upward pressure on visitor duration. However, the presence of toilets, garbage, and picnic benches seem to have offsetting impacts on duration, with toilets/garbage decreasing visit duration at approximately the same level that picnic benches increase visit duration. Increasing the available parking area encourages drivers to park a vehicle and stay at the site, but the weak correlation indicates this relationship may not be causal (just because a large parking lot exists does not mean people will automatically stay longer).

### 3-3.2. Daily Vehicle Count

The regression analysis for daily vehicle counts gives insight into the nature of the large-scale parking lots found within Turnagain Pass. As shown in *Table 3-6*, the initial regression summary indicated the dependent variable was well explained (adjusted R-squared greater than 0.85) with four significant independent variables (total parking area, acres of recreational access, picnic benches, and # of campsites) at alpha equal to 0.05 or lower level.

**Table 3-6 Daily Vehicle Count Initial Regression Summary**

Multivariate Regression Summary		
Independent Variable	Co-efficient (# of vehicles)	P-Value
Total Parking Area (sq. ft.)	0.004	< 0.01
Acres of Recreational Access	-0.085	< 0.01
Picnic Benches (Y/N)	-135.8	< 0.01
# of Campsites	7.04	0.03
Toilet + Garbage (Y/N)	43.52	0.08
Weekend (Y/N)	18.12	0.23
Driveways	-20.56	0.30

As insignificant independent variables were dropped from the analysis this pattern largely held. However, the presence of toilets and garbage did lose predictive power as other independent variables were dropped. The final regression summary for daily vehicle count is shown in *Table 3-7*. While the presence of toilets and garbage would now appear insignificant, the regression loses predictive power if this is removed from the analysis. This is because toilets and garbage normally drive visitors to stop and use the amenities, but at sites such as the Six Mile Raft Launch and the Welcome to Kenai Sign visitors are attracted to unique activity and engagement opportunities even when amenities are not provided.

**Table 3-7 Daily Vehicle Count Final Regression Summary**

Multivariate Regression Summary		
Independent Variable	Co-efficient (# of vehicles)	P-Value
Total Parking Area (sq. ft.)	0.004	< 0.01
Acres of Recreational Access	-0.071	< 0.01
Picnic Benches (Y/N)	-124	< 0.01
# of Campsites	7.00	0.02
Toilet + Garbage (Y/N)	27.1	0.20

This theme is further displayed in the coefficients to each independent variable. At first glance the negative coefficient for acres of recreational access implies access to USFS land negatively impacts daily vehicle count, while large parking lots draw visitors. However, the model is trying to explain why a mismatch exists between some of the biggest parking lots (such as Moto Lot) and biggest recreation opportunities by land area. The answer is that daily vehicle count seems to be

driven by either a clear or unique engagement opportunity with the site location. Rest area amenities (toilet and garbage) are clear and unambiguous. A photo at the Welcome to Kenai sign or launching a raft at Six Mile are not only clear, but unique engagement opportunities.

### 3-3.3. Peak Occupancy

The initial regression analysis for peak occupancy shown in *Table 3-8* indicated the dependent variable was well explained (adjusted R-squared greater than 0.85) with two significant independent variables with alpha equal to 0.05 or lower (number of campsites and toilet and garbage receptacles). Total parking area was slightly above the 0.05 significance threshold and was not deemed significant in the initial regression analysis.

**Table 3-8 Peak Occupancy Initial Regression Summary**

Multivariate Regression Summary		
Independent Variable	Co-efficient (# of vehicles)	P-Value
# of Campsites	0.651	< 0.01
Toilet + Garbage (Y/N)	4.39	0.03
Total Parking Area (sq. ft.)	0.00006	0.05
Driveways	2.32	0.13
Weekend (Y/N)	1.52	0.19
Picnic Benches (Y/N)	-2.91	0.22
Acres of Recreational Access	0.0005	0.70

Unlike 85th Percentile Visit Duration and Daily Vehicle Count, as insignificant variables were dropped from the analysis the remaining variables changed in significance to the point of re-arranging their ranked order. This indicates peak occupancy is a more fluid dependent variable where the weaker correlations remaining between independent variables may be affecting the model’s ability to assign accurate significance beyond a certain threshold. As shown in *Table 3-9*, all the variables included in the final regression are significant at the alpha equal to 0.05 level or lower, though their ranked order has shifted from the initial regression.

**Table 3-9 Peak Occupancy Final Regression Summary**

Multivariate Regression Summary		
Independent Variable	Co-efficient (# of vehicles)	P-Value
Total Parking Area (sq. ft.)	0.00009	< 0.01
Toilet + Garbage (Y/N)	5.81	< 0.01
# of Campsites	0.745	< 0.01
Weekend (Y/N)	2.25	0.02
Picnic Benches (Y/N)	-4.16	0.04

Many of the variables have positive coefficients indicating they work together to drive up peak occupancy at a site. The negative coefficient on picnic benches is likely due to the small sample size of sites with picnic benches and the correlation with campgrounds which have an upper limit on peak occupancy based on available campsites. All the significant variables (other than weekend) are public amenities. Providing more collocated amenities increases the likelihood that more users will visit a site at the same time.

### 3-3.4. Summary Results

The results of the MRA indicate the dependent variable relationships shown in *Table 3-10* are significant and correlated. Common themes include the provision of campsites and parking areas to increase duration, daily vehicle counts, and peak occupancy. However, additional amenities such as toilets and garbage receptacles should only be used in conjunction with other recreational uses given the negative impact to visit duration.

Where toilets and garbage receptacles are currently provided without other amenities, consideration should be given to the installation of picnic benches or access to other significant recreational opportunities to increase visit duration.

**Table 3-10 Dependent Variable Relationships**

Dependent Variable	Increased by	Decreased by
85th Percentile Visit Duration	Campsites, Total Parking Area, Picnic Benches	Toilet + Garbage
Daily Vehicle Count	Campsites, Total Parking Area, Toilet + Garbage	_ <sup>a</sup>
Peak Occupancy	Campsites, Total Parking Area, Toilet + Garbage	_ <sup>a</sup>
<sup>a</sup> Variables with negative coefficients do not appear to be predictive. Explanation provided in prior sections.		

## 3-4. Recommended Demand Management Strategies

Overall, this demand management analysis provides a documented basis for correlated characteristics and visitor behaviors along the Turnagain Pass corridor during summer months. The results of the demand management analysis coupled with information gathered during public and stakeholder engagement can lead to overall strategies to promote safe access, improve existing facilities, and balance visitor demands. The impact to visitors is improved access to the wealth of recreational activities and stunning landscape along the Turnagain Pass corridor.

The recommended strategies below can assist with visitor demand management along the Turnagain Pass corridor. These strategies fall under three main goals for various demand management needs:

1. Increase visitor time duration and peak occupancy.
2. Increase daily visitors with select amenities.
3. Balance both visitor time duration and amenity usage.

Each goal requires different strategies crafted to increase or decrease the time duration spent at each location, as well as increase or decrease use of amenities. Recommended strategies are simply a starting point to provide next steps on how the Turnagain Pass corridor can realize improved access to the Chugach Forest's recreational opportunities, as well as provide roadside amenities for sightseers and travelers to and from the Kenai Peninsula. The strategies are crafted with the intent to inform the continued development of the Turnagain Pass Master Plan and its recommendations to improve access to the Chugach Forest's vast recreational opportunities for users.

### Goal 1: Increase Visitor Time Duration and Peak Occupancy

**Strategy 1.1:** Improve access to an existing recreational opportunity.

**Strategy 1.2:** Improve sites with known higher duration amenities such as picnic tables or camping facilities.

**Strategy 1.3:** Connect to existing amenities through improved pedestrian facilities, potentially creating a pedestrian facility to connect the opposite sides of the Seward Highway.

**Strategy 1.4:** Connect to other existing recreational opportunities through a seasonal shuttle or guide service.

The demand management analysis for the TPMP corridor found that visitor duration and peak occupancy is driven by the combination of available amenities and access to potential recreational activities at each site observed in the summer months. It is not surprising that a campground or trailhead generally results in longer stays, but the capacity of the campground results in a limited numbers of visitors over that same time period. However, access locations with public toilets and garbage receptacles resulted in some of the highest levels of visitor usage along the corridor, but with the lowest duration, such as was observed at the "Moto" Lot site. Adjusting available amenities can allow for either increased or decreased demand at a given site.

**Recommended Site(s):** *Welcome Sign, Moto Lot, Center Ridge Trailhead, Canyon Creek Rest Areas.*

## Goal 2: Increase Daily Visitors with Select Amenities

**Strategy 2.1:** Add shorter duration, day-use amenities (picnic tables, trailheads, river access) to longer duration facilities (campgrounds).

**Strategy 2.2:** Provide clear and direct signage for intended use of existing access points (example: clearly indicate rafting, fishing, or camping facilities).

**Strategy 2.3:** Cultivate and improve unique recreational opportunities throughout the corridor.

Granite Creek Campground and its proximity to Pit 62 is an excellent example of an underused site where daily visitor counts are constrained by the availability of campsites. It was mentioned during stakeholder engagement conversations that additional recreational opportunities with places for rafting, biking, hiking, etc., are needed to drive additional use and this is consistent with the demand analysis. Additional, clearly signed recreational opportunities that create an experience for the user can drive additional visitors to a site. The addition of select day-use amenities to complement the recreation uses available can further support the visitor use.

**Recommended Site(s):** *Bertha Creek Campground, Granite Creek Campground, Johnson Pass Trailhead, Sunburst Parking Area, Gravel Pit, Snowstake Lot, Raft Launch.*

## Goal 3: Create a Consistent User Experience Across Sites

**Strategy 3.1:** Develop select pull-outs with amenities to attract new need-based and activity-based visitors (Example: formal parking lots, dispersed camping, and toilet/garbage).

**Strategy 3.2:** Invest in maintenance of existing and future amenities (Example: parking lot plowing or maintenance of public toilets).

**Strategy 3.3:** Consider consolidation of existing access to fewer sites with appropriate accommodations for adventure guides' equipment such as larger raft-hauling trucks and buses.

**Strategy 3.4:** Add shelters for educational and recreational opportunities for all ages and abilities.

The more detailed results of this analysis indicate that the more developed an access area is, the more the site is used, and the longer people stay. For example, this analysis found that roadside pull-outs resulted in less time spent by visitors than fully developed parking lots with toilets and access to recreational activities such as trailheads, river access, or campgrounds. The size of a parking area also resulted in higher visitor use, but not necessarily a longer time duration being spent by visitors.

The Tincan pull-out is the most popular parking area during the winter due to its close proximity to highly desirable backcountry skiing, with stakeholders reporting limited parking opportunities and dangerous conditions as vehicles fill up available parking and spill onto the shoulder of Seward Highway. The opposite is true of the Tincan access during the summer months. This pull-out observed some of the lowest usage and time durations within the sample size. Without amenities or more direct access to a summer season recreational opportunity, Tincan will continue to see large seasonal swings in usage.

By developing new year-round amenities and improving recreational access at these pull-outs they can be expanded into a user experience more consistent with other locations along Turnagain Pass. However, care should be taken to only develop sites consistent with the long-term vision of the corridor. Some pull-outs may be served best through consolidation instead.



During stakeholder interviews, it was noted that year-round maintenance of all facilities is highly desirable. Stakeholders mentioned a need for both improved toilet maintenance and improved snow removal to allow for safe parking as the main factors in determining the use of a parking area's facilities. Stakeholders also noted that access to new or improved recreational opportunities would be welcomed. Recreational facility suggestions included both ideas for new and improved recreational activities for the Turnagain Pass area, including single-track mountain biking trails, groomed winter and summer trails, pedestrian and non-motorized facility connections between recreational accesses, and dedicated access to popular backcountry skiing locations throughout the corridor.

**Recommended Site(s):** *Snow Chain lots, Upper Ingram Trailhead, Tincan, Sunburst Parking Area, Gravel Pit*

# 4. Needs Assessment



## 4-1. 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 and Public Facilities (DOT&PF), and the Western Federal Lands Highway Division (WFLHD) for all existing recreational facilities in the Chugach National Forest with access to Seward Highway (MP 56-75). The TPMP effort is comprised of two phases. Phase One includes:

- Existing conditions
- Public and stakeholder outreach
- Demand management analysis and strategies

This memorandum brings together information from the existing conditions, public and stakeholder input, and demand management analysis and associated strategies to support the identification of facility gaps and needs to address deficiencies in current facilities, maintenance, or to respond to requests from the public or stakeholders for facilities.

## 4-2. Needs Identification

The TPMP area covers approximately 98,000 acres of the Chugach National Forest within the Glacier Ranger District and includes the Seward Highway Corridor MP 56-76 (Turnagain Pass). Existing land and facilities within this area are owned by the USFS, Alaska Department of Natural Resource (ADNR), and DOT&PF. The identification and condition of all facilities within the study area were discussed in Memorandum 2 – Existing Conditions, including parking areas, roadside pullouts, trailheads, and campgrounds. A summary of these facilities is in *Table 4-1*.

**Table 4-1 Study Area Facilities**

Facility	Location/Extents	Features	Owner/Maintenance
Canyon Creek Rest Area	MP 56 (W of the highway) MP 56.1 (E of the highway)	Parking Toilets (2) Dumpster Access Paved Trail Access (limited)	DOT&PF
Gravel Pit	MP 61.1	Parking (2-4 vehicles)	DOT&PF
Cornbiscuit Pullout	MP 65.1	Parking	
Sunburst Pullout	MP 65.9 and 66	Parking (paved)	
Motorized Vehicle Area Access	MP 67.4 and 67.6	Restroom Picnic Tables Snowmachine Access Skiing Access	USFS/DOT&PF
Snowstake Lot	MP 68.9	Parking	
Base of Pass	MP 74.5	Parking	DOT&PF
Recreational Infrastructure	Various	Public Use Cabins (41) Motorized User Access Trails (500 miles) Roads (90 miles)	USFS
Motorized Use Access (Winter)	West Side of Seward Highway	Access for use of motorized vehicles (snowmachines) during winter months	
Granite Creek Campground	MP 65.4	Camp Sites (19)	USFS
Bertha Creek Campground	MP 68	Camp Sites (12)	USFS
Iditarod National Historic Trail – Southern Trek	180 miles	Hiking Trail	
Turnagain Pass Trail	12 miles	Multi-Use Trail (Non-Motorized) Camping	
Gulch Creek ATV and Pedestrian Bridge Access	MP 56.7 (West of the Highway)	Viewing Area Hiking Trail Parking (2-4 vehicles)	
Raft Launch	MP 58.3	Raft Launching Parking	DOT&PF
Johnson Pass North Trailhead	MP 62.9	Parking Multi-Use Trail Restroom	
Center Ridge Trailhead	MP 68.3	Parking Restroom Multi-Use Trail (Non-Motorized)	
Tincan Trailhead	MP 68.2 (East of Highway)	Parking Skiing Access	
Upper Ingram Trailhead	MP 72.5	Parking Skiing Access	DOT&PF

## 4-3. Needs Identified

The public involvement process included six virtual and three in-person meetings conducted during June 2023 with attendance by various stakeholders. A list of identified needs was compiled from these meetings which was categorized by indicated need, addition of access, indicated location, Seward Highway milepost, need type, potential partners, and the frequency this need was identified. These needs are summarized in *Table 4-2*. Of the **159** comments received, the largest number of requests were for improved winter maintenance of roads and increased funding (**13**), addition of multi-use trails (**7**), addition of hiking trails for summer use (**7**), improved cell phone reception (**6**), mountain bike trail development (**6**), and additional parking throughout the Pass (**6**). Included in *Table 4-2*, need types are categorized as follows:

- **Facility Improvement** – Update existing facilities to increase overall safety, accessibility, utilization, and efficiency.
- **Maintenance** – On-going maintenance and operational needs, such as year-round restroom upkeep and winter snow plowing.
- **New Facility(s)** – Create additional facilities based on stakeholder feedback and demand.
- **No Improvement** – Maintain the current level of conditions and services.
- **Program** – Implements programmatic based needs, such as increased funding to promote increased service delivery to the study area.
- **Safety Improvement** – Improved user safety both for vehicles and people accessing a recreational site.

These need types also include a status level, identifying the need as new or existing. Needs identified as **New** currently do not exist at any level of services within the study area. Needs identified as **Existing** have been identified as existing within the study area at some level of service but may not meet the current level of service based on user demand.

Table 4-2 Stakeholder Identified Needs Summary

ID	Need	Status	Location	Need Description	Need Type	Partners	Number of Requests
1	Electric Vehicle (EV) Charging Stations	New	Corridor Parking Lots	Install EV charging stations in key parking lots throughout Turnagain Pass to provide charging opportunities for EV drivers and for electric snowmachine users.	Facility Improvement		
2	Equestrian Use	Existing	Corridor Parking Lots adjacent to horse trails	Mark stalls for parking vehicles with equestrian trailers.	Facility Improvement		
3	Increased Parking	Existing	Johnson Pass Trailhead	Increase parking at Johnson Pass trailhead to accommodate increase in demand expected from connection with Alaska Long Trail.	Facility Improvement		2
4	Interpretive Trail Information at Trailheads and Parking Lots	Existing	All Trails	Provide interpretative signage and kiosks at trailheads. Information sought includes weather conditions, cultural interpretation and history, and geological history.	Facility Improvement		3
5	Live Parking Lot Cameras	Existing	Corridor Parking Lots	Recreationists and other users have sought this information to see parking lot capacity and weather conditions prior to traveling to Turnagain Pass. Information includes 511 cameras.	Facility Improvement		3
6	Packrafting Facilities	Existing	Granite Creek Campground	Improved area/more space for put-in and take-out activities.	Facility Improvement		
7	Parking Facilities and Amenities	Existing	Tincan pullout/trailhead	Increase parking at Tincan pullout/trailhead, and improve access/visibility, particularly in the winter. Provide sufficient space for guided tour activities and associated client parking, and restroom facilities	Facility Improvement		10
8	Parking Lot Design Improvement	Existing	All Parking Lots	Design parking areas for ease of maintenance by DOT&PF (larger lots, two points of entry). Engage plowing staff in parking lot design. Also evaluate parking lot layout and potentially widen parking lots to improve maneuvering.	Facility Improvement	DOT&PF, plow operators	4
9	Paved Paths	Existing	All	Improve quality of existing paved paths and connect gaps to create continuous paved paths.	Facility Improvement		
10	Rescue Cache Redesign	Existing	Moto Lot	Rescue cache is currently in a location that needs digging out in heavy snow, hindering access and response. Request was also made to associate a warming hut with the rescue cache to improve emergency response.	Facility Improvement		
11	Restroom Facility Relocation/Improvement	Existing	Corridor Parking Lots	Move restrooms from the middle of parking lots to improve plowing operations. Improve restroom facilities generally.	Facility Improvement		2
12	Summertime ATV Use on Motorized Trails	Existing	All Motorized Trails	Allow ATV use during the summer months on motorized side of Turnagain Pass.	Facility Improvement		
13	Trail Upgrades	Existing	Turnagain Pass Trail	Upgrade existing trail and add connections between trail facilities.	Facility Improvement		
14	Weather Station Repair	Existing	DOT&PF Weather Station	Repair the existing DOT&PF weather stations and add cameras to enable recreationists to view weather conditions before deciding to travel.	Facility Improvement		2

ID	Need	Status	Location	Need Description	Need Type	Partners	Number of Requests
15	Cross Country Skiing and Fat-Tire Bike Trail Maintenance	Existing	Center Ridge Trailhead or Granite Creek Campground loop	Improve maintenance of trails used for fat-tire biking and cross-country skiing during winter months.	Maintenance		
16	Dedicated Pass Parking Lot Snow Removal Equipment	Existing	All	Purchase and store equipment at Turnagain Pass that can be dedicated to snow removal activities within the Turnagain Pass area.	Maintenance		
17	Facility Maintenance	Existing	All	General concern with the level and quality of facility maintenance and how this may change or continue if additional facilities are added.	Maintenance		
18	Paved Bike Path Maintenance	Existing	Existing Paved Bicycle Path	Rehabilitate/resurface existing wear to facility (bulges, crack in pavement, etc.), and maintain surface with regular brushing.	Maintenance		
19	Restroom Maintenance	Existing	Center Ridge, all others	Center Ridge is the highest use restroom facility, and users perceive there is an insufficient number of restrooms available. Concerns were raised about maintenance and upkeep of the facilities, with a desire for daily maintenance.	Maintenance	Users suggested a private contractor or partnership	5
20	Pet Waste Stations	New	All trailheads, campgrounds, and facilities	Add pet waste stations at parking lots, trailheads, and campgrounds.	Maintenance		
21	Warming Structures	New	Not Specified	Add semi-permanent warming structures for recreation users.	New Facility(s)		
22	Additional Bridges	New	Ingram Creek (between Kenai Peninsula Sign and Eddie's) and Johnson Pass area	Add additional bridges on trails crossing Ingram Creek.	New Facility(s)		3
23	Additional Parking	New	Granite Creek Campground (2), MP 62 gravel pit, pass ridges, Silvertip Twin Peaks.	Add parking facilities throughout Turnagain Pass area close to popular trailhead locations.	New Facility(s)		6
24	Bike Path	New	Granite Creek to Twenty-Mile Valley, Bertha Creek	Add new bike path facility from Granite Creek to Bertha Creek (Twenty-Mile Valley).	New Facility(s)		2
25	Bike Path Extension (Paved)	New	Connected to the existing paved path	Extend bike path and connect gaps in existing facility.	New Facility(s)		2
26	Campground and Trailhead Connectivity	New	Corridor Campgrounds	Provide connectors between trails and campgrounds for walkers, bicyclists, and equestrian users.	New Facility(s)		2
27	Camping Locations	New	Not Specified	Add new camping facilities within Turnagain Pass.	New Facility(s)		2
28	Enduro Motorcycle Singletrack Route (30 miles)	New	Not Specified	Create new Enduro Motorcycle Singletrack route (30 miles in length) within Turnagain Pass.	New Facility(s)		
29	Amenities	New	Moto Lot	Add pavilions, grills, picnic areas, public use cabins, facility/shelter for youth outdoor education at the Moto Lot.	New Facility(s)		5
30	Firearm Discharge Sites	New	Not Specified	Create designated target practice areas in Turnagain Pass.	New Facility(s)		
31	Gas Station or Lodge	New	Not Specified	Add a gas station or lodge in Turnagain Pass.	New Facility(s)		
32	Hiking Trail	New	Iditarod Trail into the Alpine area, left side of Center Ridge saddle to Lyon Creek, loop trails within the Pass, historic mining areas, Lynx trail, Kenai Welcome Sign to Pyramid Peak to snowmachine lot, mountain ridges.	Add new hiking trails following routes of historic mining trails within Turnagain Pass.	New Facility(s)	Kenai Mountains-Turnagain Arm (KMTA) National Heritage Area	7
33	Add Access Points	New	Johnson Pass Trailhead to Hope Junction	Add access points to Johnson Pass trail.	New Facility(s)		
34	Motorized Terrain Park	New	Not Specified	Add a terrain park facility for motorized use during the summer months.	New Facility(s)		
35	Motorized-Use Winter Trail	New	Grandview to Turnagain	Add motorized trail from Grandview to Turnagain.	New Facility(s)		
36	Mountain Bike Trails	New	Loop around Center Ridge from the Center Ridge Trailhead. West side of the pass near Center Ridge	Develop singletrack mountain bike trails in the high alpine area.	New Facility(s)	Single Track Advocates	6

ID	Need	Status	Location	Need Description	Need Type	Partners	Number of Requests
			Trailhead. Through Seattle Ridge and Pyramid Peak connecting to the ATV trails in God's Country. Connecting to Iditarod National Historic Trail.				
37	Multi-Use Trails	New	Alaska Railroad stop at Spencer Glacier to the Johnson Pass Trailhead, Center Ridge to Lyon Creek or Bertha Creek, Kenai Welcome Sign (2), Grandview to Turnagain, and to Eddie's.	Provide trail connection to the Alaska Railroad stop at Spencer Glacier to support non-motorized connection to trails in the Turnagain Pass area.	New Facility(s)		7
38	Nordic Ski Trails	New	Center Ridge, Sunburst, Johnson Pass	Add additional Nordic ski trails for winter use close to the highway and groomed for use during low snow years.	New Facility(s)	Girdwood Nordic Ski Club (GNSC)	2
39	Packrafting Facilities	New	Six-Mile and Granite Creeks	Add new packrafting facilities (pull-out/put-in locations) at Six-Mile and Granite Creeks.	New Facility(s)		
40	Public Use Cabins	New	Center Ridge Trailhead and Johnson Pass	Add new public use cabins. Trail construction and potential access challenges during summer months were noted for the Center Ridge location.	New Facility(s)		
41	Recreation Use Area Development	New	Granite Creek Recreation Area, southern areas of the corridor, Kenai Welcome sign (2)	Formalize recreation use area at Granite Creek; Add formal recreation use area, parking lot and pullout at Kenai Welcome sign.	New Facility(s)		3
42	Rest Areas	New	Not Specified	Construct rest areas with amenities like those available in Lower 48.	New Facility(s)		
43	Separated Bike Path	New	Entire Corridor	Construct continuous separated bike path along entire Seward Highway corridor through Turnagain Pass.	New Facility(s)		
44	Separated Paved Multi-Use Path	New	Corridor length	Construct continuous separated paved multi-use path along entire Seward Highway corridor through Turnagain Pass.	New Facility(s)		
45	Ski Corridors	New	Near Granite Creek, other unidentified locations	Create new ski corridors near Granite Creek and elsewhere throughout Turnagain Pass. Maintain alders along corridors to demarcate location and provide access.	New Facility(s)		4
46	Summer Trails	New	Not Specified	Improve summer trail systems generally, particular near existing parking locations. Consider creating a summer trail network that uses existing bridges constructed throughout Turnagain Pass.	New Facility(s)		2
47	Trail Segment	New	Muskeg Meadows Trailhead to Ingram Creek, Muskeg Meadows Trail connection to the pedestrian separated pathway along Portage curve, Turnagain Pass Trail, or Iditarod Trail to mountain ridges (2).	Construct new trail segments in specified locations.	New Facility(s)		4
48	Turn-Outs	New	Pete's North and Pete's South	Add turnouts at Pete's North and Pete's South for recreation access.	New Facility(s)		
49	Continue Conditions	Existing	All areas and facilities	Maintain conditions to current standards. No additional improvement needed.	No Improvement		
50	Alternative Parking Lot Usage During Winter	Existing	Not Specified	Advertise which lots are plowed during the winter to help with accommodating winter parking demand.	Program		
51	Parking and User Fees (Modeled After Vail Pass)	Existing	All	Implement parking and user fees (suggested model is Vail Pass, Colorado)	Program		
52	Preservation of Corridor Characteristics	Existing	Corridor length	Maintain the wild and scenic characteristics of the area.	Program		
53	Recreational Mining	Existing	Corridor length	Retain recreational mining claims.	Program		



ID	Need	Status	Location	Need Description	Need Type	Partners	Number of Requests
54	Recreational Mining Regulation	Existing	Not Specified	Consider regulating recreational mining access to reduce risk of resource depletion/damage associated with recreational mining use.	Program		
55	Trail Maintenance and Funding	Existing	Not Specified	Increase funding for trail grooming. Install trail markers and signage for historic trails.	Program		3
56	Turnagain Pass Podcast	New	Corridor length	Create informational podcast series and make it available for download to provide recreation information, history, and other useful facts on Turnagain Pass.	Program	KMTA	
57	User Fees for Winter Maintenance	Existing	All	Introduce a user fee during the winter months to support winter maintenance.	Program		
58	ADA Accessibility	Existing	All facilities	Provide for ADA-accessible facilities within Turnagain Pass.	Safety Improvement		
59	Cell Phone Coverage Improvement	New	Corridor length	Improve cellphone network coverage throughout Turnagain Pass for emergency and recreation use.	Safety Improvement		6
60	Emergency Phone Stations	New	All parking lots and trailheads	Add emergency phone stations at key parking lots and trailheads.	Safety Improvement		
61	Improve Road Geometry	Existing	Tincan lot	Improve access geometry at Tincan pullout to enhance safety and visibility, particularly during winter months.	Safety Improvement		
62	Improved Roadway Safety	Existing	All roadways, all modes	Improve roadway safety throughout corridor, particularly in locations where motorized and non-motorized users come into close proximity with each other or visibility is limited.	Safety Improvement		
63	Rescue Services	New	Not Specified	Improve rescue response times.	Safety Improvement		
64	Road Bicycling	Existing	Corridor length	Widen narrow shoulders to improve comfort for road bicyclists.	Safety Improvement		3
65	Roadway Maintenance	Existing	All facilities, Gulch Creek	Improve striping throughout Turnagain Pass, improve drainage to prevent ponding/icing on roadway, increase lighting, improve pullout and trailhead signage, consider signs to note which parking lots provide space for trailer parking.	Safety Improvement		4
66	Trailhead Backcountry Access (BCA) Avalanche Transceiver Installation	Existing	All trailheads	Install signs at all trailheads to remind users to carry avalanche rescue equipment and check if the transceiver is operational.	Safety Improvement		
67	Widen Seward Highway and Parking Lot Access Points	Existing	Corridor length	Widen Seward Highway near parking lot access points to smooth travel and reduce potential conflict points.	Safety Improvement		
68	Winter Maintenance	Existing	Johnson Pass Trailhead, weather station, Silvertip, Bertha Creek, Tincan Trailhead, trailhead facilities (parking), west of Johnson Pass Trailhead, Girdwood.	Winter maintenance and plowing improvements to ease parking demand, improve visibility, prevent narrowing of access points. More frequent plowing may be required, together with a redesign of parking lots to make plowing operations easier.	Safety Improvement	Chugach Backcountry Freeriders and Anchorage Snowmobile Club	13

## 4-4. Screening and Prioritizing Needs

A screening and prioritization process uses criteria to evaluate the needs based on a range of performance measures. Dependent on the results of the screening process and relative “scores” assigned, the needs can be prioritized to support investment decisions and the development of a program to realize improvements within the Turnagain Pass area. Included in the evaluation criteria is the need for projects to align with all applicable Forest Management Plans developed by USFS.

Suggested evaluation criteria have been developed based on feedback from partners to this Master Planning effort (*Table 4-3*).

**Table 4-3 Suggested Evaluation Criteria**

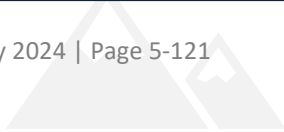
Category	Suggested Evaluation Criteria
Safety	Provides safe access to/from Seward Highway
	Enhances recreation user safety
	Improves emergency response times/first aid
	Reduces fatal and serious injury vehicle crashes.
User Experience	Provides for meaningful engagement with the National Forest
	Provides for meaningful engagement with the surrounding landscape
	Encourages users to stay and use the area for recreation purposes
	Provides user amenities, information, and guidance to enhance user experience
	Improves connection between recreation areas
	Reduces user conflicts
Sustainability/ Environmental Quality	Supports or advances environmental goals of USFS, Tribes, state, and local agencies.
	Protects or enhances wildlife connectivity or aquatic organism passage
	Enhances water quality, riparian function, wetlands function
	Uses design, materials or techniques that exceed the minimum environmental requirements and/or mitigates an existing environmental problem in the area
	Contributes to improved environmental quality (i.e., sustainability, resiliency, GHG reductions and/or reduces VMT)
Maintenance Investment	Improves level of maintenance investment
	Improves lifecycle cost to include minimum levels of service
	Improves condition of access to recreational facilities.
	Supports goals of existing surface management system program.
Readiness and Support	Level of project support
	Project is ready to deliver (“shovel ready”), delivery schedule defined, funds available
	Includes previous project support through agency priorities and previous federal investment.

## 4-5. Next Steps

The following next steps are recommended to advance the preliminary list of needs to the Turnagain Pass Master Plan.

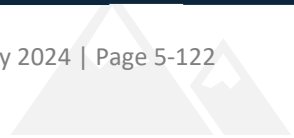
- 1. Check identified needs with project stakeholders and the public:** Share the identified needs with project stakeholders and the public and receive feedback on whether the identified needs are accurate, complete, and reflect feedback received in the first round of engagement. Update needs based on feedback.
- 2. Seek feedback on evaluation criteria, define project scoring process:** Concurrent with sharing the identified needs, share the suggested evaluation criteria with the public and seek feedback on whether the criteria are accurate, complete, and likely to yield useful prioritization. Develop and share a project scoring process to support the evaluation of needs and identification of project priorities. Update evaluation criteria and scoring process based on feedback.
- 3. Evaluate needs:** Evaluate needs by applying criteria and scoring in accordance with scoring methodology.
- 4. Identify priorities:** Based on the results of the scoring process, identify the highest priority needs.
- 5. Develop planning level scopes, conceptual designs, and estimates for highest priority projects:** Develop further detail on the highest priority needs, including the likely scope of a project to respond to the identified need, conceptual design of proposed project, and a planning-level cost estimate.
- 6. Confirm priorities with project stakeholders and the public:** Share the results of the project evaluation and scoring process, highest priority needs and associated additional detail and receive feedback. Update priority projects based on feedback.
- 7. Identify steps to implement, manage and maintain projects:** Work with project stakeholders to identify steps to implement, manage and maintain the highest priority projects. These could include efforts to identify project partnerships, programming funding, or leveraging available funding opportunities to support project delivery and maintenance.
- 8. Document in a Master Plan:** Document efforts in a Master Plan.

# 5. Appendices



# APPENDIX 1-1

## FHWA OFFICE OF FEDERAL LANDS HIGHWAY DIVISION: TURNAGAIN PASS CORRIDOR MASTER PLAN SITE VISIT SUMMARY | AUGUST 2022.



FHWA Office of Federal Lands Highway

# Turnagain Pass Corridor Master Plan

## *Site Visit Summary*



*Turnagain Pass, near Granite and Lyon Creek*

**Date:** August 12<sup>th</sup>, 2022  
**To:** Project Management Team  
**From:** Cole Grisham, AICP



## Table of Contents

<b>Introduction</b> .....	<b>1</b>
<b>Base of Pass</b> .....	<b>3</b>
<b>Upper Ingram Trailhead</b> .....	<b>5</b>
<b>DOT Lot</b> .....	<b>6</b>
<b>Tincan Trailhead</b> .....	<b>8</b>
<b>Motorized and Non-Motorized Areas</b> .....	<b>10</b>
<b>Dispersed Camping – Lyon Ponds</b> .....	<b>11</b>
<b>Sunburst Peak Parking</b> .....	<b>12</b>
<b>Cornbiscuit</b> .....	<b>13</b>
<b>Bertha Creek Campground</b> .....	<b>14</b>
<b>Johnson Pass Trailhead</b> .....	<b>16</b>
<b>Granite Creek Campground</b> .....	<b>19</b>
<b>“62 Pit” Gravel Source</b> .....	<b>22</b>
<b>Raft Launch</b> .....	<b>24</b>
<b>ATV and Pedestrian Bridge (Gulch Creek)</b> .....	<b>25</b>
<b>Canyon Creek</b> .....	<b>27</b>
<b>Summary Themes and Next Steps</b> .....	<b>28</b>



## Introduction

This report summarizes the findings from the August 12<sup>th</sup>, 2022, site visit for the Turnagain Pass Corridor Master Plan. The report includes an overview of the project location below followed by sections focusing on the specific site visit stops. We close with the summary themes from the site visit and how this report informs the project's next steps.

## Project Area

The project area is located on the Seward Highway (Alaska Route 1) south of Anchorage from approximately MP 76 to MP 56. The map below shows the project area on the Kenai Peninsula in relation to Anchorage.



Esri, USGS | Kenai Peninsula Borough, Municipality of Anchorage, State of Alaska, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

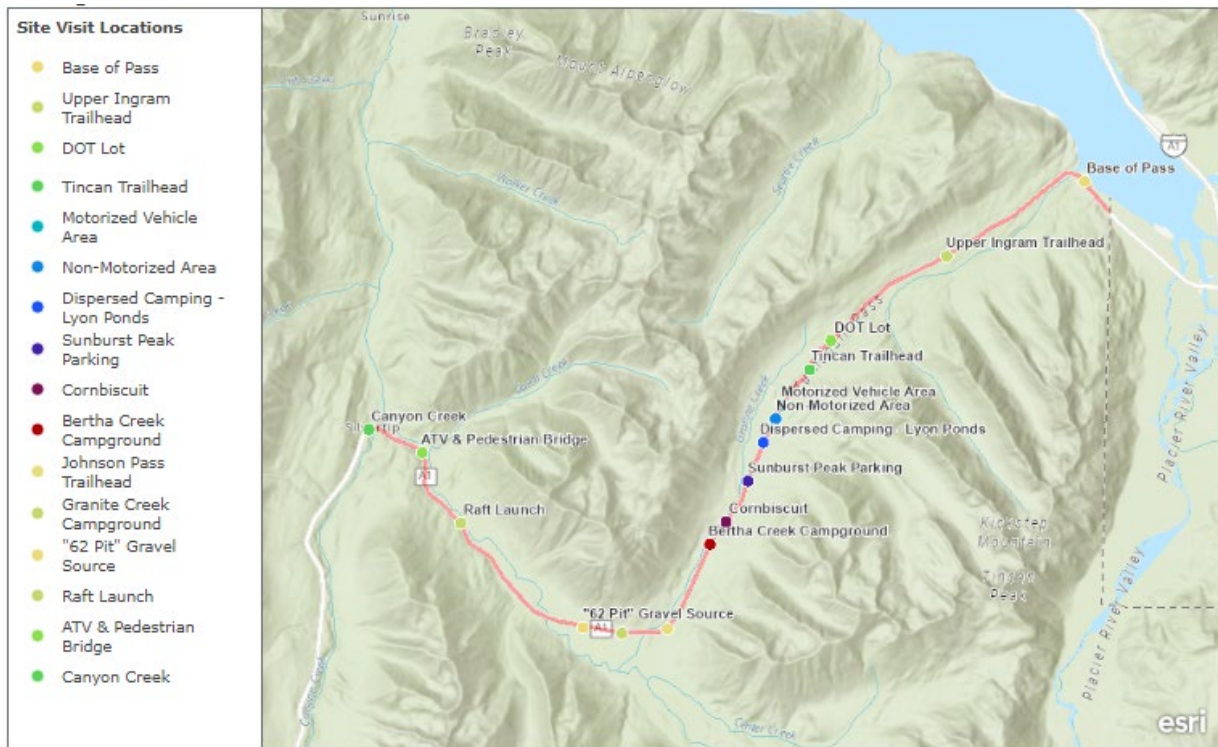
## Site Visit Team

The project site visit team was composed of Alaska Department of Transportation and Public Facilities (DOT&PF), US Forest Service (USFS), and FHWA Western Federal Lands (WFL). The team is listed below, including those that attended and/or helped organize the site visit.

- Adam Cross (USFS)
- Andrew Roseman-Hanauer (WFL)
- Cody Kapotak (USFS)
- Cole Grisham (WFL)
- Danielle Snyder (USFS)
- David Post (Alaska DOT&PF)
- Griff Berg (USFS)
- Jason Stancil (USFS)
- Jesse Labenski (USFS)
- Joselyn Biloon (Alaska DOT&PF)
- Timothy Charnon (USFS)
- Will Brennan (USFS)

### Site Visit Route and Locations

The site visit team examined specific locations along the project route to understand the recreation, parking, safety, and other needs within and adjacent to the corridor. The map below highlights the locations visited, which the remainder of this report is organized by.



Esri, USGS | Kenai Peninsula Borough, Municipality of Anchorage, State of Alaska, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

## Base of Pass



The Base of Pass site is considered the beginning of the corridor project limits. The site is a highway pull off and parking area for both directions of traffic. Attendee considerations for the area are listed below.

- The lot or near by could serve as a gateway to the Iditarod National Historic Trail that runs parallel to Seward Highway.<sup>1</sup> Seven to eight mile trail planned between lot to connect to Iditarod NHT.
- The lot is often used for informal camping as well as staging for Alaska DOT&PF uses; DOT owned; lots of RVs, tourists and construction workers, no permits, not supposed to camp, no enforcement
- The lot's intended use is for chain installation and removal for those entering and exiting the pass as well as for snow plow turnaround
- Served by Alaska DOT&PF maintenance yard in Girdwood
- Possible current or future use for fishing and transit
- Need for bathroom facility and maintenance solution, but no one wants to maintain
- Future use likely for mountain bikers
- Enforcement challenges due to only five state troopers for entire corridor

<sup>1</sup> See: [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd1075292.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1075292.pdf)

- Risk of pedestrians crossing highway between pullouts; more so if Iditarod NHT added or improved
- Current overflow parking for snow machine users



## Upper Ingram Trailhead



- Iditarod National Historic Trail (INHT) connection; 12 mile trail adjoining highway
- Generally not enough capacity here, gets plowed well, increasing winter use
- Similar to Tincan, but less users and one mile further away from the best ski area that Tincan serves
- USFS is proposing about five cabins between sea level and Johnson North
- Initially built as a slow vehicle turnout by AK DOT&PF
- Snow plows push snow into breaks in guardrail, but that is where the trails are accessed
- Alaska Long Trail (proposed)- Seward to Fairbanks, similar to Pacific Crest Trail
- No significant crash history here

## DOT Lot



- Not DOT owned, maintained, or plowed
- Surrounded by State owned land
- Up-trail for snow machines to get to Seattle Ridge
- Early season, trucks will ramrod through for ski access before snow machines start
- Potential for plowable redesign; could be RV use since it's off of the highway
- Potential for mountain bike use
- Weather station on site
- Could consider cabins at this location
- Proposed new parking area across from DOT lot by USFS





## Tincan Trailhead



- Top priority for improvements by USFS
- Skier preferred area here since terrain isn't as steep, it's treed, and has a shorter approach
  - Relatively safe from avalanches
- Lot fills up immediately and only has room for 25 cars; need for 50 cars per day capacity or more
- Huge safety issue with crash clusters
  - Pullout located on horizontal and vertical curve
  - Lane merge on the highway right at pullout
  - Very little sight distance
  - High speeds on highway
- Cabin planned on Iditarod
- Conceptual plan to move north and expand parking lot off road down into Alder patch-flat wide area about 2000 feet away
  - Would allow for shorter and easier ski descent, as well
- Would like summer connection to Iditarod Trail
- Proposed new parking area across from DOT lot by USFS
- Joselyn (AKDOT&PF) proposed \$1.5M needed for planning and design for safety here
- Peak use in February-March





## Motorized and Non-Motorized Areas



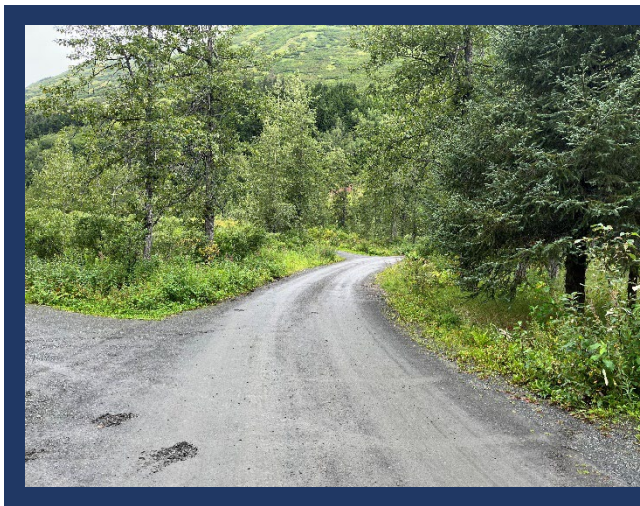
- The two lots are distinct in that snowmachines are allowed on public lands on the North/West side of the highway and non-motorized on the South/East side of the highway
- Mostly used for snow machine lot
- Paved loop to “nowhere,” potentially can be used for day use area or trail head or pavilion
- Would like to see bike park, trails, other summer recreation facilities
- INHT motorized route, but not distinct except for bridges, since it’s covered in snow in the winter
- High-use toilets cause a maintenance issues, since its expensive to pump
- Often used as a rest stop for highway users, which is not the facilities intent or design
- Attendees suggest need for gas station on corridor, possibly near Motorized lot.



## Dispersed Camping – Lyon Ponds



- The only dispersed camping in the project area or wider pass
- First come first served; free with no facilities
- Fisheries are improving habitat
- Could turn into potential bike park, trail system, camping management with barrier rocks, fire rings, picnic tables, toilets
- 
- Would need driveway permit if improved to update the steep, sharp-curved entrance that wraps behind the guardrail
- Not being considered for a cabin location



## Sunburst Peak Parking



No notes taken at this site. Issues and opportunities discussed are similar to other pull-out parking areas for recreation activities in the project area.

## Cornbiscuit



No notes taken at this site. Issues and opportunities discussed are similar to other pull-out parking areas for recreation activities in the project area.

## Bertha Creek Campground



A small loop fee campground with 12 sites suitable for vehicle camping, small RVs, and tents.<sup>2</sup>  
Contains:

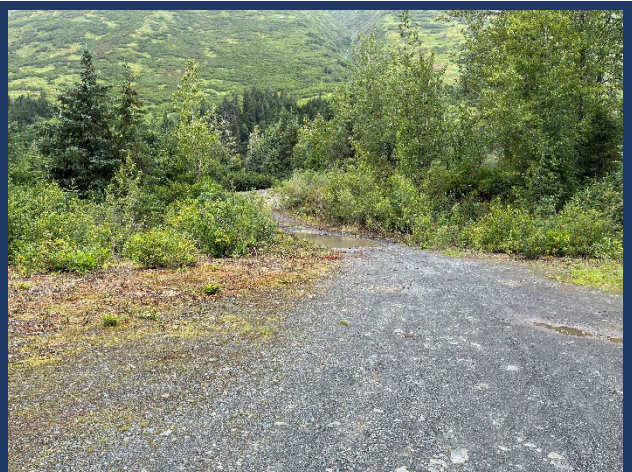
- tables, toilets, fire pits
- USFS: Not really a destination; no good views
- Recreational mining nearby
- snow machine trail nearby
- USFS referred to the site as an “uncompelling campground”

Bertha Pullout (located about 700’ south of campground entrance)

- Snow machines park here, which connects snow machine trail
- Overflow parking, gets very busy in the winter, no purpose in the summer
- Would like to make this pullout into an actual parking lot away from the highway

---

<sup>2</sup> See: <https://www.fs.usda.gov/recarea/chugach/recarea/?recid=6600>



## Johnson Pass Trailhead



- Start of Johnson Pass North Trail; 23 miles, very popular, family backpackers and mountain bike users
- Turnagain Pass Trail terminates here, part of the Iditarod Trail
- Would like to be regraded and rebrushed for retrofit
- Proposed cabin 2.5 miles in
- DOT sometimes plows, parking lot gets packed
- Potential for apron or acceleration and deceleration lanes from highway, big safety concerns for the highway access
- Could be an option for day use site since it's away from the highway and has existing toilets
- Full on the weekends
- Great American Outdoors Act to improve this trail
- Proposed cabin about two miles into trail area
- Possible need for traffic impact analysis for site



### Johnson Pass North

— Existing year-round trail  
 - - - Planned summer trail  
 \* All year-round and summer trails are non-motorized May 1-Dec. 1 unless otherwise noted on map.  
 - - - Existing winter trail, non-motorized May 1-Dec. 1  
 \* Johnson Pass Trail is non-motorized year-round north of this junction, south of junction, trail is non-motorized in summer and motorized in winter.  
 - - - Other trail (non-motorized)  
 — Paved road  
 — Railroad  
 □ Trailhead  
 □ Campground  
 □ No bridge  
 ○ Point of Interest

**Trail Conditions**  
 Johnson Pass Trail (23 miles) Johnson Pass trail is accessed south of this trailhead. With an overall elevation gain of 800 feet, this trail has short, steep sections with grades up to 25% for 10.5 miles.

Johnson Pass backcountry and Moose Pass, or head north past Turnagain Pass for nearly 12 miles. Please note that there are several major bridges not yet installed on the Turnagain Pass Trail.

### Southern Trek

head. With an up to 25% for 10.5 on trail may persist. Starting elevation is 1,000 feet, midway, in face and bridges the winter trail, many use please use caution.

**Trail T**  
 Trail users dur  
 relied on a  
 methods. Freigh  
 haulers, and we  
 relied on dogsleds,  
 travelers used  
 and then bicycles.  
 seen year-round o  
 adaptations have n  
 travel much easier th  
 ever could

## IDITAROD

### Johnson Pass North Trailhead

Trace the path of the Iditarod Trail along the Seward Highway

~ Points of Interest ~

**Trail Conditions**  
 Johnson Pass Trail (23 miles) Johnson Pass trail is accessed south of this trailhead. With an overall elevation gain of 800 feet, this trail has short, steep sections with grades up to 25% for 10.5 miles.

Follow Johnson Pass Trail south toward the beautiful Johnson Pass backcountry and Moose Pass, or head north past Turnagain Pass for nearly 12 miles. Please note that there are several major bridges not yet installed on the Turnagain Pass Trail.

**Trail Transportation**  
 Trail users during the Gold Rush relied on a variety of transit methods. Freight shippers, mail haulers, and wealthy passengers relied on dogsleds. Less prosperous travelers used snowshoes, skis, and then bicycles. Bikes are again seen year-round on this trail, but adaptations have made over snow travel much easier than prospectors ever could have done.

**White's Roadhouse**  
 ~7 miles on snowmachine trail, difficult summer access. During the Gold Rush of 1897, entrepreneurs built roadhouses and log barns along the Iditarod Trail to feed and shelter trail users. Nathan White built this house in 1904 to connect the mining communities of Sturges and Hope. It grew to a small mining camp by the 1920s.

**Spokane Falls**  
 ~2 miles from the trailhead. Spokane Falls is the site of one of the trails ferries bridges. Until it is installed, the best way to cross the falls is from the trail.



## Granite Creek Campground

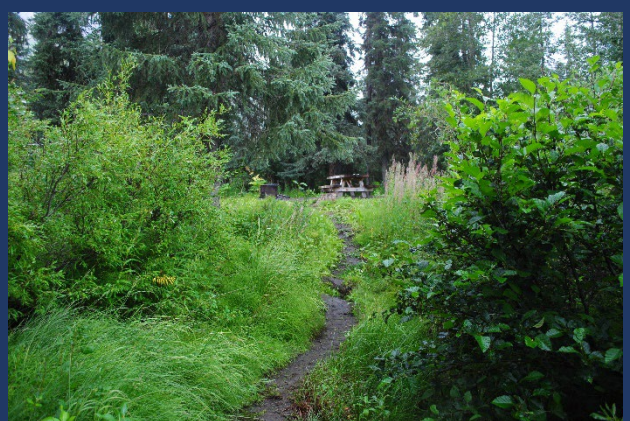


A small loop fee campground suitable for vehicle camping, RVs, and tents with 19 sites posted online. Vault toilet, hand driven water pump, dumpster, picnic tables, fire rings, bear lockers.<sup>3</sup>

- 14 total sites with two decommissioned
- USFS says there are places for possibly 40 total sites
- Snow machine trail crosses through here
- Most "tired" campground according to USFS; outdated, smaller toilets, old signs
- Needs regrading, more fill, repair and enlarge parking pads
- No good way to access creek, no good established tent sites
- Picnic tables were recently rehabilitated
- Cabins proposed for this site; may be best possible site for expansion in project area
- No winter use currently; snow machines pass through though

---

<sup>3</sup> See: <https://www.fs.usda.gov/recarea/chugach/recreation/camping-cabins/recarea/?recid=6603&actid=29>

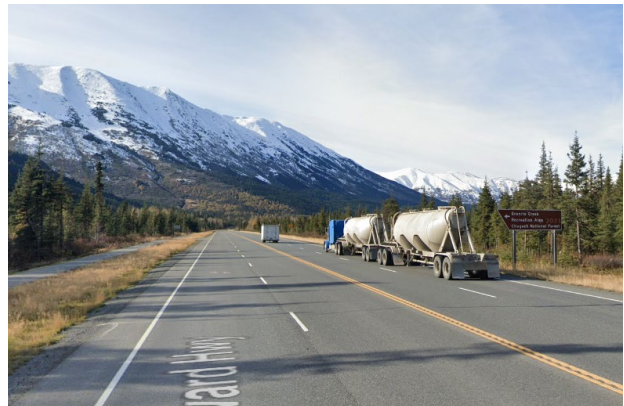


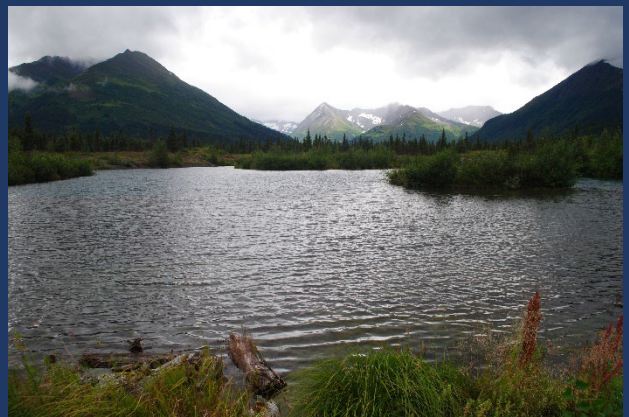


## "62 Pit" Gravel Source



- Used as helipad for skiing; snow machine trail terminus
- Gets plowed by Alaska DOT&PF
- USFS wants to make it a Recreation Area due to proximity to ponds
- 100,000 tons of gravel will be removed from here for Seward Highway Project; mine uses ending
- Needs beautification
- No obvious use; could reach out to public for preference
- Dispersed camping possible and van-life if it won't get trashed
- Could be of interest to outfitter, guide, or a developer
- There is a recreation sign on the highway showing the gravel pit area as a recreation area, which is not accurate (see Google street at right)
- Considered "blank slate" by attendees
- Consider adding a 'warming shelter' for winter recreation users





## Raft Launch



- State owned facility; may be called "East Fork Boat Launch"
- Used by rafting guides

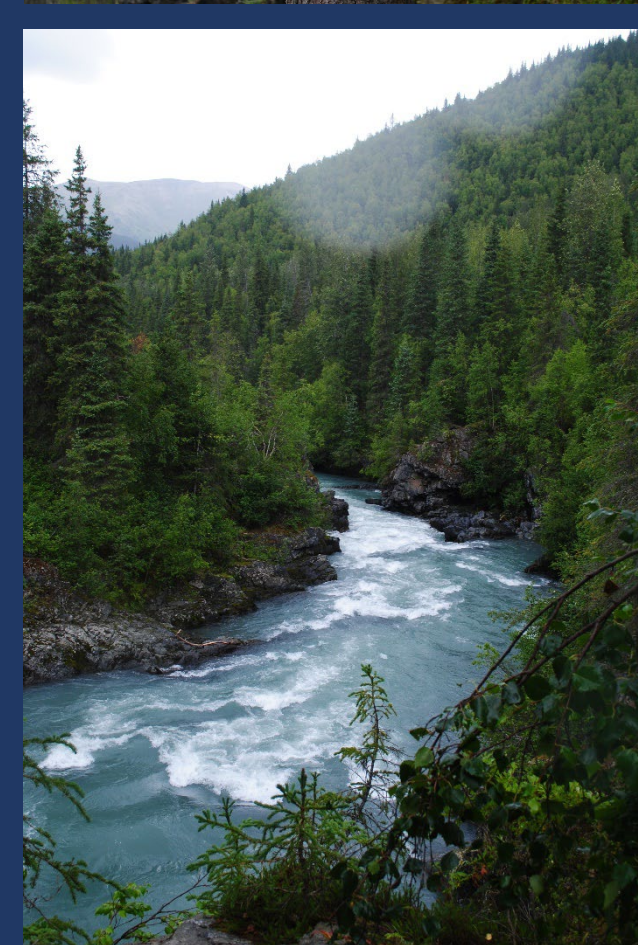
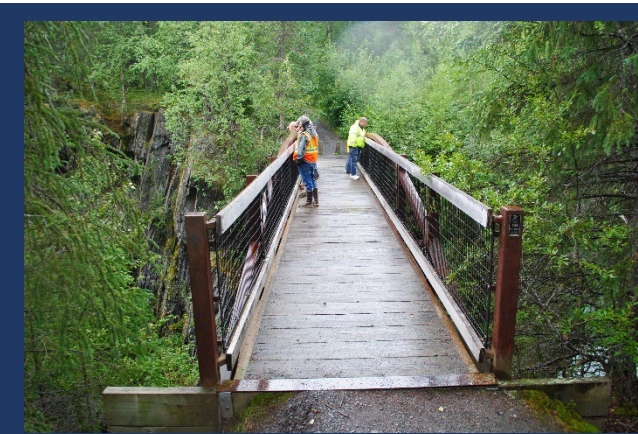




## ATV and Pedestrian Bridge (Gulch Creek)



No notes taken for this site. Attendess said this is a good location for seeing rafters and there is some recreational mining that exists (see picture on following page). It is not clear if the bridge connects to another trail system on North side of highway and river.



## Canyon Creek



- Alaska Department of Natural Resource (DNR) owned (not AKDOT&PF)
- Closed in winter
- Official rest area (as opposed to Motorized lot, which is used as a rest area)
- USFS wants it open in the winter to alleviate traffic and bathroom use from other sites
- Old bridge closed to vehicles, but open to pedestrians; no plans to change
- Could be a 'gateway' area for Turnagain Pass, like the Base of Pass site

## Summary Themes and Next Steps

Following the site visit, attendees discussed broad themes for the project area, which are summarized below.

1. **Capacity.** The use of individual recreation sites varies considerably across the project area and between seasons. This situation creates unbalanced demand and strain on facilities that attendees hope to alleviate.
2. **Connections.** Attendees would like to see facilities in project area better linked together as a single system, including trail networks, multi-modal connections, and supporting facilities.
3. **Engineering.** WFL staff sees potential for improving and/or expanding the pullouts and parking areas along the corridor, especially at Tincan and Bertha Creek Campground. There appears to be fewer constraints for shoulder and parking expansion as needed compared to other corridors WFL works on (i.e., there are not steep rocky cliffs here and there is level ground, which is potentially available for site development). The DOT Lot has great potential for development, since it's off the highway, but WFL staff are concerned with users crossing the highway to access Tincan. The obvious issue is determining who will maintain and plow these lots.
4. **Safety.** Low-cost improvements such as signing, and striping could alert motorists to crossing peds and bikes at the Base of Pass site. For Tincan, consider moving the access to a tangent highway section and widening the highway to install turn lanes as a possible. The corridor mostly has larger shoulders through the corridor, which is helpful for safety design considerations. Guardrail appears to be in decent shape and does not appear out of standard, but a further safety study would confirm. A traffic impacts analysis, traffic impact statement, and/or traffic corridor modeling would provide a better idea of how the traffic moves through this area. WFL staff did not hear a desire from USFS or AKDOT&PF to reduce traffic speeds.
5. **Snow Plowing.** Snow plowing at recreation sites, including pull offs and larger lots, seems to be limited and varied, but is valuable for safe recreation. Attendees were interested in a more consistent plowing program for the project area, either by Alaska DOT&PF or by a contractor.
6. **Operations and Maintenance Capacity.** The varied stress placed on sites in the project area, such as bathroom maintenance, snow plowing, and other maintenance activities, raise the issue of how to fund and manage long-term operations. Attendees are interested in funding opportunities, such as fee systems, to develop a more sustainable recreation operations program for the project area.

## APPENDIX 2-1

### TURNAGAIN PASS MASTER PLAN OUTREACH MATERIALS.



## OUTREACH MATERIALS | Flyer

Flyers were sent to all stakeholders to distribute within their organizations and were posted in various locations in the communities near Turnagain Pass

### What is your vision for Turnagain Pass, Alaska?



Turnagain Pass, the corridor surrounding the Seward Highway from approximately MP 56 to MP 75, is only an hour outside of Anchorage and is an area familiar to the many residents that travel between their homes and fishing and recreation destinations on the Kenai Peninsula.

The Western Federal Lands Highway Division, the U.S. Forest Service, and the State of Alaska Department of Transportation and Public Facilities, have identified the need for a Turnagain Pass Master Plan. This plan will create a long-term vision for Turnagain Pass, with modifications and capital improvements expected in the 20 years following the plan completion, with a focus on safety and recreation.

### Join us at the following meetings:

- **Friday, June 2, 2023, 4:00 – 6:00 PM**  
Moose Pass Sportsman's Club  
33675 Depot Road, Moose Pass, AK
- **Tuesday, June 13, 2023, 5:00 – 7:00 PM**  
Girdwood Community Room  
250 Egloff Drive, Girdwood, AK
- **Thursday, June 15, 2023, 4:00 – 6:00 PM**  
REI Anchorage  
500 E Northern Lights Blvd, Anchorage, AK

*Meeting materials will be available on the project website beginning June 2, 2023. Comments can be submitted during the meetings, online, or in writing.*

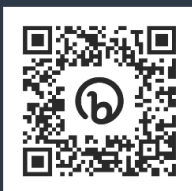
### We need your help!

How do you use the Turnagain Pass corridor? What are potential issues and opportunities that exist in the Turnagain Pass area?

***Come meet the project team and share your thoughts.***



Visit [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com) to join the email list to receive updates, make a comment, and to learn more about the project.



# OUTREACH MATERIALS | Fact Sheet

Fact sheets were available at each open house.

Project Fact Sheet | June 2023  
Turnagain Pass Master Plan



## Master Plan Overview

The Turnagain Pass Master Plan will provide a long-term guide for future corridor improvements with a focus on safety and recreation access. The plan will evaluate existing conditions, system needs, projects, conceptual design, cost estimates, and implementation actions.

The master plan area is Seward Highway (Alaska Highway) between Milepost 56 and Milepost 75 and existing recreational access facilities within the corridor (trailheads, parking lots, pull outs, etc.).



## Background

Seward Highway traverses through Turnagain Pass and is part of the National Highway System (NHS) connecting Seward to Anchorage and additional locations north. The Seward Highway also provides connection to the Sterling Highway south of Turnagain Pass, which is the main route to locations on the Kenai Peninsula. Turnagain Pass is frequented by residents and visitors traveling to the myriad of recreation and other destinations on the Kenai Peninsula. In the winter months, the area experiences high visitor use, including snow machine riders and backcountry skiers, while in the summer months the area sees little recreation use. In the winter, the infrastructure in the area struggles to meet visitor demand, particularly with parking and snow removal.

## Goals for the Turnagain Pass Master Plan Include:

- Developing a joint vision for the Turnagain Pass corridor.
- Identifying current needs, forecasting future needs, and creating a prioritized list of projects to address these needs.
- Increasing the long-term sustainability, safety, and access to Chugach National Forest lands for travelers and users.

## Additional Themes Include:

- Improving capacity at recreation sites between seasons.
- Improving connections between facilities, including trail networks and multi-modal connections.
- Improving pullouts and parking areas along the corridor
- Addressing snow removal and management needs at recreation sites.
- Improving long-term operations, including funding opportunities.

## Tasks

The following tasks will be completed over the next several months as part of the process of developing the Turnagain Pass Master Plan:



## Share Your Thoughts!

The project team wants to hear your input on how you use Turnagain Pass. We're looking for feedback on what is functioning well, and any challenges in the area. Please note any issues, user conflicts, incompatible uses, and any ideas for improvements or new recreation, facility, or access opportunities.

Consider the following as you leave comments in the interactive map below:

- 1 How do you use Turnagain Pass?  
When do you visit Turnagain Pass? How often?  
How do you access the places you go?
- 2 What do you like best about Turnagain Pass?
- 3 When you visit Turnagain Pass, why do you choose to go there over other places?
- 4 What challenges do you experience? When?  
How often?
- 5 What would you improve about Turnagain Pass?



Scan this code with your smartphone camera or visit [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com) to provide feedback.

## POINTS OF CONTACT:

Western Federal Lands Highway Division (WFLHD)  
Cole Gisham, AICP, Project Manager / Transportation Planner

State of Alaska Department of Transportation and Public Facilities (DOT&PF)  
Joselyn Bloon, Kenai Area Planner

US Forest Service (USFS)  
William Brennan, Recreation Planner

## DOWL

Renee Whitesell, PTP, Project Manager  
Jessica Smith, AICP, Senior Transportation Planner  
Tali Vitellio, Public Involvement  
(907) 562-2000

Huddle AK  
Holly Spoth-Torres, PLA, Recreation Planning & Public Engagement

[www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com)

# OUTREACH MATERIALS | Anchorage Daily News Legal Ad

Legal advertisements were published in Anchorage Daily News on May 21, 2023, and May 28, 2023.

## ANCHORAGE DAILY NEWS AFFIDAVIT OF PUBLICATION

Account #: 100515 DOWL  
4041 B STREET, ANCHORAGE, AK 99503

Order #: W0038297

Cost: \$591.4

STATE OF ALASKA  
THIRD JUDICIAL DISTRICT

Lisi Misa being first duly sworn on oath deposes and says that she is a representative of the Anchorage Daily News, a daily newspaper. That said newspaper has been approved by the Third Judicial Court, Anchorage, Alaska, and it now and has been published in the English language continually as a daily newspaper in Anchorage, Alaska, and it is now and during all said time was printed in an office maintained at the aforesaid place of publication of said newspaper. That the annexed is a copy of an advertisement as it was published in regular issues (and not in supplemental form) of said newspaper on

05/21/2023, 05/28/2023

and that such newspaper was regularly distributed to its subscribers during all of said period. That the full amount of the fee charged for the foregoing publication is not in excess of the rate charged private individuals.

Signed Lisi Misa

Subscribed and sworn to before me  
this 30th day of May 2023.

Jada L. Nowling

Notary Public in and for  
The State of Alaska.  
Third Division  
Anchorage, Alaska

MY COMMISSION EXPIRES  
2024-07-14

Jada L. Nowling  
ELECTRONIC NOTARY PUBLIC  
STATE OF ALASKA  
MY COMMISSION EXPIRES 07/14/2024

### Western Federal Lands Highway Division

#### TURNAGAIN PASS MASTER PLAN PUBLIC MEETINGS

The State of Alaska Department of Transportation and Public Facilities (DOT&PF) and the U.S. Forest Service, with the support of the Western Federal Lands Highway Division, have identified the need for a Turnagain Pass Master Plan. This plan will create a long-term vision for Turnagain Pass, with modifications and capital improvements expected in the 20 years following the plan completion, and a focus on safety and recreation.

#### We need your help!

How do you use the Turnagain Pass corridor? What are potential issues and opportunities that exist in the Turnagain Pass area? Come meet the project team and share your thoughts.

#### Join us at the following meetings

- \* Friday, June 2, 2023, 4:00 – 6:00 PM  
Moose Pass Sportsman's Club  
33675 Depot Road, Moose Pass, AK
- \* Tuesday, June 13, 2023, 5:00 – 7:00 PM  
Girdwood Community Room  
250 Egloff Drive, Girdwood, AK
- \* Thursday, June 15, 2023, 4:00 – 6:00 PM  
REI Anchorage  
500 E Northern Lights Blvd, Anchorage, AK

Meeting materials will be available on the project website beginning June 2, 2023. Comments can be submitted during the meetings, online, or in writing.

Visit [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com) to join the email list to receive updates, make a comment, and to learn more about the project.

*The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by DOT&PF pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated April 13, 2023, and executed by FHWA and DOT&PF.*

*The Alaska DOT&PF operates without regard to race, color, national origin, sex, age, or disability regardless of the funding source, including Federal Transit Administration, Federal Aviation Administration, Federal Highway Administration, and state funds. Full Title VI Nondiscrimination Policy: [dot.alaska.gov/tvi\\_statement.shtml](http://dot.alaska.gov/tvi_statement.shtml). To file a complaint, go to: [dot.alaska.gov/cv/rtst/titlevi.shtml](http://dot.alaska.gov/cv/rtst/titlevi.shtml). For individuals requiring TTY communications, please contact Alaska Relay 711 or 1-800-770-8973.*

Pub: May 21, 28/2023



# OUTREACH MATERIALS | Peninsula Clarion Legal Ad

Legal advertisements were published in the Peninsula Clarion on May 20, 2023, and May 27, 2023.

## PUBLISHER'S AFFIDAVIT

UNITED STATES OF AMERICA,  
STATE OF ALASKA

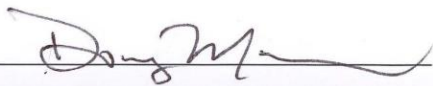
} SS:

Doug Munn being first duly sworn, on oath deposes and says:

That I am and was at all times here in this affidavit mentions, Supervisor of Legals of the Sound Publishing / Peninsula Clarion, a newspaper of general circulation and published at Kenai, Alaska, that the advertisement, a printed copy of which is hereto annexed was published in said paper on the dates listed below:

Public Meeting  
05/20/23  
05/27/23

X



SUBSCRIBED AND SWORN before me on this

10<sup>th</sup> day of June, 2023.

  
NOTARY PUBLIC in favor for the State of Alaska.

My commission expires 3/6/2024.

Elizabeth A. McDonald  
Notary Public, State of Alaska  
Commission #200306009  
My Commission Expires March 6, 2024

### Western Federal Lands Highway Division

#### TURNAGAIN PASS MASTER PLAN PUBLIC MEETINGS

The State of Alaska Department of Transportation and Public Facilities (DOT&PF) and the U.S. Forest Service, with the support of the Western Federal Lands Highway Division, have identified the need for a Turnagain Pass Master Plan. This plan will create a long-term vision for Turnagain Pass, with modifications and capital improvements expected in the 20 years following the plan completion, and a focus on safety and recreation.

#### We need your help!

How do you use the Turnagain Pass corridor? What are potential issues and opportunities that exist in the Turnagain Pass area? Come meet the project team and share your thoughts.

#### Join us at the following meetings

- Friday, June 2, 2023, 4:00 – 6:00 PM  
Moose Pass Sportsman's Club  
33675 Depot Road, Moose Pass, AK
- Tuesday, June 13, 2023, 5:00 – 7:00 PM  
Girdwood Community Room  
250 Eglhoff Drive, Girdwood, AK
- Thursday, June 15, 2023, 4:00 – 6:00 PM  
REI Anchorage  
500 E Northern Lights Blvd, Anchorage, AK

Meeting materials will be available on the project website beginning June 2, 2023. Comments can be submitted during the meetings, online, or in writing.

Visit [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com) to join the email list to receive updates, make a comment, and to learn more about the project.

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by DOT&PF pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated April 13, 2023, and executed by FHWA and DOT&PF.

The Alaska DOT&PF operates without regard to race, color, national origin, sex, age, or disability regardless of the funding source, including Federal Transit Administration, Federal Aviation Administration, Federal Highway Administration, and state funds. Full Title VI Non-discrimination Policy:  
[dot.alaska.gov/tvi\\_statement.shtml](http://dot.alaska.gov/tvi_statement.shtml)

To file a complaint, go to: [dot.alaska.gov/cvirts/title-vi.shtml](http://dot.alaska.gov/cvirts/title-vi.shtml). For individuals requiring TTY communications, please contact Alaska Relay 711 or 1-800-770-8973.

## OUTREACH MATERIALS | Alaska Public Media Ad

Radio advertisements aired on KSKA-FM 91.1 Public Radio from May 29, 2023, to June 15, 2023.

### SCRIPT #1:

Western Federal Lands Highway Division is hosting a series of in-person public open house meetings for the Turnagain Pass Master Plan. The plan provides a long-term guide for the future corridor planning actions with a focus on safety and recreation. The first public meeting is Friday, June 2, 4 to 6pm in Moose Pass at the Sportsman's Club. Meeting materials, public comments at [turnagainpassmasterplan.com](http://turnagainpassmasterplan.com) This message sponsored by the Western Federal Lands Highway Division .

### SCRIPT #2:

Western Federal Lands Highway Division is hosting a series of in-person public open house meetings for the Turnagain Pass Master Plan. The plan provides a long-term guide for the future corridor planning actions with a focus on safety and recreation. The second public meeting is Tuesday, June 13, 5 to 7pm at the Girdwood Community Room. Meeting materials, public comments at [turnagainpassmasterplan.com](http://turnagainpassmasterplan.com) This message sponsored by the Western Federal Lands Highway Division.

### SCRIPT #3:

Western Federal Lands Highway Division is hosting a series of in-person public open house meetings for the Turnagain Pass Master Plan. The plan provides a long-term guide for the future corridor planning actions with a focus on safety and recreation. The third public meeting is Thursday, June 15, 4 to 6pm, at Anchorage REI. Meeting materials, public comments at [turnagainpassmasterplan.com](http://turnagainpassmasterplan.com) This message sponsored by the Western Federal Lands Highway Division.

# OUTREACH MATERIALS | Constant Contact Email Invite

An email notification was sent via Constant Contact to the project contact list on May 18, 2023.



## Turnagain Pass Master Plan Public Meetings



JUNE 2023

The State of Alaska Department of Transportation and Public Facilities (DOT&PF) and the U.S. Forest Service, with the support of the Western Federal Lands Highway Division, have identified the need for a Turnagain Pass Master Plan. This plan will create a long-term vision for Turnagain Pass, with modifications and capital improvements expected in the 20 years following the plan completion, and a focus on safety and recreation.

### We need your help!

How do you use the Turnagain Pass corridor? What are potential issues and opportunities that exist in the Turnagain Pass area? Come meet the project team and share your thoughts.

Date	Time	Location
Friday, June 2, 2023	4:00 - 6:00 PM	<b>Moose Pass Sportsman's Club</b> 33675 Depot Road Moose Pass, AK
Tuesday, June 13, 2023	5:00 - 7:00 PM	<b>Girdwood Community Room</b> 250 Eglhoff Drive Girdwood, AK
Thursday, June 15, 2023	4:00 - 6:00 PM	<b>REI Anchorage</b> 500 E Northern Lights Blvd Anchorage, AK

Meeting materials will be available on the project website beginning **June 2, 2023**. Comments can be submitted during the meetings, online, or in writing.

Visit [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com) to join the email list to receive updates, make a comment, and to learn more about the project.

## Project Area



## Key Project Contacts

### Western Federal Lands Highway Division (WFLHD)

*Cole Grisham, AICP, Project Manager/ Transportation Planner*

### State of Alaska Department of Transportation and Public Facilities (DOT&PF)

*Joselyn Biloan, Kenai Area Planner*  
*David Post, Central Region Planning Manger*

### US Forest Service (USFS)

*William Brennan, Recreation Planner*

### Huddle AK

*Holly Spoth-Torres, PLA, Recreation Planning & Public Engagement*

### DOWL

*Renee Whitesell, PTP, Project Manager*  
*Jessica Smith, AICP, Senior Transportation Planner*  
*Talli Vittetoe, Public Involvement*

**Phone:** (907) 562-2000

**Website:** [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com)

**Thank you for your interest in this project!**

# OUTREACH MATERIALS | Constant Contact Email Reminder

An email notification was sent via Constant Contact to the project contact list on June 1, 2023.



## REMINDER:

### Join us for the Turnagain Pass Master Plan Public Meetings



JUNE 2023

The State of Alaska Department of Transportation and Public Facilities (DOT&PF) and the U.S. Forest Service, with the support of the Western Federal Lands Highway Division, have identified the need for a Turnagain Pass Master Plan. This plan will create a long-term vision for Turnagain Pass, with modifications and capital improvements expected in the 20 years following the plan completion, and a focus on safety and recreation.

### We need your help!

How do you use the Turnagain Pass corridor? What are potential issues and opportunities that exist in the Turnagain Pass area? Come meet the project team and share your thoughts.

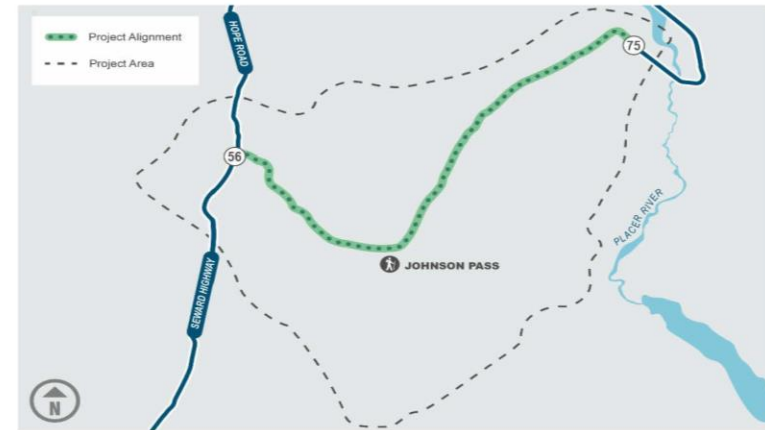
Date	Time	Location
Friday, June 2, 2023	4:00 - 6:00 PM	<b>Moose Pass Sportsman's Club</b> 33675 Depot Road Moose Pass, AK
Tuesday, June 13, 2023	5:00 - 7:00 PM	<b>Girdwood Community Room</b> 250 Eglhoff Drive Girdwood, AK
Thursday, June 15, 2023	4:00 - 6:00 PM	<b>REI Anchorage</b> 500 E Northern Lights Blvd Anchorage, AK

Meeting materials will be available on the project website beginning **June 2, 2023**. Comments can be submitted during the meetings, online, or in writing.

Visit [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com) to join the email list to receive

updates, make a comment, and to learn more about the project.

### Master Plan Area



### Key Project Contacts

#### Western Federal Lands Highway Division (WFLHD)

*Cole Grisham, AICP, Project Manager/ Transportation Planner*

#### State of Alaska Department of Transportation and Public Facilities (DOT&PF)

*Joselyn Biloan, Kenai Area Planner*

*David Post, Central Region Planning Manger*

#### US Forest Service (USFS)

*William Brennan, Recreation Planner*

#### Huddle AK

*Holly Spoth-Torres, PLA, Recreation Planning & Public Engagement*

#### DOWL

*Renee Whitesell, PTP, Project Manager*

*Jessica Smith, AICP, Senior Transportation Planner*

*Talli Vittetoe, Public Involvement*

**Phone:** (907) 562-2000

**Website:** [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com)

**Thank you for your interest in this project!**

# OUTREACH MATERIALS | Constant Contact Thank You Email

An email notification was sent via Constant Contact to the project contact list on June 20, 2023.



**Thank you for attending the Turnagain Pass Master Plan open houses!**



## Couldn't make it?

Visit [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com) to join the email list to receive updates, make a comment, and to learn more about the project.

## We want your feedback!

Whether you attended one of the open houses or not, we want to hear from you on the conditions and opportunities in Turnagain Pass. You may submit a comment at a specific location by using the Map Link found in the [StoryMap](#), or by emailing Cole Grisham at [nicholas.grisham@dot.gov](mailto:nicholas.grisham@dot.gov).

## Master Plan Area



## Key Project Contacts

### Western Federal Lands Highway Division (WFLHD)

*Cole Grisham, AICP, Project Manager/ Transportation Planner*

### State of Alaska Department of Transportation and Public Facilities (DOT&PF)

*Joselyn Biloan, Kenai Area Planner*

*David Post, Central Region Planning Manger*

### US Forest Service (USFS)

*William Brennan, Recreation Planner*

### DOWL

*Renee Whitesell, PTP, Project Manager*

*Jessica Smith, AICP, Senior Transportation Planner*

*Talli Vittetoe, Public Involvement*

### Huddle AK

*Holly Spoth-Torres, PLA, Recreation Planning & Public Engagement*

**Phone:** (907) 562-2000

**Website:** [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com)

**Thank you for your interest in this project!**

## OUTREACH MATERIALS | Moose Pass Messenger

Open house information was posted to the Moose Pass Messenger, an online bulletin board.



POSTED BY: TVITTETOE@DOWL.COM

# TURNAGAIN PASS MASTER PLAN PUBLIC MEETINGS

[TurnagianPass\\_Flyer\\_V2.pdf](#)

The State of Alaska Department of Transportation and Public Facilities (DOTandPF) and the U.S. Forest Service, with the support of the Western Federal Lands Highway Division, have identified the need for a Turnagain Pass Master Plan. This plan will create a long-term vision for Turnagain Pass, with modifications and capital improvements expected in the 20 years following the plan completion, and a focus on safety and recreation.

### **We need your help!**

How do you use the Turnagain Pass corridor? What are potential issues and opportunities that exist in the Turnagain Pass area? Come meet the project team and share your thoughts.

### **Join us at the following meetings**

· **Friday, June 2, 2023, 4:00 – 6:00 PM**

Moose Pass Sportsman's Club  
33675 Depot Road, Moose Pass, AK

· **Tuesday, June 13, 2023, 5:00 – 7:00 PM**

Girdwood Community Room  
250 Egloff Drive, Girdwood, AK

· **Thursday, June 15, 2023, 4:00 – 6:00 PM**

REI Anchorage  
500 E Northern Lights Blvd, Anchorage, AK

Meeting materials will be available on the project website beginning June 2, 2023. Comments can be submitted during the meetings, online, or in writing.

Visit [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com) to join the email list to receive updates, make a comment, and to learn more about the project.

*The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by DOTandPF pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated April 13, 2023, and executed by FHWA and DOTandPF.*

*The Alaska DOTandPF operates without regard to race, color, national origin, sex, age, or disability regardless of the funding source, including Federal Transit Administration, Federal Aviation Administration, Federal Highway Administration, and state funds. Full Title VI Nondiscrimination Policy: [dot.alaska.gov/tvi\\_statement.shtml](http://dot.alaska.gov/tvi_statement.shtml).*

*To file a complaint, go to: [dot.alaska.gov/cv/rtts/titlevi.shtml](http://dot.alaska.gov/cv/rtts/titlevi.shtml). For individuals requiring TTY communications, please contact Alaska Relay 711 or 1-800-770-8973.*

# OUTREACH MATERIALS | Tribal Consultation Letters

Tribal Consultation Letters were mailed June 28, 2023.



US Department  
of Transportation  
**Federal Highway  
Administration**

Western Federal Lands Highway Division  
610 E. Fifth Street  
Vancouver, WA 98661  
Phone 360-619-7700  
Fax 360-619-7846

June 23, 2023  
Sent Via Electronic Mail

In Reply Refer To: HPL-17

**Re: Turnagain Pass Master Plan, Initiation of Consultation**

The Federal Highway Administration (FHWA) Western Federal Lands Highway Division (WFLHD) is developing the Turnagain Pass Master Plan (TPMP), in partnership with the State of Alaska Department of Transportation and Public Facilities (DOT&PF) and the United States Forest Service (USFS) to identify ways to better meet the needs of the recreational users accessing USFS recreation lands from the Seward Highway (MP 76-56), in the area known as Turnagain Pass. The plan will create a long-term vision for Turnagain Pass, with modifications and capital improvements expected in the 20 years following the plan completion.

As part of this effort, WFLHD, DOT&PF, and USFS respectfully request your government's participation in the development of this plan to create a sustainable path forward for continuous use of the Turnagain Pass use area. In accordance with guidance provided under the U.S. Department of Transportation Tribal Consultation Plan, the WFLHD, DOT&PF, and USFS wish to engage with your government in meaningful and timely discussions as part of the plan development process, and we welcome and encourage your participation. The TPMP, when enacted, may have implications to resources of Tribal concern, and any information you provide as part of the plan development process will be documented and maintained.

The success of the study is dependent on the project team's continuous, comprehensive, and cooperative coordination with local Tribal communities such as yours. The project team therefore seeks to better understand:

1. How your government would like to engage in the study development.
2. How you would like to be engaged by the project team.
3. How the proposed engagement methods below align with your needs and interests.
4. If you would like to initiate government-to-government consultation with FHWA.

[https://www.transportation.gov/sites/dot.gov/files/docs/DOT\\_Tribal\\_Consultation\\_Plan.pdf](https://www.transportation.gov/sites/dot.gov/files/docs/DOT_Tribal_Consultation_Plan.pdf)

June 23, 2023  
Initiation of Consultation Letter  
Page Two

**Engagement Approach.** The project team envisions a series of engagement methods. A project website has already been established by WFLHD at [www.turnagainpassmasterplan.com](http://www.turnagainpassmasterplan.com). WFLHD will be responsible for updating this website with project updates and meeting notices as needed.

The project team will conduct stakeholder group meetings with identified tribal representatives and other key informants. The anticipated stakeholder group meetings will include up to four (4) meetings with Native Villages and Alaska Native Associations. The exact dates, locations, and format of the meetings will be established through direct communication with you. The intent of these meetings is to keep the project team abreast of changing issues and stakeholder perspectives as the project progresses. Stakeholder group meetings may be held in-person or electronically, as determined by the stakeholders.

**Study Area.** The project area, shown in Figure 1, is the Seward Highway (Alaska Highway 1) between Milepost 56 and Milepost 76 on the Kenai Peninsula. The project area also encompasses adjacent land uses within 100 feet on either side of the right-of-way centerline and includes all existing recreational access facilities within the corridor (trailheads, parking lots, pull outs, etc.). The Seward Highway runs through Turnagain Pass approximately one hour south of Anchorage and is part of the National Highway System (NHS) connecting Seward to Anchorage and interior Alaska. The Seward Highway also provides connection to the Sterling Highway south of Turnagain Pass, which is the only road route to locations on the Kenai Peninsula.

Turnagain Pass is frequented by residents and visitors traveling to the myriad recreation and other destinations on the Kenai Peninsula. In the winter months the area experiences high visitor use, including snow machine riders and backcountry skiers, while in the summer months the area sees little recreation use. In the winter, the infrastructure in the Turnagain Pass area struggles to meet visitor demand, particularly with parking.

**Figure 1: Project Area**



Data Source: National Wetlands Inventory, Municipality of Anchorage, State of Alaska, DOT, FDOT, Garmin, SafeGraph, FDOT, NHTS/NAS, USGS, ENR, SRS

June 23, 2023  
Initiation of Consultation Letter  
Page Three

The TPMP will provide long-term guidance for future corridor planning actions with a focus on safety and recreational access. The plan will include existing conditions, system needs, project prioritization, conceptual design and cost estimates, and implementation actions. Goals for the project area include:

1. Developing and preserving a joint vision for the Turnagain Pass corridor recreational access.
2. Identifying current recreational access needs, forecasting future needs, and creating a prioritized list of projects to address these needs.
3. Increasing the long-term sustainability, safety, and access to forest lands for travelers and users.

Additional themes include:

1. Improving year-round capacity at recreation sites.
2. Improving connections between facilities, including trail networks and multi-modal connections.
3. Improving pullouts and parking areas along the corridor.
4. Addressing snow removal and amenity management needs at recreation sites.
5. Improving long-term operations, including funding opportunities.

We appreciate your government's partnership in this study to ensure that we understand the unique nature of the project area's relationship with Chugach Alaska Corporation, establish open and continuous lines of communication, and ensure we can work together to involve all parties who might be impacted by the study's findings and recommendations.

I invite you to reach out to Cole Grisham, Project Manager for this study, at [nicholas.grisham@dot.gov](mailto:nicholas.grisham@dot.gov) or (202) 839-1409 to discuss your preferred engagement as well as any questions or concerns you might have about the study. Cole's team will also follow up with a phone call to your office about the project as well.

Thank you very much for your time. We look forward to creating a meaningful working relationship with you to help adequately address the concerns of all public land users.

Sincerely yours,

  
Digitally signed by KEVIN  
LORIN McLAURY  
Date: 2023.06.23  
13:16:54 -0700

Kevin L. McLaury, PE  
Director  
Western Federal Lands Highway Division

## APPENDIX 3-1

### Data Collection Locations and Date(s) (MP 75 to 70)



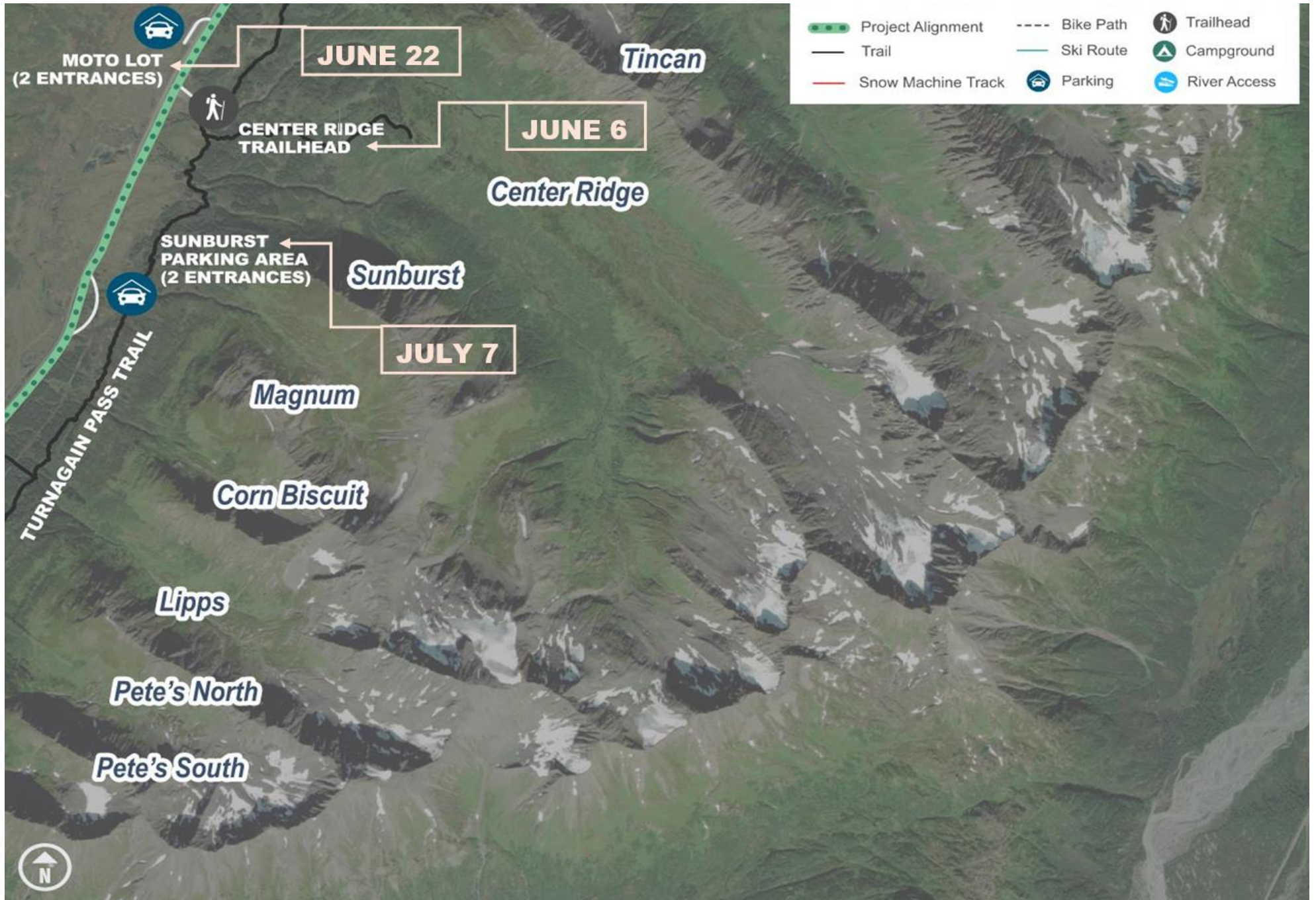




## Appendix 3-2

### Data Collection Locations and Date(s) (MP 70 to 66)

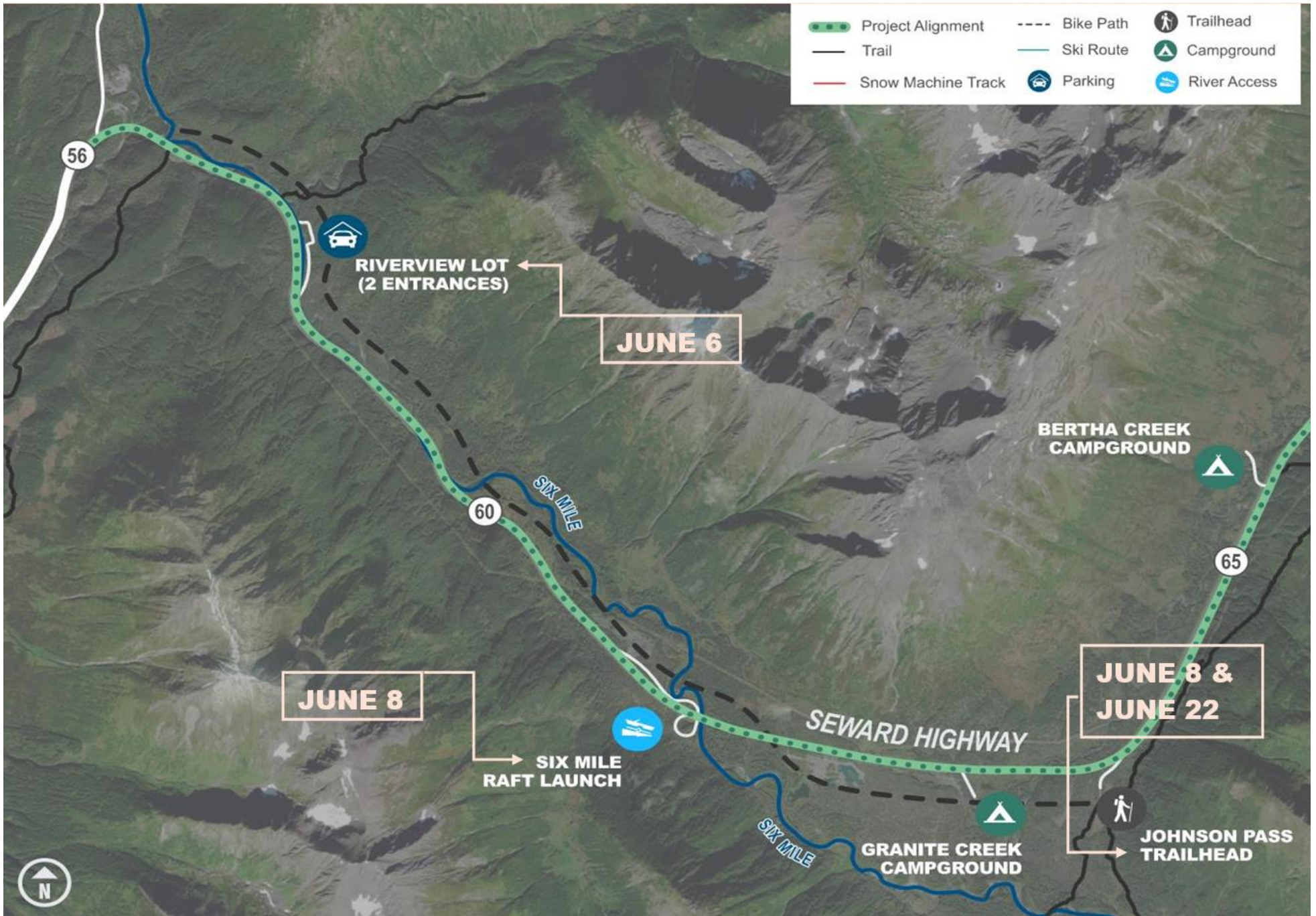




## Appendix 3-3

### Data Collection Locations and Date(s) (MP 66 to 56)





## Appendix 3-4

### Visitor Information by Site and Day



Site	Day of Week	# of Vehicles	# of Visitors	# of Concurrent Vehicles	Ave. Visit Length (Minutes)	Min. Visit Length (Minutes)	Max. Visit Length
Welcome Sign	Friday	69	145	6	0:31:43	0:00:00	14:15:00
	Saturday	103	181	7	0:10:08	0:00:00	1:42:00
	Sunday	99	217	4	0:09:44	0:00:00	2:28:00
	Monday	72	108	7	0:21:37	0:00:00	11:22:00
Upper Ingram Creek Trailhead	Thursday	17	19	3	0:20:46	0:01:00	3:27:00
	Friday	42	55	6	0:22:11	0:00:00	3:49:00
	Saturday	76	94	6	0:19:14	0:00:00	4:37:00
	Sunday	38	46	4	0:18:05	0:00:00	6:08:00
	Monday	18	22	3	0:27:37	0:00:00	3:27:00
Snow Stake Lot	Thursday	8	10	2	0:04:52	0:00:00	0:11:00
	Friday	8	11	2	2:17:45	0:02:00	12:11:00
	Saturday	8	8	3	0:15:45	0:01:00	0:55:00
	Sunday	6	8	2	0:26:40	0:00:00	2:19:00
	Monday	8	10	3	0:08:45	0:01:00	0:40:00
Tin Can Trailhead	Friday	11	13	3	0:31:27	0:01:00	4:40:00
	Saturday	31	41	4	0:09:45	0:01:00	2:46:00
	Sunday	22	28	2	0:07:03	0:01:00	0:44:00
	Monday	19	21	3	0:14:03	0:01:00	3:28:00
	Tuesday	3	4	2	0:03:20	0:01:00	0:07:00
Motorized "Moto" Lot	Thursday	78	92	10	0:25:38	0:01:00	11:09:00
	Friday	528	736	18	0:16:14	0:00:00	14:40:00
	Saturday	154	184	11	0:08:23	0:01:00	2:31:00
Center Ridge Trailhead	Tuesday	86	103	6	0:08:06	00:00:00	0:36:00
	Wednesday	136	180	7	0:16:48	00:00:00	15:39:00
	Thursday	139	189	7	0:09:55	00:00:00	1:41:00
	Friday	182	273	12	0:11:40	00:00:00	1:36:00
	Saturday	206	268	12	0:11:32	00:00:00	6:02:00
Sunburst Parking	Friday	12	19	3	0:17:10	0:01:00	1:24:00
	Saturday	8	14	1	0:01:45	0:01:00	0:05:00
	Sunday	23	36	2	0:09:13	0:01:00	1:27:00
	Monday	4	5	2	0:04:15	0:01:00	0:07:00
	Tuesday	1	1	1	0:01:00	0:01:00	0:01:00
Johnson Pass Trailhead	Thursday	7	4	3	18:07:15	0:06:00	70:14:00
	Friday	24	38	11	7:06:15	0:00:00	45:28:00
	Saturday	23	30	16	2:56:47	0:01:00	35:14:00
	Sunday	14	19	8	1:06:56	0:01:00	6:27:00
	Monday	5	8	2	0:54:12	0:01:00	3:36:00
	Thursday	8	10	4	0:54:30	0:01:00	2:57:00
	Friday	27	44	9	1:14:31	0:00:00	13:34:00
	Saturday	58	96	16	1:41:07	0:00:00	7:38:00
	Sunday	36	59	9	2:10:57	0:00:00	9:55:00
Monday	15	23	4	0:53:52	0:05:00	5:07:00	
Raft Launch	Thursday	2	4	2	22:44:00	0:10:00	45:18:00
	Friday	34	59	6	0:31:42	0:01:00	8:26:00
	Saturday	78	108	10	0:37:48	0:00:00	7:02:00
	Sunday	72	103	7	0:25:58	0:00:00	14:46:00
	Monday	36	57	5	0:22:05	0:00:00	3:22:00
Riverview	Tuesday	37	60	3	0:07:23	00:01:00	0:32:00
	Wednesday	37	64	3	0:07:44	00:01:00	0:33:00
	Thursday	20	29	3	0:05:30	00:01:00	0:17:00
	Friday	37	65	3	0:06:42	00:01:00	0:33:00
	Saturday	17	32	3	0:07:53	00:01:00	0:44:00